

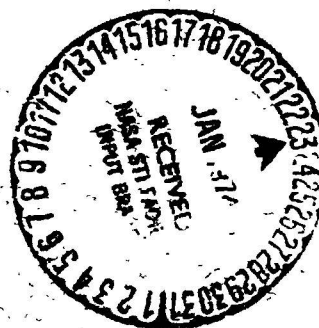
**NASA TECHNICAL  
REPORT**



**NASA TR R-416**

**NASA TR R-416**

(NASA TR R-416) - INFORMATION REPORT ON THE  
STRUCTURE AND CIRCULATION OF THE  
STRATOSPHERE AND MESOSPHERE, 1971-2 (NASA  
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STRUCTURE AND CIRCULATION OF THE  
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TR R-416)



**MEASUREMENTS OF THE STRUCTURE AND  
CIRCULATION OF THE STRATOSPHERE  
AND MESOSPHERE, 1971-2**

*by W. S. Smith, J. S. Theon, D. U. Wright, Jr.,  
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16. Abstract  Complete data from a total of 43 meteorological rocket soundings of the stratosphere and mesosphere conducted from Barrow, Alaska; Churchill, Canada; Wallops Island, Va.; and Kourou, French Guiana are presented. These data consist of temperature, pressure, density, and wind profiles from 35 acoustic grenade soundings that cover the 30 to 90 km altitude range, and temperature, pressure, and density profiles from 8 pitot probe soundings that cover the 25 to 120 km altitude range. Errors for each of the 35 acoustic grenade soundings are also included.		
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# MEASUREMENTS OF THE STRUCTURE AND CIRCULATION OF THE STRATOSPHERE AND MESOSPHERE, 1971-2

by

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## INTRODUCTION

During 1971 and 1972, 35 acoustic grenade and 8 pitot probe soundings of the stratosphere and mesosphere were conducted by the Goddard Space Flight Center and the University of Michigan under contract to GSFC. Launch sites included Barrow, Alaska (71° N); Churchill, Canada (59° N); Wallops Island, Va. (38° N); and Kourou, French Guiana (5° N). These soundings were carried out as part of the Research Meteorological Sounding Rocket Program, and were intended to investigate specific phenomena that occur in the stratosphere, mesosphere, and lower thermosphere. To extend the coverage over the widest geographic area and to permit more realistic analyses, the GSFC soundings are coordinated with soundings in other parts of the world whenever possible. The data obtained from these soundings are published here to serve as a basis for further investigation and interpretation of the behavior of the upper atmosphere. No analysis is attempted.

## EXPERIMENTAL TECHNIQUES

The acoustic grenade and pitot probe techniques were employed to obtain the data reported here. These techniques are described only briefly because the details of the theory, instrumentation, and data reduction have been published elsewhere (References 1 to 3).

In the grenade technique, explosive charges (grenades) ranging in mass from 0.1 to 1.8 kg are carried aloft in the nosecone of a Nike Cajun sounding rocket. The grenades are ejected and detonated at 2- to 4-km intervals. One version of the payload carries 19 grenades, permitting an average vertical resolution in the data of about 3 km. An improved version carries 31 grenades, permitting the average

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\*Formerly Globe Universal Sciences, Inc.

vertical data resolution to be reduced to about 2 km. The position of the rocket, and therefore of each explosion, is determined by a Doppler tracking system, a high-precision radar such as the FPQ-6, or both. The time at which each explosion occurs is detected by sensors in the payload and telemetered to the ground. A ground-based array of hot-wire microphones capable of responding to frequencies in the 4-Hz range is used to detect and record the arrivals of the sound waves generated by the exploding grenades. The measured experimental parameters are the times and positions of the grenade explosions and the arrival times of the sound waves at the ground-based microphones.

The elevation and azimuth angles of the normal to each arriving spherical sound wavefront are computed by applying a least-squares fit to the arrival times at the various microphones. Each wavefront is then analytically retraced along its path of propagation through the atmosphere by means of Snell's law. Wind and temperature data from balloonsondes and rocketsondes obtained near the time of the grenade sounding are introduced to account for their influence in retracing the path of the sound wave from the ground to the level of the first explosion; above this altitude the results of the grenade sounding itself are used for each succeeding explosion. The origin of the sound wave as determined by ray tracing is compared with the known position of the explosion, and the horizontal difference by which the sound wave has been displaced from one explosion to the next is a measure of the average wind velocity in the layer bounded by the two explosions. The average speed of sound, and hence the average temperature of the atmosphere between adjacent explosions, may also be determined. The temperature and wind profiles consist of discrete points, each representing the average temperature and average wind, respectively, of the vertically stacked horizontal layers between consecutive explosions. The pressure profile is derived from the temperature profile, using the pressure measured by an accompanying balloonsonde as a reference value. Pressure is then calculated as a function of altitude from the barometric equation (a form of the hydrostatic equation) by integrating the pressure upward over the temperature profile. The density is then calculated as a function of altitude from the temperature and pressure using the equation of state (Reference 4).

In the pitot probe technique, a radioactive ionization gage and a hot-filament gage mounted in the forward tip of the payload measure impact pressure, which is related to ambient density, as the rocket ascends. The gage outputs are telemetered to ground-based receiving and recording equipment. The trajectory of the rocket is provided by Doppler tracking, radar tracking, or both, to determine the altitude and velocity of the rocket. The measured experimental parameters are ram pressure and the velocity, position, and orientation of the payload. Ram pressure is related to density by the Rayleigh equation and the equation of state in the continuum region, and by a modified thermal transpiration equation in the free-molecular-flow region. The temperature profile is computed by integrating the density profile with altitude using a form of the hydrostatic equation.

## **OBJECTIVES**

The launch sites of Barrow, Churchill, Wallops, and Kourou represent arctic, subarctic, temperate, and tropical locations, respectively. The data include six soundings conducted from three sites to study the winter mesosphere in January; five soundings from Wallops to serve as a control experiment for the solar eclipse data of 1970 in March; nine soundings from three sites to study the establishment of the summertime circulation in June and July; a pair of soundings from Wallops to measure the 12 hour changes in the mesosphere in August; thirteen soundings during a 54 hour period from Kourou to examine the diurnal and semidiurnal tides; five closely spaced soundings from Barrow to study the propagation of internal gravity waves from Barrow in December; and two soundings to provide supporting measurements for ozone soundings conducted from Barrow in May, 1972.

## RESULTS

The results of the soundings are given in Figures 1 to 43. In the grenade results, the directly measured parameters (temperature and wind) are tabulated on the left-hand page of each table. Values of interpolated temperature, computed pressure, pressure deviation from the 1962 U.S. Standard Atmosphere (Reference 5), computed density, and density deviation from standard are tabulated on the right-hand page of each table as functions of geometric altitude. The wind components, interpolated at 2-km intervals, are tabulated on the left-hand page. The pitot probe results give computed temperature, computed pressure, pressure deviation from the standard atmosphere, measured density, and density deviation from the standard atmosphere. Balloonsonde and rocketsonde observations that accompanied the sounding are also plotted to provide an essentially continuous profile of temperature (and wind) from the surface to the mesopause.

## ERROR ANALYSIS

The errors contributing to the inaccuracy of the grenade technique can be classified according to their source (Reference 6) as errors inherent in the experimental measurements and errors resulting from approximations in the analytical solution. The latter errors result from formation of the least-squares operational equations, the deviation of the model atmosphere from the true atmosphere, and the finite amplitude propagation correction. For example, the atmosphere is assumed to have negligible vertical motion and to be horizontally homogeneous in the volume of air encompassing the entire experiment. These analytical approximations are believed to be second-order effects of negligible quantities or systematic errors that are effectively removed in almost all cases.

Experimental measurement uncertainties consist of (1) surveying errors in determining the location of each microphone in the array, (2) determination of the grenade burst time and position, and (3) determination of the individual time of arrival for the sound wave as it crosses each microphone in the array. The uncertainty in the measurement of arrival times constitutes the major source of error in the grenade-determined temperatures and winds. (An exception to this case is discussed in Reference 7.)

If the arrival time for the sound wave from a grenade explosion is measured on more than three microphones in the array, an over determined sound-ranging solution exists. A least-squares analysis of this solution yields the standard error of the direction cosines and the traveltime for the wave from each grenade. These standard errors of surface values can be propagated through the ray-tracing analysis to yield standard errors in the values of temperature and wind for each layer bounded by grenade pairs (Reference 6).

The tabulations of grenade data do not include error estimates for the pressure and density. These quantities are in error because of both the uncertainty in the reference pressure provided by the support balloonsonde and also because of the uncertainty in the grenade-determined temperature profile. The barometric equation can be used to compute the effect of these uncertainties on the pressure and density, an exercise left for the reader.

In the pitot probe data, the experimental errors in the density measurement are estimated not to exceed  $\pm 1$  percent below 84-km altitude,  $\pm 4$  percent between 84- and 100-km altitude, and  $\pm 10$  percent above 100-km altitude. Also, all temperatures given are the molecular scale temperatures and assume a mean molecular weight of 28.9644.

A final remark concerning the apparent discrepancy in the data reported in Figures 37 and 38. These soundings were conducted from Barrow on December 6, two minutes apart, yet the temperature profiles differ considerably. One sounding was obtained with the pitot probe technique and the other with the grenade technique. Recall that the grenade technique measures temperature, while the pitot technique measures density. These variables can be related to each other hydrostatically only when the atmosphere undergoes vertical accelerations that are small compared to gravity. If internal waves are propagating in the atmosphere, as is apparent from the oscillations in the directly measured parameters, then the comparison of temperature (or density) profiles obtained from the two different techniques is invalid because hydrostatic equilibrium does not hold.

#### **ACKNOWLEDGMENTS**

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National Aeronautics and Space Administration  
Greenbelt, Maryland, June 12, 1973  
039-23-01-01-51



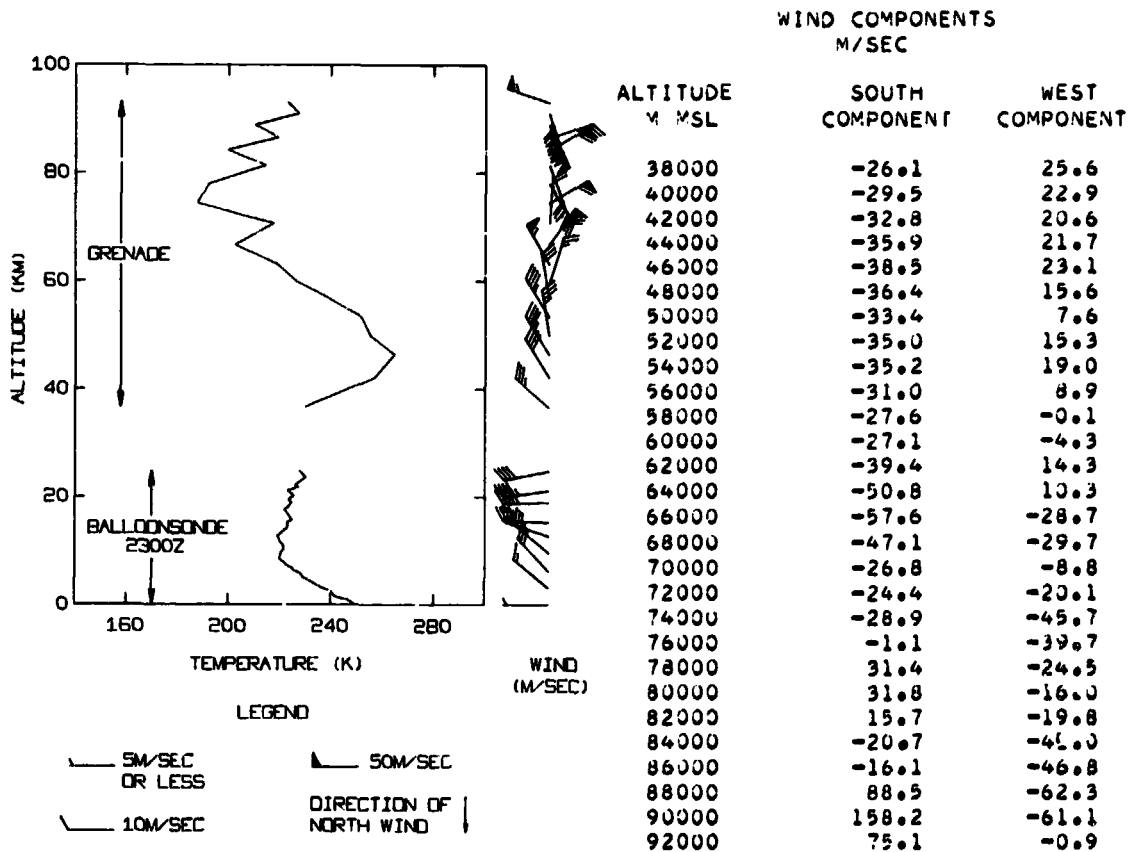
Listing and index of 1971-2 Soundings.

Figure	Date	Time (GMT)	Location	Experiment	Page
1	Jan. 7, 1971	2001	Barrow	Grenade	6
2	Jan. 7, 1971	2014	Churchill	Grenade	8
3	Jan. 7, 1971	2030	Wallops	Grenade	10
4	Jan. 12, 1971	0750	Barrow	Grenade	12
5	Jan. 12, 1971	2053	Wallops	Grenade	14
6	Jan. 13, 1971	1600	Churchill	Grenade	16
7	Mar. 10, 1971	1738	Wallops	Grenade	18
8	Mar. 10, 1971	1759	Wallops	Pitot	20
9	Mar. 10, 1971	1826	Wallops	Pitot	22
10	Mar. 10, 1971	1841	Wallops	Pitot	24
11	Mar. 10, 1971	1911	Wallops	Grenade	26
12	Mar. 18, 1971	1939	Kourou	Grenade	28
13	Jun. 24, 1971	1500	Barrow	Grenade	30
14	Jun. 24, 1971	1507	Churchill	Grenade	32
15	Jun. 24, 1971	1510	Wallops	Grenade	34
16	Jul. 2, 1971	1437	Churchill	Grenade	36
17	Jul. 2, 1971	1959	Barrow	Grenade	38
18	Jul. 2, 1971	2005	Wallops	Grenade	40
19	Jul. 12, 1971	1506	Churchill	Grenade	42
20	Jul. 12, 1971	1518	Barrow	Grenade	44
21	Jul. 12, 1971	1606	Wallops	Grenade	46
22	Aug. 19, 1971	2011	Wallops	Pitot	48
23	Aug. 20, 1971	0745	Wallops	Pitot	50
24	Sep. 19, 1971	2156	Kourou	Grenade	52
25	Sep. 20, 1971	0330	Kourou	Grenade	54
26	Sep. 20, 1971	0615	Kourou	Grenade	56
27	Sep. 20, 1971	0930	Kourou	Grenade	58
28	Scp. 20, 1971	1445	Kourou	Grenade	60
29	Sep. 20, 1971	1900	Kourou	Grenade	62
30	Sep. 21, 1971	0005	Kourou	Grenade	64
31	Sep. 21, 1971	0450	Kourou	Grenade	66
32	Sep. 21, 1971	0914	Kourou	Grenade	68
33	Sep. 21, 1971	1400	Kourou	Grenade	70
34	Sep. 21, 1971	1840	Kourou	Grenade	72
35	Sep. 21, 1971	2340	Kourou	Grenade	74
36	Sep. 22, 1971	0350	Kourou	Grenade	76
37	Dec. 6, 1971	0300	Barrow	Pitot	78
38	Dec. 6, 1971	0302	Barrow	Grenade	80
39	Dec. 6, 1971	0442	Barrow	Pitot	82
40	Dec. 6, 1971	0752	Barrow	Pitot	84
41	Dec. 6, 1971	0802	Barrow	Grenade	86
42	May 17, 1972	0740	Barrow	Grenade	88
43	May 17, 1972	1645	Barrow	Grenade	90

# FIGURE 1

## BARROW, 7 JANUARY 1971, 2001 GMT.

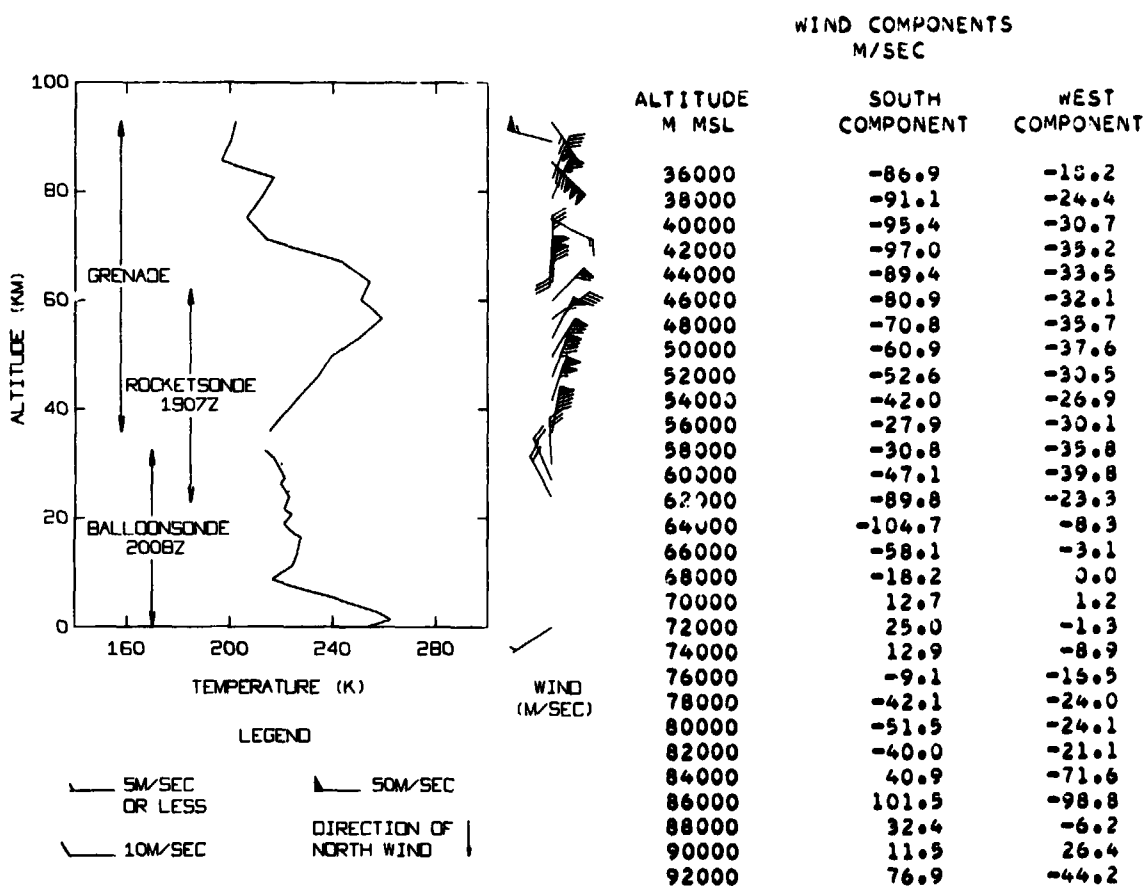
ALTITUDE % MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
36651.6	230.1	1.3	36.4	3.3	311.0	5.6
42184.4	257.2	1.7	38.7	4.1	328.9	6.1
46435.6	264.6	1.8	46.2	4.3	328.6	5.4
49963.3	255.0	2.3	33.0	6.1	351.2	10.0
53413.8	251.6	3.6	43.1	9.8	328.4	13.1
56759.7	239.2	3.0	29.7	8.8	350.5	15.9
59996.0	226.3	0.9	26.2	3.0	18.1	5.9
63154.4	218.7	1.3	55.1	4.3	330.2	4.4
66716.6	202.7	0.7	74.5	2.6	35.8	1.9
70628.5	217.7	4.6	19.8	16.5	3.2	43.4
74363.8	187.9	4.3	62.1	16.9	58.5	15.7
77964.7	192.3	2.7	43.5	11.1	147.0	15.3
81403.5	214.4	4.7	30.6	17.9	159.3	33.0
84264.5	199.5	5.3	59.1	21.4	59.7	21.0
86613.3	219.4	5.5	46.9	20.7	71.6	26.6
8869.3	210.2	7.1	170.5	28.2	154.3	9.8
91022.9	227.4	8.8	167.8	34.5	162.9	11.4
93036.3	223.0	8.9	53.7	34.4	288.8	39.6



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
37000	231.9	0.401E 03	-7.3	0.602E-02	-3.3
38000	236.7	0.346E 03	-8.1	0.509E-02	-5.0
39000	241.6	0.298E 03	-9.0	0.430E-02	-6.6
40000	246.5	0.259E 03	-9.6	0.366E-02	-8.3
41000	251.4	0.227E 03	-9.4	0.314E-02	-8.8
42000	256.3	0.199E 03	-9.3	0.270E-02	-9.5
43000	258.7	0.174E 03	-9.4	0.235E-02	-9.4
44000	260.4	0.153E 03	-9.5	0.205E-02	-9.2
45000	262.1	0.134E 03	-9.6	0.178E-02	-8.9
46000	263.9	0.118E 03	-9.7	0.156E-02	-8.7
47000	263.1	0.104E 03	-9.9	0.138E-02	-7.7
48000	260.3	0.918E 02	-10.1	0.122E-02	-6.6
49000	257.6	0.805E 02	-10.8	0.108E-02	-6.3
50000	254.9	0.706E 02	-11.5	0.964E-03	-6.0
51000	253.9	0.618E 02	-12.1	0.848E-03	-6.4
52000	253.0	0.541E 02	-12.9	0.746E-03	-6.8
53000	252.0	0.473E 02	-13.7	0.655E-03	-7.7
54000	249.4	0.414E 02	-14.4	0.579E-03	-8.2
55000	245.7	0.362E 02	-15.1	0.514E-03	-8.3
56000	242.0	0.315E 02	-16.2	0.453E-03	-8.7
57000	238.2	0.274E 02	-17.3	0.400E-03	-9.1
58000	234.3	0.238E 02	-18.2	0.354E-03	-9.4
59000	230.3	0.205E 02	-19.5	0.311E-03	-9.9
60000	226.3	0.177E 02	-20.9	0.273E-03	-10.6
61000	223.9	0.153E 02	-22.2	0.238E-03	-11.9
62000	221.5	0.131E 02	-23.6	0.207E-03	-13.4
63000	219.1	0.112E 02	-25.1	0.179E-03	-15.4
64000	214.9	0.969E 01	-26.3	0.157E-03	-16.6
65000	210.4	0.828E 01	-27.6	0.137E-03	-17.7
66000	205.9	0.701E 01	-29.3	0.118E-03	-19.2
67000	203.8	0.594E 01	-30.9	0.101E-03	-21.5
68000	207.6	0.504E 01	-32.2	0.846E-04	-25.7
69000	211.5	0.428E 01	-33.1	0.706E-04	-29.3
70000	215.3	0.367E 01	-33.3	0.594E-04	-32.0
71000	214.7	0.315E 01	-33.3	0.511E-04	-33.0
72000	206.8	0.270E 01	-33.2	0.455E-04	-31.5
73000	198.8	0.229E 01	-33.6	0.401E-04	-30.5
74000	190.8	0.191E 01	-34.6	0.350E-04	-30.1
75000	188.7	0.160E 01	-35.4	0.296E-04	-31.5
76000	189.9	0.134E 01	-36.1	0.246E-04	-33.9
77000	191.1	0.112E 01	-36.2	0.205E-04	-35.8
78000	192.5	0.949E 00	-36.1	0.171E-04	-37.5
79000	199.0	0.798E 00	-35.8	0.139E-04	-40.5
80000	205.4	0.674E 00	-34.9	0.114E-04	-42.8
81000	211.8	0.576E 00	-33.0	0.948E-05	-42.9
82000	211.3	0.493E 00	-31.1	0.813E-05	-41.1
83000	206.1	0.422E 00	-29.0	0.714E-05	-37.8
84000	200.9	0.358E 00	-27.8	0.620E-05	-35.1
85000	203.8	0.302E 00	-26.5	0.512E-05	-35.5
86000	214.2	0.258E 00	-24.6	0.420E-05	-36.4
87000	217.8	0.222E 00	-22.1	0.355E-05	-35.4
88000	213.7	0.190E 00	-19.7	0.310E-05	-32.1
89000	211.2	0.162E 00	-17.6	0.268E-05	-29.6
90000	219.2	0.138E 00	-15.5	0.220E-05	-30.3
91000	227.2	0.119E 00	-12.4	0.183E-05	-29.2
92000	223.3	0.103E 00	-9.4	0.160E-05	-24.9
93000	223.1	0.893E-01	-6.9	0.139E-05	-20.8

## FIGURE 2 CHURCHILL, 7 JANUARY 1971, 2014 GMT.

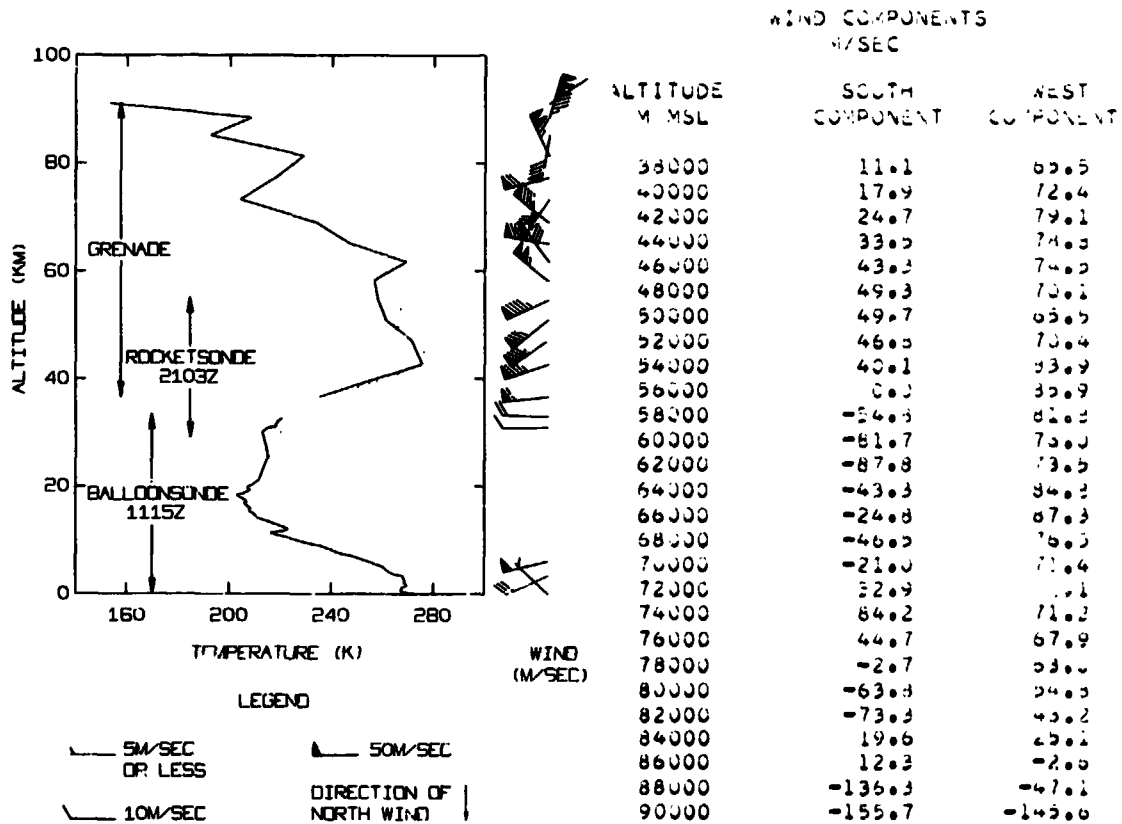
ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
35919.8	215.6	0.6	88.6	1.9	..	1.2
41699.3	226.3	0.4	105.4	2.0	20.0	1.1
46058.8	234.7	0.3	86.7	2.9	21.1	1.9
49701.2	239.8	0.4	73.6	6.6	32.3	5.2
53239.7	250.9	0.3	54.0	12.4	28.3	13.1
56688.3	259.3	0.1	38.6	11.2	54.0	16.6
60056.9	251.0	0.1	61.2	2.7	44.0	2.5
63346.9	254.6	0.8	122.3	9.8	4.5	4.5
67051.5	243.9	2.8	32.8	27.0	0.8	47.3
71138.7	214.2	3.3	30.5	36.1	183.6	69.1
75053.5	206.9	2.6	14.5	29.7	116.8	116.3
78841.3	212.5	2.6	62.5	24.3	25.8	22.2
82497.6	217.3	3.3	44.7	27.9	22.8	35.8
85549.2	197.0	3.9	179.1	36.5	134.5	10.0
89238.3	200.5	2.2	57.0	19.2	284.9	20.3
92811.0	202.5	4.0	127.1	34.5	144.7	15.9



ALTITUDE M ISL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
36000	215.8	0.449E 02	-90.9	0.725E-03	-90.0
37000	217.6	0.384E 02	-91.1	0.615E-03	-90.1
38000	219.5	0.323E 02	-91.2	0.521E-03	-90.2
39000	221.3	0.280E 02	-91.4	0.442E-03	-90.4
40000	223.1	0.241E 02	-91.5	0.377E-03	-90.5
41000	225.0	0.204E 02	-91.7	0.322E-03	-90.6
42000	226.8	0.179E 02	-91.8	0.275E-03	-90.8
43000	228.8	0.154E 02	-91.9	0.235E-03	-90.9
44000	230.7	0.133E 02	-92.1	0.200E-03	-91.1
45000	232.6	0.115E 02	-92.2	0.172E-03	-91.2
46000	234.5	0.997E 01	-92.4	0.148E-03	-91.3
47000	236.0	0.863E 01	-92.5	0.127E-03	-91.4
48000	237.4	0.748E 01	-92.6	0.109E-03	-91.6
49000	238.8	0.650E 01	-92.7	0.948E-04	-91.8
50000	240.5	0.565E 01	-92.9	0.817E-04	-92.0
51000	243.9	0.491E 01	-93.0	0.701E-04	-92.2
52000	247.0	0.429E 01	-93.1	0.603E-04	-92.4
53000	250.1	0.374E 01	-93.1	0.521E-04	-92.6
54000	252.7	0.327E 01	-93.2	0.451E-04	-92.8
55000	255.2	0.286E 01	-93.2	0.391E-04	-93.0
56000	257.6	0.251E 01	-93.3	0.340E-04	-93.1
57000	258.5	0.221E 01	-93.3	0.297E-04	-93.2
58000	256.0	0.194E 01	-93.3	0.264E-04	-93.2
59000	253.6	0.170E 01	-93.3	0.233E-04	-93.2
60000	251.1	0.148E 01	-93.3	0.206E-04	-93.2
61000	252.0	0.130E 01	-93.3	0.180E-04	-93.3
62000	253.1	0.114E 01	-93.3	0.156E-04	-93.4
63000	254.2	0.999E 00	-93.3	0.136E-04	-93.5
64000	252.7	0.876E 00	-93.3	0.120E-04	-93.5
65000	249.8	0.768E 00	-93.2	0.107E-04	-93.5
66000	246.9	0.669E 00	-93.2	0.944E-05	-93.5
67000	244.0	0.583E 00	-93.2	0.833E-05	-93.5
68000	237.0	0.508E 00	-93.1	0.747E-05	-93.4
69000	229.7	0.443E 00	-93.0	0.673E-05	-93.2
70000	222.5	0.380E 00	-93.1	0.595E-05	-93.1
71000	215.2	0.325E 00	-93.1	0.526E-05	-93.1
72000	212.6	0.278E 00	-93.1	0.456E-05	-93.1
73000	210.7	0.238E 00	-93.1	0.393E-05	-93.1
74000	208.9	0.202E 00	-93.0	0.338E-05	-93.1
75000	207.0	0.172E 00	-93.0	0.290E-05	-93.2
76000	208.3	0.146E 00	-93.0	0.245E-05	-93.4
77000	209.8	0.125E 00	-92.9	0.207E-05	-93.5
78000	211.2	0.106E 00	-92.8	0.176E-05	-93.5
79000	212.7	0.913E-01	-92.6	0.149E-05	-93.6
80000	214.0	0.780E-01	-92.4	0.127E-05	-93.6
81000	215.3	0.668E-01	-92.2	0.108E-05	-93.4
82000	216.7	0.573E-01	-92.0	0.921E-06	-93.3
83000	214.0	0.491E-01	-91.7	0.800E-06	-93.0
84000	207.3	0.422E-01	-91.4	0.708E-06	-92.5
85000	200.7	0.357E-01	-91.3	0.620E-06	-92.1
86000	197.5	0.302E-01	-91.1	0.532E-06	-91.9
87000	198.4	0.255E-01	-91.0	0.448E-06	-91.8
88000	199.3	0.216E-01	-90.8	0.377E-06	-91.7
89000	200.3	0.183E-01	-90.7	0.318E-06	-91.6
90000	200.9	0.155E-01	-90.5	0.269E-06	-91.5
91000	201.5	0.131E-01	-90.3	0.227E-06	-91.2
92000	202.1	0.111E-01	-90.2	0.192E-06	-91.0

### FIGURE 3 WALLOPS, 7 JANUARY 1971, 2030 GMT.

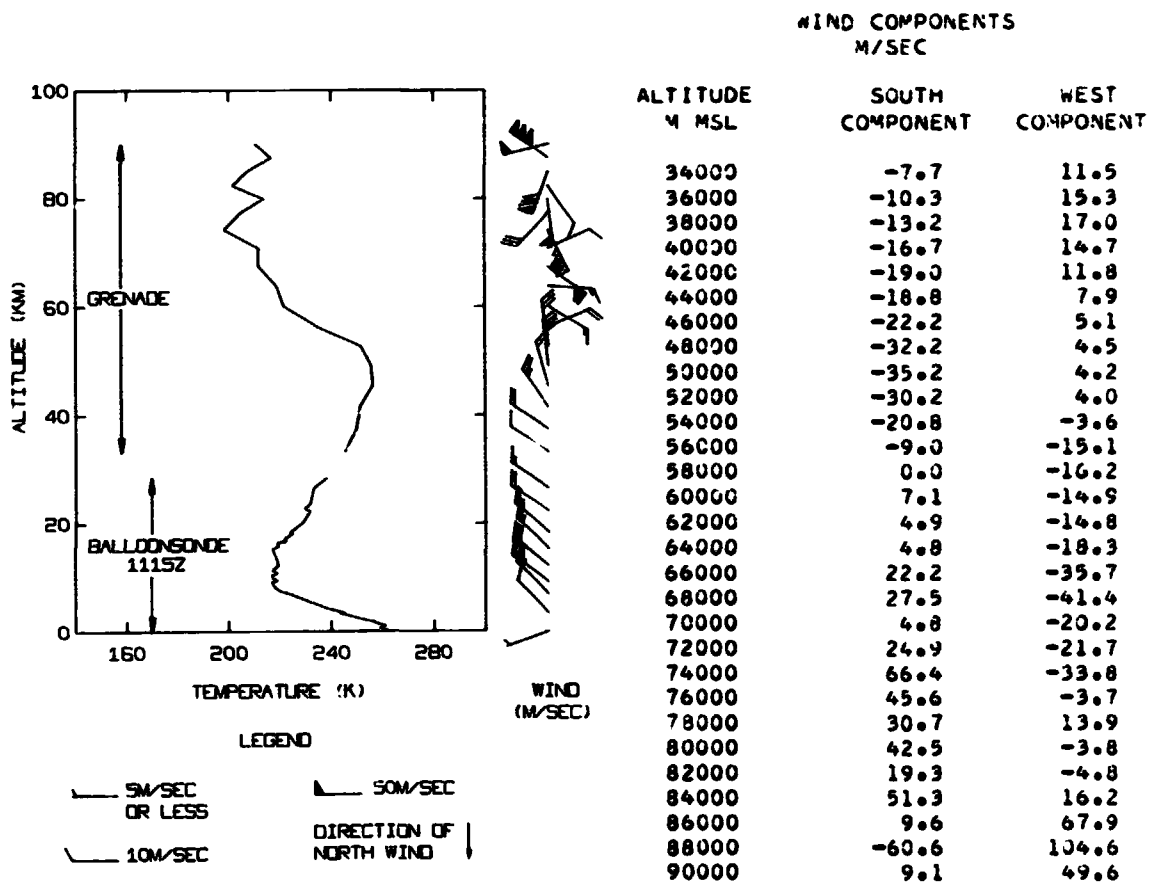
ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
36657.9	235.7	0.5	51.3	0.6	263.8	1.1
42493.5	275.6	0.9	85.0	1.0	251.6	1.1
47220.3	271.3	1.0	87.1	1.5	235.5	1.5
50964.5	251.4	1.2	90.6	2.1	231.7	2.0
54642.4	258.4	1.2	95.8	2.1	246.2	2.0
58242.0	257.0	5.5	103.9	15.4	305.3	15.1
61740.0	259.3	6.2	121.5	24.1	324.4	11.2
65141.6	247.2	1.6	93.2	3.0	279.4	2.0
69010.5	234.0	1.4	91.5	3.7	209.0	1.9
73274.7	204.5	1.4	123.6	3.5	215.9	1.7
77337.0	213.8	2.1	57.7	3.8	255.8	2.5
81372.3	229.0	3.0	115.9	9.4	335.1	2.5
85194.5	192.9	2.4	73.0	7.5	190.4	3.5
88441.1	208.5	4.5	185.0	13.0	16.6	3.0
91390.0	153.7	3.7	252.6	11.3	55.3	3.5



ALTITUDE M ASL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
37000	238.0	J.402E 03	-7.0	0.589E-02	-5.0
38000	244.6	J.348E 03	-7.4	0.490E-02	-7.4
39000	251.2	J.302E 03	-8.0	0.419E-02	-9.3
40000	257.8	J.262E 03	-8.7	J.354E-02	-11.4
41000	264.5	J.231E 03	-7.7	J.305E-02	-11.5
42000	271.1	J.205E 03	-6.7	J.263E-02	-12.0
43000	275.4	J.181E 03	-5.7	J.229E-02	-11.0
44000	274.4	J.160E 03	-5.2	0.203E-02	-9.7
45000	273.4	0.142E 03	-4.6	0.181E-02	-7.5
46000	272.5	0.125E 03	-4.3	J.160E-02	-6.2
47000	271.5	0.110E 03	-4.2	J.142E-02	-4.0
48000	269.3	J.980E 02	-4.1	0.126E-02	-3.0
49000	266.6	J.866E 02	-4.1	0.113E-02	-2.0
50000	264.0	J.762E 02	-4.4	J.100E-02	-2.0
51000	261.4	J.670E 02	-4.0	J.893E-03	-1.5
52000	260.6	J.589E 02	-5.2	J.787E-03	-1.5
53000	259.3	J.513E 02	-5.6	0.694E-03	-2.1
54000	258.9	J.455E 02	-6.1	0.612E-03	-3.0
55000	258.3	0.399E 02	-6.4	0.539E-03	-3.0
56000	257.9	J.351E 02	-6.7	0.474E-03	-4.6
57000	257.5	J.308E 02	-6.9	0.417E-03	-5.4
58000	257.1	J.270E 02	-7.1	0.366E-03	-6.2
59000	259.6	J.237E 02	-7.1	0.315E-03	-7.0
60000	263.1	J.208E 02	-7.1	0.275E-03	-9.0
61000	266.7	J.184E 02	-6.5	J.240E-03	-11.0
62000	267.6	J.162E 02	-5.7	0.211E-03	-11.5
63000	261.1	0.143E 02	-4.8	0.191E-03	-9.0
64000	254.6	J.126E 02	-4.1	J.172E-03	-8.0
65000	248.1	J.110E 02	-3.8	J.154E-03	-7.3
66000	244.3	J.961E 01	-3.2	J.137E-03	-6.8
67000	240.8	J.838E 01	-2.6	0.121E-03	-6.4
68000	237.4	J.727E 01	-2.3	0.106E-03	-6.4
69000	234.0	J.630E 01	-1.7	0.938E-04	-6.1
70000	227.1	J.546E 01	-0.9	J.838E-04	-4.2
71000	220.2	J.473E 01	0.0	J.749E-04	-1.9
72000	213.3	J.406E 01	-0.2	J.659E-04	-0.9
73000	206.4	0.343E 01	-0.6	J.579E-04	0.1
74000	207.0	0.291E 01	-0.7	J.490E-04	-2.1
75000	210.5	J.247E 01	-0.0	0.409E-04	-5.4
76000	214.0	J.211E 01	0.6	0.345E-04	-7.6
77000	217.4	0.182E 01	2.6	0.291E-04	-9.1
78000	220.4	J.156E 01	5.0	J.247E-04	-10.1
79000	222.9	0.134E 01	7.9	J.209E-04	-10.7
80000	225.5	0.115E 01	11.6	0.178E-04	-10.0
81000	228.0	J.100E 01	16.1	0.152E-04	-8.0
82000	223.1	J.865E 00	20.7	0.135E-04	-2.1
83000	213.6	J.748E 00	25.6	0.122E-04	6.1
84000	204.2	0.635E 00	28.2	J.108E-04	13.4
85000	194.8	J.535E 00	29.7	0.957E-05	20.3
86000	196.8	J.450E 00	31.3	J.797E-05	20.5
87000	201.6	J.379E 00	32.9	0.655E-05	19.0
88000	206.4	0.323E 00	36.1	0.545E-05	19.1
89000	197.0	J.275E 00	39.6	0.487E-05	28.0
90000	176.3	J.232E 00	41.6	J.460E-05	45.1
91000	155.6	0.187E 00	36.9	0.420E-05	51.6

**FIGURE 4**  
**BARROW, 12 JANUARY 1971, 0750 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
33206.8	245.5	0.9	12.1	2.4	303.5	13.0
37383.0	250.2	1.1	21.6	3.3	304.0	9.6
41393.7	251.3	0.9	23.2	2.8	325.6	7.3
45300.1	256.4	1.1	19.3	3.4	344.0	9.8
49057.7	255.7	0.6	37.7	2.1	353.5	3.0
52727.5	251.5	1.8	28.8	5.9	351.6	11.2
56253.3	234.8	1.4	19.0	4.9	67.8	15.2
60114.9	221.5	1.7	17.0	6.2	121.0	23.4
63829.1	219.7	3.0	15.1	11.2	94.6	47.4
67386.6	212.1	3.0	60.6	11.5	126.0	12.3
70787.1	212.0	2.1	12.3	8.9	65.3	41.7
74139.5	198.6	2.5	87.4	11.5	152.6	7.6
77321.3	205.2	2.9	31.8	13.4	223.6	22.1
79888.8	214.0	2.2	50.0	9.4	173.1	10.0
82321.9	202.0	1.5	11.2	6.3	144.5	33.5
84971.9	207.7	4.9	81.3	19.9	201.2	15.0
87498.7	216.6	6.2	150.8	23.4	304.8	8.9
90067.4	210.7	4.7	49.1	17.1	256.1	19.3

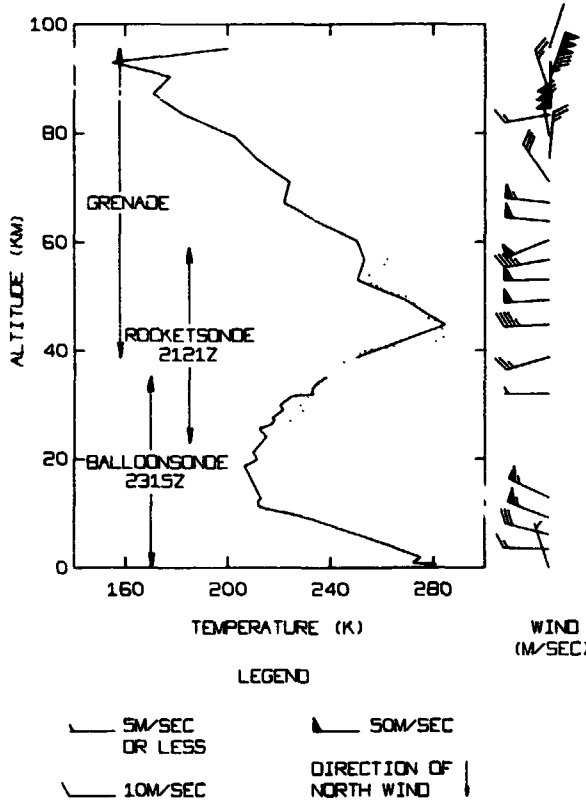




ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	246.4	0.675E 03	1.7	0.954E-02	-3.4
35000	247.5	0.588E 03	2.3	0.827E-02	-2.1
36000	248.6	0.513E 03	2.9	0.718E-02	-0.9
37000	249.7	0.448E 03	3.4	0.624E-02	0.2
38000	250.3	0.391E 03	3.8	0.544E-02	1.4
39000	250.6	0.341E 03	3.9	0.475E-02	2.7
40000	250.9	0.298E 03	4.1	0.414E-02	3.8
41000	251.2	0.261E 03	4.0	0.362E-02	4.8
42000	252.1	0.229E 03	3.8	0.315E-02	5.3
43000	253.4	0.199E 03	3.4	0.274E-02	5.6
44000	254.7	0.174E 03	3.0	0.238E-02	5.7
45000	256.0	0.153E 03	2.7	0.208E-02	6.0
46000	256.3	0.134E 03	2.2	0.182E-02	6.4
47000	256.1	0.117E 03	1.6	0.160E-02	6.9
48000	255.9	0.103E 03	0.8	0.140E-02	6.6
49000	255.7	0.904E 02	0.1	0.123E-02	5.9
50000	254.6	0.792E 02	-0.6	0.108E-02	5.6
51000	253.5	0.695E 02	-1.3	0.955E-03	5.3
52000	252.3	0.608E 02	-2.2	0.839E-03	4.8
53000	250.2	0.531E 02	-3.1	0.740E-03	4.2
54000	245.5	0.465E 02	-4.0	0.660E-03	4.5
55000	240.7	0.404E 02	-5.4	0.584E-03	4.3
56000	236.0	0.350E 02	-6.9	0.517E-03	3.9
57000	232.2	0.303E 02	-8.3	0.455E-03	3.2
58000	228.8	0.263E 02	-9.7	0.400E-03	2.4
59000	225.3	0.226E 02	-11.4	0.350E-03	1.2
60000	221.9	0.194E 02	-13.3	0.305E-03	-0.1
61000	220.8	0.167E 02	-15.0	0.263E-03	-2.3
62000	220.1	0.143E 02	-16.6	0.227E-03	-4.9
63000	219.3	0.123E 02	-18.2	0.195E-03	-7.8
64000	218.4	0.105E 02	-19.5	0.168E-03	-10.4
65000	216.5	0.907E 01	-20.7	0.145E-03	-12.4
66000	214.7	0.777E 01	-21.8	0.126E-03	-14.3
67000	212.8	0.663E 01	-22.9	0.108E-03	-16.2
68000	212.1	0.566E 01	-23.9	0.930E-04	-18.3
69000	212.1	0.483E 01	-24.6	0.794E-04	-20.5
70000	212.1	0.413E 01	-25.1	0.678E-04	-22.4
71000	211.2	0.352E 01	-25.4	0.581E-04	-23.8
72000	207.2	0.301E 01	-25.6	0.506E-04	-23.9
73000	203.1	0.255E 01	-25.9	0.438E-04	-24.2
74000	199.1	0.216E 01	-26.4	0.378E-04	-24.6
75000	200.4	0.182E 01	-26.6	0.317E-04	-26.7
76000	202.5	0.154E 01	-26.5	0.265E-04	-28.8
77000	204.5	0.131E 01	-25.9	0.223E-04	-30.3
78000	207.5	0.111E 01	-25.0	0.187E-04	-31.9
79000	211.0	0.949E 00	-23.6	0.155E-04	-33.2
80000	213.5	0.812E 00	-21.6	0.132E-04	-33.6
81000	208.5	0.695E 00	-19.3	0.116E-04	-30.1
82000	203.6	0.589E 00	-17.8	0.100E-04	-27.0
83000	203.5	0.499E 00	-16.2	0.855E-05	-25.6
84000	205.6	0.424E 00	-14.4	0.718E-05	-24.8
85000	207.8	0.361E 00	-12.3	0.605E-05	-23.8
86000	211.4	0.307E 00	-10.2	0.507E-05	-23.3
87000	214.9	0.263E 00	-7.6	0.427E-05	-22.4
88000	215.5	0.225E 00	-4.8	0.365E-05	-20.2
89000	213.1	0.193E 00	-2.0	0.316E-05	-16.9
90000	210.8	0.165E 00	0.5	0.273E-05	-13.8

**FIGURE 5**  
**WALLOPS, 12 JANUARY 1971, 2053 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
38772.9	250.0	0.4	23.6	0.6	254.6	2.7
44750.8	284.2	0.7	45.1	0.9	267.9	2.1
49253.3	269.3	0.7	47.8	1.1	267.2	2.3
53020.5	250.6	0.5	48.0	0.9	269.5	1.9
56694.6	253.3	0.5	43.3	0.9	260.9	2.0
60274.9	250.2	0.6	51.5	1.1	248.7	2.1
63756.1	235.2	0.5	48.9	1.2	275.5	2.1
67156.9	222.2	0.6	54.4	1.3	276.2	2.1
71013.1	224.1	0.6	30.2	2.1	325.3	2.8
75285.6	21.2	0.9	23.1	3.4	5.3	5.3
79394.9	202.6	0.9	32.8	3.9	350.0	3.8
83363.9	183.3	0.7	15.4	1.8	261.2	11.7
87183.2	170.8	1.0	26.2	5.1	342.0	6.4
90380.2	177.5	1.6	183.3	7.2	19.9	1.6
93031.1	155.0	0.9	149.6	4.6	178.9	1.1
95599.7	199.9	1.5	234.1	6.1	18.3	1.0



**WIND COMPONENTS  
M/SEC**

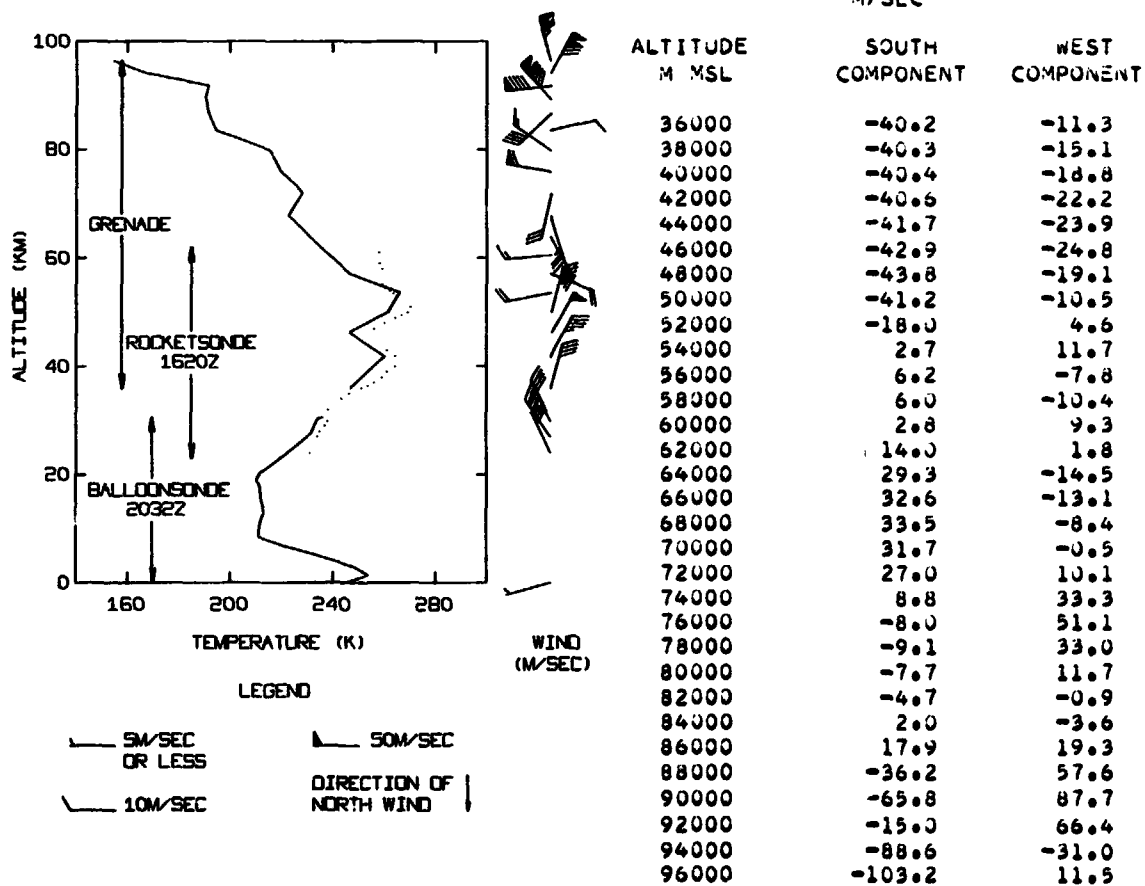
ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
40000	5.3	27.3
42000	3.7	34.8
44000	2.1	42.2
46000	1.7	45.8
48000	2.0	47.0
50000	1.1	47.8
52000	0.8	47.9
54000	2.0	46.6
56000	5.6	43.8
58000	11.1	44.6
60000	16.4	47.4
62000	7.0	48.3
64000	-3.8	49.3
66000	-5.5	52.2
68000	-10.0	45.9
70000	-19.8	26.8
72000	-24.4	12.7
74000	-23.5	3.6
76000	-24.6	-0.6
78000	-29.1	3.0
80000	-26.6	7.1
82000	-9.5	11.9
84000	-2.7	13.9
86000	-16.5	10.3
88000	-62.9	-10.0
90000	-138.7	-49.7
92000	24.3	-26.0
94000	9.2	-29.5

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
39000	251.3	0.322E 03	-1.7	0.447E-02	-3.2
40000	257.0	0.282E 03	-1.7	0.382E-02	-4.3
41000	262.7	0.246E 03	-1.7	0.326E-02	-5.4
42000	268.4	0.215E 03	-2.0	0.279E-02	-6.6
43000	274.2	0.190E 03	-1.0	0.242E-02	-6.6
44000	279.9	0.169E 03	0.0	0.211E-02	-6.5
45000	283.4	0.150E 03	1.0	0.185E-02	-5.8
46000	280.1	0.133E 03	1.9	0.166E-02	-2.8
47000	276.8	0.118E 03	2.9	0.149E-02	-0.0
48000	273.5	0.105E 03	2.8	0.133E-02	1.7
49000	270.2	0.928E 02	2.7	0.119E-02	2.9
50000	265.6	0.819E 02	2.7	0.107E-02	4.6
51000	260.6	0.723E 02	2.6	0.966E-03	6.6
52000	255.5	0.633E 02	1.8	0.863E-03	7.7
53000	250.7	0.554E 02	0.8	0.770E-03	8.4
54000	251.3	0.484E 02	-0.0	0.671E-03	6.3
55000	252.0	0.424E 02	-0.8	0.585E-03	4.4
56000	252.8	0.371E 02	-1.3	0.511E-03	2.8
57000	253.0	0.325E 02	-1.8	0.447E-03	1.5
58000	252.2	0.285E 02	-2.1	0.393E-03	0.7
59000	251.3	0.249E 02	-2.4	0.345E-03	-0.0
60000	250.4	0.218E 02	-2.8	0.303E-03	-0.7
61000	247.1	0.190E 02	-3.0	0.269E-03	-0.4
62000	242.8	0.167E 02	-3.1	0.239E-03	0.1
63000	238.4	0.144E 02	-3.9	0.211E-03	-0.3
64000	234.2	0.125E 02	-4.4	0.186E-03	-0.7
65000	230.4	0.109E 02	-4.7	0.164E-03	-1.1
66000	226.6	0.941E 01	-5.2	0.144E-03	-1.6
67000	222.8	0.910E 01	-5.9	0.126E-03	-2.2
68000	222.6	0.697E 01	-6.3	0.109E-03	-4.3
69000	223.1	0.599E 01	-6.5	0.936E-04	-6.3
70000	223.6	0.516E 01	-6.3	0.805E-04	-8.0
71000	224.1	0.445E 01	-5.9	0.692E-04	-9.4
72000	221.1	0.383E 01	-5.2	0.604E-04	-9.2
73000	218.1	0.330E 01	-4.2	0.528E-04	-8.7
74000	215.1	0.282E 01	-3.7	0.458E-04	-8.6
75000	212.1	0.241E 01	-2.9	0.396E-04	-8.4
76000	209.7	0.206E 01	-1.9	0.342E-04	-8.2
77000	207.6	0.176E 01	-0.5	0.295E-04	-7.9
78000	205.5	0.149E 01	0.7	0.254E-04	-7.6
79000	203.4	0.127E 01	2.2	0.217E-04	-7.2
80000	199.6	0.107E 01	4.0	0.188E-04	-5.8
81000	194.8	0.915E 00	6.2	0.163E-04	-1.4
82000	189.9	0.769E 00	7.2	0.141E-04	2.0
83000	185.0	0.641E 00	7.6	0.120E-04	5.0
84000	181.2	0.535E 00	7.9	0.102E-04	7.5
85000	177.9	0.446E 00	8.2	0.873E-05	9.8
86000	174.7	0.369E 00	7.5	0.735E-05	11.2
87000	171.4	0.303E 00	6.4	0.617E-05	12.1
88000	172.5	0.250E 00	5.3	0.505E-05	10.3
89000	174.6	0.206E 00	4.2	0.410E-05	7.8
90000	176.7	0.170E 00	3.9	0.336E-05	6.2
91000	172.3	0.141E 00	3.5	0.286E-05	10.3
92000	163.8	0.116E 00	1.9	0.248E-05	16.1
93000	155.3	0.942E-01	-1.7	0.211E-05	19.9
94000	171.9	0.760E-01	-5.6	0.154E-05	5.6
95000	189.4	0.634E-01	-6.7	0.116E-05	-3.6

**FIGURE 6**  
**CHURCHILL, 13 JANUARY 1971, 1600 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
35911.1	245.7	0.7	41.7	1.8	15.5	2.4
41523.9	260.4	0.9	46.2	2.5	28.8	3.0
46268.7	246.3	0.5	50.1	2.4	30.7	2.7
49988.9	251.7	0.7	46.2	3.2	14.6	3.9
53601.0	266.2	0.9	17.9	5.1	259.4	16.5
57117.6	245.8	0.9	21.1	5.8	111.1	16.1
60555.5	238.2	0.6	16.2	4.8	265.2	17.1
63936.2	230.7	0.4	35.3	3.2	151.0	5.2
67697.8	222.6	0.2	35.5	2.2	163.6	3.5
71085.3	223.3	1.0	30.7	9.3	193.4	17.2
75922.3	219.3	1.3	58.1	12.3	260.2	12.1
79836.0	215.2	1.3	14.2	14.3	305.0	58.0
83583.0	194.4	1.8	10.5	23.0	77.7	125.7
86715.0	191.5	2.0	37.7	27.4	227.6	41.1
89295.3	190.3	1.5	131.7	21.5	318.2	9.3
91777.6	191.6	2.3	90.2	31.7	264.0	19.7
94182.2	167.1	1.5	121.0	22.0	29.3	10.6
96441.1	154.6	2.6	106.6	48.6	344.3	26.0

**WIND COMPONENTS  
M/SEC**

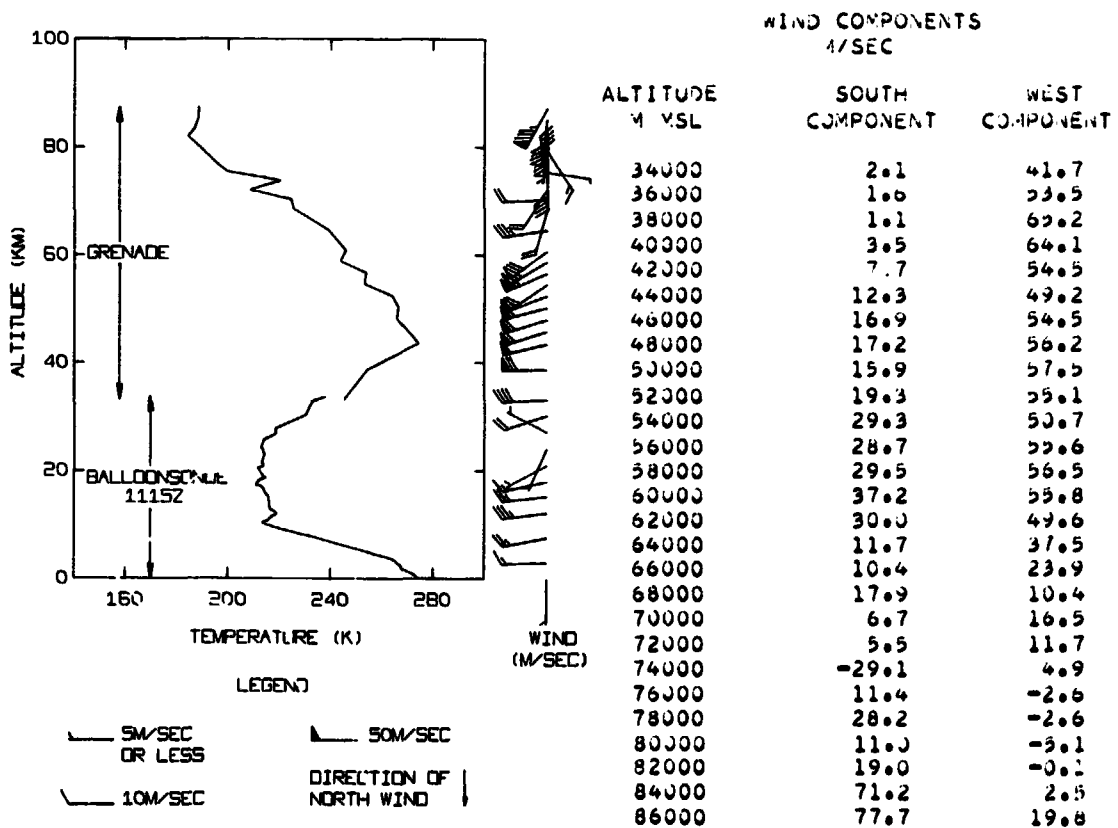


ALTITUDE M ASL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
36000	246.9	0.416E 03	-16.5	0.586E-02	-19.1
37000	249.2	0.362E 03	-16.2	0.507E-02	-18.6
38000	251.6	0.316E 03	-16.1	0.438E-02	-18.3
39000	253.9	0.275E 03	-16.1	0.378E-02	-18.2
40000	256.2	0.241E 03	-15.7	0.328E-02	-17.7
41000	258.5	0.212E 03	-15.3	0.286E-02	-17.1
42000	259.9	0.186E 03	-15.1	0.250E-02	-16.4
43000	256.7	0.163E 03	-15.0	0.222E-02	-14.3
44000	253.5	0.144E 03	-15.0	0.197E-02	-12.3
45000	250.3	0.125E 03	-15.5	0.175E-02	-10.8
46000	247.1	0.109E 03	-16.3	0.154E-02	-9.6
47000	249.3	0.958E 02	-17.3	0.133E-02	-10.5
48000	253.5	0.835E 02	-18.3	0.114E-02	-12.8
49000	257.6	0.733E 02	-18.7	0.992E-03	-14.6
50000	261.7	0.645E 02	-19.1	0.858E-03	-16.3
51000	263.0	0.567E 02	-19.4	0.751E-03	-17.1
52000	264.2	0.499E 02	-19.7	0.657E-03	-17.8
53000	265.4	0.439E 02	-19.9	0.577E-03	-18.7
54000	263.9	0.387E 02	-20.0	0.511E-03	-18.9
55000	258.1	0.341E 02	-20.0	0.461E-03	-17.7
56000	252.3	0.299E 02	-20.5	0.413E-03	-16.9
57000	246.5	0.260E 02	-21.2	0.368E-03	-16.4
58000	243.8	0.227E 02	-21.8	0.325E-03	-16.8
59000	241.6	0.198E 02	-22.4	0.286E-03	-17.2
60000	239.4	0.172E 02	-23.2	0.250E-03	-18.0
61000	237.2	0.149E 02	-23.9	0.219E-03	-18.6
62000	235.0	0.130E 02	-24.5	0.192E-03	-19.4
63000	232.7	0.112E 02	-25.3	0.168E-03	-20.6
64000	230.5	0.973E 01	-25.9	0.147E-03	-21.8
65000	228.4	0.842E 01	-26.4	0.128E-03	-22.9
66000	226.2	0.726E 01	-26.9	0.111E-03	-23.9
67000	224.1	0.625E 01	-27.4	0.971E-04	-25.0
68000	223.0	0.537E 01	-27.7	0.840E-04	-26.3
69000	224.4	0.462E 01	-27.9	0.718E-04	-28.1
70000	225.7	0.398E 01	-27.8	0.614E-04	-29.7
71000	227.1	0.344E 01	-27.2	0.527E-04	-30.9
72000	228.0	0.297E 01	-26.5	0.454E-04	-31.7
73000	225.8	0.256E 01	-25.6	0.396E-04	-31.5
74000	223.6	0.221E 01	-24.5	0.345E-04	-31.1
75000	221.4	0.190E 01	-23.5	0.299E-04	-30.8
76000	219.2	0.163E 01	-22.2	0.259E-04	-30.4
77000	218.2	0.140E 01	-20.7	0.224E-04	-30.1
78000	217.1	0.120E 01	-18.9	0.193E-04	-29.6
79000	216.1	0.103E 01	-16.9	0.166E-04	-29.1
80000	214.3	0.884E 00	-14.6	0.143E-04	-28.0
81000	208.7	0.758E 00	-12.0	0.126E-04	-23.8
82000	203.2	0.646E 00	-9.8	0.110E-04	-19.7
83000	197.6	0.544E 00	-8.6	0.960E-05	-16.5
84000	194.0	0.458E 00	-7.4	0.823E-05	-13.8
85000	193.1	0.386E 00	-6.2	0.697E-05	-12.2
86000	192.2	0.325E 00	-5.1	0.589E-05	-10.8
87000	191.4	0.273E 00	-4.1	0.497E-05	-9.5
88000	190.9	0.229E 00	-3.1	0.419E-05	-8.3
89000	190.4	0.193E 00	-2.3	0.353E-05	-7.3
90000	190.6	0.162E 00	-1.3	0.296E-05	-6.5
91000	191.2	0.136E 00	-0.5	0.248E-05	-4.4
92000	189.3	0.114E 00	0.1	0.210E-05	-1.3
93000	179.1	0.962E-01	0.3	0.187E-05	6.1
94000	168.9	0.789E-01	-2.1	0.162E-05	11.5
95000	162.6	0.647E-01	-4.7	0.138E-05	14.5
95000	157.0	0.525E-01	-8.5	0.116E-05	15.5

## FIGURE 7

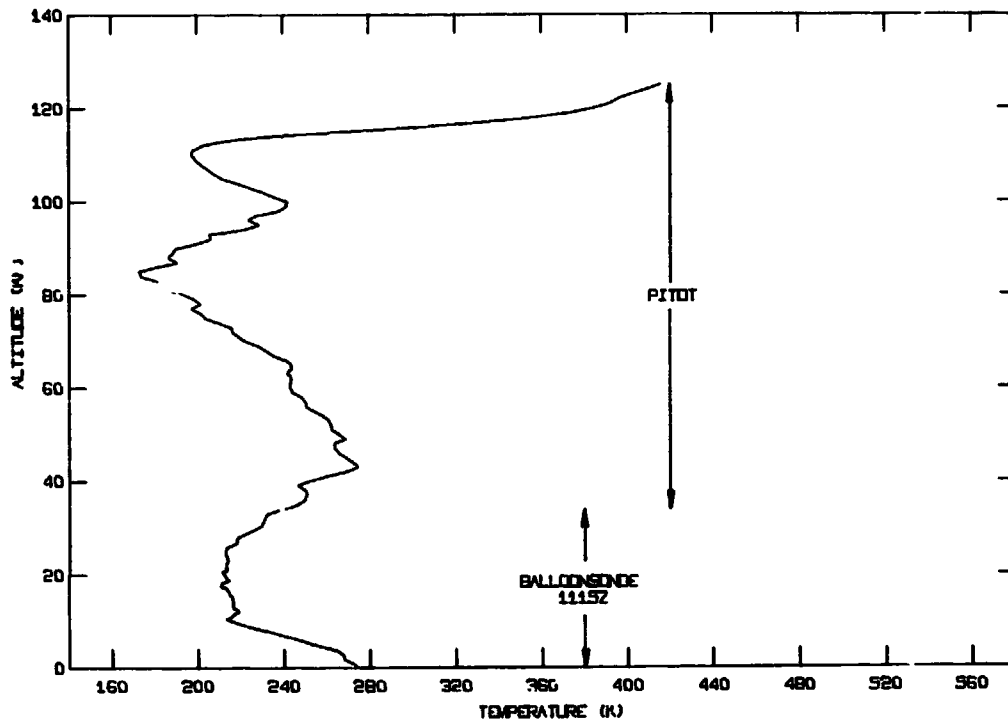
### WALLOPS, 10 MARCH 1971, 1738 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
33278.0	245.9	1.1	37.5	0.6	265.4	2.3
36779.3	254.7	0.6	69.9	0.4	269.2	0.8
43561.9	274.4	2.0	43.4	1.7	255.7	4.4
45738.3	270.2	2.0	57.8	1.9	252.3	3.8
48133.9	256.2	2.4	53.9	2.4	252.8	4.3
50328.5	260.6	2.3	60.0	2.3	255.3	4.6
52505.0	264.1	1.9	53.0	2.0	249.4	3.9
54634.9	253.2	1.8	59.2	2.5	235.4	3.8
56733.4	254.0	2.0	64.8	2.4	245.4	4.1
58793.2	244.0	2.4	63.3	3.3	239.8	5.1
60815.3	246.2	2.5	70.0	3.7	234.0	4.6
62890.0	238.9	0.6	33.8	0.8	261.5	2.9
64817.9	225.6	3.3	21.9	7.8	195.4	14.7
70326.7	224.7	4.4	20.8	6.3	267.7	32.6
72057.0	208.6	5.0	18.9	12.0	213.7	34.6
73784.0	220.6	5.6	44.7	16.7	350.8	9.7
75496.7	199.8	2.9	4.4	4.7	97.8	11.4
77176.4	195.1	2.7	37.5	8.5	179.5	6.5
79375.4	189.9	1.4	13.1	4.4	147.4	12.0
81924.5	194.7	2.1	6.4	7.2	185.8	34.1
83443.4	197.2	3.1	70.4	10.1	150.2	4.2
85251.1	183.6	3.3	79.3	10.3	154.9	4.3
87264.0	188.6	3.5	87.1	9.7	209.8	5.9



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/50 M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	247.0	0.642E 03	-3.1	0.905E-02	-8.3
35000	248.6	0.560E 03	-2.5	0.784E-02	-7.3
36000	250.2	0.490E 03	-1.6	0.682E-02	-6.0
37000	251.8	0.429E 03	-0.8	0.593E-02	-4.7
38000	253.4	0.376E 03	-0.2	0.510E-02	-3.7
39000	255.6	0.329E 03	0.1	0.440E-02	-2.9
40000	259.7	0.288E 03	0.5	0.387E-02	-3.1
41000	263.8	0.252E 03	0.0	0.333E-02	-3.4
42000	267.9	0.221E 03	0.0	0.287E-02	-3.8
43000	272.1	0.195E 03	1.1	0.249E-02	-3.8
44000	273.6	0.172E 03	1.8	0.219E-02	-2.7
45000	271.9	0.152E 03	2.3	0.199E-02	-0.5
46000	270.0	0.134E 03	2.6	0.173E-02	1.4
47000	268.2	0.118E 03	2.6	0.154E-02	3.2
48000	266.5	0.104E 03	2.5	0.137E-02	4.0
49000	265.4	0.924E 02	2.3	0.120E-02	3.9
50000	266.6	0.814E 02	2.1	0.106E-02	3.6
51000	265.8	0.718E 02	1.9	0.941E-03	3.7
52000	264.7	0.632E 02	1.7	0.832E-03	3.9
53000	261.5	0.557E 02	1.4	0.742E-03	4.5
54000	256.4	0.489E 02	0.9	0.665E-03	5.3
55000	253.3	0.428E 02	0.3	0.589E-03	5.1
56000	253.7	0.375E 02	-0.2	0.515E-03	3.0
57000	252.7	0.329E 02	-0.6	0.453E-03	2.8
58000	247.9	0.289E 02	-1.0	0.405E-03	3.6
59000	244.2	0.251E 02	-1.5	0.358E-03	3.5
60000	245.3	0.219E 02	-2.4	0.311E-03	1.6
61000	245.3	0.191E 02	-2.8	0.277E-03	0.2
62000	243.9	0.166E 02	-3.3	0.238E-03	-0.4
63000	242.1	0.144E 02	-3.3	0.208E-03	-1.8
64000	240.2	0.126E 02	-4.1	0.182E-03	-2.9
65000	237.8	0.109E 02	-4.3	0.160E-03	-3.7
66000	234.4	0.952E 01	-4.1	0.141E-03	-3.7
67000	230.9	0.828E 01	-3.8	0.124E-03	-3.5
68000	227.4	0.717E 01	-3.0	0.109E-03	-3.5
69000	225.4	0.619E 01	-3.5	0.956E-04	-4.3
70000	224.3	0.533E 01	-3.3	0.826E-04	-5.5
71000	218.4	0.459E 01	-2.0	0.733E-04	-4.0
72000	209.1	0.392E 01	-3.0	0.654E-04	-1.7
73000	215.1	0.334E 01	-3.0	0.542E-04	-6.5
74000	218.0	0.287E 01	-1.9	0.465E-04	-8.2
75000	205.3	0.245E 01	-1.1	0.416E-04	-3.9
76000	199.4	0.203E 01	-1.0	0.365E-04	-2.1
77000	195.6	0.175E 01	-0.8	0.313E-04	-2.4
78000	193.3	0.148E 01	-0.3	0.267E-04	-2.8
79000	191.1	0.124E 01	0.0	0.226E-04	-3.4
80000	189.0	0.104E 01	0.6	0.192E-04	-3.7
81000	186.8	0.876E 00	1.0	0.163E-04	-1.6
82000	184.8	0.732E 00	2.1	0.138E-04	-0.1
83000	186.5	0.612E 00	2.7	0.114E-04	-0.5
84000	187.6	0.512E 00	3.3	0.951E-05	-0.4
85000	188.4	0.429E 00	4.1	0.794E-05	-0.1
86000	188.7	0.360E 00	5.0	0.665E-05	0.5
87000	188.8	0.302E 00	5.9	0.557E-05	1.3

**FIGURE 8**  
**WALLOPS, 10 MARCH 1971, 1759 GMT.**

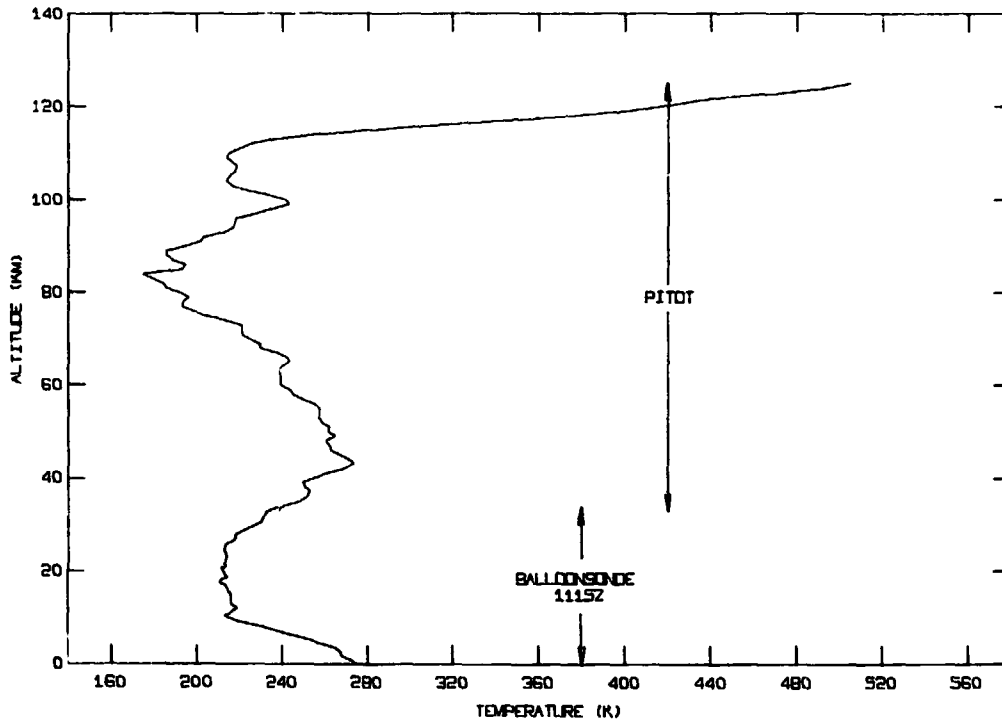


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	241.0	0.654E 03	-1.3	0.945E-02	-4.4
35000	247.0	0.569E 03	-0.9	0.803E-02	-5.1
36000	250.3	0.497E 03	-0.2	0.692E-02	-4.6
37000	251.3	0.434E 03	0.3	0.602E-02	-3.4
38000	250.5	0.379E 03	0.7	0.528E-02	-1.6
39000	246.7	0.331E 03	0.9	0.468E-02	1.1
40000	252.0	0.289E 03	0.7	0.400E-02	0.1
41000	259.8	0.253E 03	0.8	0.340E-02	-1.6
42000	269.0	0.222E 03	1.1	0.289E-02	-3.5
43000	274.8	0.197E 03	2.2	0.250E-02	-3.8
44000	272.4	0.174E 03	3.0	0.223E-02	-1.2
45000	269.4	0.153E 03	2.8	0.199E-02	1.2
46000	265.6	0.135E 03	3.5	0.178E-02	3.8
47000	263.5	0.119E 03	3.1	0.158E-02	5.5
48000	263.9	0.105E 03	2.8	0.139E-02	5.9
49000	269.0	0.926E 02	2.5	0.120E-02	3.1
50000	266.1	0.817E 02	2.4	0.107E-02	4.1
51000	262.4	0.719E 02	2.1	0.955E-03	5.3
52000	261.6	0.633E 02	1.7	0.843E-03	5.2
53000	260.7	0.557E 02	1.4	0.744E-03	4.7
54000	258.2	0.489E 02	0.8	0.660E-03	4.5
55000	254.7	0.429E 02	0.4	0.587E-03	4.6
56000	250.8	0.375E 02	-0.1	0.522E-03	4.9
57000	250.0	0.329E 02	-0.6	0.458E-03	3.8



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
58000	248.3	0.287E 02	-1.1	0.403E-03	3.0
59000	243.9	0.250E 02	-2.0	0.358E-03	3.4
60000	243.1	0.218E 02	-2.6	0.313E-03	2.3
61000	243.7	0.190E 02	-3.1	0.272E-03	0.5
62000	243.9	0.165E 02	-4.1	0.237E-03	-0.9
63000	242.0	0.143E 02	-4.5	0.208E-03	-2.1
64000	243.8	0.125E 02	-4.2	0.180E-03	-4.4
65000	243.5	0.109E 02	-4.0	0.157E-03	-5.8
66000	241.4	0.957E 01	-3.7	0.138E-03	-6.1
67000	235.6	0.831E 01	-3.4	0.123E-03	-5.0
68000	232.4	0.721E 01	-3.1	0.108E-03	-5.2
69000	228.6	0.623E 01	-2.8	0.950E-04	-4.9
70000	222.1	0.537E 01	-2.6	0.843E-04	-3.7
71000	219.3	0.462E 01	-2.3	0.734E-04	-3.9
72000	216.3	0.395E 01	-2.2	0.638E-04	-4.1
73000	215.8	0.339E 01	-1.5	0.548E-04	-5.3
74000	210.7	0.290E 01	-1.0	0.480E-04	-4.2
75000	203.4	0.246E 01	-0.9	0.423E-04	-2.4
76000	201.7	0.209E 01	-0.5	0.362E-04	-3.1
77000	197.3	0.177E 01	-0.0	0.313E-04	-2.4
78000	201.6	0.149E 01	0.3	0.259E-04	-5.8
79000	198.4	0.127E 01	2.1	0.223E-04	-5.0
80000	194.5	0.107E 01	3.3	0.192E-04	-3.9
31000	186.6	0.899E 00	4.3	0.168E-04	1.0
92000	182.9	0.751E 00	4.8	0.143E-04	3.4
83000	118.6	0.625E 00	4.8	0.120E-04	4.3
84000	173.8	0.518E 00	4.5	0.104E-04	8.7
85000	172.8	0.427E 00	3.7	0.862E-05	8.3
86000	182.3	0.354E 00	3.3	0.676E-05	2.1
87000	191.0	0.295E 00	3.6	0.540E-05	-1.8
88000	186.9	0.247E 00	4.3	0.463E-05	1.1
89000	189.3	0.207E 00	5.2	0.383E-05	0.5
90000	190.8	0.174E 00	6.2	0.319E-05	0.6
91000	200.4	0.146E 00	7.0	0.256E-05	-1.4
92000	206.6	0.125E 00	9.3	0.211E-05	-1.2
93000	206.0	0.106E 00	10.9	0.180E-05	2.0
94000	222.3	0.913E-01	13.1	0.143E-05	-1.9
95000	228.9	0.789E-01	16.0	0.120E-05	-0.9
96000	223.9	0.681E-01	18.5	0.106E-05	5.1
97000	227.1	0.586E-01	20.4	0.900E-06	6.9
98000	238.2	0.509E-01	23.0	0.745E-06	5.7
99000	241.5	0.443E-01	25.9	0.640E-06	8.2
100000	242.0	0.386E-01	28.5	0.557E-06	11.9
101000	235.6	0.337E-01	30.9	0.498E-06	19.7
102000	230.4	0.291E-01	31.9	0.442E-06	26.5
103000	224.5	0.253E-01	32.8	0.392E-06	33.1
104000	217.8	0.217E-01	31.6	0.348E-06	39.6
105000	211.6	0.186E-01	30.3	0.307E-06	45.0
106000	207.8	0.158E-01	27.3	0.267E-06	48.0
107000	204.6	0.135E-01	24.9	0.231E-06	49.7
108000	201.8	0.115E-01	21.0	0.199E-06	50.4
109000	199.1	0.977E-02	16.9	0.171E-06	50.1
110000	197.5	0.827E-02	12.5	0.146E-06	48.5
111000	198.4	0.701E-02	7.9	0.123E-06	47.1
112000	202.8	0.594E-02	3.1	0.102E-06	42.5
113000	211.7	0.506E-02	-1.3	0.833E-07	35.3
114000	233.0	0.435E-02	-5.0	0.652E-07	22.5
115000	269.5	0.382E-02	-7.1	0.494E-07	6.8
116000	305.9	0.341E-02	-8.1	0.388E-07	-3.8
117000	334.6	0.307E-02	-8.2	0.320E-07	-9.5
118000	356.6	0.279E-02	-8.0	0.273E-07	-12.2
119000	373.7	0.255E-02	-7.4	0.238E-07	-13.3
120000	384.8	0.234E-02	-6.9	0.212E-07	-12.9
121000	392.4	0.214E-02	-6.9	0.191E-07	-9.5
122000	396.3	0.198E-02	-6.3	0.174E-07	-5.6
123000	402.0	0.182E-02	-6.7	0.158E-07	-2.5
124000	409.6	0.167E-02	-7.4	0.143E-07	-0.2
125000	416.0	0.154E-02	-8.2	0.130E-07	1.9

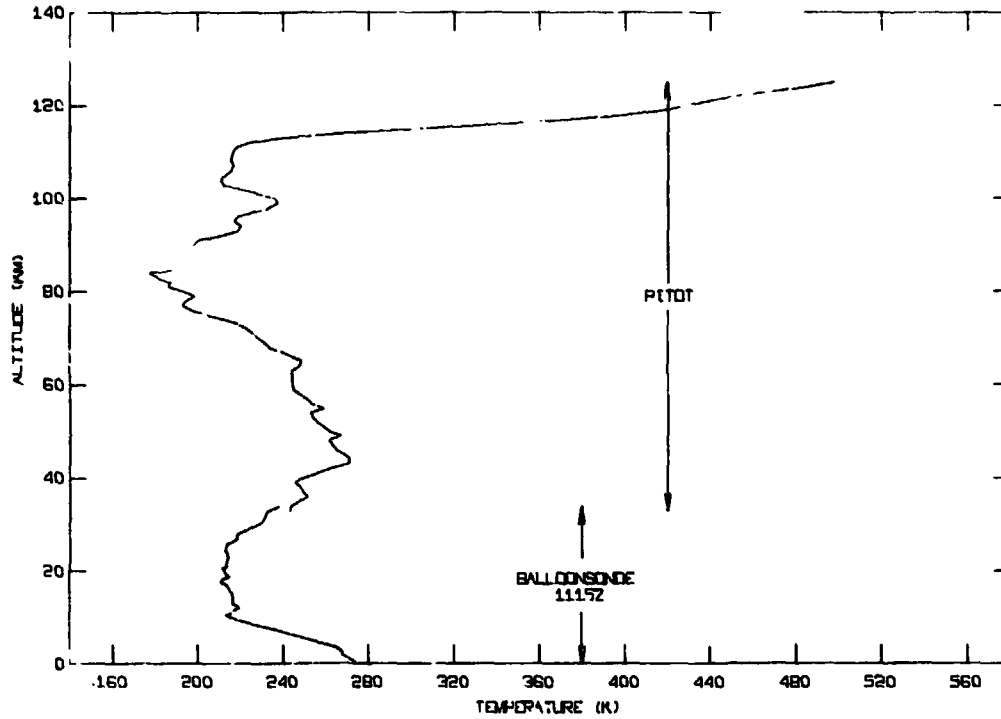
**FIGURE 9**  
**WALLOPS, 10 MARCH 1971, 1826 GMT.**



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
33000	238.9	0.741E 03	-3.4	0.108E-01	-6.6
34000	241.2	0.643E 03	-2.9	0.929E-02	-6.0
35000	248.9	0.559E 03	-2.5	0.784E-02	-7.3
36000	252.3	0.489E 03	-1.8	0.676E-02	-6.8
37000	253.0	0.427E 03	-1.2	0.590E-02	-5.3
38000	250.6	0.374E 03	-0.6	0.521E-02	-2.9
39000	249.7	0.327E 03	-0.2	0.457E-02	-1.2
40000	255.2	0.286E 03	-0.1	0.391E-02	-2.1
41000	260.6	0.251E 03	0.3	0.336E-02	-2.7
42000	269.7	0.221E 03	0.5	0.286E-02	-4.5
43000	273.7	0.195E 03	1.5	0.249E-02	-4.1
44000	271.3	0.173E 03	2.2	0.222E-02	-1.7
45000	267.1	0.151E 03	1.9	0.199E-02	1.2
46000	263.0	0.134E 03	2.5	0.178E-02	3.8
47000	262.3	0.118E 03	2.0	0.157E-02	4.8
48000	260.4	0.103E 03	1.6	0.139E-02	5.5
49000	265.3	0.914E 02	1.2	0.120E-02	3.1
50000	262.0	0.805E 02	0.9	0.107E-02	4.1
51000	262.5	0.707E 02	0.4	0.939E-03	3.5
52000	258.5	0.622E 02	0.0	0.838E-03	4.6
53000	257.2	0.545E 02	-0.7	0.739E-03	4.0
54000	257.0	0.478E 02	-1.3	0.649E-03	2.7
55000	257.8	0.419E 02	-1.7	0.568E-03	1.2
56000	254.8	0.369E 02	-1.9	0.504E-03	1.2

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/50 M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
57000	249.3	0.322E 02	-2.6	0.451E-03	2.2
58000	245.4	0.281E 02	-3.4	0.400E-03	2.3
59000	243.7	0.245E 02	-4.1	0.351E-03	1.4
60000	239.5	0.213E 02	-5.0	0.311E-03	1.6
61000	239.6	0.185E 02	-5.8	0.270E-03	-0.1
62000	239.5	0.161E 02	-6.4	0.235E-03	-1.7
63000	238.6	0.139E 02	-7.1	0.205E-03	-3.5
64000	240.2	0.122E 02	-7.1	0.177E-03	-6.0
65000	243.7	0.105E 02	-7.0	0.152E-03	-8.8
66000	242.7	0.926E 01	-6.8	0.133E-03	-9.5
67000	237.9	0.806E 01	-6.3	0.118E-03	-8.9
68000	229.5	0.698E 01	-6.1	0.106E-03	-7.0
69000	229.3	0.603E 01	-5.9	0.917E-04	-8.3
70000	224.7	0.521E 01	-5.5	0.808E-04	-7.6
71000	221.7	0.449E 01	-5.1	0.705E-04	-7.7
72000	221.4	0.385E 01	-4.8	0.607E-04	-8.8
73000	221.5	0.331E 01	-3.9	0.522E-04	-9.7
74000	213.8	0.285E 01	-2.9	0.464E-04	-7.4
75000	203.7	0.242E 01	-2.5	0.415E-04	-6.2
76000	199.4	0.205E 01	-2.4	0.369E-04	-3.9
77000	193.1	0.173E 01	-2.2	0.329E-04	-2.4
78000	194.0	0.145E 01	-2.3	0.292E-04	-4.7
79000	196.5	0.123E 01	-1.0	0.261E-04	-7.1
80000	191.9	0.103E 01	-0.1	0.233E-04	-2.9
81000	185.5	0.867E 00	0.6	0.209E-04	-1.9
82000	184.3	0.725E 00	1.1	0.187E-04	-0.8
83000	179.7	0.603E 00	1.2	0.167E-04	1.7
84000	173.2	0.499E 00	0.8	0.149E-04	3.9
85000	193.7	0.415E 00	0.8	0.134E-04	-5.8
86000	194.9	0.351E 00	2.5	0.122E-04	-5.0
87000	188.8	0.293E 00	3.6	0.112E-04	-0.9
88000	185.7	0.247E 00	4.3	0.104E-04	1.3
89000	186.1	0.206E 00	4.5	0.967E-05	1.5
90000	195.0	0.173E 00	5.4	0.890E-05	-2.2
91000	202.3	0.146E 00	7.0	0.823E-05	-2.6
92000	204.0	0.124E 00	8.9	0.763E-05	-0.3
93000	212.9	0.106E 00	10.8	0.709E-05	-1.3
94000	217.6	0.911E-01	13.0	0.660E-05	0.0
95000	218.2	0.783E-01	15.2	0.616E-05	3.2
96000	219.0	0.673E-01	17.1	0.577E-05	6.1
97000	227.8	0.579E-01	19.0	0.542E-05	5.2
98000	234.5	0.502E-01	21.4	0.511E-05	5.9
99000	243.4	0.437E-01	24.0	0.483E-05	5.9
100000	241.7	0.381E-01	26.7	0.458E-05	10.5
101000	232.7	0.331E-01	28.8	0.436E-05	19.4
102000	223.3	0.285E-01	29.5	0.416E-05	28.2
103000	216.8	0.246E-01	29.3	0.397E-05	34.8
104000	213.9	0.211E-01	28.4	0.380E-05	33.4
105000	215.9	0.181E-01	25.5	0.364E-05	38.4
106000	218.3	0.155E-01	25.1	0.349E-05	38.0
107000	219.3	0.134E-01	23.7	0.335E-05	38.0
108000	217.1	0.115E-01	21.0	0.322E-05	39.8
109000	214.0	0.989E-02	18.3	0.310E-05	41.3
110000	215.6	0.847E-02	15.2	0.299E-05	39.3
111000	220.7	0.729E-02	12.2	0.289E-05	37.5
112000	226.2	0.629E-02	9.1	0.280E-05	35.3
113000	235.3	0.545E-02	6.1	0.272E-05	30.6
114000	255.8	0.475E-02	3.6	0.265E-05	21.7
115000	283.0	0.421E-02	2.1	0.259E-05	12.0
116000	311.6	0.377E-02	1.5	0.254E-05	4.3
117000	345.9	0.341E-02	1.6	0.249E-05	-2.9
118000	374.6	0.310E-02	2.0	0.245E-05	-7.1
119000	399.4	0.283E-02	3.1	0.241E-05	-9.3
120000	417.1	0.263E-02	4.6	0.238E-05	-9.6
121000	431.0	0.243E-02	5.7	0.235E-05	-6.7
122000	447.5	0.226E-02	6.8	0.232E-05	-4.5
123000	473.1	0.210E-02	7.5	0.229E-05	-4.3
124000	492.8	0.197E-02	8.7	0.226E-05	-3.0
125000	505.0	0.183E-02	9.1	0.223E-05	-0.3

**FIGURE 10**  
**WALLOPS, 10 MARCH 1971, 1841 GMT.**



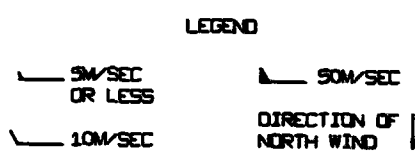
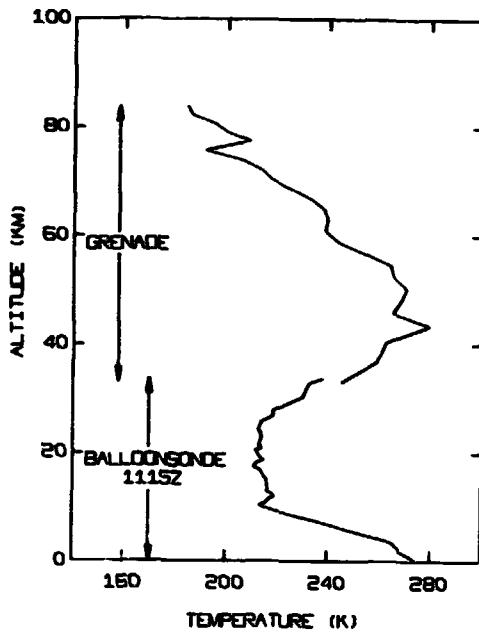
ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
33000	243.3	0.747E 03	-2.5	0.107E-01	-7.5
34000	244.7	0.650E 03	-1.9	0.926E-02	-6.3
35000	248.2	0.567E 03	-1.1	0.796E-02	-5.9
36000	251.6	0.495E 03	-0.5	0.686E-02	-5.4
37000	249.6	0.433E 03	0.0	0.604E-02	-3.1
38000	247.9	0.378E 03	0.3	0.531E-02	-1.0
39000	245.9	0.329E 03	0.1	0.467E-02	0.9
40000	249.8	0.287E 03	0.2	0.401E-02	0.3
41000	256.3	0.251E 03	0.3	0.342E-02	-1.0
42000	262.7	0.221E 03	0.5	0.293E-02	-2.1
43000	271.3	0.194E 03	0.8	0.250E-02	-3.8
44000	271.3	0.171E 03	1.4	0.221E-02	-2.1
45000	268.7	0.151E 03	1.9	0.197E-02	0.2
46000	265.0	0.133E 03	1.5	0.176E-02	2.6
47000	263.2	0.117E 03	1.6	0.156E-02	4.2
48000	261.7	0.103E 03	1.3	0.138E-02	4.7
49000	267.2	0.913E 02	1.0	0.119E-02	2.3
50000	261.7	0.803E 02	0.7	0.107E-02	4.1
51000	259.0	0.706E 02	0.2	0.950E-03	4.7
52000	255.8	0.619E 02	-0.3	0.844E-03	3.3
53000	253.8	0.543E 02	-1.0	0.746E-03	3.0
54000	252.7	0.475E 02	-1.8	0.656E-03	3.8
55000	253.4	0.417E 02	-2.4	0.561E-03	0.0
56000	253.2	0.366E 02	-2.6	0.504E-03	1.2

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
57000	251.1	0.321E 02	-3.0	0.445E-03	0.8
58000	247.2	0.279E 02	-3.9	0.395E-03	1.0
59000	244.8	0.245E 02	-4.1	0.348E-03	0.6
60000	244.4	0.213E 02	-5.0	0.304E-03	-0.6
61000	244.4	0.186E 02	-5.2	0.265E-03	-1.9
62000	244.5	0.162E 02	-5.7	0.231E-03	-3.4
63000	245.0	0.141E 02	-6.3	0.201E-03	-5.4
64000	248.5	0.123E 02	-6.1	0.173E-03	-8.1
65000	243.8	0.107E 02	-5.8	0.151E-03	-9.4
66000	244.9	0.942E 01	-5.1	0.134E-03	-8.9
67000	240.1	0.819E 01	-4.8	0.119E-03	-8.1
68000	234.0	0.711E 01	-4.3	0.106E-03	-7.0
69000	231.8	0.617E 01	-3.8	0.927E-04	-7.3
70000	228.6	0.533E 01	-3.4	0.813E-04	-7.1
71000	226.0	0.461E 01	-2.5	0.710E-04	-7.1
72000	223.3	0.397E 01	-1.9	0.619E-04	-7.0
73000	219.4	0.341E 01	-1.2	0.542E-04	-6.3
74000	212.7	0.291E 01	-0.6	0.479E-04	-4.4
75000	204.1	0.249E 01	0.1	0.425E-04	-1.9
76000	197.6	0.210E 01	0.0	0.372E-04	-0.4
77000	193.0	0.177E 01	-0.0	0.321E-04	0.0
78000	195.1	0.149E 01	0.3	0.267E-04	-2.9
79000	199.1	0.126E 01	1.5	0.221E-04	-5.9
80000	193.5	0.106E 01	2.8	0.192E-04	-3.9
81000	186.6	0.894E 00	3.7	0.167E-04	0.4
82000	187.6	0.749E 00	4.4	0.139E-04	0.5
83000	181.5	0.625E 00	4.8	0.120E-04	4.3
84000	177.4	0.519E 00	4.8	0.102E-04	6.6
85000	194.4	0.433E 00	5.0	0.776E-05	-2.4
86000	199.3	0.366E 00	6.8	0.640E-05	-3.2
87000	194.0	0.309E 00	8.3	0.555E-05	0.8
88000	190.7	0.259E 00	9.4	0.475E-05	3.7
89000	192.8	0.218E 00	10.6	0.395E-05	3.6
90000	199.0	0.183E 00	11.8	0.323E-05	1.8
91000	201.0	0.155E 00	13.8	0.271E-05	4.3
92000	210.5	0.132E 00	16.0	0.220E-05	2.9
93000	219.3	0.113E 00	18.7	0.181E-05	2.6
94000	220.3	0.979E-01	21.4	0.155E-05	6.2
95000	217.2	0.842E-01	23.8	0.135E-05	11.4
96000	219.0	0.722E-01	25.6	0.115E-05	14.0
97000	225.3	0.622E-01	27.7	0.963E-06	14.4
98000	233.5	0.538E-01	30.1	0.804E-06	14.1
99000	237.8	0.467E-01	32.7	0.686E-06	16.0
100000	236.1	0.407E-01	35.6	0.601E-06	20.8
101000	228.3	0.353E-01	37.1	0.539E-06	29.5
102000	219.3	0.305E-01	38.0	0.484E-06	38.5
103000	212.2	0.261E-01	37.0	0.429E-06	45.6
104000	210.9	0.223E-01	35.7	0.369E-06	48.0
105000	213.4	0.190E-01	33.1	0.312E-06	47.3
106000	216.2	0.163E-01	31.5	0.264E-06	46.3
107000	216.9	0.141E-01	29.8	0.226E-06	46.4
108000	215.8	0.120E-01	26.8	0.195E-06	47.3
109000	216.3	0.103E-01	24.0	0.167E-06	46.6
110000	216.9	0.890E-02	21.0	0.143E-06	45.4
111000	218.4	0.765E-02	17.8	0.122E-06	45.9
112000	225.0	0.658E-02	14.2	0.102E-06	42.5
113000	237.9	0.570E-02	11.1	0.836E-07	35.8
114000	266.2	0.501E-02	9.1	0.655E-07	23.0
115000	304.5	0.445E-02	8.0	0.510E-07	10.3
116000	342.8	0.402E-02	8.3	0.409E-07	1.3
117000	377.4	0.367E-02	9.6	0.339E-07	-4.1
118000	399.9	0.337E-02	10.8	0.294E-07	-5.5
119000	417.3	0.311E-02	12.7	0.260E-07	-5.3
120000	428.9	0.287E-02	14.1	0.234E-07	-3.9
121000	438.8	0.266E-02	15.5	0.212E-07	0.3
122000	452.4	0.247E-02	16.8	0.191E-07	3.5
123000	467.7	0.230E-02	17.7	0.172E-07	6.1
124000	484.4	0.215E-02	19.0	0.155E-07	8.0
125000	498.0	0.201E-02	19.3	0.141E-07	10.5

# FIGURE 11

## WALLOPS, 10 MARCH 1971, 1911 GMT.

ALTITUDE M FSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
33123.7	245.8	1.0	39.0	0.6	273.6	2.1
36852.2	259.3	1.3	51.7	0.8	273.1	1.6
40479.0	262.7	2.9	71.9	2.4	285.9	3.2
43453.3	279.3	4.6	50.0	2.3	269.0	6.0
45798.9	255.4	1.5	89.6	1.2	248.3	1.6
48075.2	254.0	1.4	63.3	1.4	259.2	2.7
50299.1	271.1	1.2	69.2	1.3	254.7	2.2
52499.1	265.5	1.2	60.9	1.4	245.3	2.4
54655.9	254.2	1.2	63.6	1.6	242.0	2.5
56785.9	254.2	1.1	73.6	1.4	253.2	2.1
58865.2	243.9	1.6	70.0	2.1	252.2	3.5
60901.0	239.2	1.9	72.6	3.0	241.4	4.0
62907.5	239.9	1.6	59.2	2.1	253.5	4.4
64866.3	233.2	1.5	25.8	2.7	269.4	9.0
66782.8	233.2	2.0	12.2	2.3	237.6	23.1
68670.0	225.1	1.7	25.6	4.3	212.3	8.3
70508.4	217.3	1.7	18.4	4.3	205.6	11.0
72311.0	212.8	1.9	3.5	5.7	195.0	24.4
74081.8	205.1	2.0	13.4	4.0	107.4	26.8
75826.7	191.4	2.0	44.9	7.3	177.1	4.5
77535.5	203.9	2.7	35.0	8.9	163.4	7.4
79190.2	199.6	2.8	40.0	10.0	164.9	7.2
80797.0	194.8	2.7	33.2	9.1	199.3	9.3
82354.9	186.0	3.2	64.2	10.9	201.8	7.3
83867.1	184.4	4.0	103.8	14.2	197.8	5.5



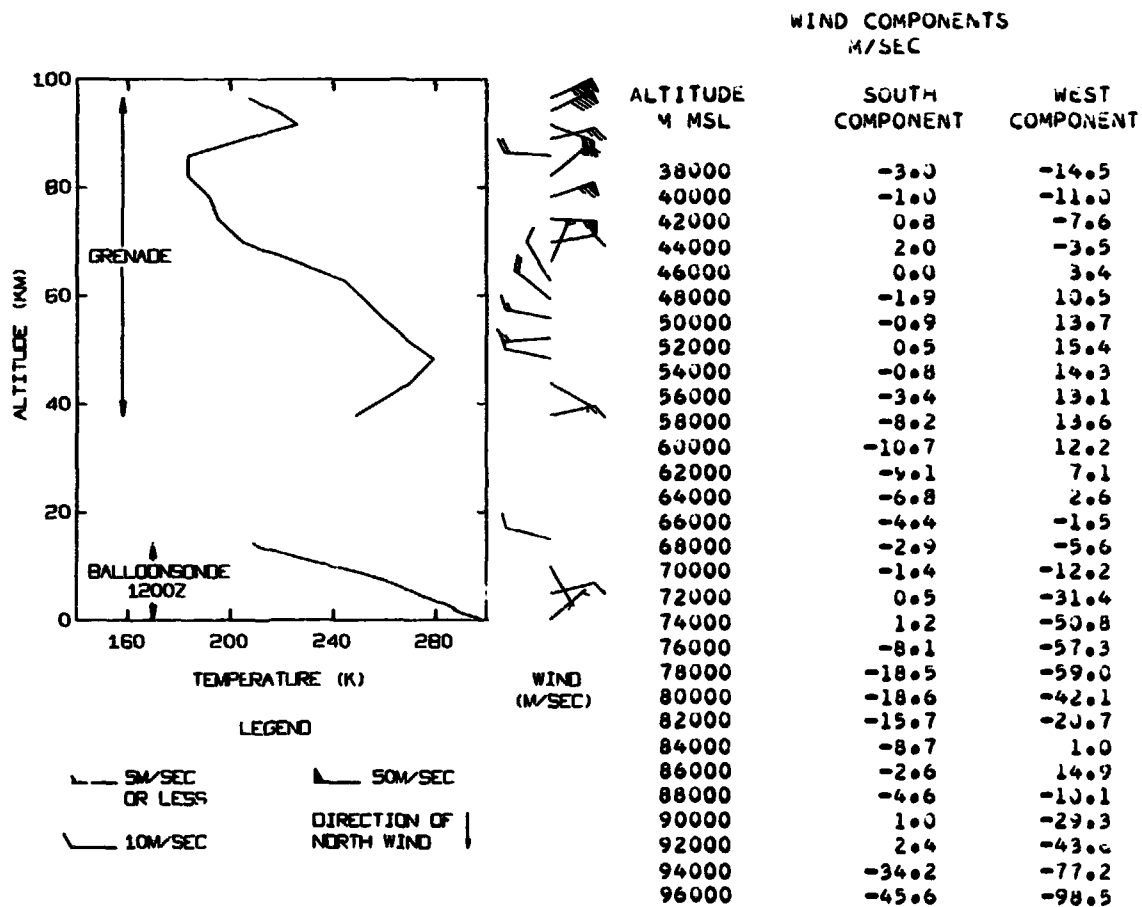
ALTITUDE M FSL	WIND COMPONENTS M/SEC	
	SOUTH COMPONENT	WEST COMPONENT
34000	-1.8	43.5
36000	-3.7	50.3
38000	-6.3	64.1
40000	-16.3	67.7
42000	-9.2	61.4
44000	8.7	61.7
46000	27.4	77.9
48000	15.0	63.2
50000	17.1	64.5
52000	23.6	58.1
54000	28.2	56.1
56000	24.4	67.1
58000	21.3	63.2
60000	26.7	63.0
62000	21.9	60.5
64000	0.3	39.3
66000	-2.9	17.2
68000	14.4	13.4
70000	18.3	9.3
72000	10.0	2.0
74000	9.6	-7.0
76000	36.5	-4.5
78000	35.7	-7.3
80000	37.5	30.4
82000	55.3	21.1

ALTITUDE M ASL	TEMPERATURE DEG K	PRESSURE NT/SG M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	249.0	0.643E 03	-3.0	0.899E-02	-9.0
35000	252.6	0.560E 03	-2.4	0.772E-02	-8.0
36000	255.2	0.492E 03	-1.2	0.660E-02	-7.3
37000	259.4	0.432E 03	-0.2	0.560E-02	-5.9
38000	260.4	0.379E 03	0.5	0.507E-02	-5.4
39000	261.3	0.333E 03	1.3	0.444E-02	-3.9
40000	262.2	0.293E 03	2.0	0.389E-02	-2.5
41000	265.6	0.257E 03	2.6	0.335E-02	-2.1
42000	271.2	0.225E 03	3.0	0.291E-02	-2.7
43000	276.9	0.200E 03	3.9	0.252E-02	-2.0
44000	276.1	0.177E 03	4.9	0.224E-02	-0.0
45000	270.1	0.157E 03	5.4	0.202E-02	3.1
46000	265.7	0.139E 03	5.5	0.181E-02	5.9
47000	267.2	0.122E 03	5.3	0.159E-02	6.2
48000	269.7	0.107E 03	5.2	0.139E-02	6.0
49000	269.9	0.950E 02	5.2	0.122E-02	5.3
50000	270.8	0.839E 02	5.2	0.107E-02	5.1
51000	269.3	0.741E 02	5.2	0.959E-03	5.7
52000	266.7	0.654E 02	5.1	0.854E-03	6.6
53000	265.2	0.576E 02	4.9	0.757E-03	6.3
54000	264.5	0.507E 02	4.7	0.666E-03	5.8
55000	262.6	0.447E 02	4.0	0.593E-03	5.0
56000	257.9	0.393E 02	4.4	0.531E-03	6.7
57000	253.2	0.344E 02	4.0	0.474E-03	7.5
58000	248.2	0.302E 02	3.8	0.423E-03	8.4
59000	243.6	0.263E 02	2.8	0.376E-03	8.0
60000	241.1	0.229E 02	2.1	0.331E-03	8.3
61000	238.9	0.199E 02	1.2	0.290E-03	7.5
62000	239.4	0.173E 02	0.4	0.252E-03	5.3
63000	239.8	0.150E 02	-0.0	0.218E-03	3.0
64000	239.0	0.131E 02	-0.2	0.191E-03	1.4
65000	237.9	0.113E 02	-0.4	0.166E-03	0.0
66000	235.3	0.989E 01	-0.4	0.146E-03	-0.3
67000	232.3	0.857E 01	-0.4	0.128E-03	-0.7
68000	228.3	0.742E 01	-0.3	0.113E-03	-0.5
69000	223.7	0.639E 01	-0.3	0.990E-04	-0.3
70000	219.4	0.550E 01	-0.2	0.873E-04	-0.1
71000	216.1	0.472E 01	-0.2	0.761E-04	-0.4
72000	213.5	0.404E 01	-0.2	0.659E-04	-1.0
73000	209.9	0.345E 01	0.0	0.573E-04	-0.8
74000	205.5	0.293E 01	0.0	0.498E-04	-0.0
75000	197.9	0.249E 01	0.3	0.439E-04	1.3
76000	193.2	0.209E 01	-0.3	0.376E-04	1.2
77000	203.4	0.177E 01	-0.1	0.303E-04	-5.5
78000	206.3	0.151E 01	1.4	0.254E-04	-7.2
79000	200.7	0.128E 01	3.0	0.222E-04	-5.3
80000	197.2	0.108E 01	4.0	0.191E-04	-4.1
81000	193.6	0.914E 00	6.0	0.164E-04	-1.0
82000	188.0	0.768E 00	7.1	0.142E-04	2.9
83000	185.3	0.642E 00	7.7	0.120E-04	5.0

## FIGURE 12

### KOUROU, 18 MARCH 1971, 1939 GMT.

AL TITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
37865.0	249.2	0.4	15.0	0.4	78.0	2.6
43812.3	270.2	1.0	5.2	1.1	119.5	10.4
43305.9	279.2	1.3	12.2	1.2	282.1	6.7
52066.1	268.6	1.9	15.9	2.1	266.1	12.0
55723.2	259.3	2.3	13.1	2.9	281.3	16.0
59275.2	252.5	2.7	18.1	4.6	33.8	12.4
62734.2	244.5	2.9	10.0	5.7	328.2	21.8
66103.1	226.9	2.0	4.5	3.7	22.9	47.7
69917.4	204.6	2.6	9.6	4.5	80.6	39.5
74132.5	195.3	2.7	53.9	5.1	92.8	7.2
78187.8	191.6	1.6	64.9	2.5	71.3	3.2
82113.8	183.4	1.8	25.3	3.8	50.5	9.4
85885.4	183.5	1.7	21.7	3.2	273.5	11.3
89036.5	205.9	2.1	26.5	3.4	76.2	10.2
91627.7	225.9	6.2	37.7	10.0	110.7	18.5
94139.3	217.8	6.8	91.1	10.3	63.4	8.8
96570.2	206.8	4.3	113.9	6.8	65.5	4.7

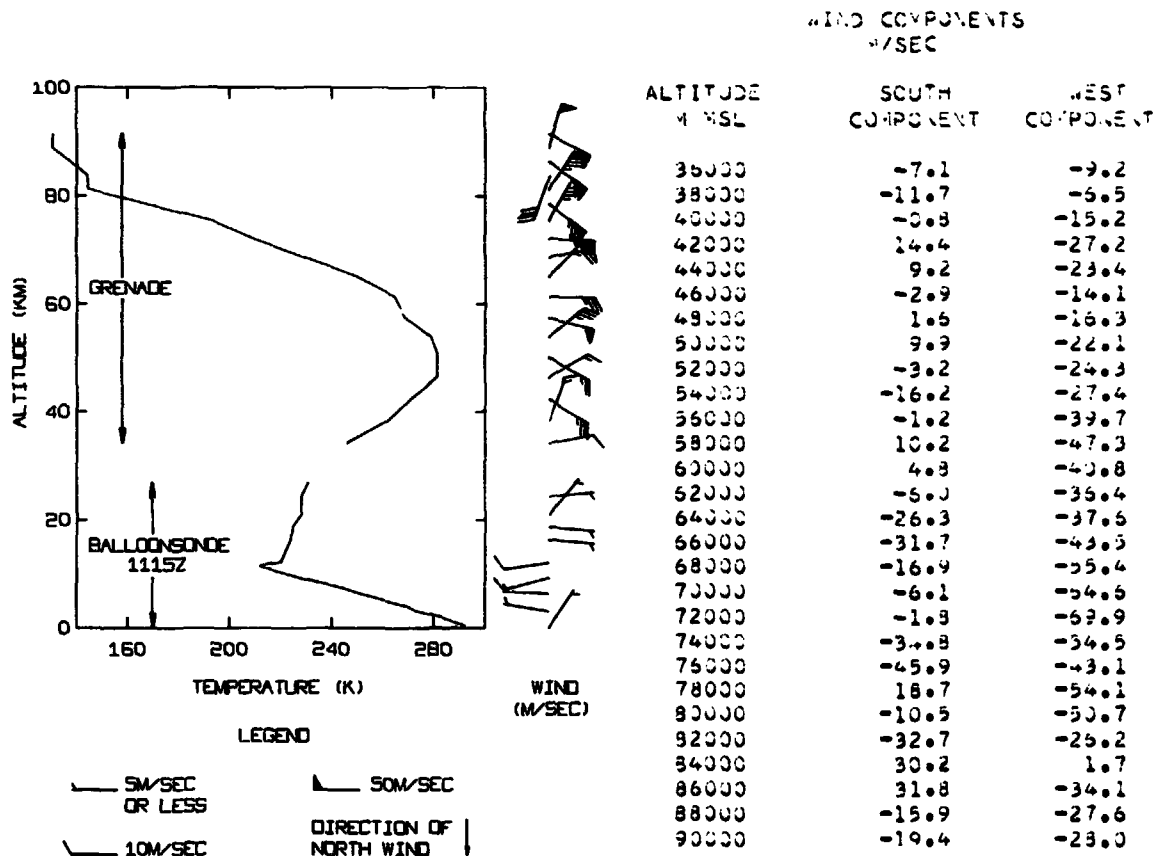




ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/30 M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
38000	249.7	0.427E 03	13.2	0.595E-02	11.0
39000	253.2	0.373E 03	13.5	0.513E-02	10.9
40000	256.8	0.326E 03	13.5	0.442E-02	10.6
41000	260.3	0.284E 03	13.4	0.381E-02	10.3
42000	263.8	0.251E 03	14.0	0.331E-02	10.6
43000	267.3	0.221E 03	14.8	0.288E-02	11.1
44000	270.6	0.195E 03	15.4	0.251E-02	11.5
45000	272.6	0.172E 03	15.9	0.220E-02	12.3
46000	274.6	0.152E 03	16.2	0.193E-02	12.9
47000	276.6	0.135E 03	16.5	0.170E-02	13.6
48000	278.6	0.119E 03	17.1	0.149E-02	13.7
49000	277.2	0.106E 03	17.6	0.133E-02	14.7
50000	274.4	0.942E 02	18.1	0.119E-02	16.4
51000	271.6	0.832E 02	18.1	0.106E-02	17.7
52000	268.7	0.734E 02	18.0	0.952E-03	18.7
53000	266.2	0.648E 02	18.0	0.848E-03	19.5
54000	263.6	0.572E 02	18.0	0.756E-03	19.7
55000	261.1	0.503E 02	17.4	0.671E-03	19.0
56000	258.7	0.442E 02	17.3	0.595E-03	19.6
57000	256.8	0.388E 02	17.2	0.526E-03	19.4
58000	254.9	0.340E 02	17.0	0.465E-03	19.1
59000	253.0	0.298E 02	16.7	0.411E-03	18.8
60000	250.8	0.261E 02	16.4	0.363E-03	18.7
61000	248.5	0.229E 02	16.4	0.321E-03	18.8
62000	246.2	0.199E 02	15.9	0.282E-03	18.2
63000	243.1	0.174E 02	15.6	0.249E-03	17.6
64000	237.9	0.152E 02	15.7	0.222E-03	18.2
65000	232.7	0.131E 02	15.2	0.197E-03	18.5
66000	227.4	0.113E 02	14.5	0.174E-03	18.5
67000	221.6	0.983E 01	14.1	0.154E-03	19.2
68000	215.8	0.845E 01	13.6	0.136E-03	19.7
69000	209.9	0.718E 01	11.9	0.119E-03	19.2
70000	204.4	0.610E 01	10.6	0.104E-03	18.8
71000	202.2	0.518E 01	9.5	0.893E-04	16.9
72000	200.0	0.440E 01	8.8	0.767E-04	15.3
73000	197.8	0.371E 01	7.6	0.655E-04	13.1
74000	195.6	0.313E 01	6.7	0.558E-04	11.3
75000	194.5	0.264E 01	6.2	0.473E-04	9.2
76000	193.6	0.223E 01	6.0	0.401E-04	7.4
77000	192.6	0.187E 01	5.8	0.339E-04	5.7
78000	191.7	0.157E 01	6.0	0.286E-04	4.2
79000	189.9	0.132E 01	6.6	0.243E-04	3.6
80000	187.8	0.111E 01	7.5	0.206E-04	3.5
81000	185.7	0.932E 00	8.1	0.174E-04	5.1
82000	183.6	0.777E 00	8.4	0.147E-04	6.7
83000	183.4	0.648E 00	8.8	0.123E-04	7.1
84000	183.5	0.541E 00	9.2	0.102E-04	7.5
85000	183.5	0.452E 00	9.5	0.858E-05	7.8
86000	184.4	0.377E 00	9.9	0.712E-05	7.7
87000	191.5	0.314E 00	10.3	0.572E-05	4.0
88000	198.6	0.264E 00	11.3	0.463E-05	1.2
89000	205.7	0.225E 00	13.9	0.381E-05	0.0
90000	213.4	0.191E 00	16.5	0.312E-05	-1.2
91000	221.1	0.164E 00	20.2	0.259E-05	-0.0
92000	224.7	0.142E 00	24.2	0.220E-05	3.2
93000	221.5	0.122E 00	28.0	0.193E-05	9.5
94000	218.2	0.105E 00	30.8	0.168E-05	15.4
95000	213.9	0.906E-01	33.3	0.147E-05	21.9
96000	209.4	0.775E-01	34.8	0.128E-05	27.9

**FIGURE 13**  
**BARROW, 24 JUNE 1971, 1500 GMT.**

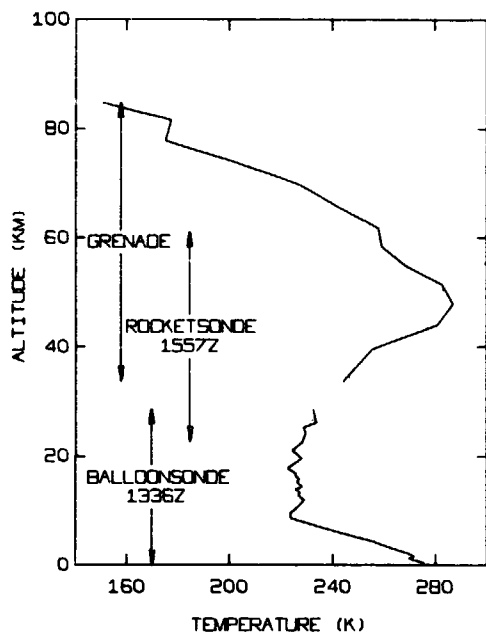
ALTITUDE M ASL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
34212.9	246.3	1.0	12.4	4.4	79.5	37.1
38417.2	252.6	1.5	14.7	9.1	20.2	34.9
42472.0	271.3	0.2	26.5	1.7	122.0	2.1
46414.3	241.7	0.3	13.2	1.5	59.5	13.2
50207.7	231.7	0.3	26.7	2.2	119.9	4.0
53909.9	279.7	2.7	33.0	12.4	50.6	38.7
57475.7	258.6	2.0	51.3	12.6	104.2	16.4
61391.3	254.5	0.1	39.9	0.8	90.8	2.1
65147.1	249.8	0.0	54.1	0.1	40.1	0.2
68752.2	229.9	0.8	61.0	5.3	79.2	9.3
72197.3	209.3	1.2	72.9	10.4	92.3	12.2
75520.7	192.6	0.9	77.3	10.0	30.3	9.0
78670.5	165.4	0.3	73.6	4.7	127.1	2.6
81274.7	144.6	0.7	76.6	9.7	34.2	9.5
83759.7	144.1	0.7	38.9	11.0	200.6	16.3
86453.5	137.4	1.9	57.3	37.2	125.7	27.2
88995.3	130.8	1.9	50.2	34.6	17.6	35.8
91607.6	131.2	0.3	55.1	5.1	118.1	4.5



ALTITUDE M MSL	TEMPERATURE DEG C	PRESSURE NT/SQ CM	DEVIATION PER CENT	DENSITY KG/CM <sup>3</sup>	DEVIATION PER CENT
35000	249.3	0.646E 03	12.5	0.903E-02	6.7
36000	253.2	0.563E 03	13.0	0.775E-02	6.6
37000	257.1	0.492E 03	13.7	0.667E-02	7.0
38000	261.0	0.433E 03	14.8	0.578E-02	7.7
39000	263.3	0.380E 03	15.8	0.502E-02	8.6
40000	266.0	0.334E 03	16.6	0.438E-02	9.7
41000	268.1	0.295E 03	17.6	0.383E-02	11.0
42000	270.3	0.260E 03	18.5	0.336E-02	12.2
43000	272.7	0.230E 03	19.3	0.294E-02	13.1
44000	275.3	0.203E 03	19.9	0.257E-02	13.6
45000	278.0	0.179E 03	20.5	0.225E-02	14.5
46000	280.6	0.159E 03	21.4	0.197E-02	15.4
47000	281.7	0.141E 03	22.0	0.174E-02	16.8
48000	281.7	0.125E 03	22.6	0.155E-02	17.8
49000	281.7	0.111E 03	23.2	0.137E-02	18.3
50000	281.7	0.997E 02	23.5	0.122E-02	18.9
51000	281.0	0.876E 02	24.3	0.108E-02	19.7
52000	280.2	0.777E 02	24.9	0.966E-03	20.6
53000	279.4	0.689E 02	25.4	0.859E-03	21.0
54000	278.4	0.611E 02	26.0	0.764E-03	21.6
55000	275.6	0.541E 02	26.6	0.684E-03	22.0
56000	272.9	0.478E 02	27.1	0.611E-03	22.8
57000	269.9	0.422E 02	27.5	0.545E-03	23.5
58000	268.0	0.372E 02	27.9	0.484E-03	23.9
59000	267.0	0.328E 02	28.5	0.429E-03	24.0
60000	266.0	0.290E 02	29.1	0.379E-03	24.1
61000	264.9	0.255E 02	29.7	0.335E-03	24.2
62000	262.1	0.225E 02	30.4	0.298E-03	24.9
63000	258.2	0.198E 02	31.4	0.267E-03	25.8
64000	254.3	0.173E 02	32.0	0.237E-03	26.2
65000	250.4	0.151E 02	32.6	0.211E-03	26.7
66000	244.9	0.132E 02	33.5	0.188E-03	28.4
67000	239.0	0.116E 02	34.7	0.169E-03	30.5
68000	233.2	0.100E 02	34.7	0.149E-03	31.3
69000	227.5	0.866E 01	34.9	0.132E-03	32.6
70000	221.3	0.748E 01	35.6	0.117E-03	34.2
71000	216.1	0.642E 01	35.6	0.103E-03	35.4
72000	210.4	0.547E 01	35.1	0.906E-04	36.0
73000	205.3	0.466E 01	35.1	0.791E-04	36.8
74000	200.3	0.397E 01	35.1	0.690E-04	37.7
75000	195.2	0.333E 01	34.0	0.595E-04	37.3
76000	188.6	0.280E 01	33.3	0.518E-04	38.6
77000	180.3	0.235E 01	33.1	0.455E-04	41.9
78000	172.0	0.193E 01	30.3	0.392E-04	42.8
79000	163.6	0.158E 01	27.5	0.337E-04	43.7
80000	155.3	0.129E 01	25.2	0.291E-04	45.7
81000	146.9	0.103E 01	20.2	0.245E-04	47.8
82000	144.4	0.823E 00	14.8	0.198E-04	43.5
83000	144.2	0.653E 00	9.5	0.157E-04	37.1
84000	143.5	0.518E 00	4.5	0.125E-04	31.5
85000	141.0	0.411E 00	-0.2	0.101E-04	27.7
86000	138.5	0.323E 00	-5.7	0.813E-05	22.8
87000	136.0	0.253E 00	-11.0	0.649E-05	18.0
88000	133.4	0.198E 00	-16.3	0.518E-05	13.2
89000	130.8	0.153E 00	-22.0	0.409E-05	7.5
90000	131.0	0.119E 00	-27.3	0.317E-05	0.1
91000	131.1	0.926E-01	-32.3	0.246E-05	-5.2

**FIGURE 14**  
**CHURCHILL, 24 JUNE 1971, 1507 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
33701.4	244.5	2.1	13.9	3.8	84.7	17.6
37651.8	255.8	2.2	35.2	5.8	71.0	10.0
44130.6	281.2	4.8	13.3	13.3	125.8	58.3
47854.1	287.0	6.2	20.1	19.9	143.9	44.6
51479.3	282.4	4.7	34.8	16.3	137.6	19.1
53033.0	268.0	1.0	51.4	3.8	113.9	4.3
58483.9	259.0	0.9	41.2	4.3	83.9	6.1
61843.0	257.6	1.3	78.1	5.4	92.0	4.9
65641.5	242.3	2.9	64.6	11.7	78.8	16.4
69840.0	226.9	3.1	71.9	18.0	109.6	15.0
73889.3	202.4	2.8	98.3	18.0	104.8	11.7
77803.8	175.3	2.6	131.2	27.2	10.6	11.3
81565.8	177.6	1.9	55.8	24.9	141.1	25.2
84720.0	150.7	3.8	88.4	41.7	250.1	43.8



ALTITUDE M MSL	WIND COMPONENTS M/SEC	
	SOUTH COMPONENT	WEST COMPONENT
34000	-1.7	-14.9
36000	-5.1	-21.4
38000	-8.5	-27.9
40000	-9.2	-30.6
42000	-1.3	-21.5
44000	6.8	-12.5
46000	12.0	-11.3
48000	16.7	-12.8
50000	21.8	-18.7
52000	24.7	-27.1
54000	22.2	-40.1
56000	13.8	-45.3
58000	-0.1	-42.7
60000	-1.1	-57.7
62000	1.0	-74.8
64000	-5.9	-69.7
66000	-8.0	-64.2
68000	8.1	-65.8
70000	22.7	-69.8
72000	24.7	-82.3
74000	13.0	-88.1
76000	-57.9	-56.8
78000	-106.2	-28.1
80000	-28.3	-30.5
82000	37.6	-15.5
84000	33.1	56.1

LEGEND

5M/SEC OR LESS      50M/SEC  
 10M/SEC              DIRECTION OF NORTH WIND

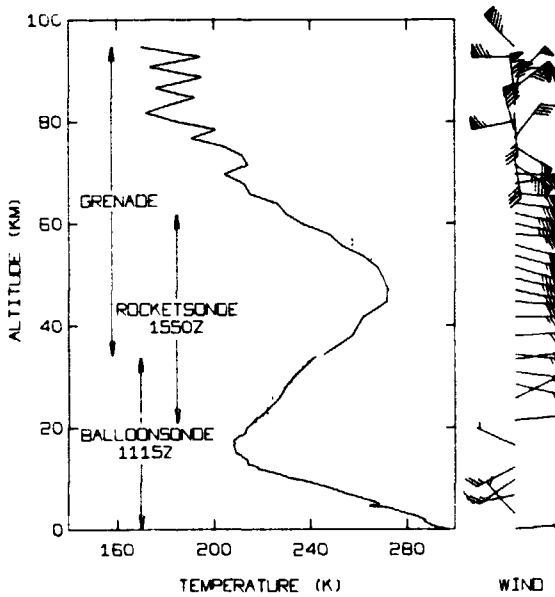
ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	245.1	0.737E 03	11.1	0.104E-01	5.9
35000	247.0	0.641E 03	11.7	0.905E-02	6.9
36000	248.9	0.558E 03	12.1	0.782E-02	7.7
37000	250.8	0.486E 03	12.3	0.675E-02	8.3
38000	252.7	0.426E 03	13.0	0.587E-02	9.5
39000	254.6	0.373E 03	13.6	0.511E-02	10.4
40000	257.8	0.327E 03	14.0	0.442E-02	10.7
41000	263.4	0.286E 03	14.2	0.379E-02	9.7
42000	269.1	0.251E 03	14.2	0.325E-02	8.6
43000	274.8	0.222E 03	15.2	0.281E-02	8.4
44000	280.4	0.197E 03	16.3	0.244E-02	8.4
45000	282.5	0.174E 03	17.3	0.215E-02	9.7
45000	284.1	0.155E 03	18.1	0.190E-02	11.0
47000	285.7	0.137E 03	19.0	0.168E-02	12.4
48000	286.8	0.122E 03	19.9	0.149E-02	13.1
49000	285.5	0.109E 03	20.8	0.133E-02	14.4
50000	284.2	0.969E 02	21.5	0.118E-02	15.7
51000	283.0	0.860E 02	22.1	0.105E-02	16.8
52000	280.3	0.764E 02	22.7	0.949E-03	18.5
53000	276.2	0.678E 02	23.4	0.855E-03	20.4
54000	272.2	0.599E 02	23.6	0.767E-03	21.4
55000	268.2	0.528E 02	23.6	0.686E-03	22.4
56000	265.5	0.466E 02	23.8	0.612E-03	22.9
57000	262.9	0.411E 02	24.0	0.544E-03	23.4
58000	260.3	0.361E 02	23.9	0.483E-03	23.6
59000	258.8	0.317E 02	23.9	0.426E-03	23.4
60000	258.4	0.278E 02	24.1	0.375E-03	22.8
61000	258.0	0.244E 02	24.2	0.330E-03	22.2
62000	257.0	0.214E 02	24.5	0.291E-03	21.6
63000	253.0	0.188E 02	25.1	0.259E-03	22.2
64000	248.9	0.164E 02	25.4	0.230E-03	22.5
65000	244.9	0.143E 02	25.4	0.204E-03	22.5
66000	241.0	0.125E 02	25.8	0.180E-03	22.9
67000	237.3	0.109E 02	26.5	0.159E-03	23.4
68000	233.7	0.947E 01	27.2	0.141E-03	23.8
69000	230.0	0.817E 01	27.3	0.123E-03	23.7
70000	225.9	0.705E 01	27.7	0.108E-03	24.1
71000	219.9	0.608E 01	28.6	0.964E-04	26.1
72000	213.8	0.524E 01	29.4	0.854E-04	28.2
73000	207.7	0.444E 01	28.6	0.745E-04	28.7
74000	201.6	0.376E 01	28.2	0.651E-04	29.8
75000	194.7	0.319E 01	28.4	0.572E-04	31.9
76000	187.8	0.270E 01	28.2	0.500E-04	34.0
77000	180.8	0.223E 01	25.9	0.429E-04	33.9
78000	175.4	0.184E 01	24.0	0.366E-04	33.2
79000	176.0	0.152E 01	22.6	0.301E-04	28.4
80000	176.7	0.126E 01	21.7	0.248E-04	24.4
81000	177.3	0.104E 01	21.3	0.205E-04	23.6
82000	173.9	0.867E 00	20.9	0.173E-04	25.6
83000	165.4	0.719E 00	20.7	0.151E-04	31.8
84000	156.8	0.584E 00	17.8	0.129E-04	35.6

**FIGURE 15**  
**WALLOPS, 24 JUNE 1971, 1510 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
34311.6	245.5	1.1	26.1	0.9	95.5	3.7
38014.2	257.6	1.0	29.0	0.9	86.9	3.3
41658.4	261.9	1.1	34.4	1.0	89.3	3.0
44633.5	272.0	1.8	40.0	1.7	93.7	4.6
46944.3	272.1	1.7	42.2	1.8	101.7	4.2
47212.9	270.0	1.7	47.3	1.9	102.4	3.8
51433.4	267.5	1.6	46.8	2.0	100.2	3.9
53619.7	261.6	1.6	53.1	2.1	103.8	3.7
55760.6	252.8	1.6	52.0	2.2	104.2	3.9
57874.7	247.8	1.6	60.8	2.2	93.4	3.7
59948.6	237.2	1.5	76.6	2.4	101.7	3.0
61966.5	229.9	1.4	77.1	2.4	101.8	2.9
63954.4	226.2	1.1	68.6	1.9	97.0	2.8
65909.9	214.9	1.1	60.1	2.0	94.8	3.4
67821.6	212.8	1.7	69.3	3.1	80.2	4.6
69694.1	204.7	1.7	61.3	3.3	91.3	5.7
71508.4	214.3	1.7	82.6	4.3	121.8	3.4
73303.1	212.0	1.6	37.7	5.7	171.6	4.6
75054.2	204.9	1.6	58.8	4.0	120.9	5.2
76776.0	191.0	2.1	39.0	7.3	39.0	10.8
78465.0	201.0	2.3	78.7	9.5	345.2	3.5
80105.4	184.1	2.0	64.3	4.3	259.6	7.8
81703.6	172.1	1.8	33.9	8.6	176.0	7.7
93255.9	181.6	2.2	62.7	10.9	7.2	5.5
64768.2	192.2	4.6	107.6	21.2	354.1	5.4
86601.9	175.7	2.8	89.0	9.3	53.2	7.8
68730.1	195.1	2.1	51.1	6.7	45.7	8.8
90798.8	173.4	1.8	102.8	4.5	94.4	4.8
92774.4	194.6	2.1	76.2	4.4	209.8	6.7
94652.5	169.9	1.6	87.4	7.2	316.5	3.7

**WIND COMPONENTS**  
**M/SEC**

ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
36000	0.6	-27.4
38000	-1.2	-29.1
40000	-0.9	-31.9
42000	0.0	-35.1
44000	2.0	-38.7
46000	6.1	-40.8
48000	9.3	-43.6
50000	11.2	-45.7
52000	12.9	-46.8
54000	12.7	-51.0
56000	11.1	-52.3
58000	6.3	-61.9
60000	14.3	-73.5
62000	14.7	-74.4
64000	8.7	-67.8
66000	2.8	-62.1
68000	-7.7	-66.3
70000	10.6	-63.8
72000	40.1	-49.8
74000	34.5	-24.8
76000	-2.9	-3.7
78000	-57.7	7.7
80000	-1.9	47.0
82000	6.1	1.2
84000	-82.9	-64.2
86000	-71.7	-41.8
88000	-41.4	-49.4
90000	-9.0	-75.8
92000	2.8	5.2
94000	-41.3	65.7



**LEGEND**

- 5M/SEC OR LESS
- 10M/SEC
- 50M/SEC
- DIRECTION OF NORTH WIND

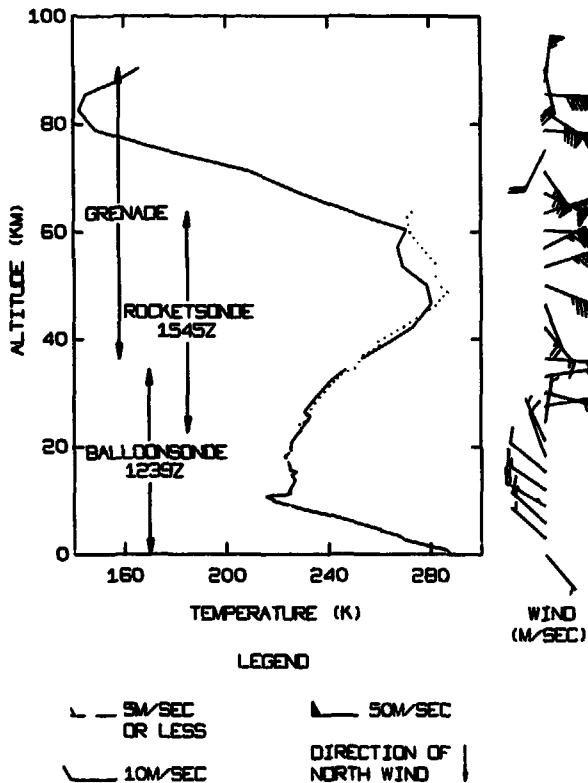
ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
35000	247.7	0.631E 03	9.8	0.887E-02	4.8
36000	251.0	0.549E 03	10.3	0.763E-02	5.1
37000	254.3	0.481E 03	11.2	0.660E-02	5.8
38000	257.6	0.422E 03	12.1	0.571E-02	6.5
39000	258.8	0.370E 03	12.8	0.499E-02	7.8
40000	260.0	0.325E 03	13.3	0.436E-02	9.1
41000	261.1	0.286E 03	13.9	0.381E-02	10.4
42000	263.1	0.251E 03	14.3	0.333E-02	11.2
43000	266.5	0.221E 03	14.6	0.289E-02	11.2
44000	269.9	0.195E 03	15.0	0.251E-02	11.4
45000	272.0	0.172E 03	15.6	0.220E-02	12.2
46000	272.1	0.152E 03	16.0	0.195E-02	13.7
47000	272.1	0.134E 03	16.1	0.172E-02	15.1
48000	271.1	0.118E 03	16.2	0.152E-02	16.0
49000	270.2	0.105E 03	16.2	0.135E-02	16.4
50000	269.1	0.927E 02	16.2	0.120E-02	16.9
51000	268.0	0.818E 02	16.1	0.106E-02	17.2
52000	266.0	0.721E 02	16.0	0.945E-03	18.0
53000	263.2	0.635E 02	15.7	0.841E-03	18.4
54000	260.0	0.559E 02	15.3	0.749E-03	18.6
55000	255.9	0.491E 02	14.9	0.668E-03	19.2
56000	252.2	0.430E 02	14.2	0.594E-03	19.4
57000	249.9	0.376E 02	13.6	0.524E-03	18.9
58000	247.2	0.329E 02	12.9	0.463E-03	18.5
59000	242.1	0.287E 02	12.2	0.413E-03	19.5
60000	237.0	0.249E 02	11.0	0.366E-03	19.8
61000	233.4	0.216E 02	9.9	0.323E-03	19.5
62000	229.9	0.187E 02	8.5	0.283E-03	18.5
63000	228.0	0.161E 02	7.3	0.247E-03	16.3
64000	226.0	0.139E 02	6.1	0.215E-03	14.2
65000	220.2	0.120E 02	5.1	0.190E-03	14.2
66000	214.8	0.103E 02	3.6	0.167E-03	13.5
67000	213.7	0.881E 01	2.3	0.143E-03	10.8
68000	212.0	0.753E 01	1.2	0.123E-03	8.6
69000	207.7	0.643E 01	0.2	0.107E-03	7.8
70000	206.3	0.546E 01	-1.0	0.922E-04	5.3
71000	211.6	0.465E 01	-1.6	0.766E-04	0.2
72000	213.6	0.398E 01	-1.6	0.649E-04	-2.4
73000	212.4	0.340E 01	-1.3	0.558E-04	-3.4
74000	209.2	0.291E 01	-0.9	0.484E-04	-3.3
75000	205.1	0.247E 01	-0.5	0.420E-04	-2.9
76000	197.3	0.210E 01	-0.1	0.371E-04	-0.6
77000	192.4	0.176E 01	-0.3	0.319E-04	-0.3
78000	198.2	0.148E 01	0.0	0.261E-04	-4.9
79000	195.5	0.126E 01	1.3	0.224E-04	-4.3
80000	185.1	0.105E 01	1.9	0.198E-04	-0.5
81000	177.4	0.881E 00	2.2	0.173E-04	4.1
82000	173.9	0.726E 00	1.3	0.149E-04	5.2
83000	180.0	0.602E 00	0.9	0.116E-04	1.2
84000	186.8	0.501E 00	1.0	0.934E-05	-2.2
85000	190.1	0.421E 00	2.2	0.772E-05	-2.8
86000	181.1	0.351E 00	2.5	0.676E-05	2.2
87000	179.3	0.291E 00	2.0	0.565E-05	2.7
88000	188.4	0.242E 00	2.1	0.448E-05	-2.0
89000	192.2	0.204E 00	3.5	0.370E-05	-2.6
90000	181.7	0.171E 00	4.5	0.329E-05	3.8
91000	175.7	0.141E 00	3.5	0.281E-05	8.2
92000	186.3	0.117E 00	2.7	0.219E-05	2.9
93000	191.7	0.992E-01	3.4	0.180E-05	2.3
94000	178.5	0.831E-01	3.1	0.162E-05	11.2

## FIGURE 16 CHURCHILL, 2 JULY 1971, 1437 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
36426.4	253.5	0.7	17.1	2.0	94.4	5.6
42199.6	273.6	2.0	15.1	4.8	140.9	19.4
45511.5	280.5	3.3	26.5	8.6	158.8	17.5
50107.6	278.6	2.2	43.9	5.7	112.7	7.3
53619.4	268.9	3.9	46.2	12.1	72.7	15.6
57033.7	267.4	4.1	102.9	12.9	62.8	7.5
60378.9	271.1	2.1	58.0	8.0	94.2	8.0
63632.8	249.6	1.8	43.9	7.3	73.9	9.8
67282.8	228.7	0.6	48.6	3.1	116.2	3.6
71319.2	209.2	1.2	82.8	6.9	145.8	4.6
75211.2	175.6	1.1	21.6	7.4	207.1	19.3
78966.0	149.2	2.8	31.4	23.0	94.8	42.1
82574.8	142.2	3.9	79.2	32.9	124.1	23.2
85583.3	145.2	4.9	88.9	39.0	93.0	24.9
88029.4	157.6	3.2	54.1	22.6	8.7	24.0
90402.4	166.0	0.2	30.3	1.7	168.2	3.2

### WIND COMPONENTS M/SEC

ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
38000	4.1	-15.0
40000	7.8	-12.4
42000	11.6	-10.0
44000	17.2	-9.5
46000	22.9	-10.1
48000	21.8	-23.1
50000	16.5	-39.7
52000	0.7	-43.3
54000	-17.5	-50.7
56000	-36.8	-77.2
58000	-32.1	-81.8
60000	-3.5	-62.2
62000	-3.9	-50.1
64000	-7.3	-42.9
66000	9.6	-43.1
68000	29.9	-44.1
70000	53.1	-45.5
72000	59.3	-36.2
74000	34.6	-7.6
76000	15.8	0.9
78000	6.9	-20.7
80000	14.6	-41.1
82000	36.6	-60.1
84000	25.6	-76.6
86000	-6.0	-71.6
88000	-38.9	-16.7
90000	15.5	-6.5



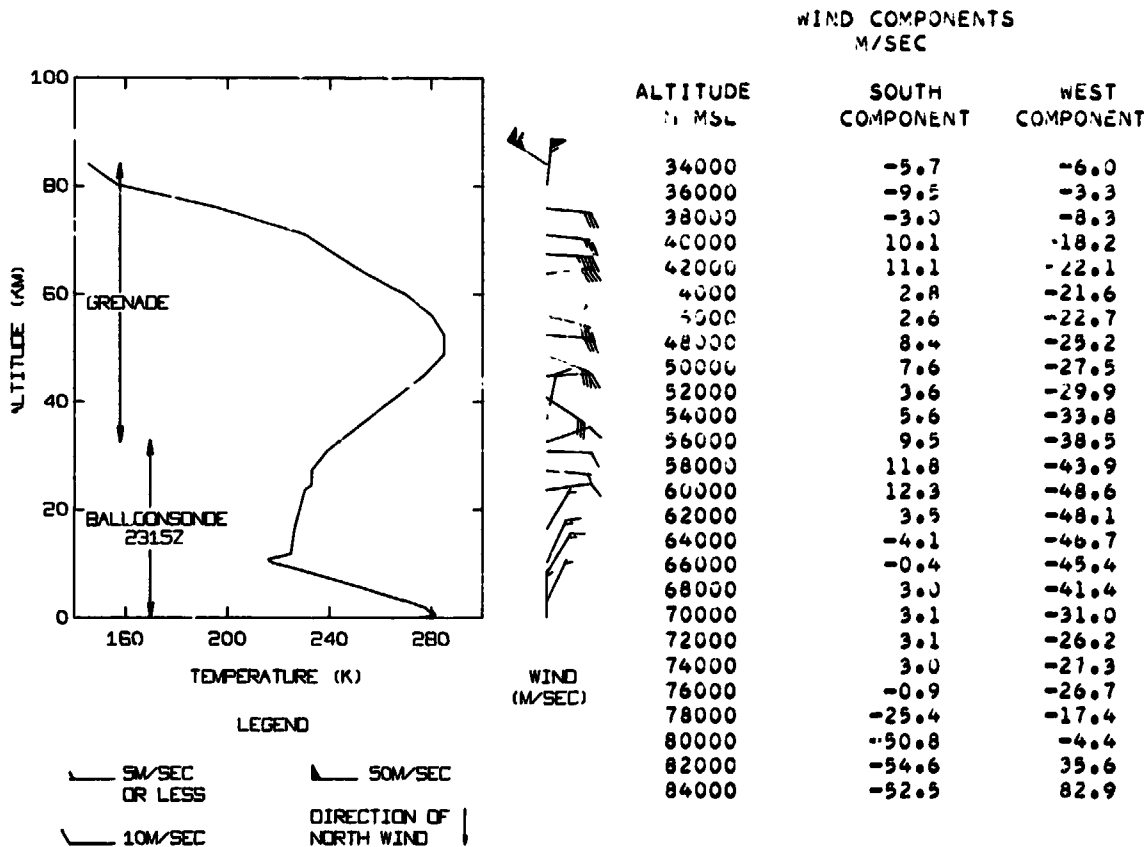


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
37000	255.5	0.501E 03	15.7	0.663E-02	9.6
38000	259.0	0.438E 03	16.4	0.590E-02	10.0
39000	262.5	0.384E 03	16.8	0.509E-02	10.1
40000	265.9	0.337E 03	17.4	0.441E-02	10.5
41000	269.4	0.298E 03	18.7	0.385E-02	11.5
42000	272.9	0.263E 03	19.1	0.336E-02	12.2
43000	274.9	0.232E 03	20.7	0.295E-02	13.5
44000	276.5	0.205E 03	21.4	0.259E-02	14.8
45000	278.1	0.182E 03	22.2	0.228E-02	16.0
46000	279.7	0.161E 03	23.0	0.201E-02	17.3
47000	280.3	0.143E 03	23.6	0.178E-02	18.9
48000	279.7	0.127E 03	24.2	0.158E-02	20.1
49000	279.2	0.112E 03	24.6	0.140E-02	20.8
50000	278.6	0.998E 02	25.1	0.124E-02	21.5
51000	276.1	0.884E 02	25.5	0.111E-02	23.0
52000	273.4	0.783E 02	25.9	0.998E-03	24.6
53000	270.6	0.691E 02	25.8	0.889E-03	25.2
54000	268.7	0.610E 02	25.8	0.790E-03	25.2
55000	268.3	0.538E 02	25.9	0.699E-03	24.6
56000	267.9	0.475E 02	26.1	0.617E-03	24.1
57000	267.5	0.418E 02	26.4	0.545E-03	23.6
58000	268.5	0.369E 02	26.8	0.479E-03	22.6
59000	269.6	0.326E 02	27.4	0.421E-03	21.7
60000	270.7	0.288E 02	28.2	0.370E-03	21.1
61000	267.0	0.254E 02	29.2	0.332E-03	22.8
62000	260.4	0.225E 02	30.4	0.301E-03	25.7
63000	253.8	0.196E 02	30.4	0.270E-03	27.0
64000	247.5	0.172E 02	30.8	0.242E-03	28.5
65000	241.8	0.150E 02	31.4	0.216E-03	30.0
66000	236.1	0.130E 02	31.0	0.192E-03	30.7
67000	230.3	0.112E 02	30.6	0.170E-03	31.3
68000	225.2	0.972E 01	30.6	0.150E-03	31.8
69000	220.4	0.840E 01	30.9	0.132E-03	32.8
70000	215.6	0.719E 01	30.2	0.116E-03	32.7
71000	210.7	0.612E 01	29.4	0.101E-03	32.5
72000	203.3	0.522E 01	28.9	0.894E-04	34.3
73000	194.7	0.445E 01	29.0	0.797E-04	37.8
74000	186.1	0.371E 01	26.4	0.695E-04	38.6
75000	177.5	0.307E 01	23.3	0.602E-04	39.0
76000	170.1	0.254E 01	20.6	0.520E-04	39.2
77000	163.0	0.210E 01	18.6	0.449E-04	39.9
78000	156.0	0.168E 01	13.3	0.376E-04	36.9
79000	149.1	0.134E 01	8.4	0.315E-04	34.1
80000	147.2	0.107E 01	4.0	0.255E-04	27.7
81000	145.3	0.860E 00	-0.1	0.206E-04	24.1
82000	143.3	0.681E 00	-5.0	0.165E-04	19.7
83000	142.7	0.538E 00	-9.6	0.131E-04	14.3
84000	143.6	0.426E 00	-14.0	0.103E-04	8.0
85000	144.6	0.338E 00	-17.9	0.814E-05	2.4
86000	147.3	0.268E 00	-21.6	0.635E-05	-3.9
87000	152.4	0.214E 00	-24.7	0.490E-05	-10.8
88000	157.5	0.173E 00	-26.7	0.384E-05	-16.0
89000	161.0	0.140E 00	-28.7	0.304E-05	-20.1
90000	164.6	0.114E 00	-30.0	0.243E-05	-23.2

# FIGURE 17

## BARROW, 2 JULY 1971, 1959 GMT.

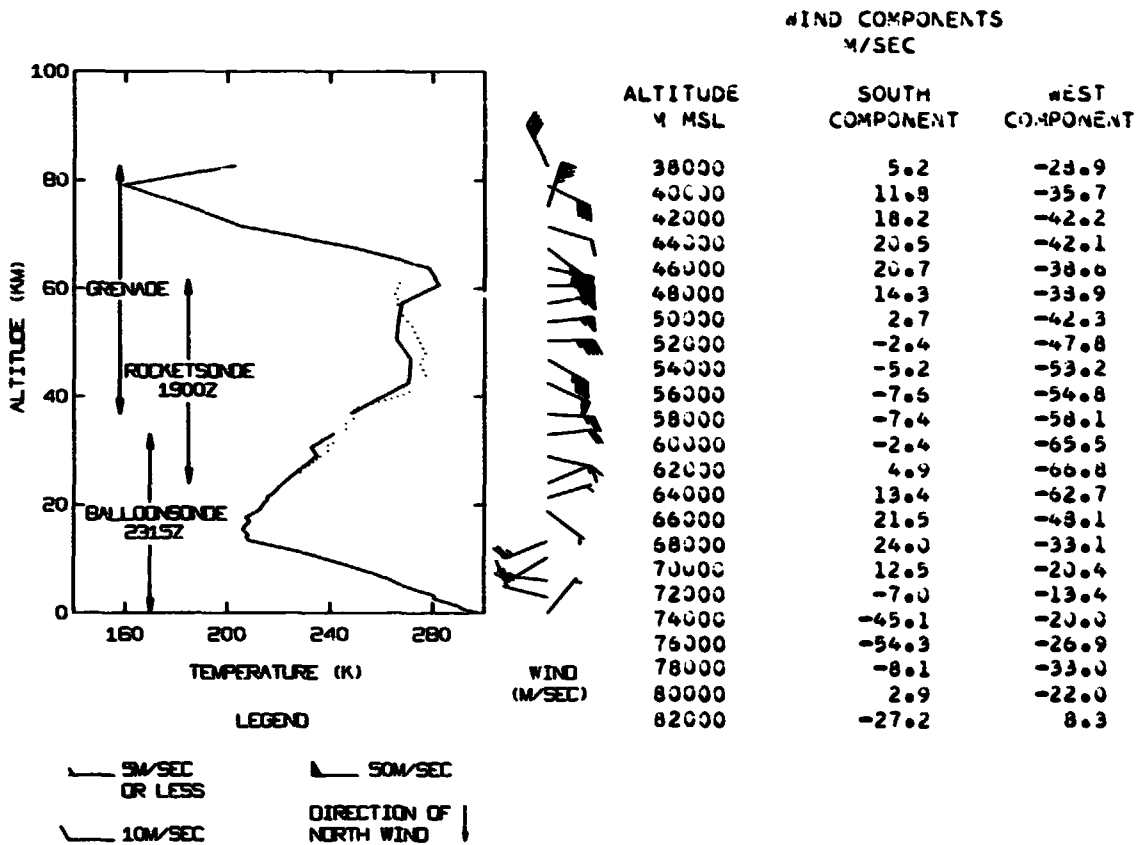
ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
32515.7	243.8	0.5	8.5	3.1	70.9	38.5
36771.5	255.4	1.0	11.3	10.5	11.4	43.6
40358.0	266.3	0.8	27.5	8.7	125.1	14.1
44842.7	277.3	0.5	21.3	3.2	89.0	9.5
48687.5	284.9	0.0	28.1	0.3	111.5	0.7
52438.1	284.8	0.6	30.3	6.1	94.5	16.4
55056.1	279.8	0.5	39.8	5.5	104.4	9.2
60022.4	269.4	0.2	51.4	1.9	105.6	2.3
63825.6	253.9	0.6	47.2	5.5	82.8	7.3
67499.6	241.7	1.0	44.5	9.8	94.1	14.1
71003.6	230.4	0.9	25.8	10.5	97.0	28.0
75928.6	196.2	0.3	28.5	5.5	96.0	15.4
80250.6	156.7	0.7	56.6	17.4	5.7	12.8
84110.6	145.4	0.4	100.3	11.1	301.5	5.5



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
33000	245.1	0.890E 03	16.0	0.126E-01	9.3
34000	247.9	0.775E 03	16.8	0.108E-01	10.1
35000	250.6	0.674E 03	17.4	0.937E-02	10.8
36000	253.3	0.591E 03	18.5	0.812E-02	11.9
37000	256.0	0.517E 03	19.5	0.704E-02	12.9
38000	258.7	0.453E 03	20.2	0.610E-02	13.7
39000	261.4	0.398E 03	21.1	0.530E-02	14.6
40000	264.0	0.350E 03	22.1	0.462E-02	15.7
41000	266.7	0.308E 03	23.0	0.403E-02	16.7
42000	269.4	0.272E 03	23.6	0.351E-02	17.4
43000	272.2	0.239E 03	24.2	0.306E-02	18.0
44000	275.0	0.212E 03	25.1	0.268E-02	18.9
45000	277.6	0.187E 03	25.9	0.233E-02	19.8
46000	279.6	0.166E 03	26.6	0.207E-02	20.8
47000	281.6	0.147E 03	27.2	0.182E-02	21.8
48000	283.6	0.130E 03	28.0	0.160E-02	22.7
49000	284.9	0.116E 03	28.8	0.142E-02	23.7
50000	284.9	0.103E 03	29.5	0.126E-02	24.7
51000	284.9	0.918E 02	30.3	0.112E-02	25.8
52000	284.8	0.816E 02	31.1	0.998E-03	26.9
53000	284.0	0.725E 02	31.9	0.889E-03	28.1
54000	282.7	0.644E 02	32.8	0.793E-03	29.4
55000	281.3	0.571E 02	33.6	0.707E-03	30.7
56000	279.9	0.506E 02	34.5	0.630E-03	32.1
57000	277.4	0.449E 02	35.5	0.564E-03	33.6
58000	274.7	0.398E 02	36.7	0.505E-03	35.2
59000	272.1	0.351E 02	37.5	0.450E-03	36.9
60000	269.5	0.310E 02	38.3	0.401E-03	38.7
61000	265.4	0.274E 02	39.2	0.359E-03	40.6
62000	261.4	0.242E 02	40.3	0.322E-03	42.6
63000	257.3	0.212E 02	40.6	0.287E-03	44.7
64000	253.3	0.185E 02	41.3	0.255E-03	46.9
65000	250.0	0.162E 02	42.2	0.226E-03	49.3
66000	246.7	0.142E 02	43.2	0.201E-03	51.8
67000	243.3	0.123E 02	43.9	0.177E-03	54.4
68000	240.1	0.107E 02	44.9	0.156E-03	57.1
69000	236.8	0.939E 01	46.3	0.138E-03	60.0
70000	233.6	0.814E 01	47.4	0.121E-03	63.1
71000	230.4	0.704E 01	48.7	0.106E-03	66.4
72000	223.5	0.608E 01	50.3	0.948E-04	70.0
73000	216.6	0.522E 01	51.3	0.840E-04	73.9
74000	209.6	0.440E 01	50.0	0.732E-04	78.1
75000	202.7	0.371E 01	49.2	0.638E-04	82.6
76000	195.6	0.313E 01	48.9	0.558E-04	87.4
77000	186.4	0.264E 01	49.1	0.494E-04	92.5
78000	177.3	0.223E 01	49.9	0.438E-04	97.9
79000	168.1	0.188E 01	51.2	0.389E-04	103.6
80000	159.0	0.153E 01	47.6	0.335E-04	109.7
81000	154.5	0.123E 01	43.5	0.278E-04	116.3
82000	151.6	0.989E 00	38.0	0.227E-04	123.5
83000	148.6	0.786E 00	31.9	0.184E-04	131.3
84000	145.7	0.625E 00	26.1	0.149E-04	139.7

**FIGURE 18**  
**WALLOPS, 2 JULY 1971, 2005 GMT.**

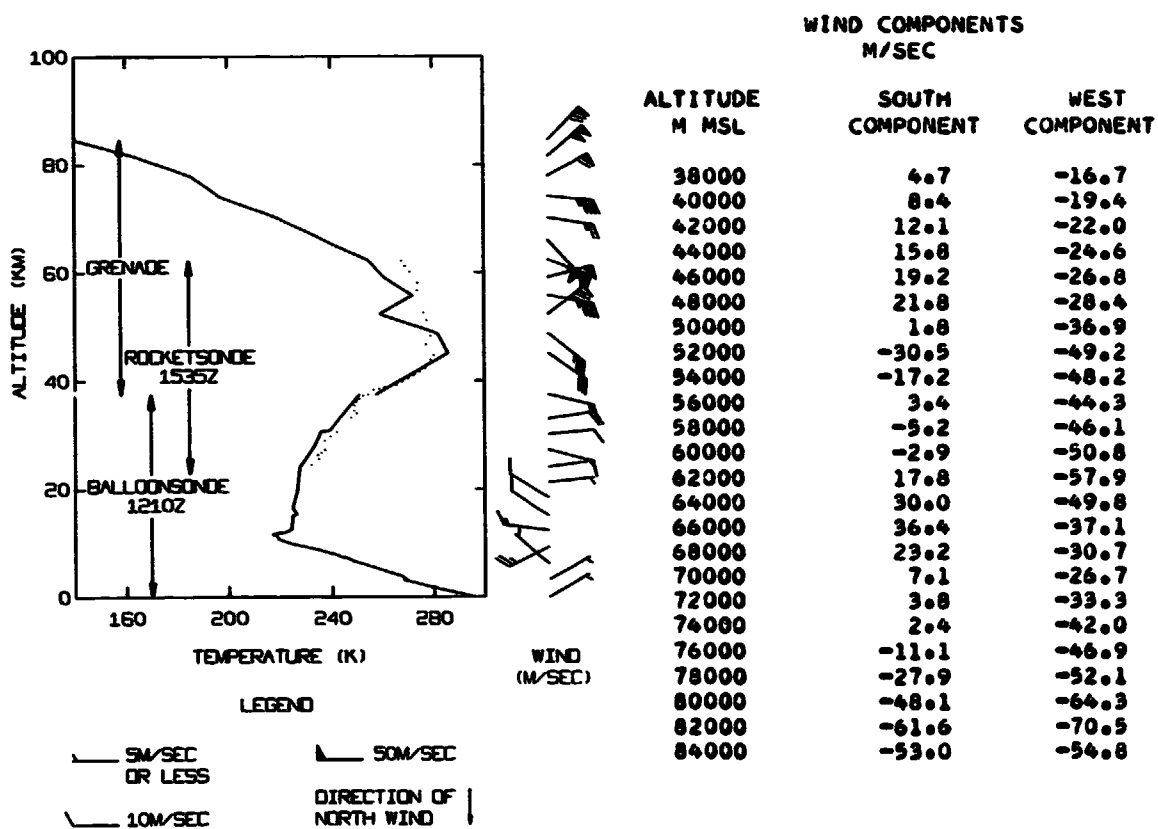
ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
36580.7	248.8	0.5	25.1	0.4	93.5	2.0
42601.2	271.0	0.9	48.9	0.9	114.6	1.5
46696.0	271.6	1.2	42.5	1.4	119.3	2.5
50463.5	255.8	1.2	43.0	1.2	89.6	3.0
53949.5	256.7	1.2	54.1	1.3	84.3	2.6
57348.6	268.2	1.2	56.2	1.3	80.6	2.5
60646.2	262.5	1.4	68.1	1.5	89.2	2.4
63859.6	278.2	1.6	66.4	2.1	101.2	3.0
67510.1	247.9	1.2	45.4	2.5	127.4	3.3
71510.5	205.1	1.2	11.5	2.6	107.1	19.0
75341.1	183.8	7.3	75.5	40.0	19.2	4.9
79065.1	159.6	7.9	40.1	11.8	115.3	68.5
82702.9	203.1	12.4	42.3	50.8	333.2	51.0



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
37000	249.3	0.075E 03	9.7	0.664E-02	6.5
38000	253.2	0.115E 03	10.0	0.571E-02	6.4
39000	257.0	0.156E 03	10.2	0.491E-02	6.1
40000	260.9	0.216E 03	10.2	0.422E-02	5.7
41000	264.8	0.279E 03	11.2	0.367E-02	6.2
42000	268.7	0.246E 03	12.0	0.319E-02	6.7
43000	271.1	0.217E 03	12.8	0.279E-02	7.0
44000	271.2	0.192E 03	13.4	0.247E-02	9.3
45000	271.3	0.169E 03	13.9	0.218E-02	10.9
46000	271.5	0.150E 03	14.3	0.192E-02	12.3
47000	271.4	0.132E 03	14.4	0.170E-02	13.6
48000	269.8	0.117E 03	14.5	0.151E-02	14.8
49000	268.2	0.103E 03	14.4	0.134E-02	15.5
50000	266.6	0.911E 02	14.2	0.119E-02	15.9
51000	266.0	0.803E 02	14.0	0.105E-02	16.0
52000	266.2	0.707E 02	13.7	0.926E-03	15.6
53000	266.4	0.624E 02	13.5	0.815E-03	14.8
54000	266.7	0.550E 02	13.4	0.718E-03	13.8
55000	267.2	0.485E 02	13.5	0.632E-03	12.8
56000	267.6	0.428E 02	13.6	0.557E-03	11.9
57000	268.1	0.377E 02	13.9	0.490E-03	11.2
58000	271.1	0.333E 02	14.4	0.428E-03	9.5
59000	275.4	0.294E 02	14.9	0.372E-03	7.5
60000	279.7	0.261E 02	16.3	0.325E-03	6.3
61000	282.0	0.232E 02	17.8	0.286E-03	6.0
62000	280.7	0.206E 02	19.5	0.255E-03	6.9
63000	279.3	0.182E 02	21.2	0.228E-03	7.3
64000	277.1	0.162E 02	23.3	0.203E-03	8.1
65000	269.3	0.143E 02	25.5	0.185E-03	11.5
66000	261.6	0.126E 02	27.2	0.168E-03	14.5
67000	253.8	0.110E 02	28.5	0.151E-03	17.2
68000	244.4	0.968E 01	30.0	0.138E-03	21.0
69000	233.2	0.847E 01	32.0	0.126E-03	26.5
70000	222.0	0.732E 01	32.6	0.114E-03	31.1
71000	210.8	0.622E 01	31.3	0.102E-03	34.4
72000	202.4	0.528E 01	30.5	0.909E-04	36.6
73000	196.9	0.449E 01	30.1	0.795E-04	37.4
74000	191.3	0.378E 01	28.6	0.688E-04	37.2
75000	185.7	0.315E 01	26.6	0.591E-04	36.4
76000	179.6	0.263E 01	24.9	0.510E-04	36.5
77000	173.0	0.219E 01	23.8	0.441E-04	37.6
78000	166.5	0.179E 01	20.4	0.374E-04	36.3
79000	160.0	0.149E 01	16.9	0.316E-04	34.8
80000	170.8	0.118E 01	13.8	0.240E-04	20.4
81000	182.7	0.963E 00	11.7	0.183E-04	10.4
82000	194.7	0.817E 00	14.0	0.146E-04	5.8

**FIGURE 19**  
**CHURCHILL, 12 JULY 1971, 1506 GMT.**

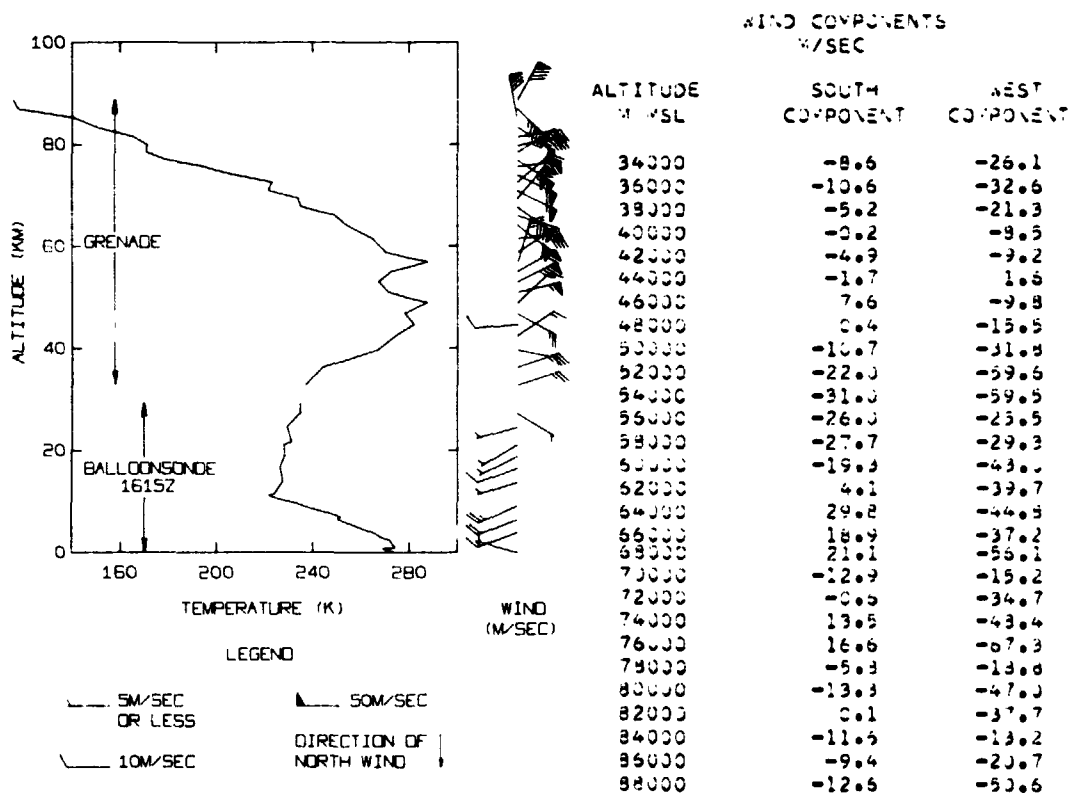
ALTITUDE 4 MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
37515.0	257.4	1.7	16.6	3.9	103.4	14.3
45176.2	285.8	7.5	31.8	17.1	124.6	30.8
48814.0	281.6	4.7	37.0	11.7	128.5	18.1
52352.0	259.0	2.3	66.2	7.5	52.5	6.4
55795.4	271.9	5.4	44.1	17.3	100.1	23.0
59160.1	260.5	4.8	49.0	16.5	75.7	19.9
62436.6	253.9	3.8	64.7	20.1	110.8	17.3
66128.9	237.1	2.8	53.1	13.1	138.0	19.9
70215.9	219.3	3.7	25.4	27.2	98.8	49.7
74158.7	196.7	3.1	43.4	26.3	95.1	26.7
77975.0	185.7	0.9	57.7	6.6	61.8	6.3
81635.1	163.3	1.0	93.4	8.1	49.1	4.7
84676.3	140.4	1.6	69.7	16.2	44.6	13.4



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
38000	259.2	0.407E 03	8.1	0.548E-02	2.1
39000	262.9	0.357E 03	8.8	0.474E-02	2.4
40000	266.6	0.313E 03	9.2	0.409E-02	2.5
41000	270.3	0.275E 03	9.5	0.354E-02	2.6
42000	274.0	0.241E 03	9.7	0.306E-02	2.4
43000	277.7	0.211E 03	9.6	0.265E-02	2.1
44000	281.4	0.187E 03	10.5	0.231E-02	2.6
45000	285.2	0.166E 03	11.6	0.203E-02	3.4
46000	288.9	0.147E 03	12.6	0.180E-02	3.5
47000	283.7	0.131E 03	13.4	0.161E-02	7.8
48000	282.5	0.116E 03	14.0	0.143E-02	9.2
49000	280.4	0.103E 03	14.5	0.128E-02	10.5
50000	276.0	0.918E 02	15.1	0.116E-02	13.7
51000	267.6	0.811E 02	15.2	0.105E-02	16.4
52000	261.3	0.712E 02	14.5	0.950E-03	18.6
53000	261.4	0.626E 02	13.9	0.834E-03	17.4
54000	263.2	0.549E 02	13.3	0.722E-03	14.3
55000	268.9	0.485E 02	13.6	0.629E-03	12.1
56000	271.2	0.429E 02	13.9	0.551E-03	10.7
57000	267.8	0.379E 02	14.4	0.493E-03	11.8
58000	264.4	0.334E 02	14.7	0.440E-03	12.6
59000	261.1	0.293E 02	14.8	0.392E-03	13.3
60000	258.8	0.258E 02	15.0	0.347E-03	13.6
61000	256.8	0.227E 02	15.3	0.307E-03	13.9
62000	254.8	0.198E 02	15.3	0.271E-03	13.6
63000	251.3	0.174E 02	15.6	0.241E-03	13.6
64000	246.8	0.152E 02	16.2	0.215E-03	14.4
65000	242.2	0.132E 02	15.9	0.190E-03	14.4
66000	237.7	0.115E 02	15.9	0.168E-03	14.7
67000	233.3	0.100E 02	16.1	0.149E-03	15.2
68000	229.0	0.869E 01	16.7	0.132E-03	15.9
69000	224.6	0.747E 01	16.4	0.115E-03	15.9
70000	220.3	0.641E 01	16.2	0.101E-03	15.9
71000	214.8	0.551E 01	16.3	0.893E-04	16.8
72000	209.1	0.473E 01	16.9	0.788E-04	18.4
73000	203.3	0.400E 01	16.0	0.686E-04	18.6
74000	197.6	0.338E 01	15.1	0.596E-04	18.8
75000	194.3	0.285E 01	14.6	0.511E-04	18.0
76000	191.4	0.240E 01	14.4	0.438E-04	17.3
77000	188.5	0.201E 01	13.5	0.372E-04	15.9
78000	185.6	0.168E 01	13.1	0.315E-04	14.8
79000	179.5	0.140E 01	13.1	0.273E-04	16.2
80000	173.3	0.117E 01	12.9	0.235E-04	17.7
81000	167.2	0.954E 00	10.7	0.198E-04	19.6
82000	160.5	0.778E 00	8.6	0.168E-04	22.2
83000	153.0	0.635E 00	6.6	0.144E-04	25.8
84000	145.5	0.507E 00	2.4	0.121E-04	27.1

**FIGURE 20**  
**BARROW, 12 JULY 1971, 1518 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
32814.6	237.0	1.2	22.6	3.0	71.6	7.6
36328.9	244.4	0.5	37.2	1.3	71.6	2.1
39734.0	257.1	0.9	7.0	2.3	101.8	20.0
42533.0	274.4	1.4	12.5	3.6	53.7	16.0
44725.3	282.0	1.7	8.3	4.2	265.2	30.2
46853.1	278.0	3.1	25.3	7.4	119.2	14.4
48945.7	287.2	2.9	13.7	7.3	47.1	29.0
51009.9	271.0	5.5	54.0	14.3	77.1	16.0
53022.6	267.3	6.3	74.3	15.8	64.0	13.4
55004.5	272.5	3.5	59.8	9.6	80.4	9.3
56935.9	287.4	3.7	23.6	10.3	15.2	23.4
58820.4	269.9	6.4	56.9	18.4	59.9	18.5
61576.4	264.7	2.9	37.5	8.3	86.0	13.5
64280.3	257.5	2.9	61.1	9.7	128.5	4.9
66008.3	249.1	5.5	30.6	17.0	107.6	34.7
67703.6	234.9	4.6	80.6	14.9	125.4	11.7
69370.7	233.6	4.1	58.1	14.5	41.2	13.8
70975.7	221.6	4.7	55.5	16.5	117.5	18.4
72563.6	223.4	3.6	30.9	13.5	49.9	21.4
74120.3	206.5	3.9	60.7	14.7	117.0	15.3
75618.3	194.7	5.7	58.3	23.2	62.7	24.4
77071.2	179.1	5.6	105.4	24.4	123.9	14.8
78459.2	170.5	4.2	95.2	20.2	58.0	12.4
79865.8	171.1	2.4	42.1	12.0	79.2	17.2
81520.4	165.2	1.0	43.3	5.2	81.2	7.3
83430.8	149.8	1.0	31.0	5.7	123.2	11.4
85276.3	140.9	5.8	68.4	34.1	34.8	27.3
87036.2	117.5	4.9	94.5	31.8	135.5	21.0
88635.8	115.8	2.8	80.1	21.3	29.5	18.0



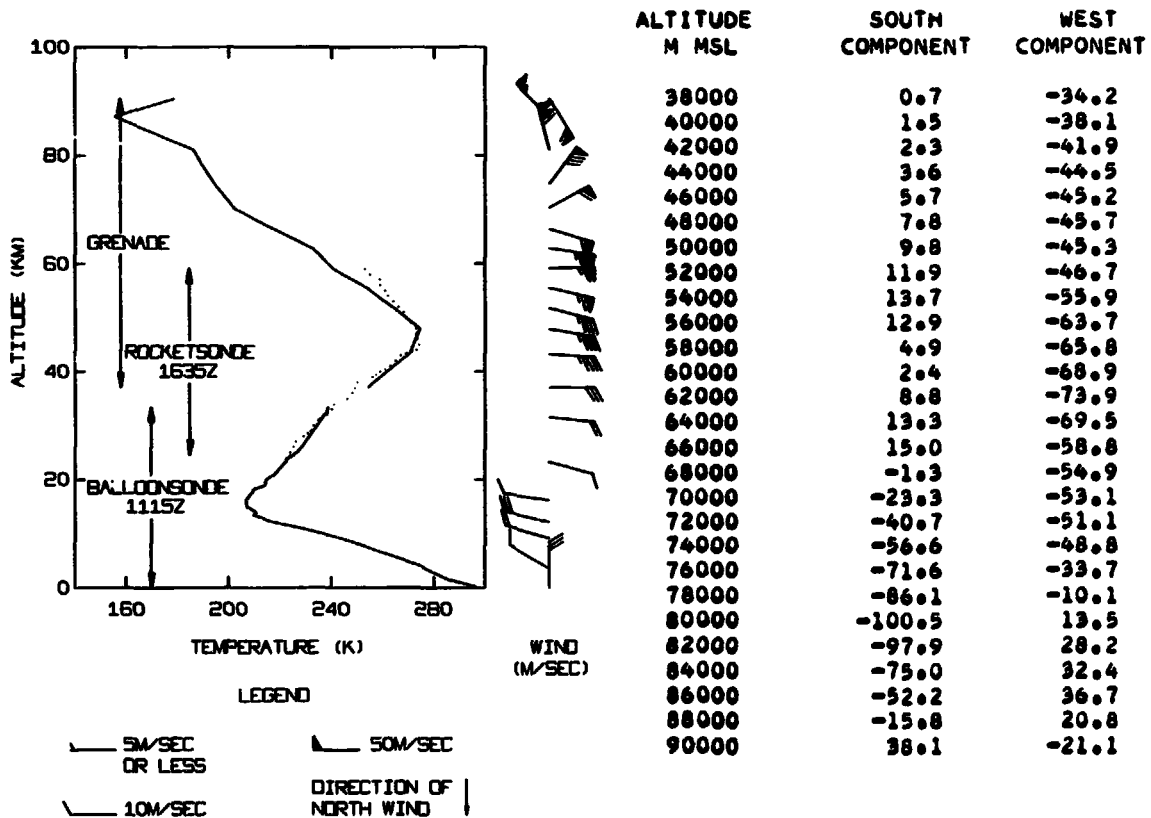


ALTITUDE M ASL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
33000	237.4	0.876E 03	14.1	0.129E-01	11.0
34000	239.5	0.759E 03	14.4	0.110E-01	11.7
35000	241.6	0.659E 03	14.7	0.950E-02	12.3
36000	243.7	0.574E 03	15.2	0.820E-02	13.0
37000	248.9	0.500E 03	15.4	0.699E-02	12.2
38000	255.5	0.435E 03	15.4	0.593E-02	10.5
39000	262.2	0.383E 03	16.6	0.509E-02	10.0
40000	267.8	0.337E 03	17.6	0.439E-02	9.9
41000	270.4	0.297E 03	18.5	0.383E-02	10.9
42000	273.0	0.262E 03	19.4	0.335E-02	11.9
43000	276.0	0.232E 03	20.4	0.293E-02	12.6
44000	279.5	0.205E 03	21.3	0.256E-02	13.5
45000	281.5	0.182E 03	22.4	0.225E-02	14.3
46000	279.6	0.161E 03	23.3	0.201E-02	17.6
47000	278.6	0.143E 03	23.7	0.179E-02	19.7
48000	283.0	0.127E 03	24.2	0.156E-02	18.7
49000	286.7	0.113E 03	25.0	0.137E-02	18.0
50000	278.9	0.100E 03	25.9	0.125E-02	22.1
51000	271.1	0.887E 02	25.9	0.114E-02	25.7
52000	269.2	0.783E 02	25.9	0.101E-02	26.5
53000	267.3	0.690E 02	25.7	0.900E-03	26.7
54000	269.9	0.609E 02	25.6	0.786E-03	24.5
55000	272.5	0.538E 02	25.9	0.688E-03	22.7
56000	280.2	0.475E 02	26.3	0.591E-03	15.9
57000	286.9	0.423E 02	27.7	0.514E-03	16.5
58000	277.5	0.376E 02	29.1	0.472E-03	20.9
59000	269.5	0.332E 02	29.8	0.429E-03	24.1
60000	267.7	0.293E 02	30.5	0.381E-03	24.7
61000	265.8	0.258E 02	31.1	0.338E-03	25.2
62000	262.9	0.227E 02	31.9	0.301E-03	25.9
63000	258.8	0.200E 02	32.9	0.269E-03	26.9
64000	254.6	0.175E 02	33.8	0.240E-03	27.7
65000	251.7	0.154E 02	34.6	0.213E-03	27.9
66000	249.1	0.134E 02	35.6	0.188E-03	28.1
67000	240.8	0.117E 02	36.6	0.170E-03	31.3
68000	234.7	0.102E 02	37.0	0.151E-03	32.8
69000	233.9	0.884E 01	37.8	0.131E-03	31.7
70000	228.9	0.766E 01	38.8	0.116E-03	33.2
71000	221.6	0.659E 01	39.3	0.103E-03	35.7
72000	222.9	0.567E 01	40.1	0.887E-04	33.2
73000	218.7	0.488E 01	41.4	0.778E-04	34.5
74000	207.8	0.417E 01	42.0	0.699E-04	39.5
75000	199.6	0.354E 01	42.4	0.618E-04	42.7
76000	190.6	0.298E 01	41.9	0.545E-04	46.1
77000	179.9	0.249E 01	40.5	0.482E-04	50.3
78000	173.6	0.206E 01	39.7	0.414E-04	50.6
79000	170.8	0.169E 01	36.4	0.346E-04	47.3
80000	170.6	0.139E 01	34.6	0.285E-04	42.6
81000	167.0	0.114E 01	32.8	0.238E-04	43.7
82000	161.3	0.936E 00	30.5	0.202E-04	46.2
83000	153.3	0.757E 00	26.9	0.172E-04	49.5
84000	147.1	0.606E 00	22.2	0.143E-04	30.0
85000	142.2	0.480E 00	16.5	0.117E-04	47.9
86000	131.3	0.379E 00	10.6	0.100E-04	52.1
87000	118.0	0.288E 00	1.1	0.851E-05	54.6
88000	116.5	0.217E 00	-8.4	0.649E-05	41.8

**FIGURE 21**  
**WALLOPS, 12 JULY 1971, 1606 GMT.**

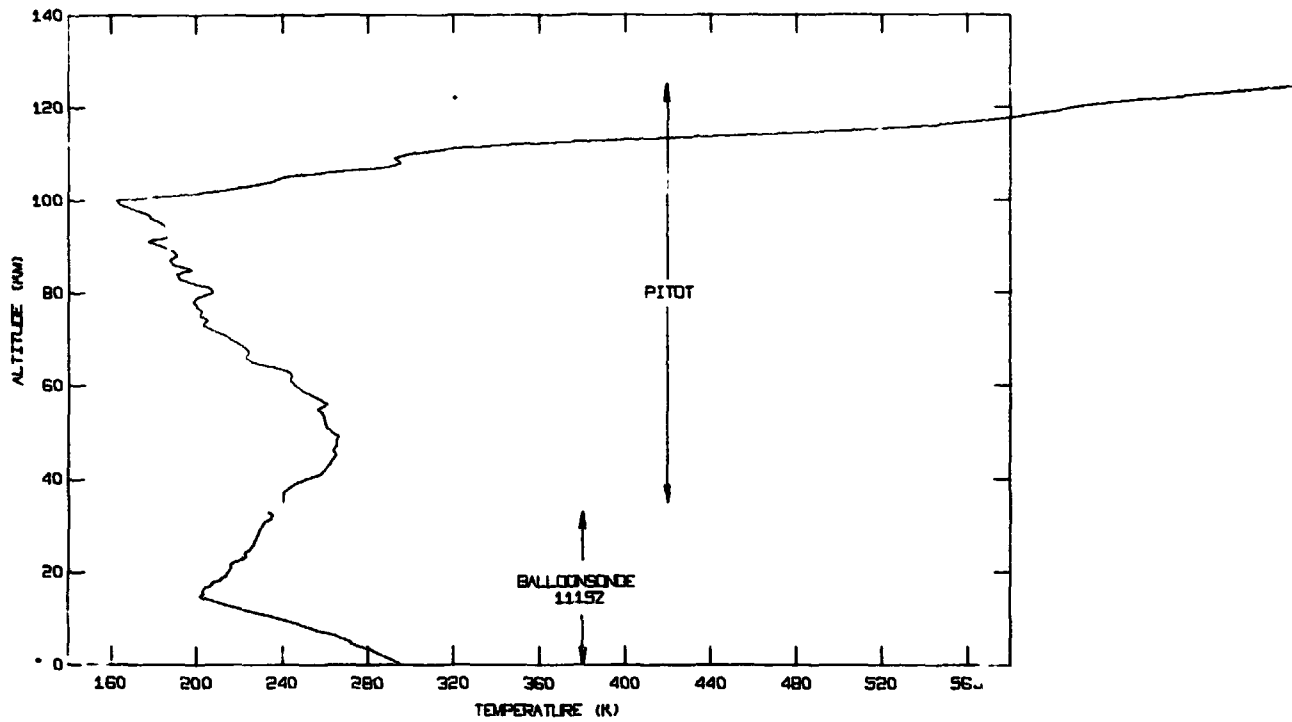
ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
37059.0	254.7	0.6	32.4	0.5	90.5	1.6
43233.9	270.7	0.8	44.4	0.7	93.6	1.6
47895.7	274.7	0.9	46.5	0.9	99.5	2.0
51777.7	264.5	0.8	46.3	1.0	104.6	2.0
55549.5	253.9	0.8	65.4	1.1	103.4	1.6
59230.0	240.8	0.7	66.9	1.0	89.8	1.6
62836.9	232.9	0.7	77.0	1.1	98.7	1.4
65369.1	217.9	0.6	98.7	1.2	106.6	1.9
70363.3	201.9	0.4	59.6	1.0	62.3	1.4
74784.8	194.7	0.4	79.1	1.3	37.4	0.9
81083.1	186.2	3.6	111.5	17.2	346.3	3.7
87137.2	155.8	8.3	55.4	29.2	315.1	42.1
90472.3	178.9	12.4	59.6	46.5	148.5	42.3

**WIND COMPONENTS  
M/SEC**



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
38000	257.1	0.429E 03	13.9	0.582E-02	8.4
39000	259.7	0.376E 03	14.4	0.504E-02	9.1
40000	262.3	0.329E 03	14.8	0.437E-02	9.5
41000	264.9	0.289E 03	15.4	0.381E-02	10.3
42000	267.5	0.255E 03	16.3	0.333E-02	11.2
43000	270.0	0.226E 03	17.1	0.291E-02	12.1
44000	271.3	0.199E 03	17.7	0.256E-02	13.4
45000	272.2	0.176E 03	18.2	0.225E-02	14.7
46000	273.0	0.155E 03	18.5	0.198E-02	15.8
47000	273.9	0.137E 03	18.8	0.175E-02	16.9
48000	274.4	0.121E 03	19.1	0.154E-02	17.4
49000	271.8	0.107E 03	19.3	0.138E-02	18.8
50000	269.2	0.953E 02	19.5	0.123E-02	20.1
51000	266.6	0.839E 02	19.1	0.109E-02	20.9
52000	263.9	0.739E 02	18.8	0.976E-03	21.8
53000	261.1	0.651E 02	18.5	0.869E-03	22.3
54000	258.2	0.572E 02	18.1	0.772E-03	22.3
55000	255.4	0.501E 02	17.4	0.684E-03	22.0
56000	252.3	0.439E 02	16.7	0.607E-03	22.0
57000	248.7	0.385E 02	16.3	0.539E-03	22.3
58000	245.1	0.336E 02	15.4	0.477E-03	22.2
59000	241.6	0.292E 02	14.3	0.421E-03	21.9
60000	239.1	0.254E 02	13.3	0.370E-03	21.2
61000	236.9	0.221E 02	12.5	0.325E-03	20.5
62000	234.7	0.191E 02	11.2	0.284E-03	19.0
63000	232.2	0.166E 02	10.2	0.249E-03	17.3
64000	227.9	0.144E 02	9.5	0.220E-03	16.8
65000	223.7	0.124E 02	8.5	0.193E-03	16.0
66000	219.5	0.106E 02	7.2	0.169E-03	15.0
67000	215.4	0.914E 01	6.1	0.147E-03	14.1
68000	211.3	0.784E 01	5.3	0.129E-03	13.4
69000	207.3	0.665E 01	3.7	0.111E-03	11.8
70000	203.3	0.564E 01	2.2	0.966E-04	10.4
71000	200.8	0.478E 01	1.0	0.829E-04	8.5
72000	199.2	0.405E 01	0.1	0.708E-04	6.4
73000	197.6	0.342E 01	-0.7	0.604E-04	4.4
74000	196.0	0.288E 01	-1.6	0.513E-04	2.3
75000	194.4	0.243E 01	-2.2	0.436E-04	0.5
76000	193.1	0.205E 01	-2.5	0.370E-04	-0.9
77000	191.7	0.172E 01	-2.5	0.313E-04	-2.1
78000	190.4	0.144E 01	-2.8	0.264E-04	-3.8
79000	189.0	0.120E 01	-2.8	0.222E-04	-5.1
80000	187.7	0.101E 01	-2.9	0.187E-04	-6.1
81000	186.3	0.845E 00	-1.9	0.158E-04	-4.9
82000	181.6	0.707E 00	-1.3	0.135E-04	-1.8
83000	176.6	0.591E 00	-0.7	0.116E-04	1.4
84000	171.6	0.494E 00	-0.2	0.100E-04	5.0
85000	166.5	0.414E 00	0.3	0.865E-05	8.8
86000	161.5	0.336E 00	-1.8	0.726E-05	9.7
87000	156.5	0.272E 00	-4.6	0.605E-05	10.0
88000	161.8	0.219E 00	-7.3	0.473E-05	3.4
89000	168.7	0.177E 00	-10.0	0.366E-05	-3.6
90000	175.6	0.147E 00	-10.3	0.292E-05	-7.7

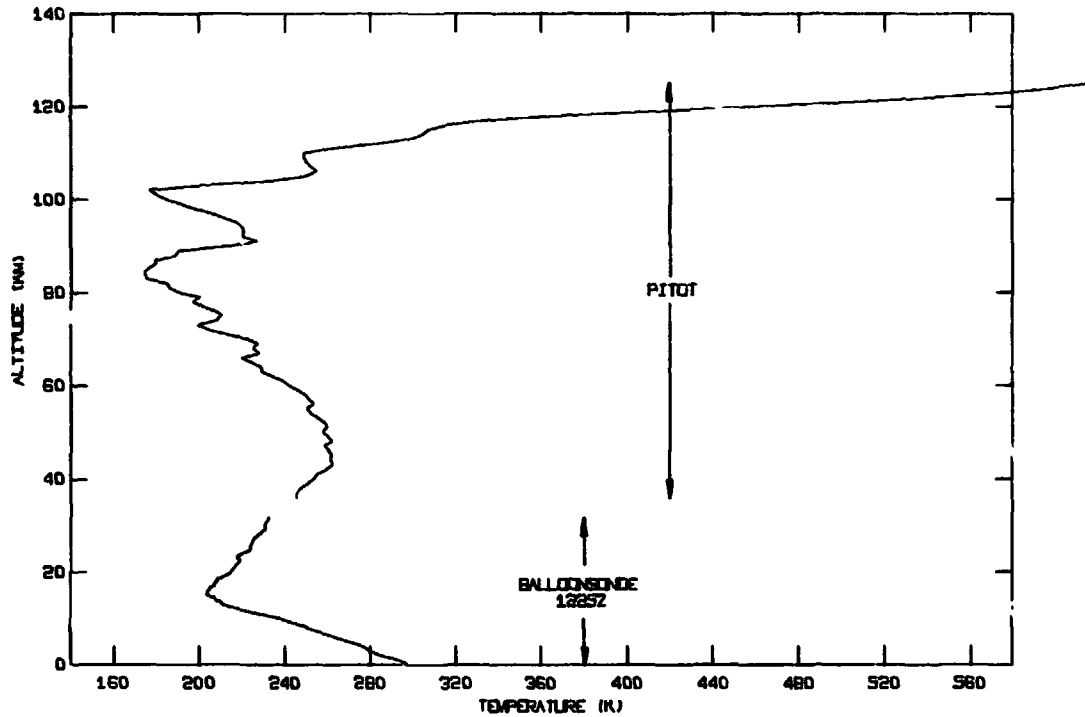
**FIGURE 22**  
**WALLOPS, 19 AUGUST 1971, 2011 GMT.**



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
35000	240.2	0.630E 03	9.7	0.914E-02	7.9
36000	240.5	0.547E 03	9.9	0.793E-02	9.2
37000	241.3	0.475E 03	9.8	0.687E-02	10.1
38000	244.1	0.414E 03	9.9	0.591E-02	10.1
39000	247.5	0.361E 03	9.8	0.508E-02	9.7
40000	251.9	0.315E 03	10.0	0.436E-02	9.1
41000	258.7	0.275E 03	9.8	0.372E-02	7.6
42000	260.9	0.242E 03	10.2	0.324E-02	8.1
43000	262.6	0.213E 03	10.5	0.283E-02	8.8
44000	263.7	0.187E 03	10.8	0.248E-02	9.7
45000	265.3	0.165E 03	10.8	0.217E-02	10.3
46000	264.0	0.145E 03	10.6	0.192E-02	12.0
47000	265.6	0.128E 03	10.5	0.168E-02	12.2
48000	265.7	0.112E 03	10.3	0.148E-02	12.3
49000	266.7	0.995E 02	10.2	0.130E-02	11.7
50000	263.2	0.877E 02	9.9	0.116E-02	12.9
51000	260.8	0.771E 02	9.5	0.103E-02	13.5
52000	260.0	0.678E 02	9.0	0.908E-03	13.3
53000	259.6	0.595E 02	8.4	0.799E-03	12.4
54000	258.5	0.523E 02	8.0	0.705E-03	11.6
55000	256.4	0.459E 02	7.5	0.624E-03	11.2
56000	261.1	0.403E 02	7.2	0.538E-03	8.1
57000	257.7	0.354E 02	6.9	0.479E-03	8.5
58000	253.6	0.310E 02	6.5	0.427E-03	9.2

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
59000	248.7	0.271E 02	6.2	0.381E-03	10.1
60000	245.5	0.237E 02	5.6	0.337E-03	10.1
61000	243.6	0.206E 02	4.9	0.296E-03	9.5
62000	244.7	0.179E 02	4.3	0.257E-03	7.3
63000	242.6	0.157E 02	4.3	0.226E-03	6.3
64000	236.0	0.137E 02	4.4	0.202E-03	7.2
65000	226.6	0.118E 02	3.3	0.182E-03	9.1
66000	223.4	0.101E 02	2.5	0.159E-03	8.0
67000	225.0	0.878E 01	1.9	0.136E-03	4.9
68000	223.3	0.757E 01	1.6	0.118E-03	3.5
69000	219.9	0.650E 01	1.3	0.103E-03	2.9
70000	215.8	0.557E 01	0.9	0.900E-04	2.8
71000	213.4	0.477E 01	0.7	0.779E-04	1.9
72000	207.4	0.407E 01	0.7	0.684E-04	2.7
73000	203.6	0.346E 01	0.3	0.592E-04	2.2
74000	205.6	0.294E 01	0.2	0.498E-04	-0.6
75000	202.1	0.249E 01	0.1	0.430E-04	-0.8
76000	203.3	0.211E 01	0.6	0.363E-04	-2.8
77000	200.5	0.179E 01	1.4	0.312E-04	-2.8
78000	199.0	0.151E 01	2.1	0.266E-04	-3.2
79000	200.7	0.128E 01	3.2	0.223E-04	-5.0
80000	207.9	0.109E 01	5.4	0.183E-04	-8.4
81000	206.3	0.930E 00	7.9	0.157E-04	-5.5
82000	199.2	0.789E 00	10.0	0.138E-04	-0.1
83000	191.7	0.666E 00	11.7	0.121E-04	5.2
84000	190.8	0.558E 00	12.6	0.102E-04	6.6
85000	198.0	0.471E 00	14.3	0.829E-05	4.2
86000	188.8	0.397E 00	15.7	0.732E-05	10.6
87000	187.4	0.331E 00	16.2	0.617E-05	12.1
88000	191.0	0.278E 00	17.3	0.508E-05	10.9
89000	189.0	0.233E 00	18.0	0.431E-05	13.1
90000	183.2	0.195E 00	19.1	0.372E-05	17.3
91000	177.1	0.162E 00	18.7	0.320E-05	23.1
92000	186.6	0.135E 00	18.7	0.253E-05	18.3
93000	187.4	0.113E 00	18.3	0.211E-05	19.6
94000	185.9	0.950E-01	17.8	0.178E-05	22.0
95000	183.2	0.794E-01	16.8	0.151E-05	24.6
96000	178.6	0.661E-01	15.0	0.129E-05	27.9
97000	177.1	0.549E-01	12.7	0.108E-05	28.3
98000	171.2	0.453E-01	9.5	0.923E-06	31.0
99000	164.1	0.371E-01	5.5	0.790E-06	33.6
100000	162.1	0.303E-01	1.0	0.652E-06	31.0
101000	190.6	0.250E-01	-2.6	0.458E-06	10.1
102000	213.1	0.213E-01	-3.5	0.348E-06	-0.3
103000	223.6	0.182E-01	-4.2	0.285E-06	-3.2
104000	235.8	0.158E-01	-3.8	0.234E-06	-6.0
105000	241.3	0.137E-01	-4.1	0.199E-06	-5.9
106000	263.1	0.120E-01	-2.9	0.160E-06	-11.3
107000	289.5	0.107E-01	-1.4	0.129E-06	-16.3
108000	295.3	0.958E-02	0.6	0.113E-06	-14.5
109000	292.4	0.855E-02	2.3	0.102E-06	-10.4
110000	299.8	0.766E-02	4.2	0.890E-07	-9.4
111000	317.4	0.687E-02	5.9	0.755E-07	-9.6
112000	348.8	0.622E-02	8.0	0.622E-07	-13.0
113000	395.3	0.569E-02	10.8	0.502E-07	-18.4
114000	453.2	0.526E-02	14.6	0.405E-07	-23.8
115000	503.8	0.491E-02	19.3	0.340E-07	-26.4
116000	541.6	0.461E-02	24.1	0.297E-07	-26.3
117000	565.6	0.435E-02	29.8	0.268E-07	-24.2
118000	581.9	0.410E-02	34.9	0.246E-07	-20.9
119000	596.2	0.389E-02	40.7	0.227E-07	-17.3
120000	610.2	0.367E-02	45.8	0.210E-07	-13.7
121000	626.3	0.349E-02	51.3	0.194E-07	-8.1
122000	652.1	0.331E-02	56.4	0.177E-07	-4.0
123000	673.9	0.315E-02	61.3	0.163E-07	0.5
124000	698.0	0.301E-02	66.0	0.150E-07	4.6
125000	719.1	0.286E-02	69.9	0.139E-07	9.0

FIGURE 23  
WALLOPS, 20 AUGUST 1971, 0745 GMT.



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
36000	245.9	0.543E 03	9.1	0.770E-02	6.0
37000	246.3	0.479E 03	9.2	0.670E-02	7.4
38000	248.2	0.413E 03	9.5	0.580E-02	8.0
39000	251.5	0.361E 03	9.8	0.500E-02	8.0
40000	254.1	0.315E 03	10.0	0.433E-02	8.3
41000	255.8	0.277E 03	10.4	0.377E-02	9.0
42000	260.3	0.242E 03	10.2	0.325E-02	8.5
43000	262.9	0.213E 03	10.5	0.283E-02	8.8
44000	261.7	0.187E 03	10.8	0.250E-02	10.6
45000	262.7	0.165E 03	10.8	0.219E-02	11.3
46000	260.9	0.145E 03	10.6	0.194E-02	13.1
47000	258.5	0.127E 03	10.1	0.172E-02	14.8
48000	262.2	0.112E 03	9.5	0.149E-02	13.1
49000	260.2	0.986E 02	9.1	0.132E-02	13.4
50000	257.9	0.866E 02	8.6	0.117E-02	13.9
51000	259.8	0.761E 02	8.0	0.102E-02	12.4
52000	258.7	0.669E 02	7.5	0.900E-03	12.3
53000	255.3	0.586E 02	6.7	0.800E-03	12.6
54000	251.9	0.513E 02	5.8	0.710E-03	12.4
55000	250.3	0.449E 02	5.0	0.625E-03	11.4
56000	253.5	0.393E 02	4.4	0.540E-03	8.5
57000	251.3	0.343E 02	3.7	0.477E-03	8.1
58000	249.5	0.301E 02	3.3	0.420E-03	7.4
59000	246.1	0.262E 02	2.6	0.372E-03	7.5

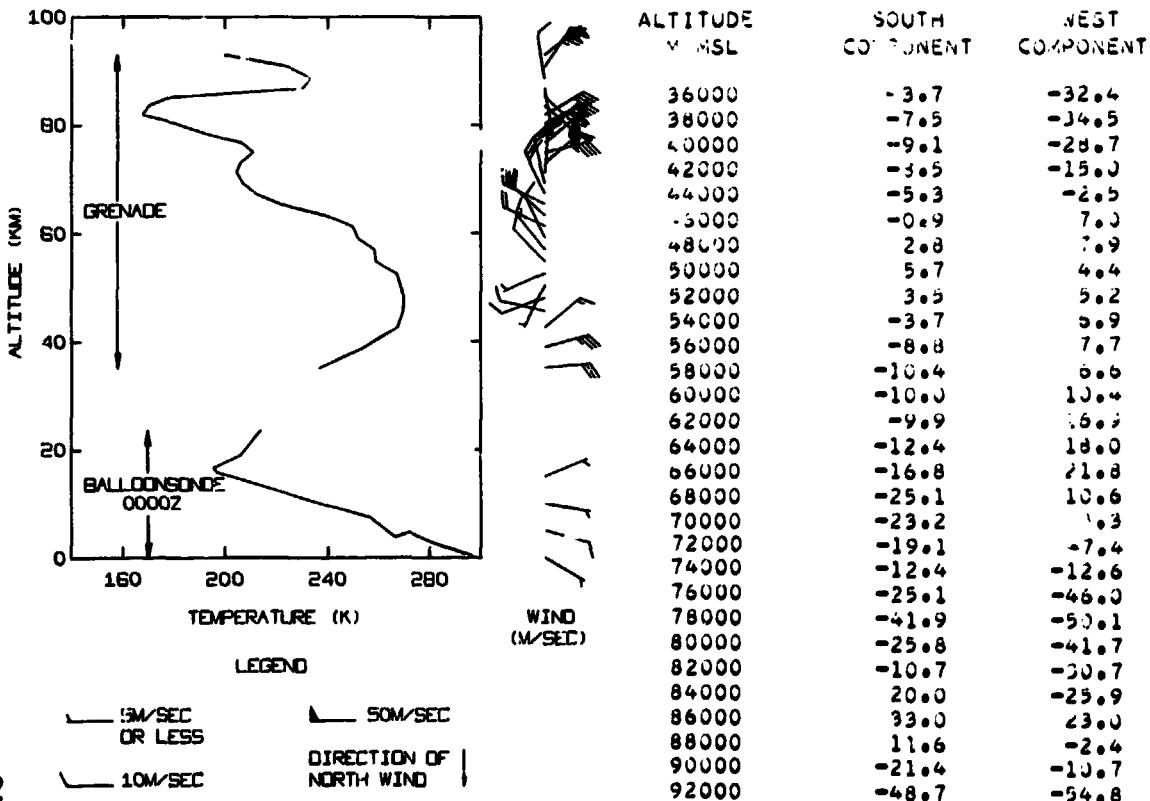
ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
60000	241.8	0.229E 02	2.0	0.330E-03	7.8
61000	239.5	0.199E 02	1.5	0.290E-03	7.2
62000	233.7	0.173E 02	0.4	0.258E-03	7.8
63000	229.7	0.149E 02	-0.9	0.227E-03	6.8
64000	228.8	0.129E 02	-1.5	0.197E-03	4.5
65000	224.7	0.111E 02	-2.5	0.173E-03	3.7
66000	220.0	0.959E 01	-3.4	0.152E-03	3.3
67000	228.2	0.825E 01	-4.1	0.126E-03	-2.7
68000	225.7	0.713E 01	-4.2	0.110E-03	-3.5
69000	227.7	0.614E 01	-4.2	0.940E-04	-5.9
70000	222.4	0.530E 01	-3.8	0.830E-04	-5.1
71000	213.1	0.454E 01	-4.0	0.743E-04	-2.7
72000	204.4	0.387E 01	-4.2	0.660E-04	-0.8
73000	199.5	0.327E 01	-5.0	0.573E-04	-0.9
74000	208.6	0.278E 01	-5.1	0.465E-04	-7.2
75000	210.5	0.237E 01	-4.7	0.393E-04	-9.3
76000	207.5	0.202E 01	-3.7	0.340E-04	-8.9
77000	201.8	0.171E 01	-3.0	0.297E-04	-7.4
78000	197.4	0.145E 01	-2.3	0.257E-04	-6.5
79000	200.4	0.123E 01	-0.9	0.214E-04	-8.8
80000	190.3	0.103E 01	0.1	0.190E-04	-4.9
81000	185.7	0.869E 00	0.8	0.163E-04	-1.9
82000	184.8	0.726E 00	1.3	0.137E-04	-0.8
83000	175.4	0.603E 00	1.2	0.120E-04	4.3
84000	174.4	0.499E 00	0.8	0.997E-05	4.2
85000	176.7	0.413E 00	0.1	0.815E-05	2.4
86000	180.0	0.342E 00	-0.1	0.662E-05	0.0
87000	180.1	0.283E 00	-0.5	0.550E-05	-0.0
88000	189.2	0.238E 00	0.4	0.438E-05	-4.3
89000	191.1	0.199E 00	1.1	0.354E-05	-4.4
90000	216.5	0.169E 00	2.5	0.272E-05	-14.1
91000	227.3	0.145E 00	6.0	0.223E-05	-14.1
92000	220.8	0.125E 00	9.6	0.198E-05	-7.3
93000	221.2	0.107E 00	12.4	0.170E-05	-3.5
94000	220.2	0.929E-01	15.1	0.147E-05	0.7
95000	217.3	0.798E-01	17.4	0.128E-05	5.6
96000	210.9	0.683E-01	18.9	0.113E-05	12.1
97000	205.8	0.583E-01	19.8	0.988E-06	17.4
98000	198.4	0.495E-01	19.8	0.870E-06	23.5
99000	191.5	0.418E-01	18.7	0.760E-06	28.5
100000	184.9	0.350E-01	16.5	0.660E-06	32.6
101000	179.8	0.291E-01	13.3	0.566E-06	36.0
102000	177.0	0.242E-01	9.6	0.478E-06	36.8
103000	198.7	0.202E-01	6.2	0.355E-06	20.5
104000	234.0	0.174E-01	5.8	0.259E-06	3.9
105000	250.6	0.151E-01	6.1	0.211E-06	-0.3
106000	255.1	0.133E-01	6.9	0.182E-06	0.8
107000	251.6	0.117E-01	7.5	0.162E-06	4.9
108000	249.9	0.102E-01	7.7	0.143E-06	8.0
109000	248.5	0.898E-02	7.4	0.126E-06	10.6
110000	247.2	0.787E-02	7.1	0.110E-06	11.9
111000	263.4	0.691E-02	6.5	0.915E-07	9.4
112000	285.8	0.613E-02	6.4	0.748E-07	4.5
113000	299.5	0.549E-02	6.9	0.638E-07	3.6
114000	304.9	0.491E-02	7.1	0.562E-07	5.6
115000	307.7	0.441E-02	7.0	0.500E-07	8.1
116000	316.7	0.397E-02	6.9	0.437E-07	8.3
117000	336.4	0.359E-02	7.2	0.372E-07	5.2
118000	367.4	0.326E-02	7.3	0.310E-07	-0.3
119000	413.7	0.299E-02	8.4	0.253E-07	-7.9
120000	457.9	0.278E-02	10.4	0.212E-07	-12.9
121000	509.5	0.259E-02	12.6	0.178E-07	-15.7
122000	546.2	0.245E-02	15.6	0.156E-07	-15.4
123000	573.9	0.230E-02	17.7	0.140E-07	-13.6
124000	598.1	0.218E-02	20.5	0.127E-07	-11.4
125000	615.0	0.206E-02	22.5	0.117E-07	-8.2

# FIGURE 24

## KOUROU, 19 SEPTEMBER 1971, 2156 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
35209.0	235.8	0.2	31.6	0.5	85.9	1.5
38935.3	254.8	0.4	35.8	0.7	75.7	1.4
42661.1	267.4	0.5	13.4	0.5	51.3	3.1
45508.9	259.5	0.5	7.6	0.5	281.9	5.0
48036.5	259.9	0.8	9.1	0.8	250.5	5.3
50347.2	269.1	1.1	7.3	1.5	205.8	10.8
52605.3	255.6	1.4	5.6	1.4	246.9	21.9
54835.8	254.7	1.9	10.5	3.1	315.5	13.4
57034.3	259.1	2.4	12.1	4.1	321.0	12.3
59142.8	251.6	1.8	11.9	5.3	335.6	14.4
61294.5	249.7	2.4	20.7	3.5	294.4	12.7
63375.6	239.3	1.9	18.6	3.3	312.0	9.4
65407.1	211.5	1.7	29.3	3.0	295.2	7.1
67399.6	211.9	2.6	29.1	5.1	334.1	7.9
69356.7	206.9	2.5	24.2	5.4	346.4	5.7
71269.7	204.6	1.6	22.4	3.9	3.0	5.4
73148.6	205.4	1.6	22.0	2.9	50.0	9.8
74996.3	211.0	1.6	45.9	2.3	77.2	5.0
76806.8	206.2	1.4	59.2	2.1	51.1	3.2
78572.8	191.7	1.4	69.7	2.8	49.2	3.1
80293.7	181.6	1.3	43.8	2.4	63.1	5.1
81980.9	168.0	1.1	34.1	2.3	60.6	5.1
83620.7	170.4	1.9	36.5	4.5	130.8	7.6
85239.7	179.2	2.3	28.6	5.3	131.7	10.9
86908.8	230.3	0.3	48.8	25.7	170.1	29.9
88717.2	233.7	6.3	11.2	15.7	351.5	85.7
90935.1	224.2	4.2	35.0	8.3	34.1	14.1
93074.7	200.1	5.6	113.4	10.0	52.7	7.3

### WIND COMPONENTS M/SEC





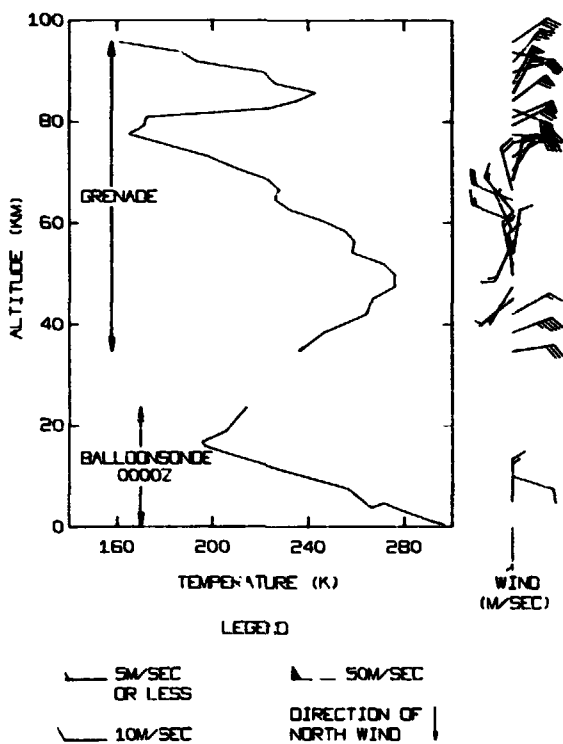
ALTITUDE M/MSL	TEMPERATURE DEG K	PRESSURE hPa/50 h	DEVIATION PER CENT	DENSITY KG/CM <sup>3</sup>	DEVIATION PER CENT
36000	240.6	0.494E 03	-0.7	0.716E-02	-1.2
37000	245.3	0.429E 03	-0.9	0.609E-02	-2.2
38000	250.1	0.375E 03	-0.3	0.523E-02	-2.3
39000	254.9	0.329E 03	0.1	0.449E-02	-2.7
40000	258.3	0.289E 03	0.4	0.388E-02	-2.0
41000	261.7	0.253E 03	0.7	0.336E-02	-2.5
42000	265.2	0.223E 03	1.4	0.293E-02	-2.1
43000	267.7	0.196E 03	1.9	0.256E-02	-1.4
44000	268.4	0.173E 03	2.3	0.225E-02	-0.2
45000	269.0	0.153E 03	2.7	0.198E-02	0.8
46000	269.6	0.135E 03	2.9	0.174E-02	1.9
47000	269.7	0.119E 03	2.9	0.154E-02	2.9
48000	269.9	0.105E 03	3.0	0.136E-02	3.3
49000	269.1	0.930E 02	3.0	0.122E-02	3.0
50000	268.3	0.821E 02	2.9	0.108E-02	3.0
51000	267.6	0.724E 02	2.8	0.943E-03	4.0
52000	267.0	0.639E 02	2.7	0.834E-03	4.1
53000	265.2	0.563E 02	2.6	0.745E-03	4.2
54000	261.6	0.496E 02	2.4	0.661E-03	4.7
55000	258.6	0.436E 02	2.1	0.587E-03	4.8
56000	258.4	0.383E 02	1.8	0.516E-03	3.8
57000	256.1	0.336E 02	1.6	0.454E-03	3.0
58000	255.2	0.295E 02	1.5	0.403E-03	3.3
59000	252.2	0.259E 02	1.2	0.358E-03	3.5
60000	250.9	0.226E 02	1.0	0.315E-03	3.0
61000	250.0	0.198E 02	0.8	0.276E-03	2.3
62000	246.2	0.173E 02	0.7	0.245E-03	2.7
63000	241.2	0.151E 02	0.3	0.218E-03	2.8
64000	233.9	0.131E 02	0.1	0.196E-03	4.1
65000	225.1	0.113E 02	-0.6	0.176E-03	5.6
66000	218.6	0.978E 01	-1.5	0.155E-03	5.9
67000	213.8	0.838E 01	-2.6	0.135E-03	5.3
68000	210.3	0.716E 01	-3.7	0.118E-03	4.0
69000	207.9	0.610E 01	-4.8	0.102E-03	2.3
70000	206.1	0.519E 01	-5.8	0.878E-04	0.3
71000	204.9	0.441E 01	-6.6	0.751E-04	-1.7
72000	205.3	0.375E 01	-7.2	0.637E-04	-4.3
73000	206.3	0.319E 01	-7.4	0.539E-04	-6.7
74000	208.5	0.271E 01	-7.4	0.454E-04	-9.4
75000	211.0	0.232E 01	-6.7	0.383E-04	-11.5
76000	208.3	0.198E 01	-5.8	0.331E-04	-11.2
77000	204.6	0.168E 01	-4.8	0.287E-04	-10.4
78000	196.4	0.143E 01	-3.8	0.253E-04	-7.7
79000	189.2	0.120E 01	-3.2	0.221E-04	-5.7
80000	183.4	0.100E 01	-2.9	0.191E-04	-4.3
81000	175.9	0.838E 00	-2.7	0.165E-04	-0.1
82000	168.0	0.689E 00	-3.8	0.142E-04	3.3
83000	169.5	0.565E 00	-5.0	0.116E-04	1.1
84000	172.4	0.465E 00	-6.0	0.941E-05	-1.5
85000	177.9	0.385E 00	-6.5	0.754E-05	-5.0
86000	204.0	0.320E 00	-6.6	0.547E-05	-17.3
87000	230.6	0.277E 00	-2.8	0.418E-05	-23.9
88000	232.4	0.240E 00	1.1	0.359E-05	-21.3
89000	232.5	0.208E 00	5.5	0.312E-05	-18.0
90000	228.2	0.180E 00	9.9	0.275E-05	-12.9
91000	223.5	0.155E 00	13.8	0.243E-05	-6.4
92000	212.2	0.134E 00	17.5	0.220E-05	3.3
93000	201.0	0.114E 00	18.8	0.197E-05	12.1

**FIGURE 25**  
**KOUROU, 20 SEPTEMBER 1971, 0330 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
34713.1	236.4	0.2	31.1	0.4	81.3	1.4
33464.9	247.0	0.4	43.4	0.5	70.0	1.2
42103.0	264.5	0.6	14.8	0.7	61.1	4.0
45087.7	266.8	1.1	6.6	1.2	231.0	15.7
47426.4	276.1	1.1	6.8	1.6	210.7	13.2
49715.7	276.2	0.9	7.9	1.7	354.9	6.4
51960.7	271.3	1.1	18.5	2.0	346.7	3.2
54163.3	258.3	1.9	9.4	3.8	9.5	14.9
56333.8	259.1	2.1	17.0	4.8	204.7	10.3
58463.4	255.0	2.3	6.5	4.9	336.6	24.6
60559.9	249.3	2.7	15.5	4.2	291.1	21.0
62606.9	232.6	3.3	16.2	7.2	320.5	19.4
64605.2	226.3	3.6	20.3	6.2	291.5	23.5
66571.2	228.1	3.4	20.4	8.6	346.0	12.9
68503.4	223.4	2.9	20.3	7.0	14.6	13.3
70404.4	211.8	1.8	31.0	4.1	33.5	7.5
73149.1	198.1	0.6	32.4	1.2	60.1	3.4
75837.2	178.1	1.4	36.2	2.5	74.3	8.2
77587.5	165.2	1.6	39.4	3.3	95.4	8.8
79300.1	171.8	2.3	59.1	4.3	64.2	7.6
80962.4	172.7	1.9	49.2	3.6	68.3	8.0
82568.8	222.3	1.5	37.5	2.9	111.3	5.9
84151.1	235.4	2.3	59.3	3.8	53.6	5.4
85693.8	243.0	3.1	60.6	6.2	27.6	4.9
87590.1	225.9	2.3	57.1	5.2	28.6	4.5
89799.7	221.0	2.1	28.4	3.1	73.8	12.3
91853.6	193.2	1.0	35.2	2.6	41.4	4.8
93814.7	186.7	2.3	22.3	4.6	101.0	19.5
95728.2	160.5	3.4	29.1	8.2	56.4	24.7

WIND COMPONENTS  
M/SEC

ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
36000	-8.1	-34.2
38000	-13.2	-38.8
40000	-11.5	-29.0
42000	-7.0	-14.1
44000	0.0	-1.4
46000	4.8	4.4
48000	2.1	2.7
50000	-8.9	1.5
52000	-15.9	3.1
54000	-8.6	0.0
56000	9.2	5.1
58000	-0.6	4.1
60000	-5.9	10.9
62000	-10.2	11.8
64000	-9.3	15.8
66000	-15.9	9.0
68000	-19.9	-2.5
70000	-23.9	-14.3
72000	-20.2	-23.5
74000	-14.1	-30.2
76000	-7.6	-35.3
78000	-5.5	-43.1
80000	-22.0	-26.9
82000	0.0	-39.5
84000	-27.1	-42.8
86000	-51.4	-29.4
88000	-40.8	-27.4
90000	-14.1	-26.6
92000	-19.6	-23.4
94000	-2.0	-22.4

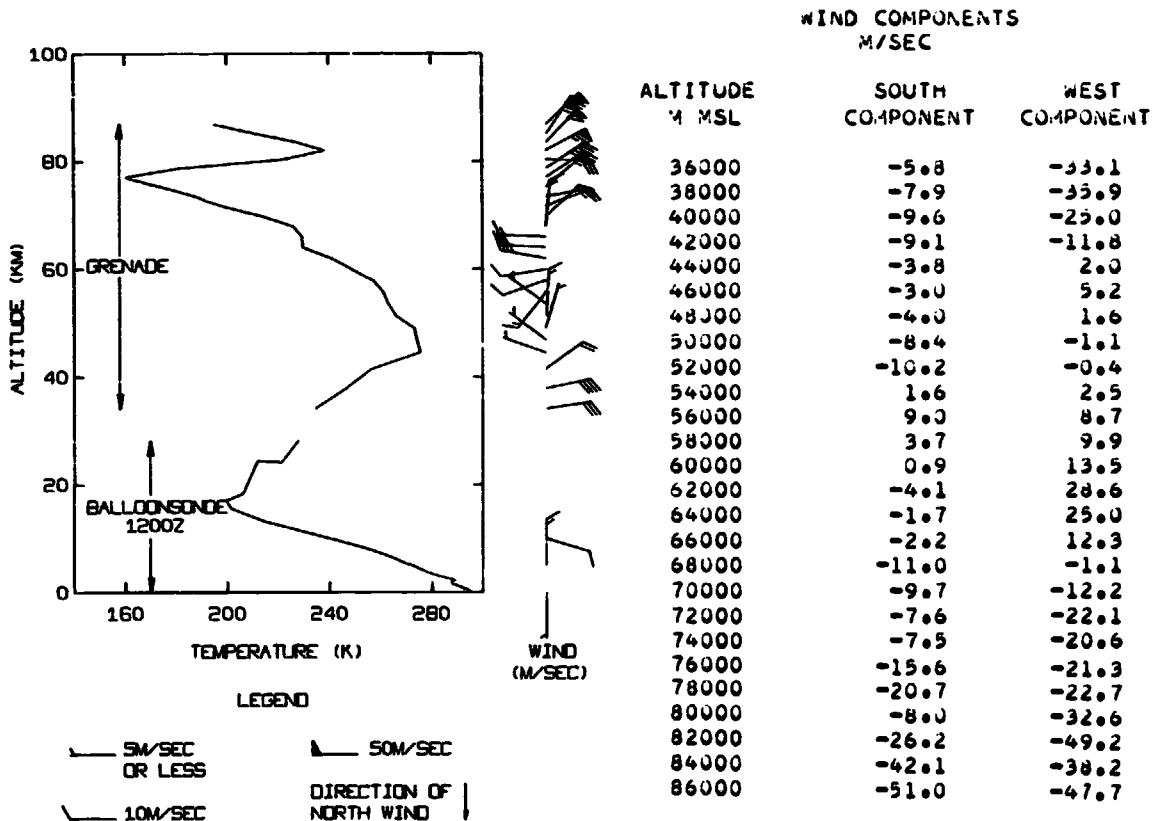


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
35000	237.2	0.571E 03	-0.5	0.838E-02	-0.9
36000	240.0	0.495E 03	-0.6	0.718E-02	-0.9
37000	242.9	0.430E 03	-0.6	0.617E-02	-0.9
38000	245.7	0.375E 03	-0.3	0.532E-02	-0.7
39000	249.6	0.327E 03	-0.2	0.457E-02	-1.1
40000	254.4	0.286E 03	-0.3	0.391E-02	-1.9
41000	259.2	0.251E 03	0.0	0.337E-02	-2.3
42000	264.0	0.221E 03	0.5	0.291E-02	-2.5
43000	265.2	0.194E 03	0.9	0.255E-02	-1.5
44000	266.0	0.171E 03	1.2	0.224E-02	-0.5
45000	266.8	0.151E 03	1.4	0.197E-02	0.4
46000	270.5	0.133E 03	1.6	0.171E-02	0.2
47000	274.4	0.118E 03	1.8	0.149E-02	0.0
48000	276.2	0.104E 03	2.1	0.131E-02	0.0
49000	276.2	0.925E 02	2.4	0.116E-02	0.3
50000	275.6	0.819E 02	2.7	0.103E-02	0.8
51000	273.4	0.725E 02	3.0	0.924E-03	1.9
52000	271.1	0.641E 02	3.0	0.824E-03	2.8
53000	265.2	0.566E 02	3.1	0.744E-03	4.8
54000	259.3	0.498E 02	2.7	0.669E-03	6.0
55000	258.6	0.437E 02	2.3	0.589E-03	5.1
56000	259.0	0.384E 02	2.1	0.517E-03	3.9
57000	257.8	0.337E 02	1.9	0.456E-03	3.4
58000	255.9	0.296E 02	1.7	0.403E-03	3.2
59000	252.5	0.260E 02	1.6	0.358E-03	3.1
60000	247.9	0.227E 02	1.3	0.319E-03	4.5
61000	242.6	0.198E 02	0.9	0.285E-03	5.5
62000	236.4	0.172E 02	0.2	0.254E-03	6.4
63000	231.4	0.149E 02	-0.7	0.225E-03	6.0
64000	228.2	0.129E 02	-1.5	0.197E-03	4.9
65000	226.7	0.111E 02	-2.4	0.171E-03	3.0
66000	227.6	0.964E 01	-2.9	0.147E-03	0.3
67000	227.0	0.833E 01	-3.2	0.127E-03	-1.3
68000	224.6	0.719E 01	-3.4	0.111E-03	-2.1
69000	220.4	0.619E 01	-3.4	0.979E-04	-2.0
70000	214.3	0.531E 01	-3.7	0.863E-04	-1.3
71000	208.8	0.454E 01	-4.1	0.757E-04	-0.9
72000	203.9	0.385E 01	-4.8	0.658E-04	-1.1
73000	198.9	0.325E 01	-5.7	0.570E-04	-1.4
74000	191.8	0.275E 01	-6.2	0.499E-04	-0.3
75000	184.3	0.232E 01	-6.6	0.439E-04	1.3
76000	176.9	0.192E 01	-8.3	0.379E-04	1.6
77000	169.5	0.159E 01	-10.1	0.327E-04	2.0
78000	166.8	0.130E 01	-12.4	0.272E-04	-1.0
79000	170.7	0.107E 01	-13.9	0.218E-04	-7.0
80000	172.2	0.882E 00	-14.9	0.178E-04	-10.7
81000	173.9	0.727E 00	-15.5	0.145E-04	-12.3
82000	204.8	0.606E 00	-15.3	0.103E-04	-25.3
83000	225.9	0.522E 00	-12.3	0.805E-05	-29.9
84000	234.2	0.452E 00	-8.7	0.672E-05	-29.6
85000	239.6	0.393E 00	-4.7	0.571E-05	-28.1
86000	240.2	0.342E 00	-0.0	0.497E-05	-24.8
87000	231.2	0.297E 00	4.2	0.448E-05	-18.5
88000	225.0	0.256E 00	8.1	0.397E-05	-13.1
89000	222.8	0.221E 00	12.1	0.346E-05	-9.0
90000	218.3	0.190E 00	16.1	0.304E-05	-3.9
91000	204.7	0.163E 00	19.5	0.278E-05	7.2
92000	192.7	0.138E 00	20.5	0.249E-05	16.7
93000	189.4	0.116E 00	21.0	0.213E-05	21.2
94000	184.2	0.973E-01	20.6	0.184E-05	26.2
95000	170.5	0.810E-01	19.1	0.165E-05	36.7

## FIGURE 26

### KOUROU, 20 SEPTEMBER 1971, 0615 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
34144.5	234.9	0.2	26.1	0.5	82.0	1.6
37879.9	247.1	0.4	39.2	0.9	78.4	2.2
41518.3	256.9	0.9	18.8	1.3	54.8	5.7
46503.9	275.7	1.8	6.4	2.0	289.0	22.0
49937.0	274.3	1.3	5.9	1.8	306.7	16.5
49125.7	273.3	1.2	4.6	1.8	17.0	18.0
51377.3	265.9	1.4	14.6	2.5	3.5	5.5
53590.5	262.9	2.0	0.9	3.1	305.3	212.8
55754.2	260.8	2.4	14.5	3.6	213.9	15.8
57874.8	257.0	2.3	10.3	2.7	251.5	26.1
59965.9	249.1	2.3	11.0	2.8	260.8	25.3
62014.7	240.9	2.6	32.5	3.6	279.9	9.6
64022.7	229.8	2.5	25.9	3.7	272.8	13.1
65992.9	229.4	2.6	12.5	3.8	272.1	28.2
67926.1	225.9	2.4	12.9	5.6	5.5	16.5
69823.0	213.9	1.8	14.4	3.3	48.2	10.8
71697.1	198.1	1.5	24.8	2.5	69.4	9.7
73517.0	187.7	1.3	22.0	2.4	80.0	10.7
75279.8	174.3	2.7	23.4	6.2	49.9	19.7
77023.0	160.3	2.4	30.8	5.7	55.9	15.6
78720.1	181.2	1.3	44.1	2.8	56.7	5.3
80378.7	222.2	2.1	28.7	3.3	91.8	10.8
81993.8	238.4	3.2	62.8	4.8	62.7	5.8
83592.0	227.5	3.4	58.2	6.5	44.0	7.6
85127.1	211.8	3.6	54.7	8.2	34.7	8.7
86985.4	194.7	10.3	88.1	76.2	48.9	15.4

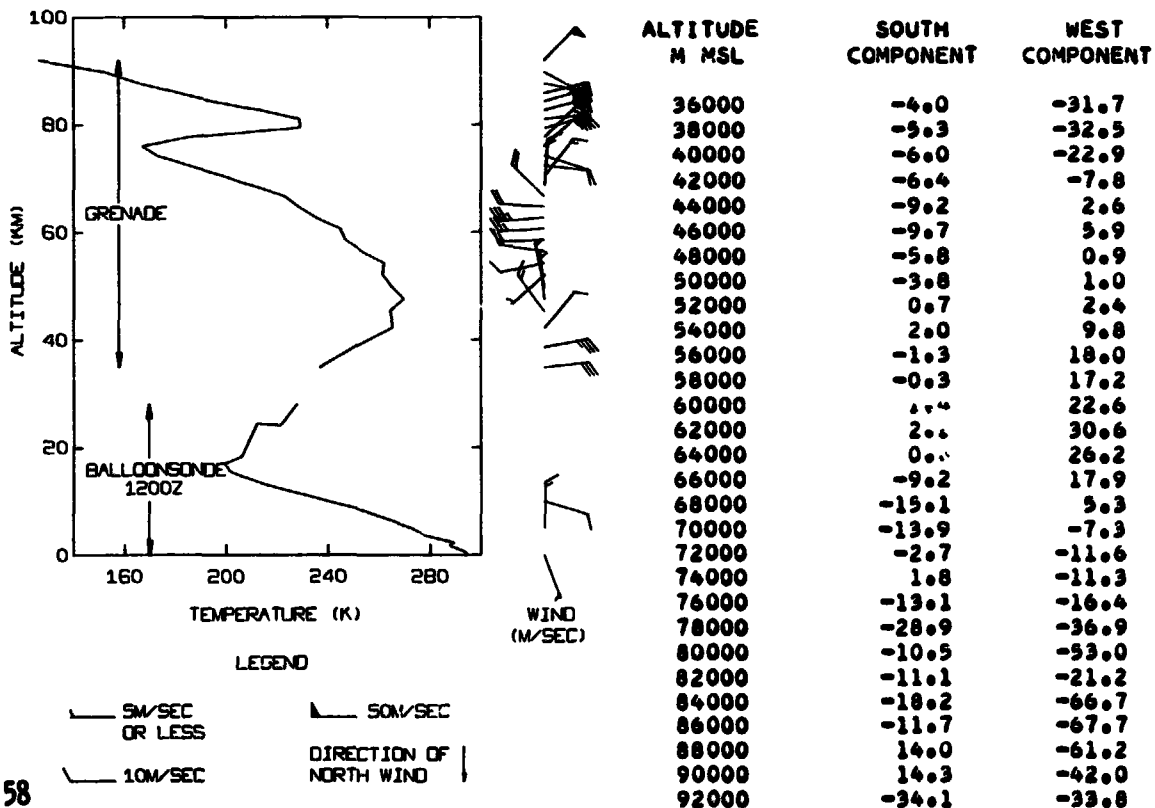


ALTITUDE M ASL	TEMPERATURE DEG K	PRESSURE NT/50 M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
35000	237.7	0.592E 03	3.1	0.566E-02	2.0
35000	241.0	0.513E 03	3.0	0.742E-02	2.2
37000	244.2	0.468E 03	3.4	0.638E-02	2.4
38000	247.4	0.399E 03	3.6	0.559E-02	2.5
39000	250.7	0.341E 03	3.7	0.475E-02	2.6
40000	252.6	0.298E 03	3.8	0.410E-02	2.6
41000	255.5	0.261E 03	4.1	0.356E-02	3.1
42000	259.9	0.229E 03	4.3	0.307E-02	2.0
43000	266.2	0.201E 03	4.3	0.263E-02	1.3
44000	272.5	0.177E 03	4.8	0.227E-02	0.5
45000	275.4	0.157E 03	5.5	0.198E-02	1.2
46000	274.0	0.139E 03	6.0	0.170E-02	2.9
47000	274.2	0.123E 03	6.3	0.156E-02	4.5
48000	273.8	0.109E 03	6.2	0.138E-02	3.3
49000	273.3	0.964E 02	6.7	0.122E-02	5.0
50000	270.4	0.853E 02	6.9	0.109E-02	6.9
51000	267.1	0.752E 02	6.8	0.981E-03	8.1
52000	265.1	0.663E 02	6.6	0.871E-03	8.0
53000	263.7	0.594E 02	6.3	0.771E-03	8.6
54000	262.5	0.514E 02	6.1	0.682E-03	8.1
55000	261.6	0.452E 02	5.9	0.603E-03	7.5
56000	260.4	0.398E 02	5.7	0.532E-03	7.0
57000	258.6	0.359E 02	5.6	0.471E-03	6.9
58000	256.6	0.307E 02	5.3	0.417E-03	6.0
59000	252.8	0.269E 02	5.4	0.371E-03	7.5
60000	249.0	0.235E 02	5.0	0.330E-03	7.9
61000	245.0	0.206E 02	4.8	0.293E-03	8.5
62000	241.0	0.179E 02	4.1	0.259E-03	8.5
63000	235.4	0.156E 02	3.7	0.231E-03	8.8
64000	229.9	0.135E 02	2.8	0.204E-03	8.7
65000	229.5	0.116E 02	2.1	0.177E-03	6.4
66000	229.4	0.101E 02	1.7	0.153E-03	4.4
67000	227.5	0.874E 01	1.5	0.133E-03	3.2
68000	225.4	0.754E 01	1.3	0.116E-03	2.2
69000	219.1	0.650E 01	1.3	0.100E-03	3.3
70000	212.4	0.556E 01	0.8	0.912E-04	4.2
71000	204.0	0.474E 01	0.2	0.810E-04	6.0
72000	196.3	0.401E 01	-0.8	0.712E-04	6.9
73000	190.6	0.338E 01	-2.0	0.617E-04	6.7
74000	184.0	0.283E 01	-3.5	0.536E-04	6.0
75000	176.4	0.235E 01	-5.5	0.464E-04	7.1
76000	168.5	0.194E 01	-7.6	0.401E-04	7.5
77000	160.5	0.158E 01	-10.6	0.343E-04	7.0
78000	172.4	0.129E 01	-13.2	0.260E-04	-5.1
79000	188.1	0.107E 01	-13.6	0.190E-04	-15.3
80000	212.3	0.909E 00	-12.4	0.148E-04	-25.0
81000	228.4	0.782E 00	-9.2	0.119E-04	-28.2
82000	238.4	0.679E 00	-5.2	0.992E-05	-28.2
83000	231.5	0.590E 00	-1.0	0.887E-05	-22.7
84000	223.2	0.510E 00	2.8	0.795E-05	-16.7
85000	213.1	0.437E 00	6.1	0.715E-05	-10.0
85000	203.8	0.373E 00	8.9	0.638E-05	-3.4

**FIGURE 27**  
**KOUROU, 20 SEPTEMBER 1971, 0930 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
34934.3	237.2	0.1	31.4	0.3	83.9	1.0
38676.2	250.8	0.2	33.6	0.5	79.9	1.5
42310.0	265.4	0.2	8.1	0.7	38.8	6.0
45289.9	264.0	0.4	14.2	1.5	323.4	4.4
47629.1	269.8	0.4	5.9	1.9	354.7	11.5
49919.1	264.6	0.4	4.5	1.8	347.7	14.2
52160.0	261.3	0.4	2.4	1.4	229.7	45.4
54353.9	262.1	0.4	11.6	1.2	257.6	10.6
56521.5	253.1	0.4	20.9	1.4	277.8	5.8
58649.0	246.5	0.4	15.3	1.3	267.1	7.8
60733.4	244.6	0.3	26.8	1.1	266.2	3.8
62791.7	235.1	0.7	33.4	1.3	265.1	3.6
64813.5	228.2	1.0	21.4	1.5	272.9	6.4
66778.9	223.0	1.2	21.5	2.7	312.9	6.3
68721.4	210.3	1.3	15.5	3.5	3.7	8.4
70618.2	197.9	1.3	17.2	3.0	38.0	10.8
72448.6	185.5	1.2	12.2	2.5	96.7	18.2
74260.3	173.1	1.4	11.3	3.3	108.2	21.6
76035.9	167.2	1.8	18.4	4.5	48.0	17.7
77780.9	186.3	2.2	52.2	5.0	45.8	7.0
79490.3	229.1	3.4	46.1	5.0	75.3	10.8
81148.3	228.5	3.8	70.0	5.8	85.1	8.1
82771.0	213.4	3.1	65.2	5.1	75.9	7.8
84353.0	194.7	2.3	70.8	4.1	74.0	5.8
85902.1	181.8	1.7	70.0	3.3	76.4	4.9
87761.1	165.9	1.3	67.1	3.2	103.0	4.4
8926.5	152.3	1.8	46.5	5.7	119.6	8.0
92023.0	126.7	1.9	48.5	6.8	44.1	9.6

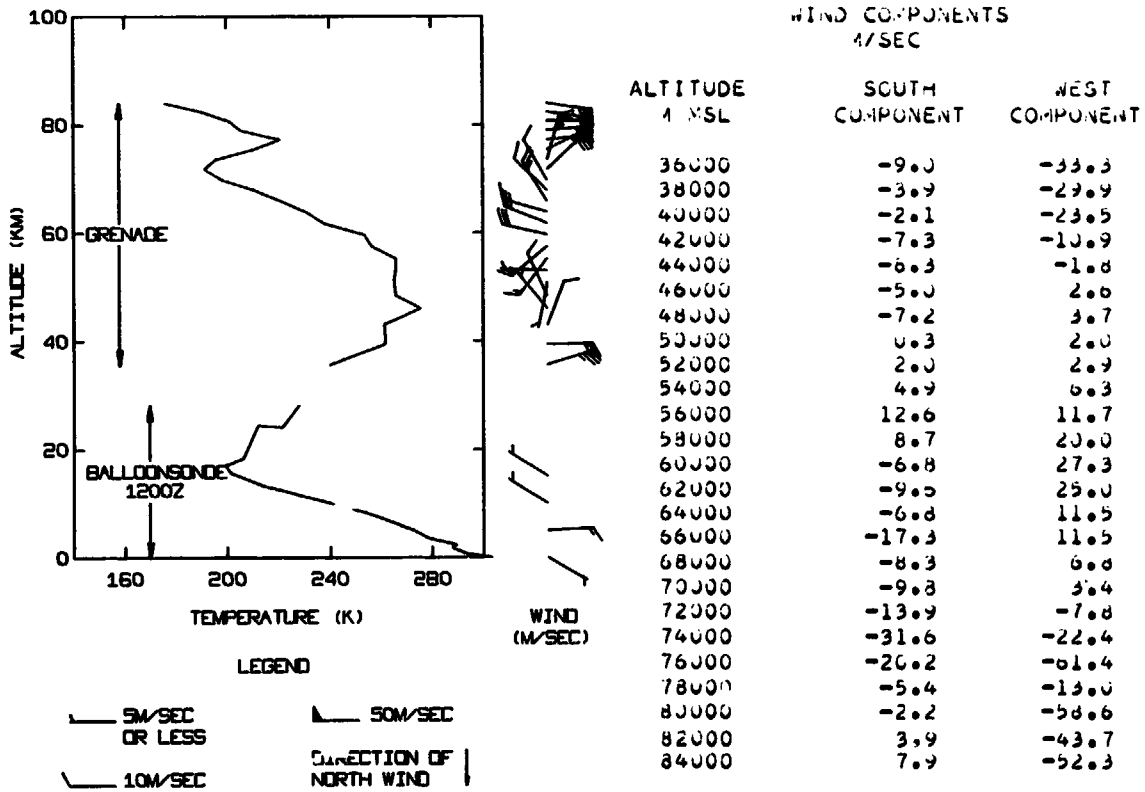
**WIND COMPONENTS  
M/SEC**



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
35000	237.5	0.599E 03	4.4	0.879E-02	3.9
36000	241.1	0.520E 03	4.4	0.751E-02	3.5
37000	244.7	0.452E 03	4.3	0.643E-02	3.2
38000	248.3	0.395E 03	4.8	0.554E-02	3.3
39000	252.1	0.345E 03	5.1	0.477E-02	3.2
40000	256.1	0.302E 03	5.2	0.411E-02	2.8
41000	260.2	0.265E 03	5.6	0.355E-02	2.7
42000	264.2	0.233E 03	6.2	0.308E-02	2.9
43000	265.1	0.205E 03	6.7	0.270E-02	4.1
44000	264.6	0.181E 03	7.0	0.238E-02	5.7
45000	264.2	0.159E 03	7.1	0.210E-02	7.1
46000	265.8	0.140E 03	7.1	0.184E-02	7.5
47000	268.3	0.124E 03	7.0	0.161E-02	7.6
48000	269.0	0.109E 03	7.1	0.141E-02	7.7
49000	266.7	0.967E 02	7.0	0.126E-02	8.6
50000	264.5	0.851E 02	6.7	0.112E-02	9.2
51000	263.0	0.750E 02	6.5	0.993E-03	9.6
52000	261.6	0.660E 02	6.1	0.879E-03	9.7
53000	261.6	0.580E 02	5.6	0.773E-03	8.8
54000	262.0	0.511E 02	5.4	0.679E-03	7.6
55000	259.5	0.449E 02	5.2	0.603E-03	7.6
56000	255.3	0.394E 02	4.8	0.538E-03	8.2
57000	251.6	0.345E 02	4.4	0.478E-03	8.5
58000	248.5	0.302E 02	3.8	0.424E-03	8.5
59000	246.1	0.264E 02	3.2	0.374E-03	8.1
60000	245.2	0.230E 02	2.7	0.327E-03	7.1
61000	243.3	0.201E 02	2.2	0.288E-03	6.5
62000	238.7	0.175E 02	1.6	0.255E-03	6.8
63000	234.4	0.152E 02	0.8	0.226E-03	6.3
64000	231.0	0.131E 02	0.2	0.198E-03	5.5
65000	227.7	0.113E 02	-0.5	0.174E-03	4.5
66000	225.0	0.983E 01	-1.0	0.152E-03	3.4
67000	221.5	0.846E 01	-1.6	0.133E-03	2.7
68000	215.0	0.727E 01	-2.2	0.117E-03	3.3
69000	208.5	0.620E 01	-3.2	0.103E-03	3.7
70000	202.0	0.528E 01	-4.2	0.911E-04	4.0
71000	195.3	0.445E 01	-5.6	0.796E-04	4.1
72000	188.5	0.375E 01	-7.3	0.693E-04	4.1
73000	181.7	0.313E 01	-9.1	0.601E-04	3.9
74000	174.9	0.260E 01	-11.4	0.517E-04	3.2
75000	170.6	0.214E 01	-13.8	0.438E-04	1.0
76000	167.3	0.176E 01	-16.3	0.366E-04	-1.9
77000	177.8	0.144E 01	-18.4	0.283E-04	-11.7
78000	191.8	0.120E 01	-18.7	0.219E-04	-20.1
79000	216.8	0.102E 01	-17.6	0.164E-04	-29.9
80000	228.9	0.885E 00	-14.5	0.134E-04	-32.5
81000	228.6	0.765E 00	-11.1	0.116E-04	-29.7
82000	220.6	0.662E 00	-7.6	0.104E-04	-24.3
83000	210.7	0.566E 00	-4.9	0.937E-05	-18.5
84000	198.9	0.482E 00	-2.7	0.844E-05	-11.7
85000	189.3	0.406E 00	-1.4	0.748E-05	-5.9
86000	181.0	0.339E 00	-1.0	0.653E-05	-1.2
87000	172.4	0.281E 00	-1.4	0.567E-05	3.1
88000	164.4	0.230E 00	-3.0	0.487E-05	6.5
89000	158.1	0.188E 00	-4.7	0.414E-05	8.7
90000	151.4	0.151E 00	-7.8	0.348E-05	9.9
91000	139.2	0.121E 00	-11.1	0.304E-05	17.2
92000	127.0	0.937E-01	-18.0	0.257E-05	20.3

**FIGURE 28**  
**KOUROU, 20 SEPTEMBER 1971, 1445 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
35633.6	240.1	0.1	35.3	0.3	73.6	1.1
39405.0	231.6	0.1	27.5	0.3	39.3	1.1
43071.8	231.1	0.1	11.0	0.4	21.8	1.9
46076.8	275.5	0.4	5.1	1.8	320.8	14.5
48434.5	255.5	0.5	9.5	2.5	335.3	5.2
50750.8	265.0	0.5	4.9	2.3	192.1	17.0
53022.8	265.8	0.5	4.5	1.5	272.0	34.6
55257.5	265.7	0.6	14.5	2.6	215.8	10.6
57451.1	255.4	0.9	22.9	2.2	229.9	7.4
59610.5	253.5	1.4	28.2	2.0	253.4	6.7
61729.7	237.8	2.1	31.2	3.6	292.6	8.7
63803.9	231.2	3.5	9.8	6.0	285.9	50.2
65844.2	221.1	3.4	25.2	9.5	328.8	13.3
67843.5	211.3	2.0	3.8	5.9	314.8	30.8
69805.9	193.4	1.3	12.3	4.0	330.3	11.6
71730.5	191.6	1.1	11.6	2.5	47.1	17.1
73604.5	196.0	2.5	35.4	7.1	10.0	9.2
75431.5	210.8	2.4	63.0	4.1	64.2	7.4
77223.9	220.7	1.3	73.9	2.0	85.3	3.0
78991.0	205.1	1.6	64.6	2.7	85.6	4.7
80737.8	200.8	2.3	54.4	4.1	89.1	8.1
82412.7	190.4	2.3	38.5	4.7	98.7	11.5
84028.9	175.9	1.1	53.1	2.4	98.6	4.5





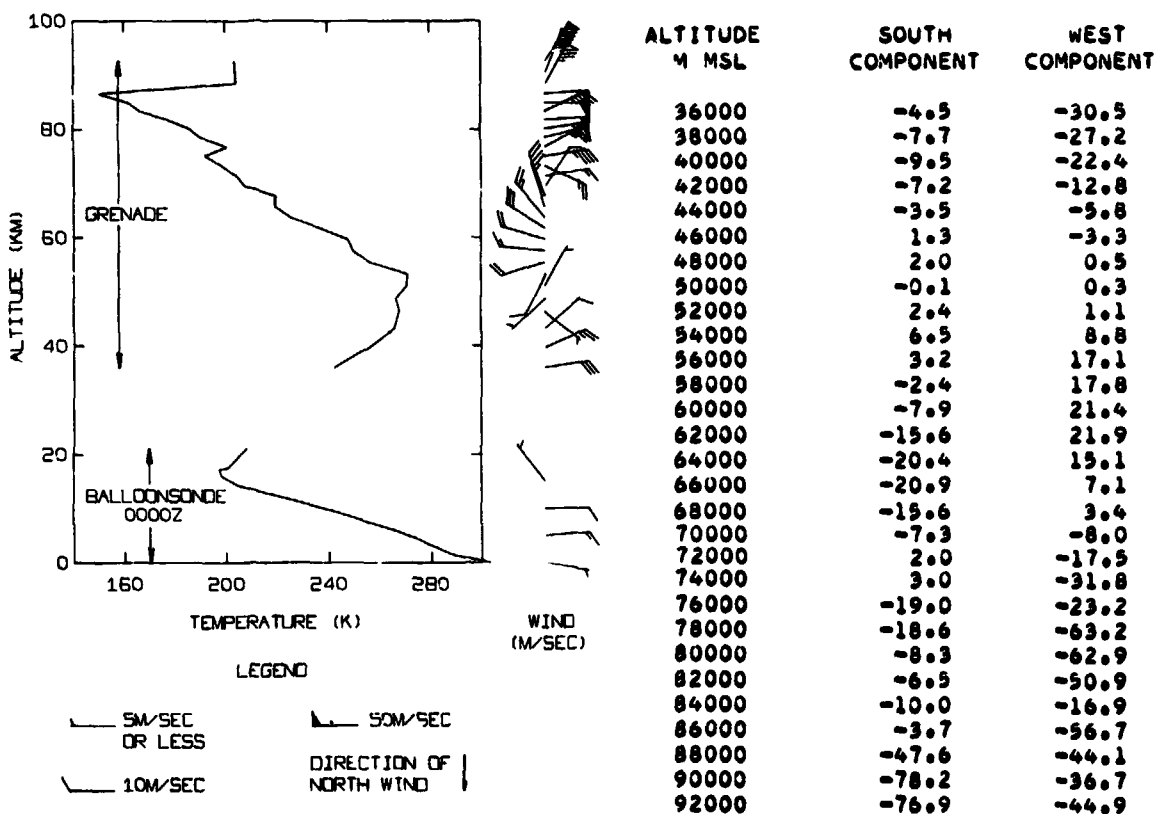
ALTITUDE M ASL	TEMPERATURE DEG K	PRESSURE NT/500 M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
36000	242.2	0.521E 03	4.5	0.749E-02	3.2
37000	247.9	0.453E 03	4.5	0.630E-02	2.0
38000	253.6	0.395E 03	4.9	0.543E-02	1.3
39000	259.3	0.343E 03	5.8	0.467E-02	1.0
40000	261.5	0.306E 03	6.6	0.407E-02	2.0
41000	261.4	0.269E 03	7.1	0.358E-02	3.7
42000	261.2	0.236E 03	7.5	0.315E-02	5.3
43000	261.1	0.208E 03	7.8	0.277E-02	6.7
44000	265.5	0.182E 03	7.9	0.239E-02	6.2
45000	270.3	0.160E 03	7.9	0.207E-02	5.4
46000	275.1	0.142E 03	8.5	0.180E-02	5.2
47000	271.5	0.126E 03	8.8	0.161E-02	8.0
48000	267.4	0.111E 03	8.8	0.144E-02	10.0
49000	265.5	0.981E 02	8.5	0.128E-02	10.0
50000	265.2	0.864E 02	8.3	0.113E-02	10.5
51000	265.1	0.761E 02	8.1	0.100E-02	10.3
52000	265.5	0.671E 02	7.8	0.880E-03	9.9
53000	265.3	0.591E 02	7.7	0.775E-03	9.1
54000	265.3	0.521E 02	7.6	0.683E-03	8.2
55000	265.7	0.460E 02	7.5	0.602E-03	7.5
56000	262.5	0.405E 02	7.6	0.538E-03	8.1
57000	258.3	0.356E 02	7.5	0.480E-03	8.9
58000	255.7	0.312E 02	7.3	0.426E-03	9.0
59000	254.4	0.274E 02	7.2	0.375E-03	8.6
60000	250.6	0.240E 02	7.1	0.334E-03	9.2
61000	243.2	0.210E 02	6.8	0.301E-03	11.4
62000	236.9	0.182E 02	5.9	0.268E-03	12.2
63000	233.7	0.158E 02	5.2	0.236E-03	11.2
64000	230.2	0.137E 02	4.4	0.207E-03	10.2
65000	225.3	0.118E 02	3.0	0.183E-03	10.1
66000	220.3	0.102E 02	2.7	0.161E-03	9.7
67000	215.4	0.877E 01	1.8	0.141E-03	9.3
68000	210.3	0.749E 01	0.6	0.124E-03	8.8
69000	203.7	0.638E 01	-0.3	0.109E-03	9.1
70000	197.7	0.539E 01	-2.1	0.950E-04	8.6
71000	194.2	0.455E 01	-3.7	0.817E-04	6.9
72000	192.2	0.383E 01	-5.4	0.694E-04	4.2
73000	194.6	0.322E 01	-6.6	0.577E-04	-0.2
74000	199.2	0.272E 01	-7.4	0.475E-04	-5.1
75000	207.3	0.230E 01	-7.2	0.387E-04	-10.5
76000	214.0	0.197E 01	-6.3	0.320E-04	-14.0
77000	219.4	0.169E 01	-4.5	0.268E-04	-16.5
78000	213.8	0.145E 01	-2.1	0.237E-04	-13.7
79000	205.1	0.123E 01	-0.3	0.210E-04	-10.5
80000	202.6	0.105E 01	1.6	0.181E-04	-9.3
81000	199.2	0.893E 00	3.6	0.156E-04	-6.0
82000	192.9	0.754E 00	5.2	0.136E-04	-1.4
83000	185.1	0.633E 00	6.2	0.119E-04	3.6
84000	176.2	0.526E 00	6.1	0.104E-04	8.7

## FIGURE 29

### KOUROU, 20 SEPTEMBER 1971, 1900 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
35958.5	242.3	0.1	30.9	0.4	81.7	1.2
39659.2	256.0	0.4	26.6	0.5	67.1	1.8
43257.3	266.2	0.5	8.6	0.5	50.2	5.1
46303.4	268.0	0.4	3.9	0.6	128.1	8.1
48699.8	266.5	0.4	2.9	0.4	227.6	12.6
50962.8	270.9	0.5	2.1	0.6	30.2	18.6
53188.4	271.4	0.9	8.1	1.3	206.4	8.9
55370.0	256.7	1.1	18.3	1.1	253.2	6.6
57516.5	249.6	1.0	16.7	1.3	275.0	7.1
59619.4	247.5	1.2	21.9	1.7	288.1	6.1
61681.0	237.0	1.4	27.8	2.3	302.5	5.1
63706.3	225.5	1.4	26.5	2.7	320.3	4.8
65689.5	219.3	1.3	22.9	2.9	343.3	4.6
67633.5	219.3	1.5	18.6	3.4	339.7	6.6
69542.1	207.2	1.5	10.6	3.1	33.5	16.4
71403.8	204.2	1.0	15.1	1.6	81.8	10.5
73226.2	198.6	0.8	25.1	1.6	114.3	4.5
75036.2	191.6	1.0	43.9	1.6	81.7	3.8
76781.4	200.6	1.2	67.2	1.8	63.5	2.6
78478.6	190.0	0.9	66.1	1.4	78.0	2.2
80159.5	185.8	1.6	64.6	2.5	83.1	4.1
81795.9	176.9	1.7	52.2	3.0	87.3	5.9
83384.5	166.1	1.6	45.6	3.1	66.2	6.3
84928.9	161.9	2.0	49.3	3.8	90.7	7.9
86553.5	150.5	1.4	62.3	2.8	86.4	5.0
88468.6	204.0	1.8	73.8	4.0	30.1	2.7
90563.4	203.8	2.2	92.0	5.0	23.1	2.6
92606.5	203.4	1.7	88.3	3.7	33.3	2.4

WIND COMPONENTS  
M/SEC

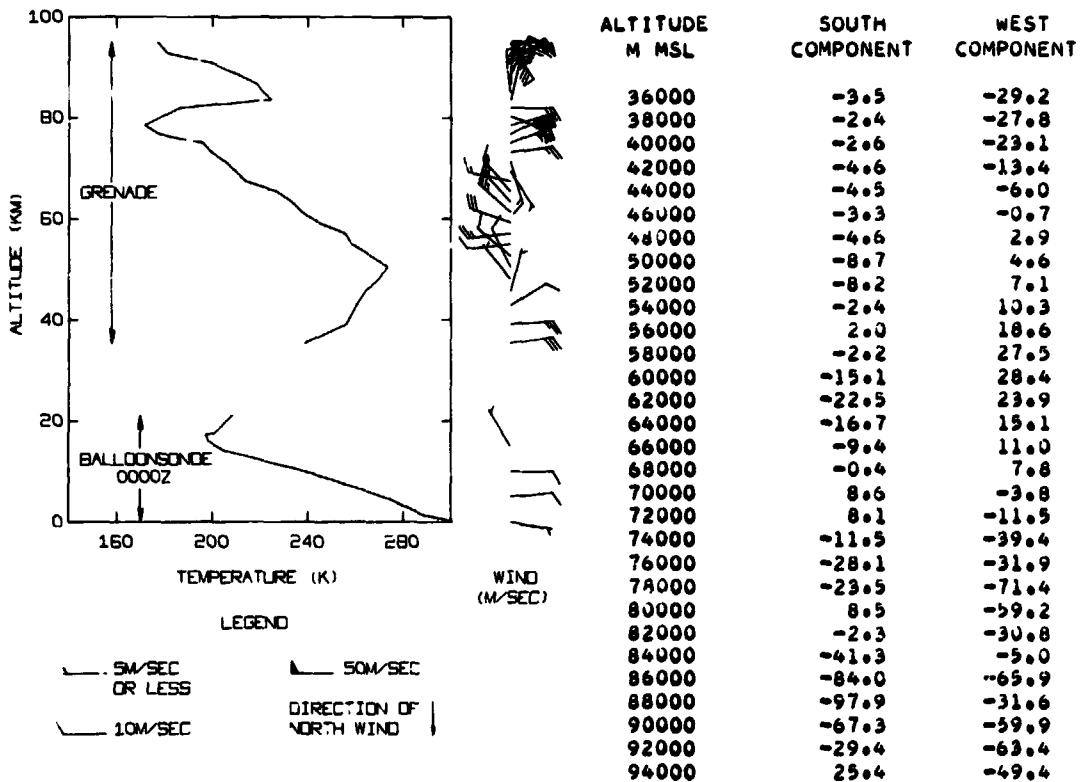


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
36000	242.4	0.511E 03	2.6	0.735E-02	1.3
37000	246.2	0.445E 03	2.8	0.630E-02	1.0
38000	249.9	0.388E 03	2.9	0.540E-02	0.7
39000	253.6	0.340E 03	3.4	0.467E-02	1.0
40000	257.0	0.298E 03	3.9	0.404E-02	1.1
41000	259.8	0.261E 03	4.1	0.350E-02	1.4
42000	262.6	0.230E 03	4.5	0.305E-02	1.8
43000	265.5	0.202E 03	5.0	0.266E-02	2.3
44000	266.6	0.178E 03	5.4	0.233E-02	3.3
45000	267.2	0.157E 03	5.6	0.205E-02	4.4
46000	267.8	0.138E 03	5.8	0.180E-02	5.4
47000	267.5	0.122E 03	5.7	0.159E-02	6.6
48000	266.9	0.108E 03	5.7	0.141E-02	7.1
49000	267.1	0.953E 02	5.5	0.124E-02	6.9
50000	269.0	0.840E 02	5.4	0.108E-02	6.0
51000	270.9	0.743E 02	5.4	0.955E-03	5.3
52000	271.1	0.656E 02	5.5	0.843E-03	5.3
53000	271.4	0.580E 02	5.6	0.744E-03	4.8
54000	265.9	0.512E 02	5.7	0.671E-03	6.4
55000	259.2	0.451E 02	5.5	0.606E-03	8.0
56000	254.6	0.395E 02	5.1	0.541E-03	8.8
57000	251.3	0.346E 02	4.6	0.480E-03	8.9
58000	249.1	0.303E 02	4.1	0.424E-03	8.4
59000	248.1	0.265E 02	3.6	0.372E-03	7.6
60000	245.6	0.231E 02	3.1	0.328E-03	7.4
61000	240.5	0.202E 02	2.6	0.292E-03	8.2
62000	235.2	0.175E 02	1.7	0.259E-03	8.5
63000	229.5	0.152E 02	0.8	0.230E-03	8.6
64000	224.6	0.131E 02	-0.2	0.203E-03	7.9
65000	221.4	0.112E 02	-1.3	0.177E-03	6.5
66000	219.3	0.970E 01	-2.4	0.154E-03	4.7
67000	219.3	0.833E 01	-3.2	0.132E-03	2.1
68000	216.9	0.715E 01	-3.8	0.114E-03	0.8
69000	210.6	0.612E 01	-4.5	0.101E-03	1.3
70000	206.4	0.521E 01	-5.5	0.880E-04	0.5
71000	204.9	0.443E 01	-6.3	0.754E-04	-1.3
72000	202.4	0.376E 01	-6.9	0.648E-04	-2.6
73000	199.3	0.319E 01	-7.6	0.557E-04	-3.6
74000	195.6	0.269E 01	-8.1	0.480E-04	-4.1
75000	191.8	0.227E 01	-8.8	0.412E-04	-4.8
76000	196.6	0.190E 01	-9.2	0.338E-04	-9.4
77000	199.2	0.161E 01	-8.7	0.282E-04	-11.8
78000	193.0	0.136E 01	-8.1	0.246E-04	-10.3
79000	188.7	0.114E 01	-7.7	0.211E-04	-9.8
80000	186.2	0.960E 00	-7.3	0.179E-04	-10.1
81000	181.2	0.803E 00	-6.8	0.154E-04	-7.1
82000	175.5	0.665E 00	-7.1	0.132E-04	-4.3
83000	168.7	0.549E 00	-7.8	0.113E-04	-1.4
84000	164.5	0.449E 00	-9.2	0.952E-05	-0.3
85000	161.4	0.366E 00	-11.0	0.791E-05	-0.4
86000	154.4	0.297E 00	-13.2	0.671E-05	1.4
87000	162.9	0.238E 00	-16.3	0.509E-05	-7.3
88000	190.9	0.198E 00	-16.5	0.361E-05	-21.0
89000	203.9	0.168E 00	-14.7	0.287E-05	-24.4
90000	203.9	0.143E 00	-12.8	0.244E-05	-22.7
91000	203.7	0.121E 00	-11.1	0.208E-05	-19.8
92000	203.5	0.103E 00	-9.5	0.177E-05	-17.0

**FIGURE 30**  
**KOUROU, 21 SEPTEMBER 1971, 0005 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
35474.5	239.0	0.1	29.8	0.2	82.6	0.8
39222.7	256.4	0.1	27.0	0.3	86.2	1.3
42870.9	260.6	0.1	10.6	0.4	58.9	3.5
45862.4	264.7	0.2	3.1	0.9	14.8	12.9
48225.3	270.4	0.2	5.7	0.9	321.1	8.0
50518.2	273.5	0.4	11.4	1.5	334.7	5.3
52763.8	266.3	0.3	11.0	1.9	310.5	9.0
54989.9	258.6	0.5	12.0	1.4	264.0	11.2
57170.3	255.8	1.3	26.6	1.8	263.6	6.3
59314.1	244.3	1.8	31.0	2.4	289.6	6.1
61418.3	237.2	1.6	36.6	2.4	312.4	4.1
63479.4	232.9	1.2	24.9	2.4	317.9	4.7
65501.5	226.8	1.4	15.4	3.0	319.4	9.0
67494.1	213.9	1.3	13.1	2.1	282.1	13.5
69448.3	209.4	1.1	7.3	2.8	145.9	16.2
71353.5	205.6	1.4	15.5	3.6	163.0	8.3
73217.3	199.4	1.2	24.1	2.0	82.4	8.2
75056.3	195.8	1.0	64.3	1.6	59.1	2.5
76850.3	177.6	0.9	76.4	1.7	64.3	2.1
78611.3	171.7	1.3	75.9	2.4	75.1	3.2
80327.8	179.5	1.6	60.1	3.7	109.4	4.5
82002.0	186.7	1.0	30.3	1.9	89.8	5.9
83631.0	224.8	1.1	35.4	2.5	13.3	3.0
85211.3	221.1	1.6	65.1	3.9	353.8	2.1
86771.2	218.4	1.5	103.7	3.7	3.0	1.4
88653.3	210.6	1.5	106.1	3.5	25.6	1.8
90827.4	199.9	1.6	84.9	3.2	53.9	3.2
92938.2	180.8	1.6	60.6	3.0	77.4	5.0
94968.3	177.0	3.0	72.9	10.1	146.1	5.4

**WIND COMPONENTS  
M/SEC**



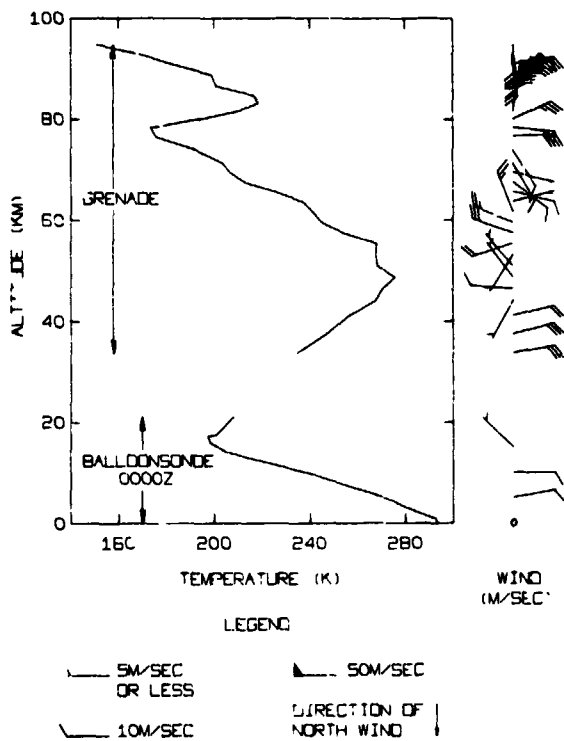
ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
36000	241.9	0.521E 03	4.5	0.752E-02	3.6
37000	246.1	0.492E 03	4.5	0.640E-02	2.7
38000	250.8	0.399E 03	4.9	0.549E-02	2.4
39000	255.4	0.347E 03	5.5	0.473E-02	2.2
40000	257.3	0.304E 03	6.0	0.412E-02	3.1
41000	258.5	0.266E 03	6.3	0.359E-02	4.1
42000	259.6	0.234E 03	6.6	0.314E-02	5.1
43000	260.8	0.206E 03	6.8	0.275E-02	5.9
44000	262.2	0.181E 03	6.9	0.240E-02	6.6
45000	263.5	0.159E 03	6.9	0.210E-02	7.2
46000	265.1	0.140E 03	6.9	0.184E-02	7.6
47000	267.4	0.123E 03	6.7	0.161E-02	7.6
48000	269.8	0.109E 03	6.8	0.141E-02	7.1
49000	271.5	0.965E 02	6.8	0.123E-02	6.4
50000	272.8	0.853E 02	6.9	0.108E-02	6.0
51000	272.0	0.754E 02	7.1	0.966E-03	6.6
52000	268.7	0.667E 02	7.1	0.864E-03	7.9
53000	265.5	0.588E 02	7.0	0.771E-03	8.6
54000	262.0	0.518E 02	6.9	0.689E-03	9.1
55000	258.6	0.455E 02	6.5	0.613E-03	9.3
56000	257.3	0.400E 02	6.2	0.541E-03	8.8
57000	256.0	0.351E 02	5.9	0.477E-03	8.2
58000	251.4	0.308E 02	5.7	0.426E-03	9.2
59000	246.0	0.269E 02	5.1	0.380E-03	10.1
60000	242.0	0.234E 02	4.5	0.337E-03	10.4
61000	238.6	0.204E 02	3.6	0.298E-03	10.2
62000	236.0	0.177E 02	2.8	0.261E-03	9.3
63000	233.9	0.153E 02	2.0	0.229E-03	7.7
64000	231.4	0.133E 02	1.3	0.200E-03	6.5
65000	228.3	0.115E 02	0.6	0.175E-03	5.4
66000	223.6	0.995E 01	0.1	0.155E-03	5.3
67000	217.1	0.855E 01	-0.7	0.137E-03	5.8
68000	212.7	0.731E 01	-1.7	0.119E-03	5.1
69000	210.4	0.625E 01	-2.6	0.103E-03	3.4
70000	208.3	0.533E 01	-3.4	0.891E-04	1.8
71000	206.3	0.453E 01	-4.1	0.766E-04	0.2
72000	203.5	0.386E 01	-4.6	0.660E-04	-0.7
73000	200.1	0.327E 01	-5.2	0.569E-04	-1.6
74000	197.9	0.276E 01	-5.7	0.487E-04	-2.8
75000	195.9	0.233E 01	-6.1	0.415E-04	-4.1
76000	186.2	0.197E 01	-6.3	0.368E-04	-1.3
77000	177.1	0.163E 01	-7.7	0.321E-04	0.1
78000	173.7	0.135E 01	-9.0	0.271E-04	-1.3
79000	173.4	0.111E 01	-10.3	0.223E-04	-4.6
80000	178.0	0.922E 00	-11.0	0.180E-04	-9.6
81000	182.4	0.766E 00	-11.0	0.146E-04	-11.8
82000	186.7	0.641E 00	-10.5	0.119E-04	-13.4
83000	210.0	0.539E 00	-9.5	0.894E-05	-22.2
84000	223.9	0.463E 00	-6.1	0.724E-05	-24.2
85000	221.6	0.401E 00	-2.7	0.630E-05	-20.7
86000	219.7	0.345E 00	0.6	0.547E-05	-17.3
87000	217.5	0.296E 00	3.9	0.475E-05	-13.6
88000	213.3	0.254E 00	7.0	0.414E-05	-9.3
89000	208.9	0.217E 00	9.9	0.362E-05	-4.9
90000	204.0	0.185E 00	12.6	0.316E-05	-0.2
91000	198.3	0.157E 00	14.6	0.275E-05	6.1
92000	189.3	0.132E 00	15.9	0.244E-05	14.3
93000	180.6	0.110E 00	15.2	0.213E-05	20.9
94000	178.8	0.920E-01	14.1	0.179E-05	22.9

**FIGURE 31**  
**KOUROU, 21 SEPTEMBER 1971, 0450 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
33742.8	234.8	0.2	29.7	0.5	80.9	1.6
37491.5	247.0	0.2	31.2	0.5	75.7	1.6
41140.0	256.9	0.3	19.3	0.6	77.1	3.3
44125.6	268.0	0.5	4.3	1.7	209.6	22.2
46466.3	271.0	0.7	10.1	1.7	273.9	14.9
48751.2	275.9	1.6	7.0	4.2	323.8	38.9
50996.2	268.3	1.0	6.5	3.5	320.2	24.6
53205.4	267.7	0.9	5.6	3.1	212.3	31.4
55376.5	268.3	1.8	20.2	2.5	252.3	11.4
57507.3	254.4	2.1	29.9	2.8	289.0	7.2
59592.3	245.2	1.4	24.1	2.1	292.2	6.5
61648.6	241.1	1.0	23.5	2.2	339.7	3.3
63660.5	237.1	1.1	3.0	1.4	75.7	44.6
65623.0	225.9	0.9	9.3	1.4	103.1	12.8
67558.2	212.6	0.8	10.7	1.7	176.5	8.8
69446.6	206.7	1.1	5.5	1.8	102.6	23.4
71292.7	203.8	1.3	14.9	3.3	149.7	8.6
73986.0	192.1	0.7	9.1	2.0	147.6	8.9
76628.9	175.4	1.6	31.7	3.0	87.3	7.4
78332.4	173.4	1.8	41.5	3.5	95.2	5.1
79996.6	193.8	2.3	35.8	3.7	66.4	3.8
81618.8	210.6	2.5	73.6	5.7	8.9	3.1
83193.6	218.7	2.7	122.3	5.8	11.5	2.0
84743.9	216.4	2.8	138.3	5.6	26.8	2.3
86609.8	200.7	1.7	124.4	3.3	40.9	1.9
88769.3	198.9	1.8	78.4	3.1	63.6	4.0
90902.9	182.8	1.9	39.4	3.3	80.2	9.2
92910.3	169.4	2.0	32.9	7.8	173.9	6.7
94792.7	150.9	2.0	69.7	9.7	173.2	3.2

WIND COMPONENTS  
M/SEC

ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
34000	-4.9	-29.4
36000	-6.4	-29.9
38000	-7.1	-28.4
40000	-5.3	-22.4
42000	-1.9	-12.8
44000	2.5	0.5
46000	0.1	8.0
48000	-4.0	5.1
50000	-5.3	4.2
52000	-0.6	3.6
54000	5.2	9.0
56000	1.1	21.8
58000	-9.1	26.4
60000	-12.3	19.1
62000	-16.5	6.3
64000	-1.2	-3.7
66000	3.0	-8.6
68000	4.8	-8.0
70000	5.3	-6.8
72000	11.4	-6.8
74000	7.3	-8.4
76000	0.7	-30.6
78000	2.3	-53.4
80000	-20.4	-33.7
82000	-83.5	-16.6
84000	-121.1	-104.7
86000	-103.0	-74.7
88000	-51.3	-76.2
90000	-15.4	-53.5
92000	14.8	-19.5
94000	33.8	-6.1

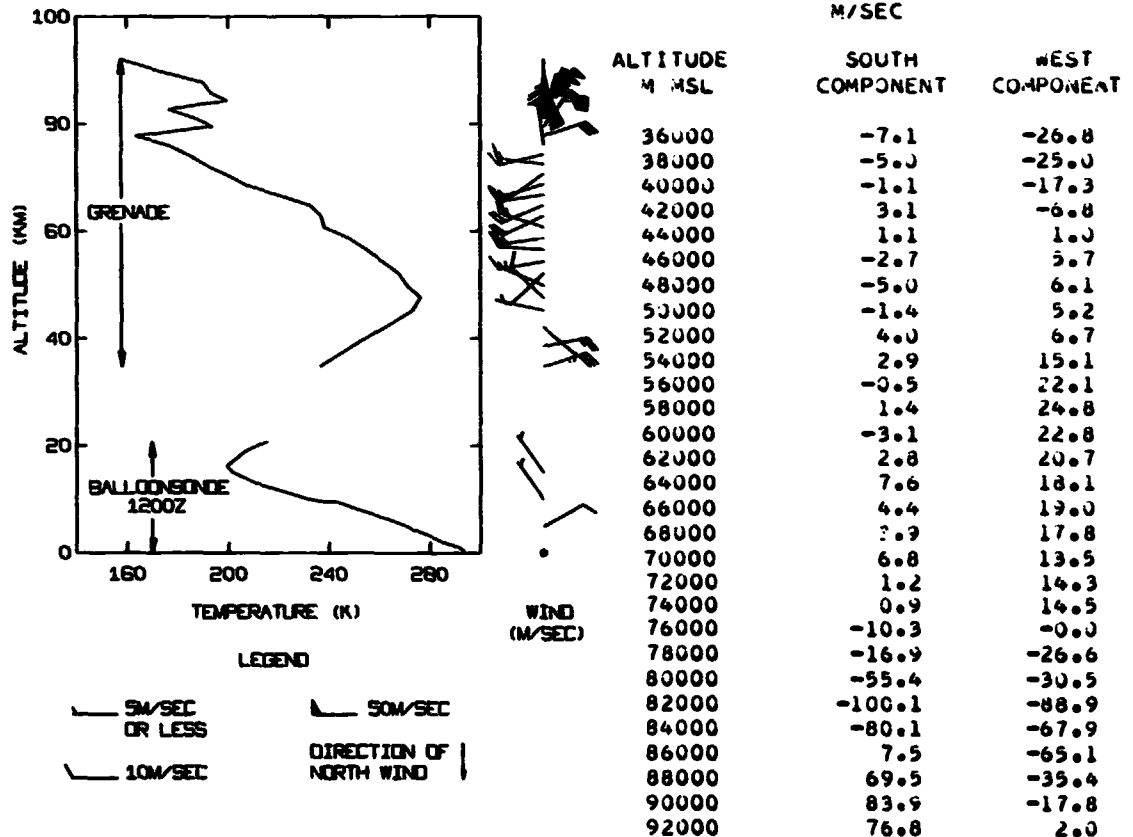


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SG M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	235.6	0.684E 03	3.2	0.201E-01	2.3
35000	238.9	0.593E 03	3.2	0.864E-02	2.1
36000	242.1	0.515E 03	3.3	0.741E-02	2.0
37000	245.4	0.449E 03	3.7	0.637E-02	2.3
38000	248.4	0.392E 03	4.0	0.550E-02	2.4
39000	251.1	0.342E 03	4.0	0.474E-02	2.6
40000	253.8	0.299E 03	4.3	0.411E-02	2.9
41000	256.5	0.262E 03	4.7	0.357E-02	3.3
42000	260.1	0.230E 03	4.8	0.308E-02	3.1
43000	263.8	0.202E 03	4.9	0.267E-02	2.8
44000	267.5	0.178E 03	5.3	0.232E-02	2.9
45000	269.1	0.157E 03	5.6	0.203E-02	3.7
46000	270.4	0.139E 03	5.9	0.179E-02	4.5
47000	272.2	0.122E 03	6.0	0.157E-02	5.0
48000	274.3	0.108E 03	6.2	0.138E-02	4.8
49000	275.0	0.962E 02	6.5	0.121E-02	4.8
50000	271.7	0.852E 02	6.8	0.109E-02	6.3
51000	268.3	0.751E 02	6.7	0.976E-03	7.6
52000	268.0	0.663E 02	6.6	0.862E-03	7.6
53000	267.8	0.585E 02	6.5	0.761E-03	7.2
54000	267.9	0.516E 02	6.5	0.671E-03	6.3
55000	268.2	0.456E 02	6.6	0.592E-03	5.6
56000	264.3	0.402E 02	6.9	0.530E-03	6.6
57000	257.7	0.354E 02	6.8	0.478E-03	8.4
58000	252.2	0.310E 02	6.5	0.428E-03	9.6
59000	247.8	0.271E 02	6.1	0.381E-03	10.3
60000	244.4	0.236E 02	5.5	0.337E-03	10.4
61000	242.4	0.206E 02	4.9	0.296E-03	9.8
62000	240.4	0.179E 02	4.2	0.260E-03	8.9
63000	238.4	0.156E 02	3.7	0.228E-03	7.5
64000	235.2	0.135E 02	3.3	0.201E-03	6.8
65000	229.5	0.117E 02	2.8	0.178E-03	7.2
66000	223.3	0.101E 02	2.2	0.158E-03	7.7
67000	216.5	0.873E 01	1.4	0.140E-03	8.4
68000	211.2	0.746E 01	0.2	0.123E-03	7.9
69000	208.1	0.636E 01	-0.7	0.106E-03	6.5
70000	205.8	0.542E 01	-1.7	0.917E-04	4.7
71000	204.2	0.460E 01	-2.6	0.785E-04	2.7
72000	200.7	0.391E 01	-3.3	0.679E-04	1.9
73000	196.4	0.329E 01	-4.5	0.584E-04	1.0
74000	192.0	0.277E 01	-5.6	0.502E-04	0.2
75000	185.7	0.233E 01	-6.3	0.437E-04	0.9
76000	179.4	0.195E 01	-7.1	0.379E-04	1.5
77000	175.0	0.161E 01	-8.8	0.321E-04	0.2
78000	173.8	0.133E 01	-10.2	0.267E-04	-2.6
79000	181.6	0.110E 01	-11.3	0.211E-04	-9.9
80000	193.9	0.925E 00	-10.7	0.166E-04	-2.6.7
81000	204.2	0.782E 00	-9.2	0.133E-04	-19.7
82000	212.6	0.668E 00	-6.8	0.109E-04	-20.8
83000	217.7	0.572E 00	-3.9	0.916E-05	-20.3
84000	217.5	0.492E 00	-0.7	0.787E-05	-17.6
85000	214.2	0.422E 00	2.3	0.686E-05	-13.7
86000	205.8	0.360E 00	4.9	0.609E-05	-7.9
87000	200.4	0.305E 00	6.9	0.530E-05	-3.5
88000	199.5	0.258E 00	8.9	0.451E-05	-1.3
89000	197.2	0.219E 00	10.8	0.386E-05	1.5
90000	189.6	0.184E 00	12.5	0.339E-05	7.1
91000	182.2	0.154E 00	12.6	0.295E-05	13.5
92000	175.5	0.128E 00	12.4	0.255E-05	19.5
93000	168.5	0.105E 00	10.3	0.218E-05	24.1
94000	158.7	0.868E-01	7.6	0.190E-05	30.5

**FIGURE 32**  
**KOUROU, 21 SEPTEMBER 1971, 0914 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED 4/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
34882.6	236.7	0.2	28.9	0.6	73.4	2.0
38625.8	249.9	0.3	25.0	0.7	79.7	2.7
42266.6	262.9	0.3	6.7	1.1	129.9	8.7
45256.6	273.5	0.5	5.6	1.5	282.5	21.1
47601.7	276.4	0.6	9.8	2.2	313.3	12.7
49881.1	271.1	0.7	5.4	2.3	293.4	28.4
52128.8	267.7	0.7	8.0	2.3	228.0	21.5
54346.6	261.0	0.7	17.2	2.2	261.2	12.0
56516.9	255.2	0.9	24.0	2.7	274.5	9.8
58651.8	248.1	0.9	25.5	2.9	262.6	10.7
60744.7	238.2	0.9	22.5	3.6	287.9	11.8
62791.9	237.0	0.8	22.3	3.0	245.7	12.6
64804.1	232.9	0.8	17.8	2.9	248.2	16.0
66777.8	219.3	0.6	20.9	2.4	261.8	10.6
68717.9	206.3	0.6	15.6	2.4	254.2	13.4
70619.7	199.8	0.6	14.7	2.7	235.1	15.1
72473.6	193.4	0.7	15.4	2.0	277.7	11.0
74282.0	184.1	1.1	15.9	2.3	257.5	14.0
76056.5	176.2	1.0	13.7	3.6	353.7	9.2
77805.6	163.7	0.8	29.3	1.8	72.4	6.0
79511.8	193.8	1.2	57.1	3.0	37.2	3.3
81174.7	196.3	1.7	82.8	5.0	16.3	2.8
82773.2	176.7	2.3	134.3	6.8	25.9	2.8
84354.4	199.7	2.6	101.0	6.2	45.3	4.5
85927.2	192.8	1.8	70.8	4.4	96.9	5.0
87795.8	189.9	1.3	80.7	5.1	154.1	2.0
89568.1	172.4	2.1	88.7	8.5	167.7	2.9
92073.2	157.9	3.1	76.5	13.1	182.1	5.5

**WIND COMPONENTS  
M/SEC**





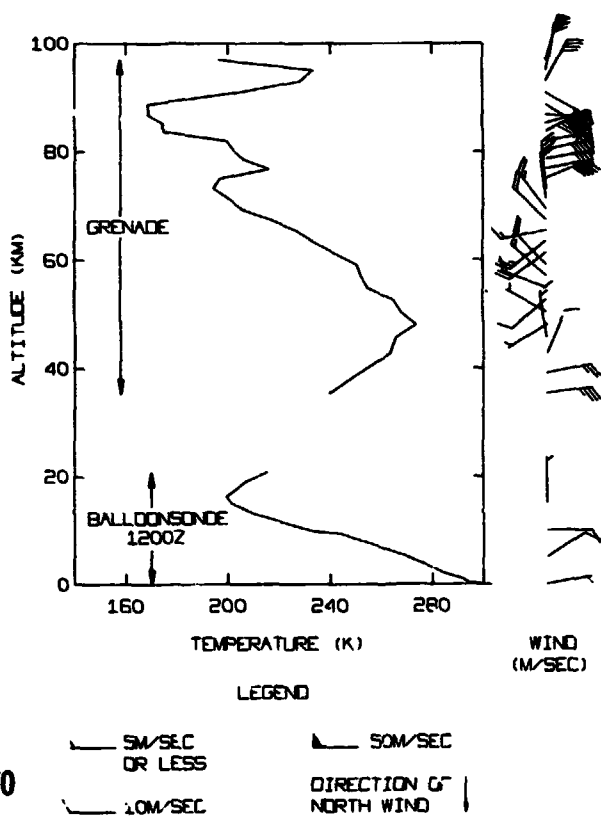
ALTITUDE M ASL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
35000	237.1	0.599E 03	4.3	0.880E-02	4.0
36000	240.7	0.520E 03	4.3	0.752E-02	3.6
37000	244.2	0.451E 03	4.3	0.644E-02	3.3
38000	247.7	0.394E 03	4.7	0.555E-02	3.4
39000	251.3	0.345E 03	4.9	0.478E-02	3.4
40000	254.8	0.301E 03	5.0	0.412E-02	3.1
41000	258.4	0.264E 03	5.3	0.356E-02	3.2
42000	262.0	0.232E 03	5.8	0.309E-02	3.3
43000	265.5	0.204E 03	6.1	0.268E-02	3.4
44000	269.0	0.180E 03	6.3	0.233E-02	3.3
45000	272.6	0.159E 03	6.9	0.203E-02	3.0
46000	274.4	0.141E 03	7.3	0.173E-02	4.4
47000	275.7	0.124E 03	7.6	0.157E-02	5.3
48000	275.5	0.110E 03	8.0	0.139E-02	6.1
49000	273.2	0.978E 02	8.3	0.124E-02	7.2
50000	270.9	0.864E 02	8.3	0.111E-02	8.2
51000	269.4	0.754E 02	8.4	0.987E-03	8.9
52000	267.9	0.674E 02	8.3	0.876E-03	9.4
53000	265.1	0.574E 02	8.2	0.781E-03	10.0
54000	262.1	0.523E 02	7.9	0.695E-03	10.2
55000	259.3	0.450E 02	7.7	0.618E-03	10.3
56000	256.6	0.404E 02	7.4	0.549E-03	10.3
57000	253.6	0.354E 02	7.0	0.487E-03	10.4
58000	250.3	0.310E 02	6.6	0.432E-03	10.6
59000	246.4	0.271E 02	6.1	0.383E-03	10.9
60000	241.7	0.236E 02	5.4	0.341E-03	11.5
61000	238.1	0.205E 02	4.5	0.301E-03	11.4
62000	237.5	0.178E 02	3.7	0.262E-03	9.6
63000	236.6	0.155E 02	3.0	0.228E-03	7.6
64000	234.5	0.134E 02	2.6	0.200E-03	6.3
65000	231.5	0.116E 02	2.1	0.175E-03	5.5
66000	224.6	0.101E 02	1.7	0.156E-03	6.6
67000	217.8	0.868E 01	0.8	0.138E-03	7.1
68000	211.1	0.744E 01	-0.0	0.122E-03	7.7
69000	205.2	0.633E 01	-1.3	0.107E-03	7.5
70000	201.2	0.537E 01	-2.5	0.930E-04	6.3
71000	197.1	0.454E 01	-3.9	0.803E-04	5.1
72000	192.5	0.383E 01	-5.3	0.693E-04	4.1
73000	188.5	0.321E 01	-6.7	0.594E-04	2.7
74000	185.1	0.269E 01	-8.3	0.506E-04	1.0
75000	180.9	0.224E 01	-9.7	0.432E-04	-0.1
76000	176.5	0.186E 01	-11.4	0.367E-04	-1.5
77000	169.4	0.154E 01	-13.0	0.316E-04	-1.2
78000	167.1	0.125E 01	-15.4	0.262E-04	-4.6
79000	194.9	0.103E 01	-16.5	0.195E-04	-16.7
80000	191.6	0.874E 00	-15.6	0.158E-04	-20.4
81000	187.1	0.733E 00	-14.9	0.136E-04	-17.8
82000	181.3	0.613E 00	-14.3	0.117E-04	-14.6
83000	180.0	0.508E 00	-14.6	0.984E-05	-14.4
84000	194.5	0.425E 00	-14.1	0.762E-05	-20.2
85000	196.8	0.360E 00	-12.5	0.638E-05	-19.7
86000	192.7	0.303E 00	-11.4	0.549E-05	-16.9
87000	191.1	0.255E 00	-10.3	0.465E-05	-15.3
88000	188.2	0.214E 00	-9.5	0.397E-05	-13.1
89000	180.2	0.180E 00	-8.8	0.348E-05	-8.6
90000	172.2	0.148E 00	-9.5	0.300E-05	-5.1
91000	165.3	0.122E 00	-10.4	0.258E-05	-0.3
92000	158.4	0.995E-01	-13.0	0.218E-05	2.4

**FIGURE 33**  
**KOUROU, 21 SEPTEMBER 1971, 1400 GMT.**

ALTITUDE M ASL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
35303.8	239.6	0.1	32.7	0.4	83.0	1.2
39064.9	251.4	0.2	26.1	0.5	79.7	2.1
42725.0	263.6	0.2	7.8	0.9	24.1	0.0
45717.5	265.9	0.6	12.9	1.0	352.6	3.9
48066.5	273.6	0.7	4.3	1.2	294.5	25.2
50372.9	267.9	0.6	4.9	2.1	299.0	26.3
52643.0	255.0	0.6	3.1	1.3	230.2	10.2
54871.3	254.4	0.4	14.3	1.4	269.6	7.9
57056.0	251.9	0.4	17.1	1.7	311.5	5.3
59200.8	230.4	1.0	14.2	2.2	310.0	0.0
61309.6	241.5	1.5	17.6	2.2	234.1	9.7
63380.6	233.6	1.4	23.6	2.3	232.1	0.3
65427.4	220.3	1.2	13.7	1.6	258.6	11.0
67417.7	217.1	1.0	13.9	2.2	313.7	5.9
69394.7	205.3	0.8	23.2	1.9	322.8	3.7
71327.3	200.2	1.3	17.8	3.4	353.2	6.8
73235.0	194.3	1.4	35.2	4.0	354.2	3.9
75077.7	197.0	1.8	43.0	3.1	68.8	7.1
76844.4	216.0	3.2	72.2	4.8	80.8	6.7
78623.7	205.7	3.3	70.7	5.1	80.7	7.3
80362.4	201.9	2.7	77.6	4.3	78.7	5.0
82048.4	199.1	2.7	53.0	4.4	81.9	7.0
83694.1	174.5	2.5	137.9	4.0	82.5	3.3
85298.4	174.5	2.5	81.7	4.7	75.1	0.0
86966.2	159.8	2.1	74.7	4.5	95.2	0.0
88700.7	158.5	1.0	66.9	2.9	123.2	2.5
90553.5	203.5	1.4	38.8	2.8	120.1	5.1
93075.9	223.6	3.2	41.3	6.8	29.3	8.3
95110.3	233.5	3.3	29.2	7.6	11.3	10.4
97049.1	196.4	1.7	65.3	4.6	15.8	3.1

WIND COMPONENTS  
M/SEC

ALTITUDE M ASL	SOUTH COMPONENT	WEST COMPONENT
36000	-4.0	-31.2
38000	-4.4	-27.6
40000	-5.2	-19.9
42000	-6.6	-7.7
44000	-9.5	-1.1
46000	-9.9	1.7
48000	-0.0	3.4
50000	-1.1	4.2
52000	2.7	5.7
54000	-0.8	10.6
56000	-8.2	13.1
58000	-12.0	12.8
60000	-4.0	13.4
62000	12.1	10.5
64000	11.9	18.5
66000	-1.9	13.7
68000	-14.4	13.8
70000	-18.1	10.0
72000	-24.0	2.8
74000	-26.7	-14.9
76000	-13.4	-19.0
78000	-11.4	-70.5
80000	-13.7	-73.3
82000	-16.9	-69.4
84000	-48.2	-106.1
86000	-8.7	-22.8
88000	24.4	-63.3
90000	27.0	-43.3
92000	-7.8	-27.0
94000	-32.6	-13.6
96000	-44.4	-11.3

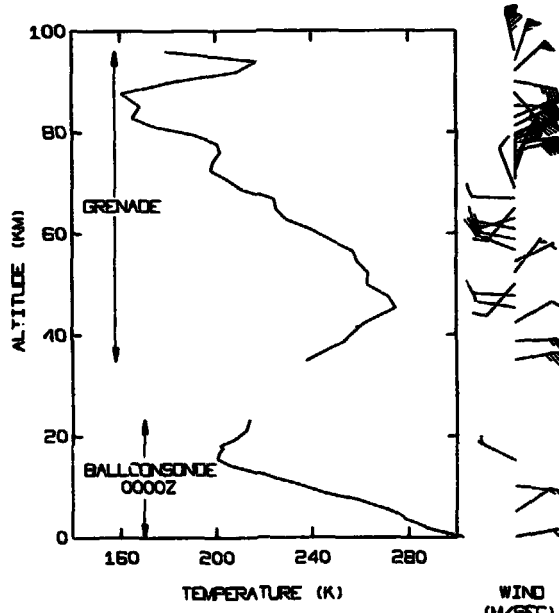


ALTITUDE M ASL	TEMPERATURE DEG C	PRESSURE NT/SQ Y	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
36000	241.8	0.521E 03	4.6	0.751E-02	3.3
37000	245.0	0.453E 03	4.6	0.644E-02	3.3
38000	248.1	0.395E 03	5.0	0.555E-02	3.3
39000	251.2	0.346E 03	5.3	0.480E-02	3.7
40000	254.6	0.302E 03	5.5	0.414E-02	3.7
41000	257.9	0.265E 03	5.6	0.358E-02	3.6
42000	261.2	0.233E 03	6.1	0.311E-02	3.9
43000	263.8	0.205E 03	6.4	0.271E-02	4.3
44000	264.6	0.180E 03	6.7	0.238E-02	5.4
45000	265.3	0.159E 03	6.8	0.209E-02	6.3
46000	266.9	0.140E 03	6.9	0.183E-02	6.9
47000	270.1	0.123E 03	6.8	0.159E-02	6.0
48000	273.4	0.109E 03	7.0	0.139E-02	5.9
49000	271.3	0.943E 02	7.2	0.124E-02	6.9
50000	268.9	0.859E 02	7.2	0.110E-02	7.9
51000	267.1	0.754E 02	7.1	0.954E-03	8.5
52000	265.7	0.665E 02	6.9	0.871E-03	8.8
53000	263.3	0.588E 02	6.7	0.779E-03	9.2
54000	258.3	0.510E 02	6.4	0.695E-03	10.1
55000	254.1	0.452E 02	5.8	0.619E-03	10.5
56000	253.1	0.395E 02	5.3	0.545E-03	9.7
57000	251.3	0.347E 02	4.8	0.480E-03	8.8
58000	251.2	0.304E 02	4.3	0.421E-03	7.8
59000	250.3	0.266E 02	4.0	0.370E-03	6.9
60000	247.0	0.232E 02	3.7	0.328E-03	7.3
61000	242.3	0.203E 02	3.1	0.291E-03	7.7
62000	238.9	0.176E 02	2.5	0.257E-03	7.7
63000	235.0	0.153E 02	1.8	0.227E-03	7.0
64000	231.5	0.133E 02	1.2	0.200E-03	6.2
65000	226.0	0.115E 02	0.5	0.175E-03	5.3
66000	224.0	0.993E 01	-0.0	0.154E-03	4.9
67000	219.2	0.854E 01	-0.8	0.135E-03	4.7
68000	213.7	0.732E 01	-1.3	0.119E-03	4.7
69000	207.7	0.625E 01	-2.6	0.104E-03	4.8
70000	203.7	0.531E 01	-3.7	0.908E-04	3.8
71000	201.1	0.450E 01	-4.8	0.780E-04	2.1
72000	198.1	0.381E 01	-5.7	0.670E-04	0.7
73000	195.3	0.322E 01	-6.7	0.575E-04	-0.6
74000	195.4	0.271E 01	-7.6	0.483E-04	-3.3
75000	196.9	0.229E 01	-8.0	0.405E-04	-6.3
76000	206.9	0.193E 01	-8.0	0.325E-04	-12.7
77000	215.1	0.166E 01	-6.3	0.268E-04	-16.2
78000	209.3	0.142E 01	-4.5	0.236E-04	-14.0
79000	204.9	0.120E 01	-2.8	0.205E-04	-12.5
80000	202.7	0.102E 01	-0.9	0.176E-04	-11.7
81000	200.9	0.871E 00	1.0	0.151E-04	-9.1
82000	199.2	0.737E 00	2.9	0.128E-04	-6.0
83000	184.9	0.622E 00	4.4	0.117E-04	2.0
84000	174.5	0.514E 00	3.8	0.102E-04	7.4
85000	174.5	0.425E 00	3.2	0.849E-05	6.8
86000	172.0	0.352E 00	2.6	0.713E-05	7.8
87000	168.8	0.289E 00	1.4	0.597E-05	8.5
88000	168.6	0.237E 00	0.1	0.491E-05	7.3
89000	172.3	0.195E 00	-1.0	0.394E-05	3.0
90000	188.3	0.161E 00	-1.9	0.298E-05	-5.9
91000	204.1	0.137E 00	0.0	0.233E-05	-9.9
92000	215.9	0.116E 00	1.7	0.187E-05	-12.0
93000	227.7	0.100E 00	4.9	0.154E-05	-12.5
94000	230.8	0.871E-01	8.0	0.131E-05	-9.8
95000	233.2	0.756E-01	11.2	0.112E-05	-6.7
96000	216.5	0.656E-01	14.2	0.105E-05	4.8
97000	197.3	0.556E-01	14.2	0.981E-06	16.0

**FIGURE 34**  
**KOUROU, 21 SEPTEMBER 1971, 1840 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
34914.3	237.9	0.3	34.7	0.6	79.9	1.8
38654.1	253.5	0.3	24.7	0.8	87.1	3.0
42291.1	261.8	0.4	7.9	0.9	60.2	10.5
45273.3	274.7	0.6	2.0	1.5	278.5	59.6
47614.1	271.7	0.5	11.5	1.3	273.2	9.9
49998.9	263.0	0.3	7.5	1.2	221.8	10.3
52147.5	263.4	0.2	4.6	0.8	37.4	11.1
54352.5	259.0	0.3	1.8	1.0	64.8	47.6
56515.4	256.9	0.6	12.9	1.2	291.6	6.8
53646.2	247.8	0.7	22.7	0.9	281.0	3.3
60733.6	240.0	0.6	15.2	0.8	281.1	4.8
62781.3	229.3	0.5	23.8	0.7	254.9	2.8
64789.3	229.4	0.6	13.8	1.1	220.8	5.0
66758.7	224.4	0.7	7.6	1.0	272.2	12.2
68686.2	211.3	0.8	10.7	2.0	339.0	7.0
70575.3	205.0	1.4	20.5	3.2	0.7	6.0
72428.0	198.0	1.6	44.2	3.6	18.8	3.5
74242.0	199.2	1.8	53.8	4.1	26.3	4.0
76016.5	202.0	2.5	70.2	3.9	75.4	5.6
77754.4	200.4	3.0	68.1	4.9	84.0	7.1
79457.6	191.0	2.8	77.5	4.6	68.8	5.9
81114.2	175.1	2.4	79.4	4.6	64.2	5.5
82731.6	165.3	2.0	71.0	4.1	66.7	5.6
85069.7	168.5	1.0	60.3	2.1	92.1	3.2
87711.5	160.7	1.2	44.1	4.2	139.6	4.2
89884.3	181.2	1.6	46.0	3.2	100.5	6.2
91981.1	209.3	2.2	47.7	4.3	47.0	6.7
94024.2	217.3	3.0	55.4	7.1	19.1	5.6
95956.9	179.0	4.5	84.3	15.5	349.2	5.3

WIND COMPONENTS  
M/SEC



ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
36000	-4.6	-31.4
38000	-2.1	-26.3
40000	-2.2	-18.1
42000	-3.4	-8.5
44000	-1.8	-1.7
46000	-0.4	5.0
48000	0.6	9.8
50000	3.8	4.5
52000	-2.1	-1.6
54000	-1.5	-1.2
56000	-3.7	8.6
58000	-4.4	18.9
60000	-3.3	17.6
62000	2.6	19.7
64000	8.7	14.6
66000	3.8	8.2
68000	-6.5	5.2
70000	-17.0	0.7
72000	-36.2	-10.8
74000	-44.4	-25.4
76000	-20.6	-61.5
78000	-12.6	-68.8
80000	-29.7	-71.9
82000	-30.7	-38.0
84000	-11.5	-62.5
86000	13.3	-49.1
88000	27.3	-33.7
90000	4.0	-2.0
92000	-30.0	-33.7
94000	-53.0	-10.0

LEGEND

— 5M/SEC OR LESS      — 50M/SEC

— 10M/SEC              DIRECTION OF NORTH WIND

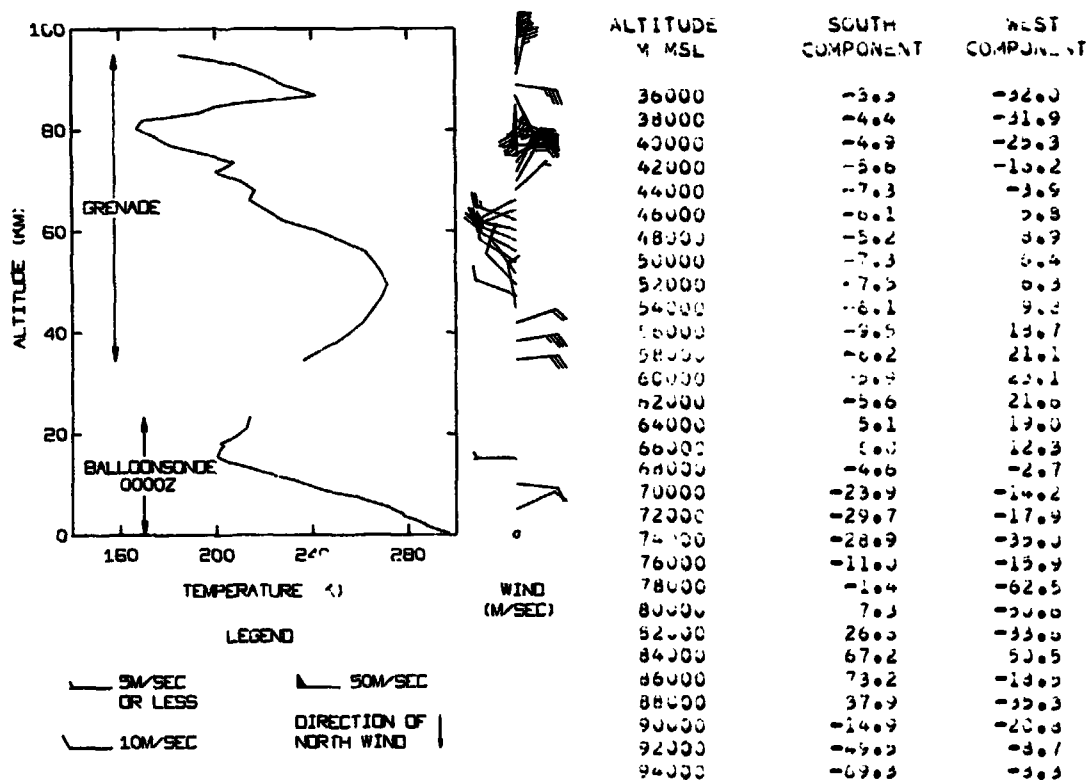
ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
35000	238.2	0.600E 03	4.4	0.877E-02	3.6
36000	242.4	0.520E 03	4.5	0.748E-02	3.1
37000	246.6	0.452E 03	4.5	0.639E-02	2.5
38000	250.8	0.396E 03	5.1	0.550E-02	2.6
39000	254.3	0.347E 03	5.6	0.475E-02	2.0
40000	256.6	0.304E 03	5.9	0.412E-02	3.3
41000	258.8	0.266E 03	6.3	0.359E-02	3.9
42000	261.1	0.234E 03	6.7	0.313E-02	4.5
43000	264.8	0.206E 03	6.9	0.271E-02	4.4
44000	269.2	0.181E 03	7.1	0.234E-02	4.0
45000	273.5	0.160E 03	7.7	0.204E-02	4.0
46000	273.7	0.142E 03	8.2	0.180E-02	5.5
47000	272.5	0.125E 03	8.4	0.160E-02	7.3
48000	270.2	0.111E 03	8.5	0.143E-02	8.7
49000	266.4	0.980E 02	8.5	0.128E-02	10.2
50000	263.0	0.863E 02	8.2	0.114E-02	11.3
51000	263.2	0.760E 02	7.8	0.100E-02	10.9
52000	263.3	0.669E 02	7.5	0.885E-03	10.3
53000	261.7	0.589E 02	7.2	0.784E-03	10.4
54000	259.7	0.518E 02	6.8	0.694E-03	10.0
55000	258.4	0.455E 02	6.4	0.613E-03	9.4
56000	257.4	0.399E 02	6.1	0.540E-03	8.7
57000	254.9	0.350E 02	5.9	0.479E-03	8.7
58000	250.6	0.307E 02	5.5	0.427E-03	9.3
59000	246.5	0.268E 02	5.0	0.379E-03	9.7
60000	242.7	0.234E 02	4.4	0.336E-03	9.9
61000	238.6	0.204E 02	3.6	0.297E-03	10.1
62000	233.4	0.177E 02	2.7	0.264E-03	10.5
63000	228.9	0.153E 02	1.5	0.233E-03	9.7
64000	227.0	0.132E 02	0.6	0.203E-03	7.8
65000	225.3	0.114E 02	-0.2	0.176E-03	5.8
66000	224.8	0.984E 01	-0.9	0.152E-03	3.6
67000	222.8	0.848E 01	-1.4	0.132E-03	2.3
68000	216.0	0.729E 01	-2.0	0.117E-03	3.1
69000	210.3	0.623E 01	-2.9	0.103E-03	3.2
70000	206.9	0.531E 01	-3.7	0.894E-04	2.1
71000	203.4	0.451E 01	-4.6	0.773E-04	1.1
72000	199.6	0.382E 01	-5.4	0.667E-04	0.2
73000	198.3	0.323E 01	-6.3	0.568E-04	-1.8
74000	199.0	0.273E 01	-6.8	0.478E-04	-4.5
75000	200.4	0.231E 01	-7.0	0.402E-04	-7.1
76000	201.9	0.196E 01	-6.7	0.338E-04	-9.3
77000	201.1	0.166E 01	-6.0	0.288E-04	-10.1
78000	199.0	0.141E 01	-5.2	0.246E-04	-10.2
79000	193.5	0.119E 01	-4.2	0.214E-04	-8.7
80000	185.8	0.100E 01	-3.4	0.187E-04	-6.1
81000	176.2	0.832E 00	-3.4	0.164E-04	-1.0
82000	169.8	0.687E 00	-4.0	0.141E-04	2.1
83000	165.7	0.562E 00	-5.6	0.118E-04	2.8
84000	167.0	0.461E 00	-6.9	0.961E-05	0.5
85000	168.4	0.378E 00	-8.1	0.783E-05	-1.4
86000	165.7	0.311E 00	-9.2	0.653E-05	-1.1
87000	162.8	0.254E 00	-10.7	0.544E-05	-1.0
88000	163.4	0.207E 00	-12.7	0.441E-05	-3.5
89000	172.9	0.169E 00	-14.2	0.341E-05	-10.4
90000	182.7	0.141E 00	-14.1	0.268E-05	-15.1
91000	196.1	0.117E 00	-14.1	0.208E-05	-19.5
92000	209.3	0.100E 00	-12.2	0.167E-05	-21.7
93000	213.3	0.857E-01	-10.6	0.140E-05	-20.5
94000	217.2	0.736E-01	-8.6	0.118E-05	-19.0
95000	198.0	0.632E-01	-6.9	0.111E-05	-8.0

## FIGURE 35

### KOUROU, 21 SEPTEMBER 1971, 2340 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
34587.6	236.5	0.1	31.9	0.3	85.2	1.0
38299.6	251.1	0.2	32.9	0.5	81.9	1.5
41901.3	261.5	0.3	18.0	0.7	72.6	3.9
44835.3	266.3	0.5	8.3	1.9	350.2	3.2
47151.2	269.6	0.4	11.1	1.3	291.8	8.1
49412.3	271.6	0.3	9.7	1.3	317.1	6.0
51629.8	269.3	0.3	10.1	1.3	324.5	5.0
53816.3	266.2	0.4	9.5	1.2	301.7	10.2
55963.3	262.4	0.4	22.4	1.4	297.7	4.0
58058.2	252.6	0.8	22.5	1.4	291.6	4.0
60129.1	241.7	1.1	24.4	1.6	282.4	5.5
62156.3	223.2	1.1	22.5	1.8	288.8	5.9
64151.0	221.3	1.3	20.7	2.0	248.2	8.5
66099.1	214.3	1.3	14.8	2.1	241.8	12.3
67999.5	215.6	1.0	4.3	1.3	47.5	29.9
69874.7	210.5	1.0	30.0	2.2	31.1	4.0
71703.5	200.1	1.5	32.5	3.5	27.8	5.7
73485.4	207.8	2.0	43.1	4.0	33.4	5.9
75239.7	196.2	1.9	55.7	3.1	69.7	5.4
76961.4	181.5	2.2	62.1	4.0	89.6	6.1
78649.7	174.9	2.3	63.3	4.3	87.6	6.6
80288.6	167.4	1.8	48.2	4.0	101.9	6.9
81830.4	159.9	1.9	43.5	4.8	112.6	7.7
83438.2	193.4	3.0	69.9	9.0	177.2	4.2
84964.4	202.3	3.1	67.4	8.7	184.2	4.4
86813.4	242.1	2.5	87.0	5.7	154.5	2.3
88951.7	228.7	2.9	34.1	4.3	98.8	11.0
91020.4	219.9	2.7	35.4	5.1	13.3	7.1
93013.5	208.0	2.5	65.7	6.0	8.1	3.6
94910.4	184.9	2.5	73.7	6.8	5.8	3.6

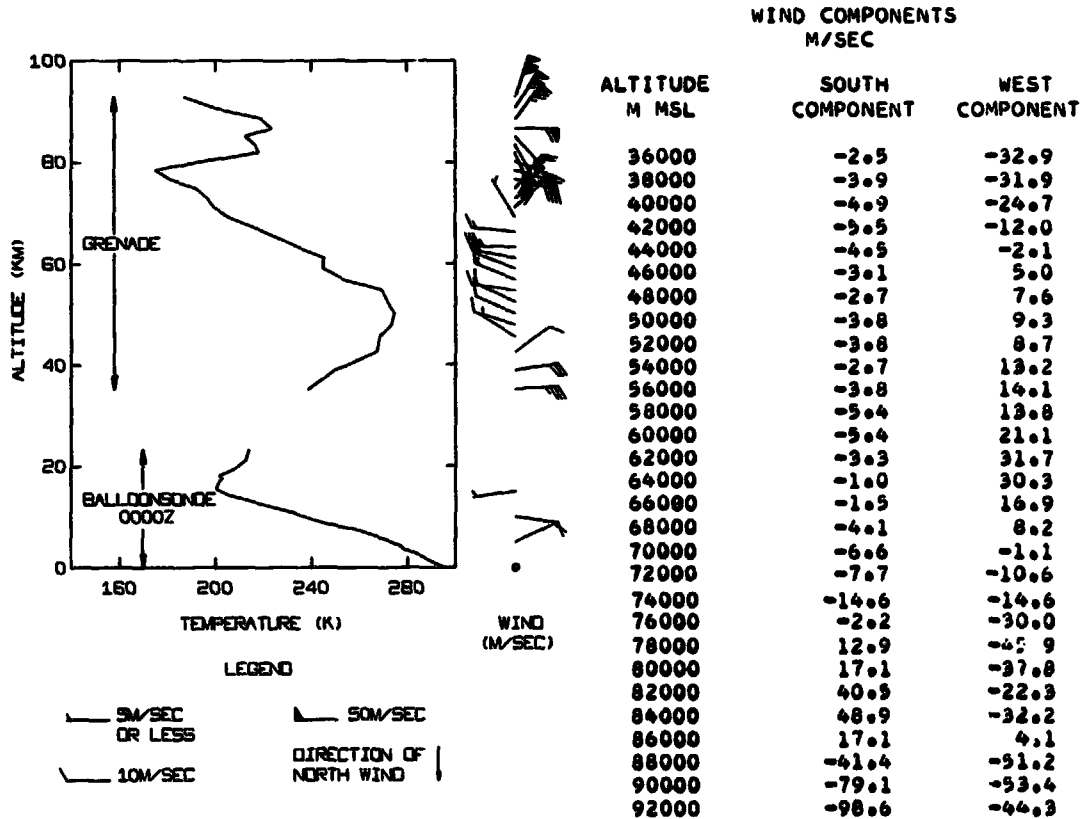
WIND COMPONENTS  
M/SEC



ALTITUDE M ASL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
35000	238.2	0.597E 03	3.9	0.873E-02	3.2
36000	242.1	0.518E 03	3.9	0.745E-02	2.6
37000	246.0	0.451E 03	4.1	0.638E-02	2.4
38000	250.0	0.394E 03	4.6	0.549E-02	2.4
39000	253.1	0.345E 03	4.9	0.474E-02	2.6
40000	256.0	0.301E 03	5.1	0.410E-02	2.7
41000	258.9	0.265E 03	5.6	0.356E-02	3.2
42000	261.6	0.233E 03	6.0	0.310E-02	3.6
43000	263.3	0.205E 03	6.2	0.271E-02	4.4
44000	264.9	0.180E 03	6.5	0.237E-02	5.0
45000	266.5	0.159E 03	6.7	0.207E-02	5.7
46000	268.0	0.140E 03	6.8	0.182E-02	6.3
47000	269.4	0.123E 03	6.8	0.160E-02	6.9
48000	270.3	0.109E 03	6.9	0.140E-02	6.9
49000	271.2	0.966E 02	6.9	0.124E-02	6.7
50000	271.0	0.853E 02	7.0	0.109E-02	6.8
51000	269.9	0.754E 02	7.0	0.973E-03	7.3
52000	268.8	0.666E 02	7.0	0.863E-03	7.7
53000	267.4	0.587E 02	7.0	0.765E-03	7.8
54000	265.9	0.518E 02	6.9	0.679E-03	7.5
55000	264.1	0.457E 02	6.9	0.602E-03	7.4
56000	262.2	0.402E 02	6.8	0.534E-03	7.3
57000	257.6	0.354E 02	6.8	0.478E-03	8.5
58000	253.0	0.310E 02	6.4	0.427E-03	9.2
59000	247.7	0.271E 02	6.2	0.382E-03	10.5
60000	242.4	0.236E 02	5.4	0.340E-03	11.2
61000	235.9	0.206E 02	4.7	0.304E-03	12.6
62000	229.3	0.178E 02	3.4	0.271E-03	13.2
63000	225.3	0.154E 02	2.2	0.238E-03	12.1
64000	221.8	0.132E 02	0.8	0.208E-03	10.5
65000	218.2	0.114E 02	-0.3	0.182E-03	9.2
66000	214.6	0.976E 01	-1.7	0.156E-03	7.7
67000	215.4	0.836E 01	-2.9	0.135E-03	4.3
68000	216.6	0.716E 01	-3.7	0.115E-03	1.0
69000	213.3	0.614E 01	-4.3	0.100E-03	0.2
70000	209.7	0.524E 01	-5.0	0.870E-04	-0.5
71000	204.1	0.446E 01	-5.6	0.762E-04	-0.2
72000	201.3	0.378E 01	-6.3	0.654E-04	-1.7
73000	205.7	0.321E 01	-7.0	0.543E-04	-6.0
74000	204.4	0.273E 01	-6.8	0.466E-04	-7.0
75000	197.8	0.231E 01	-6.9	0.408E-04	-5.8
76000	189.7	0.195E 01	-7.0	0.359E-04	-3.8
77000	181.4	0.163E 01	-7.9	0.313E-04	-2.4
78000	177.5	0.135E 01	-8.8	0.266E-04	-3.1
79000	173.3	0.112E 01	-9.8	0.225E-04	-4.0
80000	168.7	0.923E 00	-10.9	0.190E-04	-4.8
81000	168.5	0.757E 00	-12.1	0.156E-04	-5.8
82000	171.7	0.622E 00	-13.1	0.126E-04	-8.6
83000	186.8	0.516E 00	-13.3	0.962E-05	-16.2
84000	196.7	0.435E 00	-12.2	0.770E-05	-19.4
85000	203.1	0.368E 00	-10.6	0.632E-05	-20.5
86000	224.6	0.315E 00	-8.0	0.489E-05	-26.0
87000	240.9	0.275E 00	-3.6	0.397E-05	-27.7
88000	234.6	0.239E 00	0.9	0.355E-05	-22.3
89000	228.5	0.207E 00	4.9	0.316E-05	-17.0
90000	224.2	0.179E 00	9.1	0.278E-05	-12.0
91000	219.9	0.154E 00	12.6	0.244E-05	-5.9
92000	214.0	0.132E 00	15.9	0.216E-05	1.1
93000	208.1	0.113E 00	18.0	0.189E-05	7.5
94000	196.0	0.965E-01	19.7	0.171E-05	17.8

**FIGURE 36**  
**KOUROU, 22 SEPTEMBER 1971, 0350 GMT.**

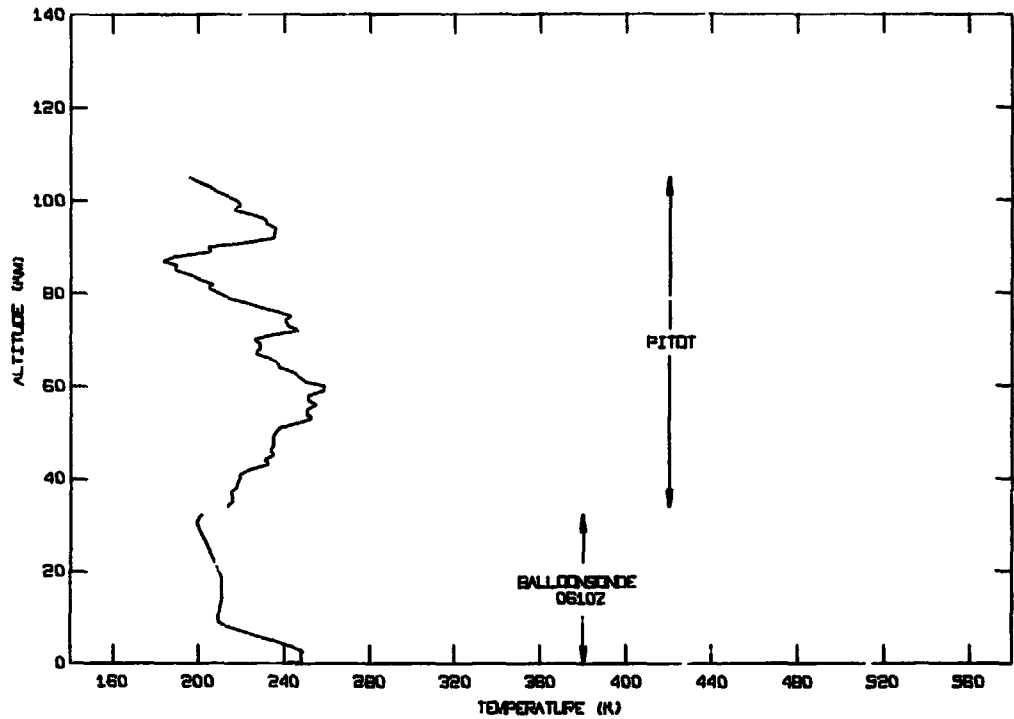
ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
35192.6	239.0	0.1	33.4	0.4	86.7	1.1
38937.8	249.8	0.2	31.8	0.5	81.5	1.4
42600.8	267.5	0.3	9.9	0.9	54.8	7.7
45604.8	268.7	0.7	5.7	2.4	303.2	23.9
47959.3	273.9	0.8	8.0	2.4	287.5	22.4
50265.7	275.1	0.9	10.6	3.0	293.2	18.7
52530.4	271.7	1.0	9.0	3.4	294.9	24.5
54757.2	269.4	1.1	16.0	3.2	277.7	16.6
56941.8	253.5	0.9	13.7	3.1	292.0	16.7
59097.1	244.9	0.8	16.0	3.0	291.0	13.3
61207.5	245.2	0.7	29.9	2.5	279.5	7.0
63272.7	234.4	1.2	35.6	2.1	271.4	5.3
66298.7	220.8	0.6	14.5	1.1	275.5	6.6
69260.1	205.7	1.0	7.1	2.8	329.1	16.0
71165.1	199.1	1.0	11.3	2.1	49.3	14.0
73036.5	196.4	1.3	15.4	2.6	58.0	14.3
74877.3	192.0	1.6	27.0	3.8	40.3	9.2
75674.3	181.0	1.5	38.8	3.4	103.9	7.1
79441.6	175.3	1.3	52.1	3.1	106.0	4.6
82169.0	194.4	1.2	40.0	2.6	111.2	4.7
81851.9	218.2	1.3	44.3	3.6	156.3	2.9
83490.9	216.5	1.5	62.1	4.2	151.2	2.5
85092.5	212.3	1.8	55.2	4.7	136.8	3.9
86654.9	223.4	3.1	60.3	4.9	90.7	7.6
88547.2	219.0	2.4	75.9	4.9	37.8	4.1
90747.3	199.0	2.2	106.0	5.0	32.7	2.8
92871.8	187.2	2.0	110.9	5.6	18.5	2.4





ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
36000	241.3	0.523E 03	4.9	0.754E-02	3.9
37000	244.2	0.454E 03	4.8	0.647E-02	3.8
38000	247.1	0.396E 03	5.2	0.559E-02	4.2
39000	250.1	0.346E 03	5.4	0.482E-02	4.3
40000	254.9	0.303E 03	5.5	0.414E-02	3.6
41000	259.8	0.265E 03	5.6	0.355E-02	2.9
42000	264.6	0.234E 03	6.3	0.308E-02	2.8
43000	267.7	0.206E 03	6.9	0.268E-02	3.3
44000	268.1	0.182E 03	7.4	0.236E-02	4.6
45000	268.5	0.160E 03	7.7	0.208E-02	5.9
46000	269.6	0.141E 03	7.9	0.183E-02	6.8
47000	271.8	0.125E 03	7.9	0.160E-02	7.1
48000	274.0	0.110E 03	8.2	0.140E-02	6.8
49000	274.5	0.979E 02	8.4	0.124E-02	6.9
50000	275.0	0.867E 02	8.6	0.109E-02	6.9
51000	274.0	0.767E 02	8.9	0.975E-03	7.6
52000	272.5	0.679E 02	9.1	0.867E-03	8.3
53000	271.2	0.600E 02	9.2	0.770E-03	8.5
54000	270.2	0.530E 02	9.3	0.683E-03	8.2
55000	267.7	0.468E 02	9.5	0.609E-03	8.7
56000	260.4	0.413E 02	9.7	0.552E-03	11.0
57000	253.3	0.362E 02	9.2	0.498E-03	12.8
58000	249.3	0.317E 02	8.9	0.443E-03	13.4
59000	245.3	0.276E 02	8.2	0.393E-03	13.6
60000	245.0	0.241E 02	7.5	0.343E-03	12.2
61000	245.2	0.210E 02	7.0	0.299E-03	10.7
62000	241.0	0.183E 02	6.6	0.265E-03	11.0
63000	235.8	0.159E 02	5.9	0.235E-03	11.0
64000	231.1	0.138E 02	5.3	0.208E-03	10.8
65000	226.6	0.119E 02	4.2	0.183E-03	10.1
66000	222.1	0.102E 02	3.2	0.160E-03	9.4
67000	217.2	0.887E 01	2.4	0.141E-03	9.2
68000	212.1	0.759E 01	1.9	0.124E-03	9.3
69000	207.0	0.647E 01	0.8	0.108E-03	8.9
70000	203.2	0.550E 01	-0.2	0.944E-04	7.8
71000	199.7	0.466E 01	-1.4	0.813E-04	6.4
72000	197.9	0.394E 01	-2.5	0.694E-04	4.2
73000	196.5	0.333E 01	-3.5	0.590E-04	2.0
74000	194.1	0.281E 01	-4.2	0.504E-04	0.5
75000	191.3	0.236E 01	-5.0	0.430E-04	-0.6
76000	185.1	0.198E 01	-5.7	0.373E-04	-0.0
77000	179.9	0.165E 01	-6.8	0.319E-04	-0.4
78000	176.7	0.137E 01	-7.8	0.270E-04	-1.7
79000	181.5	0.113E 01	-8.8	0.217E-04	-7.3
80000	192.5	0.950E 00	-8.3	0.171E-04	-14.0
81000	206.2	0.800E 00	-7.0	0.135E-04	-18.5
82000	218.1	0.687E 00	-4.0	0.109E-04	-20.5
83000	217.0	0.590E 00	-0.9	0.947E-05	-17.5
84000	215.2	0.506E 00	2.1	0.820E-05	-14.2
85000	212.6	0.433E 00	5.1	0.710E-05	-10.6
86000	218.8	0.371E 00	8.2	0.591E-05	-10.6
87000	222.6	0.320E 00	12.1	0.500E-05	-8.9
88000	220.3	0.275E 00	16.0	0.435E-05	-4.8
89000	214.9	0.236E 00	19.8	0.384E-05	0.7
90000	209.8	0.202E 00	23.2	0.342E-05	8.1
91000	197.6	0.171E 00	25.2	0.302E-05	16.4
92000	192.1	0.145E 00	26.6	0.262E-05	23.0

**FIGURE 37**  
**BARROW, 06 DECEMBER 1971, 0300 GMT.**



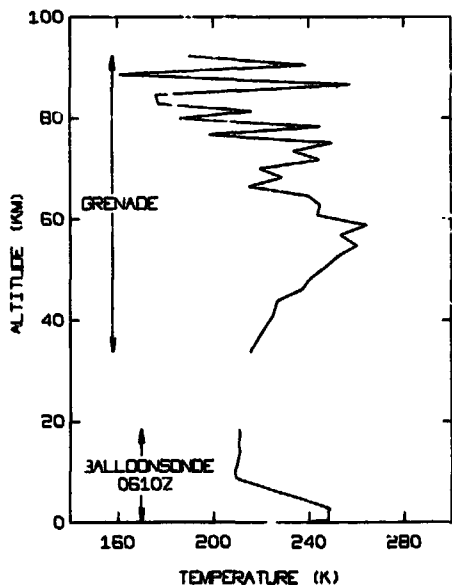
ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	214.0	0.534E 03	-19.4	0.870E-02	-12.0
35000	216.5	0.457E 03	-20.4	0.735E-02	-13.1
36000	216.0	0.390E 03	-21.6	0.630E-02	-13.1
37000	215.4	0.334E 03	-22.7	0.540E-02	-13.4
38000	218.3	0.285E 03	-24.3	0.456E-02	-15.0
39000	218.7	0.245E 03	-25.4	0.390E-02	-15.7
40000	219.7	0.210E 03	-26.6	0.333E-02	-16.6
41000	220.2	0.179E 03	-29.3	0.285E-02	-17.5
42000	224.7	0.154E 03	-25.7	0.240E-02	-19.8
43000	232.6	0.133E 03	-21.1	0.200E-02	-23.0
44000	231.2	0.115E 03	-21.0	0.174E-02	-22.9
45000	235.2	0.999E 02	-17.9	0.148E-02	-24.7
46000	233.8	0.866E 02	-34.0	0.129E-02	-24.7
47000	235.3	0.750E 02	-35.2	0.111E-02	-25.8
48000	235.3	0.650E 02	-36.4	0.963E-03	-26.8
49000	235.3	0.563E 02	-37.5	0.835E-03	-28.2
50000	236.6	0.489E 02	-38.6	0.720E-03	-29.8
51000	238.4	0.423E 02	-39.8	0.620E-03	-31.6
52000	246.3	0.369E 02	-40.6	0.523E-03	-34.7
53000	253.0	0.323E 02	-41.0	0.445E-03	-37.3
54000	250.7	0.282E 02	-41.7	0.393E-03	-37.7
55000	251.1	0.247E 02	-42.0	0.343E-03	-38.8
56000	255.0	0.217E 02	-42.3	0.296E-03	-40.5
57000	251.3	0.189E 02	-42.8	0.263E-03	-40.3

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
58000	251.4	0.166E 02	-42.8	0.230E-03	-41.1
59000	258.5	0.145E 02	-43.2	0.196E-03	-43.3
60000	258.8	0.127E 02	-43.0	0.172E-03	-43.7
61000	250.1	0.111E 02	-43.1	0.156E-03	-42.2
62000	246.9	0.978E 01	-43.2	0.138E-03	-42.3
63000	243.8	0.854E 01	-43.3	0.122E-03	-42.5
64000	237.4	0.742E 01	-43.5	0.109E-03	-42.1
65000	236.5	0.645E 01	-43.6	0.950E-04	-43.0
66000	233.4	0.559E 01	-43.6	0.835E-04	-43.2
67000	227.2	0.483E 01	-43.8	0.742E-04	-42.7
68000	228.9	0.417E 01	-43.9	0.635E-04	-44.2
69000	229.3	0.361E 01	-43.7	0.548E-04	-43.2
70000	226.5	0.311E 01	-43.4	0.479E-04	-43.2
71000	233.9	0.269E 01	-43.1	0.401E-04	-47.5
72000	246.7	0.234E 01	-42.0	0.331E-04	-50.2
73000	241.4	0.203E 01	-40.9	0.295E-04	-49.0
74000	240.2	0.177E 01	-39.6	0.258E-04	-48.5
75000	243.2	0.154E 01	-37.9	0.222E-04	-48.7
76000	237.4	0.134E 01	-36.0	0.198E-04	-47.0
77000	229.0	0.117E 01	-33.9	0.178E-04	-44.5
78000	222.6	0.100E 01	-32.1	0.158E-04	-42.5
79000	214.0	0.866E 00	-30.3	0.141E-04	-39.9
80000	209.6	0.739E 00	-28.6	0.123E-04	-38.4
81000	205.2	0.630E 00	-26.8	0.107E-04	-35.6
82000	206.8	0.535E 00	-25.2	0.907E-05	-34.6
83000	200.8	0.455E 00	-23.5	0.790E-05	-31.3
84000	196.4	0.385E 00	-22.3	0.683E-05	-28.5
85000	189.1	0.323E 00	-21.4	0.597E-05	-24.9
86000	190.0	0.271E 00	-20.7	0.498E-05	-24.7
87000	183.5	0.227E 00	-20.1	0.432E-05	-21.5
88000	189.3	0.190E 00	-19.7	0.350E-05	-23.5
89000	205.6	0.161E 00	-18.3	0.273E-05	-28.3
90000	204.9	0.137E 00	-16.4	0.233E-05	-26.4
91000	222.9	0.117E 00	-14.4	0.183E-05	-29.5
92000	235.5	0.101E 00	-11.4	0.150E-05	-29.8
93000	236.1	0.881E-01	-8.1	0.130E-05	-26.2
94000	236.2	0.766E-01	-4.9	0.113E-05	-22.5
95000	231.7	0.665E-01	-2.1	0.100E-05	-17.4
96000	230.7	0.575E-01	0.1	0.870E-06	-13.6
97000	225.8	0.498E-01	2.3	0.769E-06	-8.6
98000	217.3	0.429E-01	3.7	0.688E-06	-2.3
99000	219.6	0.369E-01	4.7	0.585E-06	-1.0
100000	217.9	0.317E-01	5.4	0.507E-06	1.9
101000	212.9	0.271E-01	5.6	0.445E-06	6.9
102000	207.6	0.231E-01	4.8	0.390E-06	11.6
103000	205.3	0.198E-01	4.1	0.336E-06	14.0
104000	200.1	0.167E-01	1.7	0.293E-06	17.5
105000	196.0	0.142E-01	-0.3	0.253E-06	19.5

**FIGURE 38**  
**BARROW, 6 DECEMBER 1971, 0302 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
33765.0	215.7	0.3	83.6	0.9	259.9	0.6
37397.6	220.3	0.7	60.3	1.8	297.0	2.3
40920.5	225.2	1.3	72.8	3.1	287.3	2.4
43825.9	227.2	1.8	58.4	4.2	292.6	4.2
46098.4	237.8	1.5	81.8	3.2	289.5	2.2
48296.5	241.0	1.9	80.7	4.1	289.6	2.9
50468.5	247.3	2.9	97.8	6.2	265.2	3.5
52602.6	252.5	4.3	83.3	2.5	274.6	5.8
54692.9	250.3	4.6	117.0	9.1	279.6	4.3
56749.6	253.4	4.0	95.3	7.8	310.4	4.8
58736.0	254.3	5.3	99.7	10.1	245.1	5.4
60715.8	243.7	4.0	73.9	7.8	280.0	6.0
62653.7	245.0	3.7	83.1	7.3	262.5	4.9
64559.4	239.7	4.0	68.2	7.7	297.5	6.5
66409.3	219.1	3.3	50.4	7.3	301	8.3
68211.2	228.9	4.2	59.5	8.9	270.9	7.9
69931.8	219.4	4.5	57.8	9.6	306.9	9.5
71710.6	244.7	5.9	111.8	14.3	228.8	5.4
73455.3	233.8	4.9	134.5	10.3	347.8	4.0
75050.9	250.5	4.7	94.3	9.0	324.3	5.2
76706.2	198.4	5.8	56.1	13.2	48.6	13.4
78279.8	245.3	9.5	62.7	18.1	298.9	17.0
79822.7	185.5	5.0	33.8	12.0	139.2	21.8
81332.3	216.3	5.7	91.3	15.2	332.9	9.1
82789.2	177.1	7.4	52.9	19.0	56.1	20.9
84257.7	175.0	5.0	53.1	12.3	84.9	14.9
85603.8	237.7	9.7	117.1	19.2	312.4	9.1
86966.3	160.3	5.1	127.5	15.5	83.9	8.5
88353.0	238.3	12.5	143.7	24.7	43.8	10.0
89733.6	189.8	7.6	144.4	17.4	79.9	8.2

**WIND COMPONENTS  
M/SEC**

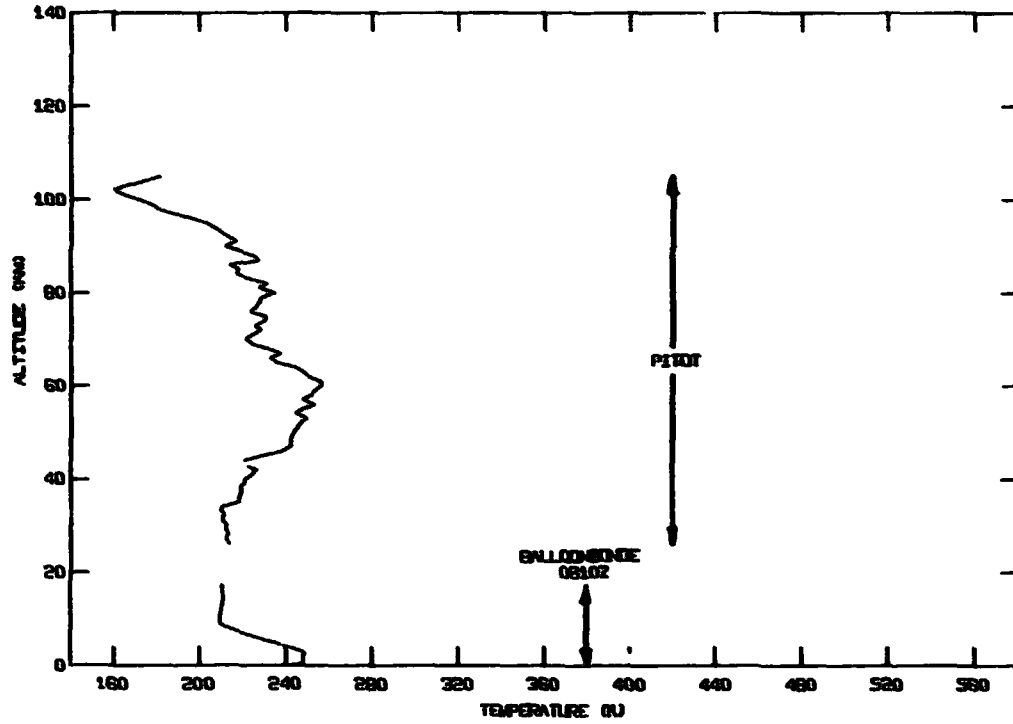


ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
34000	-28.1	73.5
36000	-25.4	77.4
38000	-23.2	75.4
40000	-22.1	71.4
42000	-21.9	63.7
44000	-22.9	58.4
46000	-25.5	74.3
48000	-23.9	71.8
50000	-0.8	91.8
52000	-2.5	69.0
54000	-15.7	103.8
56000	-45.2	88.5
58000	1.1	-3.4
60000	7.5	79.6
62000	1.7	78.6
64000	-18.4	65.7
66000	-38.1	16.5
68000	15.8	34.8
70000	-8.3	51.6
72000	15.4	67.7
74000	-108.8	34.4
76000	-58.4	-52.8
78000	-27.4	23.1
80000	-5.0	0.9
82000	-54.8	-39.3
84000	-14.9	-46.7
86000	-54.3	35.5
88000	-36.2	-57.5
90000	-75.0	-108.8
92000	-37.8	-136.0

**LEGEND**

ALTITUDE M/MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	216.0	0.482E 03	-27.2	0.778E-02	-21.2
35000	217.2	0.412E 03	-28.1	0.661E-02	-21.7
36000	218.5	0.353E 03	-29.1	0.562E-02	-22.4
37000	219.3	0.302E 03	-30.0	0.480E-02	-23.1
38000	221.1	0.259E 03	-31.1	0.409E-02	-23.7
39000	222.5	0.222E 03	-32.2	0.348E-02	-24.0
40000	223.9	0.191E 03	-33.2	0.298E-02	-25.0
41000	225.2	0.164E 03	-34.3	0.255E-02	-25.2
42000	225.9	0.141E 03	-35.4	0.218E-02	-25.9
43000	225.0	0.122E 03	-35.6	0.187E-02	-27.0
44000	228.3	0.105E 03	-37.8	0.161E-02	-26.7
45000	232.5	0.908E 02	-39.0	0.136E-02	-30.0
46000	237.3	0.788E 02	-39.9	0.115E-02	-32.4
47000	239.1	0.684E 02	-40.9	0.998E-03	-33.4
48000	240.5	0.594E 02	-41.8	0.860E-03	-34.6
49000	243.0	0.516E 02	-42.7	0.740E-03	-36.0
50000	245.9	0.450E 02	-43.5	0.637E-03	-37.5
51000	248.5	0.393E 02	-44.2	0.550E-03	-39.2
52000	251.1	0.343E 02	-44.8	0.476E-03	-40.5
53000	254.0	0.300E 02	-45.2	0.412E-03	-41.9
54000	257.7	0.263E 02	-45.6	0.356E-03	-43.0
55000	259.3	0.231E 02	-45.8	0.311E-03	-44.0
56000	255.9	0.203E 02	-46.0	0.276E-03	-44.0
57000	254.7	0.177E 02	-46.2	0.243E-03	-44.8
58000	260.2	0.156E 02	-46.4	0.208E-03	-46.5
59000	257.0	0.137E 02	-46.2	0.182E-03	-47.1
60000	257.0	0.120E 02	-46.2	0.167E-03	-45.2
61000	240.0	0.105E 02	-46.0	0.150E-03	-44.4
62000	244.5	0.916E 01	-46.8	0.130E-03	-45.4
63000	244.1	0.799E 01	-46.9	0.114E-03	-46.0
64000	241.3	0.665E 01	-47.0	0.100E-03	-46.6
65000	233.5	0.603E 01	-47.1	0.901E-04	-45.8
66000	220.5	0.522E 01	-47.4	0.824E-04	-43.9
67000	219.6	0.446E 01	-48.1	0.708E-04	-43.0
68000	227.3	0.384E 01	-48.3	0.589E-04	-48.2
69000	224.7	0.332E 01	-48.2	0.515E-04	-48.0
70000	219.7	0.285E 01	-48.2	0.452E-04	-48.0
71000	234.3	0.245E 01	-48.1	0.365E-04	-52.2
72000	242.9	0.214E 01	-47.0	0.307E-04	-53.8
73000	236.4	0.186E 01	-46.0	0.274E-04	-52.5
74000	239.8	0.161E 01	-45.0	0.234E-04	-53.1
75000	249.7	0.141E 01	-43.3	0.196E-04	-54.0
76000	221.0	0.123E 01	-41.5	0.193E-04	-48.0
77000	207.1	0.103E 01	-41.3	0.174E-04	-45.5
78000	237.0	0.893E 00	-39.9	0.131E-04	-52.2
79000	217.4	0.779E 00	-37.3	0.124E-04	-46.8
80000	189.1	0.652E 00	-37.0	0.120E-04	-39.0
81000	209.5	0.551E 00	-35.0	0.916E-05	-44.8
82000	198.3	0.472E 00	-34.0	0.829E-05	-39.9
83000	177.0	0.392E 00	-34.1	0.772E-05	-32.8
84000	176.3	0.324E 00	-34.4	0.641E-05	-32.8
85000	193.7	0.268E 00	-34.8	0.483E-05	-39.2
86000	233.5	0.227E 00	-33.6	0.339E-05	-48.7
87000	238.2	0.200E 00	-29.8	0.292E-05	-46.8
88000	188.8	0.173E 00	-28.2	0.314E-05	-31.3
89000	178.8	0.138E 00	-29.9	0.269E-05	-29.1
90000	220.1	0.116E 00	-29.3	0.183E-05	-42.0
91000	223.3	0.101E 00	-26.2	0.157E-05	-39.4
92000	196.4	0.859E-01	-24.9	0.132E-05	-28.6

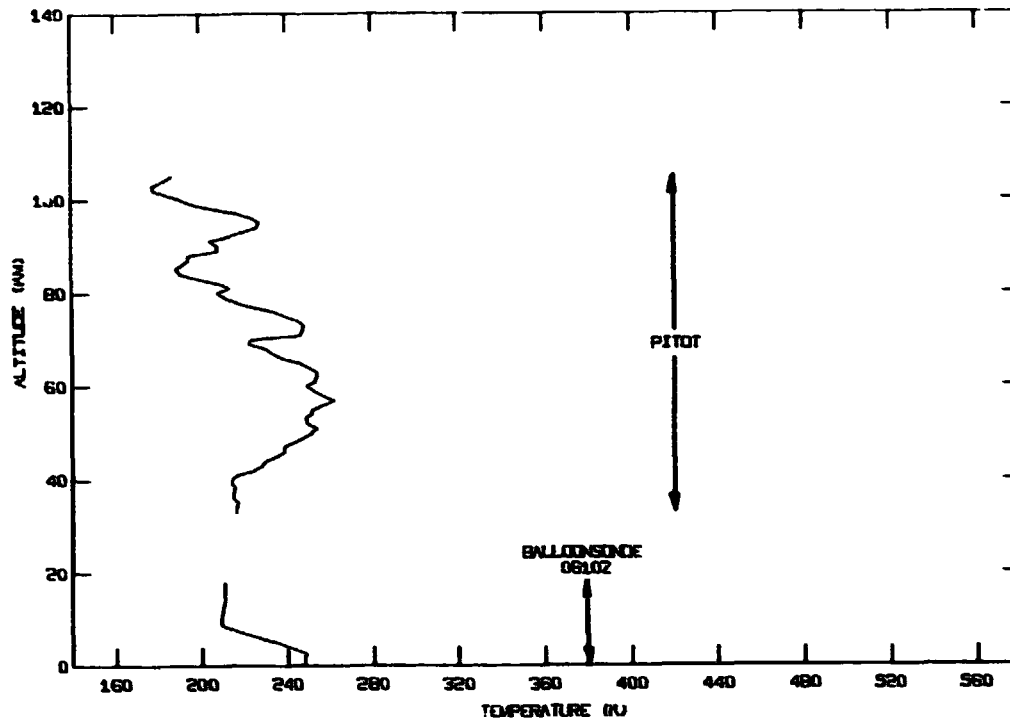
**FIGURE 39  
BARROW, 06 DECEMBER 1971, 0442 GMT.**



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
26000	213.9	0.191E 04	-12.2	0.312E-01	-8.9
27000	212.5	0.163E 04	-12.7	0.268E-01	-8.5
28000	214.0	0.139E 04	-13.3	0.227E-01	-9.4
29000	212.5	0.119E 04	-14.3	0.195E-01	-9.2
30000	212.8	0.101E 04	-15.2	0.166E-01	-9.8
31000	210.6	0.865E 03	-16.0	0.143E-01	-9.4
32000	211.9	0.735E 03	-17.2	0.121E-01	-10.7
33000	210.1	0.627E 03	-18.1	0.104E-01	-10.1
34000	211.2	0.534E 03	-19.4	0.881E-02	-10.8
35000	218.9	0.457E 03	-20.4	0.727E-02	-14.0
36000	219.3	0.391E 03	-21.3	0.622E-02	-14.3
37000	220.2	0.335E 03	-22.4	0.531E-02	-14.8
38000	219.4	0.287E 03	-23.6	0.457E-02	-14.8
39000	221.7	0.246E 03	-24.9	0.388E-02	-16.1
40000	221.9	0.211E 03	-26.1	0.333E-02	-16.6
41000	225.3	0.182E 03	-27.2	0.282E-02	-18.4
42000	227.2	0.157E 03	-28.5	0.241E 01	****
43000	221.2	0.134E 03	-30.2	0.213E-02	-18.0
44000	220.9	0.116E 03	-31.5	0.183E-02	-18.9
45000	229.0	0.999E 02	-32.9	0.152E-02	-22.6
46000	239.2	0.865E 02	-34.1	0.126E-02	-26.4
47000	242.7	0.753E 02	-35.0	0.108E-02	-27.8
48000	247.7	0.654E 02	-36.0	0.940E-03	-28.6
49000	242.6	0.570E 02	-36.8	0.819E-03	-29.5

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/50 M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
30000	244.4	0.497E 02	-37.6	0.708E-03	-31.0
31000	245.7	0.433E 02	-38.5	0.614E-03	-32.2
32000	247.3	0.377E 02	-39.3	0.532E-03	-33.5
33000	249.8	0.330E 02	-39.8	0.460E-03	-35.2
34000	244.7	0.287E 02	-40.6	0.410E-03	-35.0
35000	247.8	0.250E 02	-41.3	0.353E-03	-37.0
36000	253.5	0.219E 02	-41.5	0.302E-03	-39.3
37000	247.9	0.191E 02	-42.0	0.270E-03	-38.8
38000	252.3	0.167E 02	-42.3	0.232E-03	-40.6
39000	253.6	0.146E 02	-42.7	0.202E-03	-41.6
40000	256.9	0.129E 02	-42.5	0.175E-03	-42.7
41000	256.2	0.113E 02	-42.4	0.154E-03	-43.0
42000	250.5	0.993E 01	-42.4	0.138E-03	-42.3
43000	247.7	0.867E 01	-42.4	0.122E-03	-42.5
44000	244.0	0.757E 01	-42.4	0.108E-03	-42.6
45000	235.7	0.658E 01	-42.4	0.972E-04	-41.6
46000	232.8	0.570E 01	-42.6	0.853E-04	-42.0
47000	237.7	0.494E 01	-42.5	0.724E-04	-44.1
48000	231.8	0.429E 01	-42.3	0.644E-04	-43.5
49000	224.6	0.370E 01	-42.2	0.574E-04	-42.6
70000	221.6	0.318E 01	-42.2	0.501E-04	-42.7
71000	224.3	0.274E 01	-42.0	0.426E-04	-44.2
72000	228.4	0.237E 01	-41.4	0.361E-04	-45.7
73000	226.0	0.203E 01	-40.9	0.315E-04	-45.5
74000	230.9	0.175E 01	-40.1	0.266E-04	-46.9
75000	230.4	0.153E 01	-38.4	0.231E-04	-44.7
76000	224.1	0.131E 01	-37.3	0.205E-04	-45.1
77000	226.4	0.113E 01	-35.8	0.175E-04	-45.4
78000	228.2	0.982E 00	-33.9	0.150E-04	-45.4
79000	229.2	0.849E 00	-31.7	0.129E-04	-45.0
80000	235.2	0.735E 00	-29.0	0.109E-04	-45.4
81000	227.9	0.638E 00	-25.9	0.975E-05	-41.3
82000	231.8	0.551E 00	-23.0	0.830E-05	-39.9
83000	224.1	0.477E 00	-15.9	0.742E-05	-39.4
84000	217.6	0.410E 00	-17.2	0.657E-05	-31.2
85000	218.5	0.351E 00	-14.6	0.562E-05	-29.3
86000	214.4	0.302E 00	-11.8	0.491E-05	-25.7
87000	227.6	0.259E 00	-8.9	0.397E-05	-27.8
88000	225.6	0.223E 00	-5.7	0.346E-05	-24.4
89000	219.0	0.193E 00	-2.1	0.307E-05	-19.4
90000	211.7	0.165E 00	0.5	0.272E-05	-14.1
71000	217.1	0.141E 00	3.1	0.227E-05	-12.8
72000	213.4	0.121E 00	5.9	0.198E-05	-7.3
73000	209.9	0.103E 00	8.0	0.172E-05	-2.4
94000	206.8	0.885E-01	9.7	0.149E-05	2.1
95000	203.2	0.751E-01	10.5	0.129E-05	6.5
96000	196.4	0.637E-01	10.8	0.113E-05	12.1
97000	187.6	0.535E-01	10.0	0.996E-06	18.3
98000	180.8	0.447E-01	8.2	0.863E-06	22.5
99000	177.8	0.371E-01	5.5	0.729E-06	23.3
100000	172.0	0.307E-01	2.3	0.624E-06	25.4
101000	165.2	0.253E-01	-1.6	0.534E-06	28.3
102000	160.5	0.206E-01	-6.5	0.448E-06	28.2
103000	164.3	0.167E-01	-11.9	0.357E-06	21.2
104000	174.1	0.138E-01	-15.9	0.277E-06	11.1
105000	182.0	0.114E-01	-19.7	0.220E-06	3.9

**FIGURE 40**  
**BARROW, 06 DECEMBER 1971, 0752 GMT.**



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
33000	216.5	0.621E 03	-19.0	0.100E-01	-13.5
34000	217.1	0.531E 03	-19.8	0.853E-02	-13.7
35000	217.5	0.455E 03	-20.6	0.729E-02	-13.8
36000	215.0	0.389E 03	-21.9	0.631E-02	-13.0
37000	215.4	0.333E 03	-23.0	0.538E-02	-13.7
38000	216.1	0.283E 03	-24.7	0.458E-02	-14.6
39000	214.2	0.242E 03	-26.2	0.395E-02	-14.6
40000	214.6	0.207E 03	-27.5	0.337E-02	-15.6
41000	216.9	0.177E 03	-29.3	0.285E-02	-17.5
42000	224.9	0.151E 03	-30.9	0.236E-02	-21.2
43000	228.7	0.131E 03	-31.9	0.200E-02	-23.0
44000	230.9	0.113E 03	-33.0	0.171E-02	-24.3
45000	235.8	0.981E 02	-34.1	0.145E-02	-27.9
46000	239.3	0.851E 02	-35.1	0.124E-02	-27.6
47000	238.6	0.739E 02	-36.1	0.108E-02	-27.8
48000	244.0	0.643E 02	-37.0	0.918E-03	-30.2
49000	248.4	0.561E 02	-37.8	0.787E-03	-32.3
50000	251.9	0.490E 02	-38.5	0.678E-03	-33.9
51000	254.5	0.429E 02	-39.0	0.588E-03	-35.1
52000	249.5	0.375E 02	-39.5	0.525E-03	-34.4
53000	248.7	0.327E 02	-40.3	0.460E-03	-35.2
54000	252.0	0.286E 02	-40.8	0.397E-03	-37.1
55000	252.4	0.251E 02	-41.0	0.347E-03	-38.1
56000	256.6	0.219E 02	-41.5	0.299E-03	-39.9



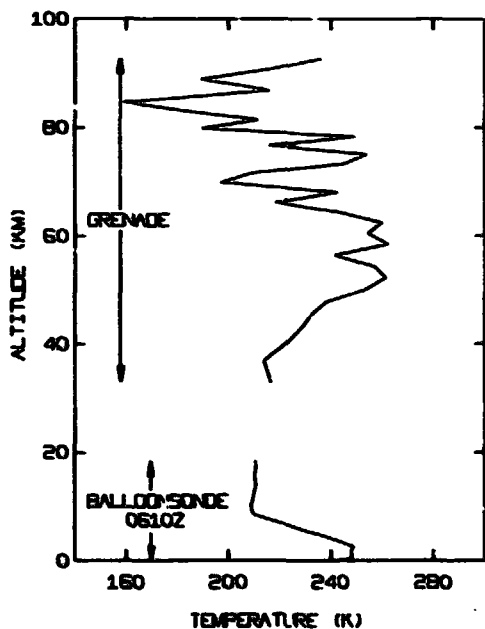
ALTITUDE M NSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
57000	262.4	0.193E 02	-41.6	0.257E-03	-41.7
58000	256.6	0.170E 02	-41.4	0.231E-03	-40.9
59000	252.2	0.149E 02	-41.6	0.206E-03	-40.4
60000	249.6	0.130E 02	-41.9	0.182E-03	-40.5
61000	253.3	0.114E 02	-41.9	0.157E-03	-41.9
62000	254.3	0.999E 01	-42.0	0.137E-03	-42.7
63000	254.5	0.877E 01	-41.8	0.120E-03	-43.5
64000	250.0	0.767E 01	-41.6	0.107E-03	-43.2
65000	246.2	0.671E 01	-41.3	0.950E-04	-43.0
66000	237.6	0.585E 01	-41.1	0.857E-04	-41.7
67000	233.0	0.506E 01	-41.1	0.758E-04	-41.5
68000	230.2	0.438E 01	-41.0	0.664E-04	-41.7
69000	222.8	0.378E 01	-41.0	0.592E-04	-40.8
70000	224.7	0.325E 01	-41.0	0.505E-04	-42.3
71000	246.9	0.282E 01	-40.3	0.399E-04	-47.8
72000	248.2	0.246E 01	-39.1	0.347E-04	-47.8
73000	248.5	0.215E 01	-37.4	0.303E-04	-47.6
74000	245.6	0.189E 01	-35.5	0.268E-04	-46.5
75000	238.9	0.163E 01	-34.1	0.240E-04	-44.6
76000	233.9	0.142E 01	-32.2	0.213E-04	-42.9
77000	224.2	0.123E 01	-30.3	0.192E-04	-40.1
78000	216.5	0.106E 01	-28.6	0.171E-04	-37.8
79000	211.2	0.909E 00	-26.9	0.150E-04	-36.1
80000	207.9	0.775E 00	-25.1	0.130E-04	-34.9
81000	213.8	0.662E 00	-23.1	0.108E-04	-35.0
82000	208.7	0.566E 00	-20.9	0.945E-05	-31.6
83000	199.5	0.481E 00	-19.2	0.840E-05	-26.9
84000	190.8	0.405E 00	-18.2	0.740E-05	-22.6
85000	189.0	0.339E 00	-17.5	0.627E-05	-21.1
86000	192.2	0.285E 00	-16.8	0.518E-05	-21.7
87000	195.0	0.241E 00	-15.4	0.430E-05	-21.8
88000	195.0	0.202E 00	-14.6	0.363E-05	-20.7
89000	208.3	0.171E 00	-12.9	0.288E-05	-24.4
90000	208.1	0.146E 00	-10.8	0.246E-05	-22.3
91000	204.7	0.125E 00	-8.6	0.213E-05	-18.0
92000	212.2	0.106E 00	-6.8	0.175E-05	-18.1
93000	219.6	0.914E-01	-99.3	0.145E-05	-99.3
94000	226.8	0.787E-01	-2.3	0.121E-05	-17.0
95000	228.0	0.681E-01	0.1	0.104E-05	-14.1
96000	223.8	0.587E-01	2.2	0.915E-06	-9.2
97000	217.5	0.506E-01	3.9	0.810E-06	-3.7
98000	206.4	0.433E-01	4.6	0.730E-06	3.6
99000	196.3	0.366E-01	4.0	0.651E-06	10.1
100000	190.6	0.309E-01	2.8	0.565E-06	13.5
101000	184.2	0.258E-01	0.4	0.490E-06	17.8
102000	178.5	0.215E-01	-2.3	0.421E-06	20.5
103000	177.7	0.178E-01	-6.3	0.351E-06	19.1
104000	183.5	0.149E-01	-9.5	0.283E-06	13.5
105000	187.0	0.124E-01	-13.0	0.232E-06	9.5

# FIGURE 41

## BARROW, 6 DECEMBER 1971, 0802 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
33150.9	216.6	1.0	80.4	2.6	289.0	1.8
36810.1	214.1	1.9	80.0	3.4	301.3	2.4
40389.8	223.4	1.8	83.5	4.2	283.1	2.8
43314.2	229.6	2.6	73.6	5.9	299.7	4.5
45605.8	233.3	2.1	59.2	4.6	273.1	4.4
47836.5	238.5	3.0	62.6	6.4	303.4	5.8
50037.0	253.5	3.9	72.9	7.7	291.1	6.0
52197.6	261.3	4.3	76.2	8.2	277.8	6.1
54322.1	256.8	4.9	85.5	9.5	291.3	6.2
56409.3	241.5	4.0	26.0	7.9	311.8	17.7
58452.3	262.4	3.5	82.1	6.6	290.4	4.6
60455.2	254.6	3.8	72.6	7.4	317.4	5.7
62417.0	259.9	4.0	58.5	7.5	261.9	7.4
64342.5	243.7	4.7	53.7	9.5	5.4	9.4
66235.1	218.6	3.7	36.4	7.7	84.6	13.3
68076.4	242.7	4.7	38.3	9.5	294.3	14.8
69898.9	197.3	4.8	52.0	11.1	92.7	13.8
71685.5	209.7	5.3	55.6	12.2	67.0	13.3
73395.2	245.6	6.4	30.3	13.7	36.8	24.7
75087.6	254.0	7.4	63.8	15.7	337.1	13.5
76748.8	216.3	5.2	117.5	13.1	18.5	5.9
78362.5	249.6	4.6	137.5	10.5	344.7	4.0
79935.4	189.8	5.2	43.8	13.4	95.5	19.6
81468.4	212.1	7.5	126.9	18.9	177.5	8.2
82972.4	184.6	3.4	116.4	14.5	64.3	7.7
84780.2	159.0	2.9	172.8	9.2	62.5	3.4
86872.9	216.1	11.8	193.1	34.2	223.6	8.8
88910.3	189.3	12.3	170.8	50.0	356.9	13.0
90849.2	217.1	12.5	99.0	43.6	254.2	26.1
92680.2	236.0	12.2	135.8	30.2	246.5	11.6

### WIND COMPONENTS M/SEC

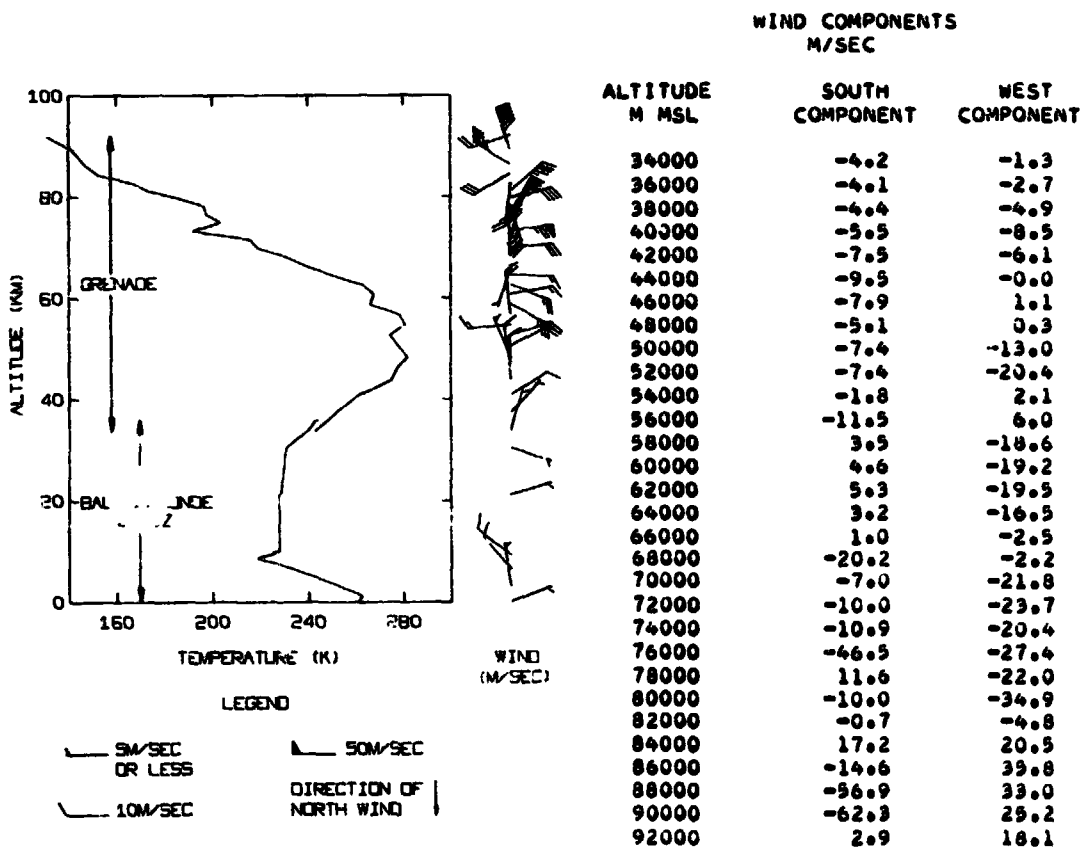


ALTITUDE M MSL	SOUTH COMPONENT	WEST COMPONENT
34000	-29.7	74.3
36000	-38.1	70.1
38000	-34.1	72.7
40000	-22.6	79.0
42000	-28.7	71.7
44000	-26.0	62.5
46000	-11.3	57.8
48000	-30.8	59.2
50000	-25.6	66.9
52000	-14.6	74.6
54000	-26.1	75.5
56000	-21.1	36.2
58000	-26.6	61.0
60000	-44.6	56.7
62000	-10.2	52.9
64000	-36.2	7.8
66000	-14.4	-24.3
68000	-11.7	13.5
70000	-3.6	-42.2
72000	-20.7	-42.9
74000	-37.3	-2.5
76000	-87.4	-73.6
78000	-117.7	9.9
80000	7.8	-23.4
82000	53.3	24.6
84000	-65.4	-30.5
86000	47.2	12.8
88000	-31.3	64.8
90000	-60.1	57.4
92000	43.9	113.7

ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	216.0	0.487E 03	-26.5	0.785E-02	-20.5
35000	215.4	0.416E 03	-27.5	0.673E-02	-20.3
36000	214.7	0.355E 03	-28.6	0.576E-02	-20.5
37000	214.6	0.303E 03	-29.8	0.492E-02	-20.9
38000	217.2	0.259E 03	-31.2	0.415E-02	-22.5
39000	219.8	0.221E 03	-32.4	0.351E-02	-23.9
40000	222.4	0.190E 03	-33.5	0.298E-02	-25.2
41000	224.7	0.164E 03	-34.6	0.254E-02	-26.4
42000	226.8	0.141E 03	-35.9	0.216E-02	-27.7
43000	229.0	0.121E 03	-36.9	0.185E-02	-28.8
44000	230.8	0.105E 03	-38.0	0.158E-02	-29.8
45000	232.4	0.907E 02	-39.1	0.136E-02	-30.7
46000	234.2	0.785E 02	-40.1	0.116E-02	-31.8
47000	236.6	0.680E 02	-41.2	0.100E-02	-33.0
48000	239.6	0.590E 02	-42.2	0.858E-03	-34.8
49000	246.4	0.513E 02	-43.2	0.729E-03	-37.6
50000	253.3	0.449E 02	-43.6	0.617E-03	-39.8
51000	257.0	0.393E 02	-44.1	0.533E-03	-41.2
52000	260.6	0.345E 02	-44.4	0.461E-03	-42.3
53000	259.6	0.303E 02	-44.7	0.407E-03	-42.6
54000	257.5	0.266E 02	-45.0	0.360E-03	-42.8
55000	251.9	0.233E 02	-45.2	0.323E-03	-42.3
56000	244.5	0.204E 02	-45.7	0.290E-03	-41.5
57000	247.6	0.177E 02	-46.4	0.249E-03	-43.3
58000	257.7	0.155E 02	-46.6	0.210E-03	-46.2
59000	260.2	0.136E 02	-46.5	0.183E-03	-47.0
60000	256.4	0.120E 02	-46.5	0.163E-03	-46.6
61000	256.1	0.105E 02	-46.5	0.143E-03	-47.0
62000	258.8	0.924E 01	-46.4	0.124E-03	-48.0
63000	255.0	0.812E 01	-46.1	0.110E-03	-47.7
64000	246.6	0.710E 01	-45.9	0.100E-03	-46.7
65000	235.0	0.618E 01	-45.9	0.917E-04	-44.9
66000	221.7	0.533E 01	-46.3	0.837E-04	-43.0
67000	228.6	0.457E 01	-46.8	0.697E-04	-46.2
68000	241.7	0.397E 01	-46.6	0.572E-04	-49.7
69000	219.7	0.346E 01	-46.0	0.548E-04	-49.1
70000	198.0	0.292E 01	-47.0	0.513E-04	-41.3
71000	204.9	0.245E 01	-47.8	0.419E-04	-45.1
72000	216.3	0.210E 01	-48.0	0.338E-04	-49.1
73000	237.3	0.181E 01	-47.4	0.266E-04	-54.0
74000	248.6	0.158E 01	-46.1	0.221E-04	-55.7
75000	253.6	0.138E 01	-44.3	0.190E-04	-56.0
76000	233.3	0.121E 01	-42.3	0.181E-04	-51.5
77000	221.5	0.103E 01	-41.3	0.163E-04	-49.0
78000	242.2	0.899E 00	-39.5	0.129E-04	-52.9
79000	225.4	0.786E 00	-36.7	0.121E-04	-48.2
80000	190.8	0.664E 00	-35.9	0.121E-04	-39.3
81000	205.3	0.560E 00	-35.0	0.950E-05	-42.8
82000	202.4	0.478E 00	-33.2	0.823E-05	-40.3
83000	184.2	0.401E 00	-32.6	0.759E-05	-33.9
84000	170.0	0.332E 00	-32.9	0.681E-05	-28.7
85000	165.0	0.269E 00	-34.6	0.569E-05	-28.4
86000	192.3	0.220E 00	-35.6	0.399E-05	-39.5
87000	214.4	0.189E 00	-33.7	0.307E-05	-44.1
88000	201.3	0.161E 00	-31.8	0.219E-05	-38.8
89000	190.6	0.135E 00	-31.3	0.248E-05	-34.9
90000	204.9	0.114E 00	-30.6	0.193E-05	-21.8
91000	218.7	0.978E-01	-28.5	0.155E-05	-39.9
92000	229.0	0.842E-01	-26.4	0.128E-05	-40.0

**FIGURE 42**  
**BARROW, 17 MAY 1972, 0740 GMT.**

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
33735.4	243.0	0.9	4.4	3.8	15.5	45.4
37360.7	252.0	1.5	5.4	5.9	42.3	51.2
40895.5	261.8	1.7	11.8	6.6	59.1	22.4
43785.6	275.1	1.4	10.0	5.5	357.9	29.2
46042.8	277.7	1.5	8.1	5.9	351.9	39.3
43253.2	281.7	1.4	4.5	5.5	338.1	67.5
52422.4	277.7	1.4	19.1	5.4	63.5	16.5
52552.2	274.2	2.0	24.1	7.8	72.5	19.6
54644.2	281.1	1.9	14.4	7.3	265.2	30.9
56699.0	278.2	1.6	19.1	6.4	353.5	17.8
58701.2	266.2	2.5	35.0	9.8	118.5	17.6
60659.7	267.8	2.9	12.8	11.6	79.9	55.3
62587.3	263.0	2.7	24.9	10.7	112.0	27.1
64476.2	250.1	2.3	14.7	9.8	92.1	41.6
66328.8	239.5	1.9	4.0	9.5	197.5	123.1
68143.4	231.2	1.3	28.8	6.8	358.0	12.5
69908.0	218.9	0.8	30.4	4.0	85.4	8.3
71633.5	215.9	1.3	11.6	7.0	12.3	31.5
73328.4	192.2	0.9	74.1	4.9	83.3	4.2
74996.0	203.3	1.9	15.8	11.0	27.3	36.7
76622.2	197.5	2.9	84.4	17.2	30.0	10.9
78194.2	196.6	2.2	45.5	13.1	163.7	16.0
79727.5	186.6	0.1	38.3	0.6	76.6	0.6
81238.1	173.4	1.4	47.4	9.4	50.4	11.2
82697.6	167.3	4.4	26.8	21.9	186.5	61.7
8434.9	152.3	3.0	31.3	22.8	240.5	25.7
86467.9	146.8	2.1	45.7	13.1	300.8	16.7
89336.2	141.4	1.2	90.3	8.0	342.2	5.4
92073.1	131.1	3.1	18.7	22.0	253.1	69.1

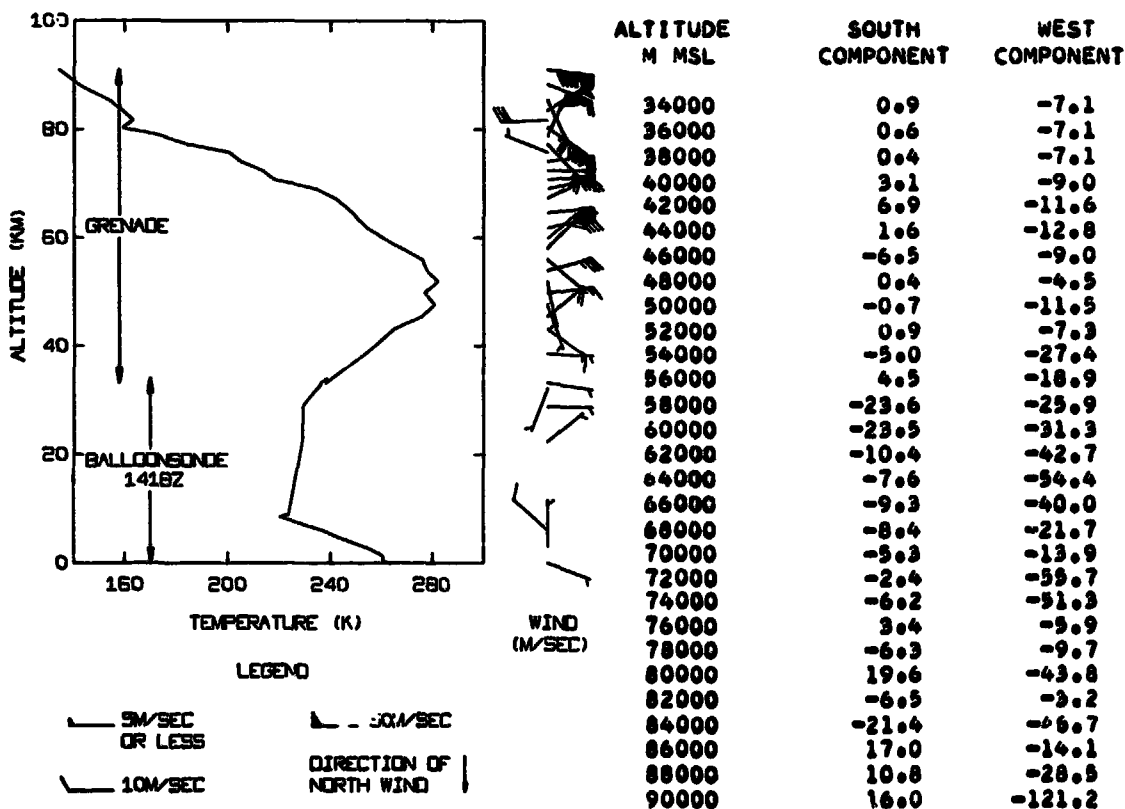


ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	243.7	0.709E 03	6.8	0.101E-C1	2.5
35000	246.2	0.616E 03	7.3	0.872E-02	3.1
36000	248.6	0.537E 03	7.8	0.753E-02	3.6
37000	251.1	0.470E 03	8.5	0.652E-02	4.5
38000	253.8	0.411E 03	9.0	0.564E-02	5.1
39000	256.6	0.359E 03	9.3	0.488E-02	5.5
40000	259.3	0.315E 03	9.9	0.424E-02	6.1
41000	262.3	0.277E 03	10.3	0.368E-02	6.6
42000	266.9	0.243E 03	10.8	0.318E-02	6.3
43000	271.5	0.214E 03	11.3	0.275E-02	6.0
44000	275.3	0.190E 03	12.1	0.240E-02	6.4
45000	276.5	0.168E 03	12.7	0.211E-02	7.7
46000	277.6	0.148E 03	13.4	0.186E-02	8.9
47000	279.4	0.131E 03	13.7	0.164E-02	9.8
48000	281.2	0.116E 03	14.3	0.144E-02	10.0
49000	280.3	0.103E 03	14.8	0.128E-02	10.8
50000	278.5	0.919E 02	15.2	0.115E-02	12.0
51000	276.7	0.814E 02	15.6	0.102E-02	13.0
52000	275.1	0.721E 02	15.8	0.912E-03	13.9
53000	275.7	0.637E 02	16.0	0.805E-03	13.4
54000	278.9	0.564E 02	16.4	0.705E-03	11.6
55000	280.6	0.501E 02	17.2	0.622E-03	10.9
56000	279.1	0.444E 02	17.9	0.554E-03	11.4
57000	276.4	0.393E 02	18.8	0.496E-03	12.4
58000	277.4	0.348E 02	19.5	0.448E-03	14.8
59000	266.4	0.307E 02	20.0	0.401E-03	16.0
60000	267.2	0.270E 02	20.5	0.352E-03	15.3
61000	266.9	0.238E 02	21.3	0.311E-03	15.3
62000	264.5	0.210E 02	22.0	0.277E-03	15.8
63000	260.2	0.185E 02	22.8	0.248E-03	16.7
64000	253.4	0.152E 02	23.6	0.223E-03	18.6
65000	247.1	0.142E 02	24.2	0.200E-03	20.2
66000	241.4	0.123E 02	24.6	0.178E-03	21.5
67000	236.4	0.107E 02	25.1	0.158E-03	22.4
68000	231.8	0.933E 01	25.3	0.140E-03	23.0
69000	225.2	0.807E 01	25.8	0.124E-03	24.8
70000	218.7	0.693E 01	25.5	0.110E-03	26.0
71000	217.0	0.594E 01	25.5	0.954E-04	24.8
72000	210.8	0.509E 01	25.7	0.841E-04	26.3
73000	196.8	0.432E 01	25.0	0.764E-04	32.0
74000	196.7	0.363E 01	23.5	0.642E-04	28.1
75000	203.3	0.307E 01	23.5	0.526E-04	21.5
76000	199.7	0.260E 01	23.8	0.454E-04	21.6
77000	197.3	0.220E 01	24.1	0.388E-04	21.0
78000	196.7	0.185E 01	24.8	0.329E-04	19.6
79000	191.3	0.156E 01	25.9	0.285E-04	21.4
80000	184.2	0.131E 01	26.3	0.247E-04	23.9
81000	175.5	0.108E 01	26.2	0.216E-04	29.9
82000	170.2	0.898E 00	25.2	0.183E-04	32.9
83000	164.7	0.735E 00	23.4	0.155E-04	35.2
84000	156.1	0.595E 00	20.1	0.132E-04	39.0
85000	150.8	0.478E 00	16.0	0.110E-04	39.0
86000	148.1	0.383E 00	11.6	0.900E-05	36.1
87000	145.8	0.305E 00	6.9	0.725E-05	32.5
88000	143.9	0.242E 00	2.0	0.586E-05	28.0
89000	142.0	0.191E 00	-3.0	0.469E-05	23.2
90000	138.9	0.151E 00	-7.9	0.379E-05	19.6
91000	135.2	0.119E 00	-12.6	0.308E-05	18.6
92000	131.4	0.931E-01	-18.6	0.247E-05	15.5

## FIGURE 43 BARROW, 17 MAY 1972, 1645 GMT.

ALTITUDE M MSL	TEMPERATURE DEG K	ERROR DEG K	WIND SPEED M/SEC	ERROR M/SEC	WIND DIRECTION DEGREES	ERROR DEG
33183.3	238.4	0.5	7.2	2.8	98.2	24.4
38519.7	253.8	0.4	7.1	2.3	91.9	21.0
43146.3	265.3	1.4	16.0	7.2	125.0	27.8
45394.8	276.2	1.2	16.4	6.5	49.8	22.2
47580.0	280.8	1.1	2.0	5.9	160.5	160.4
49716.7	276.9	1.2	15.3	6.1	82.1	24.7
51830.2	282.1	1.7	3.6	9.2	168.4	134.9
53899.3	277.7	1.2	34.7	6.3	73.7	11.1
55929.0	275.8	0.9	20.0	4.8	129.8	14.6
57924.9	268.2	1.3	38.9	7.8	43.2	11.0
59871.4	260.9	1.4	39.5	8.5	48.7	12.0
61777.2	254.4	1.3	42.3	8.1	77.1	11.9
64556.4	248.4	0.6	59.3	4.2	83.1	4.5
67292.2	241.6	1.5	25.8	10.6	63.7	24.2
69045.3	234.0	1.4	19.4	10.0	77.1	31.8
70743.5	218.0	1.4	72.5	10.9	85.0	9.5
72421.0	213.2	1.3	47.5	10.7	89.8	14.3
74074.6	204.6	0.6	63.8	5.6	82.3	5.5
75684.8	200.4	1.3	6.6	11.8	292.2	112.0
77241.4	183.8	1.4	28.1	13.6	136.6	29.0
78758.2	175.2	0.8	37.7	5.0	24.9	12.4
80238.3	159.4	1.0	79.8	11.1	123.7	8.7
81679.9	163.4	2.0	28.0	22.0	268.6	49.0
83417.2	159.3	2.0	78.9	23.2	57.7	17.0
85438.4	153.7	3.2	23.4	37.6	154.9	89.5
88280.7	141.7	1.3	24.6	15.3	110.0	39.7
90993.1	134.3	1.4	179.0	26.0	96.5	6.1

### WIND COMPONENTS M/SEC



ALTITUDE M MSL	TEMPERATURE DEG K	PRESSURE NT/SQ M	DEVIATION PER CENT	DENSITY KG/CU M	DEVIATION PER CENT
34000	240.7	0.717E 03	8.1	0.103E-01	5.0
35000	243.6	0.622E 03	8.3	0.890E-02	5.1
36000	246.5	0.544E 03	9.2	0.769E-02	6.0
37000	249.4	0.476E 03	10.0	0.665E-02	6.7
38000	252.3	0.417E 03	10.6	0.576E-02	7.3
39000	255.0	0.365E 03	11.0	0.498E-02	7.8
40000	257.5	0.319E 03	11.3	0.432E-02	8.2
41000	260.0	0.279E 03	11.4	0.374E-02	8.4
42000	262.5	0.244E 03	11.3	0.325E-02	8.5
43000	265.0	0.215E 03	11.7	0.283E-02	9.0
44000	269.4	0.189E 03	12.0	0.245E-02	8.6
45000	274.3	0.167E 03	12.5	0.213E-02	8.4
46000	277.4	0.148E 03	13.1	0.186E-02	8.7
47000	279.6	0.131E 03	13.9	0.163E-02	9.5
48000	280.0	0.116E 03	14.0	0.145E-02	10.2
49000	278.2	0.103E 03	14.5	0.129E-02	11.3
50000	277.6	0.915E 02	14.8	0.114E-02	11.8
51000	280.0	0.811E 02	15.1	0.100E-02	11.2
52000	281.7	0.720E 02	15.7	0.890E-03	11.1
53000	279.6	0.638E 02	16.2	0.795E-03	12.0
54000	277.6	0.565E 02	16.7	0.710E-03	12.4
55000	276.7	0.501E 02	17.2	0.631E-03	12.5
56000	275.5	0.443E 02	17.8	0.560E-03	12.7
57000	271.7	0.392E 02	18.5	0.503E-03	14.1
58000	267.9	0.346E 02	18.9	0.450E-03	15.2
59000	264.1	0.305E 02	19.4	0.403E-03	16.5
60000	260.4	0.268E 02	19.6	0.359E-03	17.4
61000	257.0	0.236E 02	19.9	0.319E-03	18.3
62000	253.9	0.206E 02	19.9	0.283E-03	18.6
63000	251.7	0.181E 02	20.1	0.250E-03	17.9
64000	249.6	0.158E 02	20.3	0.220E-03	17.2
65000	247.3	0.138E 02	20.8	0.194E-03	16.8
66000	244.8	0.120E 02	21.5	0.171E-03	16.8
67000	242.3	0.105E 02	22.3	0.151E-03	16.8
68000	238.5	0.917E 01	23.1	0.133E-03	17.4
69000	234.2	0.795E 01	23.9	0.118E-03	18.3
70000	225.0	0.688E 01	24.7	0.106E-03	21.7
71000	217.3	0.590E 01	24.7	0.946E-04	23.8
72000	214.4	0.505E 01	24.9	0.821E-04	23.4
73000	210.2	0.432E 01	25.2	0.716E-04	23.8
74000	204.9	0.367E 01	25.2	0.625E-04	24.6
75000	202.2	0.312E 01	25.4	0.538E-04	24.1
76000	197.1	0.264E 01	25.5	0.467E-04	25.0
77000	186.4	0.222E 01	25.2	0.414E-04	29.2
78000	179.5	0.185E 01	24.4	0.359E-04	30.6
79000	172.6	0.153E 01	23.0	0.308E-04	31.4
80000	161.9	0.125E 01	20.8	0.269E-04	34.8
81000	161.5	0.101E 01	17.9	0.219E-04	31.8
82000	162.6	0.828E 00	15.6	0.177E-04	28.4
83000	160.3	0.673E 00	13.0	0.146E-04	27.2
84000	157.7	0.546E 00	10.2	0.120E-04	26.2
85000	155.0	0.441E 00	7.0	0.992E-05	24.7
86000	151.4	0.355E 00	3.6	0.818E-05	23.6
87000	147.1	0.283E 00	-0.7	0.670E-05	21.8
88000	142.0	0.224E 00	-5.6	0.546E-05	19.2
89000	139.7	0.177E 00	-10.3	0.441E-05	15.8
90000	137.0	0.140E 00	-14.8	0.356E-05	12.3





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