Richards Bay Mesometeorological Data

Vertical profiles of air temperature and wind velocity and surface wind statistics

M T Scholtz, E T Woodburn,
C J Brouckaert and M Mulholland

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PREFACE

The National Programme for Environmental Sciences is one of several national scientific programmes administered by the CSIR. It aims at identifying environmental problems in South Africa which lend themselves to solution through cooperative research and at promoting and coordinating research which will contribute to the solution of such problems. The National Programme includes research relating to environmental problems in the atmosphere, inland waters, the sea and terrestrial ecosystems. It is designed to meet both national and international objectives and it contributes to the international programme of SCOPE (Scientific Committee on Problems of the Environment), the body set up in 1970 by ICSU (International Council for Scientific Unions) to act as a focus of non-governmental international scientific effort in the environmental field. The section for the Atmosphere (previously the Lower Atmosphere Section) of the National Programme is concerned chiefly with mesometeorological research relating to the dispersion and transport of pollutants in the atmosphere, mesoclimatic changes in urban areas and research and surveillance relating to air pollution and possible climatic change in southern Africa.

The funding received from the National Committee for Environmental Sciences for this work is gratefully acknowledged.

The authors are also grateful to the Atomic Energy Board for their assistance with the design and construction of electronic equipment, to the AE&CI Pollution Research Group at the University of Natal for financial assistance and the loan of equipment, to the Council for Scientific and Industrial Research for funding in the form of a post-graduate bursary and to the University of Natal Research Fund. Others who played a major role in the field work were Mr D Penn (Chief Technician) and Mr B Sharp (Research Technician).

TITLES IN THIS SERIES

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25. Richards Bay mesometeorological data. Vertical profiles of air temperature and wind velocity and surface wind statistics. M T Scholtz, E T Woodburn, C J Brouckaert and M Mulholland. March 1978. 104 pp.

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ABSTRACT

This report details the experimental methods and data obtained in the course of a study of the movement of stable air over a complex region. The field work was carried out in the Richards Bay area on the Natal Coast during the period May to August 1975.

Data reported are :

(i) vertical profiles of air temperature and wind speed extending up to 3,5 km; and

(ii) directional frequency statistics of the surface wind based on wind measurements at eight stations in the Richards Bay area.

An attempt is made to classify the wind statistics in terms of atmospheric stability by using time-of-day and wind speed as criteria for stability classification.

SAMEVATTING

Die verslag gee besonderhede oor die eksperimentele metodes en data wat verkry is tydens 'n ondersoek van die beweging van stabiele lug oor 'n komplekse gebied. Die veldwerk was uitgevoer in die Richardsbaaigebied van die Natalse kus gedurende die tydperk Mei tot Augustus 1975.

Die volgende data word aangebied :

(i) vertikale profiele van lugtemperatuur en windspoed tot op 'n hoogte van 3,5 km; en

(ii) rigtingsfrekwensie statistieke van die oppervlaktewind, gebaseer op windmetings by agt stasies in die Richardsbaaigebied.

'n Poging is gemaak om die windstatistiek te klassifiseer in terme van atmosferiese stabiliteit deur die tyd gedurende die dag en die windspoed te gebruik as kriteria vir die klassifikasie van stabiliteit.

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INTRODUCTION

The Richards Bay mesometeorological programme was initiated in mid-1973 as part of the National Programme for Environmental Sciences, Lower Atmosphere Section. The work was carried out by the Department of Chemical Engineering at the University of Natal, Durban and was one of the projects of the Working Group for Mesometeorology. The work was completed in 1976.

The Department of Chemical Engineering has for several years actively pursued research projects on the dispersion of airborne effluent in a complex region under stable atmospheric conditions. This work which was mainly of a theoretical nature has led to the development of numerical models for -

(i) the prediction of the wind fields associated with the movement of stable air over a region of complex topographic relief and non-uniform surface temperature; and

(ii) the dispersion of airborne effluent from a point source in a complex region.

The wind field model was initially tested in 1972 by comparing model predictions with field data taken in the Cape Town area. The field programme conducted on this occasion was limited in both scope and duration and while very encouraging results were obtained in Cape Town, the findings were inconclusive in many respects.

In the Richards Bay area, stable atmospheric conditions with surface based radiation inversions occur mainly during the winter months and with the highest frequency during the period May to August. A typical example of highly stable atmospheric conditions during the period in which experimental results were obtained is given by Figure 1. The experimental programme was conducted over three winter seasons. In 1974 the equipment was commissioned, installed and tested; in 1975 wind fields and dispersion data under stable conditions were obtained and in 1976 further dispersion data were obtained. In this present report only the mesometeorological data are reported. The dispersion data using atmospheric tracers will be the subject of a separate report, while details of a proposed wind field model is given in Scholtz and Brouckaert (1976).

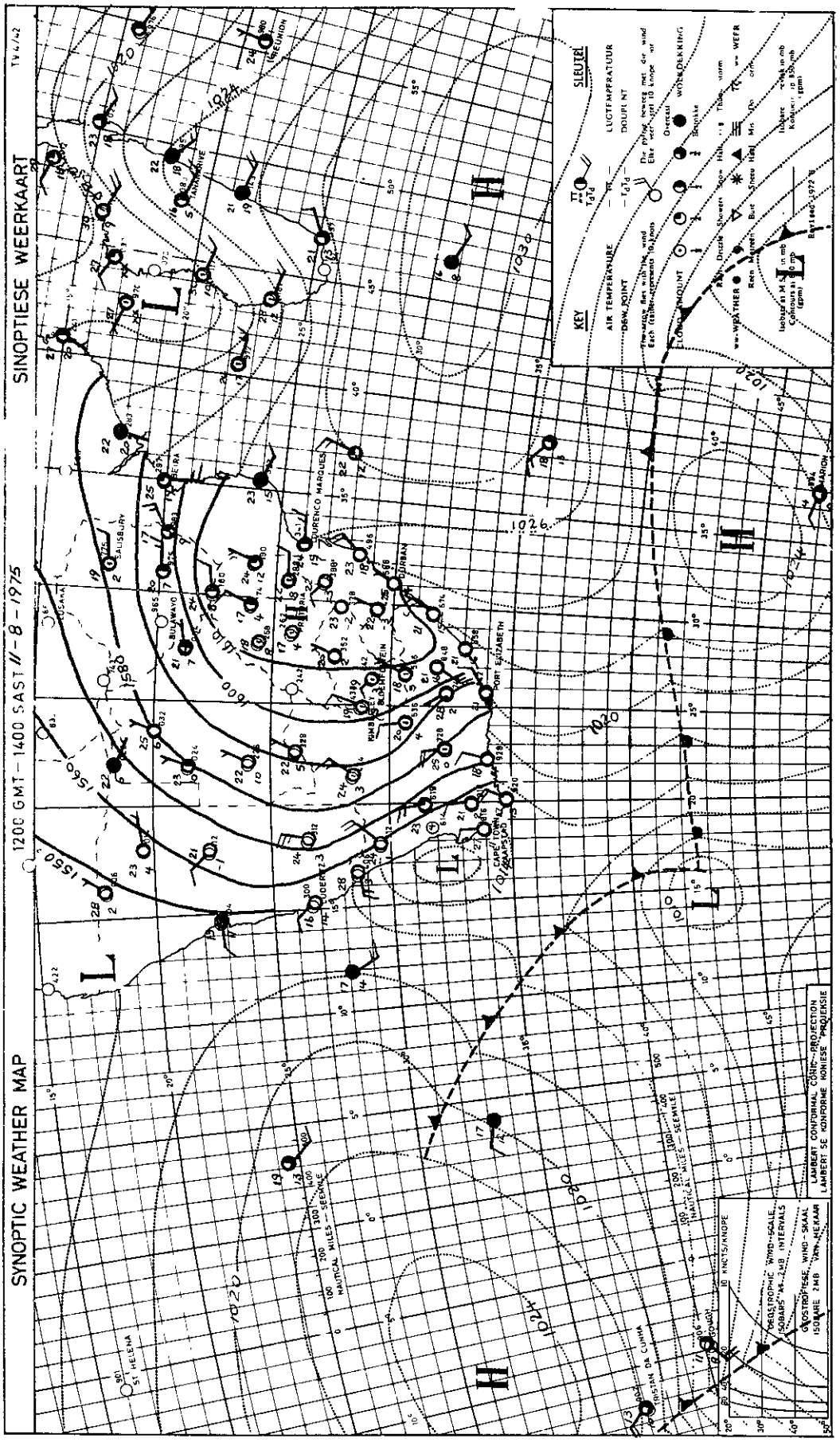


Figure 1. Synoptic weather map for 8 August 1975, illustrating the stable atmospheric conditions often prevailing during winter months. (Source : S A Weather Bureau).

The objectives of the mesometeorological work were :

- to obtain simultaneous point wind measurements at a large number of sites in the Richards Bay area so that information may be gained regarding the wind fields during stable conditions; and

- to obtain vertical profiles of wind speed and air temperature in the first 3,5 km of the atmosphere so that information may be gained regarding the geostrophic wind as well as the depth and intensity of surface based temperature inversions.

The data reported cover only the winter period of May to August 1975.

EXPERIMENTAL DETAILS

Siting of Instruments

Figure 2 is a map of the Richards Bay area covered by the field work. The contours (at 10 m intervals) show the topographic relief. Civil work associated with the development of the new harbour, such as land reclamation and the building of roads and railways, has considerably altered the shape of the bay. Figure 2 is based on a 1:50 000 topographical map published by the Government Printer, Pretoria (1973). Measuring sites are indicated by circled numbers. Wind recorders were installed at stations numbers 1, 2, 3, 4 and 9 while the other station numbers shown indicate the location of other instrumentation which provided wind and temperature information via a data telemetry system. All wind measurements were made at a height of approximately 11 m. Three further wind recorders were installed outside of the area covered by Figure 2. The first was north of Richards Bay on top of the sand dunes on the road leading to Kwa Mbonambi Beach (Station 8), the second was next to the fire lookout on top of the coastal dunes about 3 km ESE of Port Durnford (Station 6) and the third was on top of the coastal dunes on Mr Ian Garland's farm at Mtinzini (Station 5).

A base station was established at station 9 comprising a wooden site hut (3,5 x 3,5 m) in which communications, data telemetry and other electronic

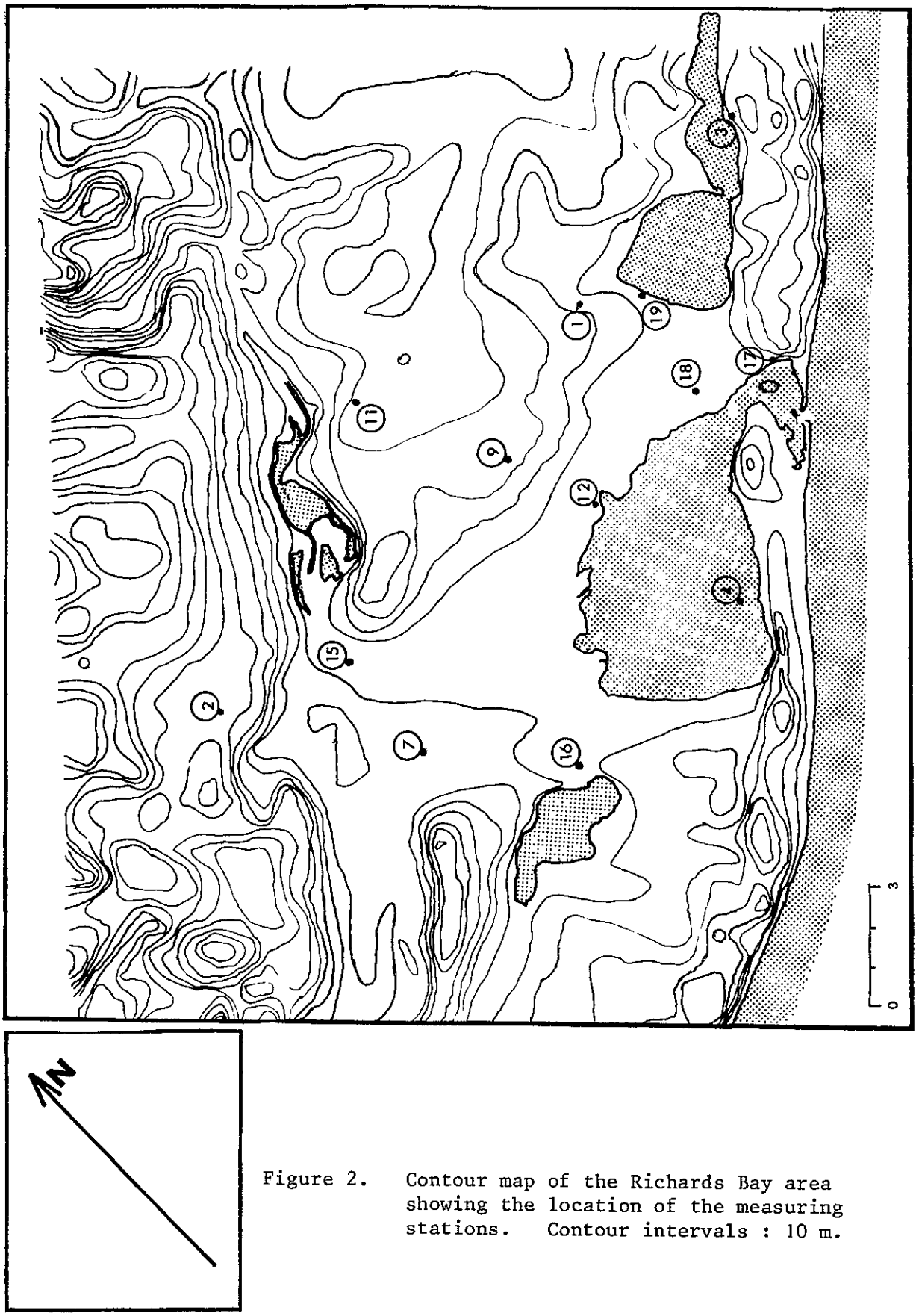


Figure 2. Contour map of the Richards Bay area showing the location of the measuring stations. Contour intervals : 10 m.

equipment was housed, and a small galvanised iron hut which acted as a store. The site was powered by two 1,5 kw petrol generators. A 25 m mast was installed at station 9. This mast carried communications and data telemetry antennae as well as instrumentation for wind and temperature measurement. For dispersion work, tracer material was released from the top of this mast. The base station was also the point of release for an ascending balloon-borne temperature transmitter.

Vertical temperature profiles

Two of the parameters required by the numerical wind field model are the depth and intensity of the surface based radiation inversion which develops on clear nights. Existing temperature sounding devices were considered at the start of this programme and were found to be either too expensive (expendable sondes), lacking in resolution near the ground or limited in ceiling. It was therefore decided to develop a new expendable device which could be carried by an ascending balloon. This new device (called a temperature sonde) proved very successful and over 100 temperature profile measurements were made using the sonde. The design, development and use of the sonde is described in Scholtz and Gross (1978). The cost of the completed sonde (including manufacture) was approximately R6 per unit at 1974 prices.

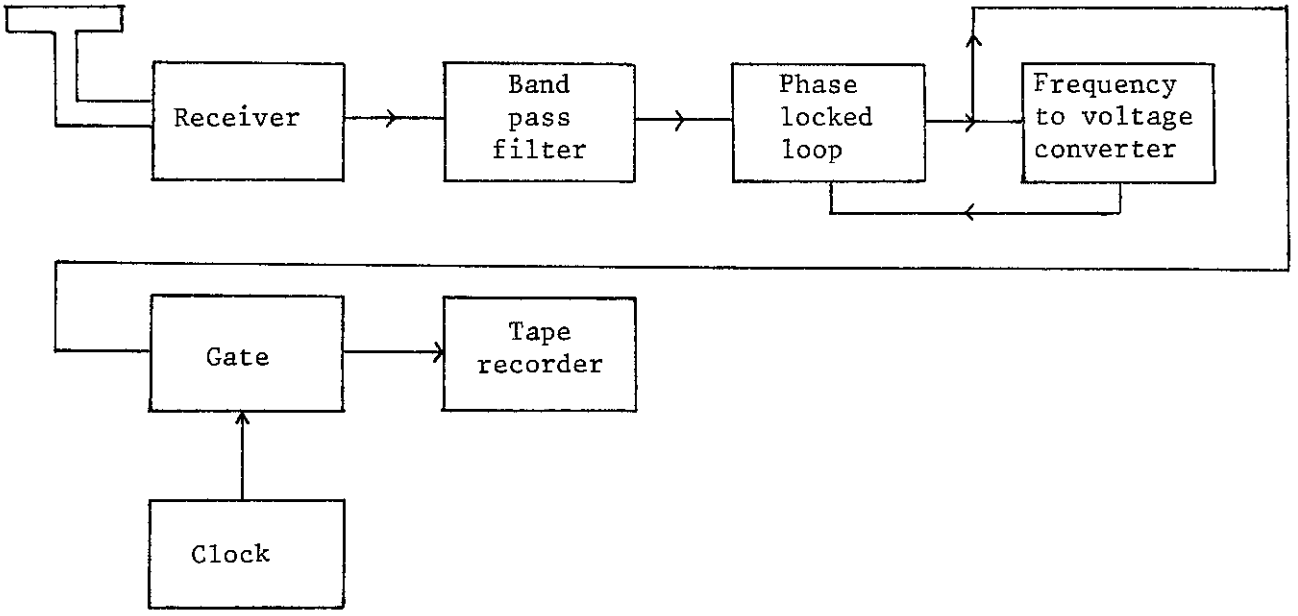
Briefly, as the sonde rises, air passes a thermistor bead 0,25 mm in diameter : response to temperature changes using this thermistor is rapid. The thermistor modulates an oscillator which in turn pulse modulates a simple transmitter. The oscillator frequency is linearly related to temperature and requires no calibration other than the noting of a reference temperature and frequency at the ground before release. A 100 g meteorological balloon filled with hydrogen to give an ascent rate of 2,2 m/s was used to carry the sonde. Based on laboratory tests, the instrument precision is estimated to be 0,054^{o}C per degree temperature change from the surface reference temperature.

Decoding of temperature sonde data

The signal transmitted by the temperature sonde was received at station 9 using a conventional frequency-modulated receiver. To minimise inter-

ference from other transmissions in frequencies near that of the sonde, a high quality receiver with crystal filter tuning was used.

Direct frequency measurement of the signal was in most cases satisfactory. In some cases, however, interference from distant and weak transmissions was experienced, with subsequent loss of data. To overcome this problem, the received signal was passed through a conventional band bass filter and then to a "phase-locked loop" (PLL). In operation the PLL, once locked onto the sonde frequency, will reproduce the changing input signal frequency at its output, ignoring all other noise frequencies unless of course these tend to swamp the temperature sonde signal. The free running frequency of the voltage controlled oscillator (VCO) in the PLL should be close to that of the signal to be tracked. This was ensured by using a frequency-to-voltage converter on the output signal to supply the correct voltage to VCO of the PLL.



Using the above scheme the sonde signal was effectively tracked and recorded over its full frequency range. In most instances the received signal was clear and thus sophisticated signal tracking was not necessary. The signal from the PLL was gated for 35 ms at a frequency of 1 Hz, so providing a timing pulse on the tape record. An inexpensive cassette tape recorder was used.

In order to provide "in-the-field" temperature profile information, the PLL signal was also passed to a simple rate-meter and the analog voltage was output on a 5,5 cm strip chart recorder.

The magnetic tape record was subsequently decoded onto permanent disc file using a CDC 1700 computer.

Vertical wind velocity profiles

The wind speed and direction profiles were obtained by theodolite tracking of the ascending balloon which carried the temperature sonde. During hours of darkness, a plastic cup containing a candle suspended below the balloon provided a sufficiently bright light to permit tracking to heights which in most cases were in excess of 1 km. The "single-theodolite" method of tracking was used whereby the calculated rate-of-rise and ascent time provide the height coordinate, and the elevation and azimuth angles determined by the theodolite give the balloon's position. The average wind speed and direction is calculated from the change of balloon position between successive readings. Readings at the theodolite were made at intervals of approximately 15 seconds, which correspond to 33 m height intervals. Readings at the theodolite were synchronised using a buzzer activated by a variable interval timer. Time intervals as short as 10 seconds could be used under clear, low wind speed conditions.

Rate of ascent was calculated from (Meteorological Office 1959)

$$\text{rate} = 1{,}4 \frac{(\text{free lift})^{\frac{1}{2}}}{(\text{total lift})^{\frac{1}{3}}} \quad \text{m/s}$$

DATA

Wind recorder data

The wind recorders were installed in February 1974 and records were taken continuously until August 1976. A large volume of data was generated by these recorders, and wind data only for the winter period 1 May 1975 to 28 August 1975 have been extracted from the records. This period corresponds to that during which vertical temperature and wind profiles were

obtained. All the charts from the instruments are on file in the Department of Chemical Engineering at the University of Natal. Data for the period 1 May to 28 August 1975 have been digitized directly from the charts onto disc file of a CDC 1700 computer. From the data file various wind statistics have been computed for each station.

Wind statistics

In order to provide the maximum information, directional frequencies have been computed and plotted as histograms while the tabulated data are given as well.

Directional frequencies are given as the percentage of total time that the wind blows from a particular sector. The compass was divided into 36 ten degree sectors. All wind directions given in this report conform to meteorological practice where the direction from which the wind is coming is the wind direction. The positive angular direction is clockwise i e.

$N = 0^{o}$
$E = 90^{o}$
$S = 180^{o}$
$W = 270^{o}$

Referring to the histograms, the following statistics have been plotted -

(i) $p(\theta_i)$ and $\bar{u}(\theta_i)$:

$p(\theta_i)$ is the percentage frequency with which the wind blows from sector θ_i, i = 1 to 36.

$$\sum_{1}^{36} p(\theta_i) = 100\%$$

$\bar{u}(\theta_i)$ is the average wind speed in that sector.

(ii) $p_j(\theta_i)$ and $\bar{u}_j(\theta_i)$:

These directional frequencies are intended to provide some information regarding the stability of the atmosphere which is associated with the

directional frequencies. For example, in the Richards Bay area air movement at a speed of less than 3 m/s during the period 00h00 to 06h00 is most likely stable whereas for wind speeds in excess of 5 m/s during the same period the air near the surface (below 100 m) is likely to tend towards neutral stability. These generalisations must be used with caution but they are useful for dispersion calculations.

The total directional frequency $p(\theta_i)$ has been sub-categorised into the six sub-categories $p_j(\theta_i)$, j = 1 to 6. Notice that

$$\sum_{j=1}^{6} \sum_{i=1}^{36} p_j(\theta_i) = 100\%$$

The value of j is given by the following table :

Wind speed (m/s) \ Time	00h00 to 06h00	06h00 to 10h00	10h00 to 14h00	14h00 to 18h00	18h00 to 00h00
<2	6	5	1	2	5
2-3	6	4	2	3	5
3-5	5	4	2	3	4
5-6	4	4	3	4	4
>6	4	4	4	4	4

The categories in the above table to some extent are consistent with the Pasquill stability categories. For the Richards Bay area during the winter months the following generalisations may prove useful for dispersion calculations.

j = 1, 2, 3 atmosphere is unstable
j = 4 atmosphere is neutral
j = 5, 6 atmosphere is stable

(iii) $p(\theta_i|\bar{u}_j)$:

These histograms give the percentage directional frequency for wind speeds in the ranges

$\bar{u}$ <2 m/s
$2 \leqslant \bar{u}$ <3
$3 \leqslant \bar{u}$ <5
$5 \leqslant \bar{u}$ <6
$6 \leqslant \bar{u}$ <8
$8 \leqslant \bar{u}$ <10
$\bar{u}$ >10

(iv) Tabulated directional probabilities

The tabulated information is presented in the same order from left to right as the histograms. The first column gives the mid-sector direction. The last row of figures gives the column sums of the direction probabilities.

Temperature and wind velocity profiles

These data are given as graph plotter output. These figures show three separate plots : the first two plots show the wind speed and direction, (the individual data points are indicated by the apex of the small triangles) while the third trace gives the temperature profile measured by the sonde.

The individual data points are at approximately 2,2 m intervals and are not shown. The small triangle at the start of the temperature trace indicates the surface air reference temperature. In some cases this reference temperature does not appear to be consistent with the temperature trace. This is due to a delay between recording the reference frequency and launching the sonde during which time the surface air temperature had changed. Information pertaining to each run, such as date, release time, surface wind and remarks are also shown on these plots. The small number in the top right hand corner of the plot is the starting sector on computer disc file at which the sonde data for that run number commences.

In order to provide sufficient detail near the surface, the first 250 m of each temperature profile is shown on an expanded scale in the second set of figures (the height coordinate is in metres and the abscissa in degrees Celsius).

The temperature traces show a good resolution of temperature and rapid fluctuations in the lapse rate with height are found. These fluctuations are typical of temperature profiles after sunrise and are generally absent during night hours.

A spurious fluctuation which appears on some of the profiles which is caused by interference from the data telemetry system. The data telemetry system transmits an interrogating signal to the remote stations every 15 seconds : this interference is easily recognised as it caused a spike on the temperature trace at approximately 35 m intervals such as is seen for Run 78. Generally the data telemetry system was switched off during temperature soundings.

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Scholtz M T and I B Gross 1978. A simple high resolution temperature sonde for the lower atmosphere. Submitted for publication in *Atmospheric Environment*.

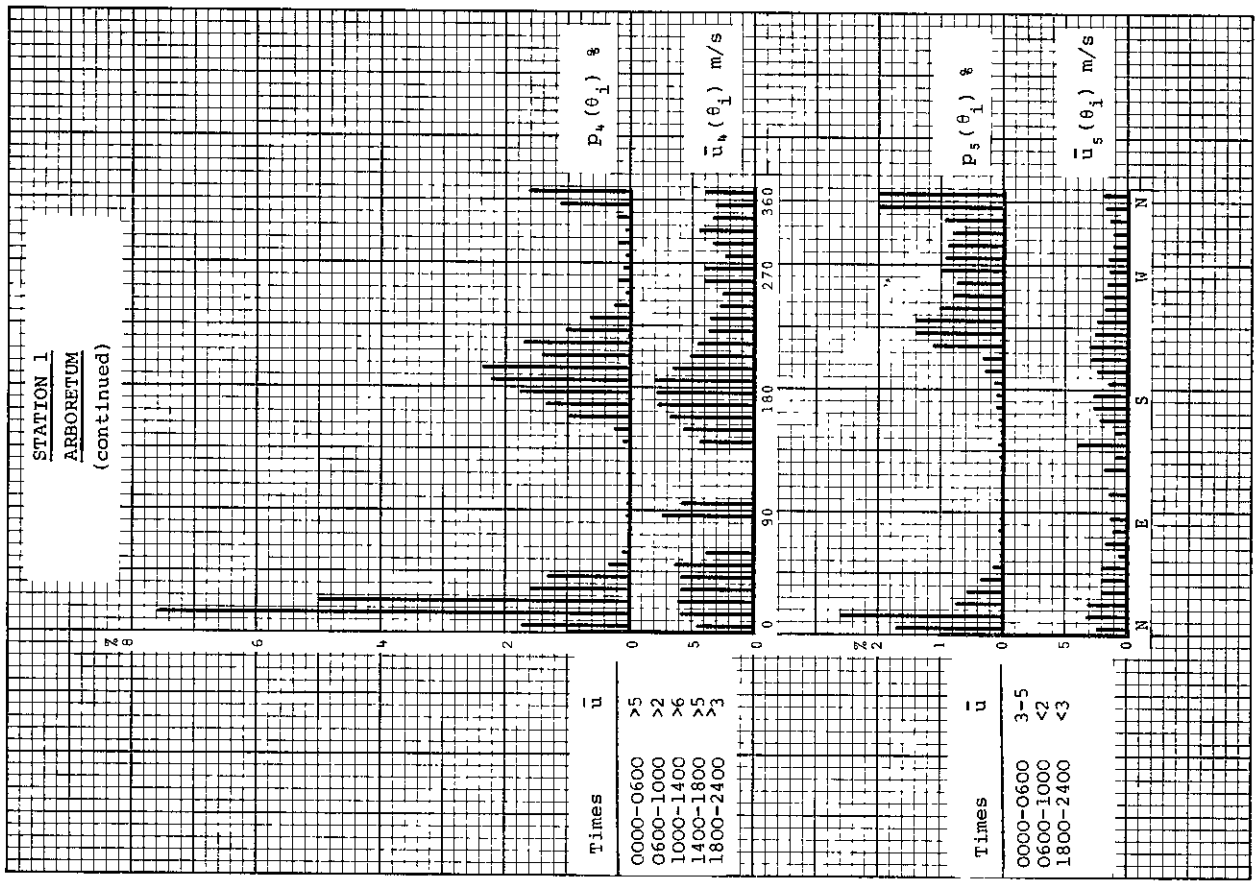
APPENDIX 1

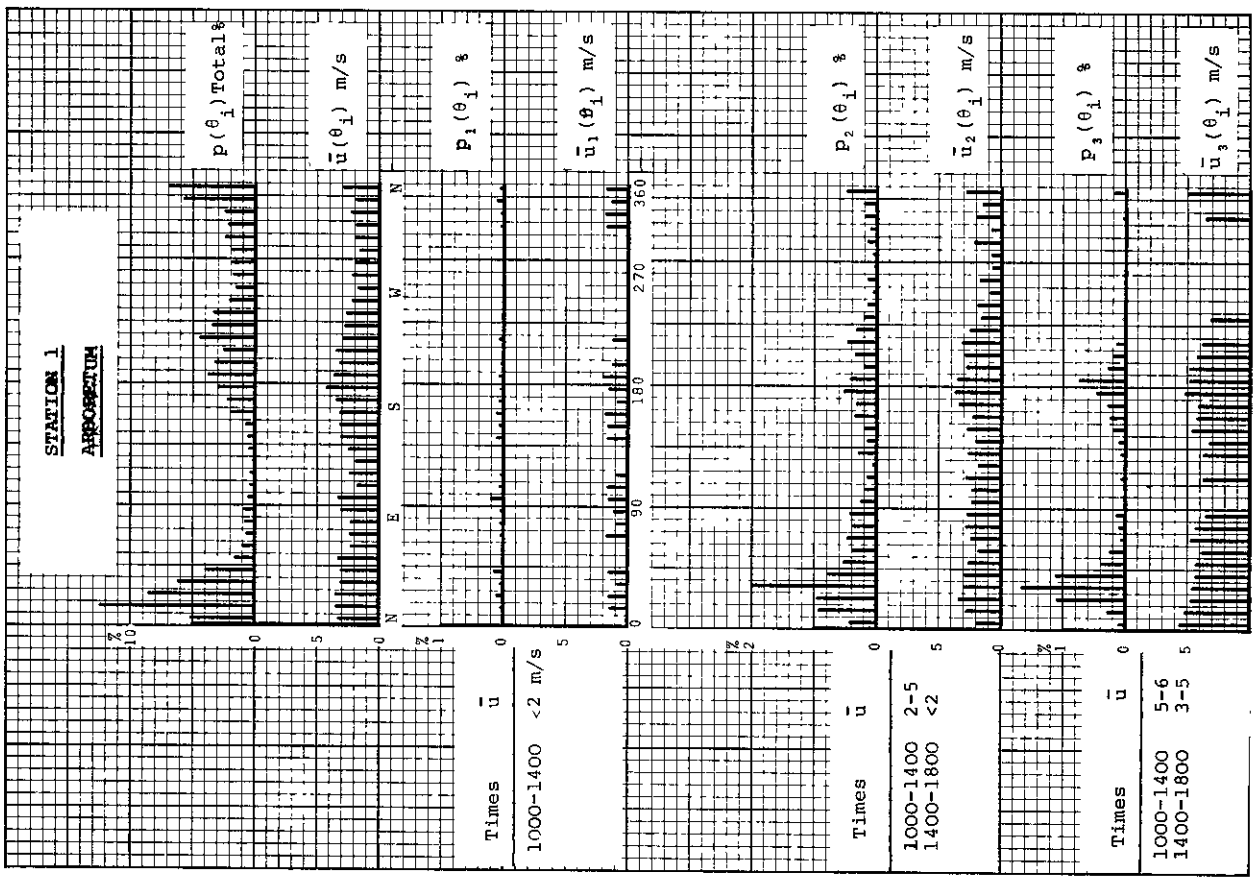
WIND STATISTICS

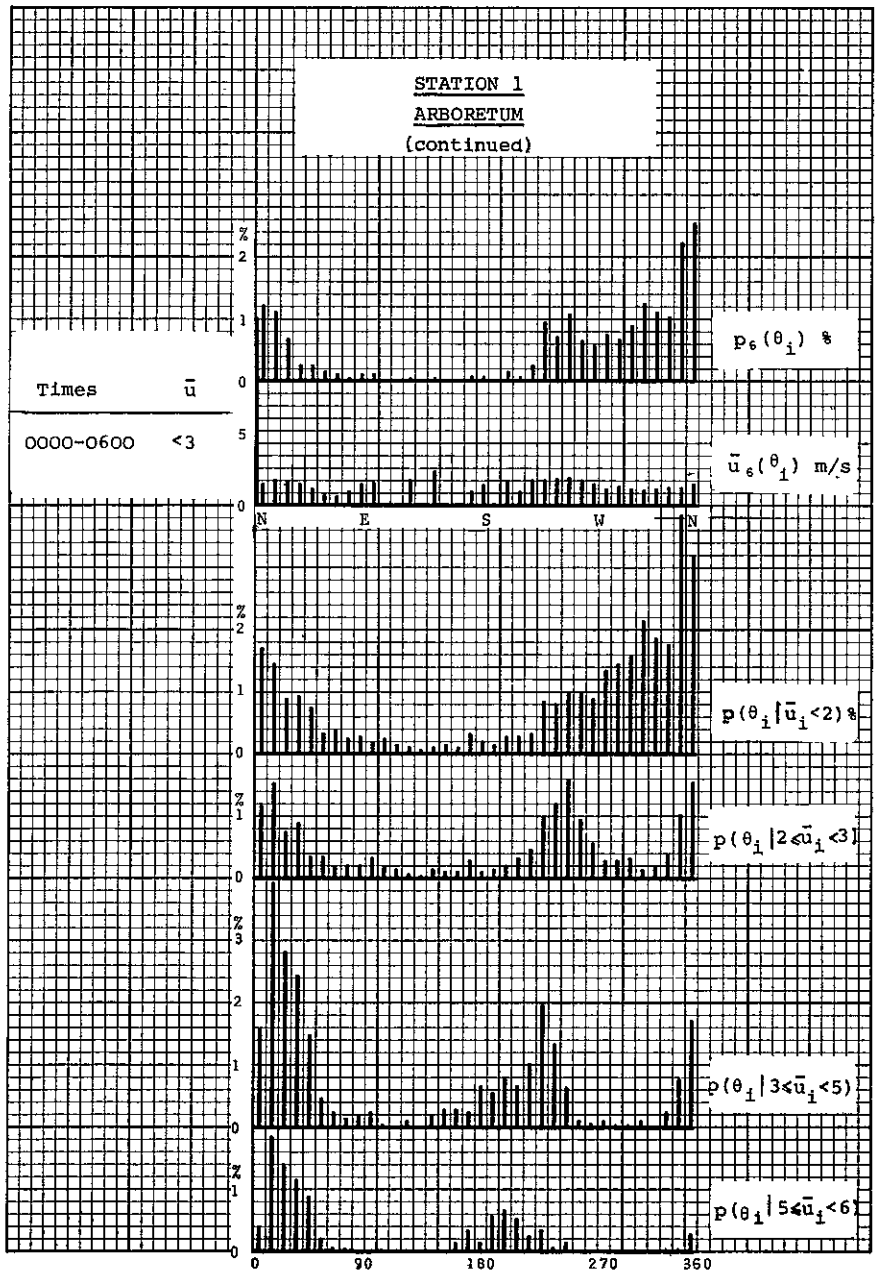
Note : (i) Refer to Figure 1 (page 3) for station locations.

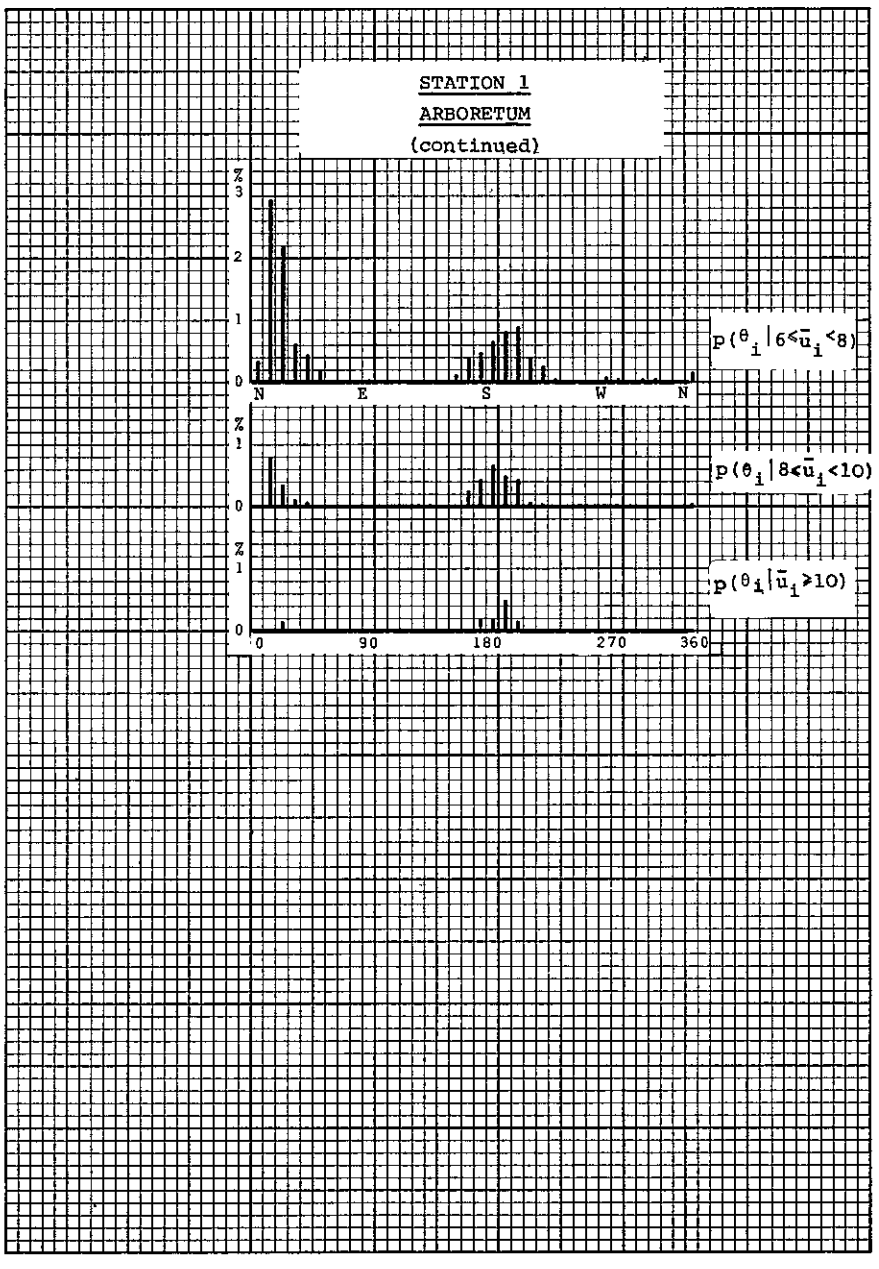
(ii) Statistics based on hourly averages for the period May to August 1975 inclusive.

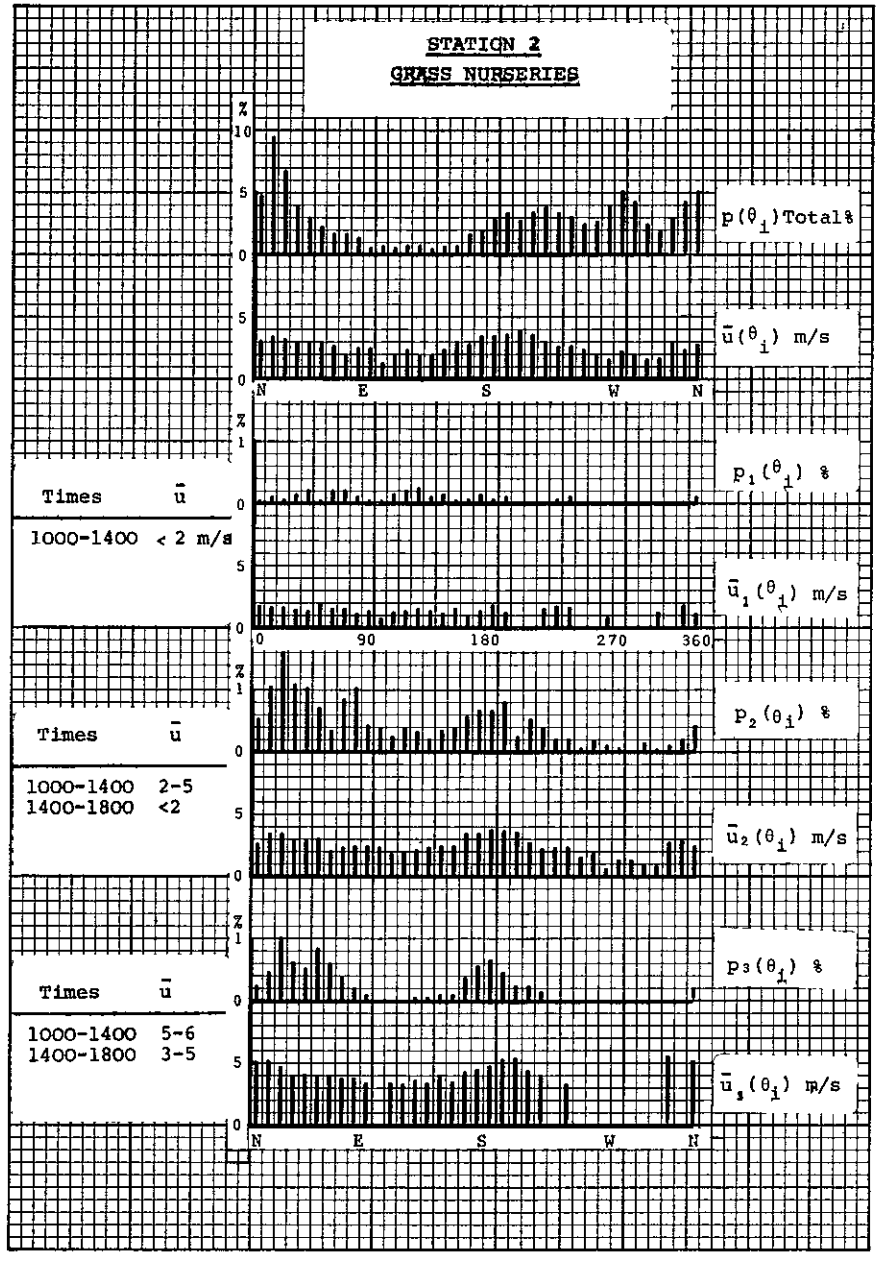
(iii) Station 4 (Berm Wall) represents only May and June 1975.

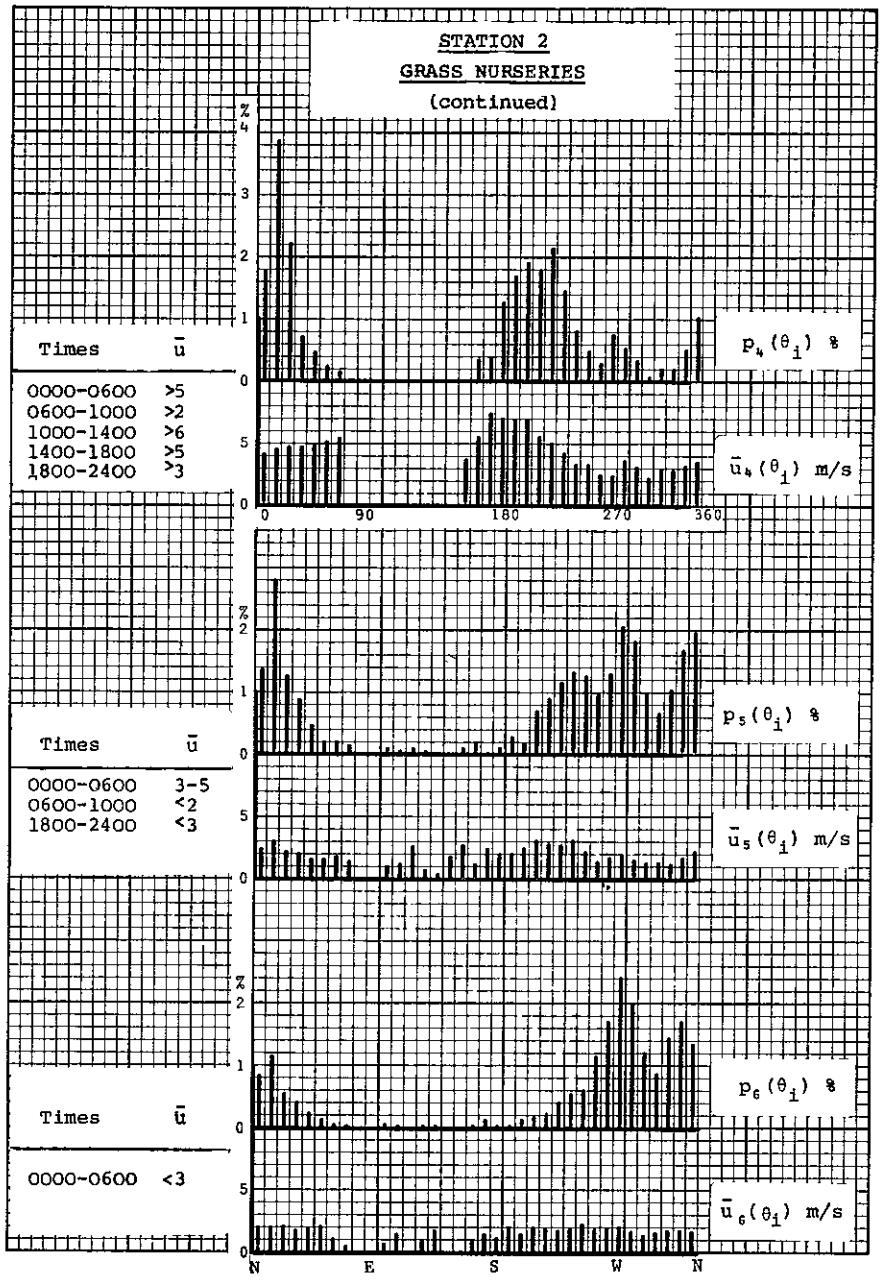

STATION 1
ARBORETUM
(continued)
$p_4(\theta_i)$ %
$\bar{u}_4(\theta_i)$ m/s
$p_5(\theta_i)$ %
$\bar{u}_5(\theta_i)$ m/s
Times $\bar{u}$
0000-0600 >5
0600-1000 >2
1000-1400 >6
1400-1800 >5
1800-2400 >3
Times $\bar{u}$
0000-0600 3-5
0600-1000 <2
1800-2400 <3
N E S W N

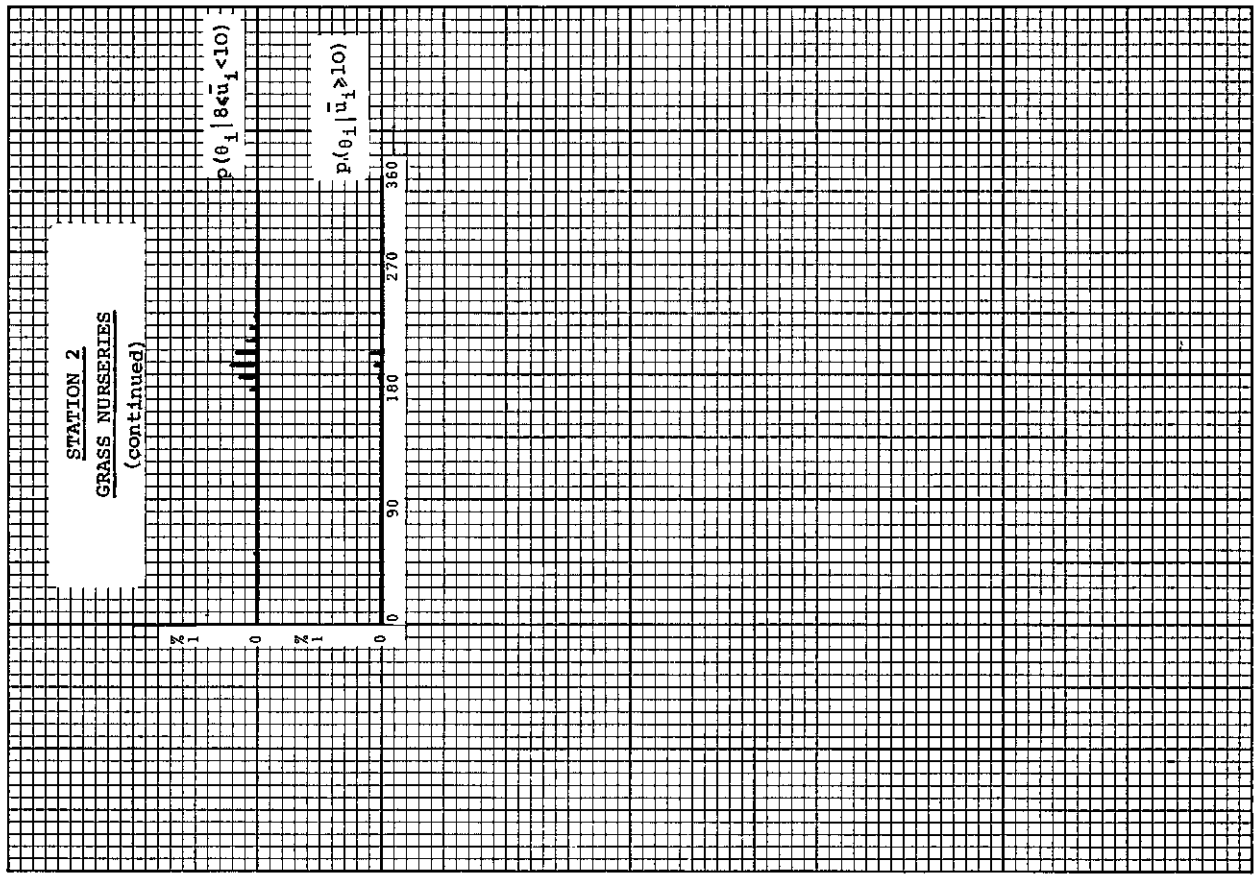

STATION 1
ARBORETUM
$p(\theta_i)$ Total %
$\bar{u}(\theta_i)$ m/s
$p_1(\theta_i)$ %
$\bar{u}_1(\theta_i)$ m/s
$p_2(\theta_i)$ %
$\bar{u}_2(\theta_i)$ m/s
$p_3(\theta_i)$ %
$\bar{u}_3(\theta_i)$ m/s
Times $\bar{u}$
1000-1400 <2 m/s
Times $\bar{u}$
1000-1400 2-5
1400-1800 <2
Times $\bar{u}$
1000-1400 5-6
1400-1800 3-5
N E S W N

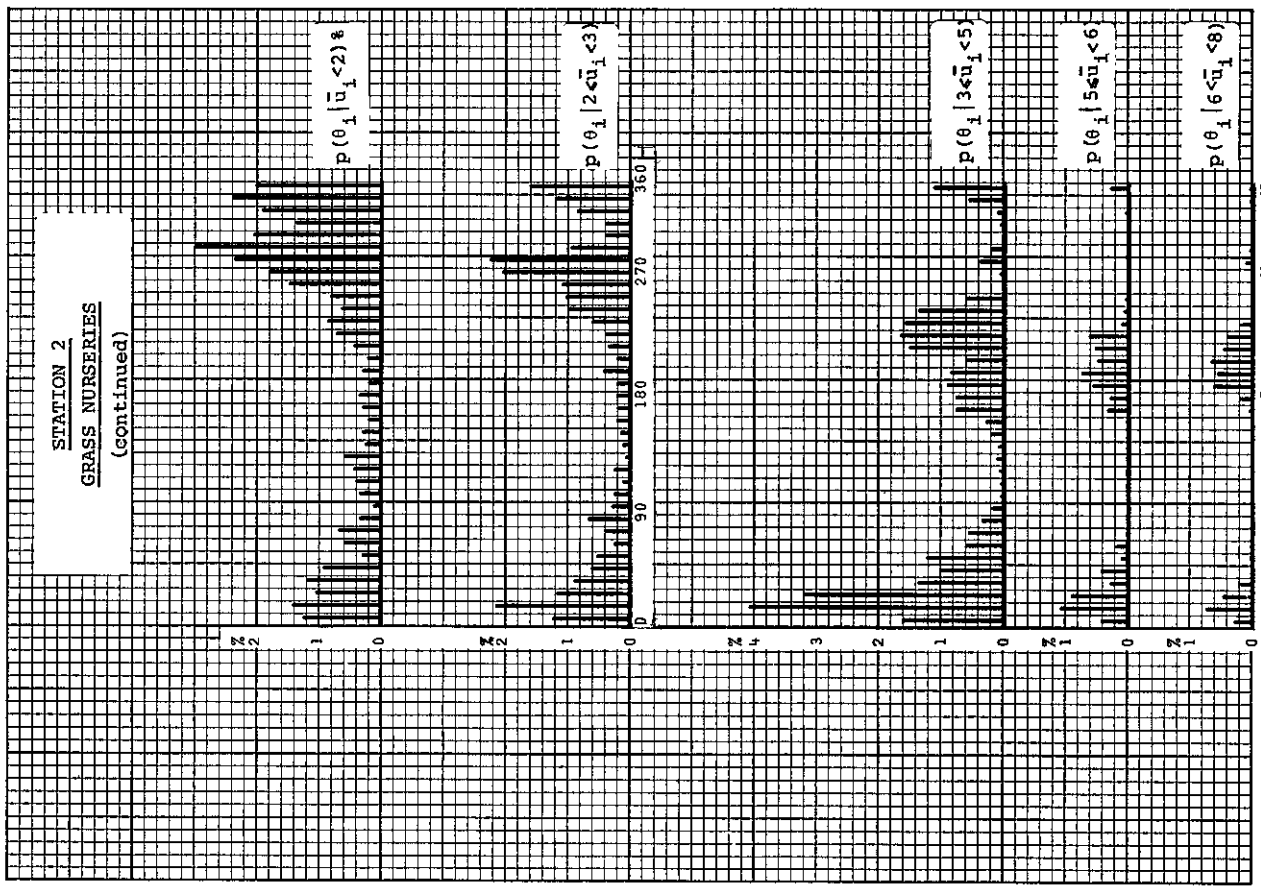

STATION 1
ARBORETUM
(continued)
Times
$\bar{u}$
0000-0600
<3
$p_6(\theta_i)$ %
$\bar{u}_6(\theta_i)$ m/s
N
E
S
W
N
$p(\theta_i|\bar{u}_i<2)$ %
$p(\theta_i|2\leq\bar{u}_i<3)$
$p(\theta_i|3\leq\bar{u}_i<5)$
$p(\theta_i|5\leq\bar{u}_i<6)$
0
90
180
270
360

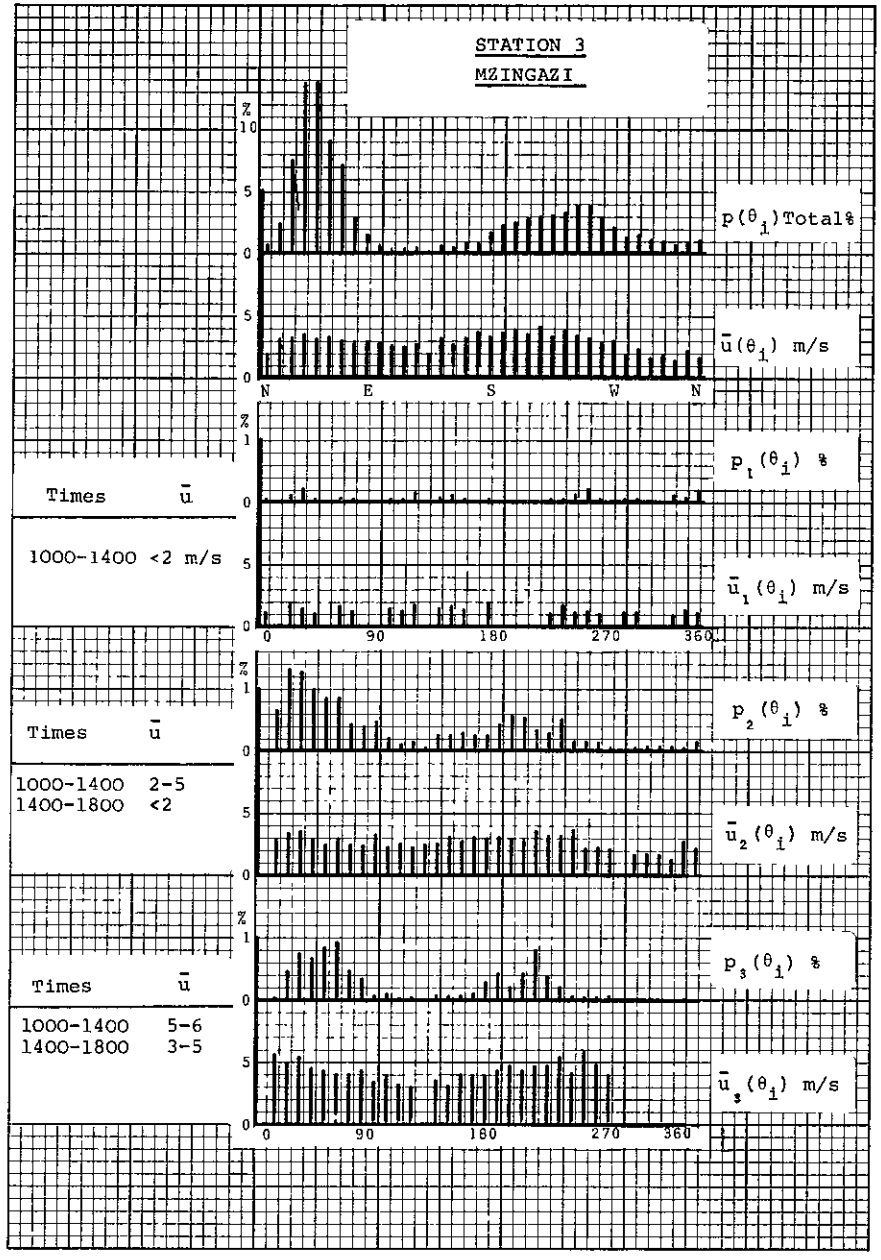

STATION 1
ARBORETUM
(continued)
$p(\theta_i|6\leq\bar{u}_i<8)$
$p(\theta_i|8\leq\bar{u}_i<10)$
$p(\theta_i|\bar{u}_i\geq10)$
N
E
S
W
N
0
90
180
270
360

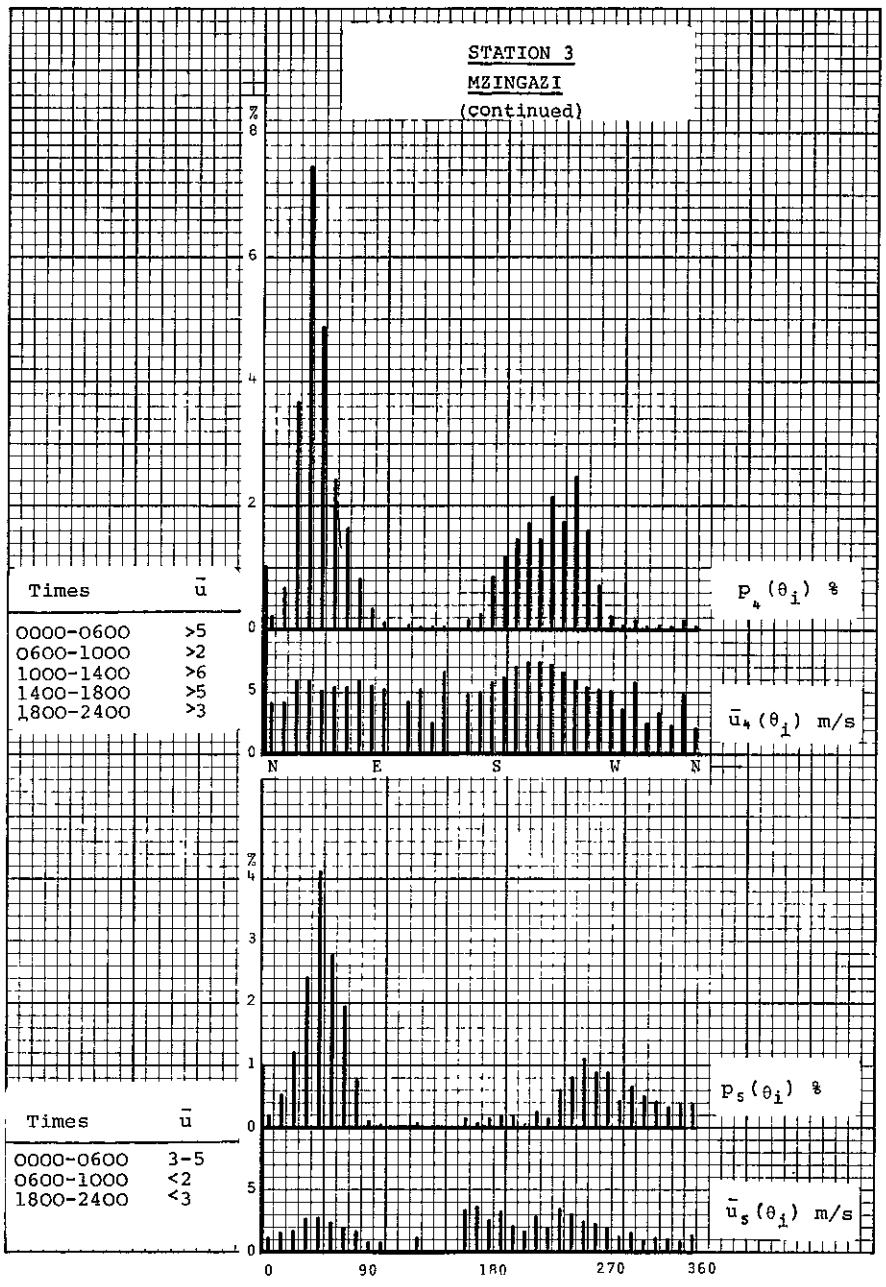

STATION 2
GRASS NURSERIES
p(θi) Total %
ū(θi) m/s
p1(θi) %
ū1(θi) m/s
p2(θi) %
ū2(θi) m/s
p3(θi) %
ū3(θi) m/s
Times ū
1000-1400 < 2 m/s
Times ū
1000-1400 2-5
1400-1800 <2
Times ū
1000-1400 5-6
1400-1800 3-5
N E S W N
0 90 180 270 360

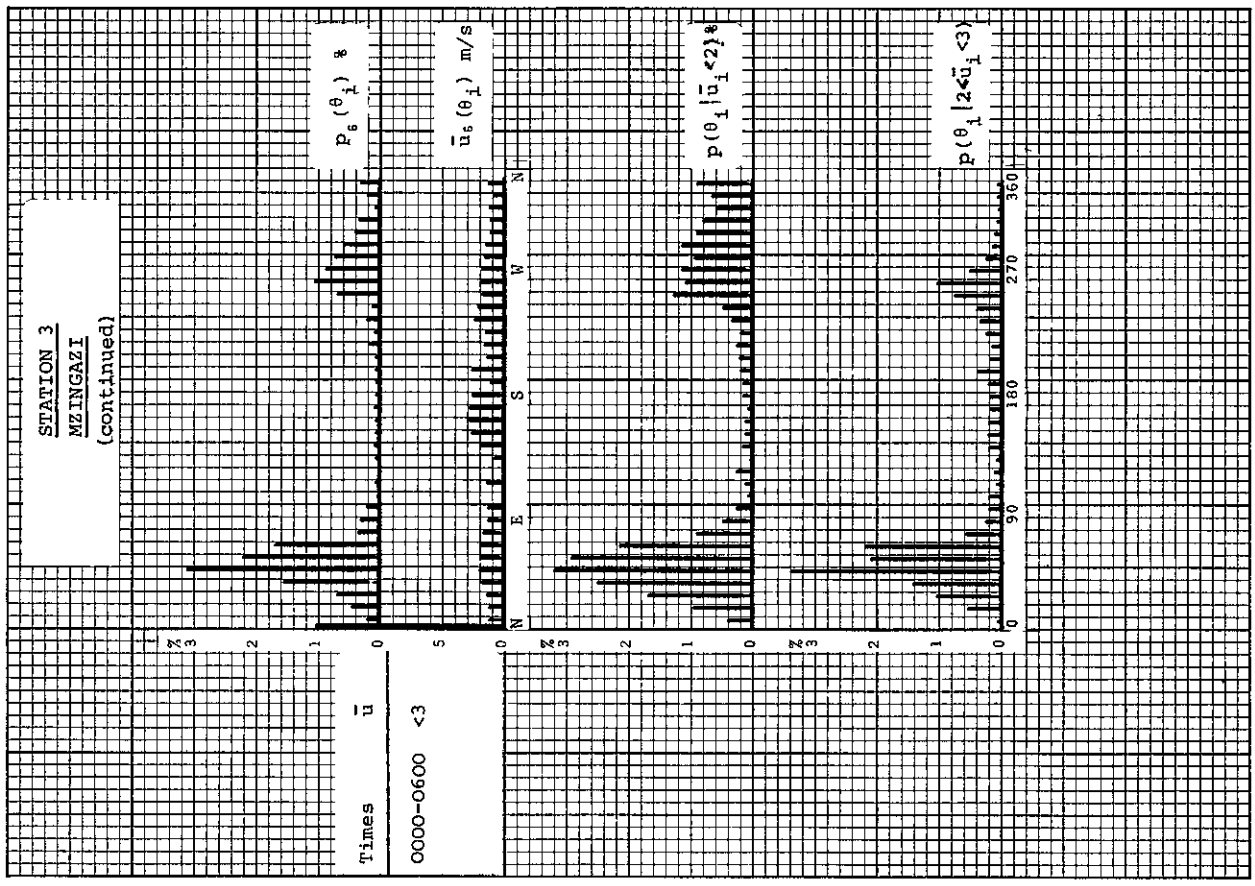

STATION 2
GRASS NURSERIES
(continued)
p4(θi) %
ū4(θi) m/s
p5(θi) %
ū5(θi) m/s
p6(θi) %
ū6(θi) m/s
Times ū
0000-0600 >5
0600-1000 >2
1000-1400 >6
1400-1800 >5
1800-2400 >3
Times ū
0000-0600 3-5
0600-1000 <2
1800-2400 <3
Times ū
0000-0600 <3
N E S W N
0 90 180 270 360

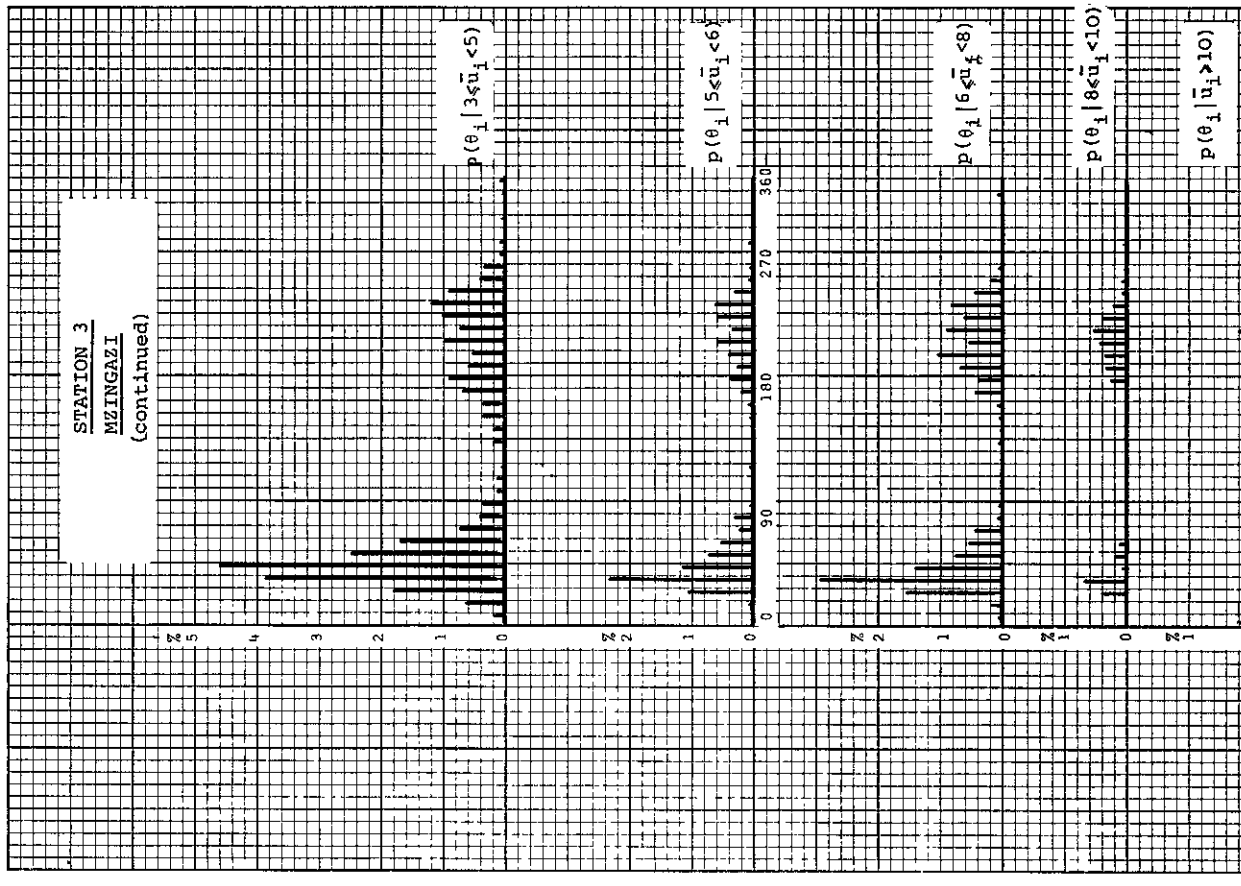

STATION 2
GRASS NURSERIES
(continued)
p(θi|8≤ūi<10)
p(θi|ūi≥10)
%
0
90
180
270
360

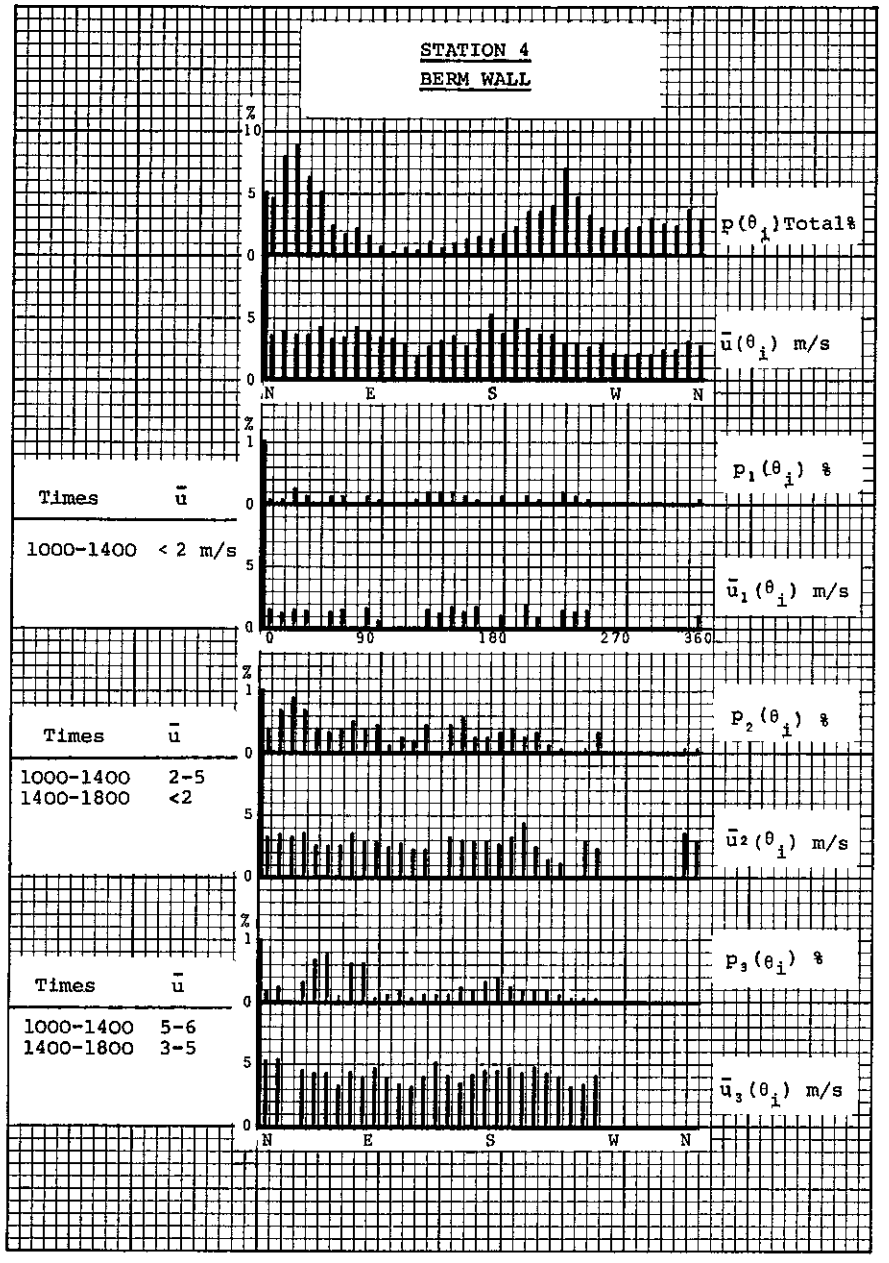

STATION 2
GRASS NURSERIES
(continued)
p(θi|ūi<2)%
p(θi|2≤ūi<3)
p(θi|3≤ūi<5)
p(θi|5≤ūi<6)
p(θi|6≤ūi<8)
N
E
S
W
N
0
90
180
270
360

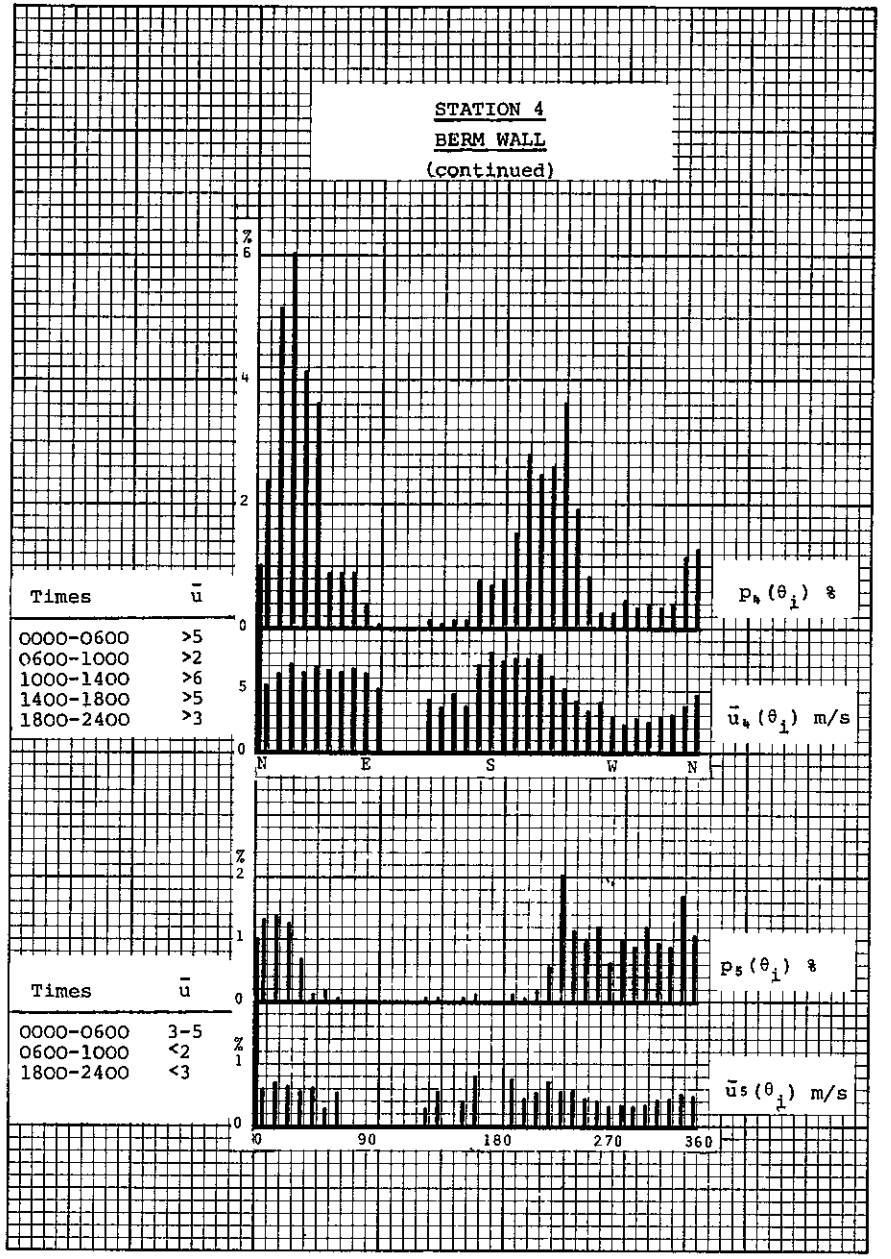

STATION 3
MZINGAZI
% 10 5 0
p(θi) Total %
ū(θi) m/s
N E S W N
Times ū
1000-1400 <2 m/s
% 1 0
p1(θi) %
5 0
ū1(θi) m/s
0 90 180 270 360
Times ū
1000-1400 2-5
1400-1800 <2
p2(θi) %
ū2(θi) m/s
Times ū
1000-1400 5-6
1400-1800 3-5
p3(θi) %
ū3(θi) m/s
0 90 180 270 360

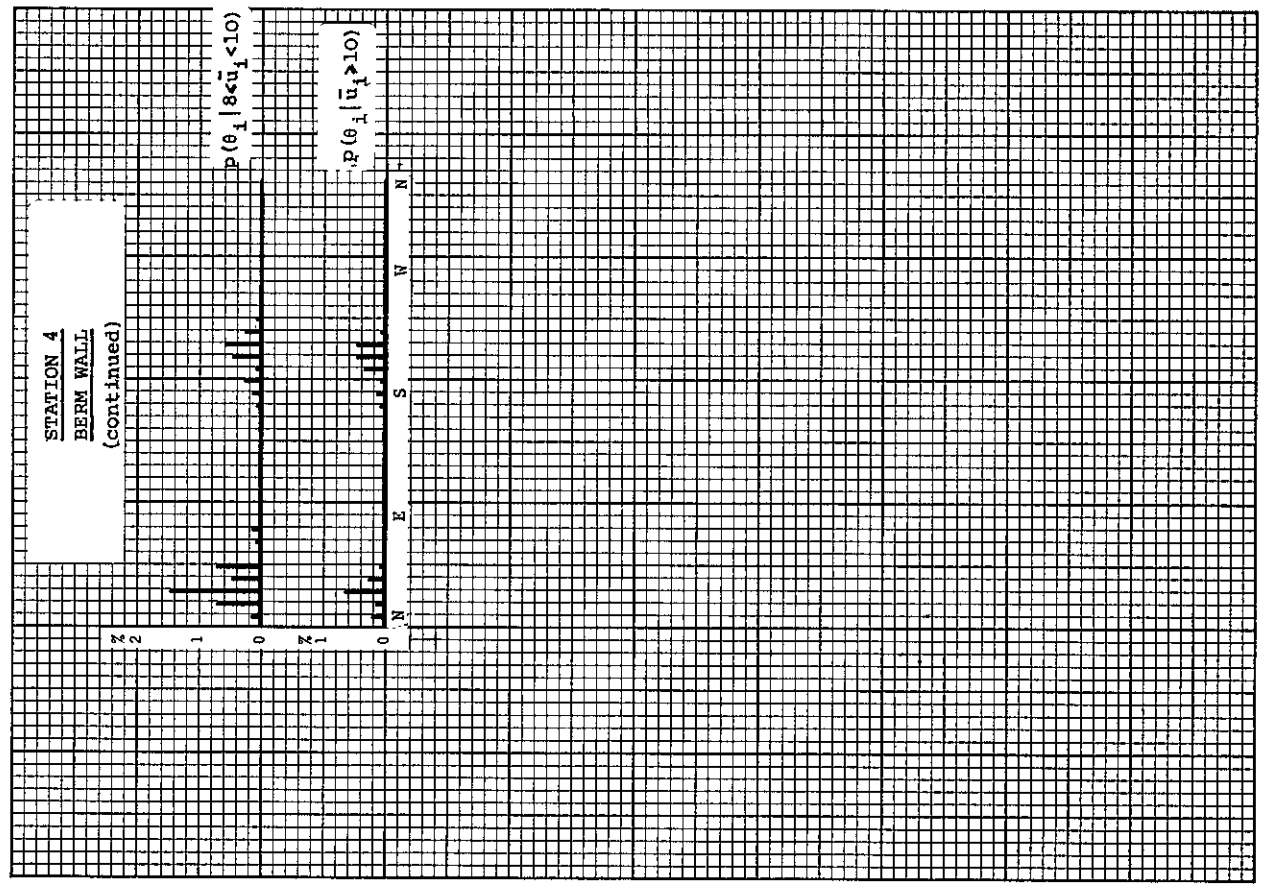

STATION 3
MZINGAZI
(continued)
% 8 6 4 2 0
Times ū
0000-0600 >5
0600-1000 >2
1000-1400 >6
1400-1800 >5
1800-2400 >3
p4(θi) %
5 0
ū4(θi) m/s
N E S W N
% 4 3 2 1 0
p5(θi) %
Times ū
0000-0600 3-5
0600-1000 <2
1800-2400 <3
5 0
ū5(θi) m/s
0 90 180 270 360

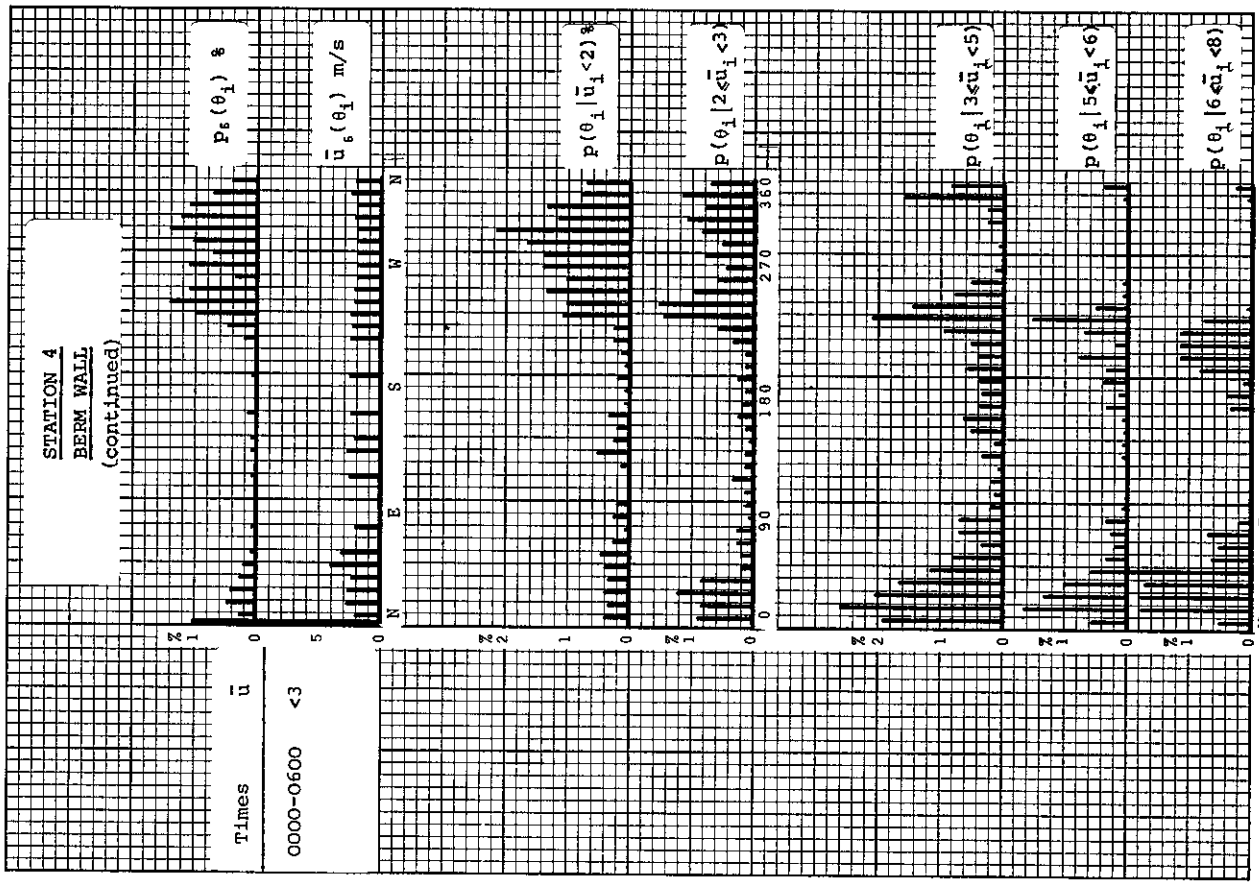

STATION 3
MZINGAZI
(continued)
Times ū
0000-0600 <3
$p_6(\theta_i)$ %
$\bar{u}_6(\theta_i)$ m/s
$p(\theta_i|\bar{u}_i<2)$%
$p(\theta_i|2<\bar{u}_i<3)$
N E S W N
0 90 180 270 360

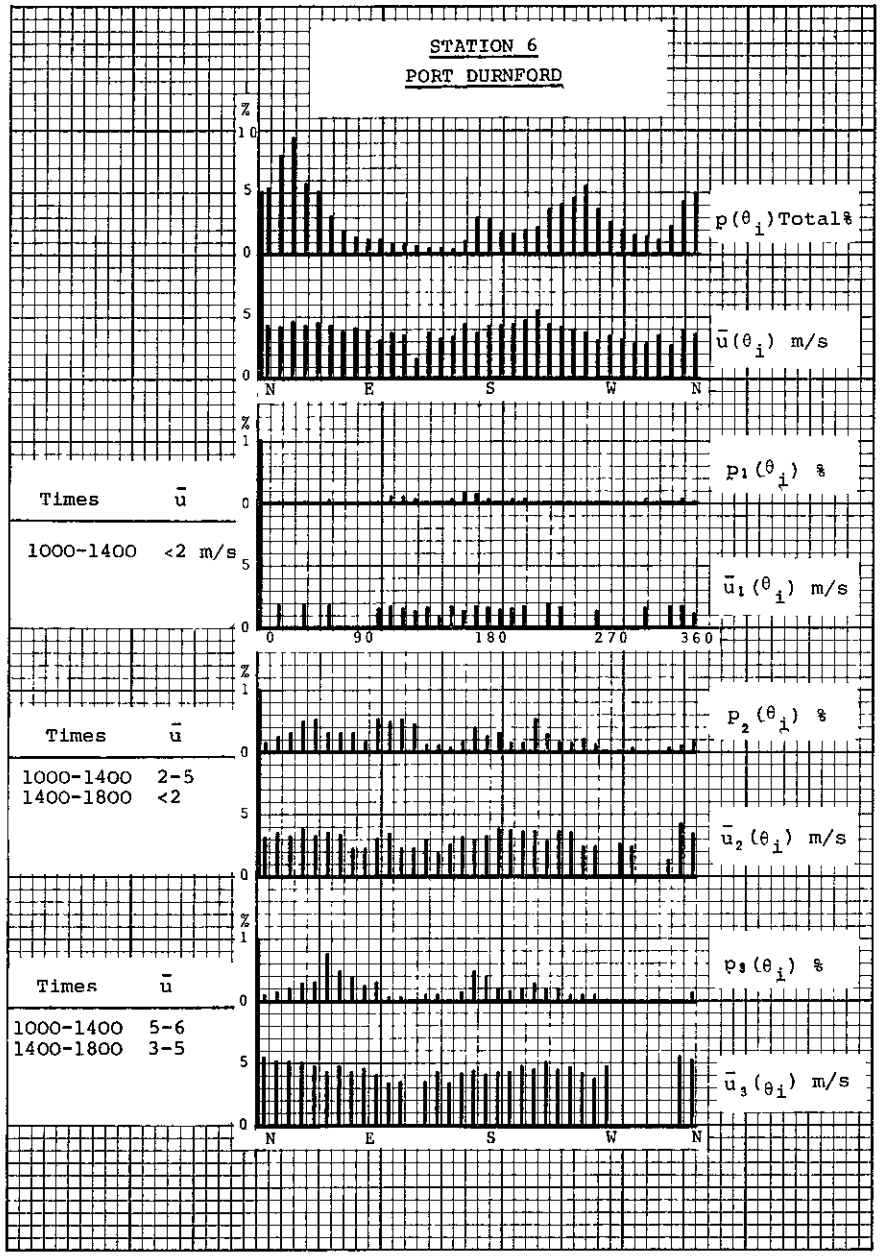

STATION 3
MZINGAZI
(continued)
$P(\theta_i|3<\bar{u}_i<5)$
$p(\theta_i|5<\bar{u}_i<6)$
$p(\theta_i|6<\bar{u}_i<8)$
$p(\theta_i|8<\bar{u}_i<10)$
$p(\theta_i|\bar{u}_i>10)$
N E S W N
0 90 180 270 360

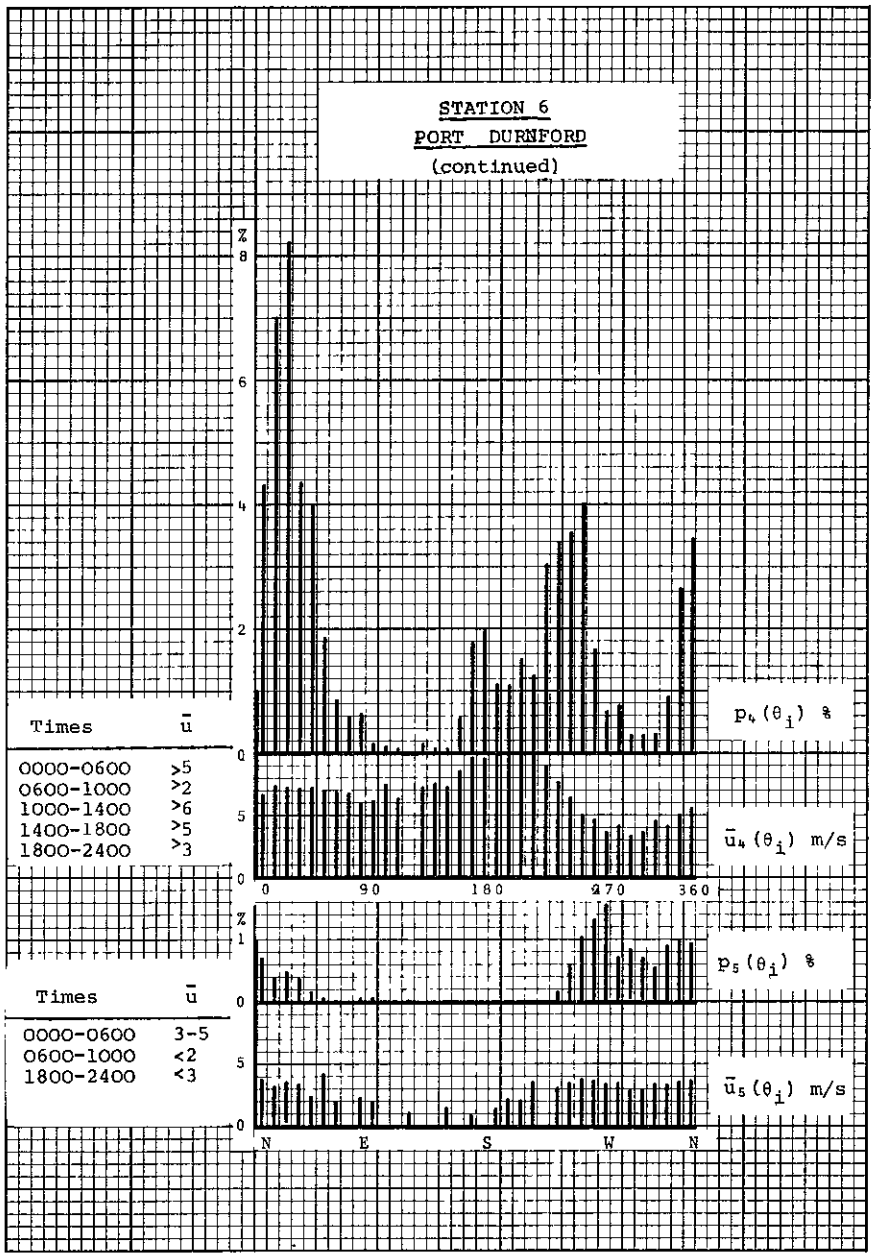

STATION 4
BERM WALL
p(θi) Total %
ū(θi) m/s
p1(θi) %
ū1(θi) m/s
p2(θi) %
ū2(θi) m/s
p3(θi) %
ū3(θi) m/s
N E S W N
0 90 180 270 360
Times ū
1000-1400 < 2 m/s
Times ū
1000-1400 2-5
1400-1800 <2
Times ū
1000-1400 5-6
1400-1800 3-5

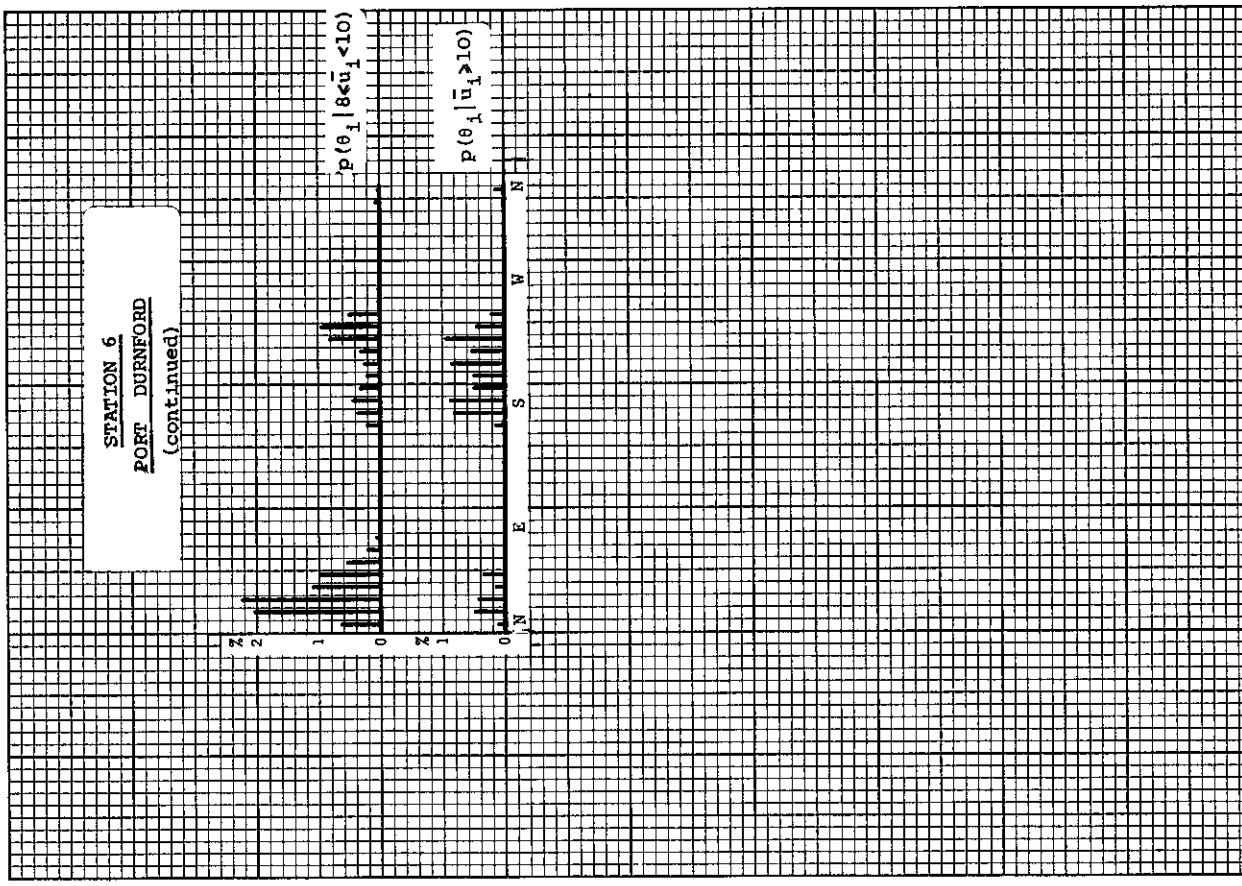

STATION 4
BERM WALL
(continued)
p4(θi) %
ū4(θi) m/s
p5(θi) %
ū5(θi) m/s
N E S W N
0 90 180 270 360
Times ū
0000-0600 >5
0600-1000 >2
1000-1400 >6
1400-1800 >5
1800-2400 >3
Times ū
0000-0600 3-5
0600-1000 <2
1800-2400 <3

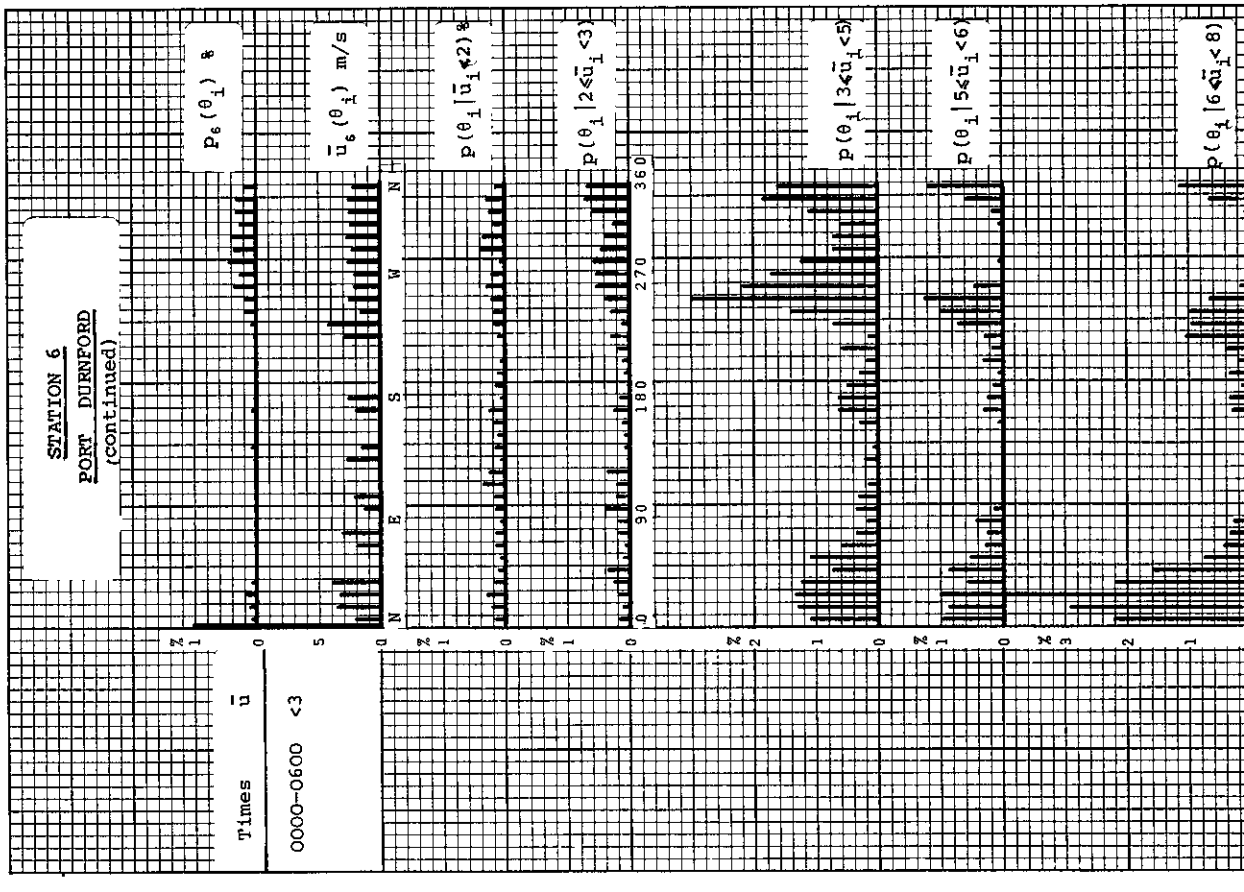

STATION 4
BERM WALL
(continued)
$p(\theta_i \mid 8 \leq \bar{u}_i < 10)$
$p(\theta_i \mid \bar{u}_i \geq 10)$
N
E
S
W
N
%
0
1
2

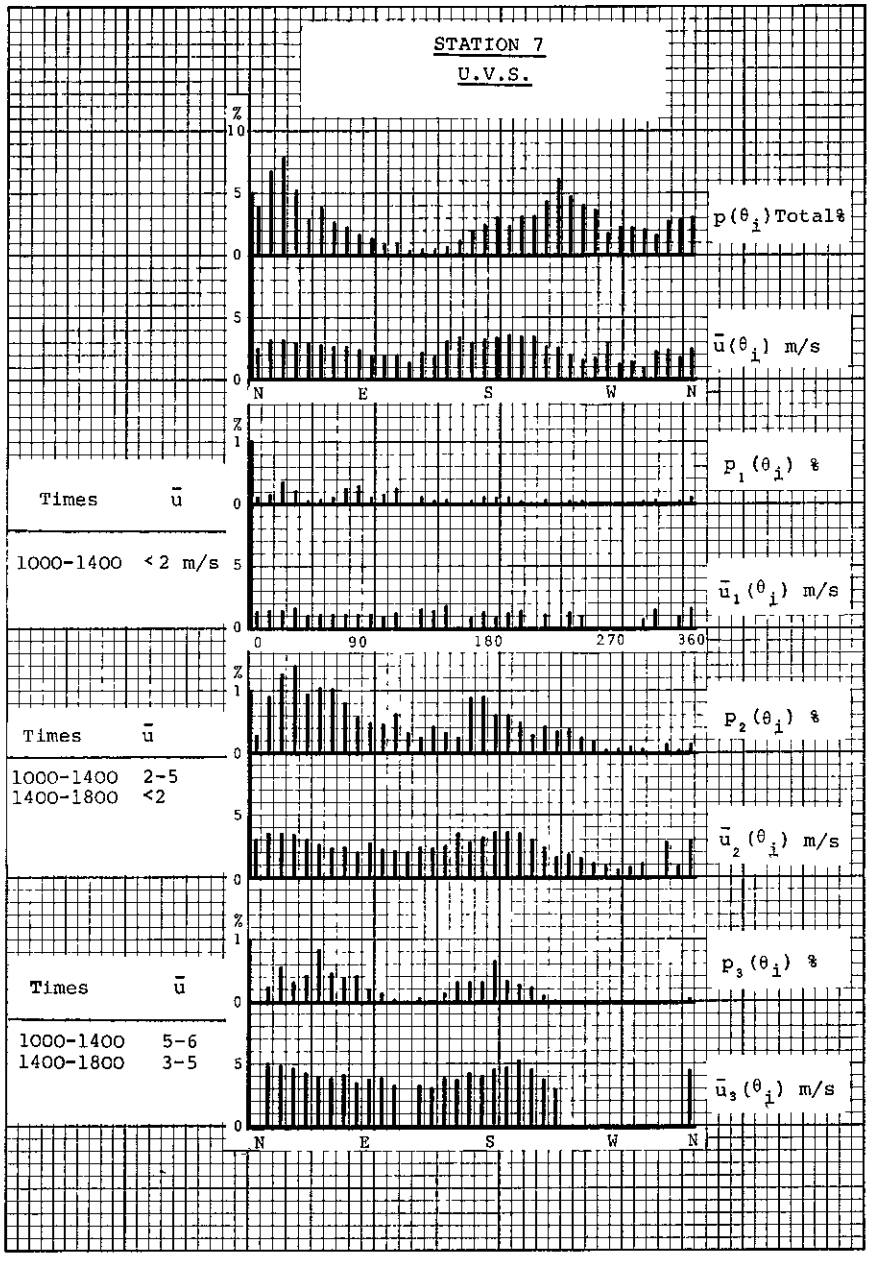

STATION 4
BERM WALL
(continued)
Times
0000-0600
$\bar{u}$
<3
$p_6(\theta_i)$ %
$\bar{u}_6(\theta_i)$ m/s
$p(\theta_i \mid \bar{u}_i < 2)$ %
$p(\theta_i \mid 2 \leq \bar{u}_i < 3)$
$p(\theta_i \mid 3 \leq \bar{u}_i < 5)$
$p(\theta_i \mid 5 \leq \bar{u}_i < 6)$
$p(\theta_i \mid 6 \leq \bar{u}_i < 8)$
0
5
90
180
270
360
N
E
S
W
N
%
0
1
2

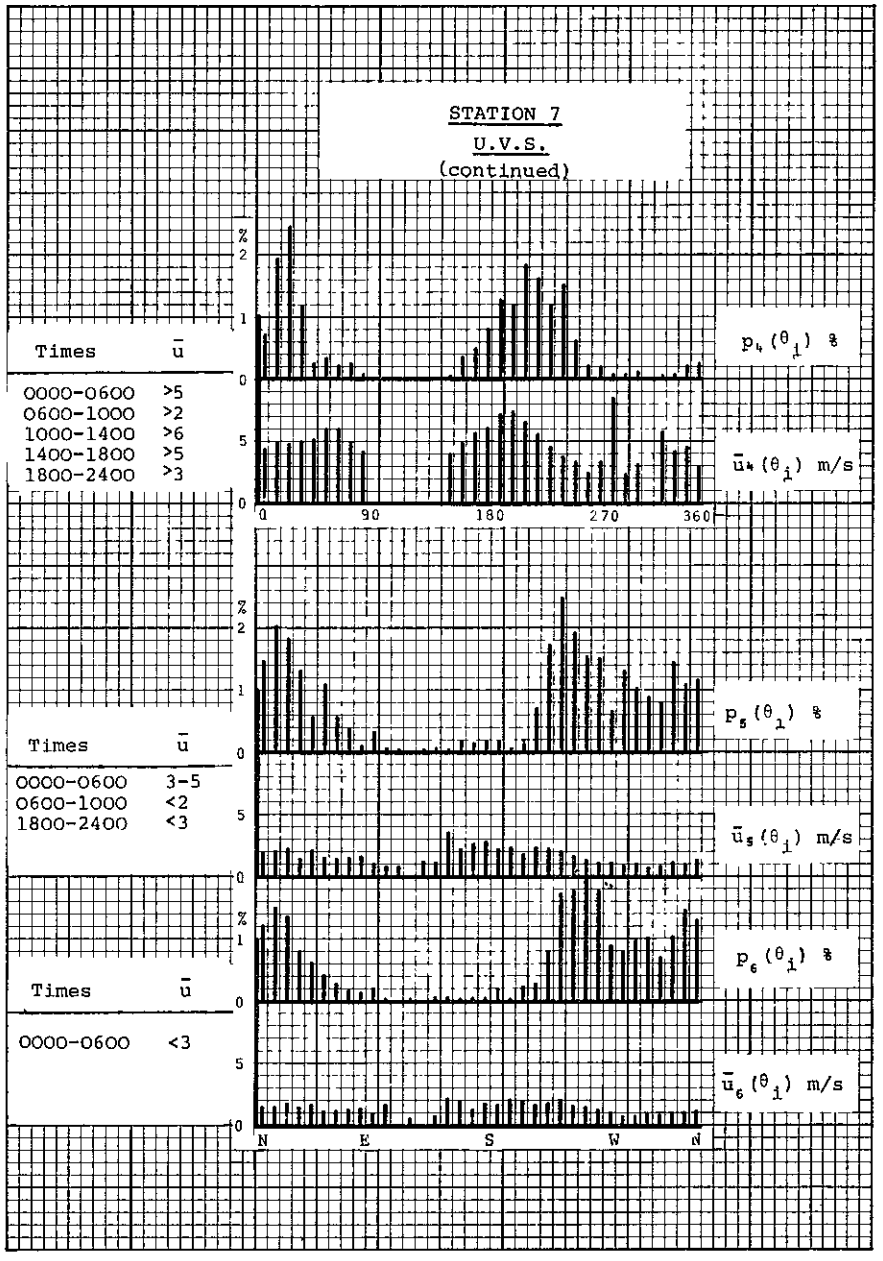

STATION 6
PORT DURNFORD
p(θi) Total %
ū(θi) m/s
N E S W N
Times ū
1000-1400 <2 m/s
p1(θi) %
ū1(θi) m/s
0 90 180 270 360
Times ū
1000-1400 2-5
1400-1800 <2
p2(θi) %
ū2(θi) m/s
Times ū
1000-1400 5-6
1400-1800 3-5
p3(θi) %
ū3(θi) m/s
N E S W N

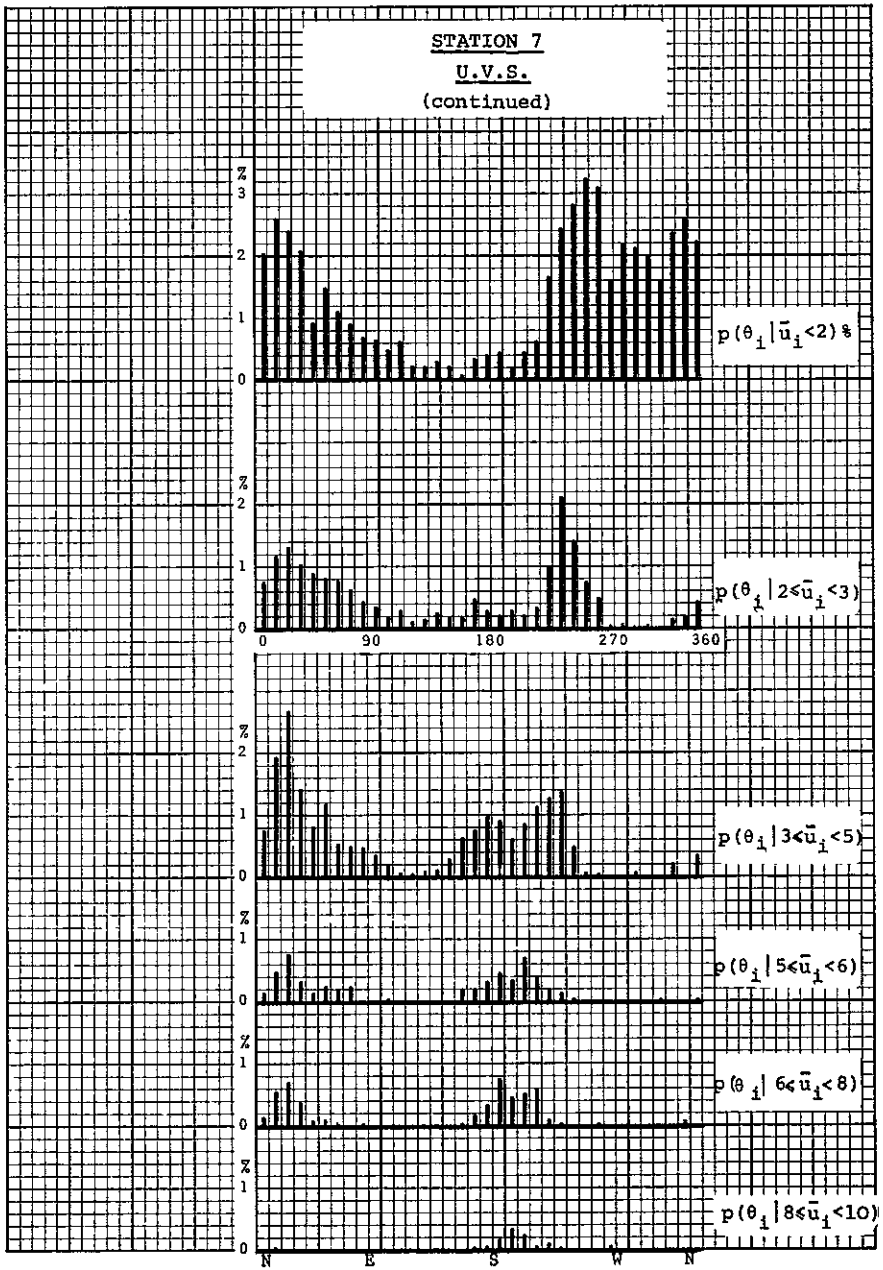

STATION 6
PORT DURNFORD
(continued)
p4(θi) %
ū4(θi) m/s
0 90 180 270 360
Times ū
0000-0600 >5
0600-1000 >2
1000-1400 >6
1400-1800 >5
1800-2400 >3
p5(θi) %
ū5(θi) m/s
Times ū
0000-0600 3-5
0600-1000 <2
1800-2400 <3
N E S W N

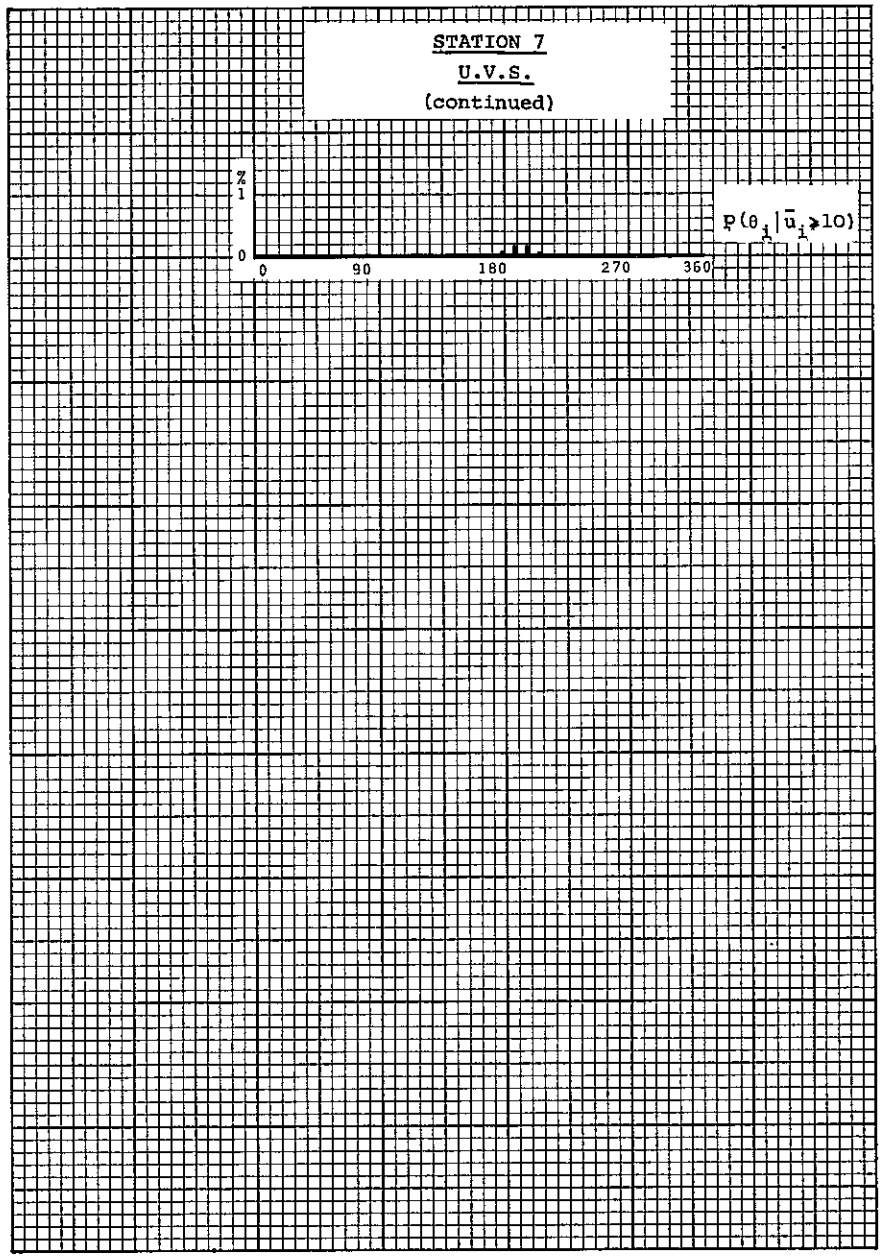

STATION 6
PORT DURNFORD
(continued)
$p(\theta_i | 8 \leq \bar{u}_i < 10)$
$p(\theta_i | \bar{u}_i \geq 10)$
%
N
E
S
W

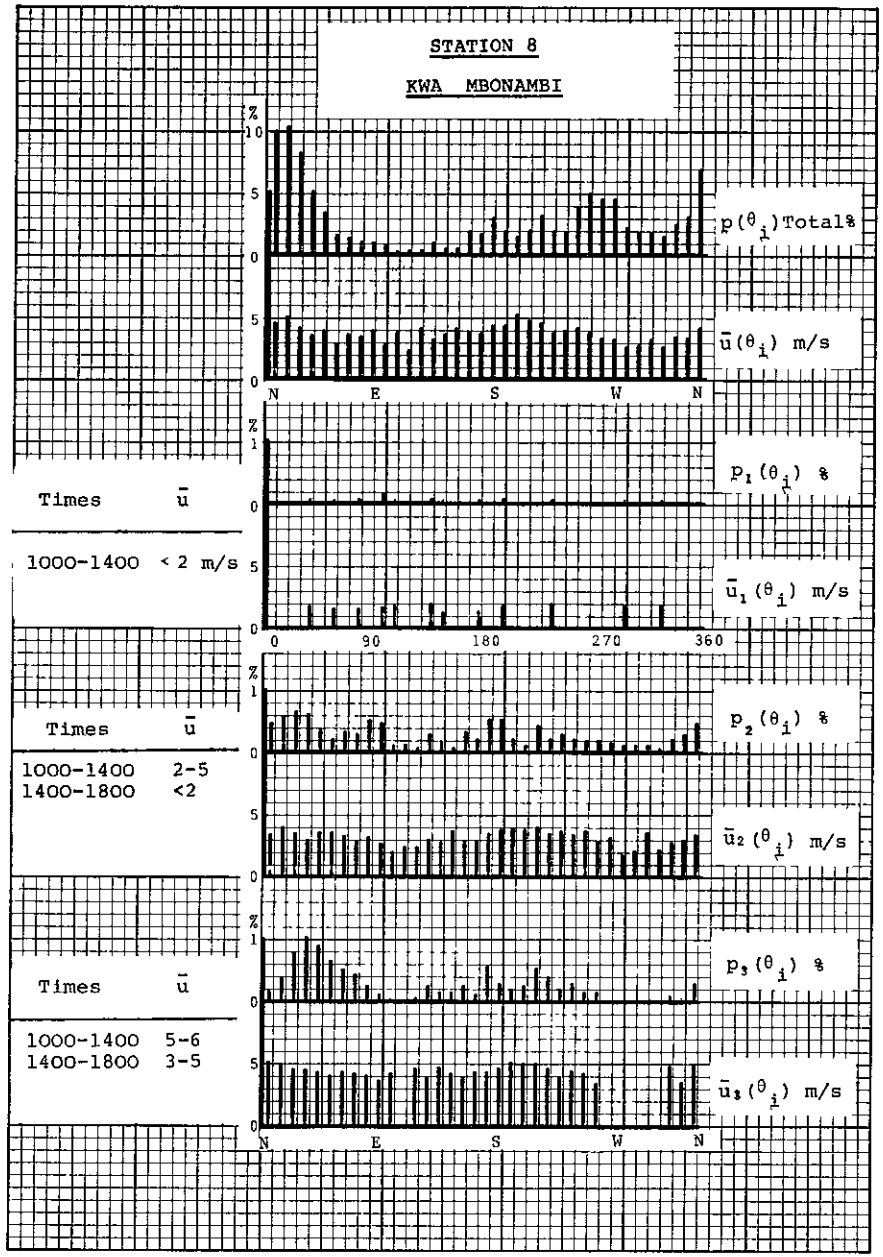

STATION 6
PORT DURNFORD
(continued)
Times $\bar{u}$
0000-0600 <3
$p_6(\theta_i)$ %
$\bar{u}_6(\theta_i)$ m/s
$p(\theta_i | \bar{u}_i < 2)$ %
$p(\theta_i | 2 \leq \bar{u}_i < 3)$
$p(\theta_i | 3 \leq \bar{u}_i < 5)$
$p(\theta_i | 5 \leq \bar{u}_i < 6)$
$p(\theta_i | 6 \leq \bar{u}_i < 8)$
%
N
E
S
W
0
90
180
270
360

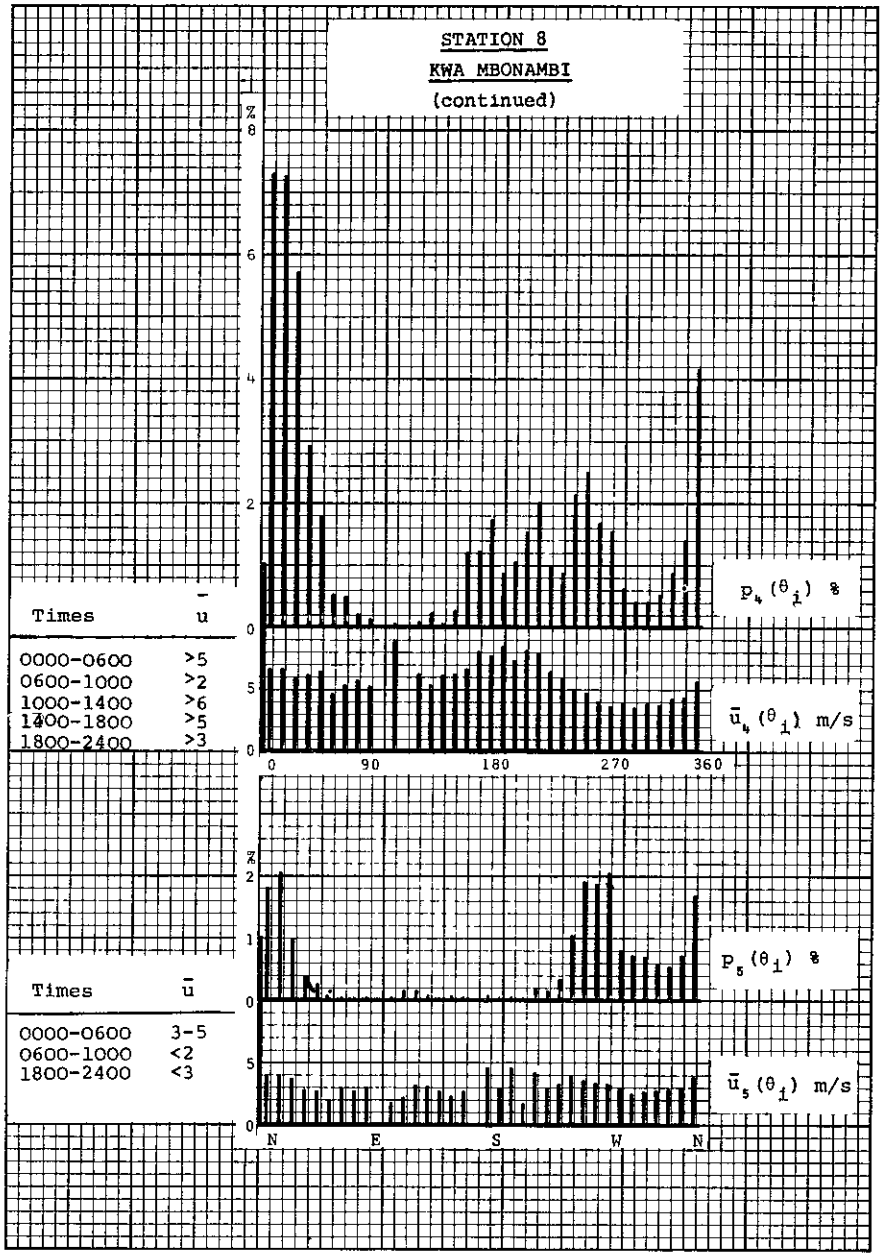

STATION 7
U.V.S.
p(θi)Total%
ū(θi) m/s
Times ū
1000-1400 <2 m/s
p1(θi) %
ū1(θi) m/s
Times ū
1000-1400 2-5
1400-1800 <2
p2(θi) %
ū2(θi) m/s
Times ū
1000-1400 5-6
1400-1800 3-5
p3(θi) %
ū3(θi) m/s
N E S W N
0 90 180 270 360

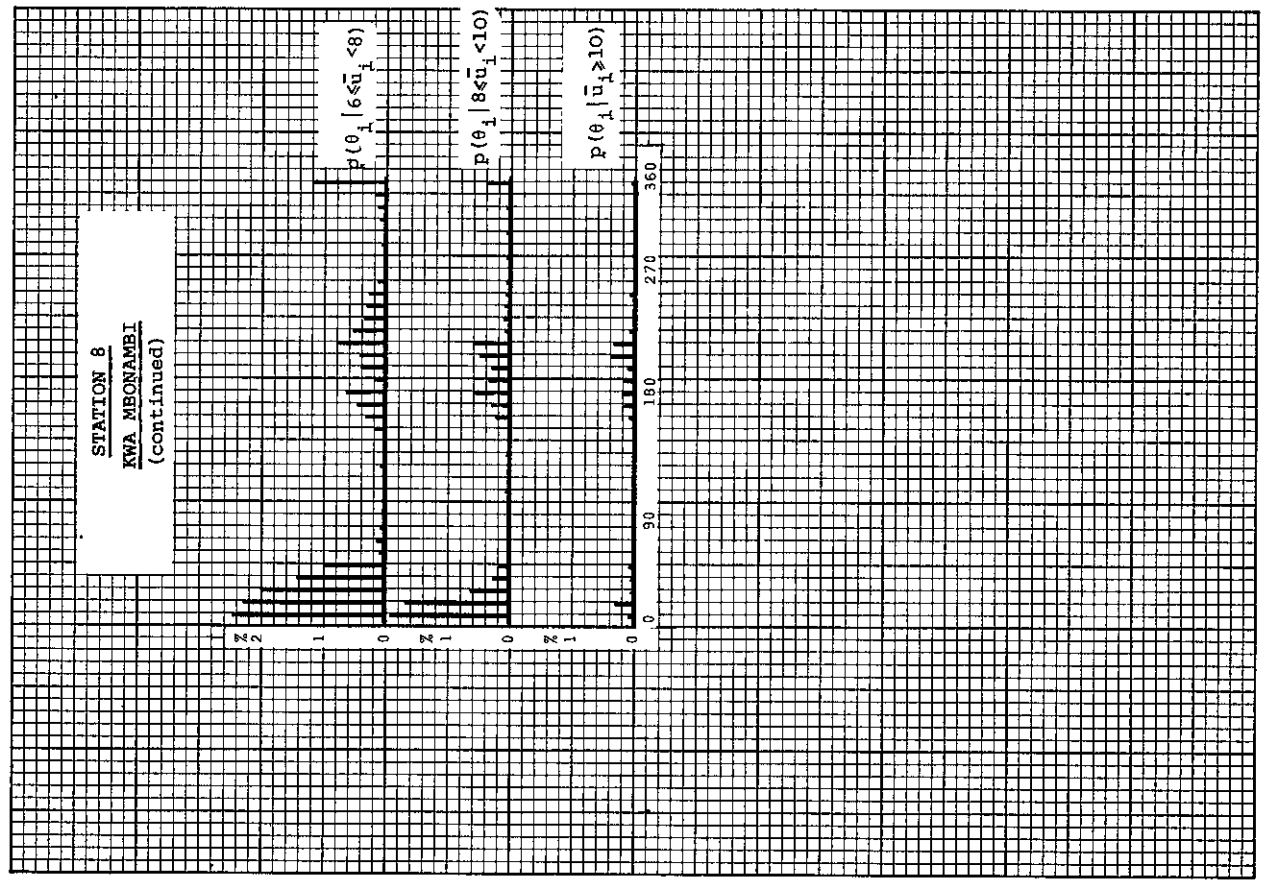

STATION 7
U.V.S.
(continued)
Times ū
0000-0600 >5
0600-1000 >2
1000-1400 >6
1400-1800 >5
1800-2400 >3
p4(θi) %
ū4(θi) m/s
Times ū
0000-0600 3-5
0600-1000 <2
1800-2400 <3
p5(θi) %
ū5(θi) m/s
Times ū
0000-0600 <3
p6(θi) %
ū6(θi) m/s
N E S W N
0 90 180 270 360

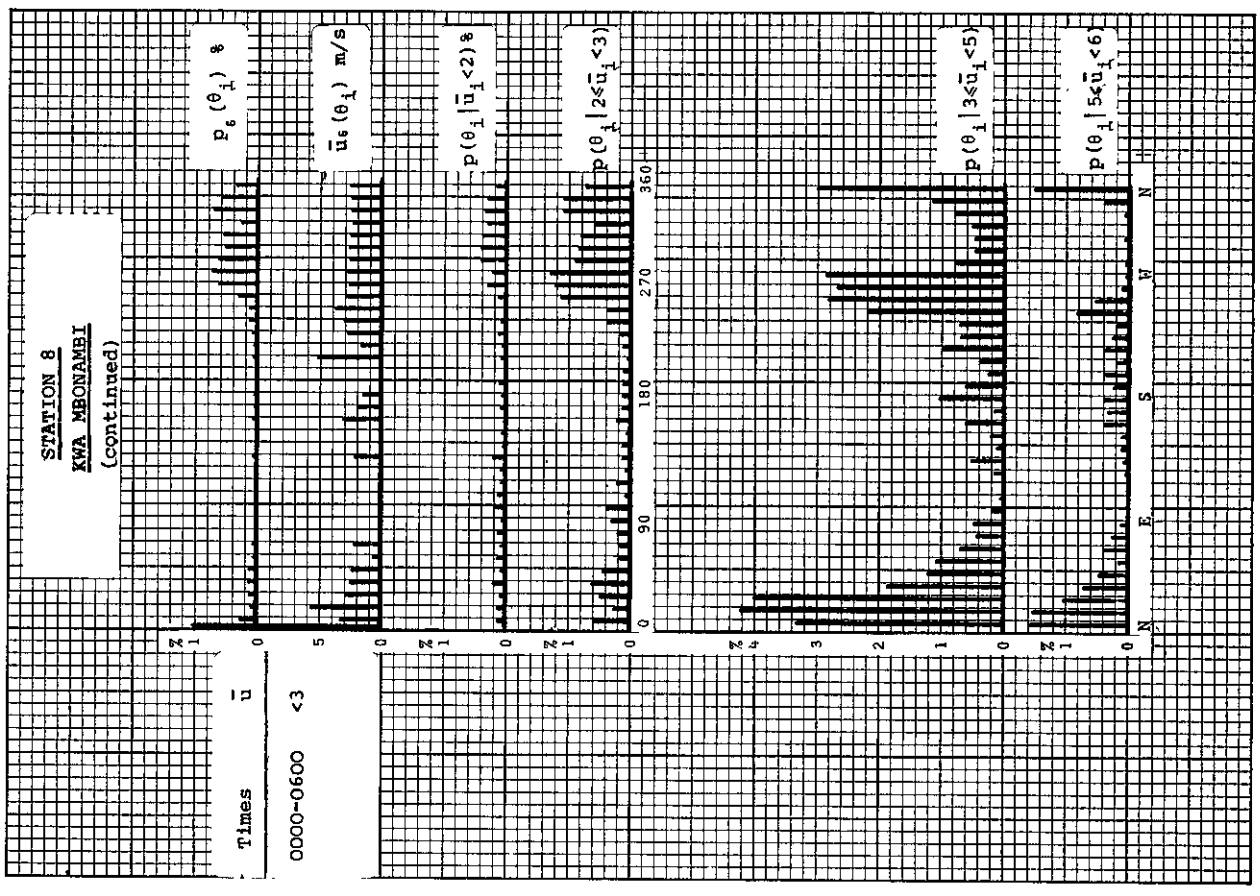

STATION 7
U.V.S.
(continued)
p(θi|ūi<2)%
p(θi|2≤ūi<3)
p(θi|3≤ūi<5)
p(θi|5≤ūi<6)
p(θi|6≤ūi<8)
p(θi|8≤ūi<10)
0
90
180
270
360
N
E
S
W
N

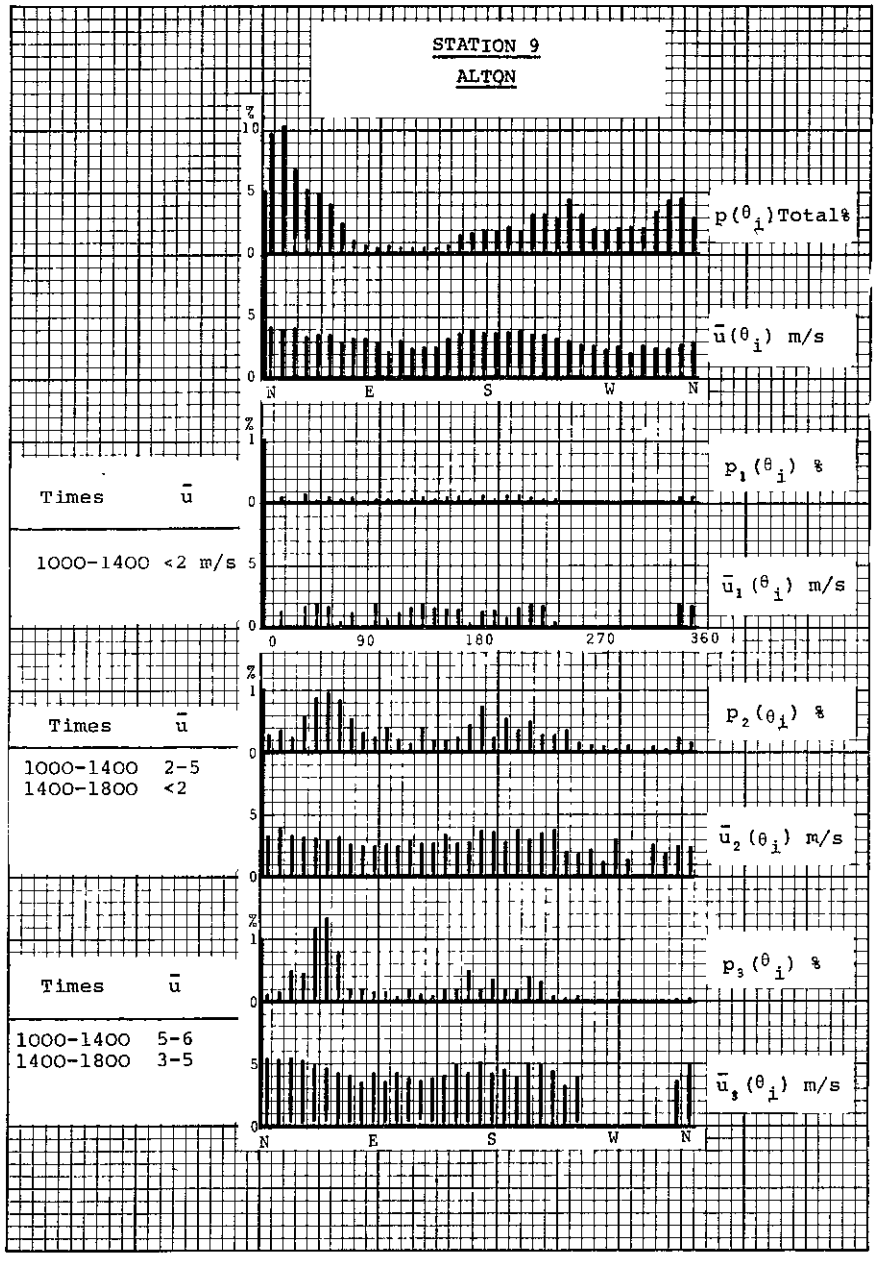

STATION 7
U.V.S.
(continued)
p(θi|ūi≥10)
0
90
180
270
360

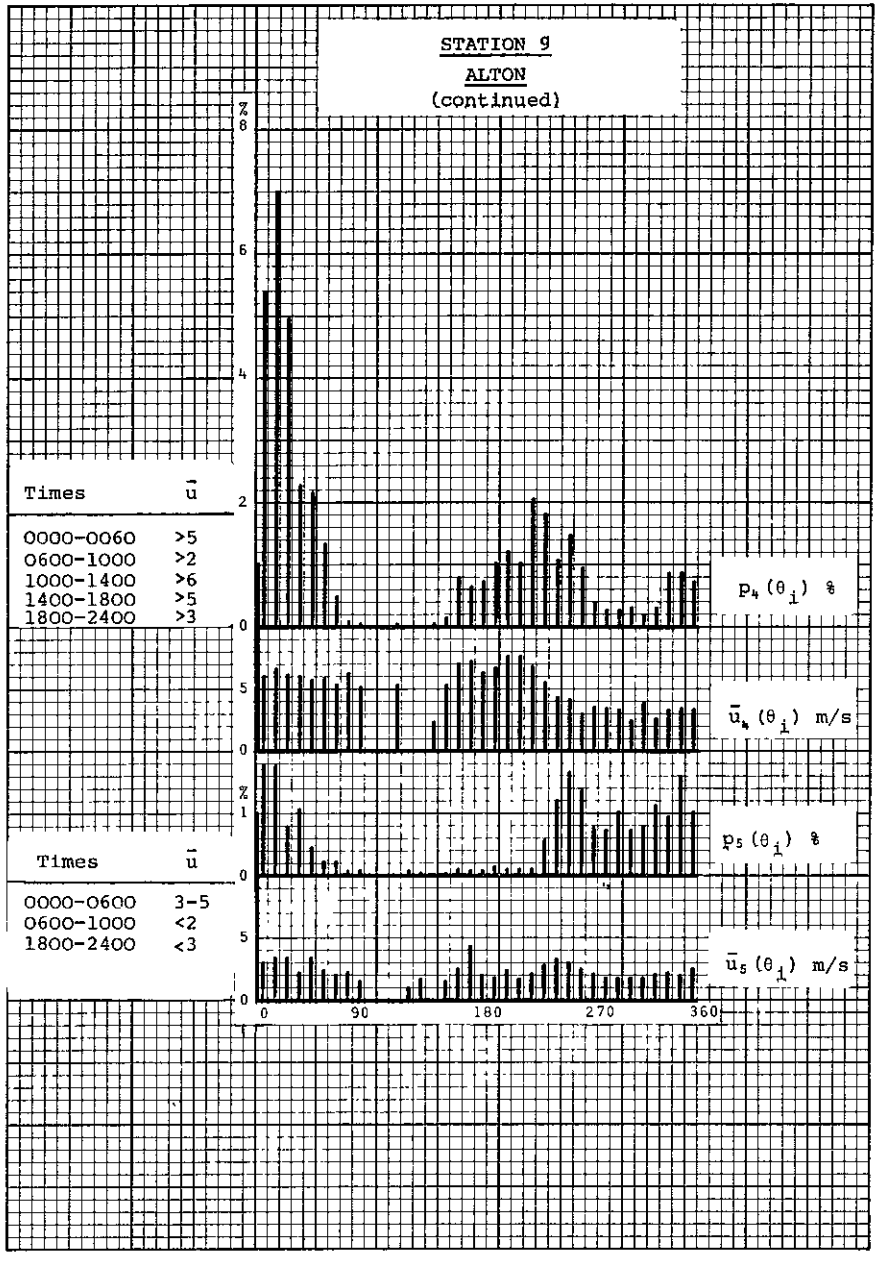

STATION 8
KWA MBONAMBI
p(θi) Total %
ū(θi) m/s
N E S W N
p1(θi) %
ū1(θi) m/s
0 90 180 270 360
p2(θi) %
ū2(θi) m/s
p3(θi) %
ū3(θi) m/s
N E S W N
Times ū
1000-1400 < 2 m/s
Times ū
1000-1400 2-5
1400-1800 <2
Times ū
1000-1400 5-6
1400-1800 3-5

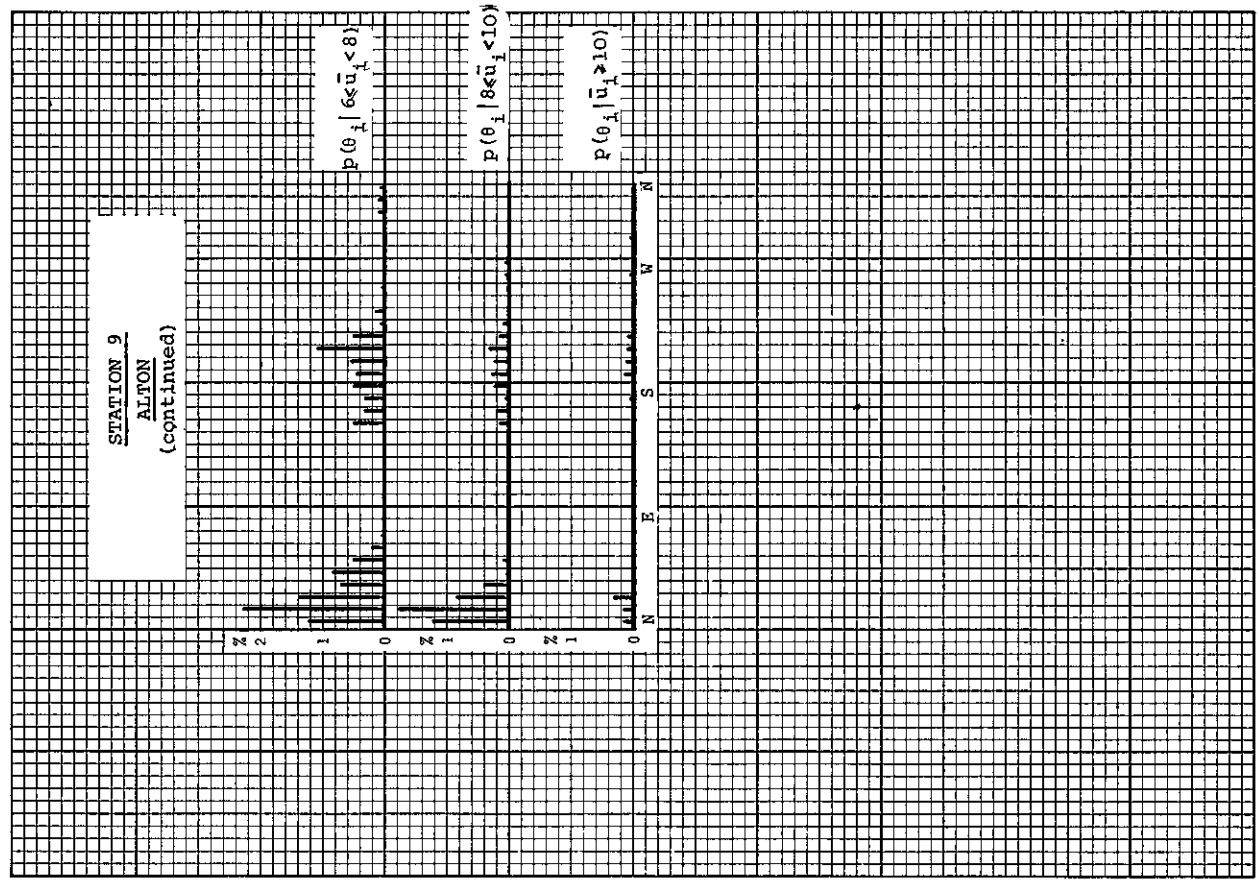

STATION 8
KWA MBONAMBI
(continued)
p4(θi) %
ū4(θi) m/s
0 90 180 270 360
p5(θi) %
ū5(θi) m/s
N E S W N
Times ū
0000-0600 >5
0600-1000 >2
1000-1400 >6
1400-1800 >5
1800-2400 >3
Times ū
0000-0600 3-5
0600-1000 <2
1800-2400 <3

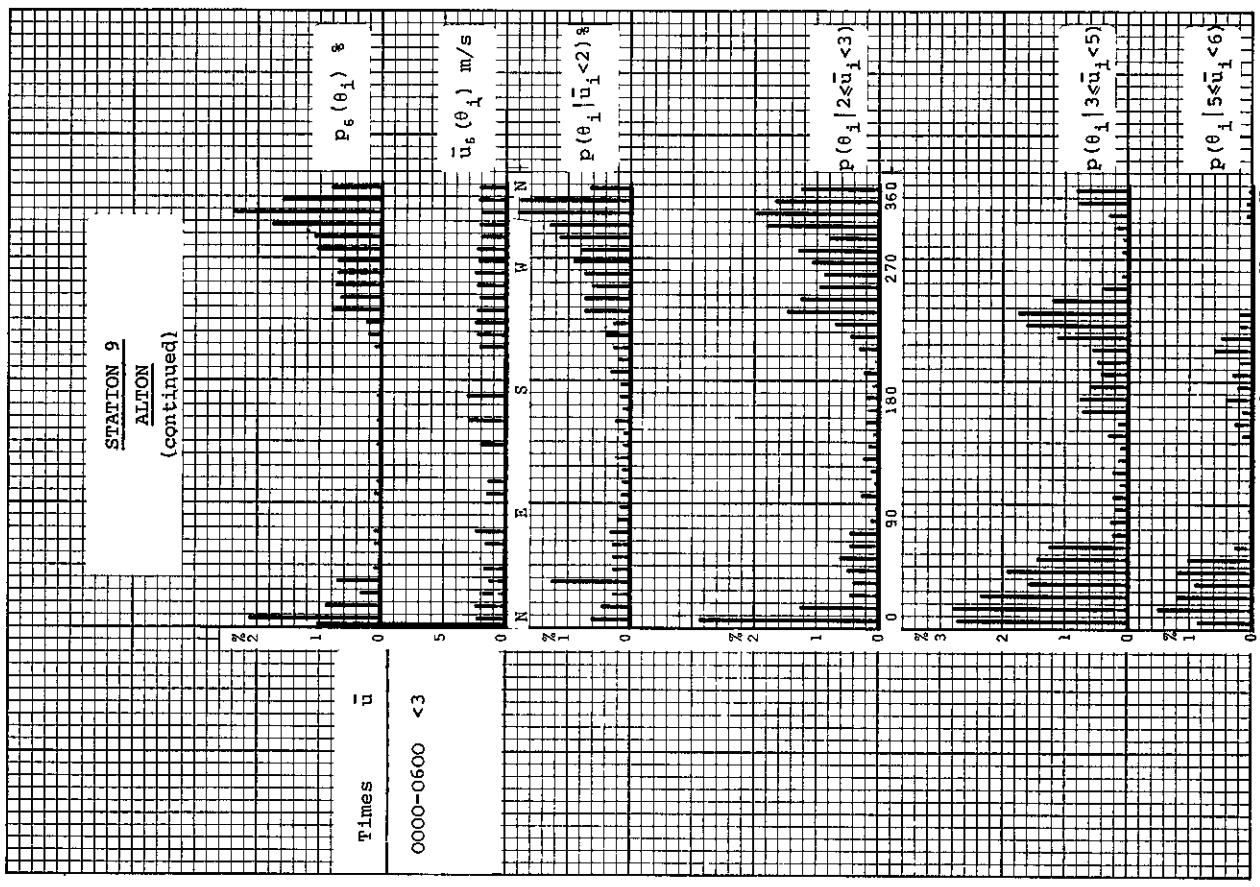

STATION 8
KWA MBONAMBI
(continued)
p(θi | 6≤ūi <8)
p(θi | 8≤ūi <10)
p(θi | ūi ≥10)
0
90
180
270
360
%


STATION 8
KWA MBONAMBI
(continued)
Times ū
0000-0600 <3
pe (θi) %
ūe (θi) m/s
p(θi | ūi <2) %
p(θi | 2≤ūi <3)
p(θi | 3≤ūi <5)
p(θi | 5≤ūi <6)
N
E
S
W
N


STATION 9
ALTON
% 10
5
0
p(θi)Total%
5
0
ū(θi) m/s
N E S W N
% 1
0
p1(θi) %
Times ū
1000-1400 <2 m/s
5
0
ū1(θi) m/s
0 90 180 270 360
% 1
0
p2(θi) %
Times ū
1000-1400 2-5
1400-1800 <2
5
0
ū2(θi) m/s
% 1
0
p3(θi) %
Times ū
1000-1400 5-6
1400-1800 3-5
5
0
ū3(θi) m/s
N E S W N


STATION 9
ALTON
(continued)
% 8
6
4
2
0
p4(θi) %
Times ū
0000-0060 >5
0600-1000 >2
1000-1400 >6
1400-1800 >5
1800-2400 >3
5
0
ū4(θi) m/s
% 1
0
p5(θi) %
Times ū
0000-0600 3-5
0600-1000 <2
1800-2400 <3
5
0
ū5(θi) m/s
0 90 180 270 360


STATION 9
ALTON
(continued)
$p(\theta_i | 6 \leq \bar{u}_i < 8)$
$p(\theta_i | 8 \leq \bar{u}_i < 10)$
$p(\theta_i | \bar{u}_i \geq 10)$
%
N
E
S
W

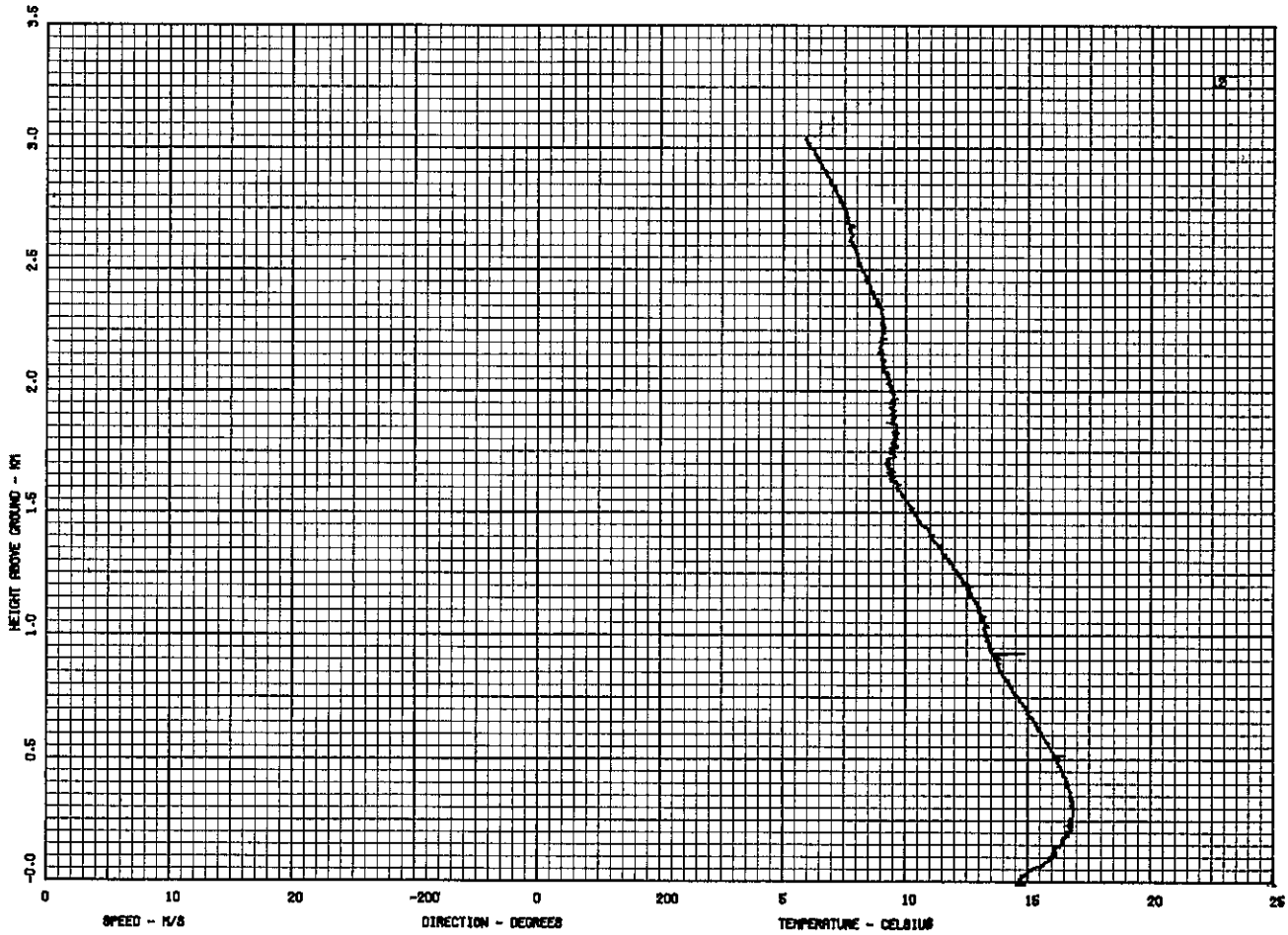

STATION 9
ALTON
(continued)
Times $\bar{u}$
0000-0600 <3
$p_6(\theta_i)$ %
$\bar{u}_6(\theta_i)$ m/s
$p(\theta_i | \bar{u}_i < 2)$ %
$p(\theta_i | 2 \leq \bar{u}_i < 3)$
$p(\theta_i | 3 \leq \bar{u}_i < 5)$
$p(\theta_i | 5 \leq \bar{u}_i < 6)$
%
N
E
S
W
0
90
180
270
360

RUN SCHEDULE OF TEMPERATURE SOUNDINGS

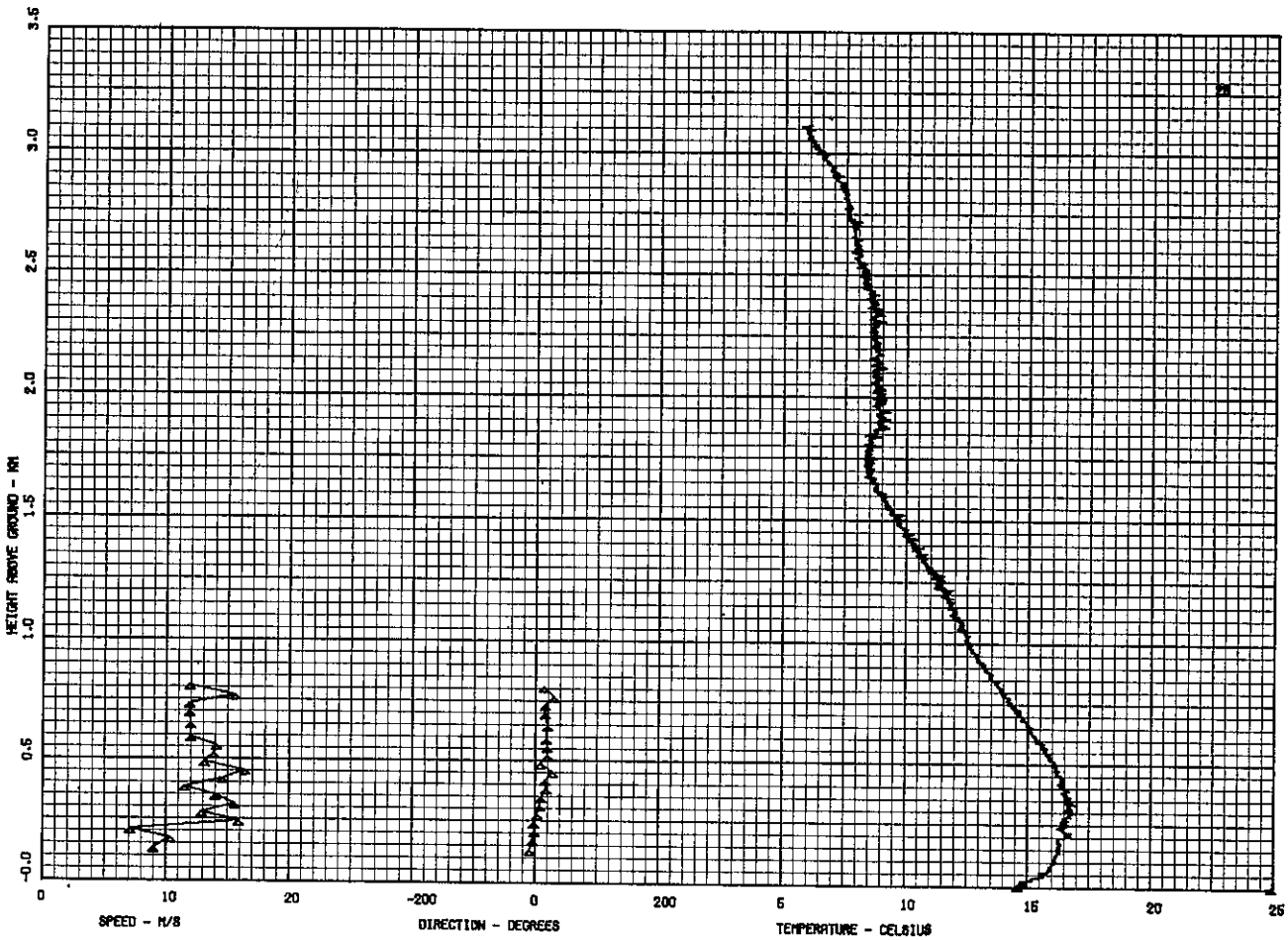
Run No	Date	Time	Remarks	Page Nos
1	17 June 1975	11h13	no tracking	35, 84
2	18 June 1975	00h30		35, 84
3	18 June 1975	05h36		36, 84
4	18 June 1975	07h40		36, 84
5	19 June 1975	22h17		37, 84
6	20 June 1975	05h58	no temperatures	37, 84
7	20 June 1975	06h35		38, 84
8	20 June 1975	09h36	incomplete temp data	38, 84
9	21 June 1975	07h03	no temp data	39
10	22 June 1975	06h45		39, 85
11	23 June 1975	05h43	no tracking	40, 85
12	23 June 1975	06h38		40, 85
13	27 June 1975	00h20	no temp data	41
14	27 June 1975	07h30	no temp data	41, 85
15	29 June 1975	07h45		42, 85
16	29 June 1975	08h45		42, 85
17	29 June 1975	22h33	incomplete data	43, 85
18	30 June 1975	04h25		43, 85
19	30 June 1975	07h35		44, 86
20	30 June 1975	09h25		44, 86
21	30 June 1975	22h12		45, 86
22	1 July 1975	00h52		45, 86
23	1 July 1975	03h35		46, 86
24	1 July 1975	07h35		46, 86
25	1 July 1975	13h13	no temp data	47
26	2 July 1975	07h35		47, 86
27	2 July 1975	10h53		48, 86
28	2 July 1975	19h08		48, 87
29	3 July 1975	07h25		49, 87
30	3 July 1975	17h05		49, 87
31	3 July 1975	21h52		50, 87
32	4 July 1975	03h50		50, 87
33	5 July 1975	07h20		51, 87
34	6 July 1975	06h50		51, 87

Run No	Date	Time	Remarks	Page Nos
35	7 July 1975	06h56		52, 87
36	9 July 1975	06h52		52, 88
37	9 July 1975	21h45		53, 88
38	10 July 1975	04h55		53, 88
39	10 July 1975	06h57		54, 88
40	11 July 1975	03h00		54, 88
41	11 July 1975	06h55		55, 88
42	11 July 1975	10h45		55, 88
43	12 July 1975	00h30		56, 88
44	13 July 1975	06h40		56, 89
45	13 July 1975	09h30		57, 89
46	14 July 1975	06h46	no temp data	57, 89
47	14 July 1975	09h02		58, 89
48	14 July 1975	11h30	no temp data	58, 89
49	14 July 1975	23h55		59, 89
50	15 July 1975	02h00		59, 89
51	15 July 1975	07h12		60, 89
52	15 July 1975	10h16		60, 90
53	15 July 1975	12h37		61, 90
54	15 July 1975	23h15	incomplete data	61
55	18 July 1975	01h40		62, 90
56	18 July 1975	05h25		62, 90
57	18 July 1975	07h01		63, 90
58	18 July 1975	23h18		63, 90
59	19 July 1975	03h47	incomplete data	64, 90
60	19 July 1975	05h30		64, 90
61	22 July 1975	00h04		65, 91
62	22 July 1975	07h18		65, 91
63	22 July 1975	07h54		66, 91
64	24 July 1975	22h23		66, 91
65	25 July 1975	00h32		67, 91
66	25 July 1975	03h23		67, 91
67	25 July 1975	07h08		68, 91
68	27 July 1975	02h06	incomplete data	68, 91

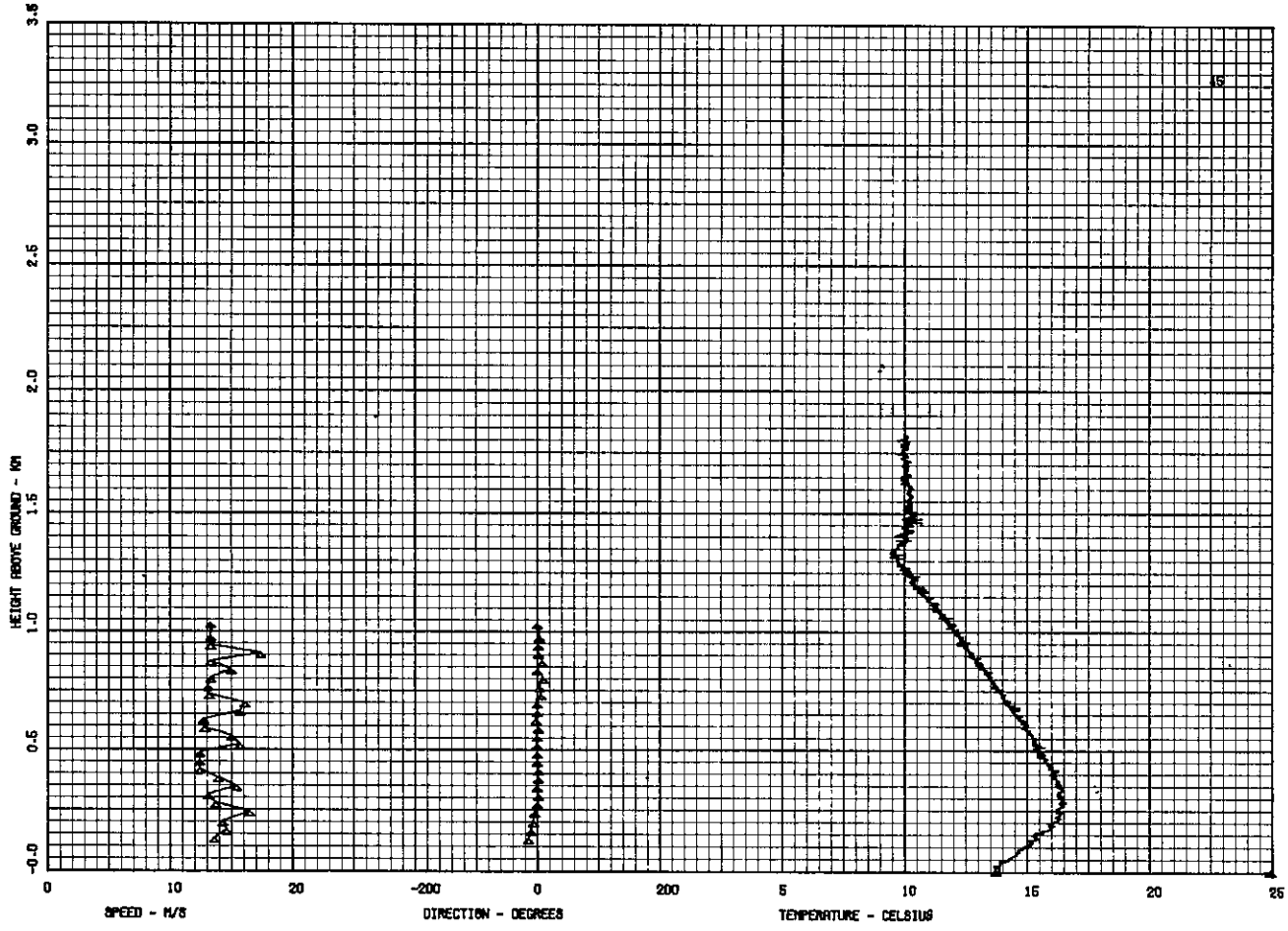
Run No	Date	Time	Remarks	Page Nos
69	27 July 1975	04h45		69, 92
70	27 July 1975	08h40		69, 92
71	28 July 1975	02h46	no tracking	70, 92
72	28 July 1975	04h02	no temp data	70
73	28 July 1975	07h20		71, 92
74	29 July 1975	00h15		71, 92
75	29 July 1975	07h25		72, 92
76	3 August 1975	03h20		72, 92
77	3 August 1975	07h04		73, 92
78	3 August 1975	09h27		73, 93
79	4 August 1975	05h45		74, 93
80	4 August 1975	06h53		74, 93
81	4 August 1975	07h50		75, 93
82	4 August 1975	20h22		75, 93
83	4 August 1975	23h19		76, 93
84	5 August 1975	22h58		76, 93
85	6 August 1975	00h03		77, 93
86	6 August 1975	21h12	no tracking	77, 94
87	7 August 1975	01h04	incomplete data	78, 94
88	7 August 1975	01h50		78, 94
89	6 August 1975	22h02		79
90	6 August 1975	23h05		79, 94
91	7 August 1975	03h19		80, 94
92	7 August 1975	04h46	incomplete data	80, 94
93	7 August 1975	07h01	incomplete data	81, 94
94	7 August 1975	09h40		81, 94
95	8 August 1975	23h44		82, 95
96	9 August 1975	03h07		82, 95



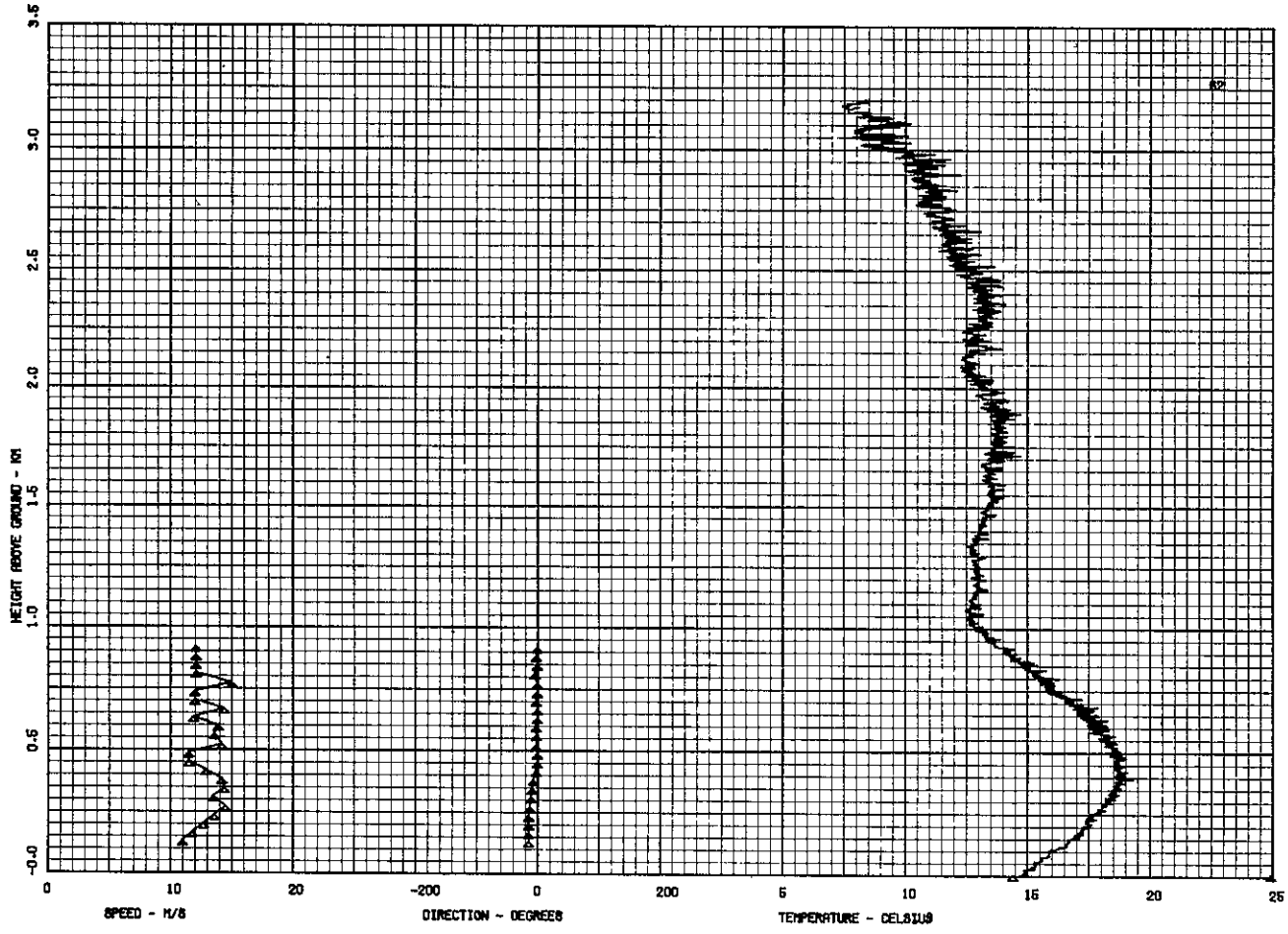
RUN 1 ALTON 17/6/75 RELEASE TIME 1113 NO TRACKING.



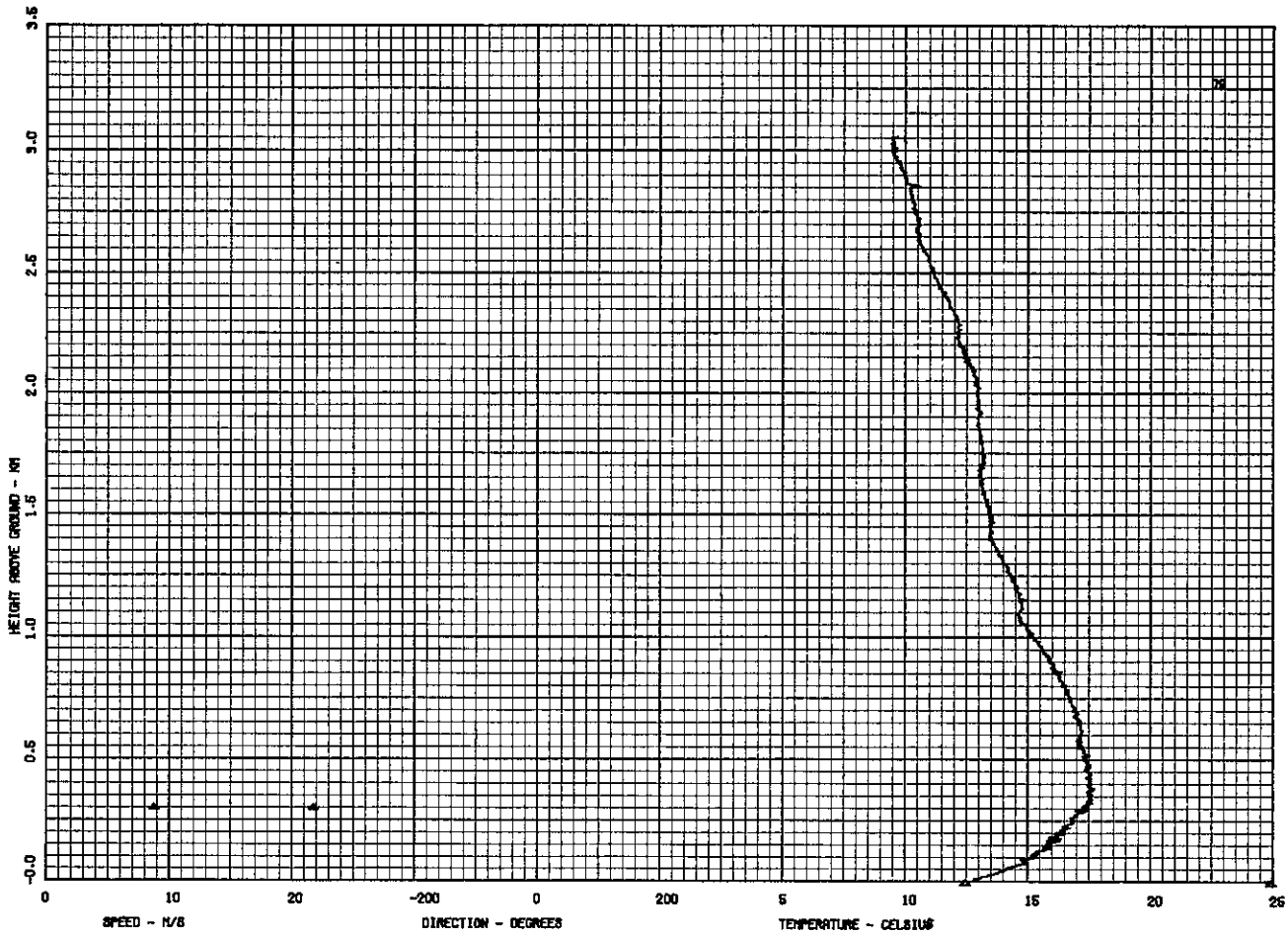
RUN 2 ALTON 18/6/75 RELEASE TIME 0030



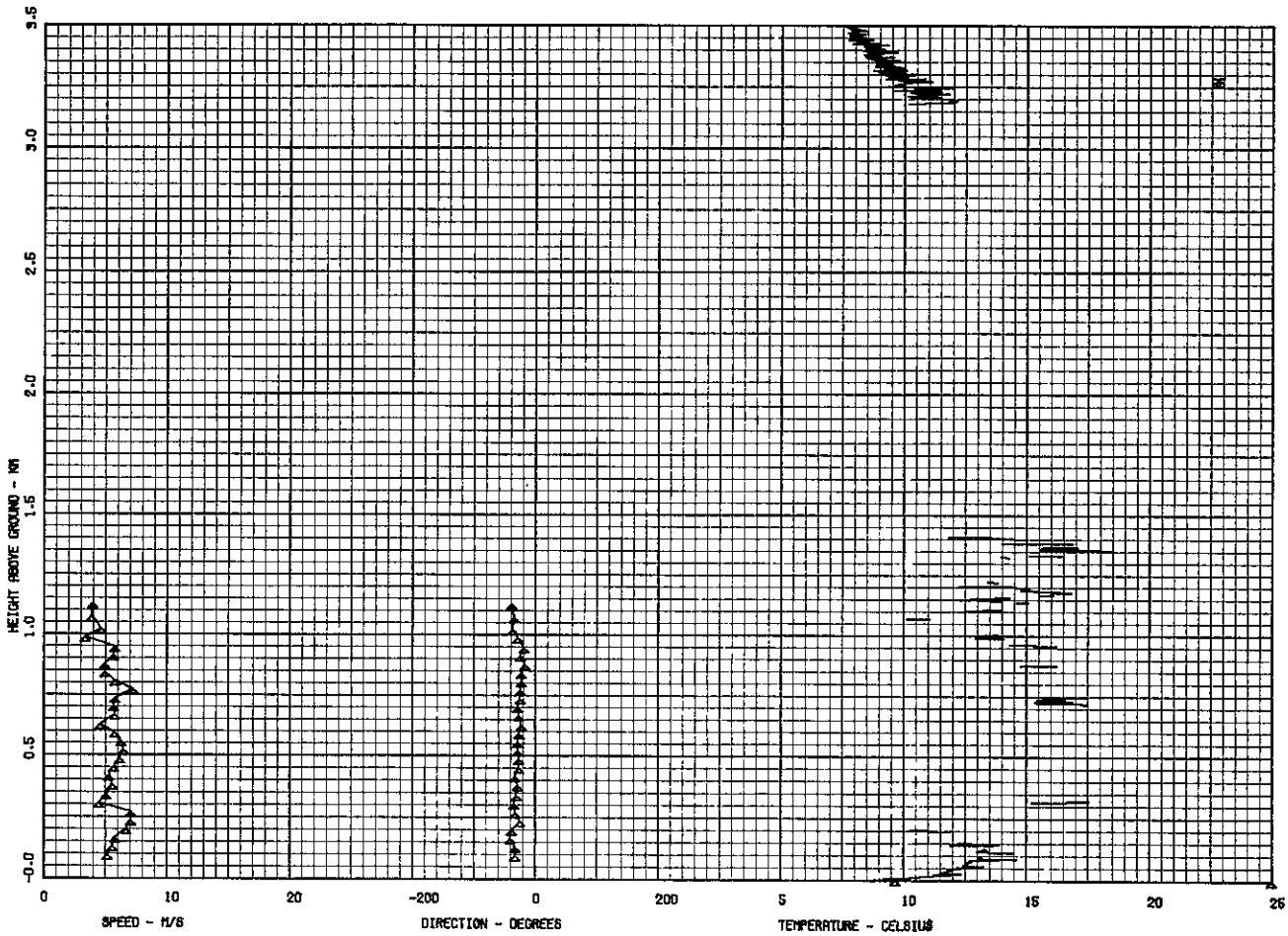
RUN 3 ALTON 18/6/75 RELEASE TIME 0536



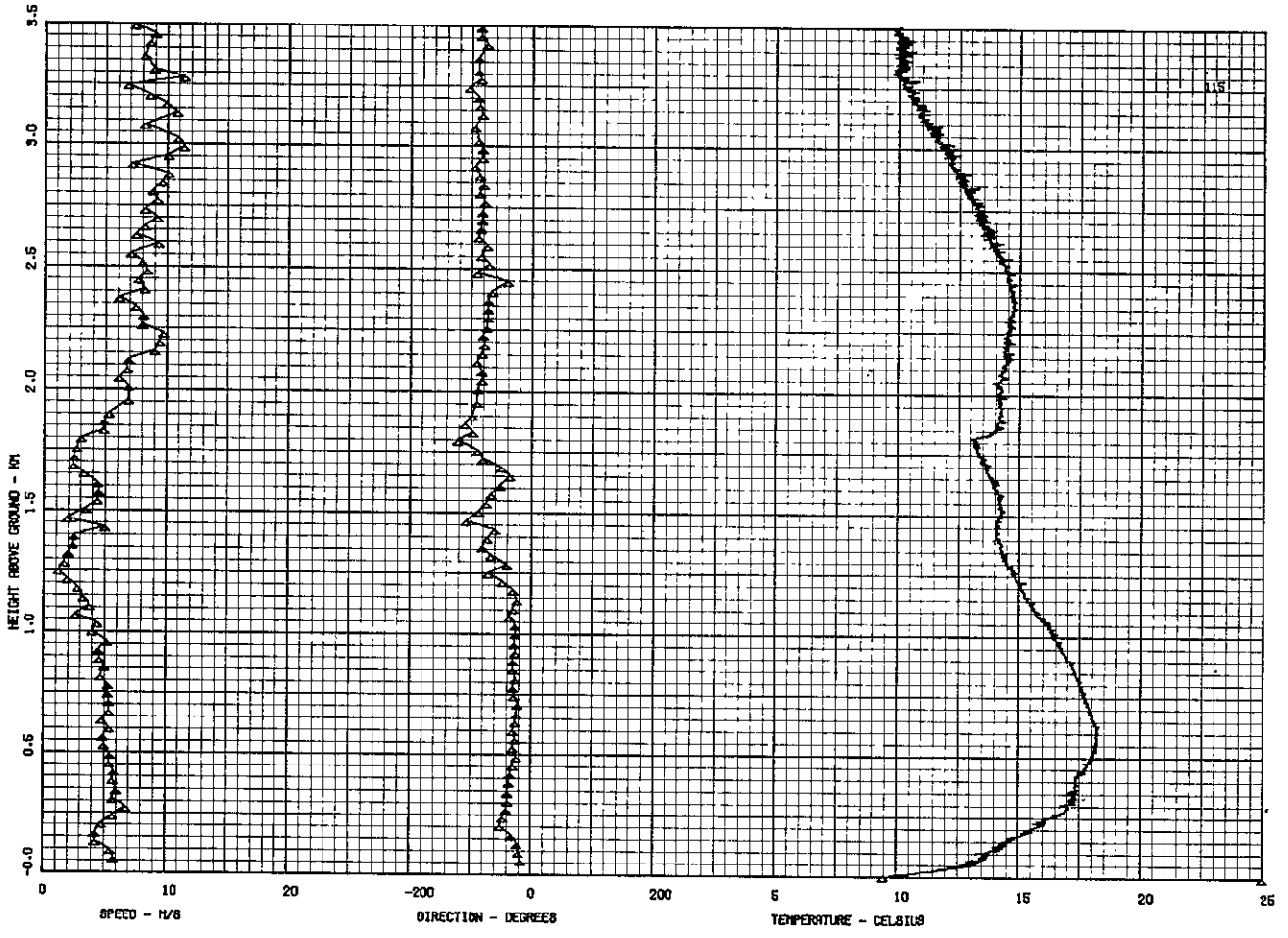
RUN 4 ALTON 18/6/75 RELEASE TIME 0740



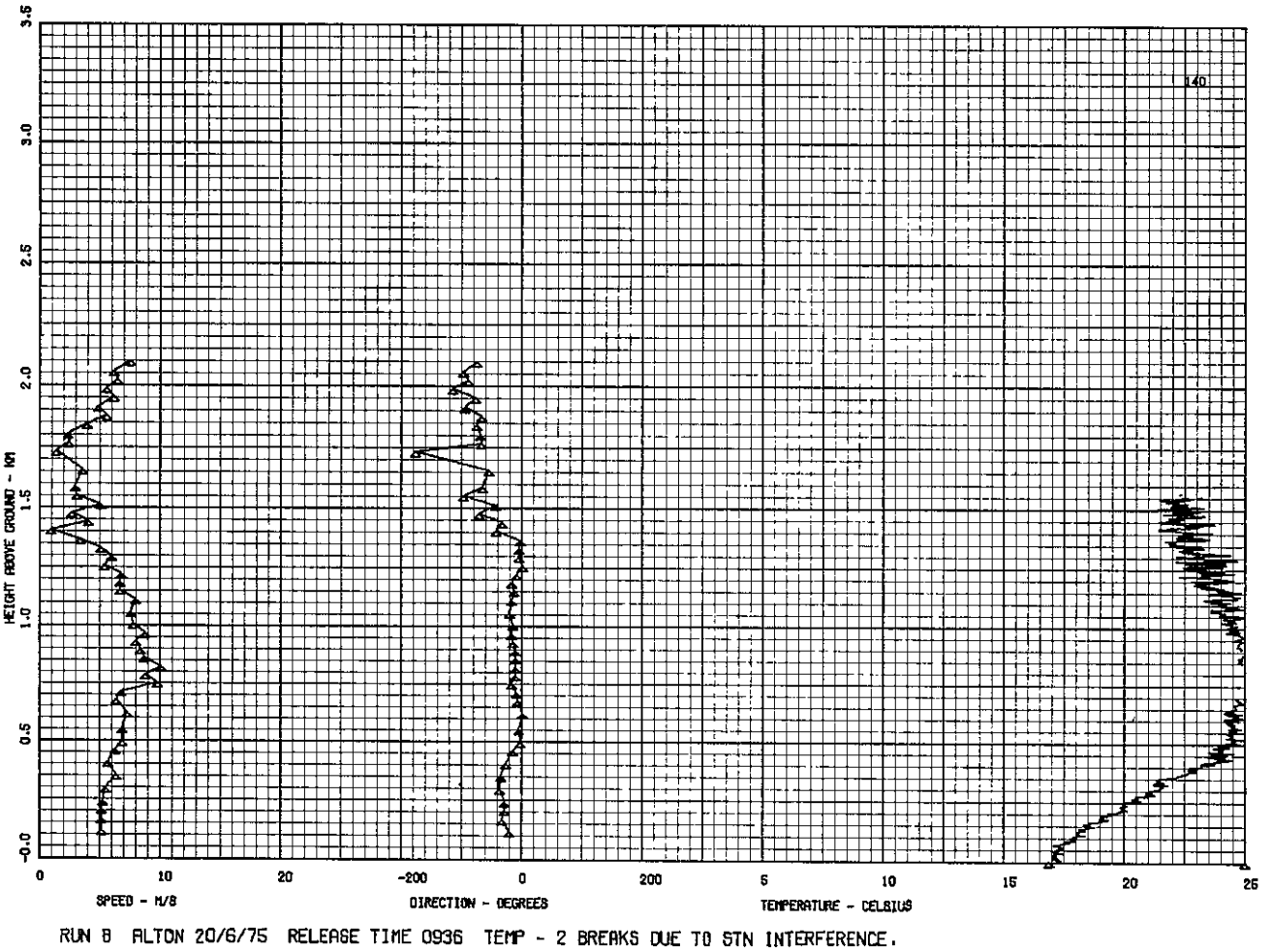
RUN 5 ALTON 19/6/1975 RELEASE TIME 2217



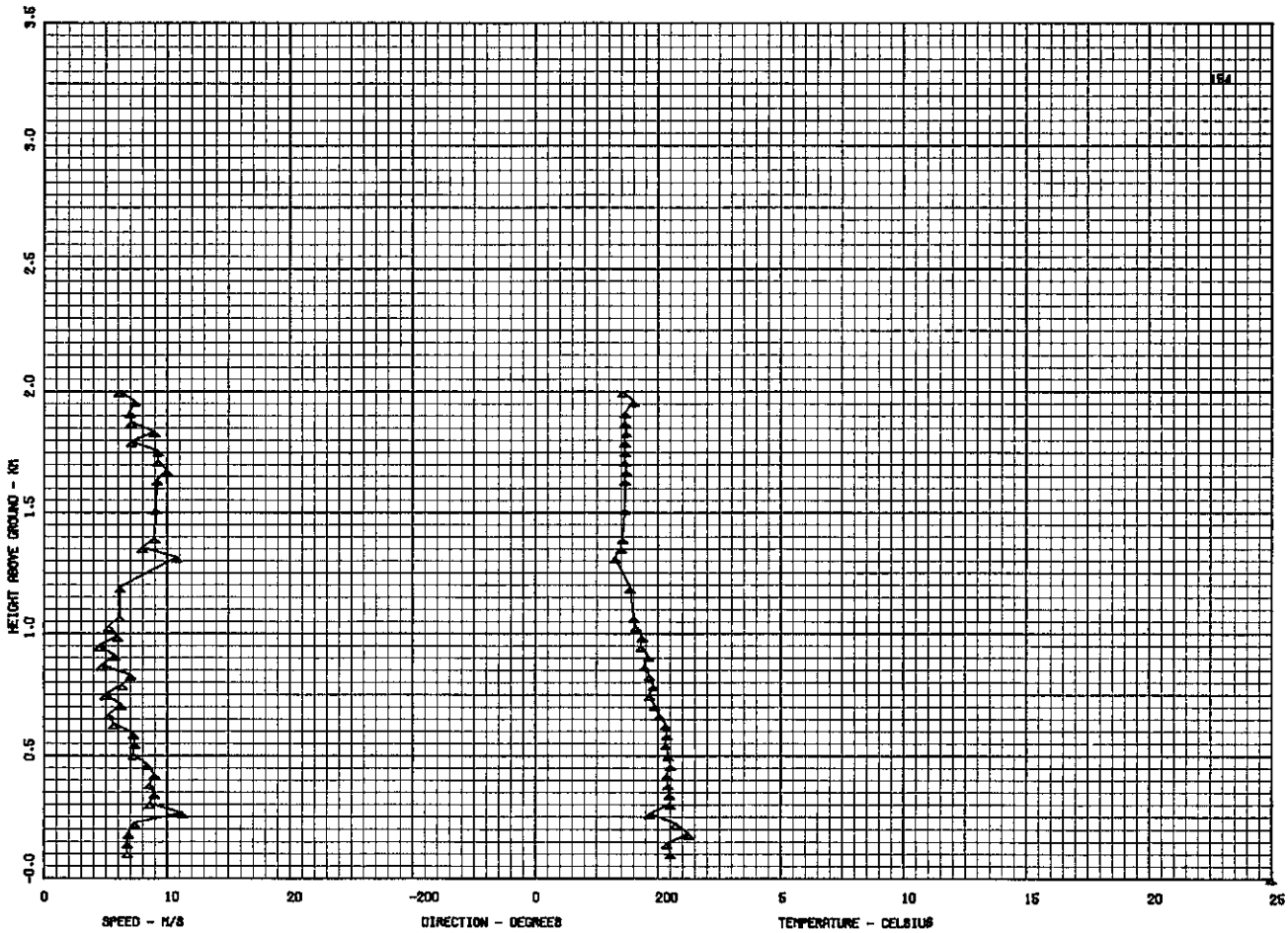
RUN 6 ALTON 20/6/75 RELEASE TIME 0558 TEMP SIGNAL LOST EARLY IN RUN



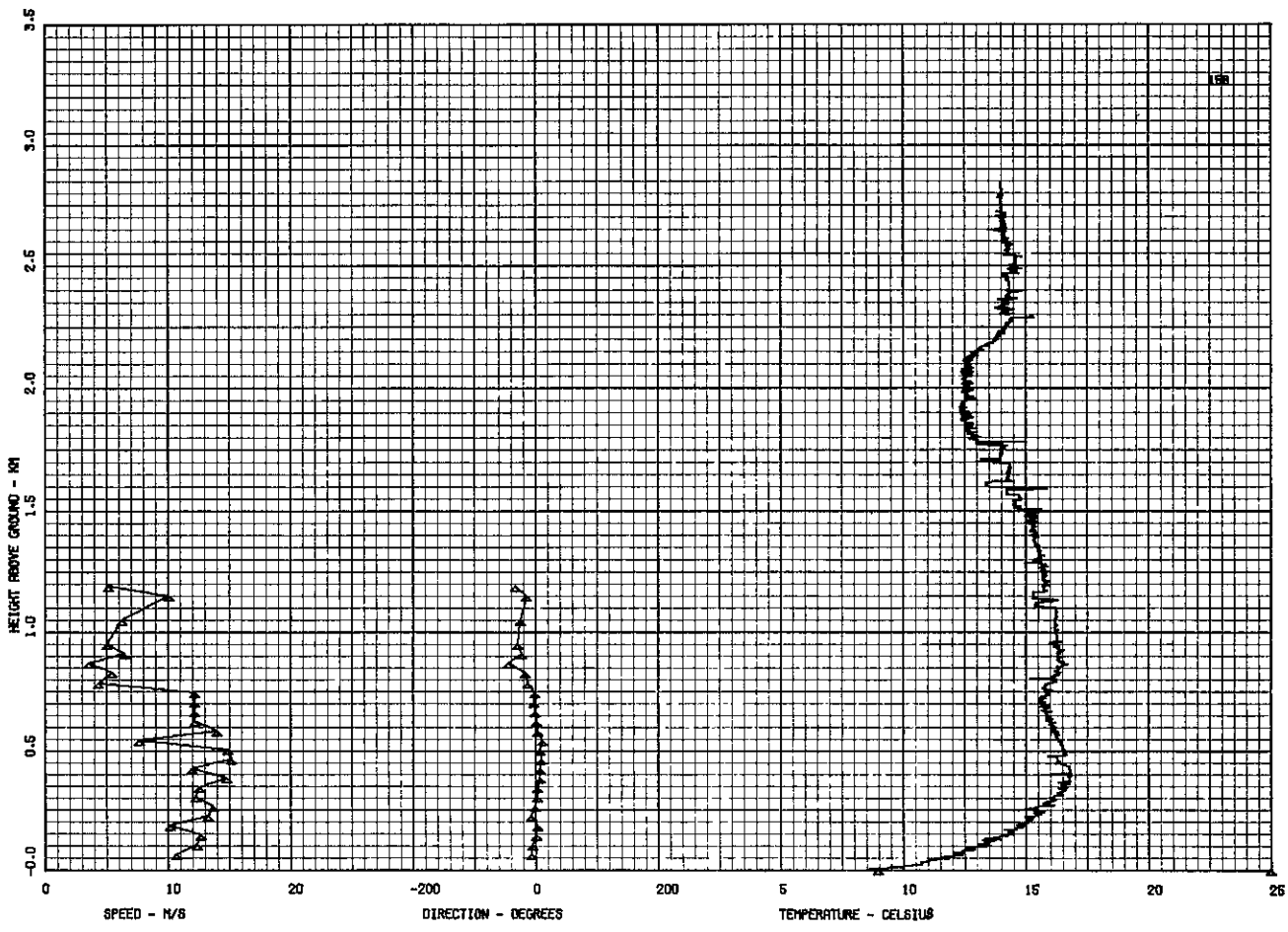
RUN 7 ALTON 20/6/75 RELEASE TIME 0635



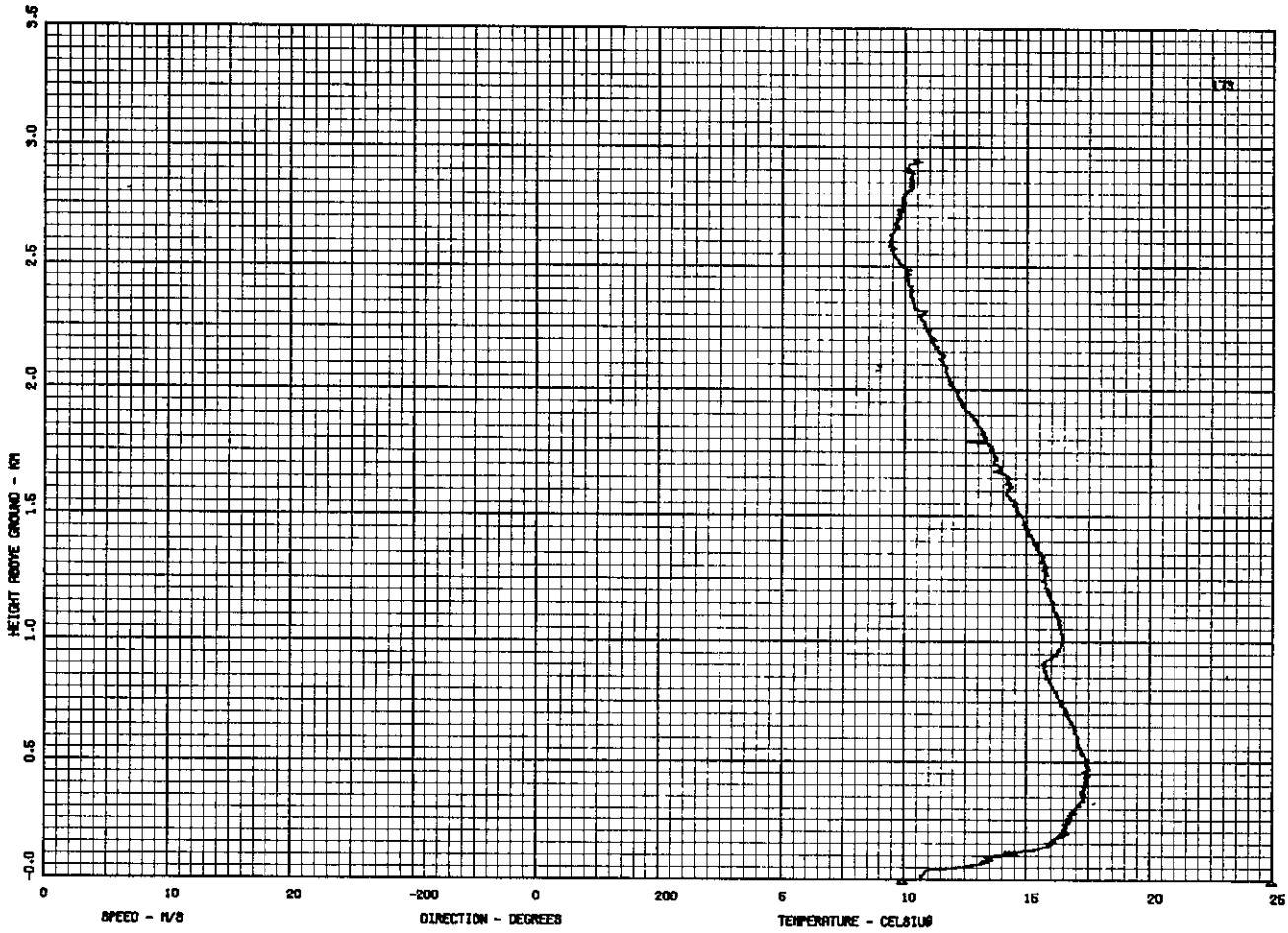
RUN 8 ALTON 20/6/75 RELEASE TIME 0936 TEMP - 2 BREAKS DUE TO STN INTERFERENCE.



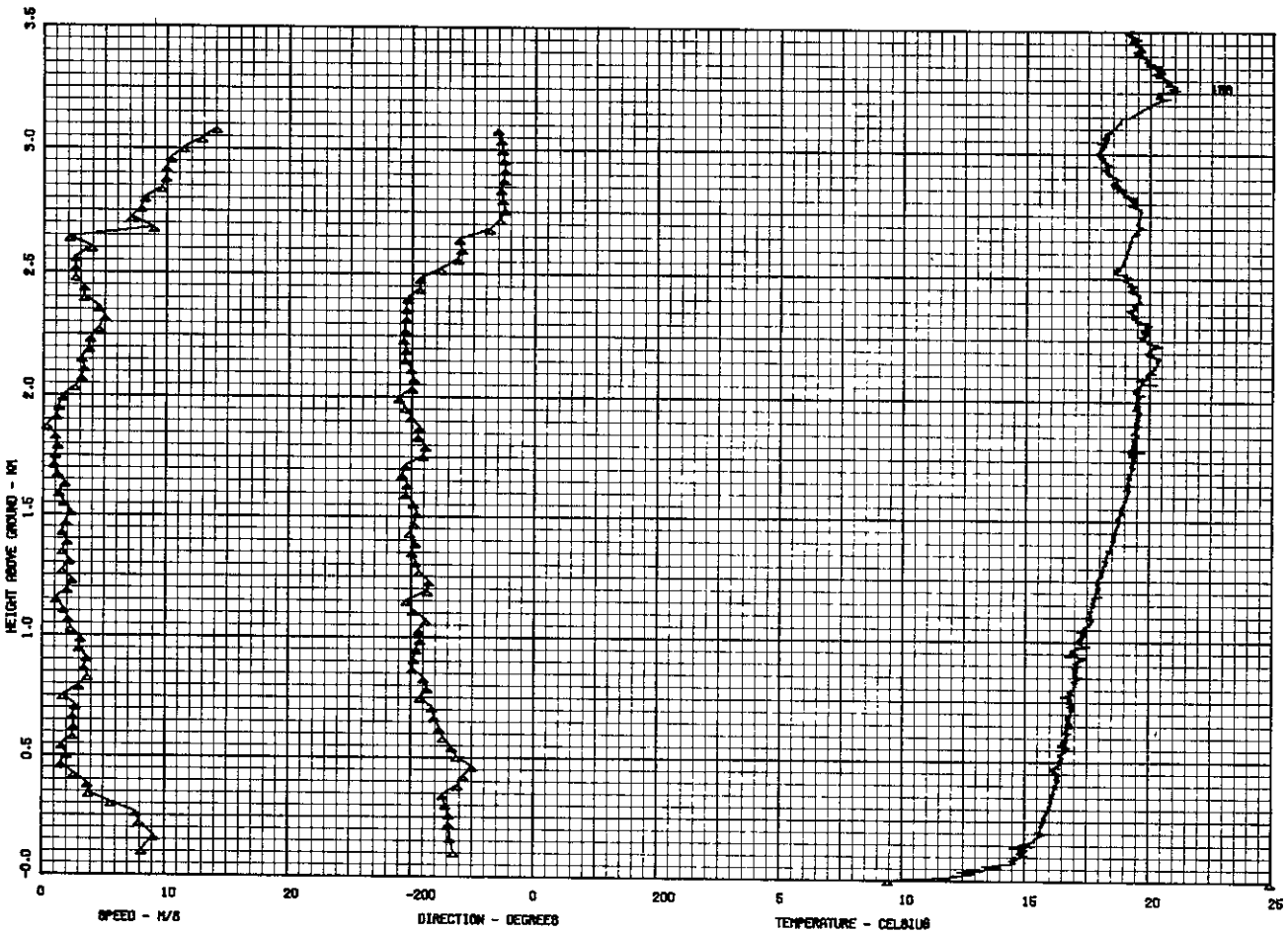
RUN 9 ALTON 21/6/75 RELEASE 0709 NO TEMP DATA - PLL NOT FUNCTIONING.



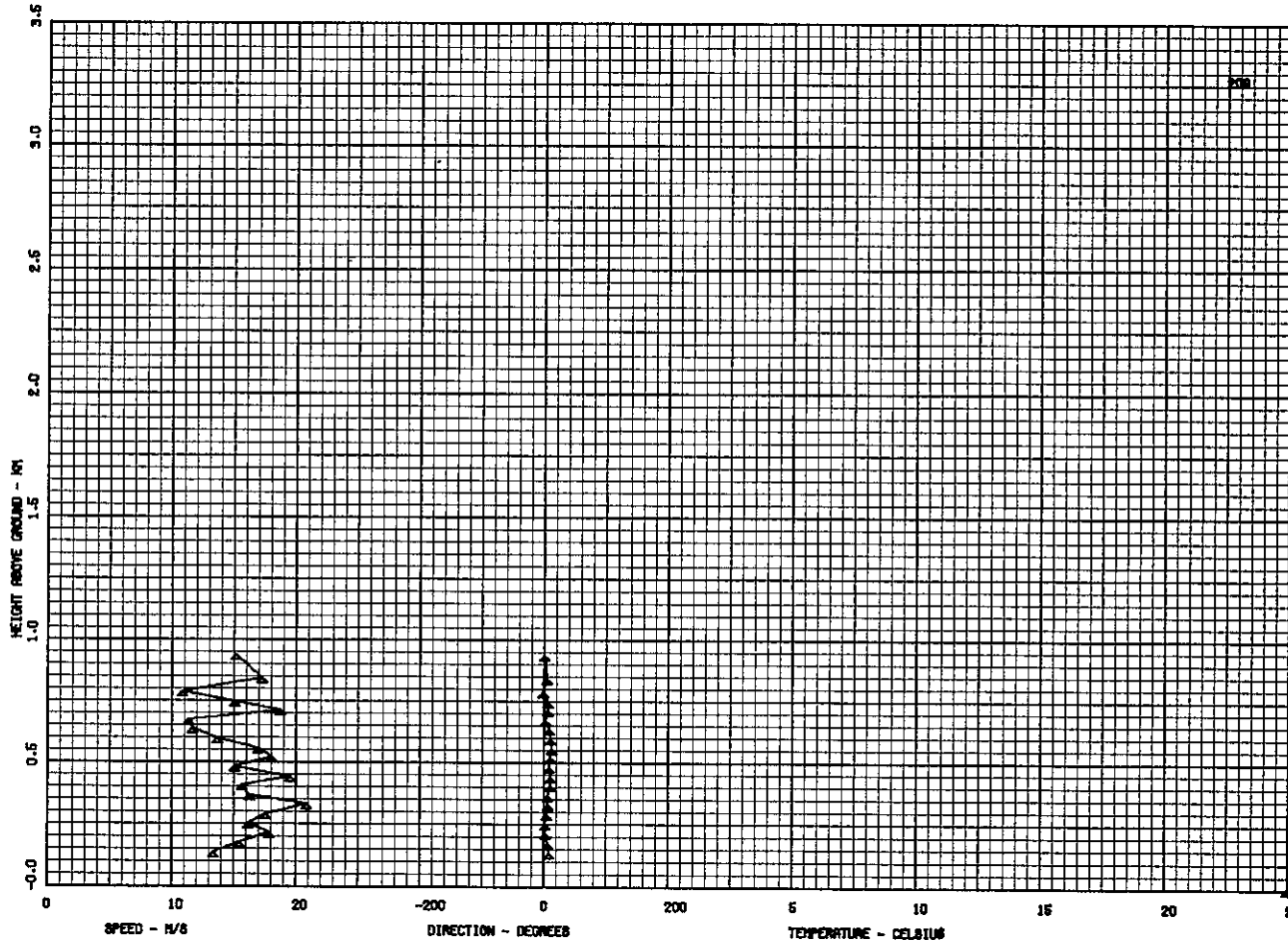
RUN 10 ALTON 22/6/75 0645 ORGNL DRCT RCRDNG - CRRCT TIME INTERVL BY 1.01346



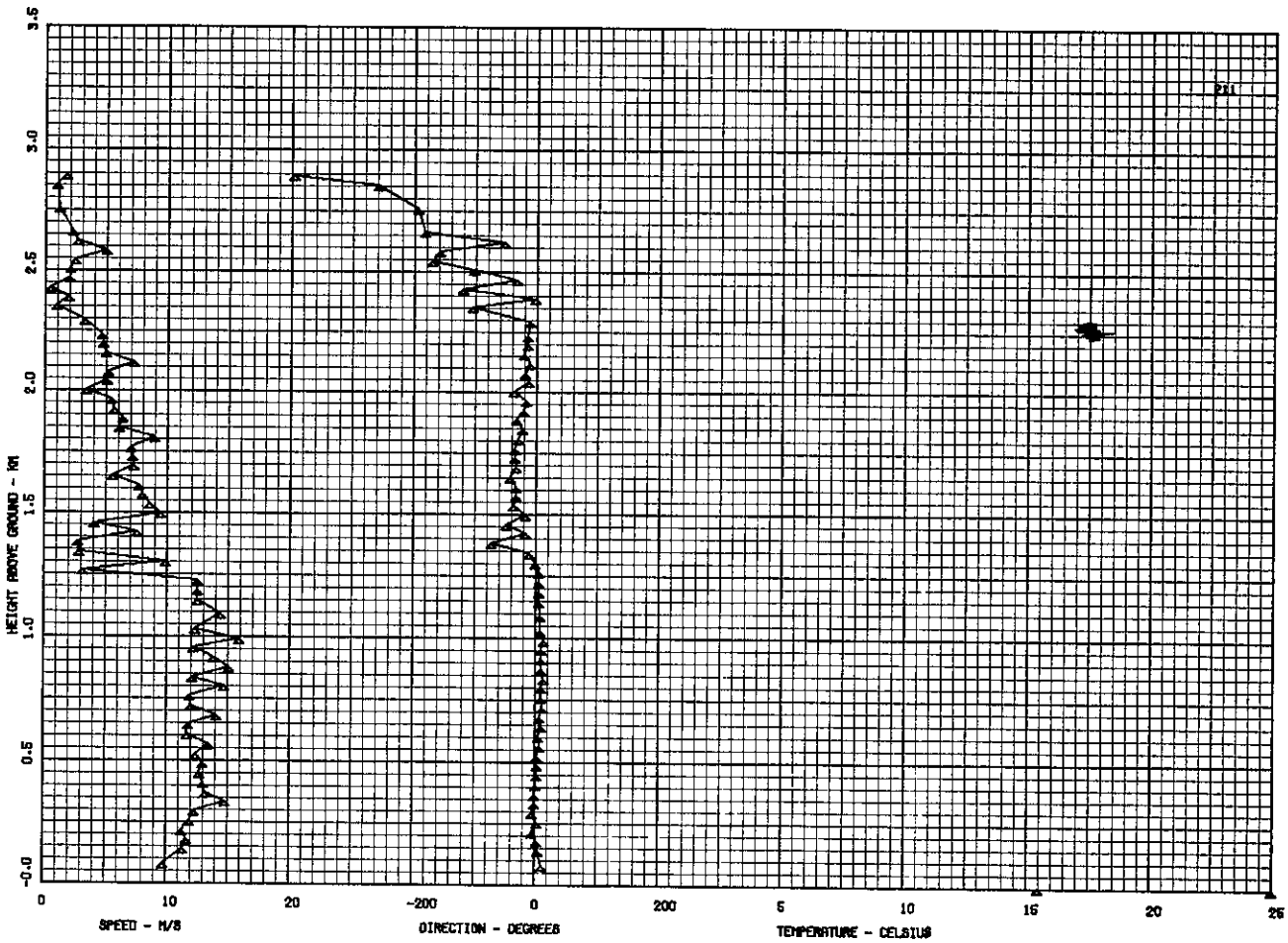
RUN 11 ALTON 23/6/75 RELEASE 0543 NO TRACKING



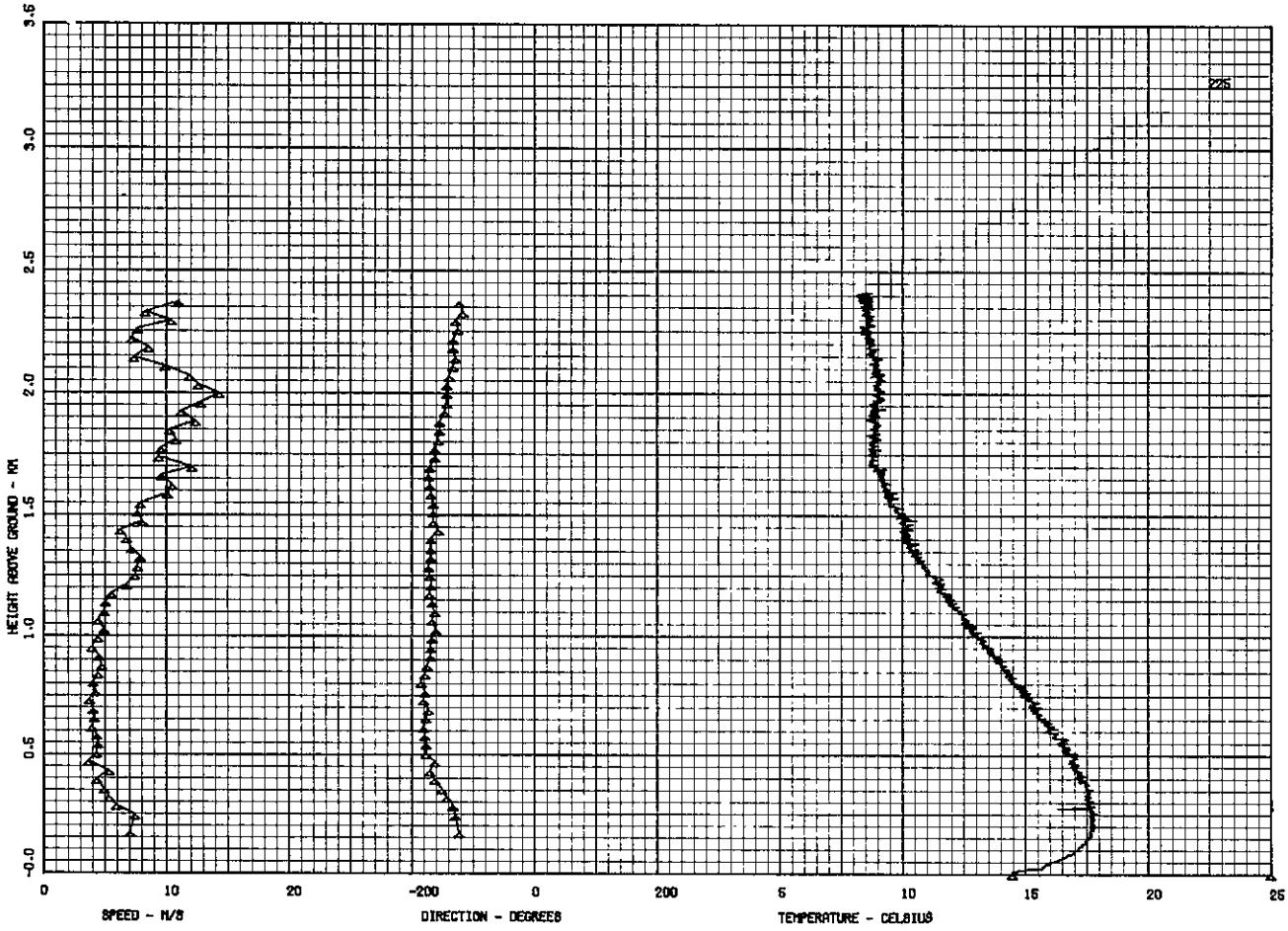
RUN 12 ALTON 23/6/75 RELEASE 0638 PLL LOST TEMP SIGNAL ,PROBABLY AFTER SOME TIME



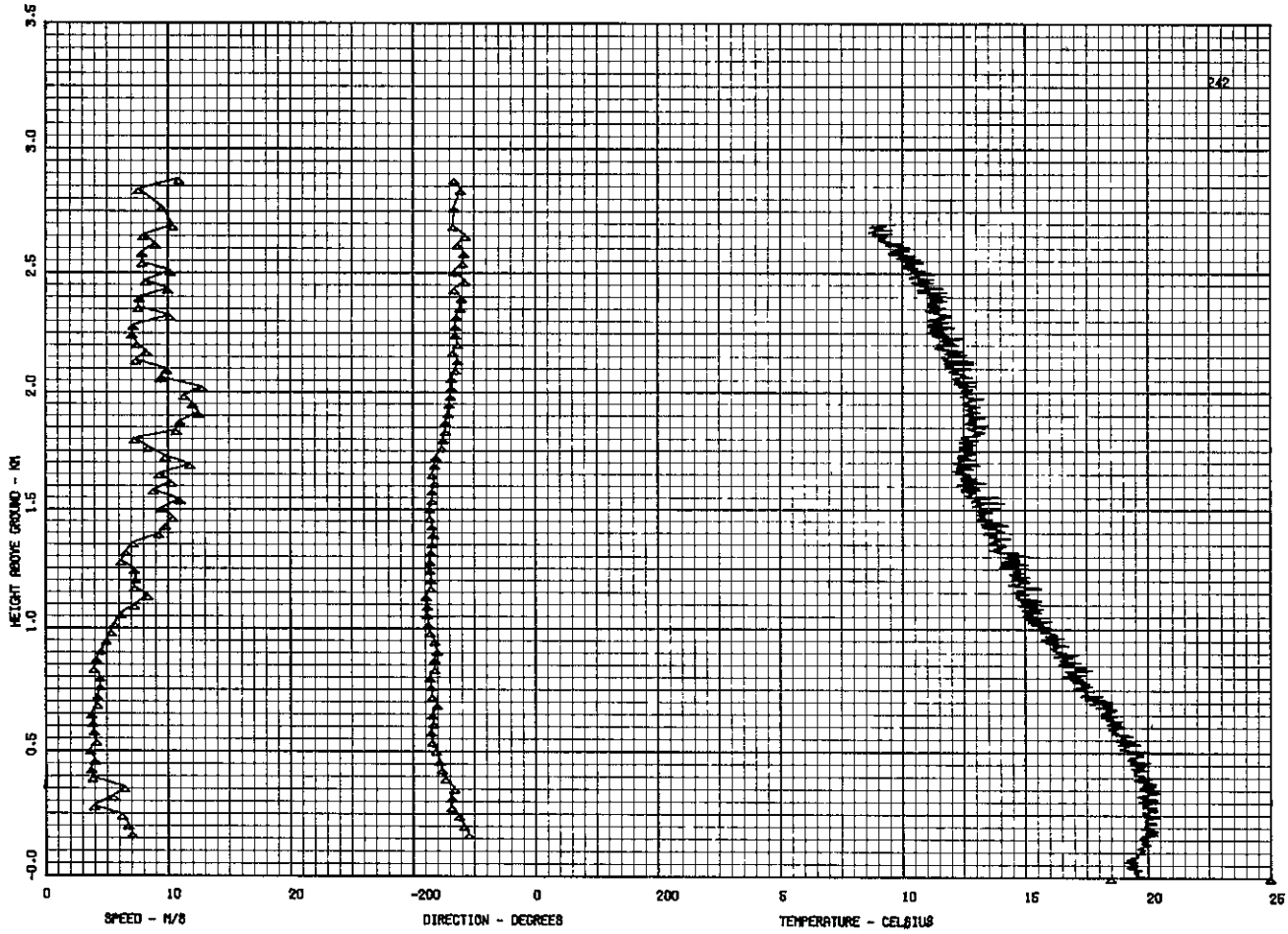
RUN 13 ALTON 27/6/75 RELEASE 0020 SURFACE WIND 2.66 M/S 25-20 DEG NO SIGNAL



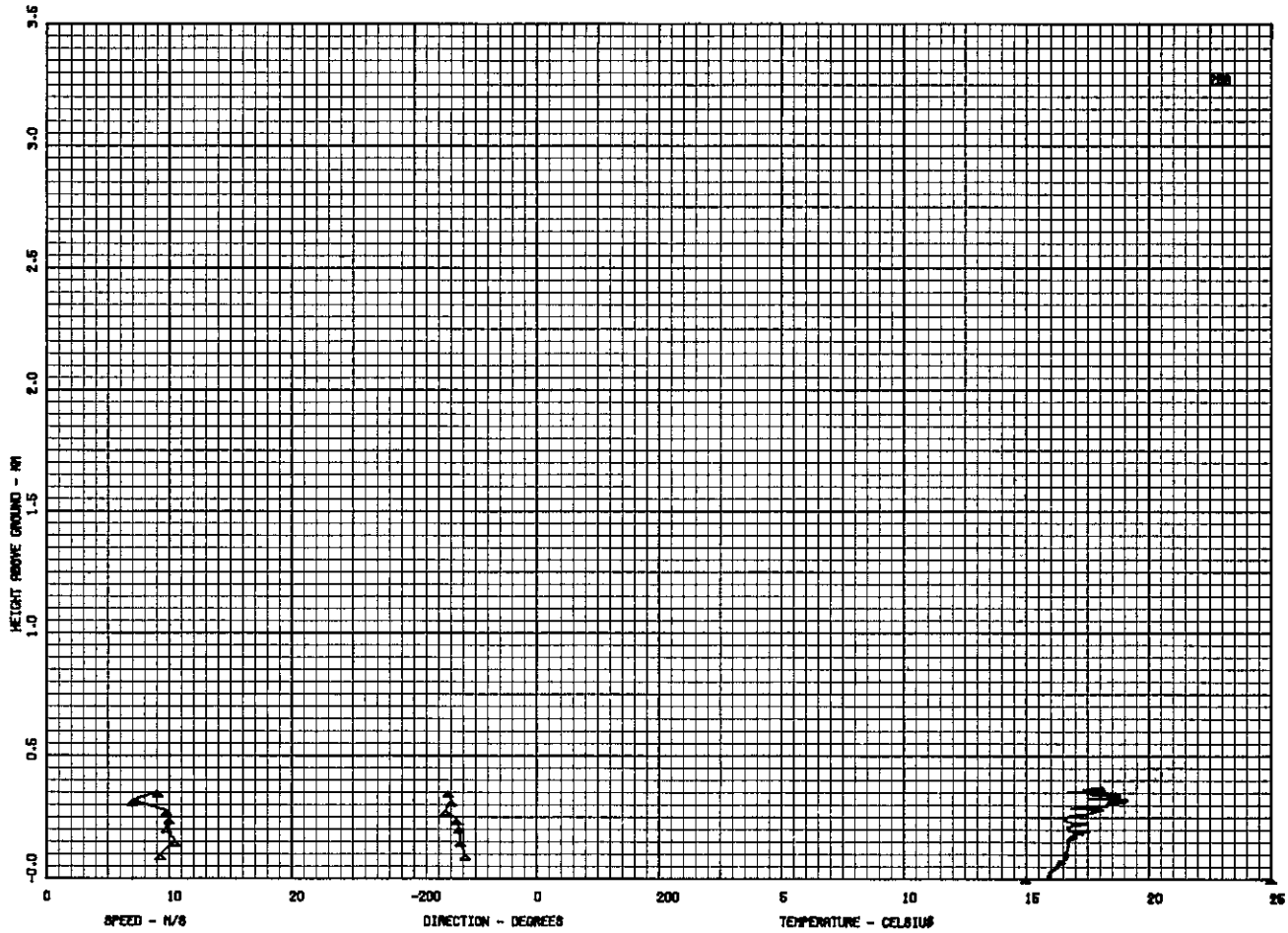
RUN 14 ALTON 27/6/75 RELEASE 0730 SURF. W. 2.11 M/S 15 DEG. PLL OUT INITIALLY



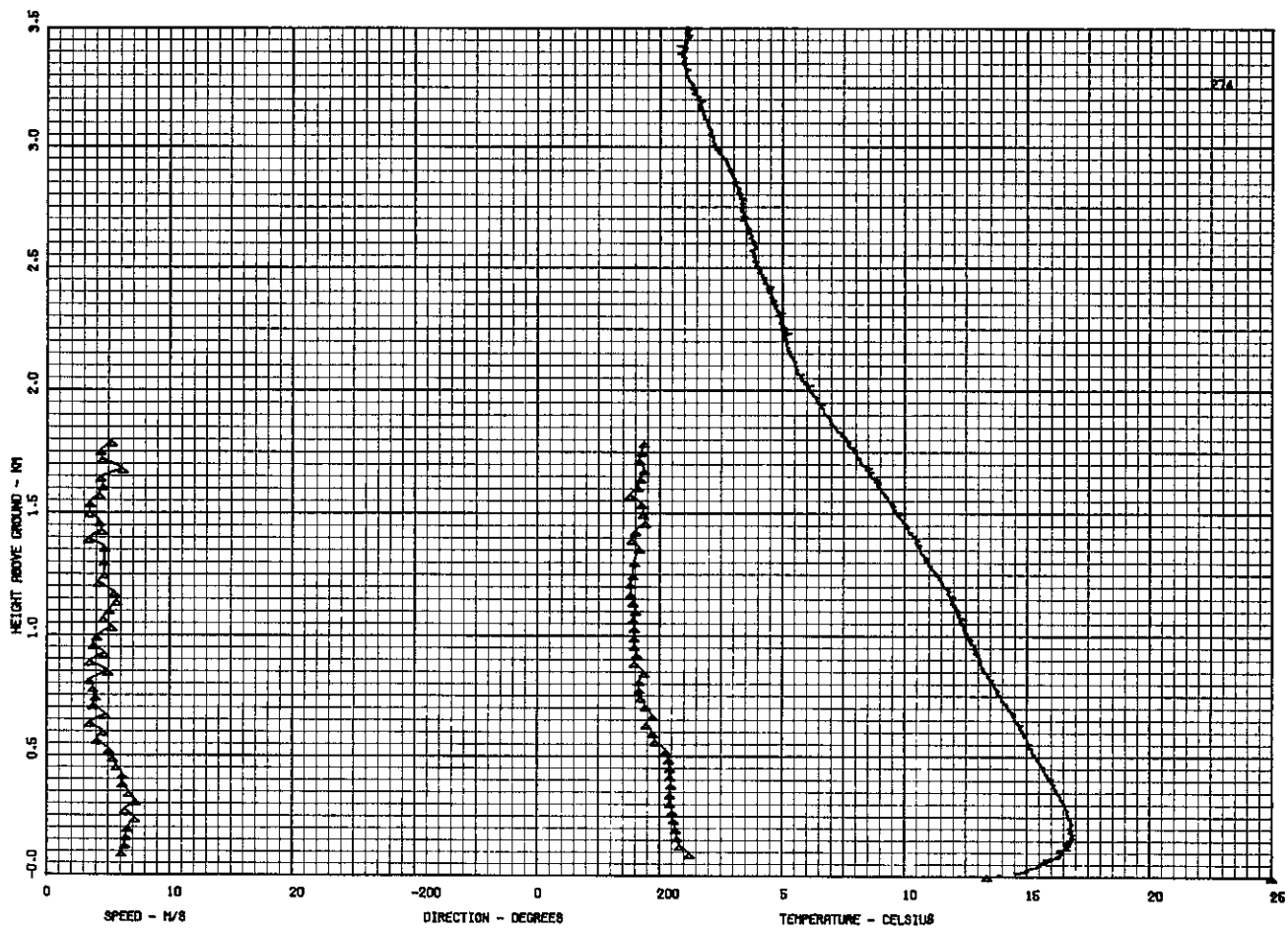
RUN 15 ALTON 29/6/75 RELEASE 0745 SURFACE WIND NOT MEASURED



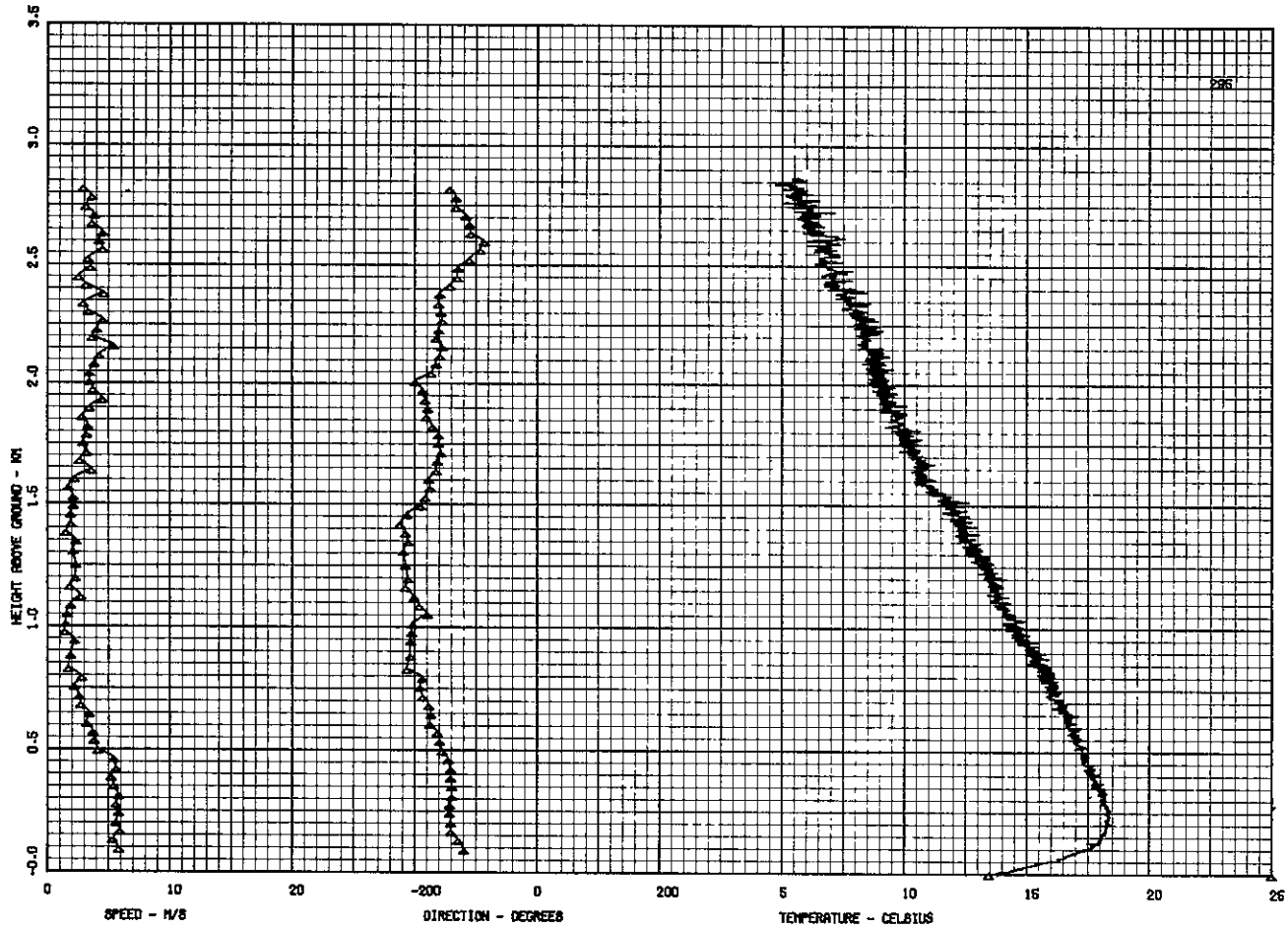
RUN 16 ALTON 29/6/75 RELEASE 0845 SURF. W. 280 DEG



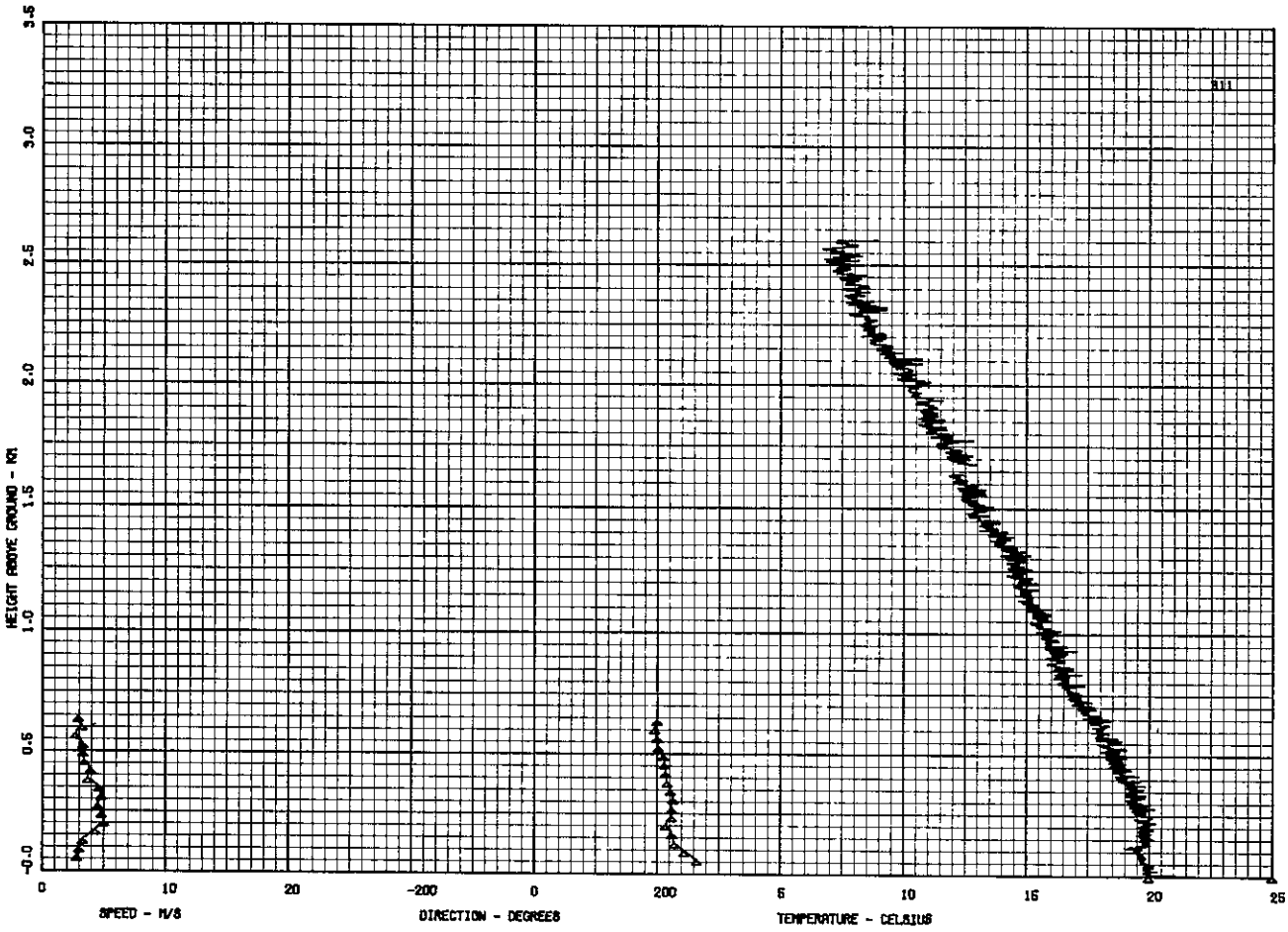
RUN 17 ALTON 29/6/75 RELEASE 2233 SURF WIND 273 DEG (SPEED NOT MEASURED)



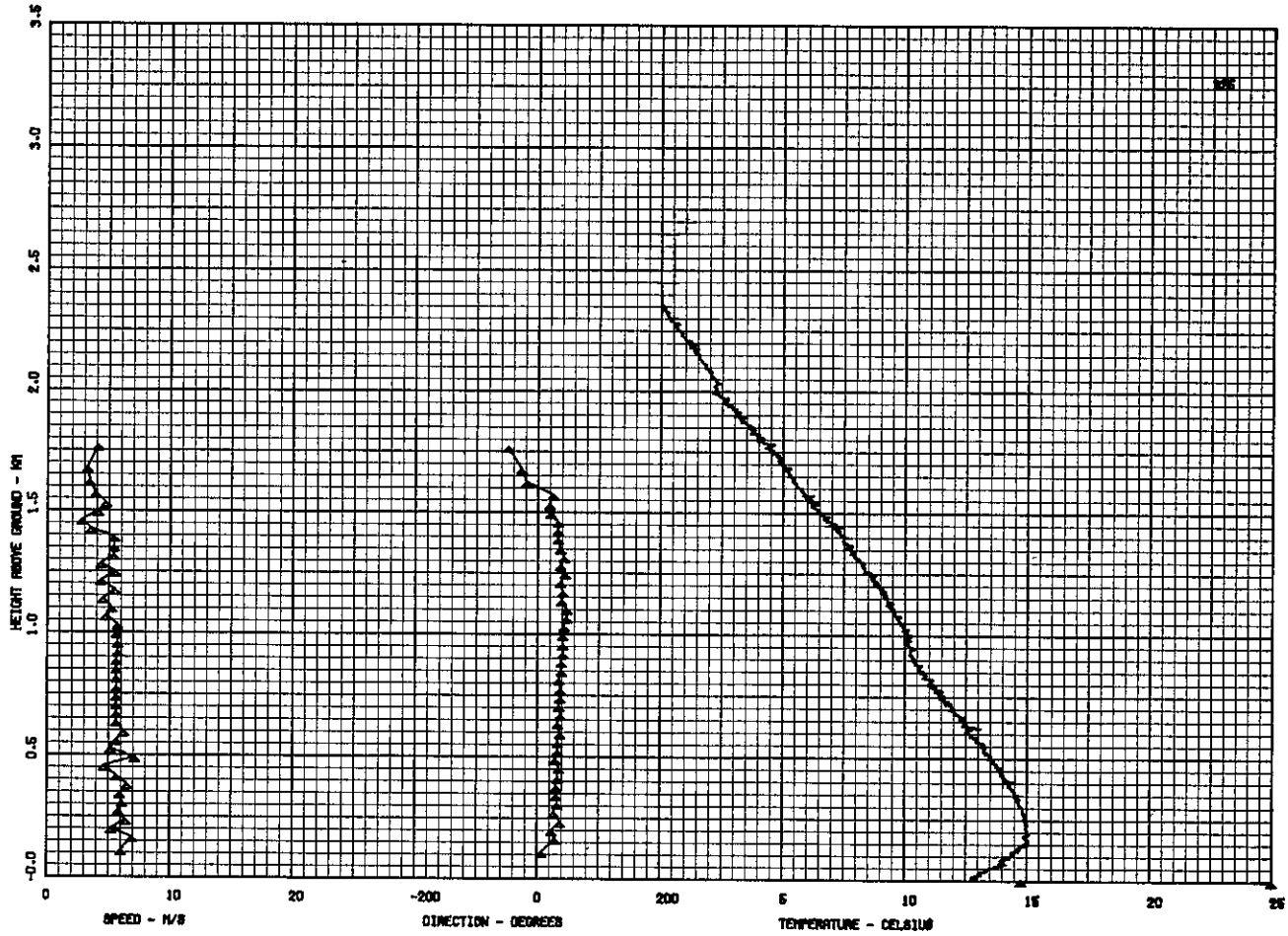
RUN 18 ALTON 30/6/75 RELEASE 0425 SURFACE WIND 277 DEG. TAPE STARTED 2 SEC LATE



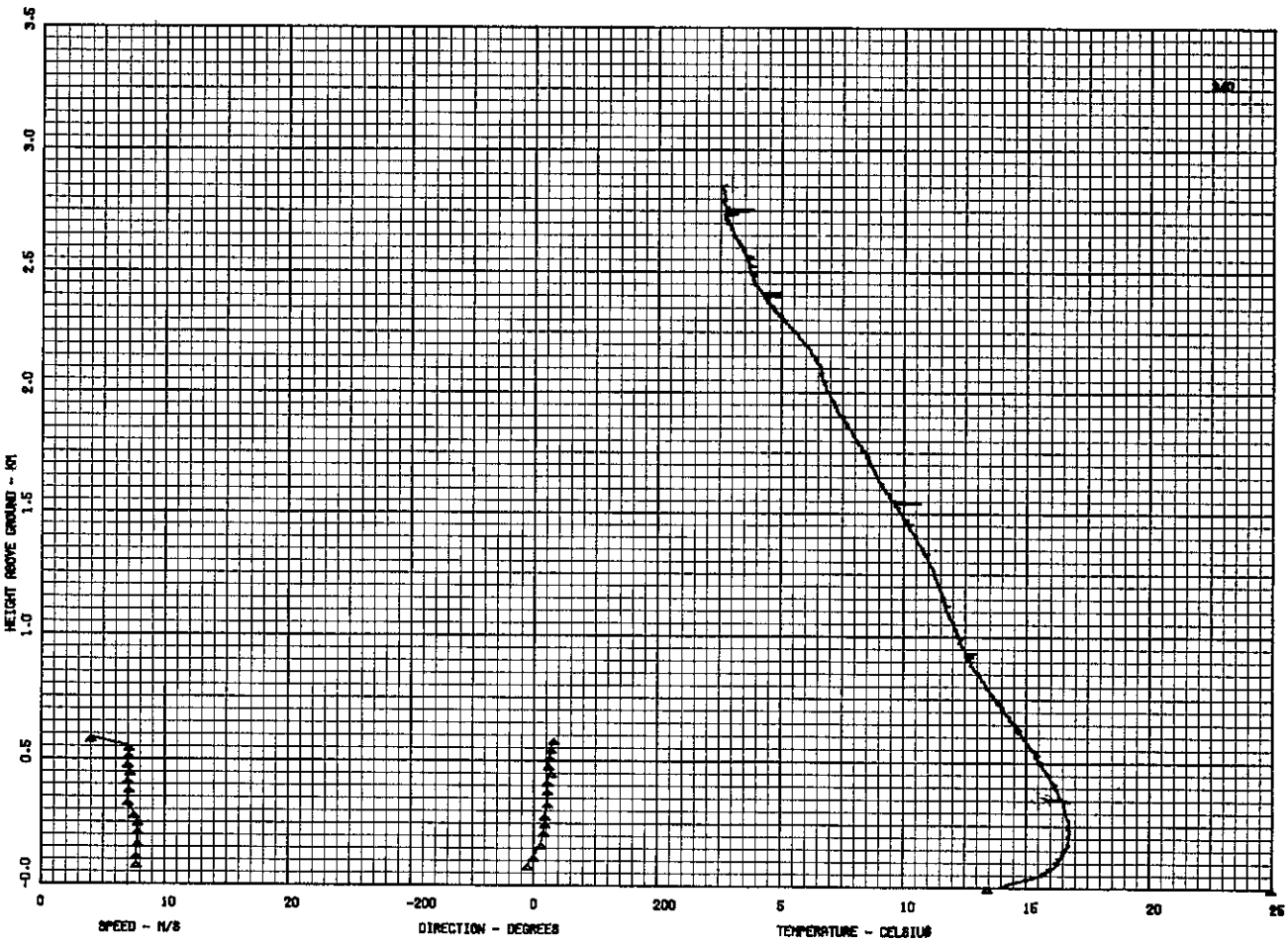
RUN 19 ALTON 30/6/75 RELEASE 0735 SURF. WIND 300 DEG AT 0800



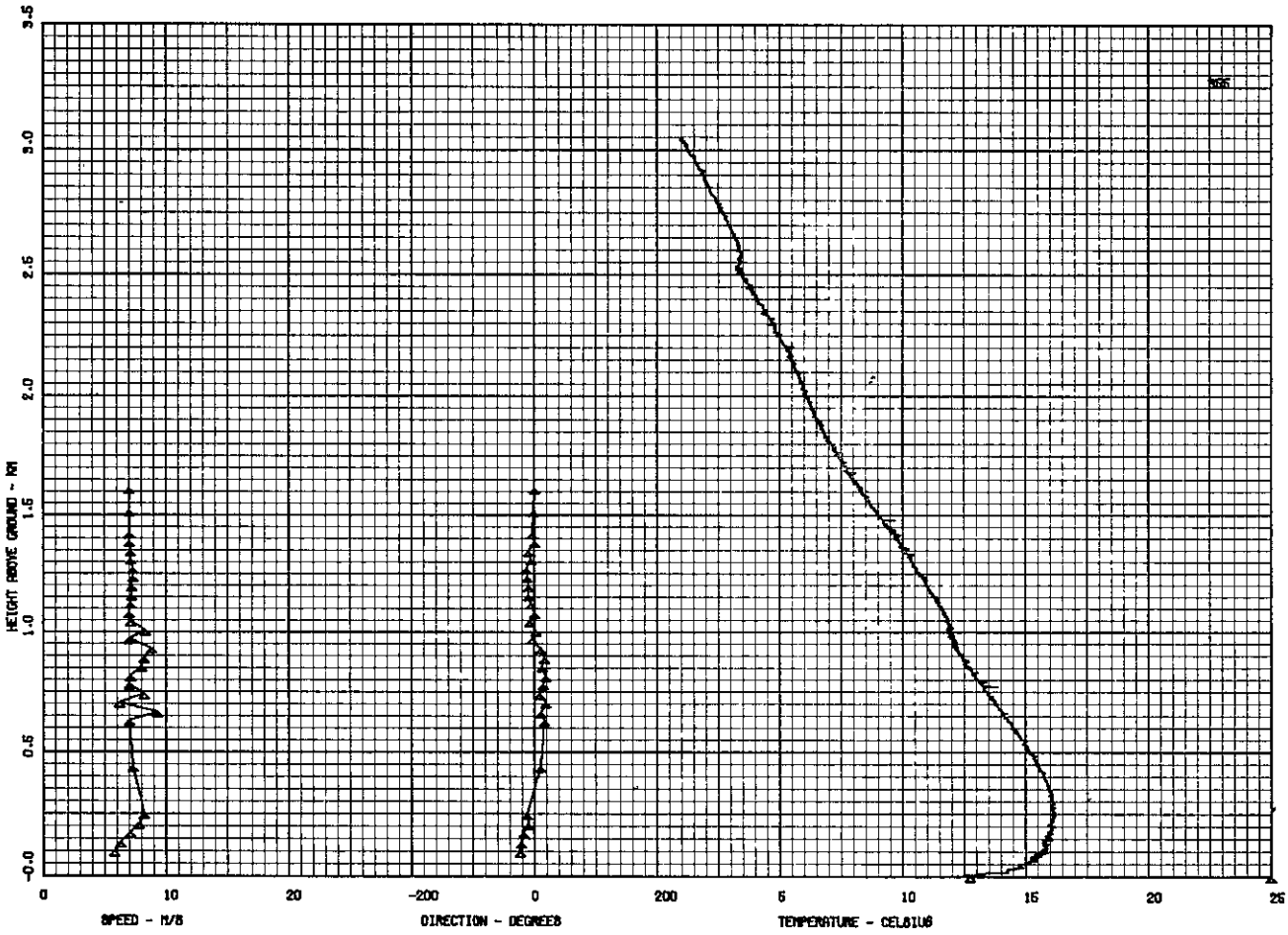
RUN 20 ALTON 30/6/75 RELEASE 0925 SURFACE WIND NOT MEASURED



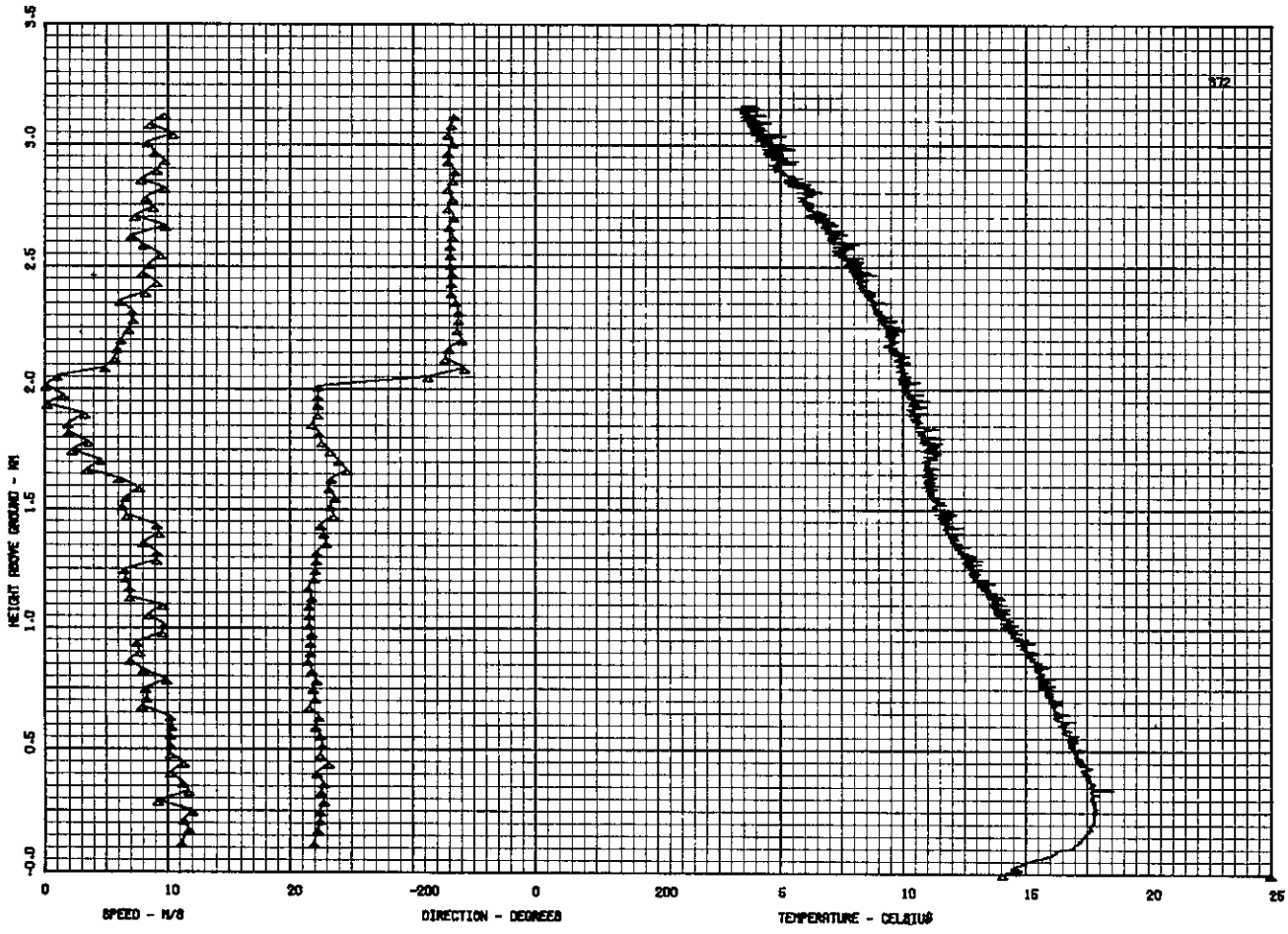
RUN 21 ALTON 30/6/75 RELEASE 2212 SURF. WIND 1.83 M/S FROM 85 DEG.



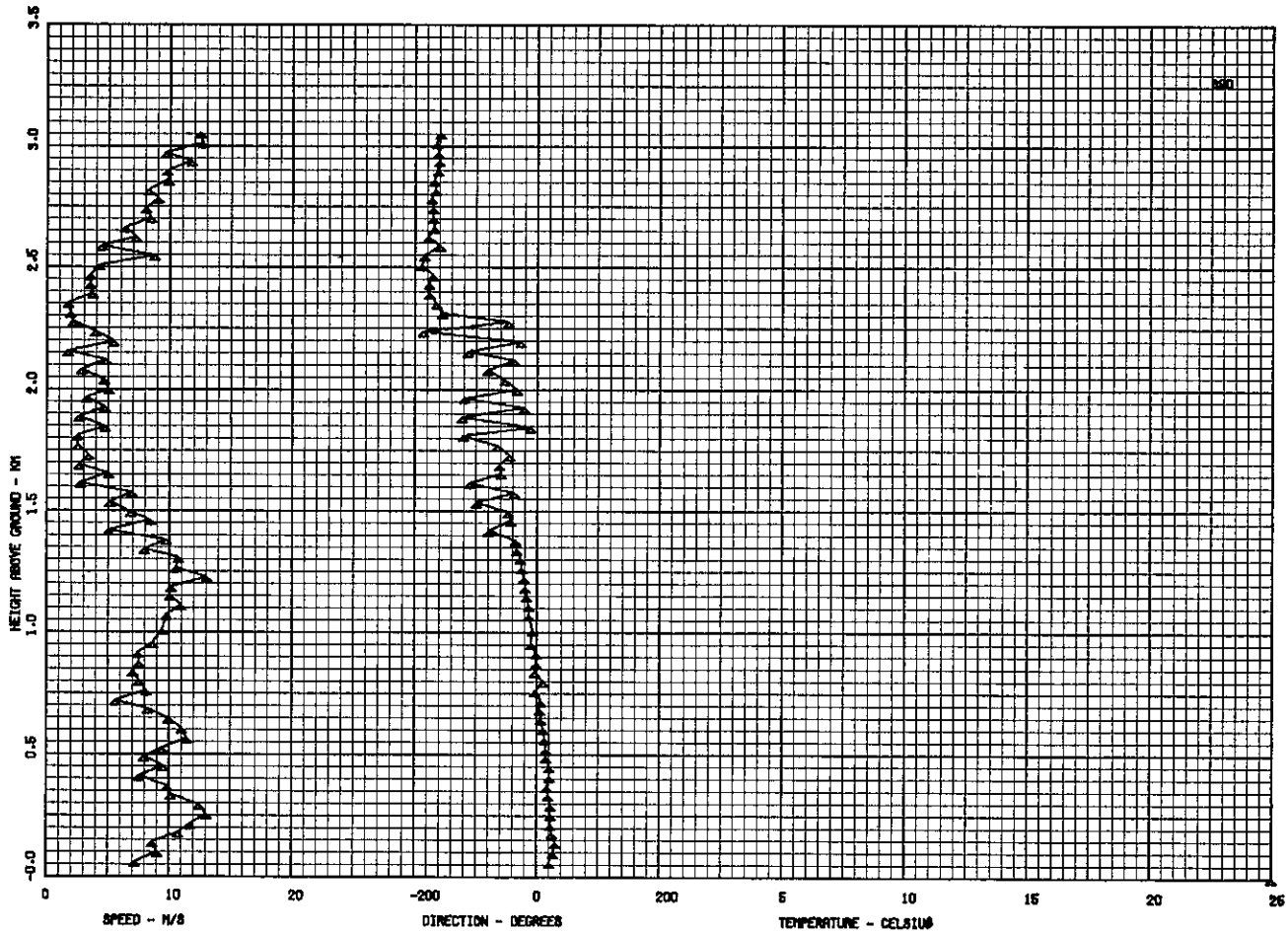
RUN 22 ALTON 1/7/75 RELEASE 0052 SURFACE WIND 2.31 M/S (DIRECTION NOT MEASURED)



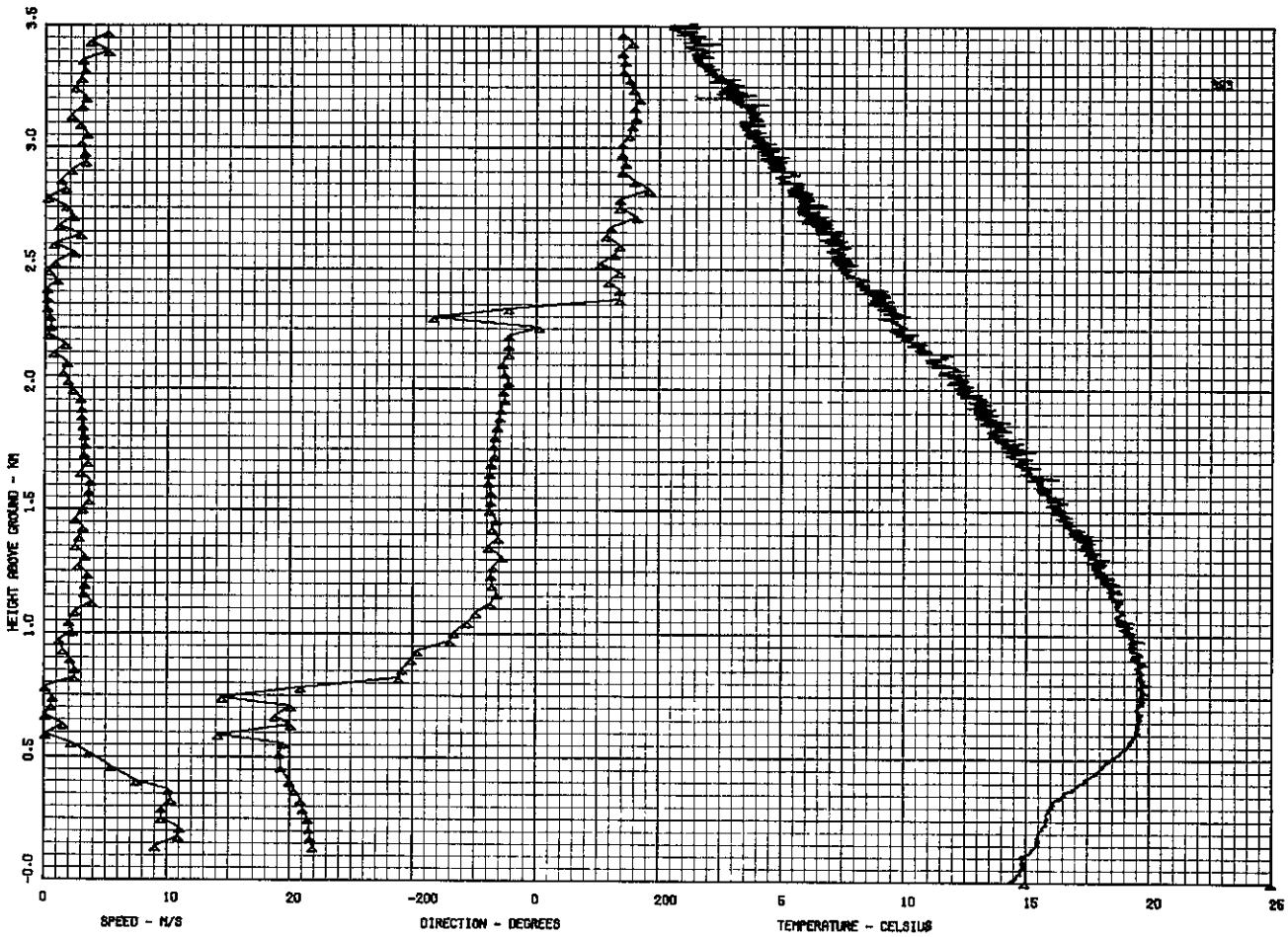
RUN 23 ALTON 1/7/75 RELEASE 0335 SURFACE WIND 1.8 M/S FROM 350 DEG.



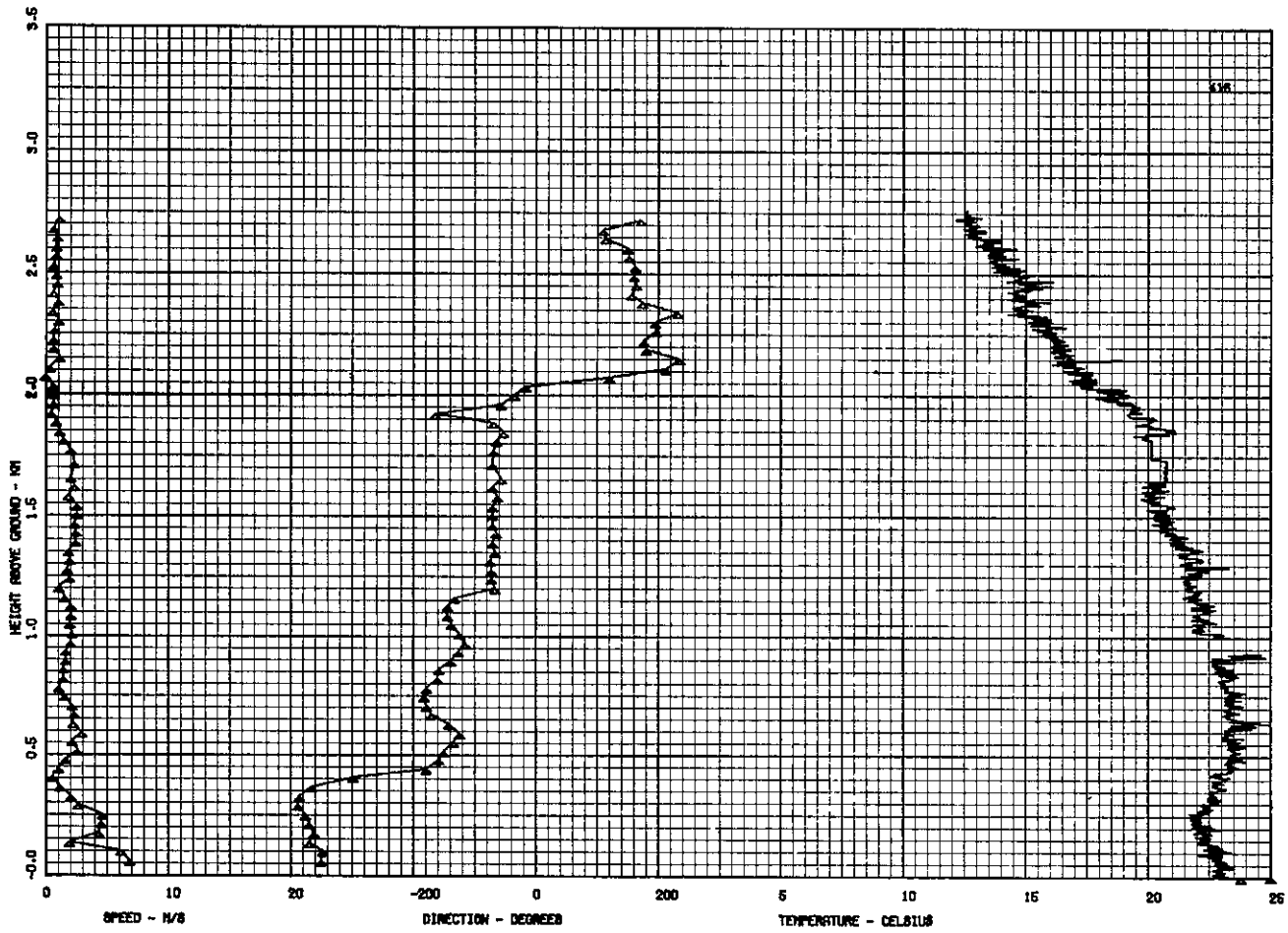
RUN 24 ALTON 1/7/75 RELEASE 0735 SURFACE WIND 2.46 M/S FROM 0 DEG.



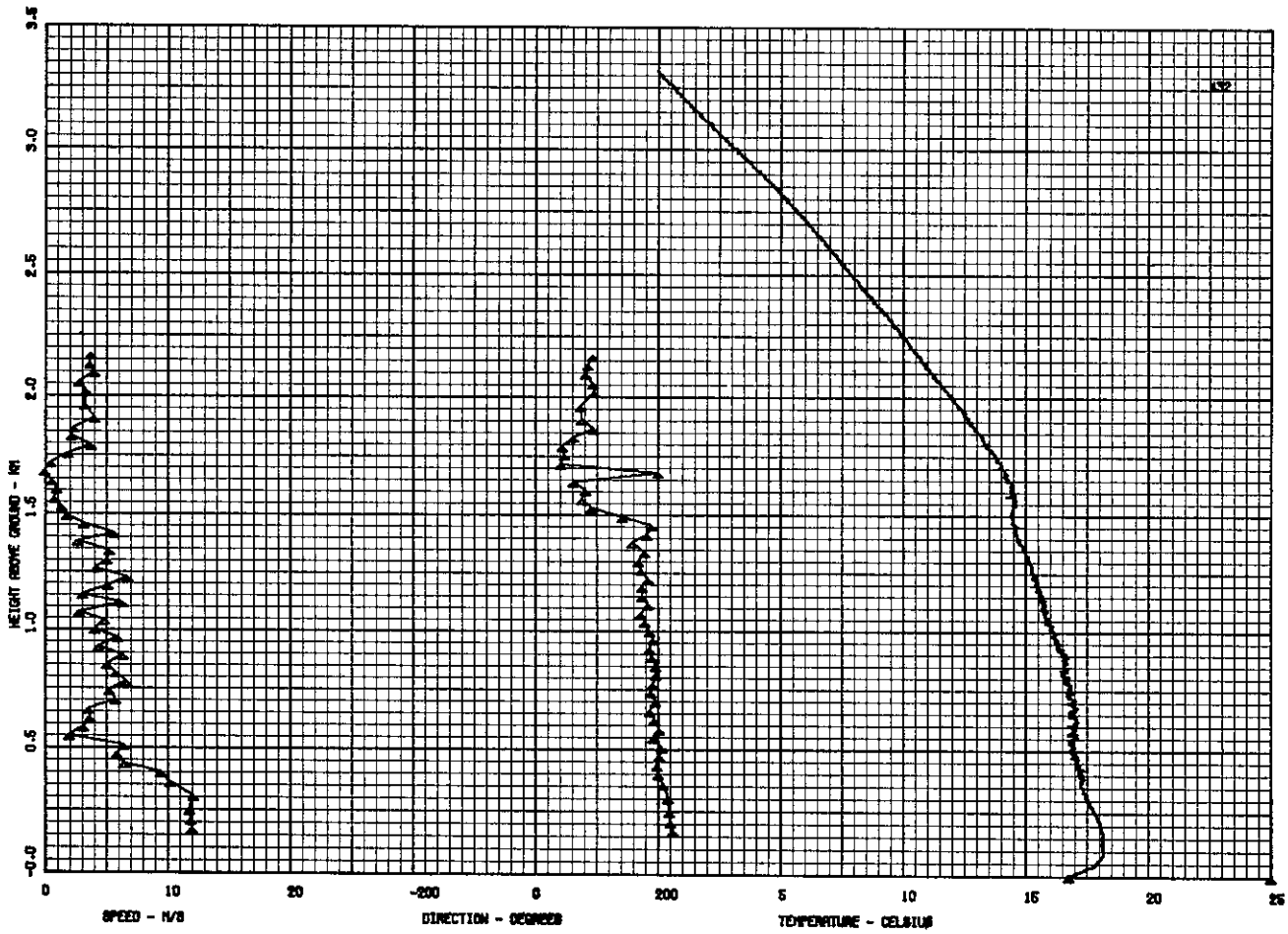
RUN 25 ALTON 1/7/75 REL. 1313 SURF. WIND FROM 35 DEG NO TEMPERATURE DATA.



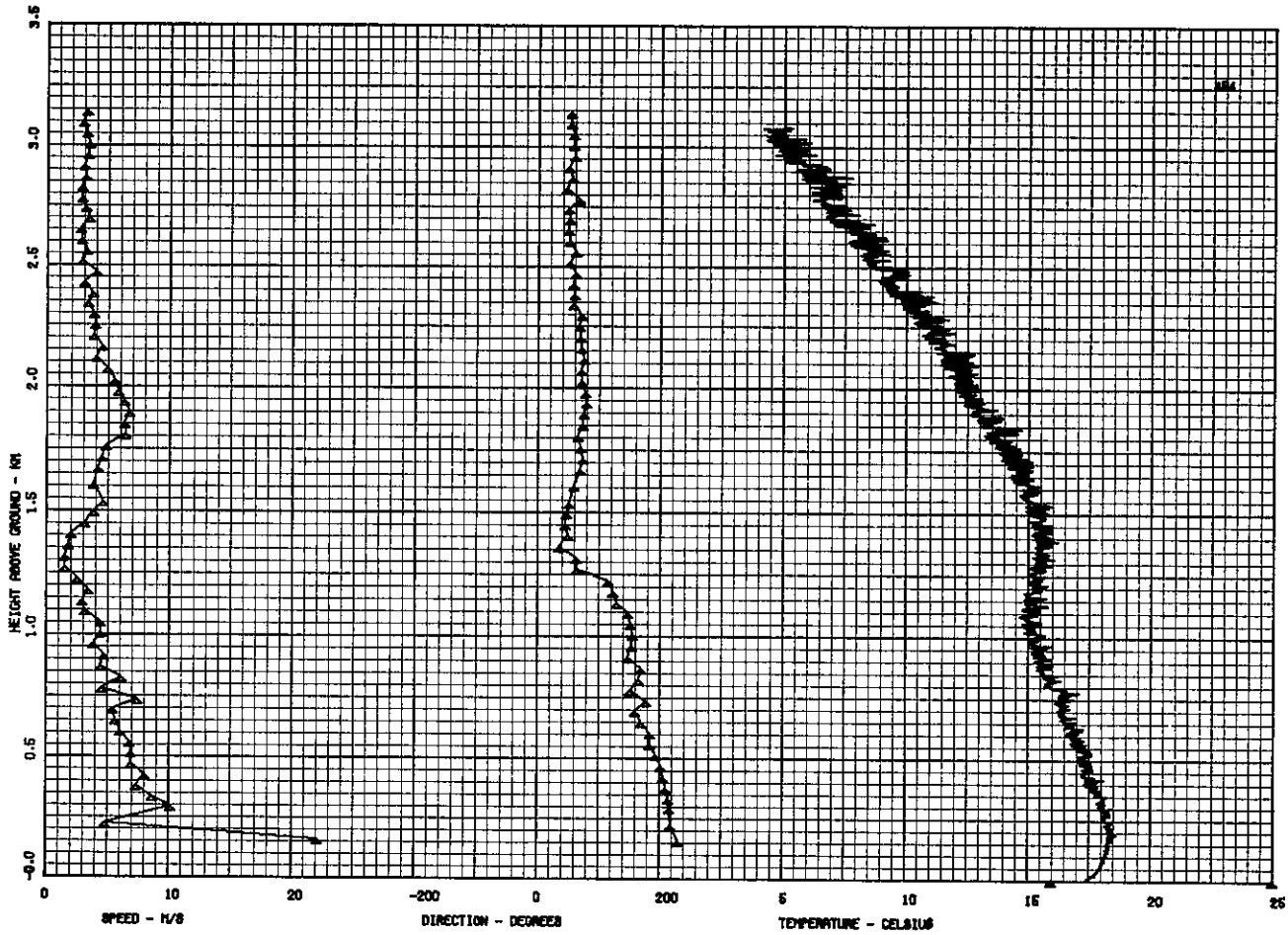
RUN 26 ALTON 2/7/75 RELEASE 0735 SURFACE WIND 1.92 M/S (DIRECTION NOT MEASURED)



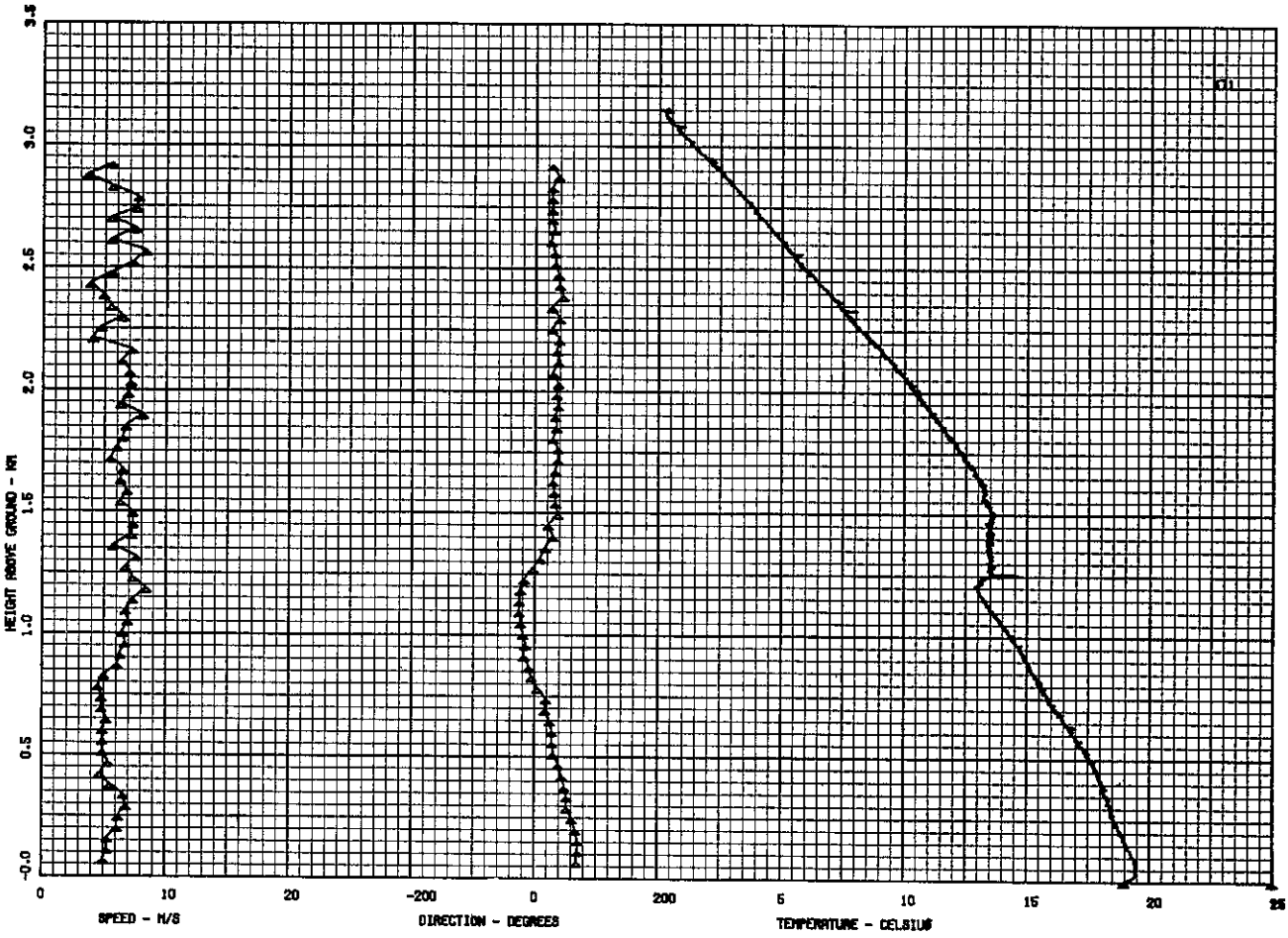
RUN 27 ALTON 2/7/75 RELEASE 1053 SURFACE WIND 3.78 M/S FROM 345 DEG.



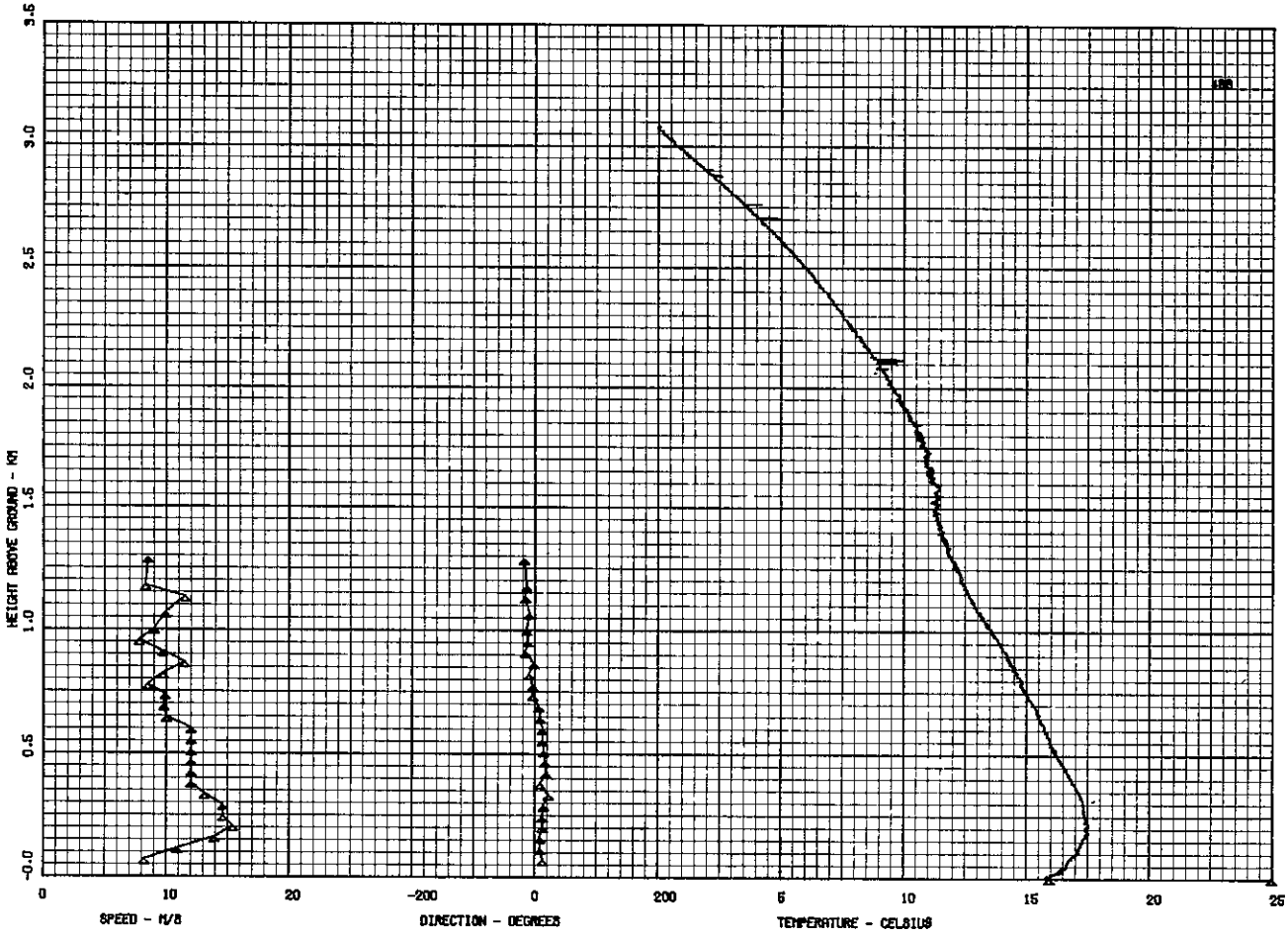
RUN 28 ALTON 2/7/75 RELEASE 1908 SURFACE WIND 2.29 M/S FROM 270 DEG. - 250 DEG.



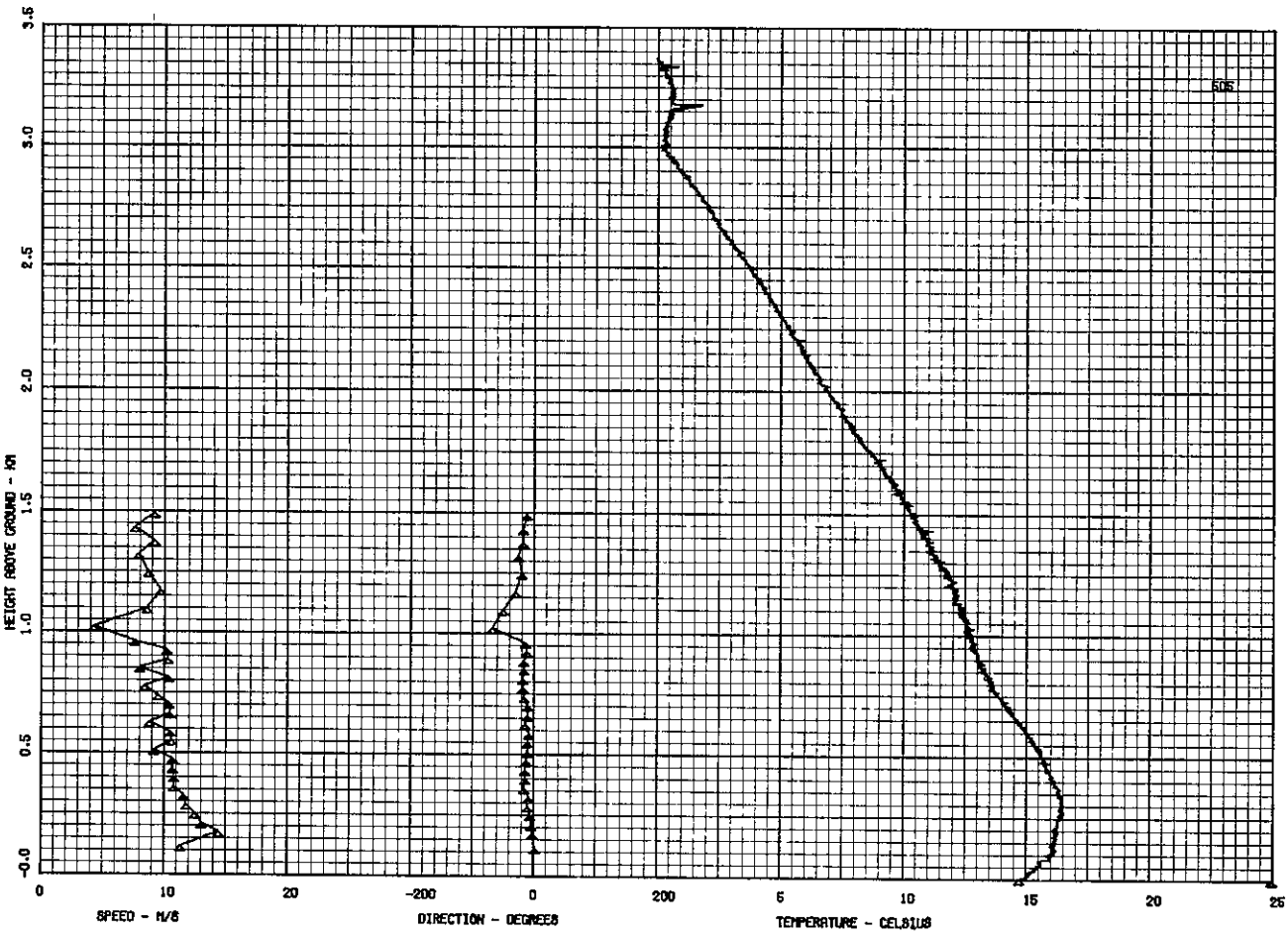
RUN 29 ALTON 3/7/75 RELEASE 0725 SURFACE WIND 2.64 M/S FROM 260 DEG.



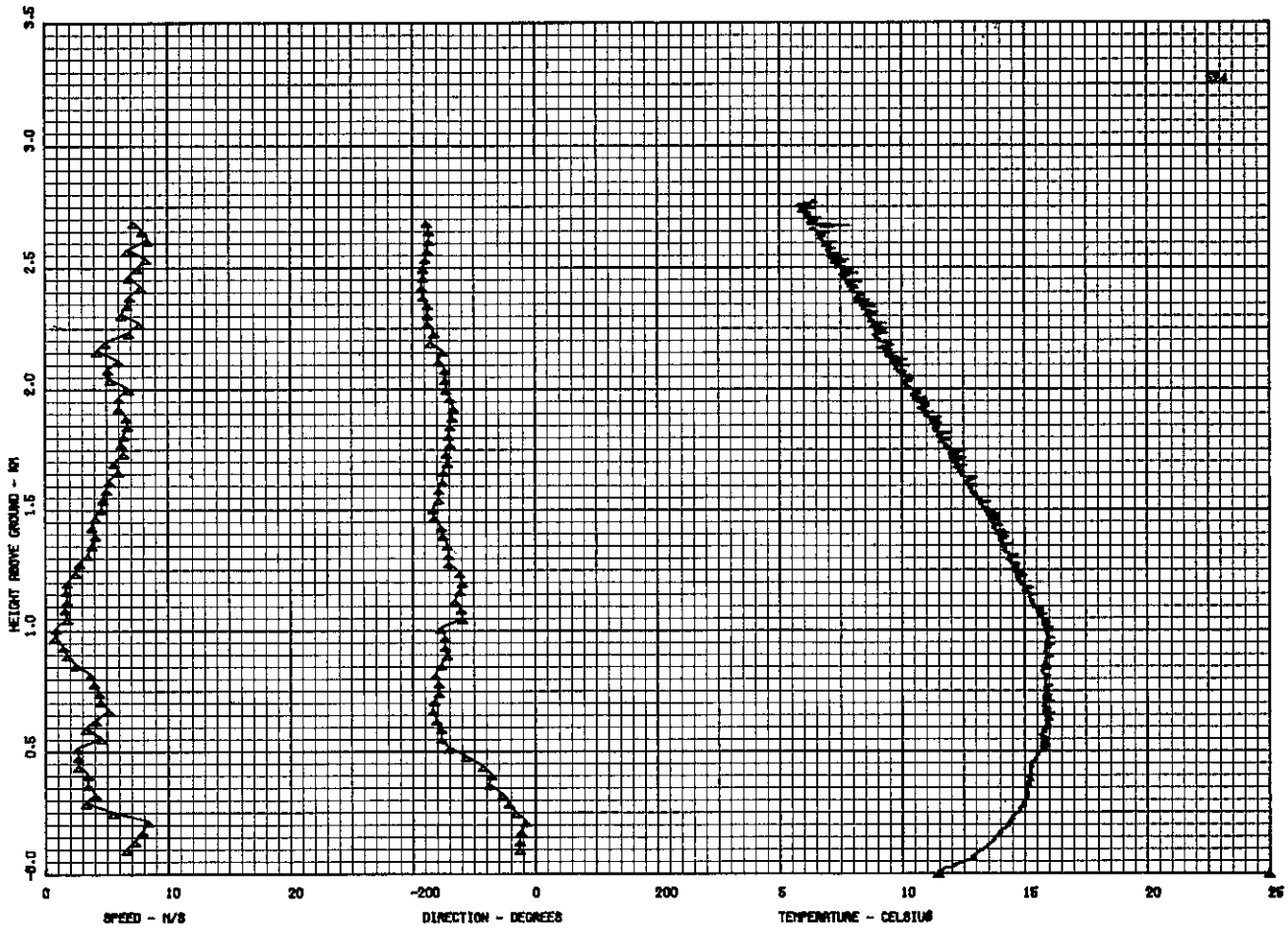
RUN 30 ALTON 3/7/75 RELEASE 1705 SURFACE WIND 1.89 M/S FROM 90 - 35 DEG.



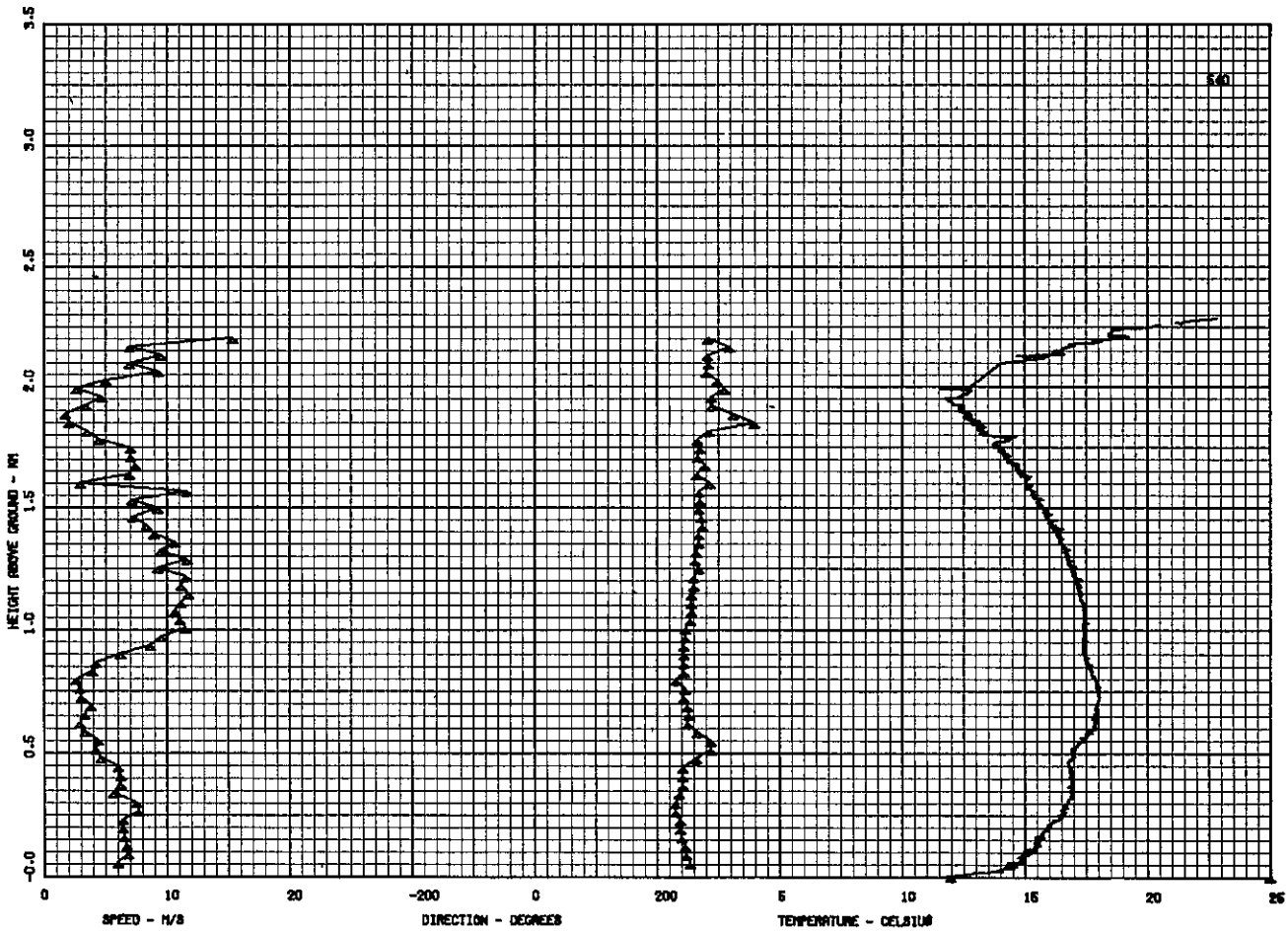
RUN 31 ALTON 3/7/75 RELEASE 2152 SURFACE WIND 3.22 M/S FROM 12-15 DEG.



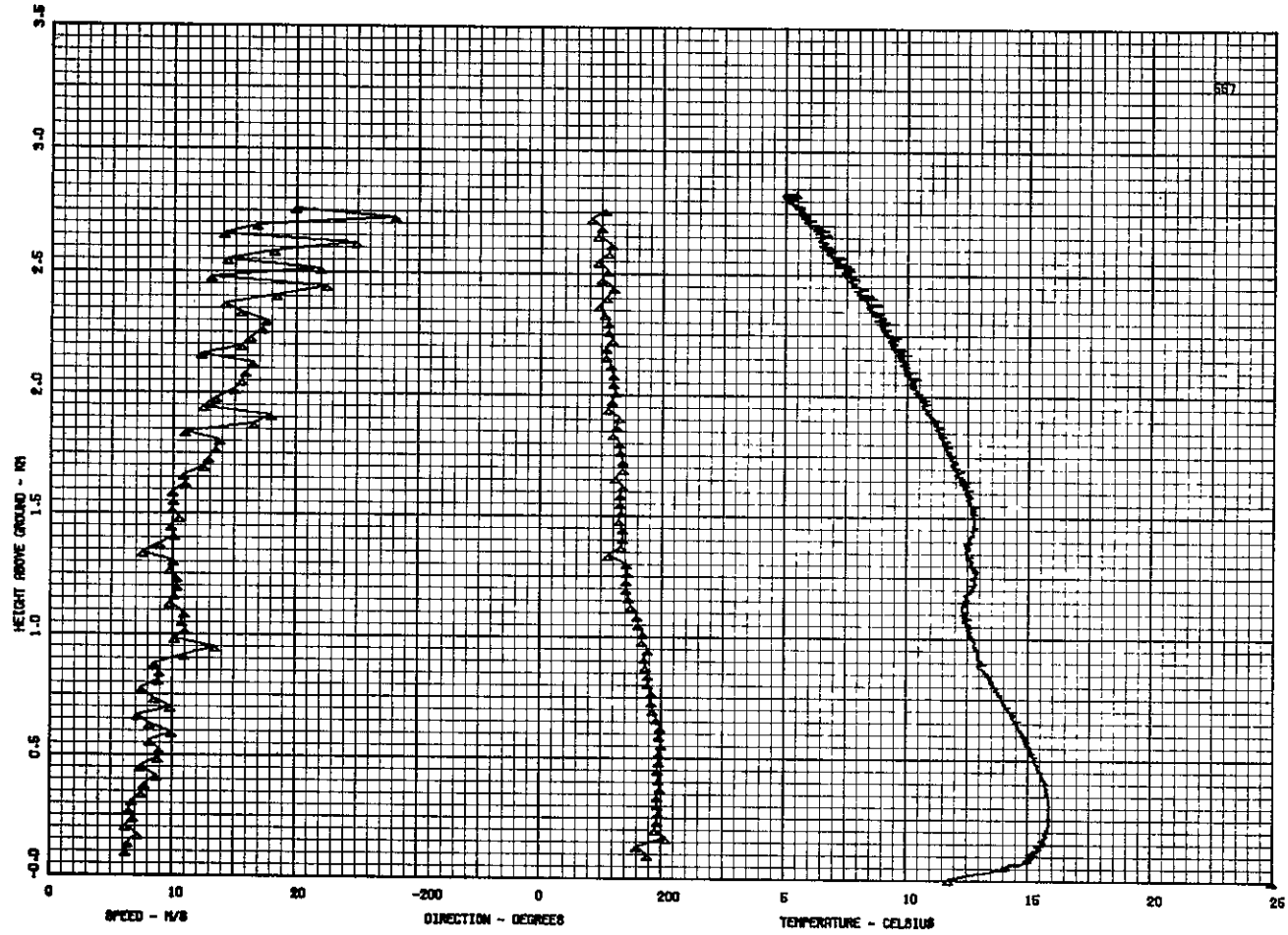
RUN 32 ALTON 4/7/75 RELEASE 0950 SURFACE WIND 2.58 M/S FROM 0-10 DEG.



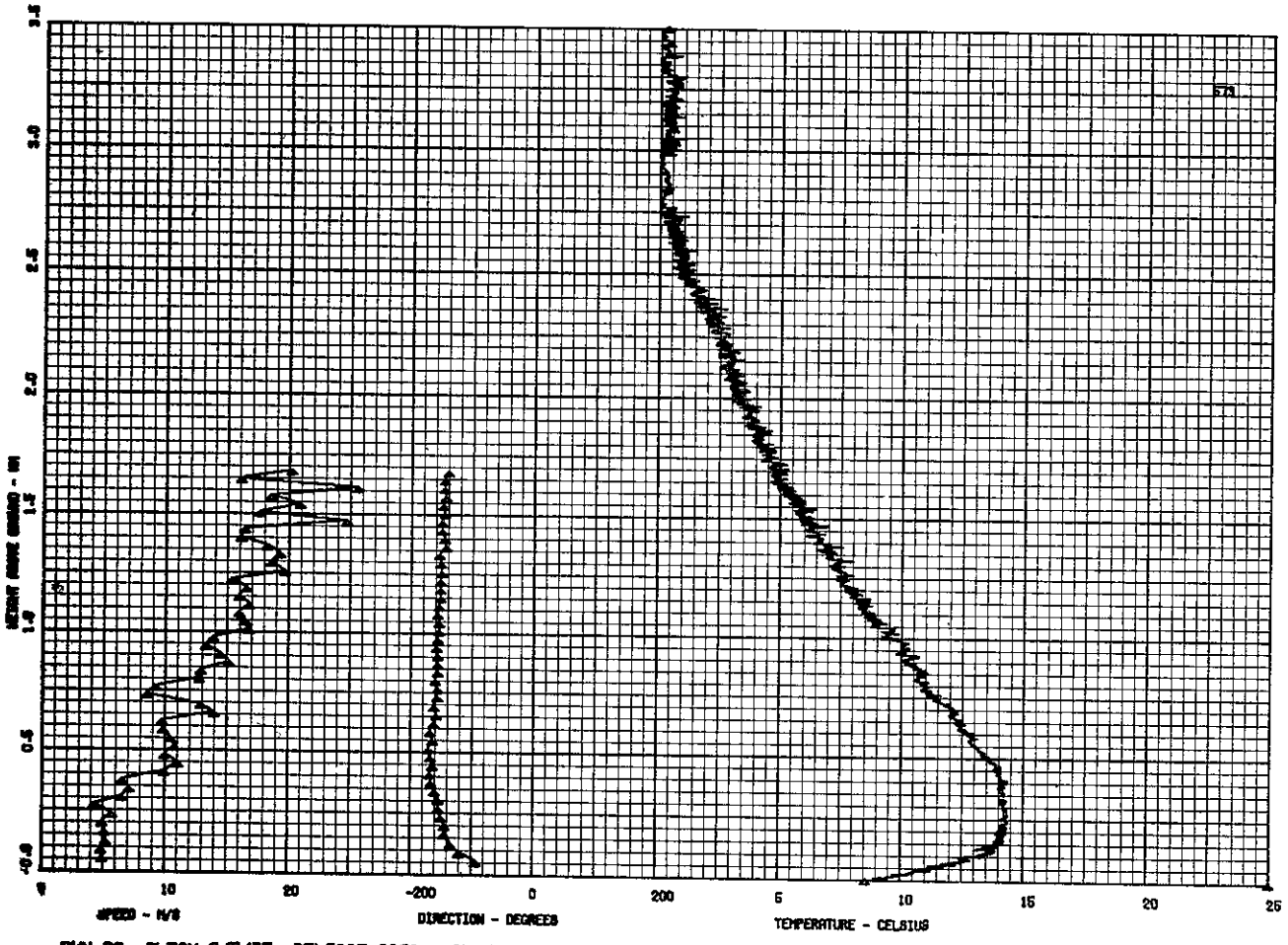
RUN 33 ALTON 5/7/75 RELEASE 0720 SURFACE WIND NOT MEASURED.



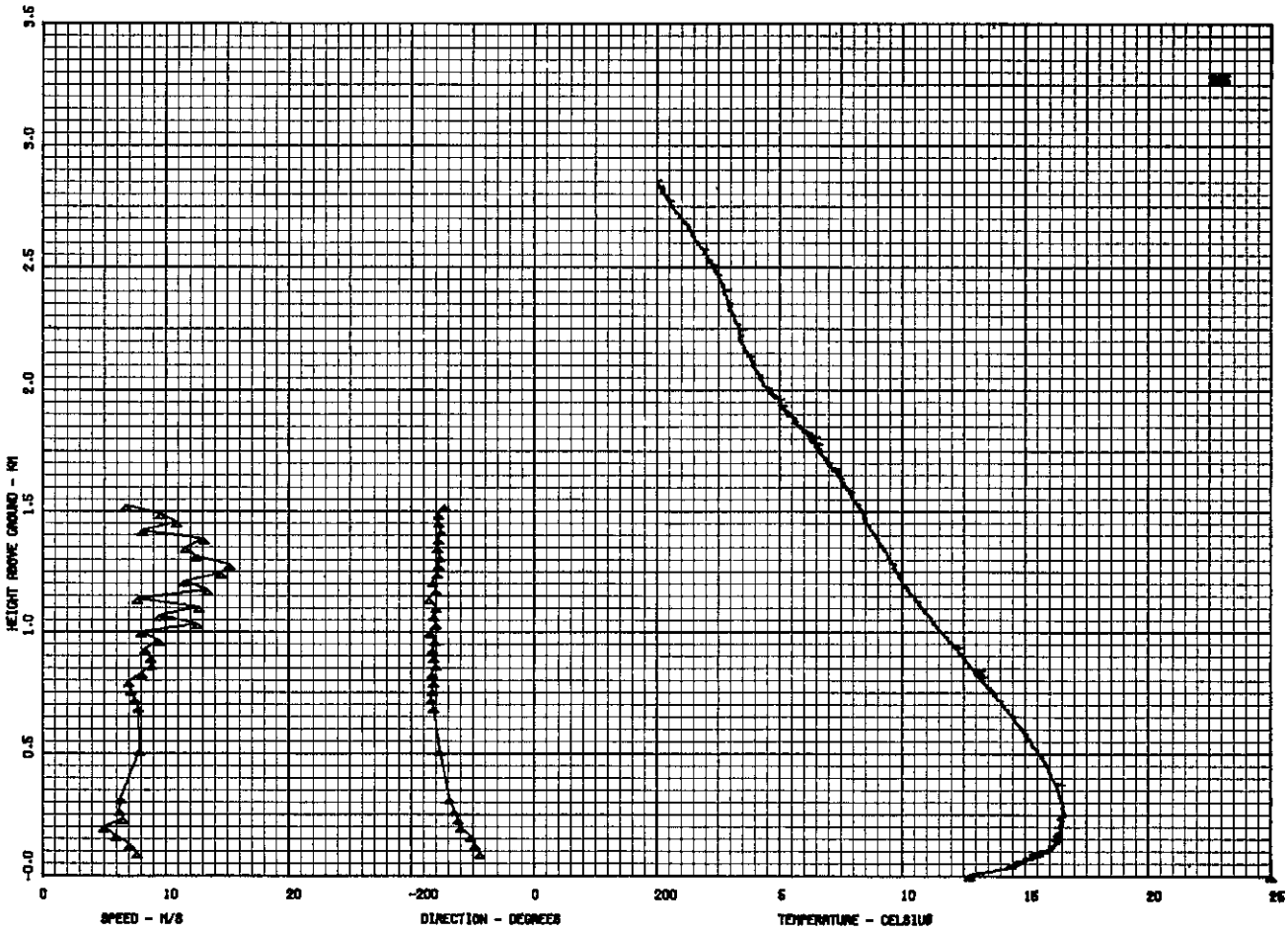
RUN 34 ALTON 6/7/75 RELEASE 0650 SURFACE WIND FROM WEST.



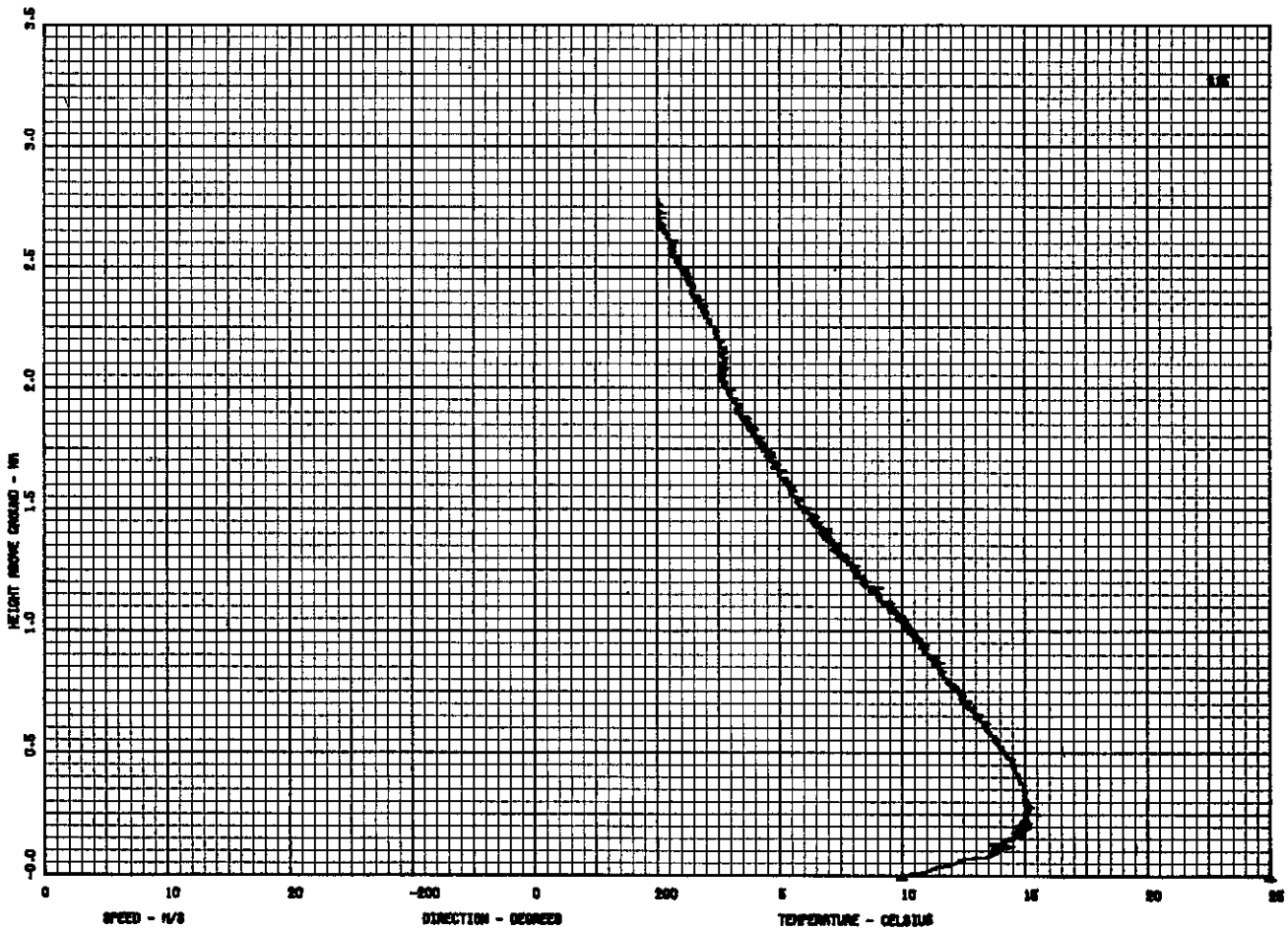
RUN 35 ALTON 7/7/75 RELEASE 0658 SURFACE WIND NOT MEASURED.



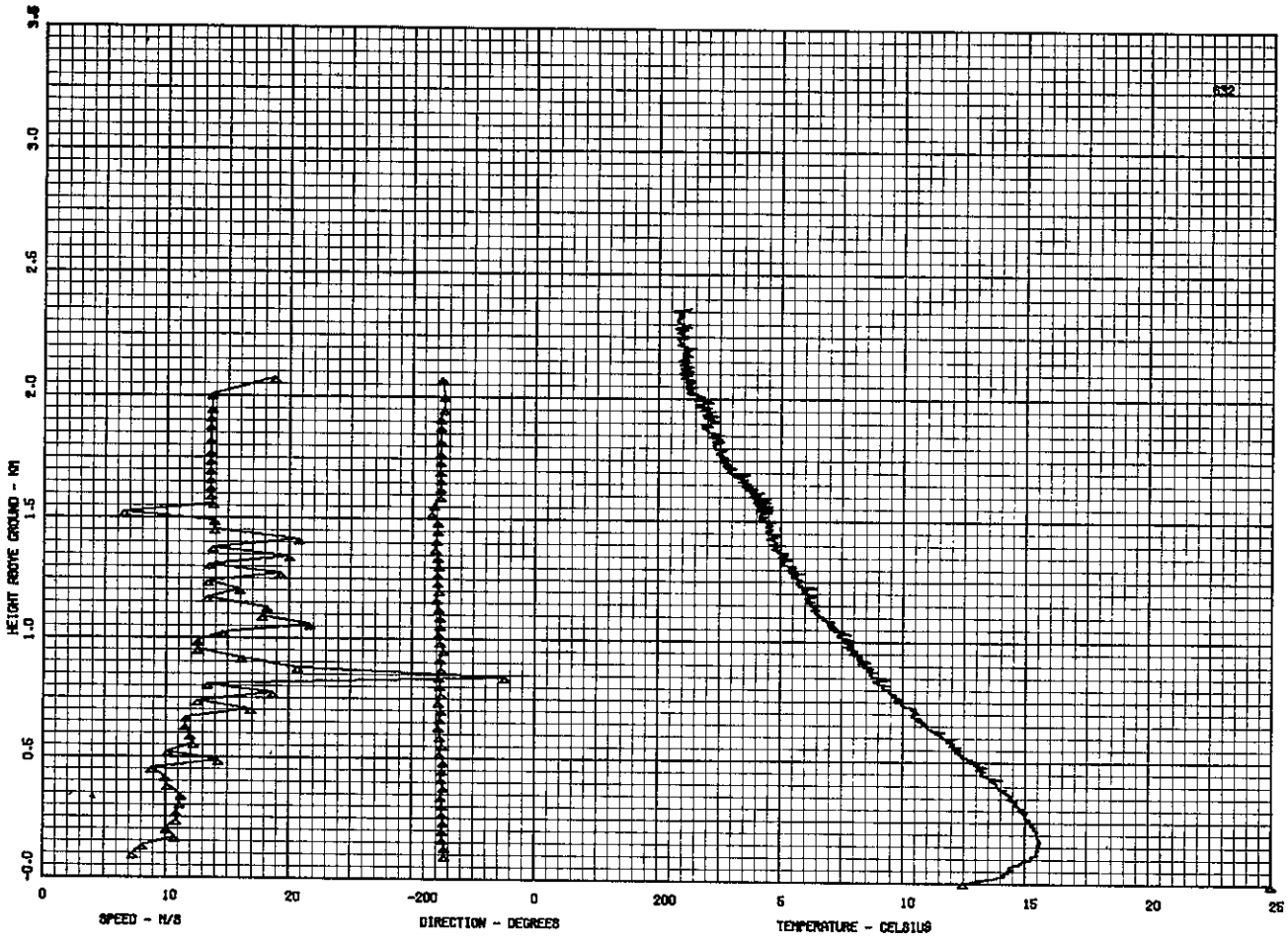
RUN 36 ALTON 8/7/75 RELEASE 0652 SURFACE WIND NOT MEASURED.



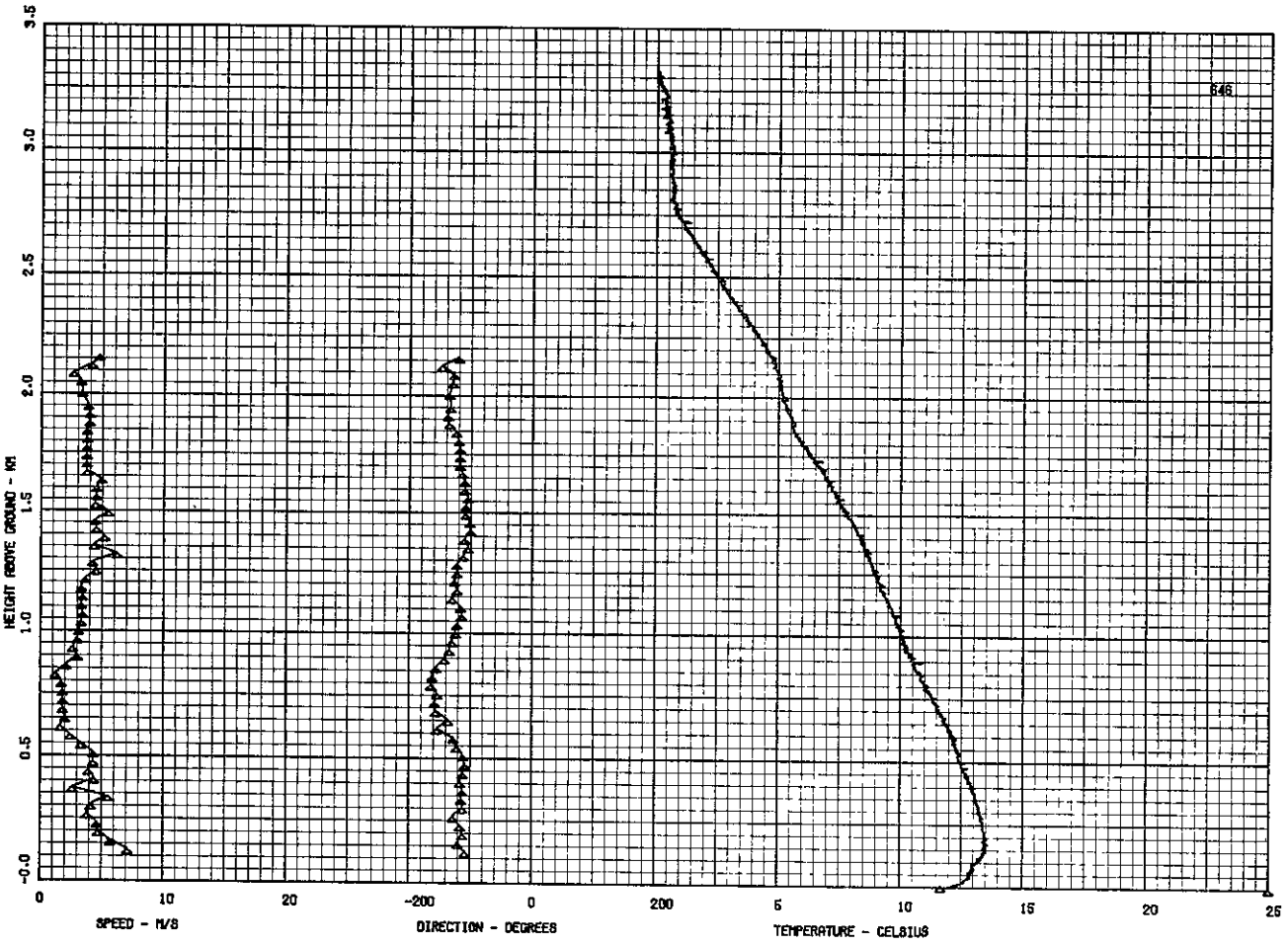
RUN 37 ALTON 9/7/75 RELEASE 2145 SURFACE WIND 2.76 M/S FROM 293 DEG.



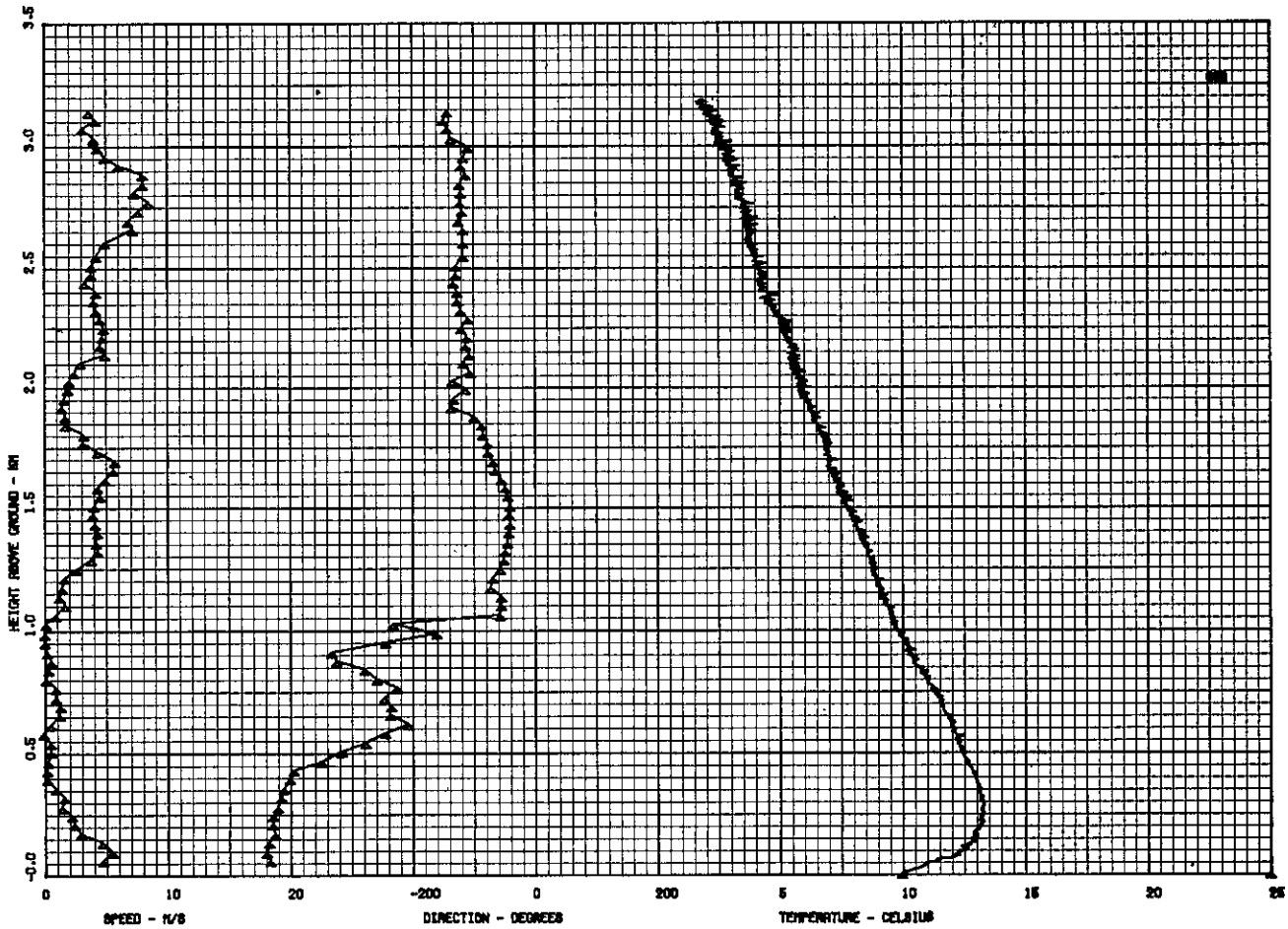
RUN 38 ALTON 10/7/75 RELEASE 0455 NO TRACKING.



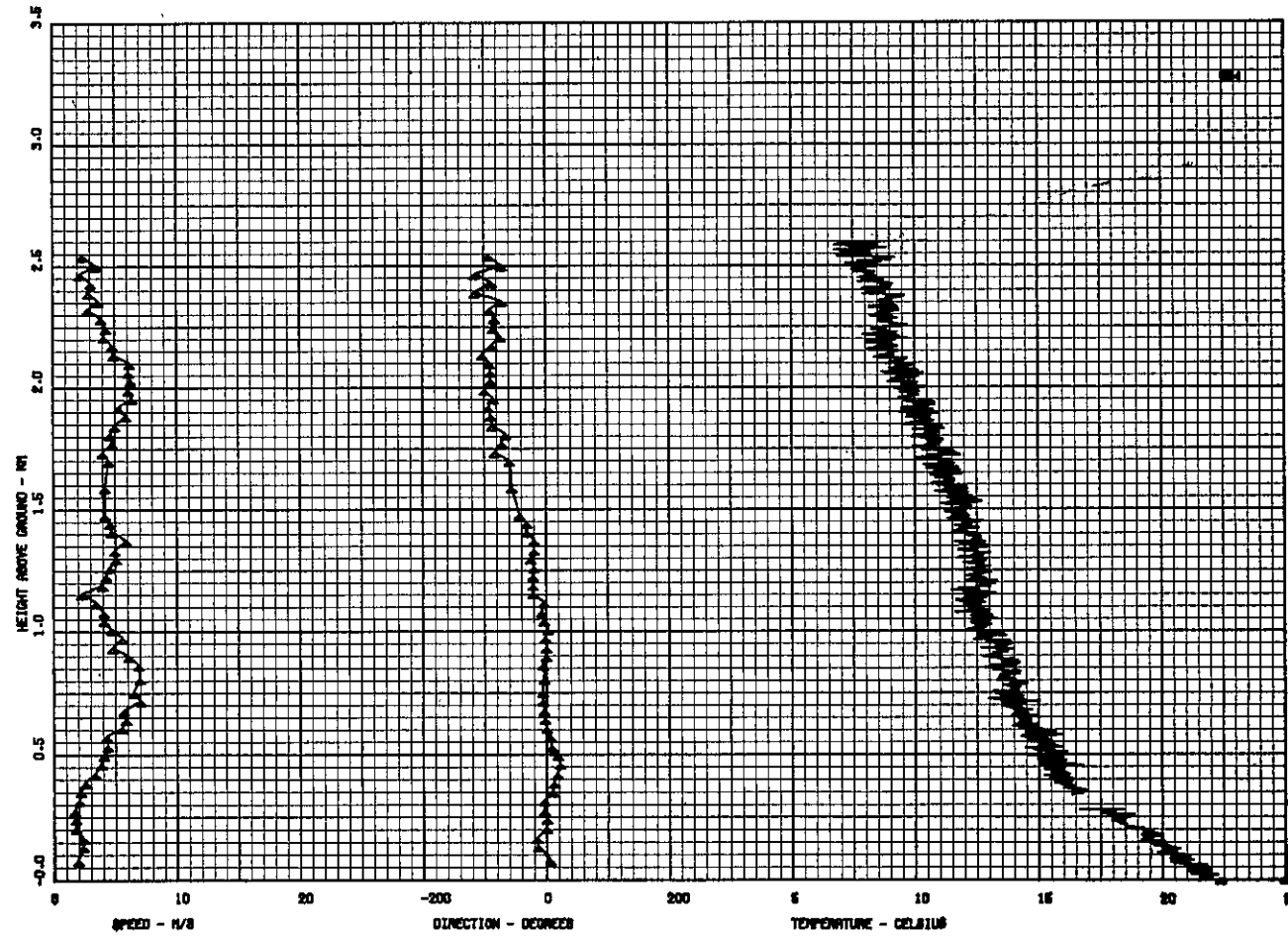
RUN 39 ALTON 10/7/75 RELEASE 0657 SURFACE WIND NOT MEASURED.



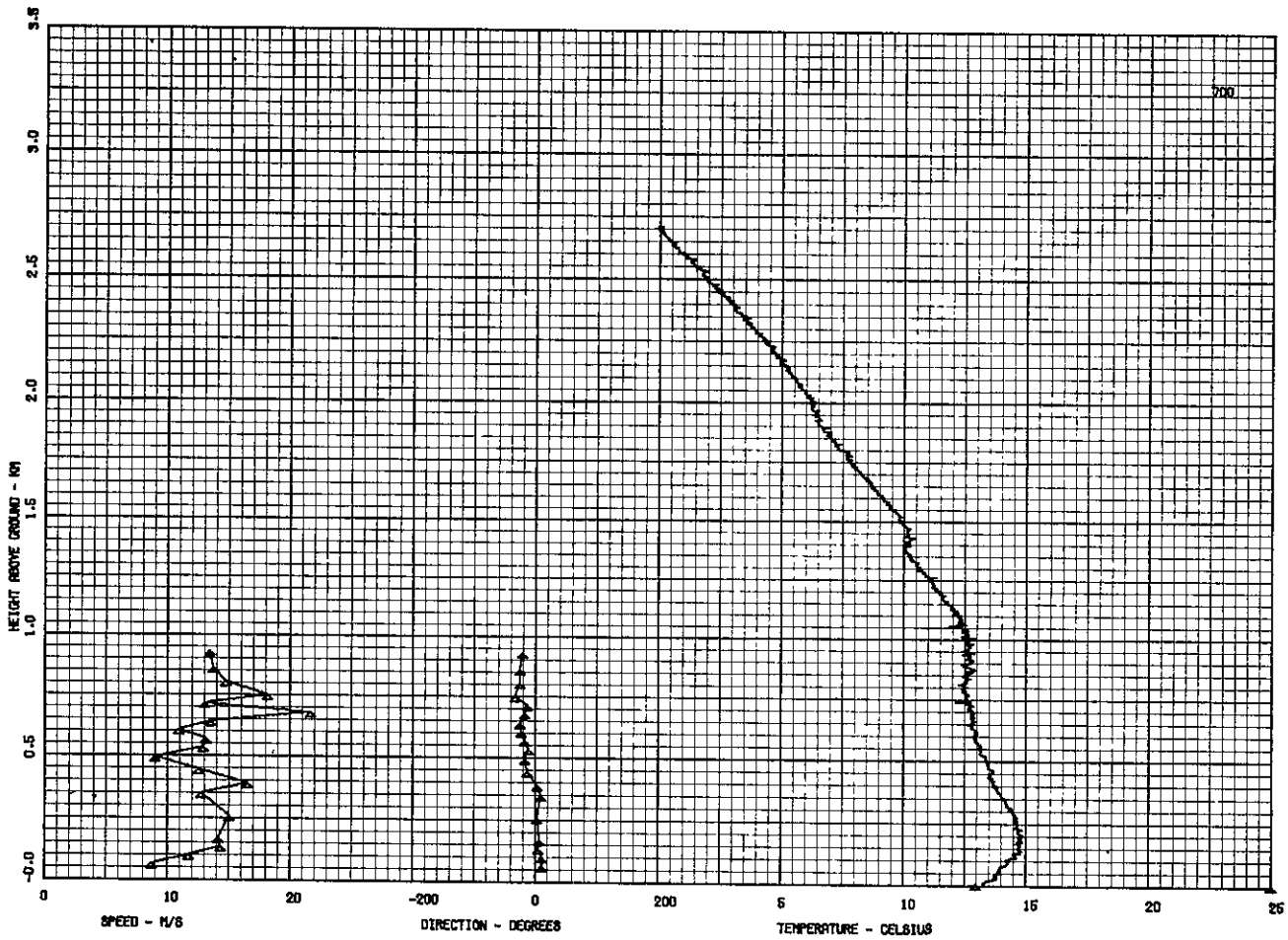
RUN 40 ALTON 11/7/75 RELEASE 0300 SURFACE WIND 2.08 M/S FROM 240 - 265 DEG.



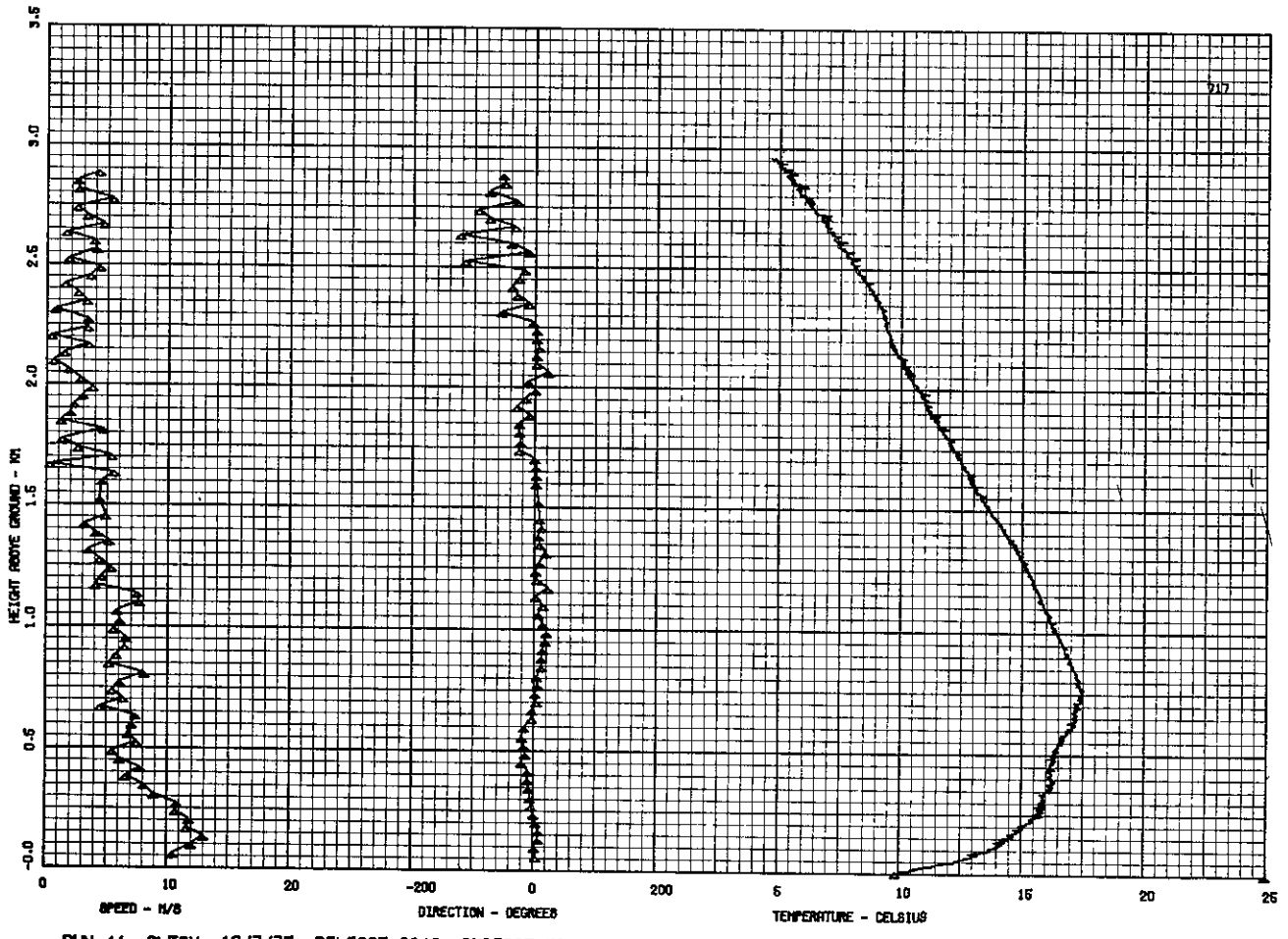
RUN 41 ALTON 11/7/75 RELEASE 0655 SURFACE WIND 3.24 M/S FROM 330 - 328 DEG.



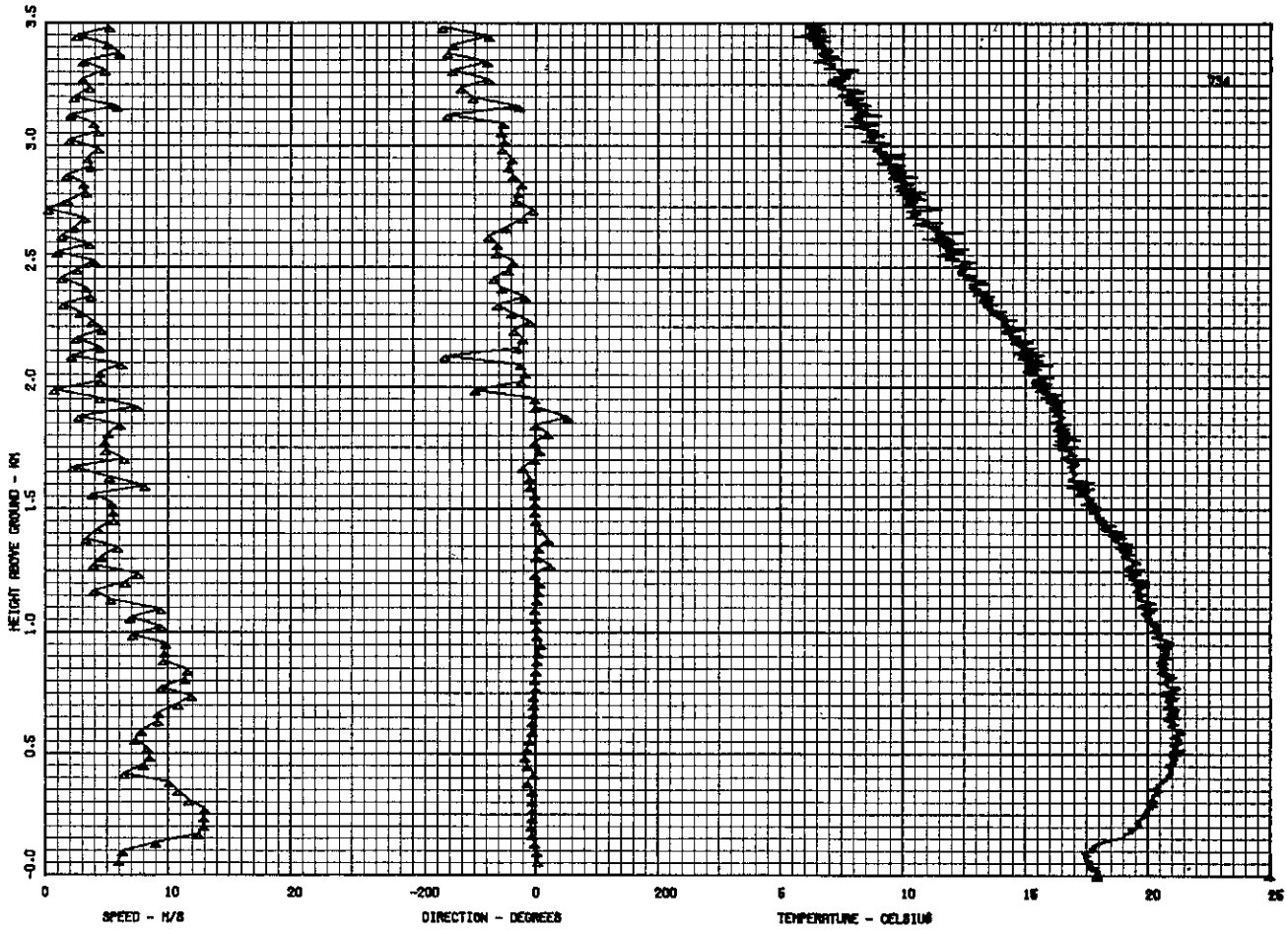
RUN 42 ALTON 11/7/75 RELEASE 1045 SURFACE WIND 3.48 M/S FROM 25 - 15 DEG.



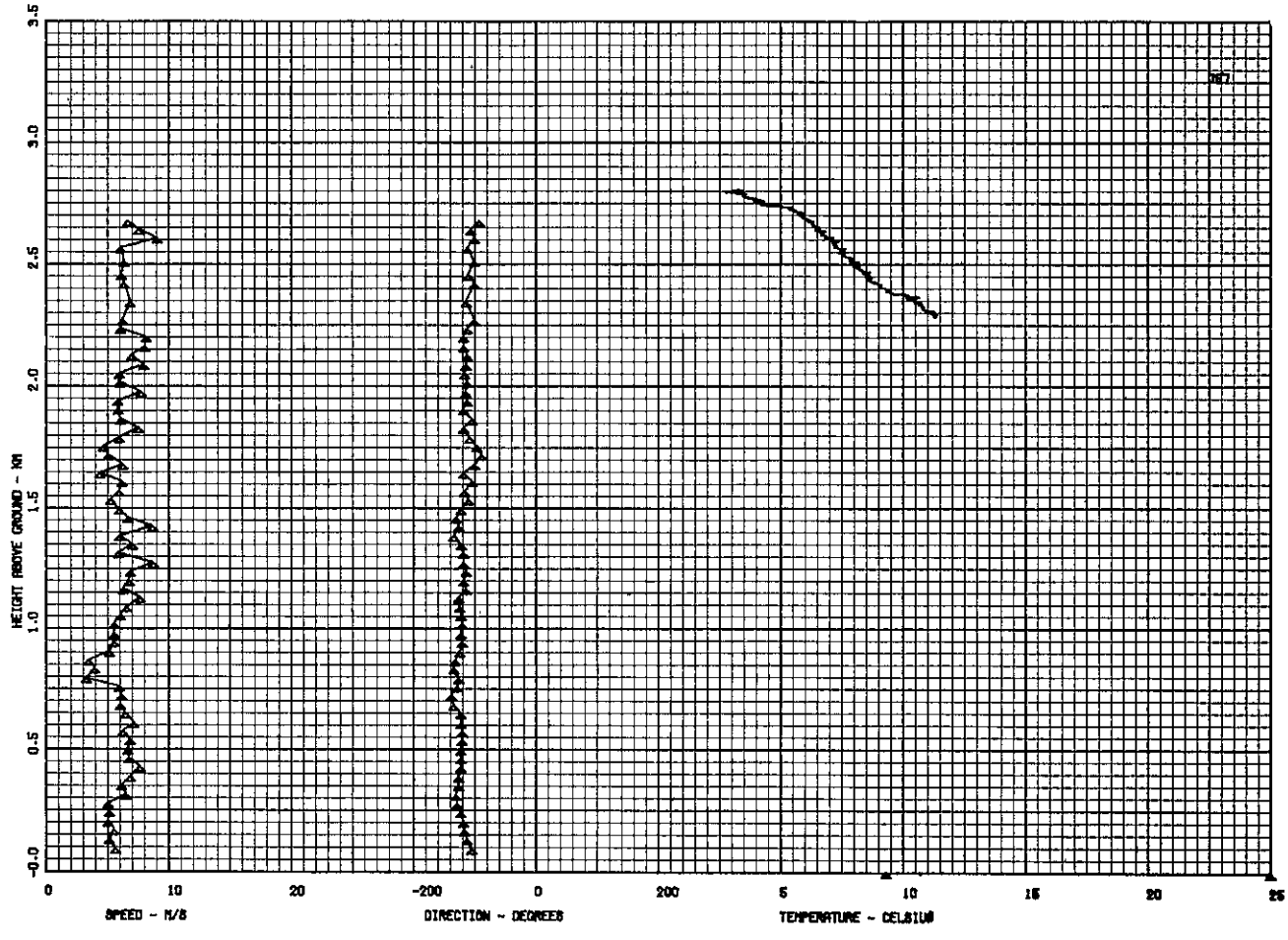
RUN 43 ALTON 12/7/75 RELEASE 0030 SURFACE WIND 3.82 M/S FROM 15 DEG.



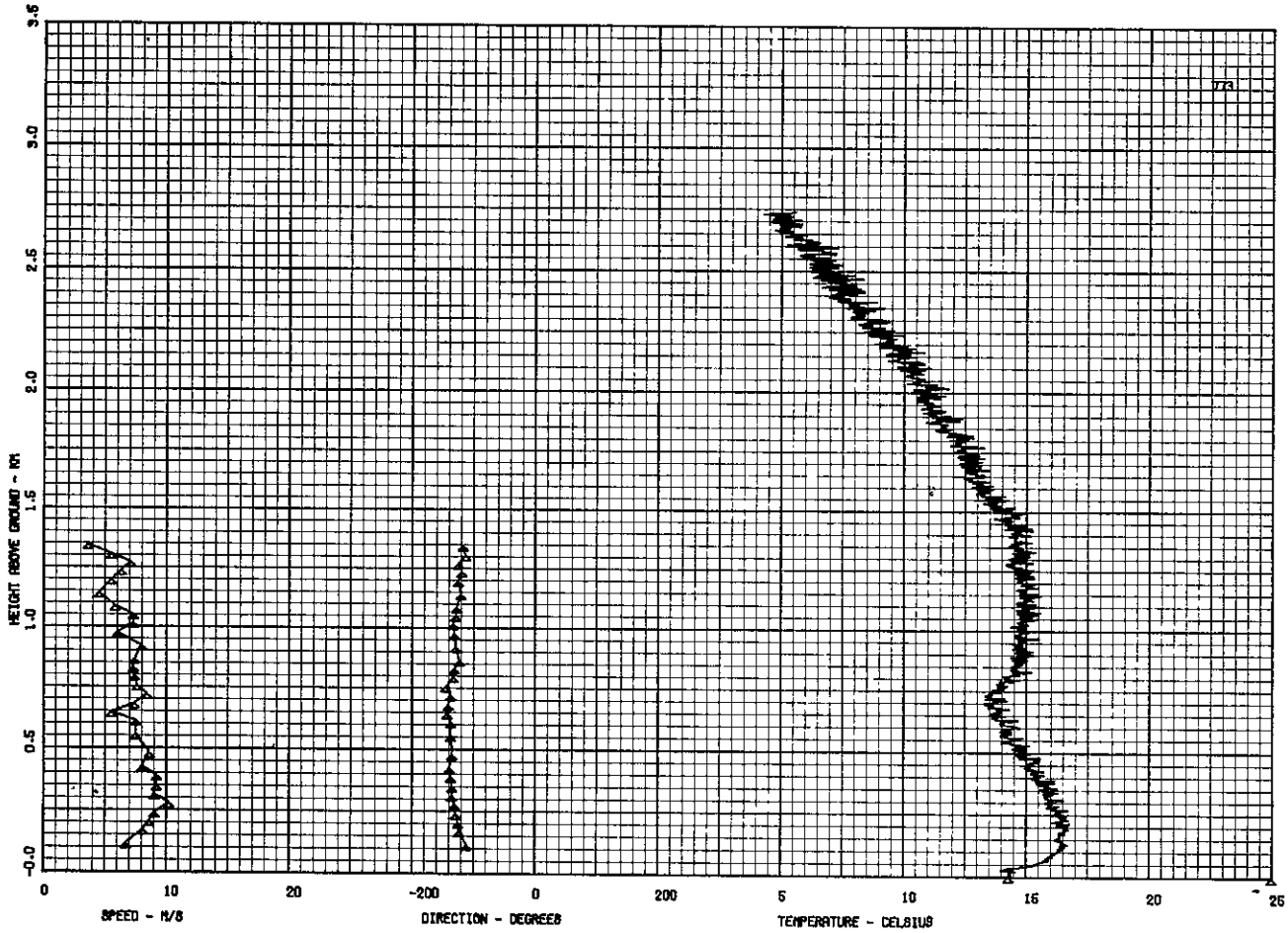
RUN 44 ALTON 13/7/75 RELEASE 0640 SURFACE WIND 3.58 M/S FROM 15 DEG.



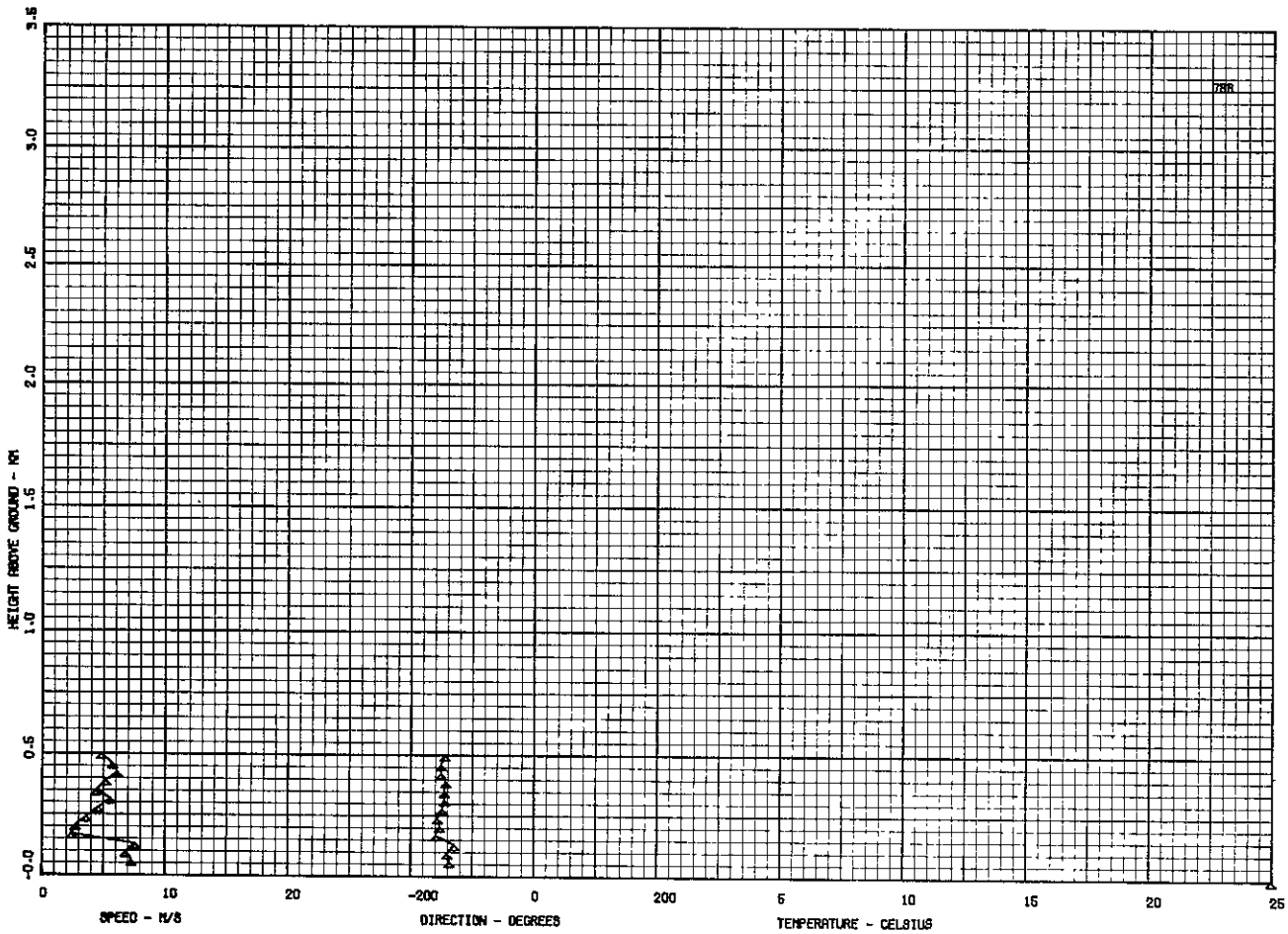
RUN 45 ALTON 13/7/75 RELEASE 0930 SURFACE WIND NOT MEASURED.



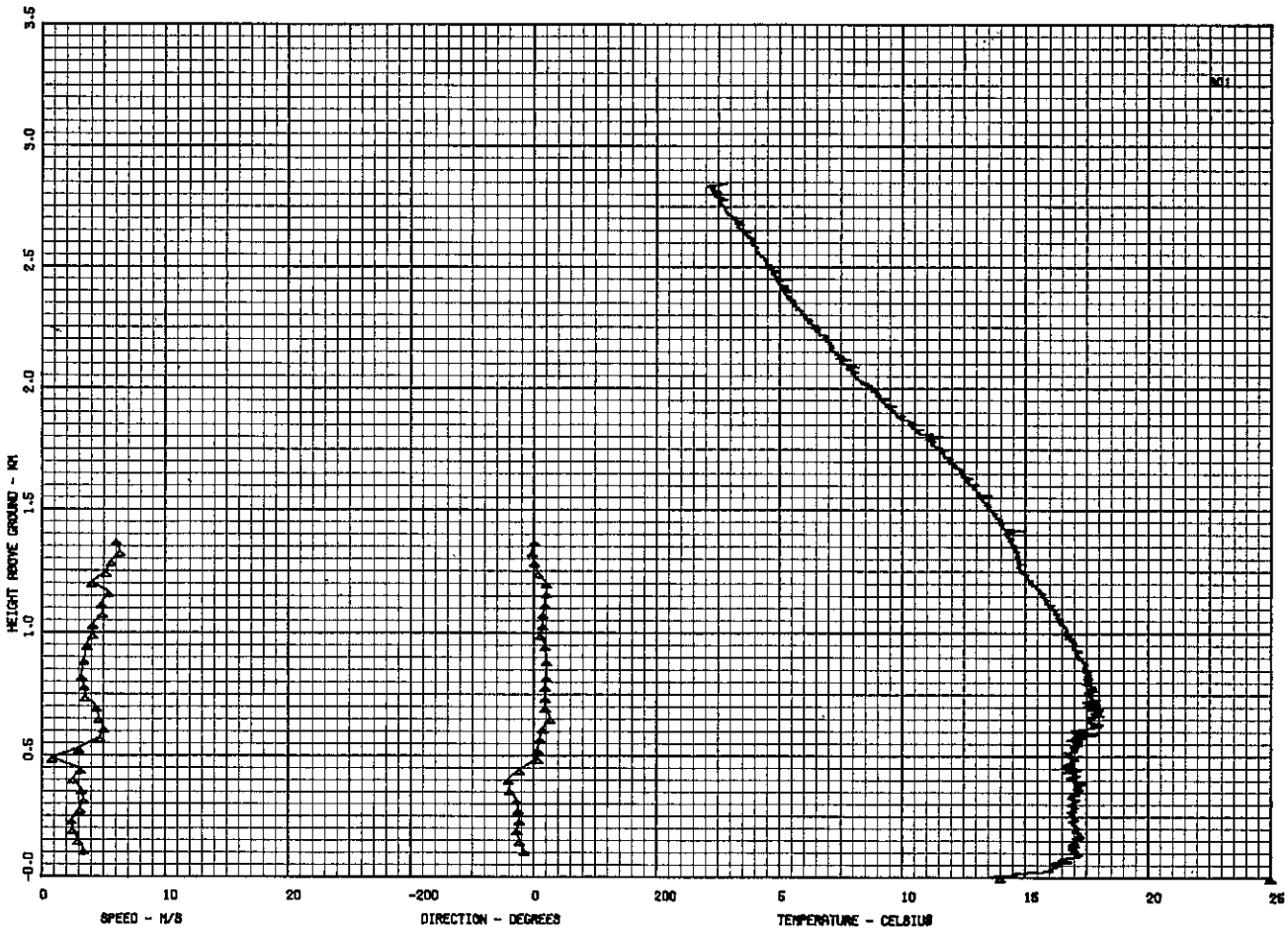
RUN 46 ALTON 14/7/75 RELEASE 0646 SURFACE WIND 2.62 M/S FROM 333 DEG.



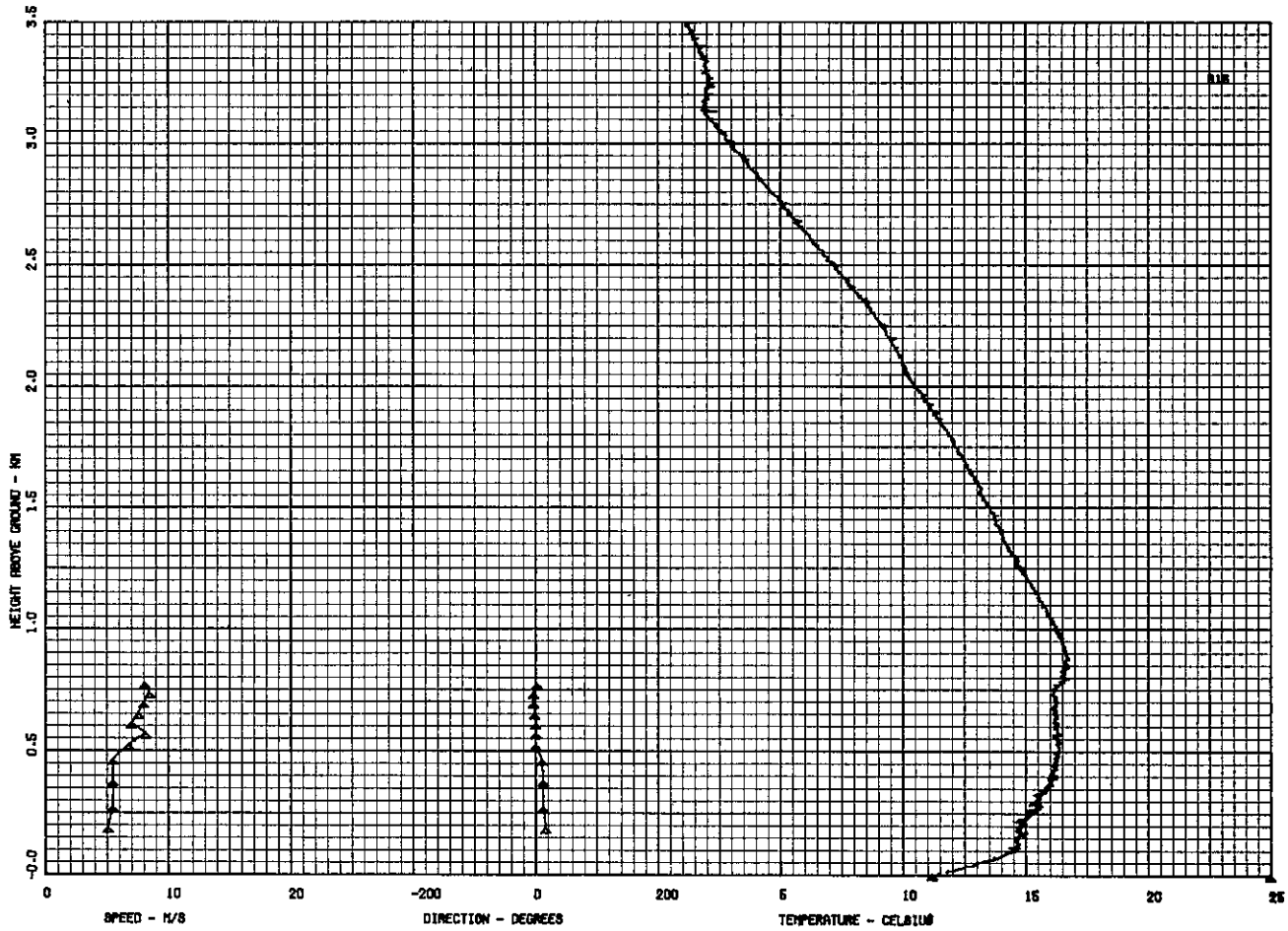
RUN 47 ALTON 14/7/75 RELEASE 0902 SURFACE WIND 1.86 M/S FROM ABOUT 340 DEG.



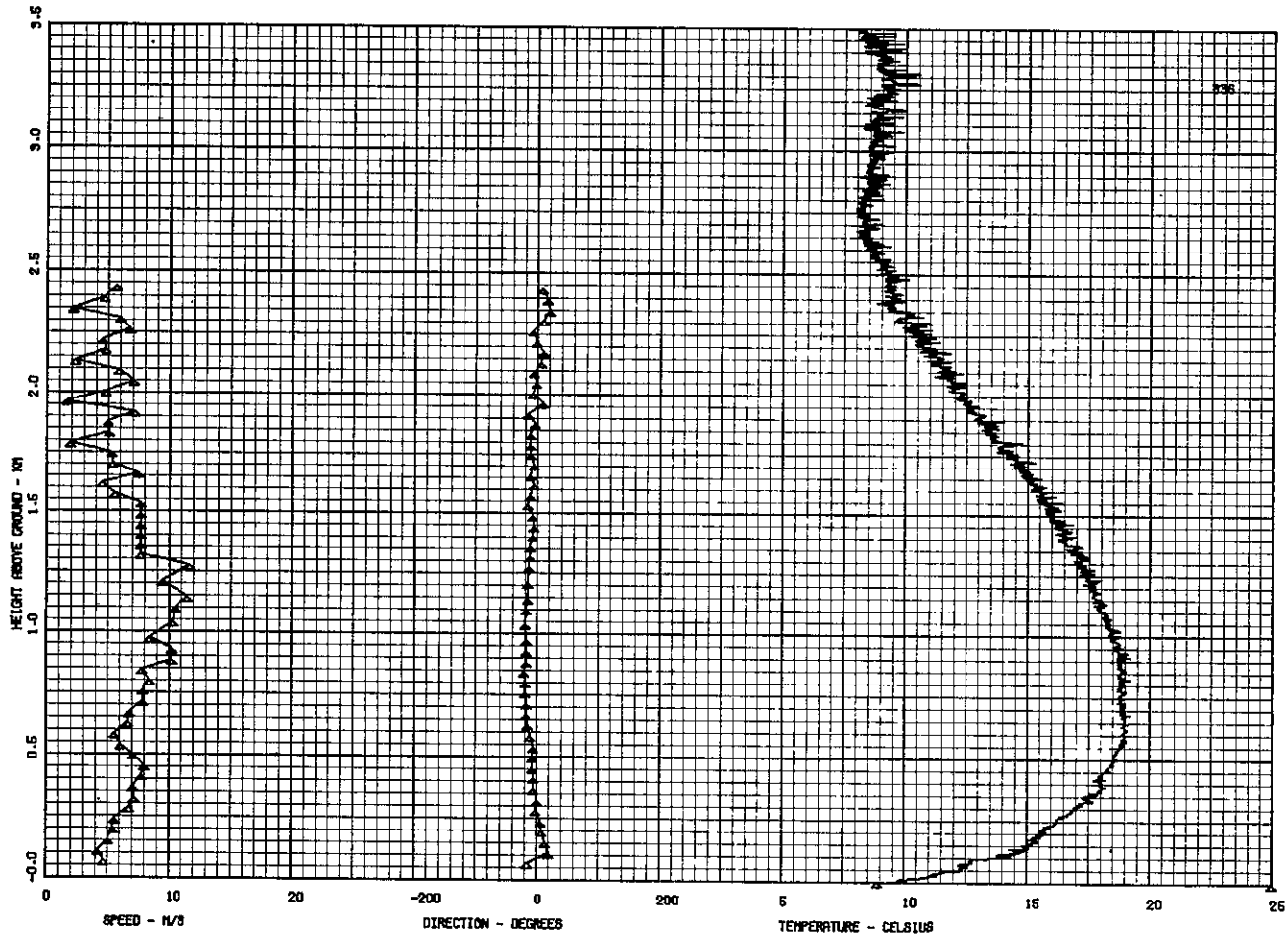
RUN 48 ALTON 14/7/75 RLSE 1130 DATA STARTED 3 - 5 SECS LATE. NO SURF. WIND MEASURE.



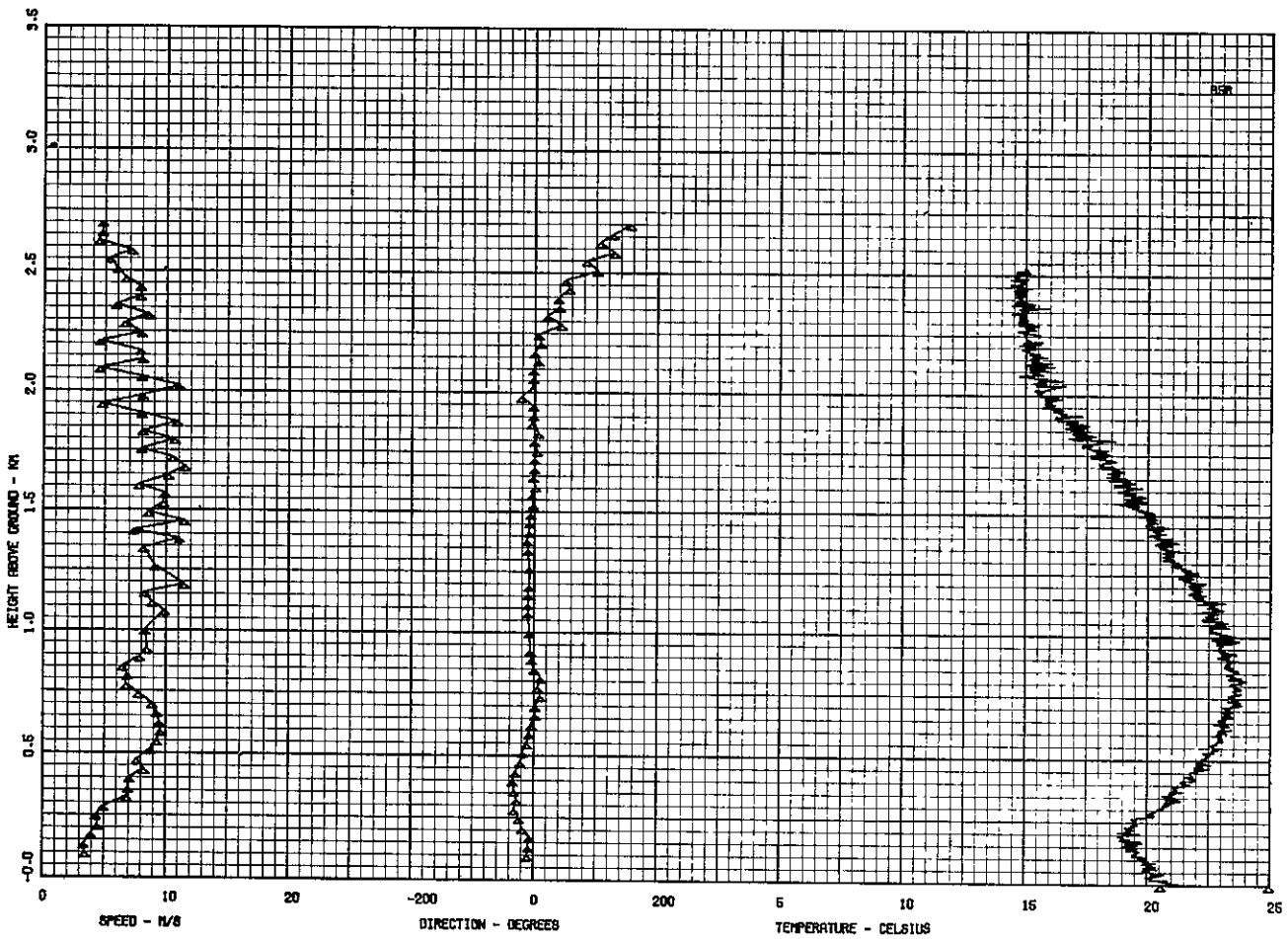
RUN 49 ALTON 14/7/75 RELEASE 2355 SURFACE WIND 1.17 M/S (DIRECTION NOT MEASURED)



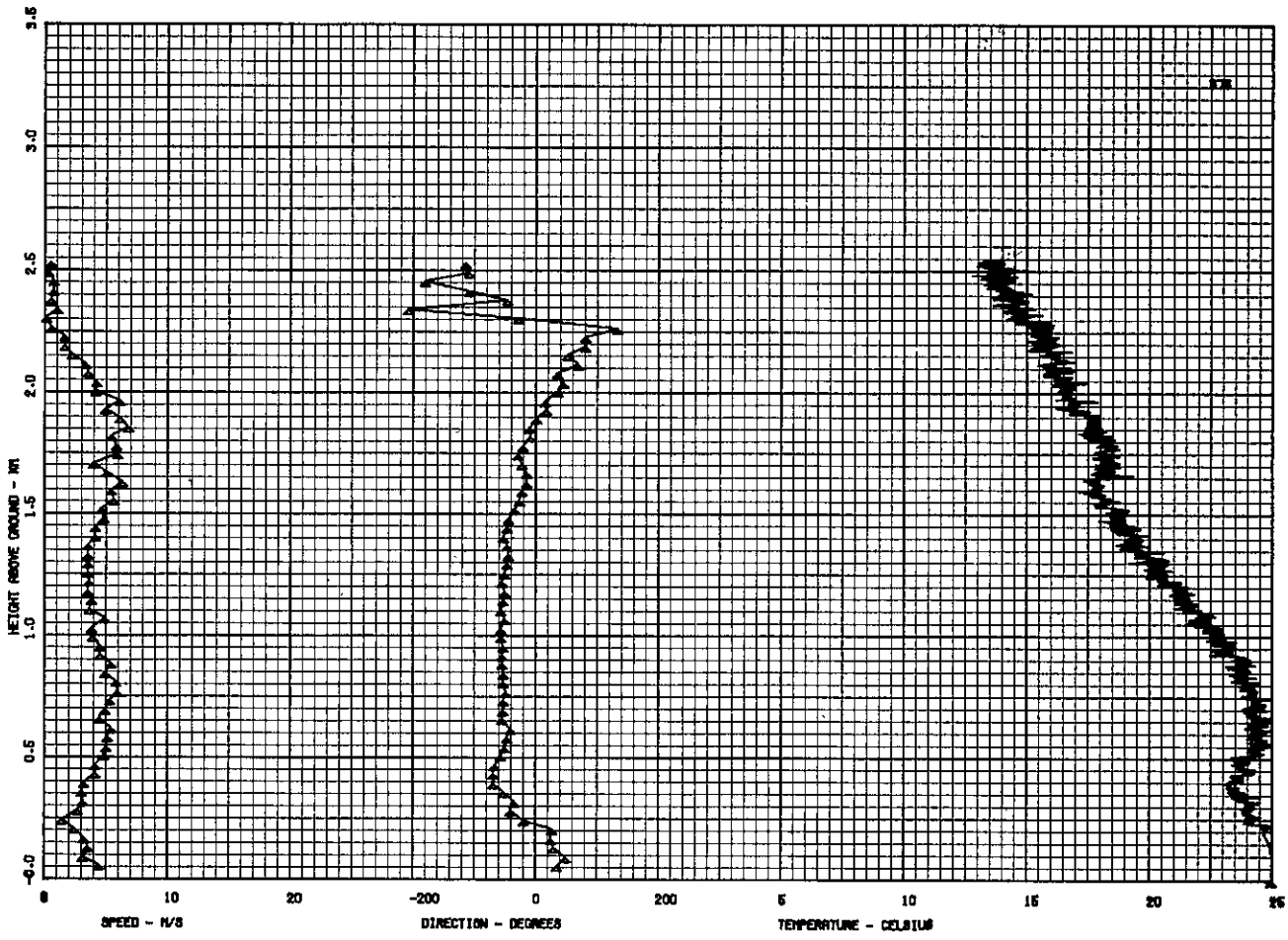
RUN 50 ALTON 15/7/75 RELEASE 0200 SURFACE WIND 0.83 M/S (DIRECTION NOT MEASURED)



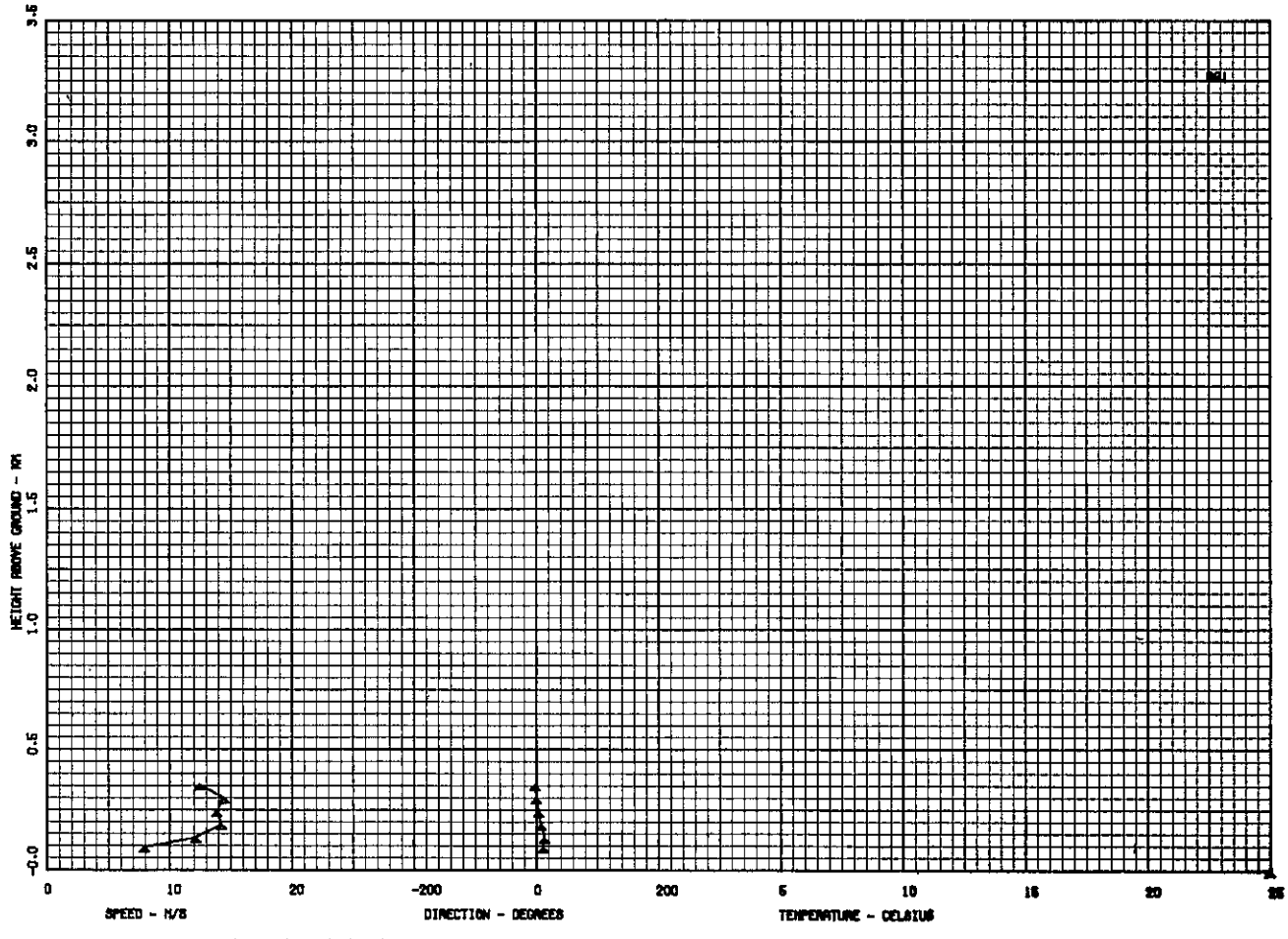
RUN 51 ALTON 15/7/75 RELEASE 0712 SURFACE WIND 2.1 M/S FROM 8 DEG.



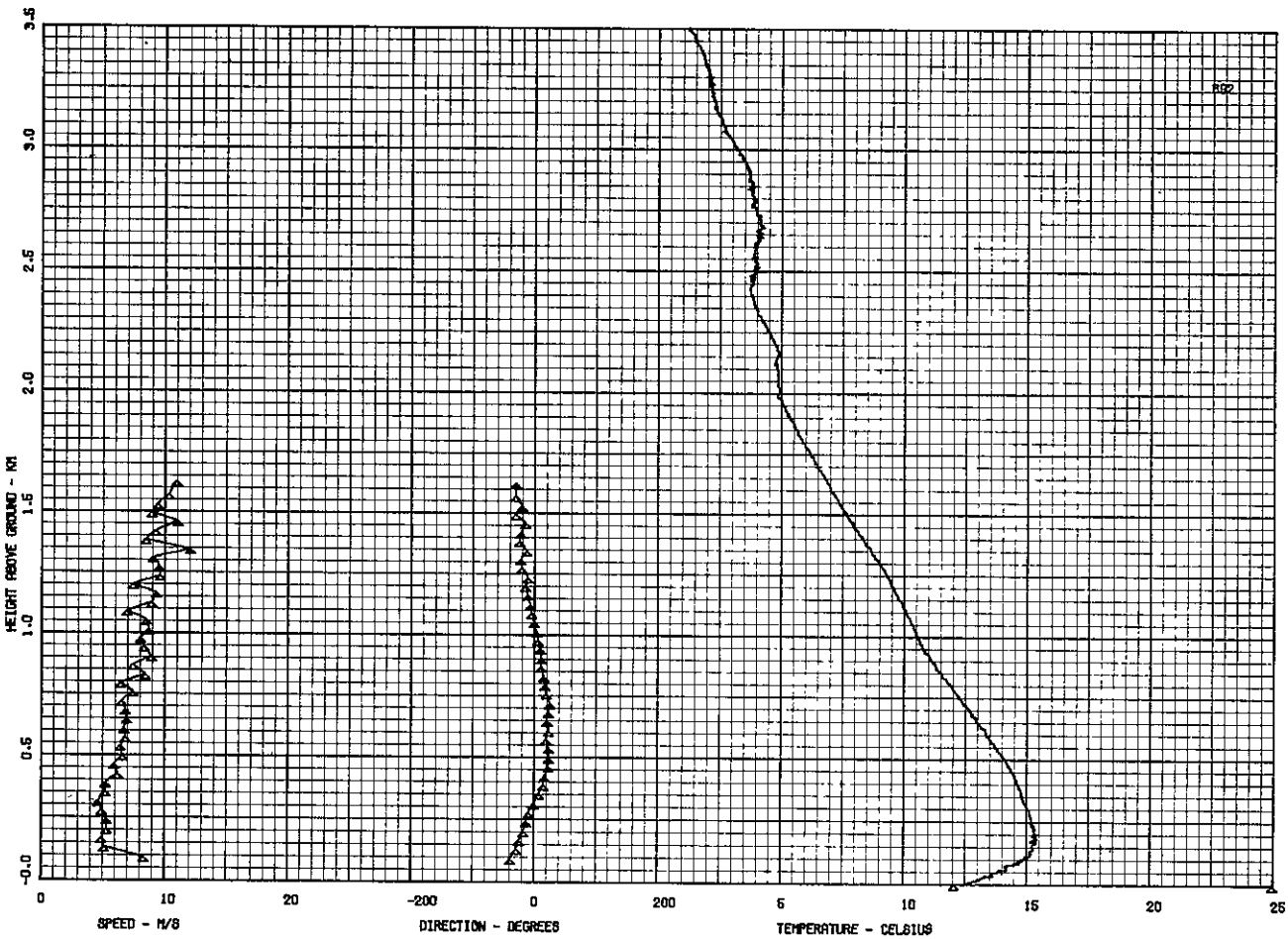
RUN 52 ALTON 15/7/75 RELEASE 1016 SURFACE WIND 2.33 M/S FROM 355 - 350 DEG.



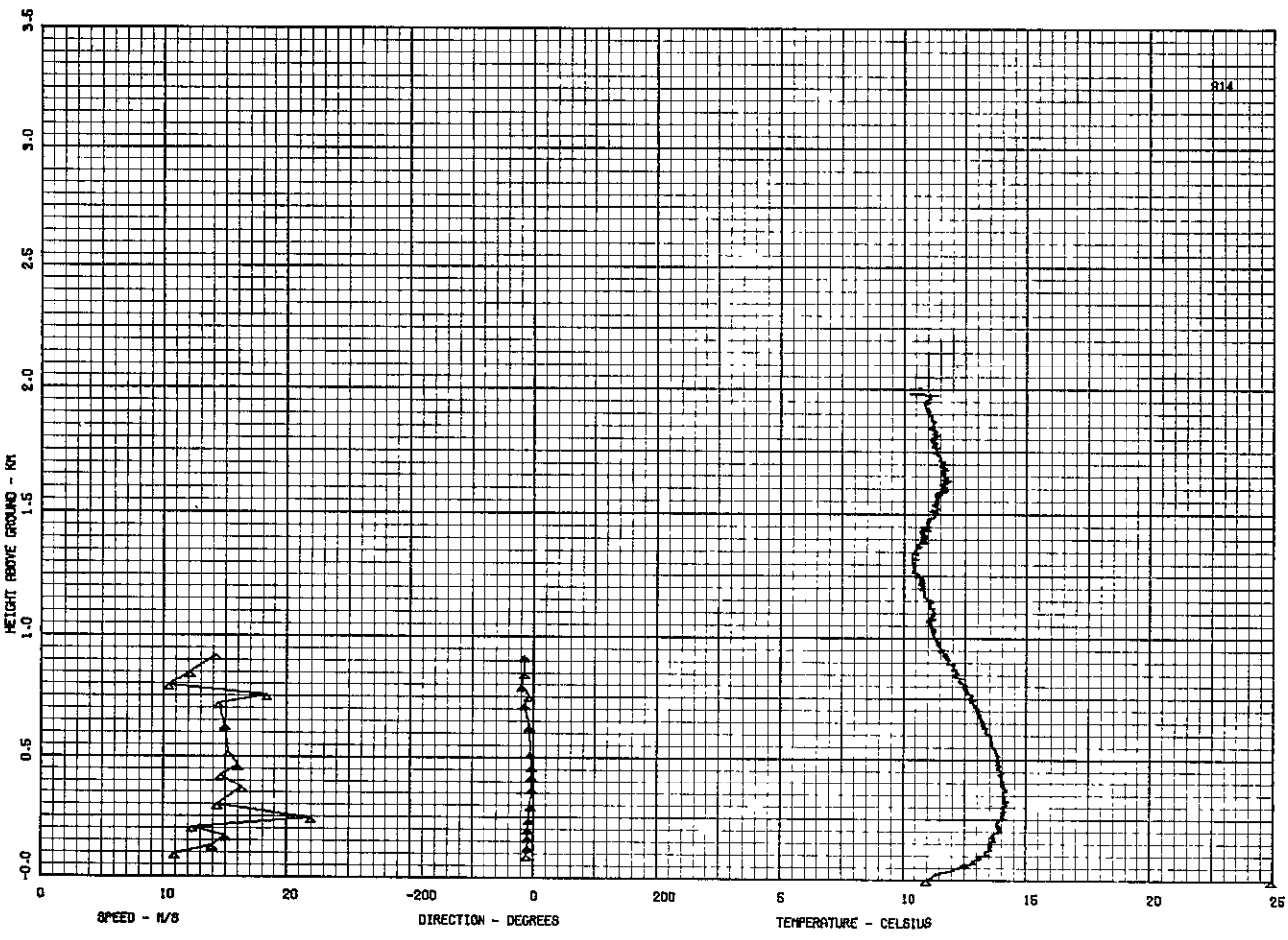
RUN 53 ALTON 15/7/75 RLSE 1237 SURF. WIND 2.33 M/S FROM 30 DEG.



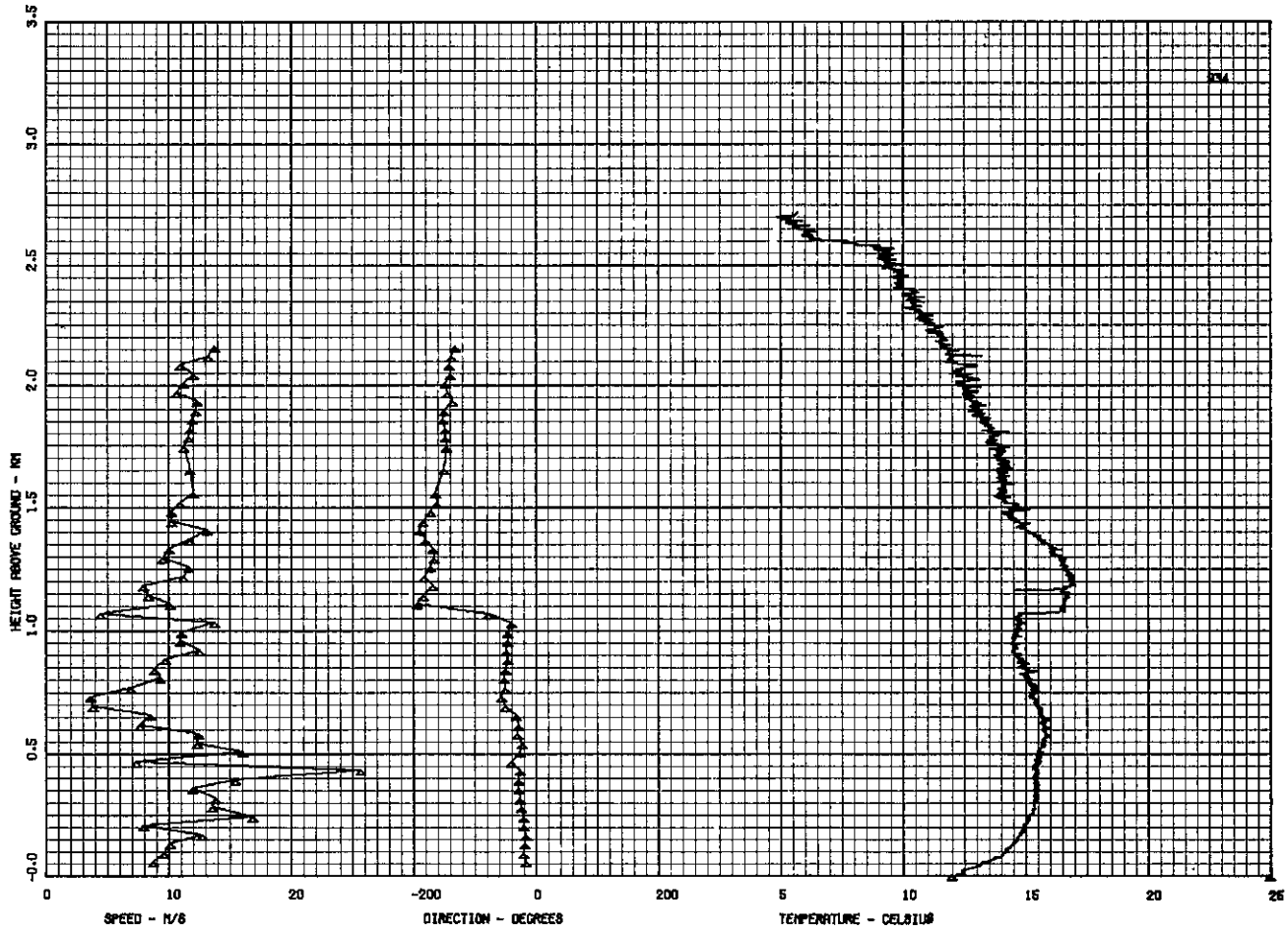
RUN 54 ALTON 15/7/75 RELEASE 2315 NO TAPE. SURF. WIND 3.64 M/S FROM 8 DEG.



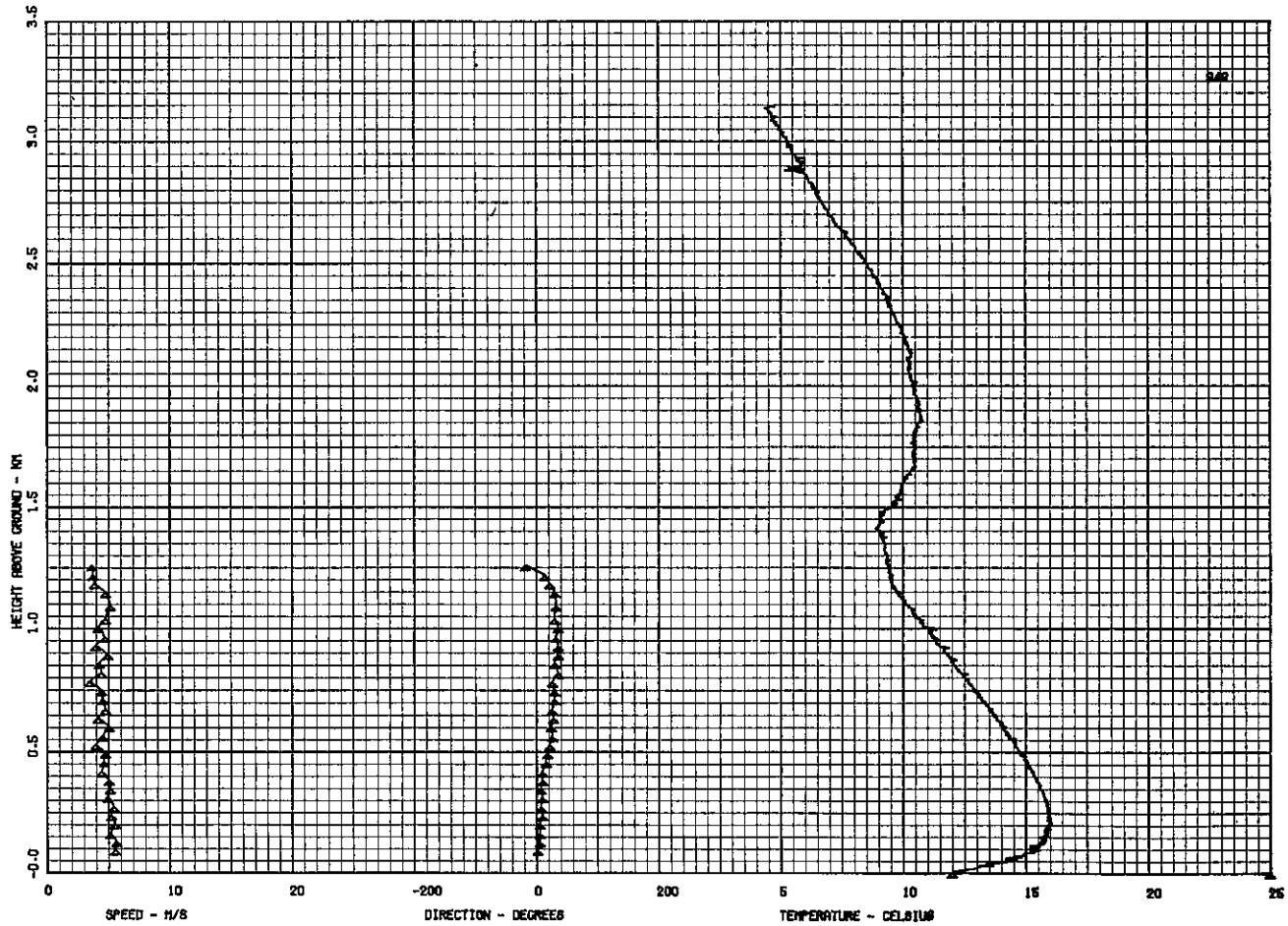
RUN 55 ALTON 18/7/75 RELEASE 0140 SURFACE WIND 2.46 M/S (DIRECTION NOT MEASURED)



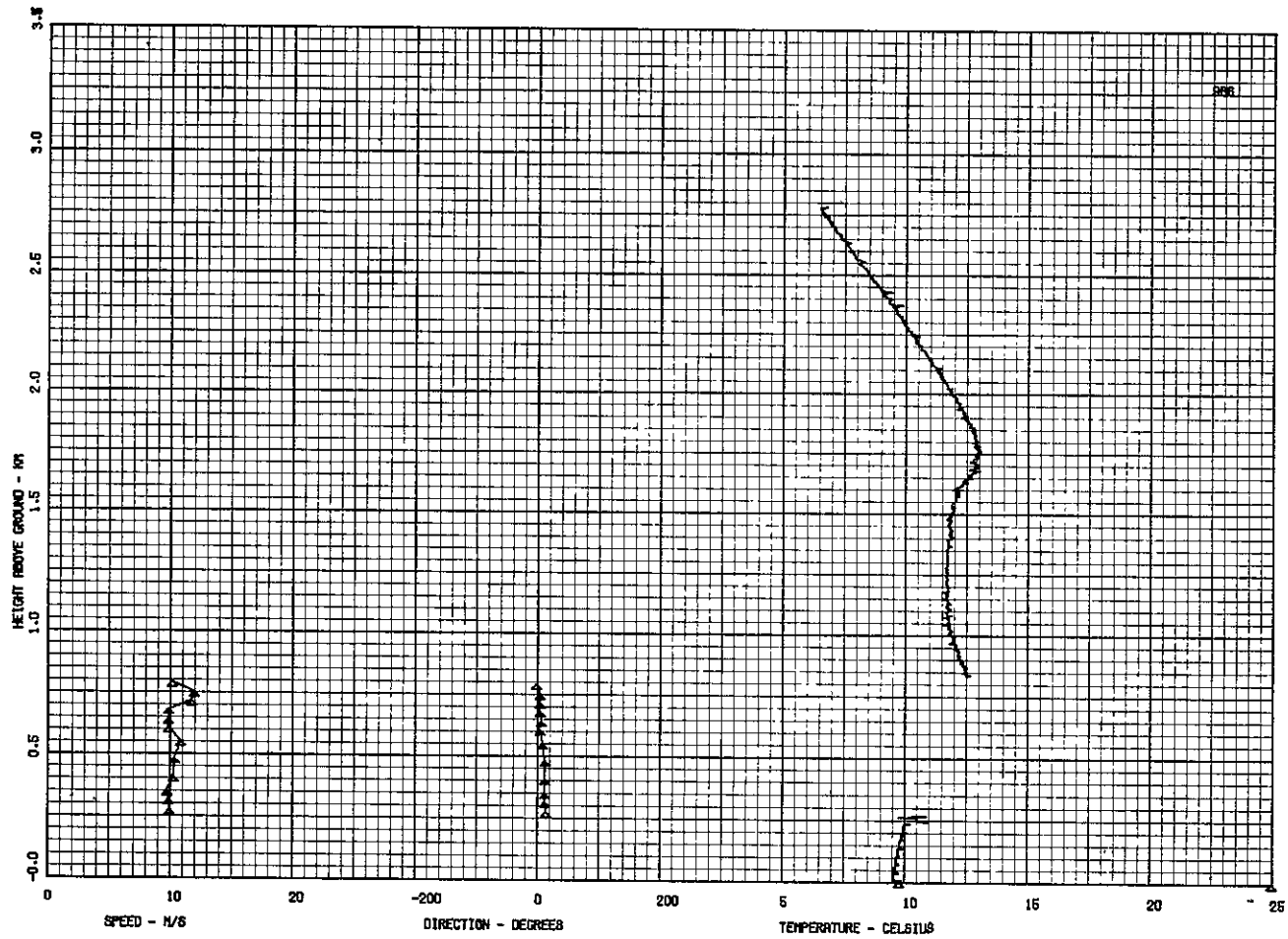
RUN 56 ALTON 18/7/75 RELEASE 0525 SURFACE WIND 2.24 M/S FROM 355 DEG.



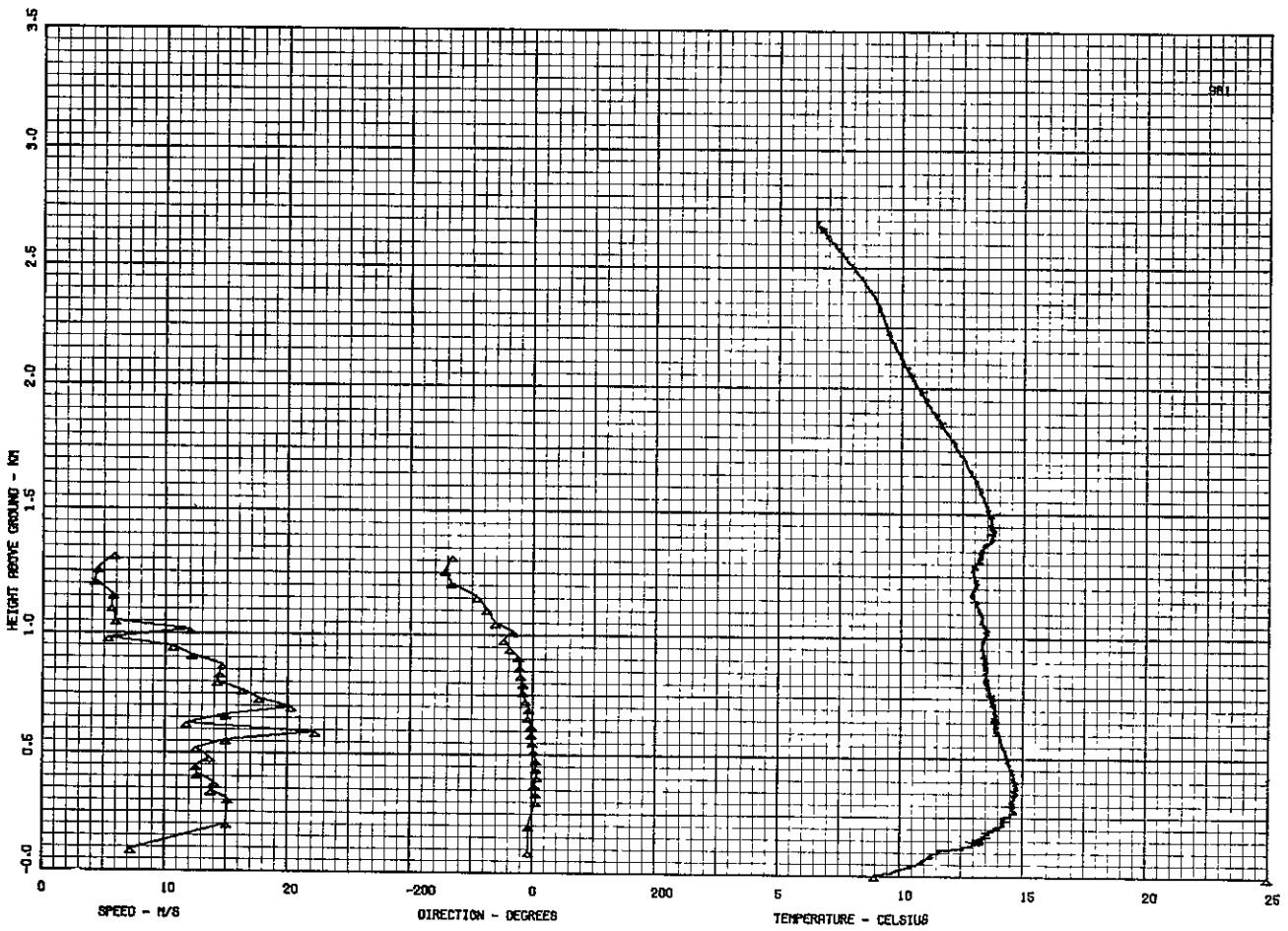
RUN 57 ALTON 18/7/75 RELEASE 0701 SURFACE WIND 2.64 M/S FROM 350 DEG.



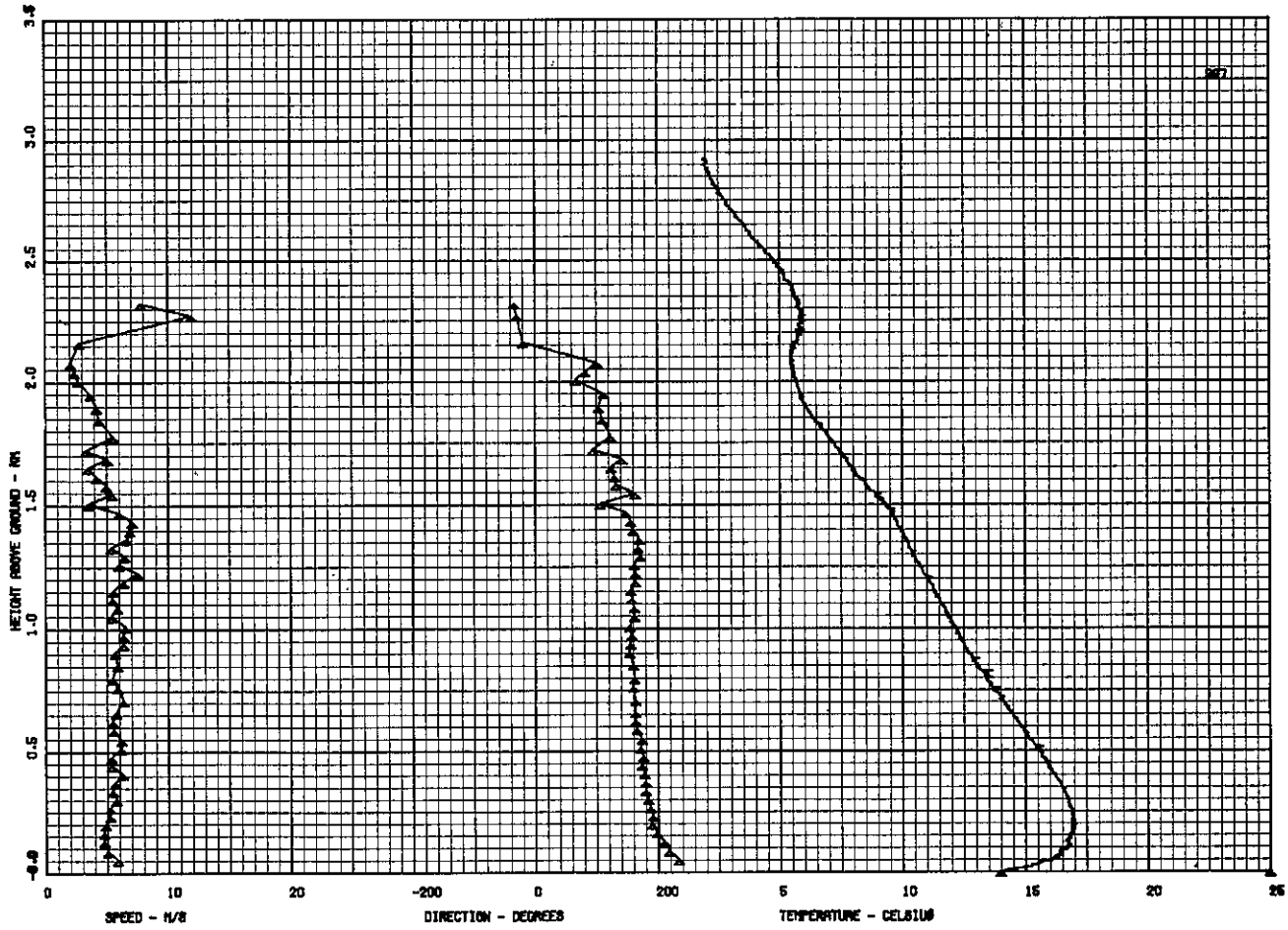
RUN 58 ALTON 1./7/75 RELEASE 2318 SURFACE WIND 1.18 M/S FROM 322 DEG.



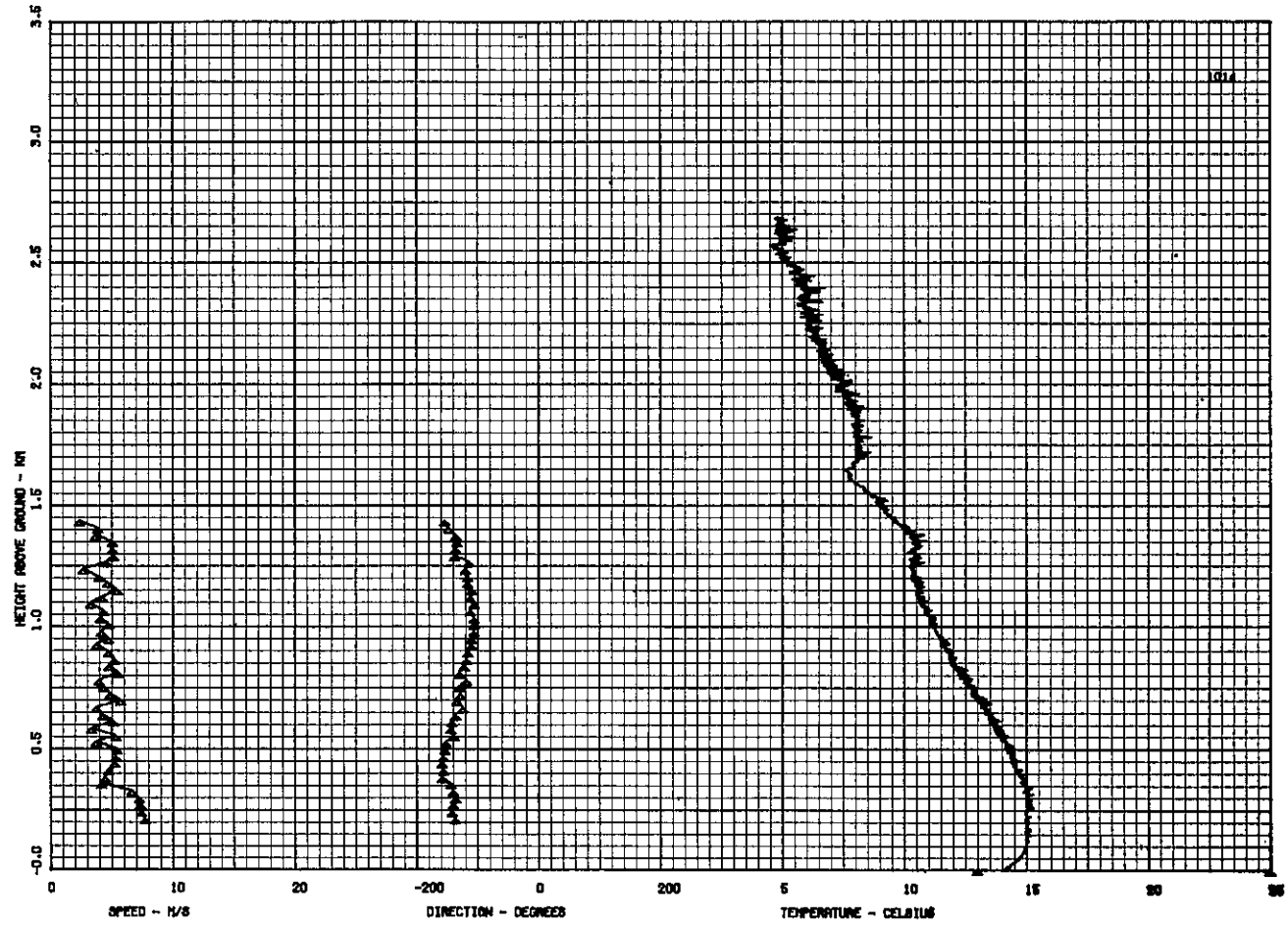
RUN 59 ALTON 19/7/75 RLSE 0347 SURF.WIND 1.52 M/S FROM 0 DEG. TEMP. SIGN. LOST INITLY



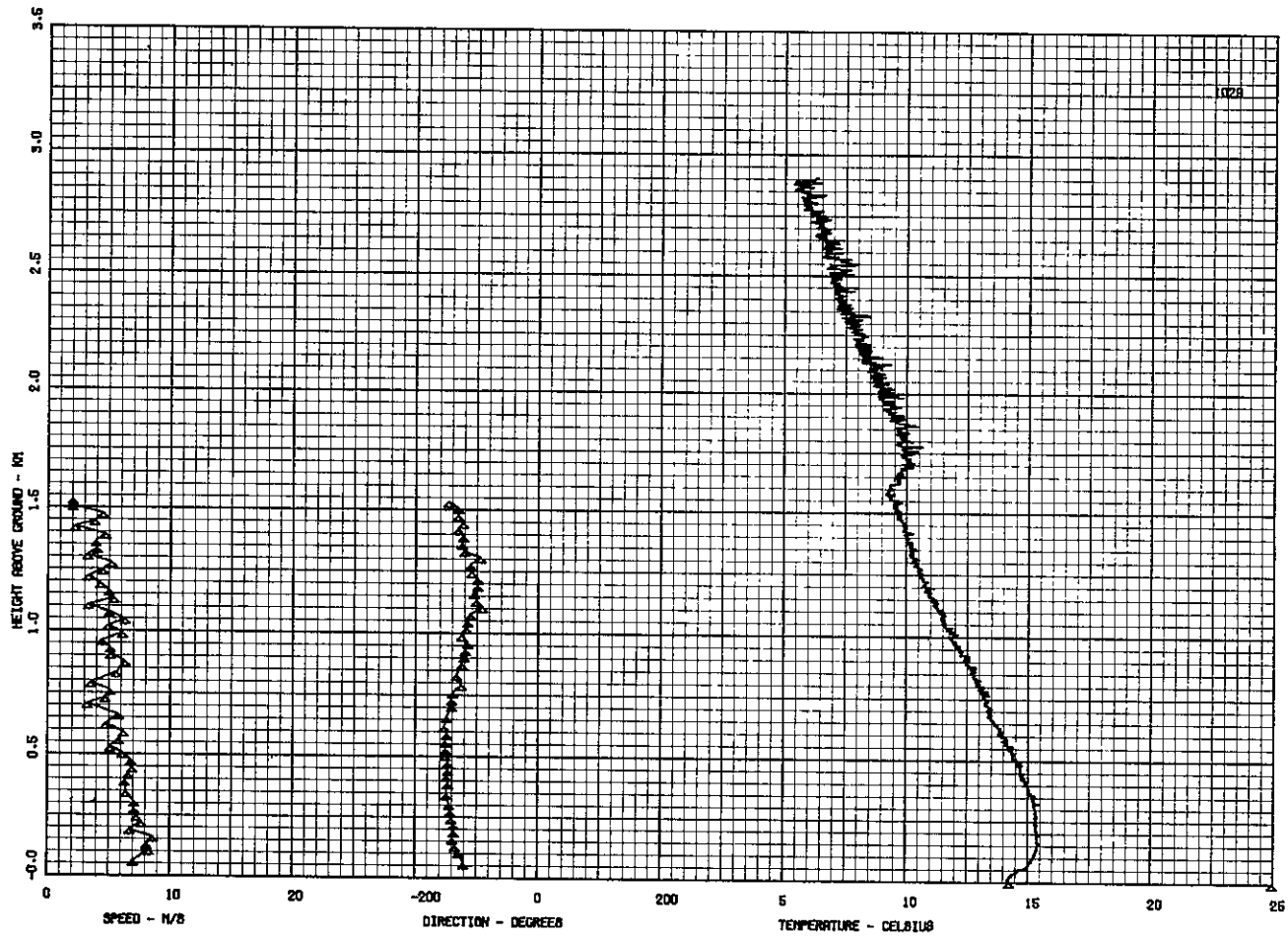
RUN 60 ALTON 19/7/75 RELEASE 0590 (APPROX) SURFACE WIND FROM 2 DEG. , 1.95 M/S



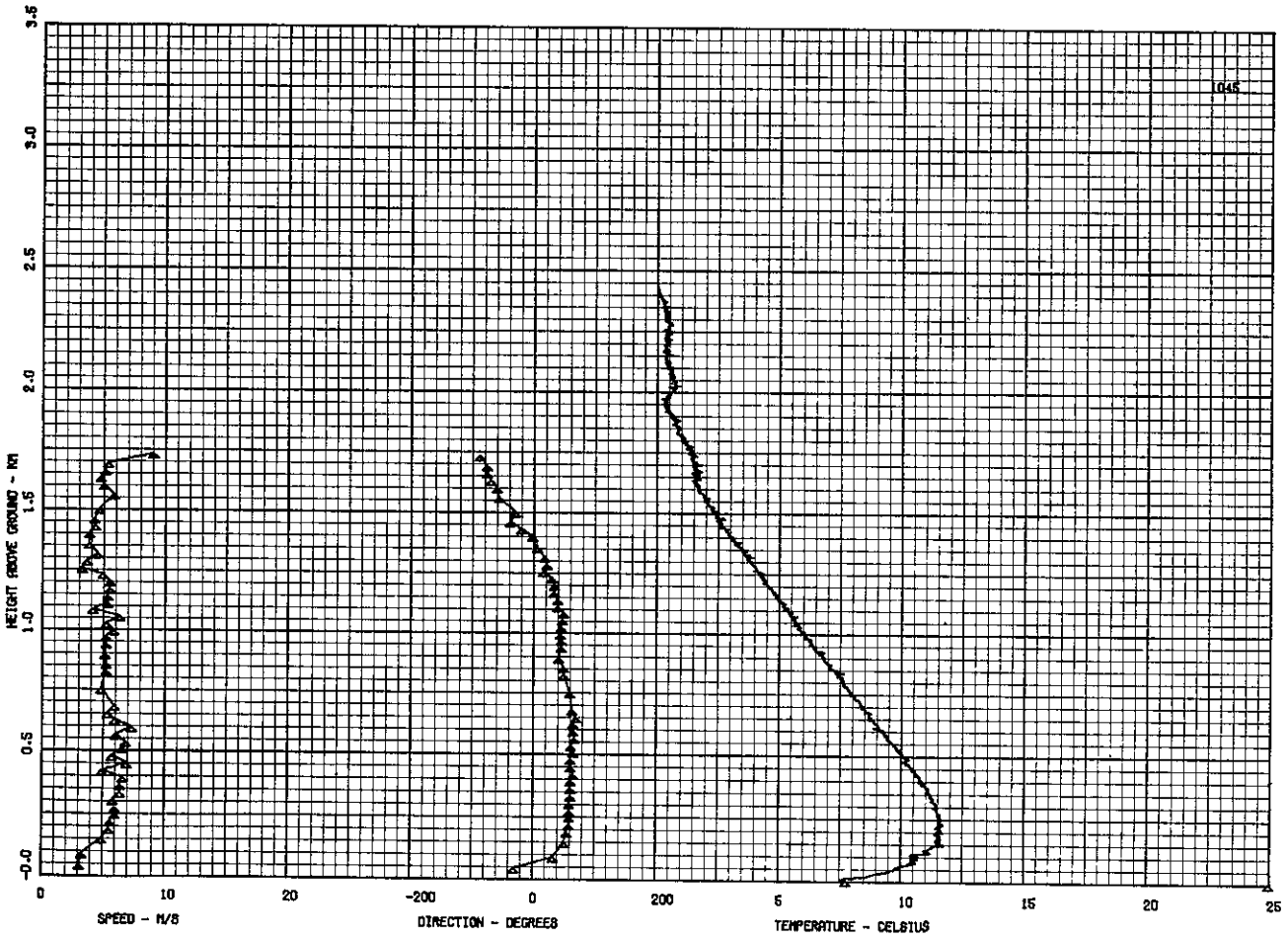
RUN 61 ALTON 22/7/75 RELEASE 0004 SURFACE WIND 2 M/S FROM 270 DEG.



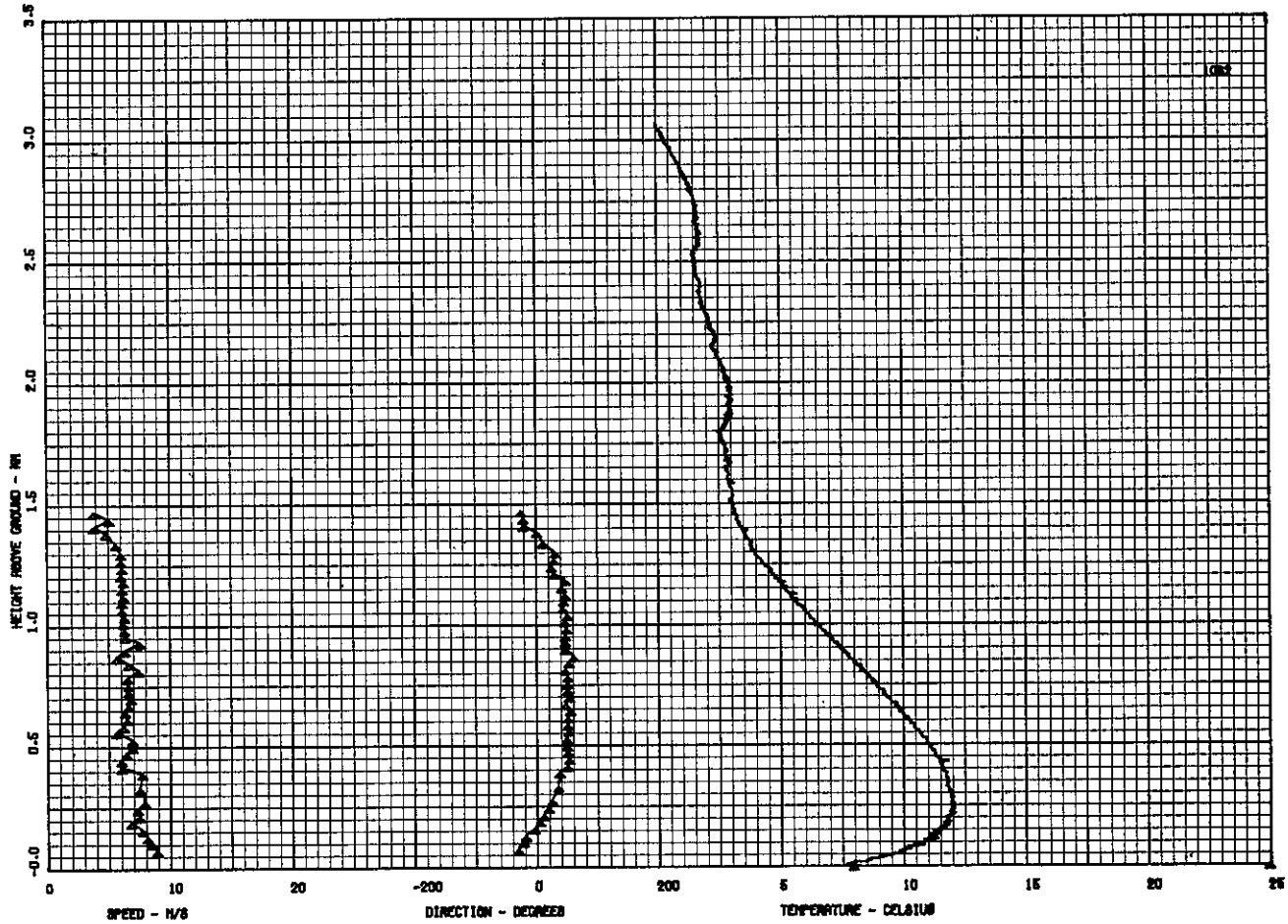
RUN 62 ALTON 22/7/75 RLSE 0718 SURF. WIND 295 DEG. +/- 5 SEC UNCERTAINTY IN TRACKING.



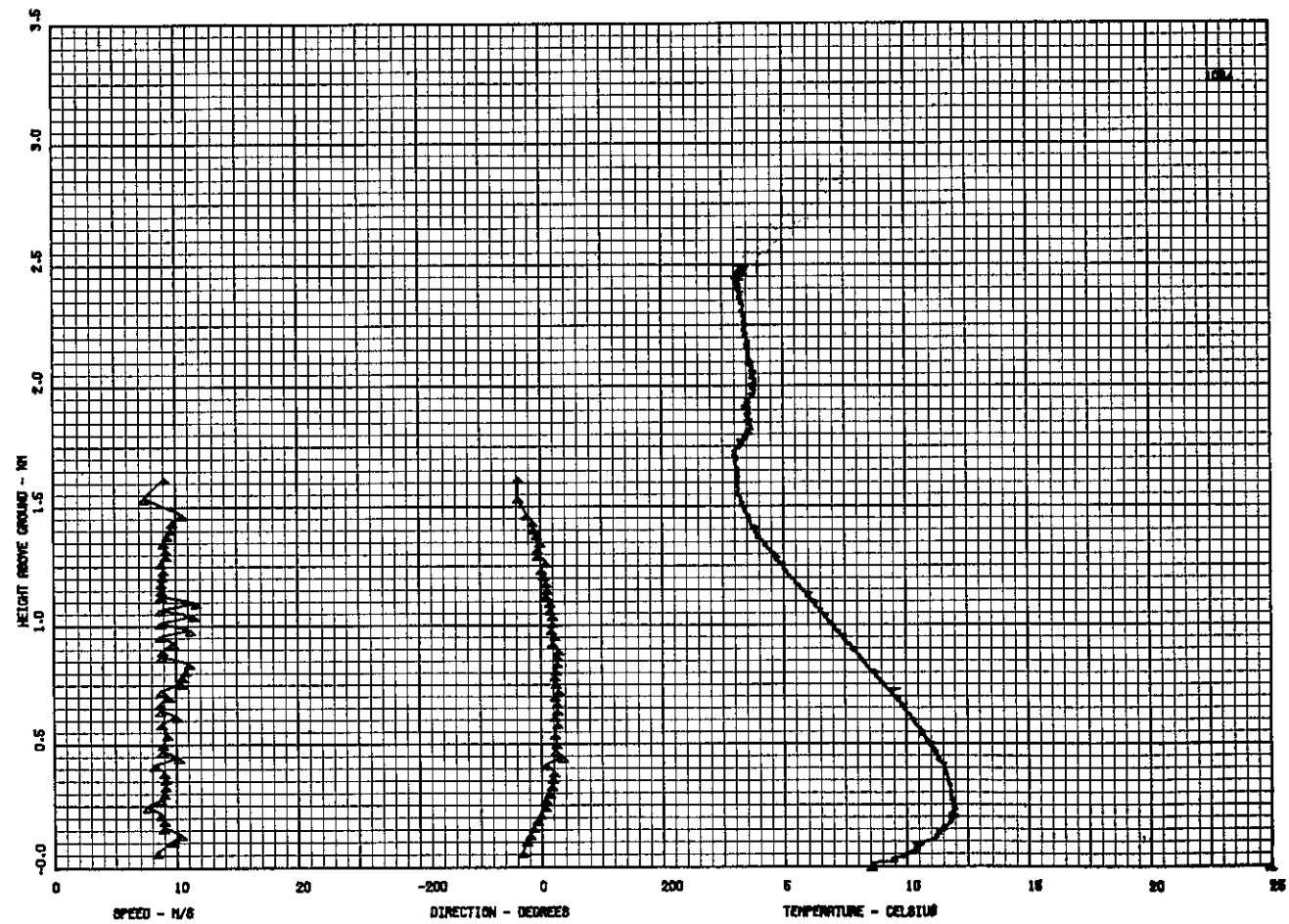
RUN 63 ALTON 22/7/75 RELEASE 0754 SURFACE WIND 270 - 290 DEG, 1.92 M/S



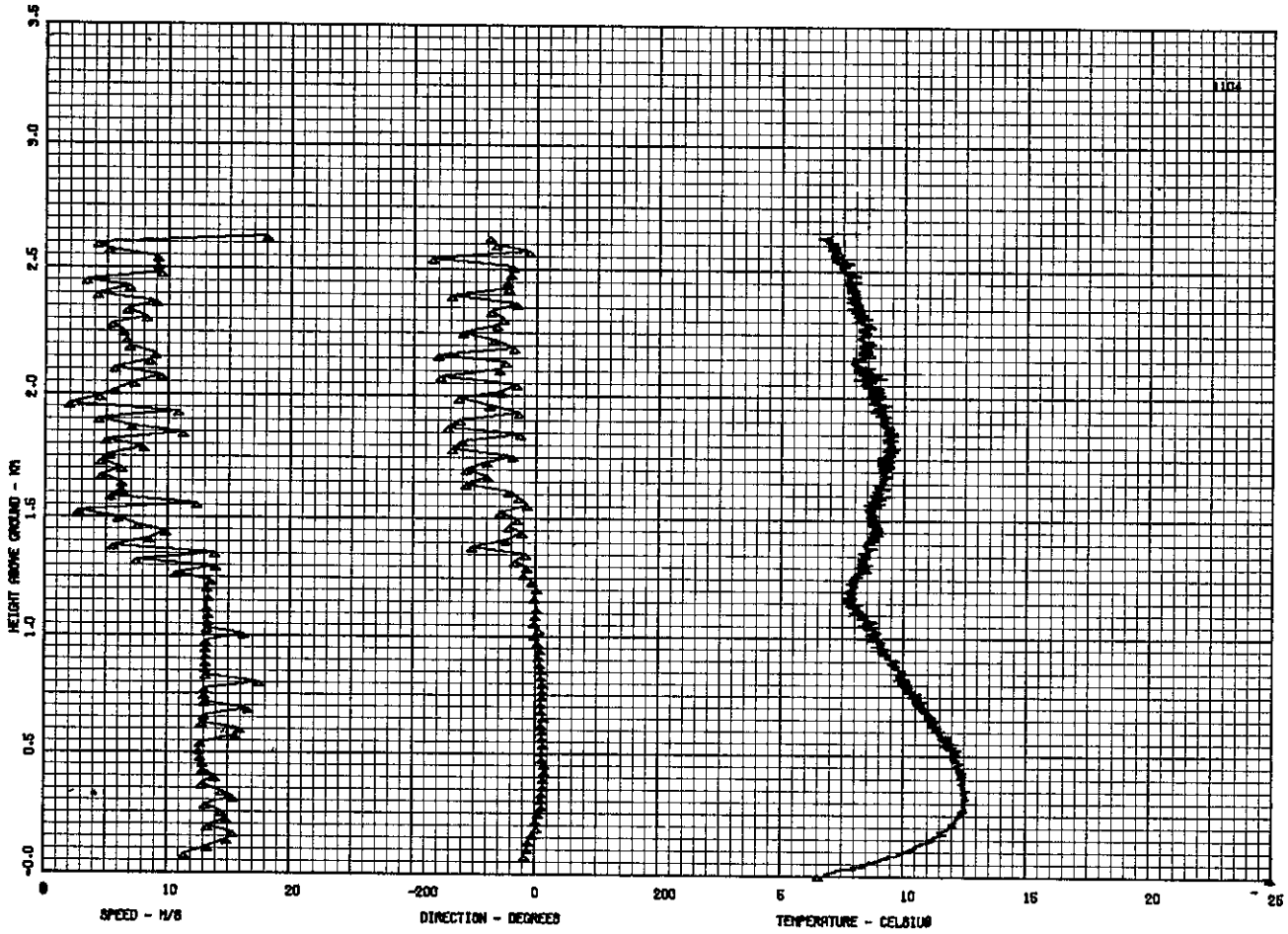
RUN 64 ALTON 24/7/75 RELEASE 2223 SURFACE WIND 1.77 M/S FROM 345 DEG.



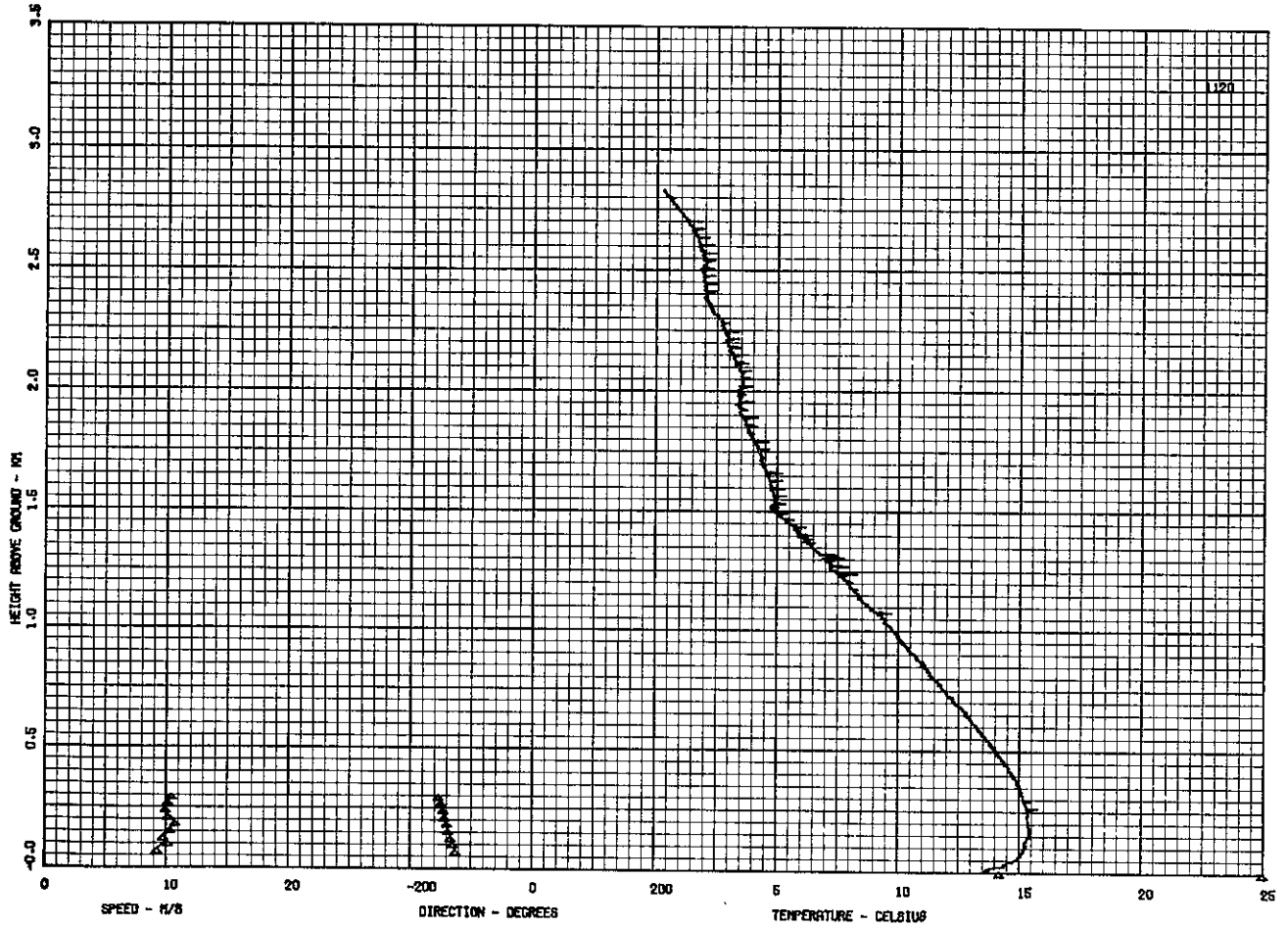
RUN 65 ALTON 25/7/75 RELEASE 0032 SURFACE WIND 3.33 M/S FROM 330 DEG.



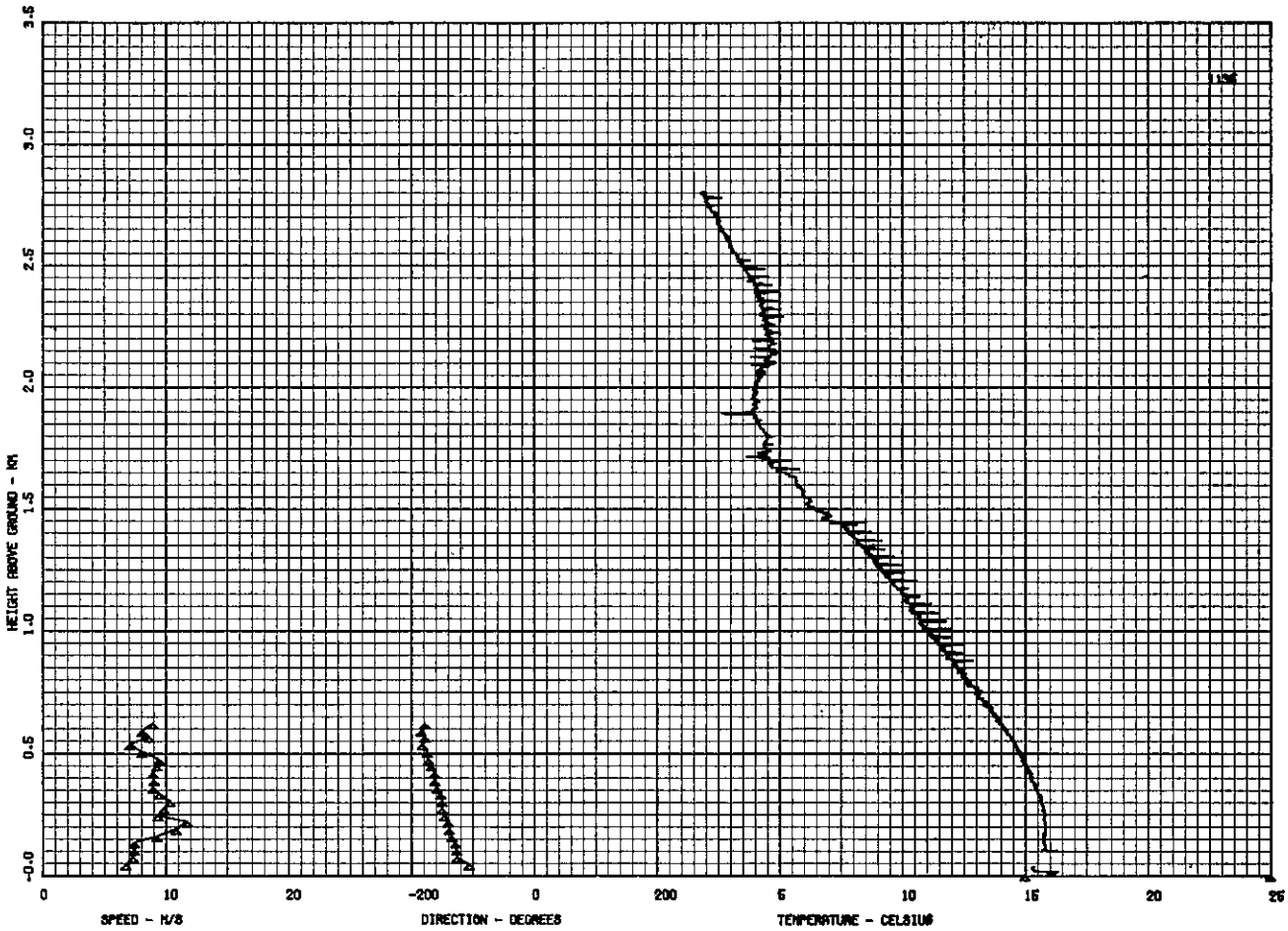
RUN 66 ALTON 25/7/75 RELEASE 0323 SURFACE WIND FROM 355 DEG. (SPEED NOT MEASURED)



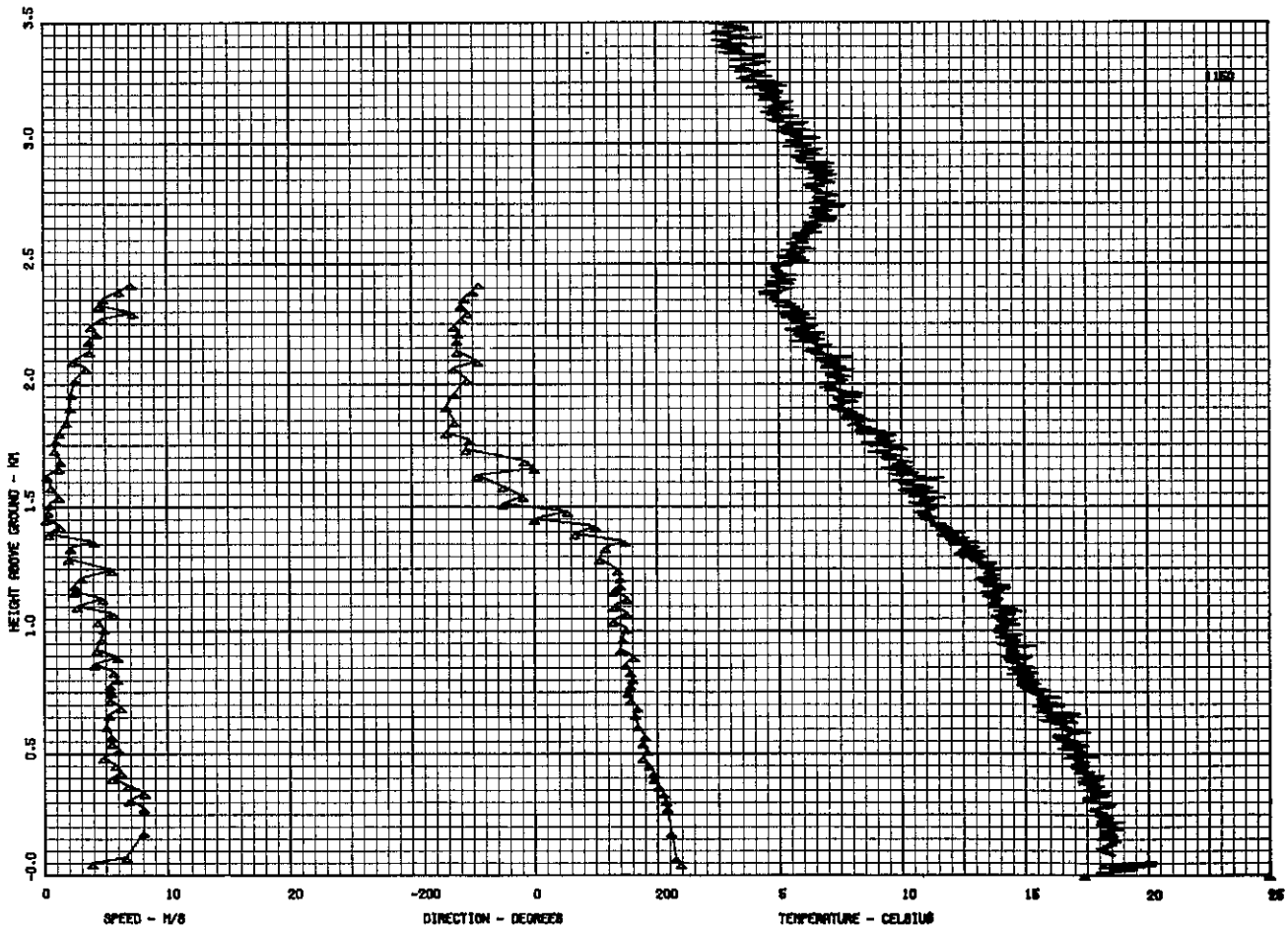
RUN 67 ALTON 25/7/75 RELEASE 0708 SURFACE WIND FROM 0 DEG.(SPEED NOT MEASURED)



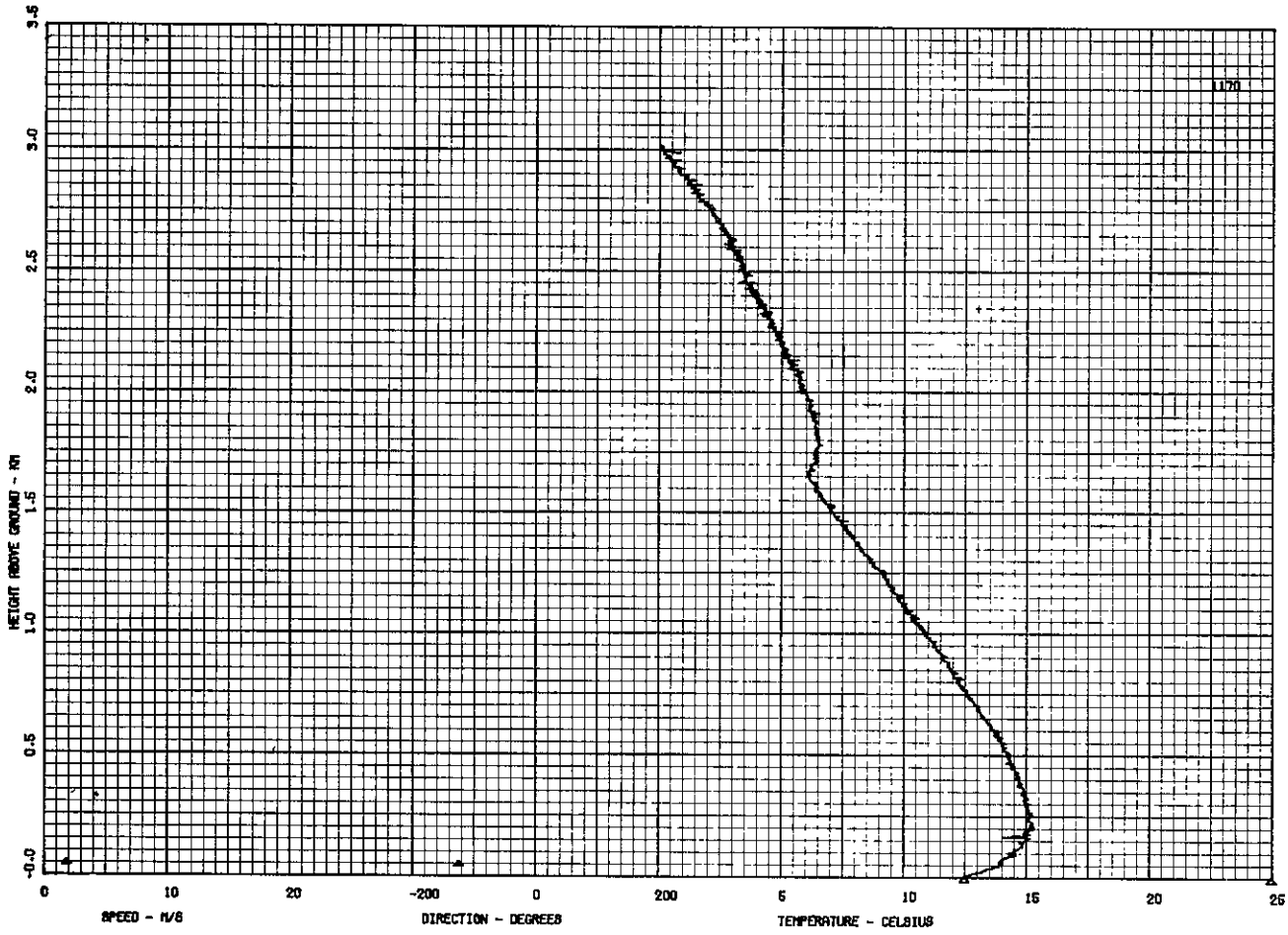
RUN 68 ALTON 27/7/75 RELEASE 0206 SURFACE WIND 2.83 M/S FROM 256 DEG.



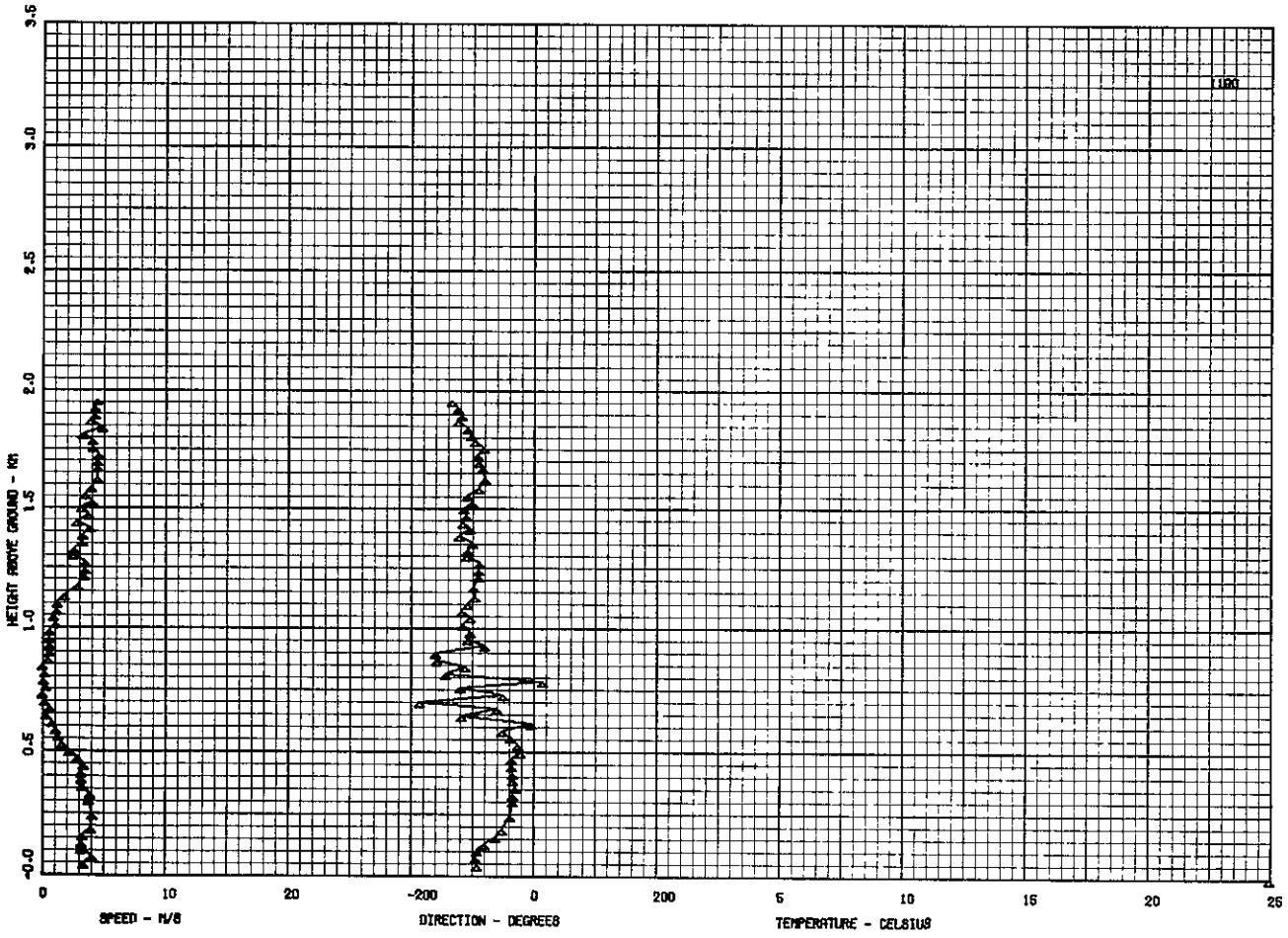
RUN 69 ALTON 27/7/75 RELEASE 0445 SURFACE WIND 2.91 M/S FROM 270 DEG.



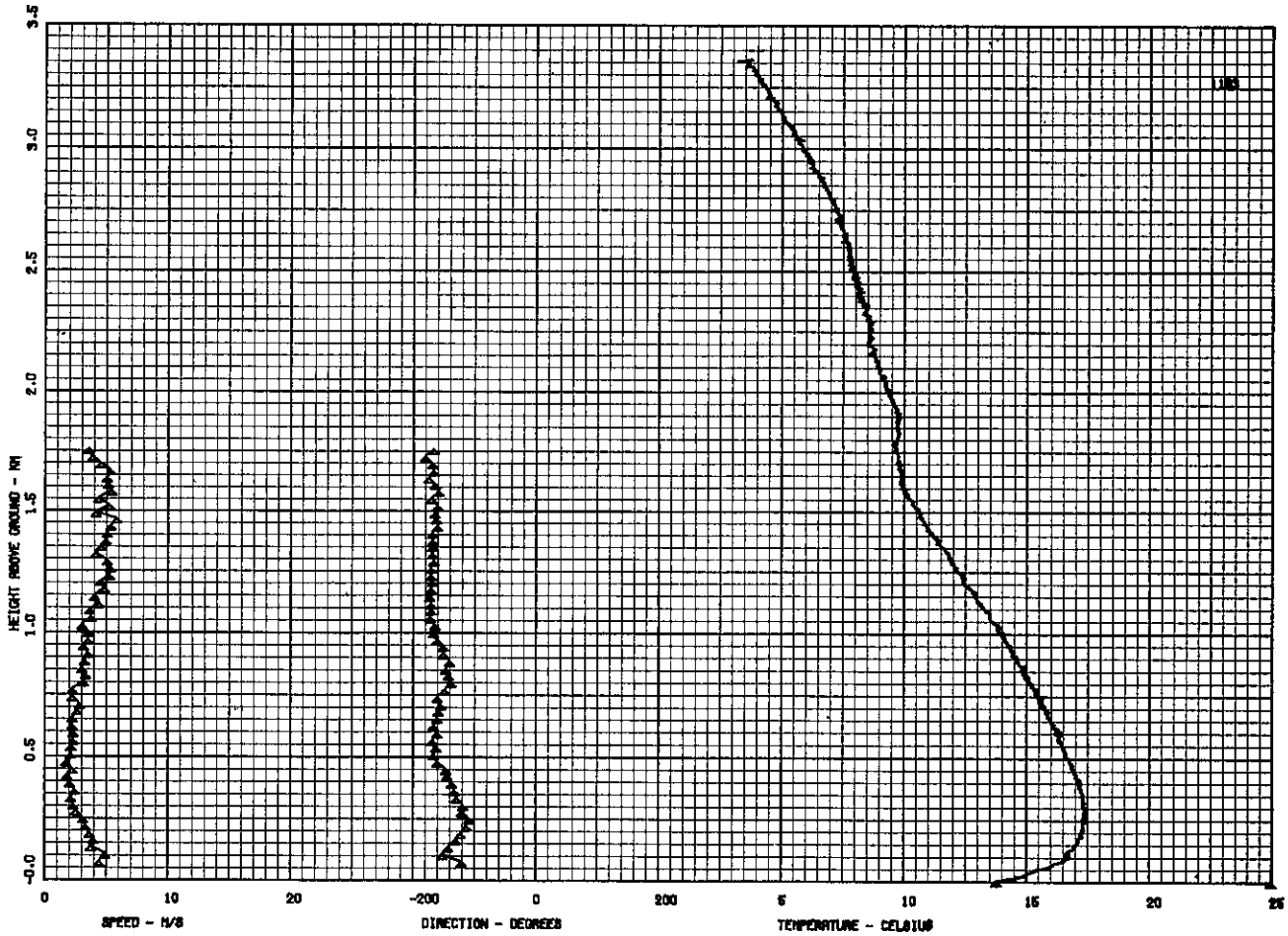
RUN 70 ALTON 27/7/75 RELEASE 0840 SURFACE WIND 3.69M/S FROM 245 DEG.



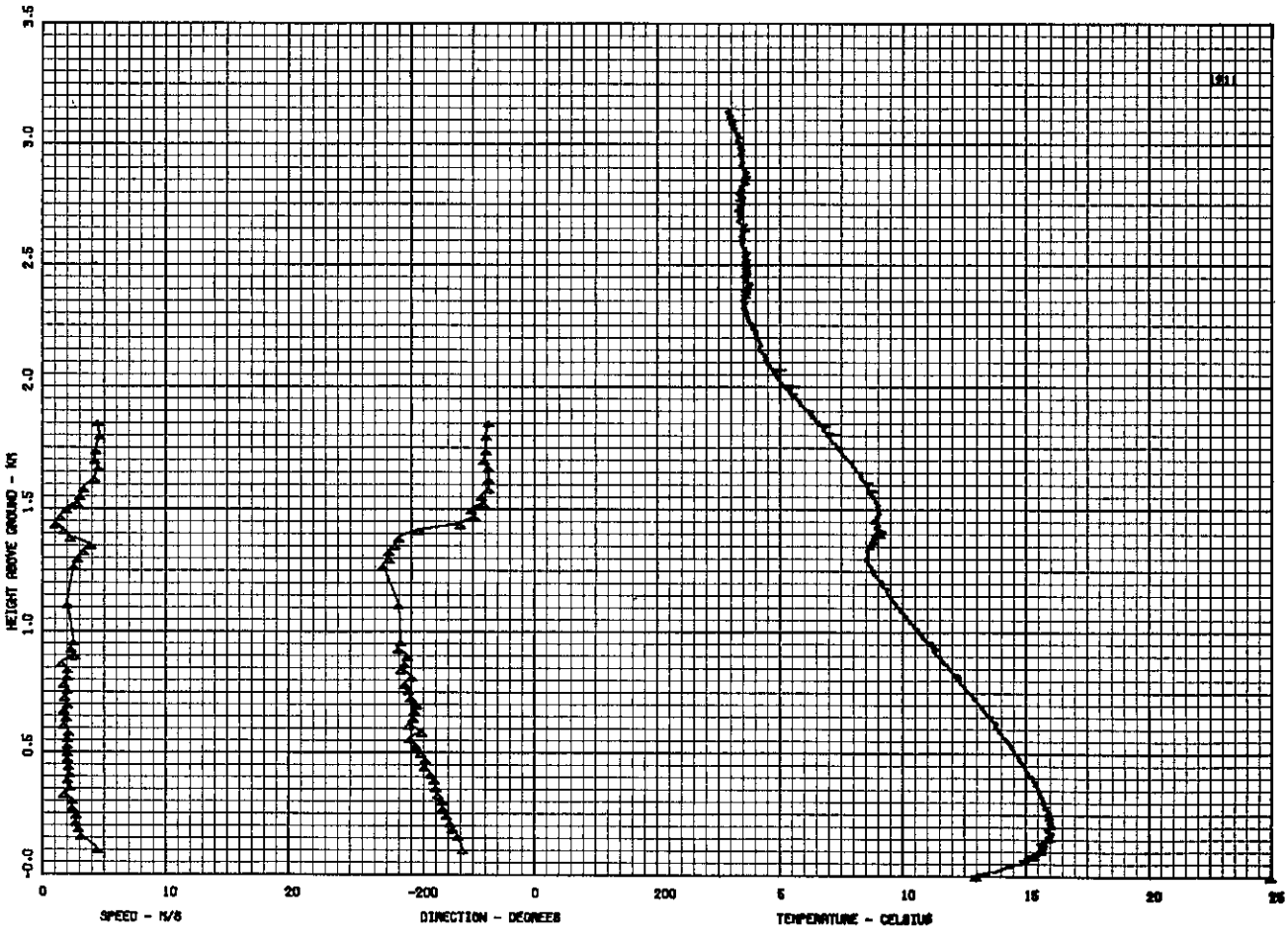
RUN 71 ALTON 28/7/75 RELEASE 0246 SURF.W. NOT MEASURED. FIXED ON STAR AFTER 2 READINGS.



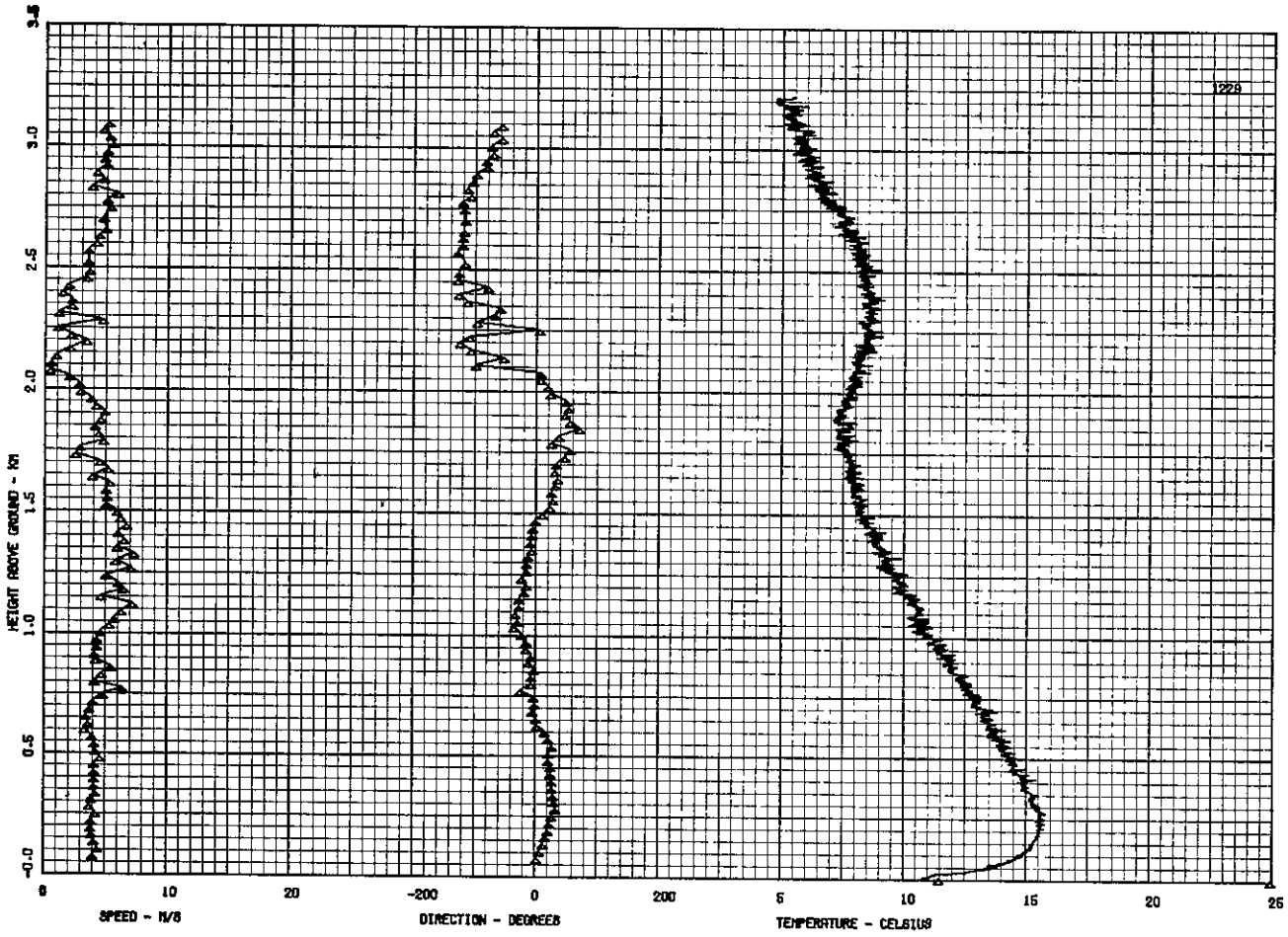
RUN 72 ALTON 28/7/75 RELEASE 0402 SURF. WIND 2.33 M/S FROM 290 DEG. NO TAPE



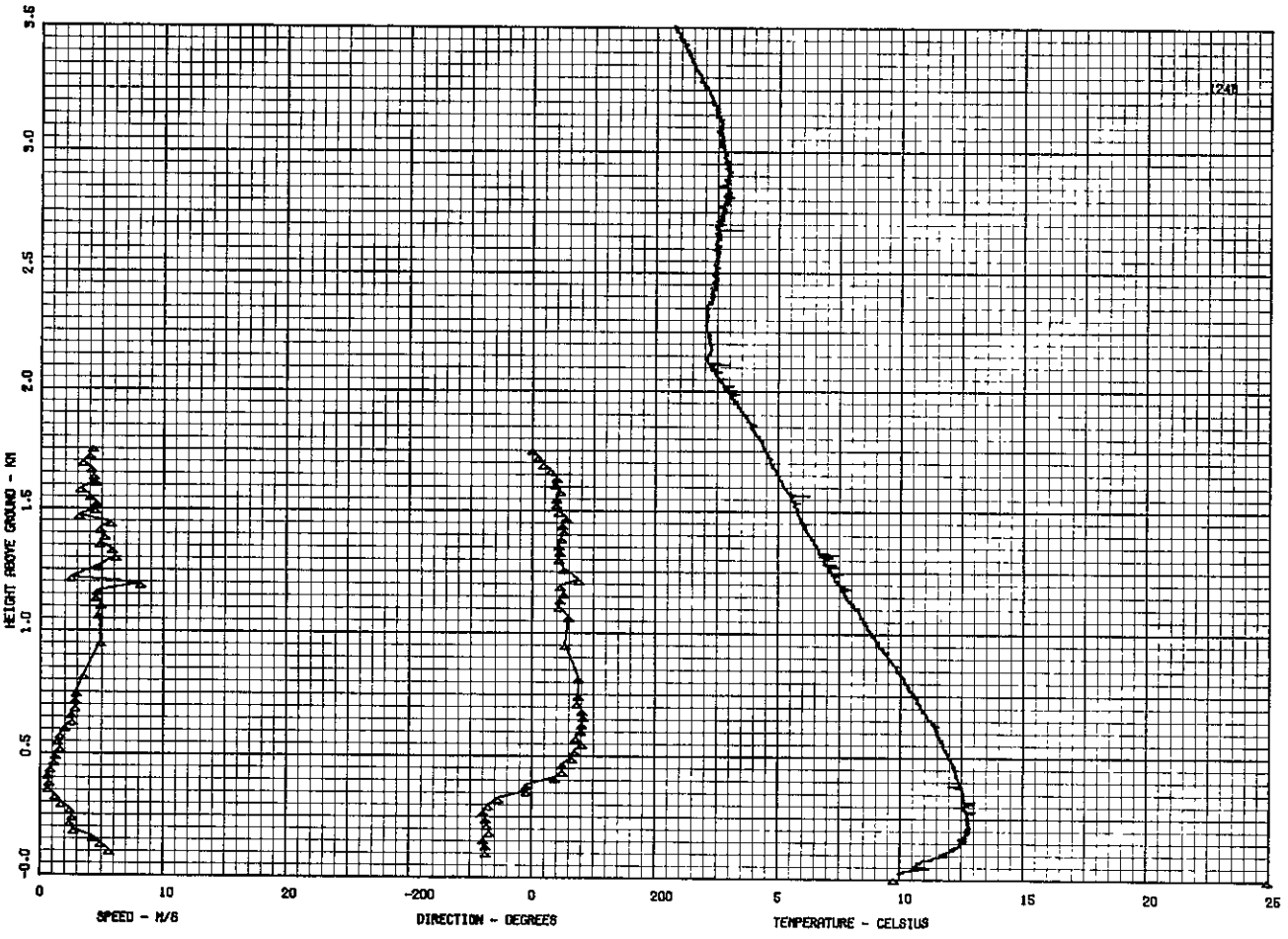
RUN 73 ALTON 28/7/75 RELEASE 0720 SURFACE WIND 2.37 M/S FROM 272 DEG.



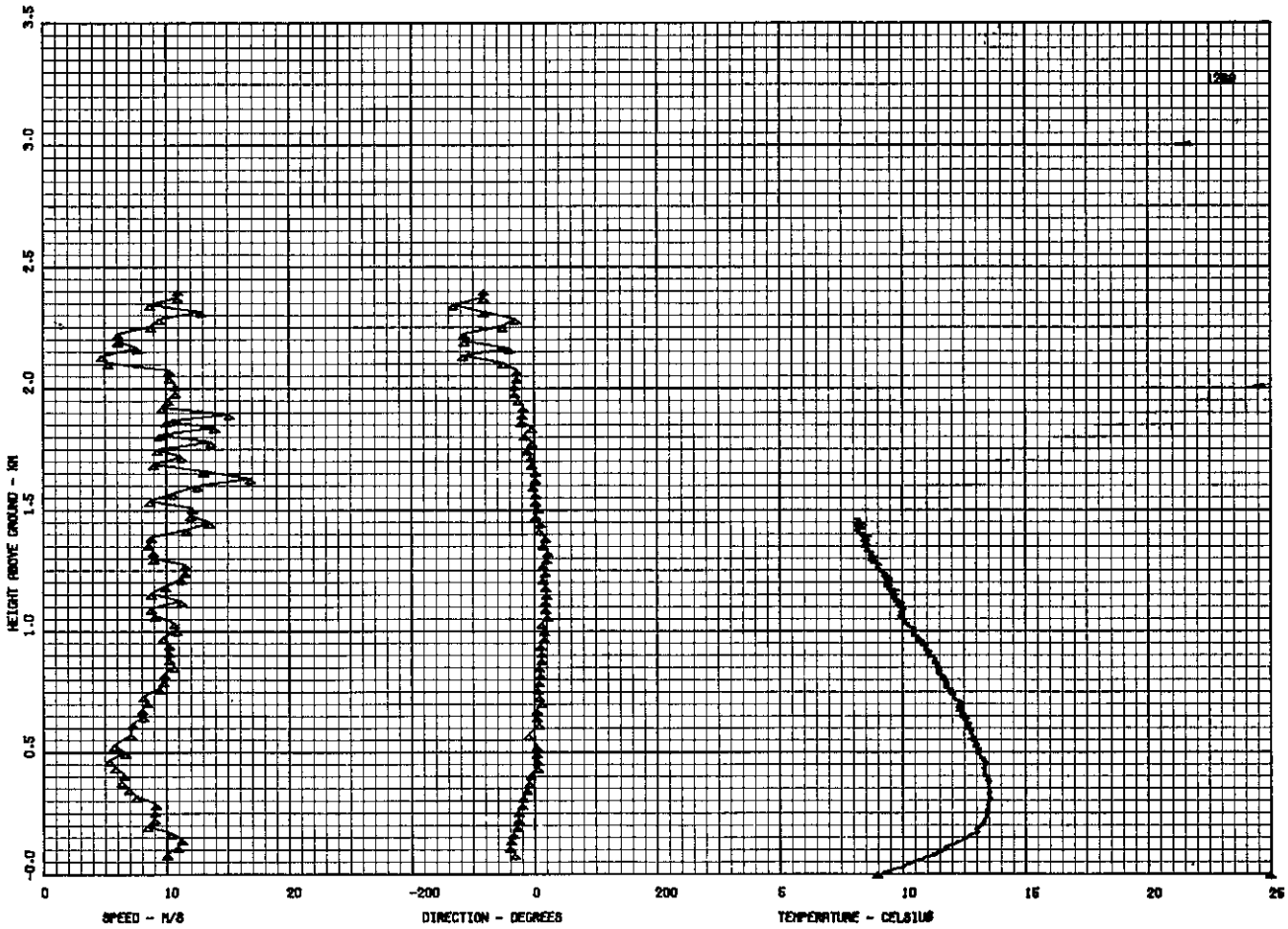
RUN 74 ALTON 29/7/75 RELEASE 0015 SURFACE WIND NOT MEASURED.



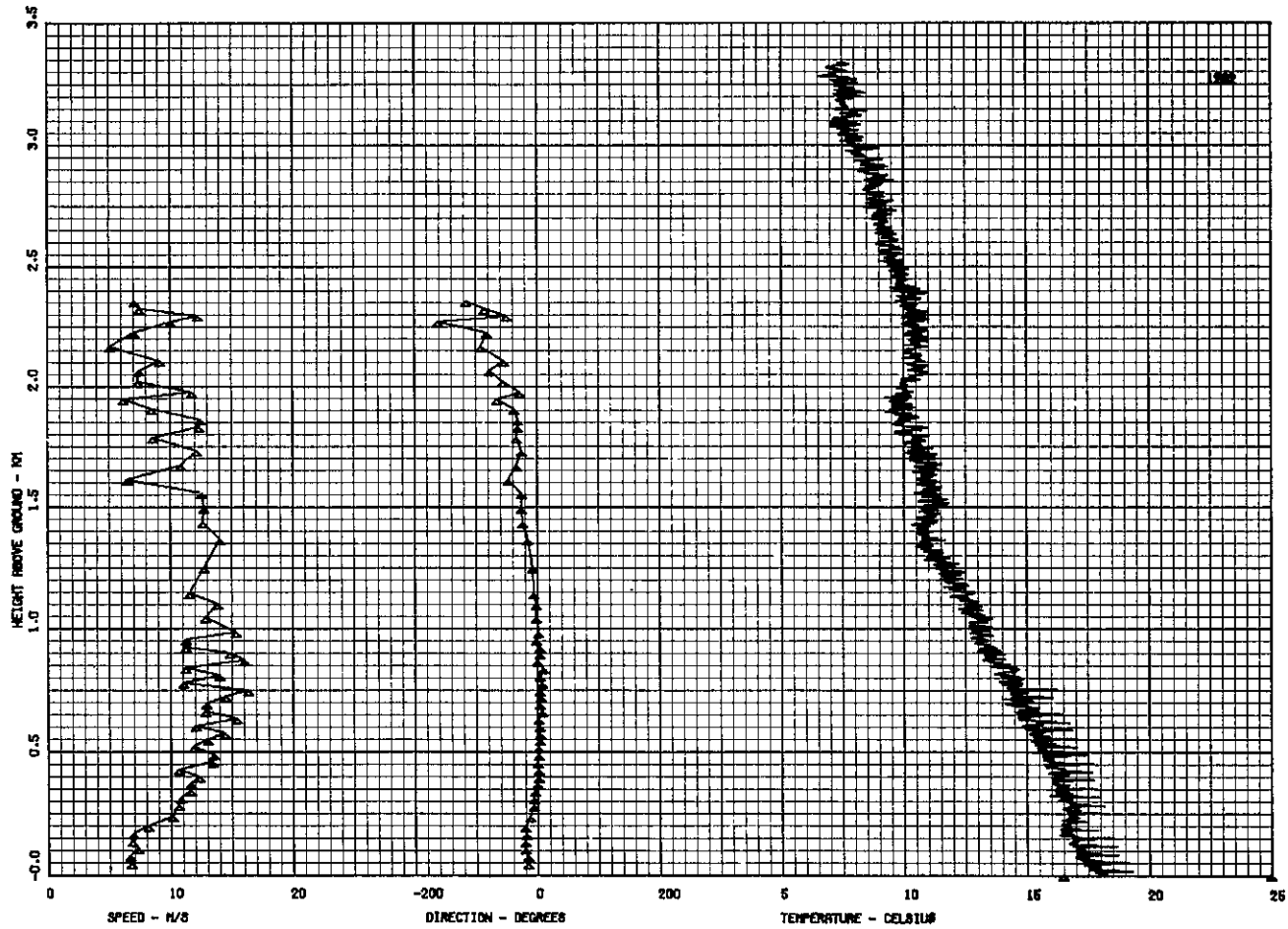
RUN 75 ALTON 29/7/75 RELEASE 0725 SURFACE WIND NOT MEASURED.



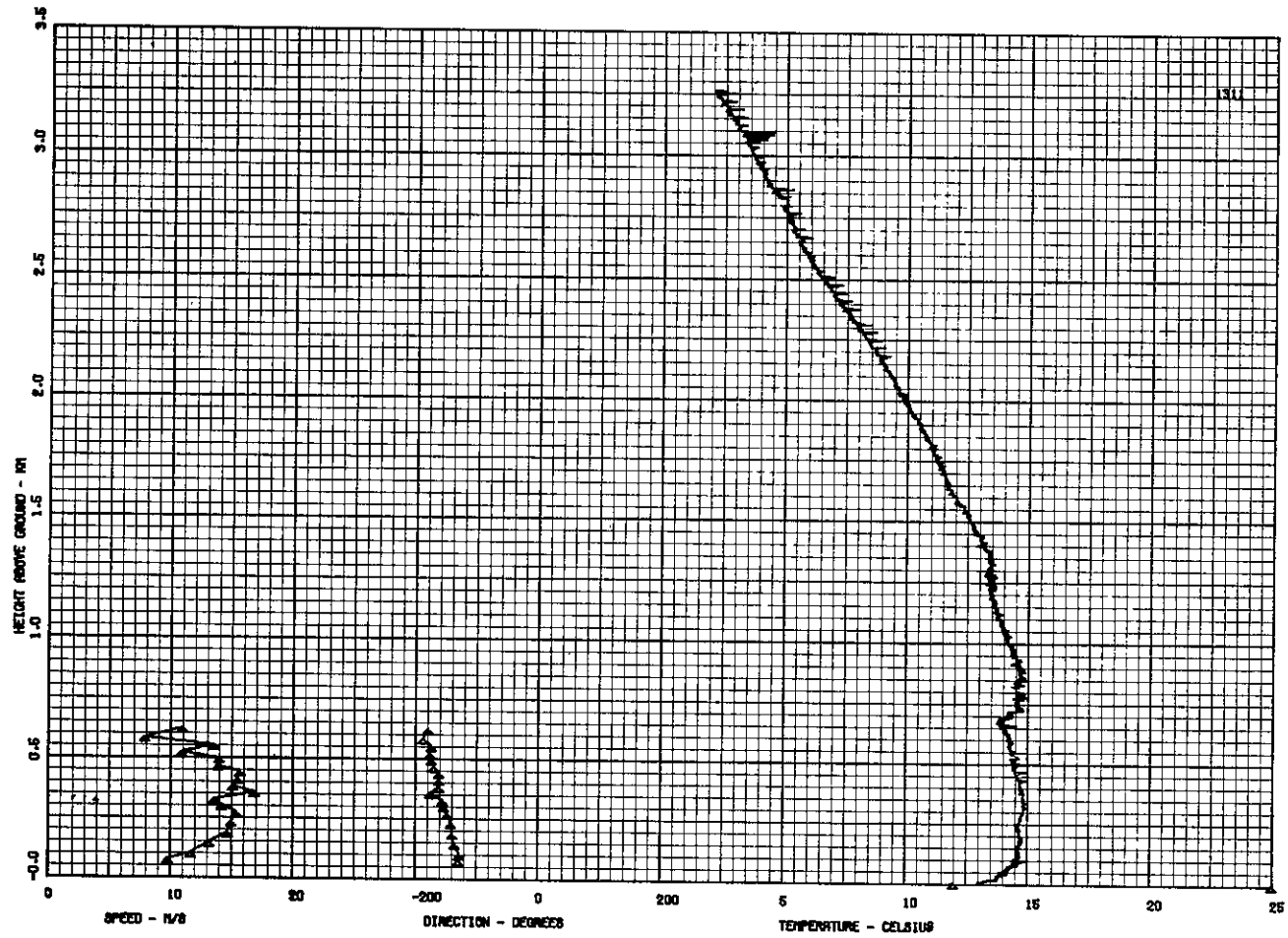
RUN 76 ALTON 3/8/75 RELEASE 0920 SURFACE WIND 2.84 M/S FROM 322 DEG.



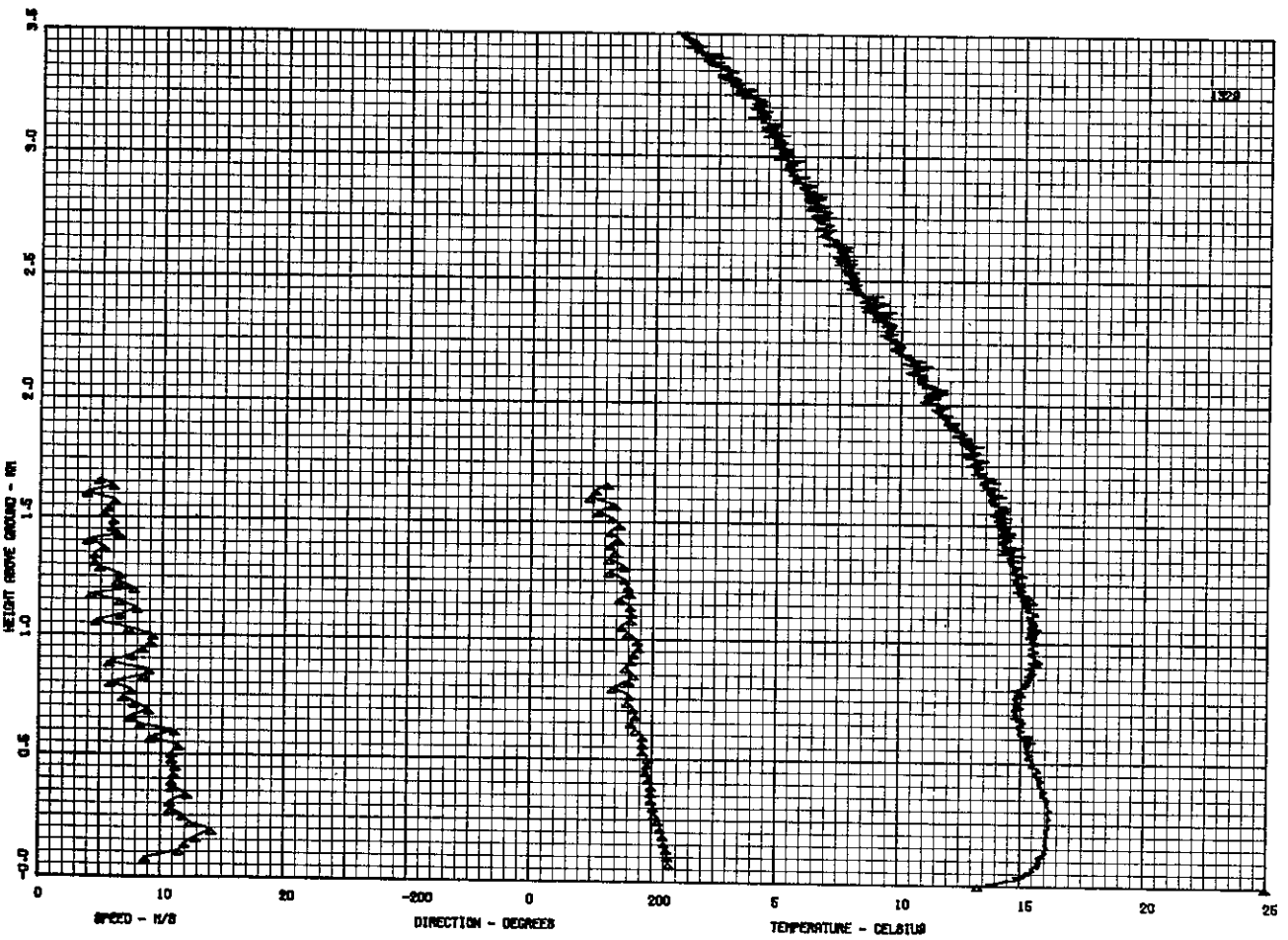
RUN 77 ALTON 3/8/75 RELEASE 0704 SURFACE WIND 2.15 M/S (DIRECTION NOT MEASURED)



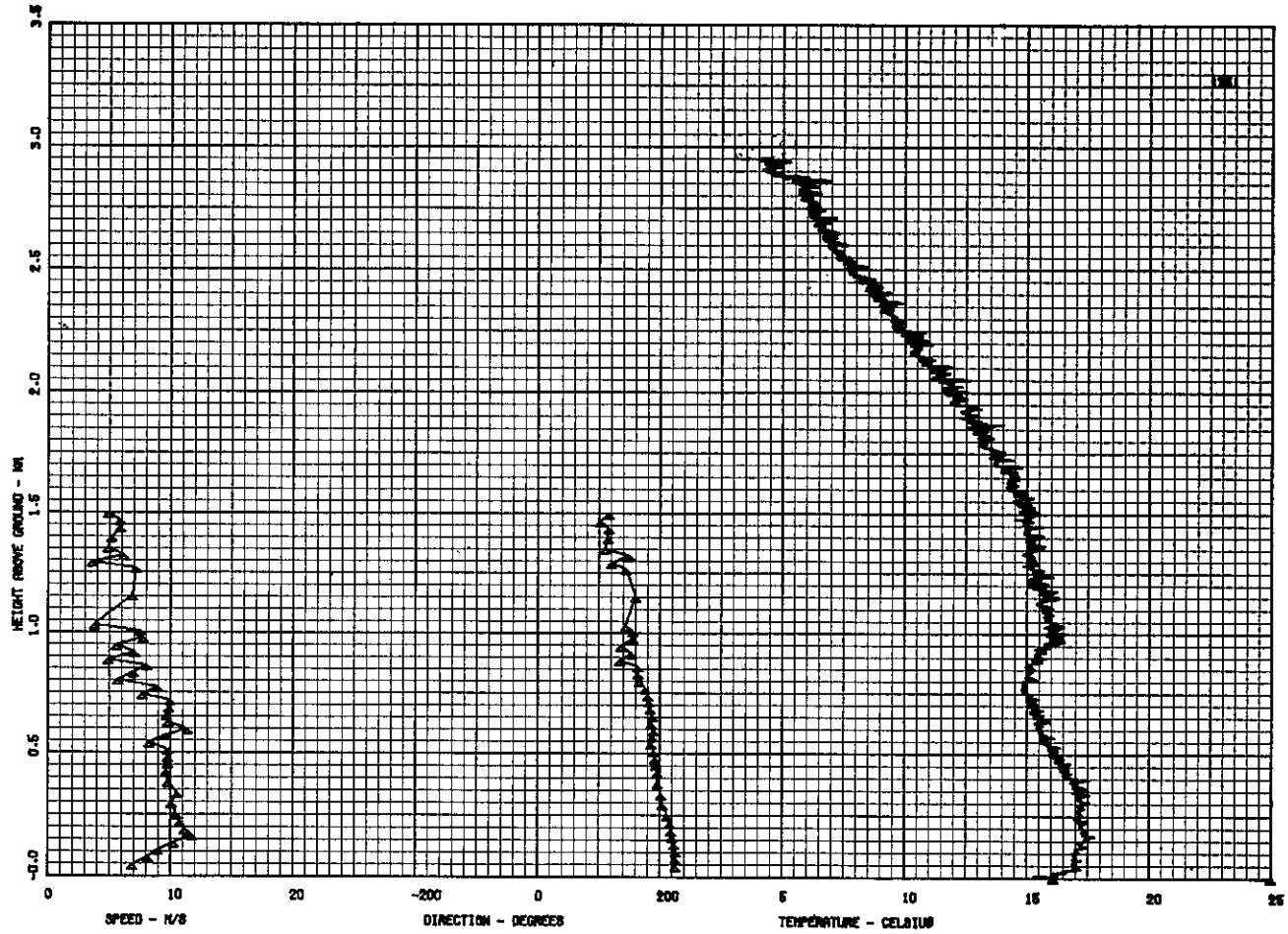
RUN 78 ALTON 3/8/75 RELEASE 0927 SURFACE WIND FROM 340 DEG. (SPEED NOT MEASURED)



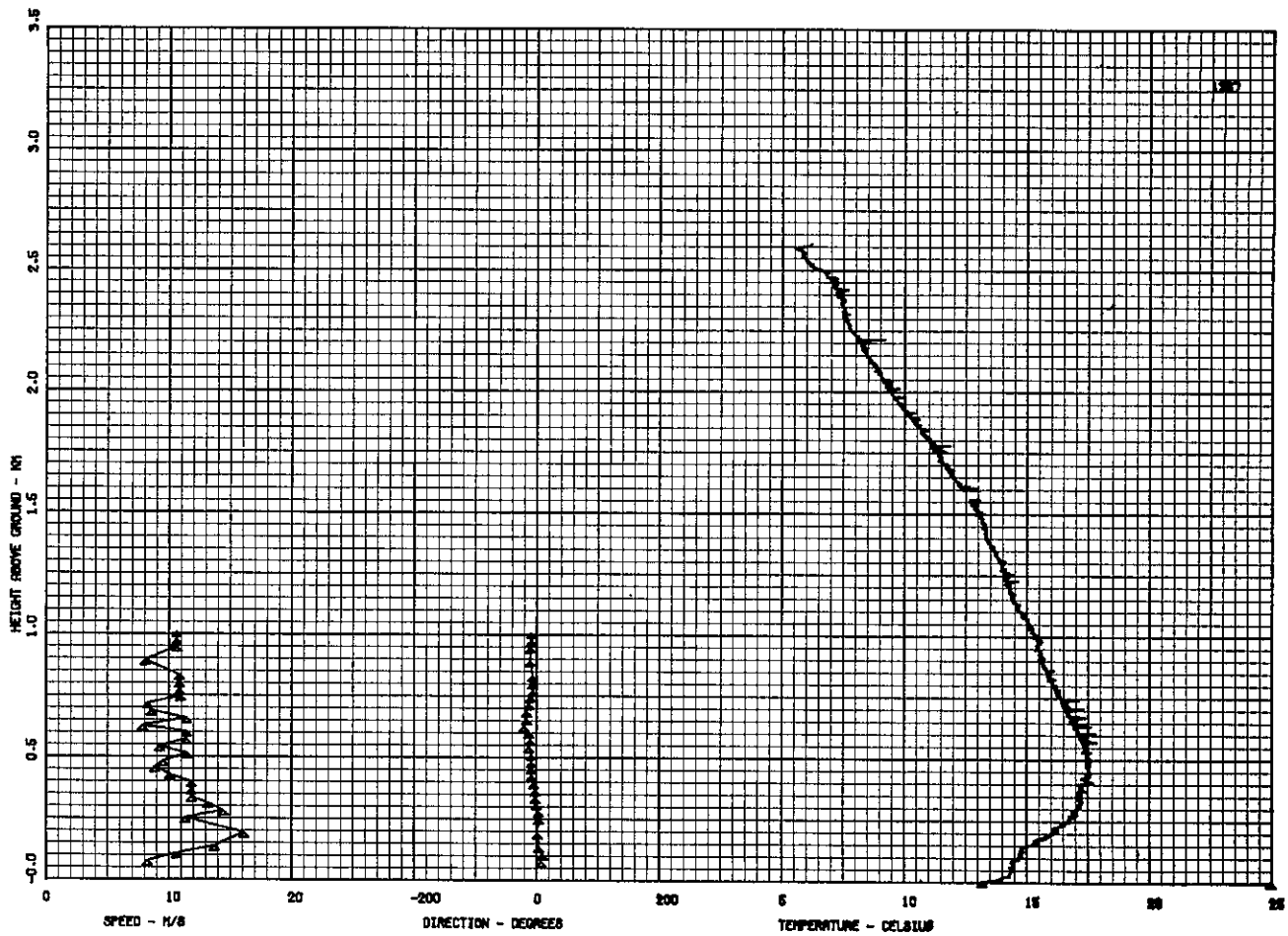
RUN 78 ALTON 4/8/75 RELEASE 0645 SURFACE WIND 2.68 M/S (DIRECTION NOT MEASURED)



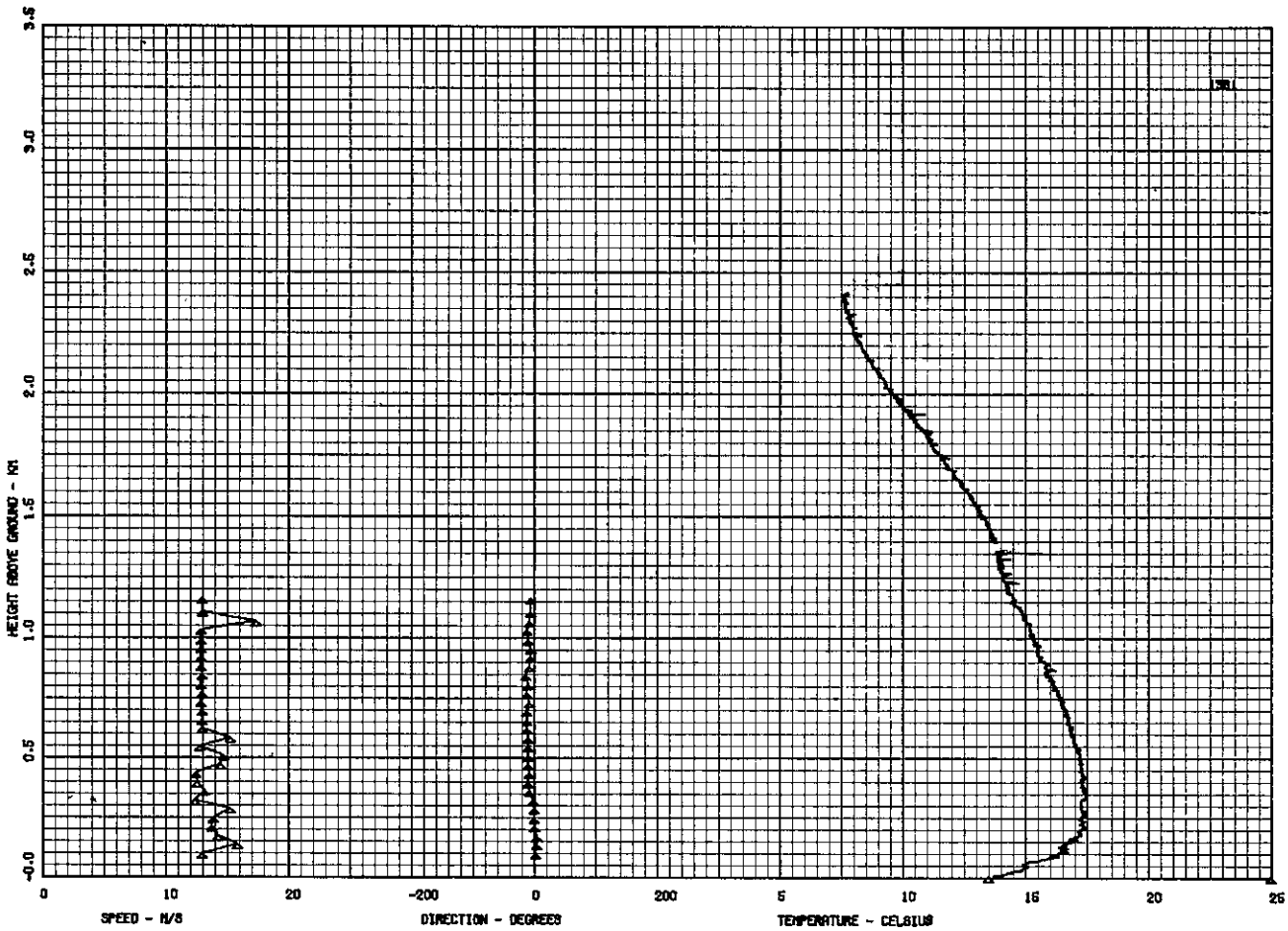
RUN 80 ALTON 4/8/75 RELEASE 0853 SURFACE WIND 2.33 M/S (DIRECTION NOT MEASURED)



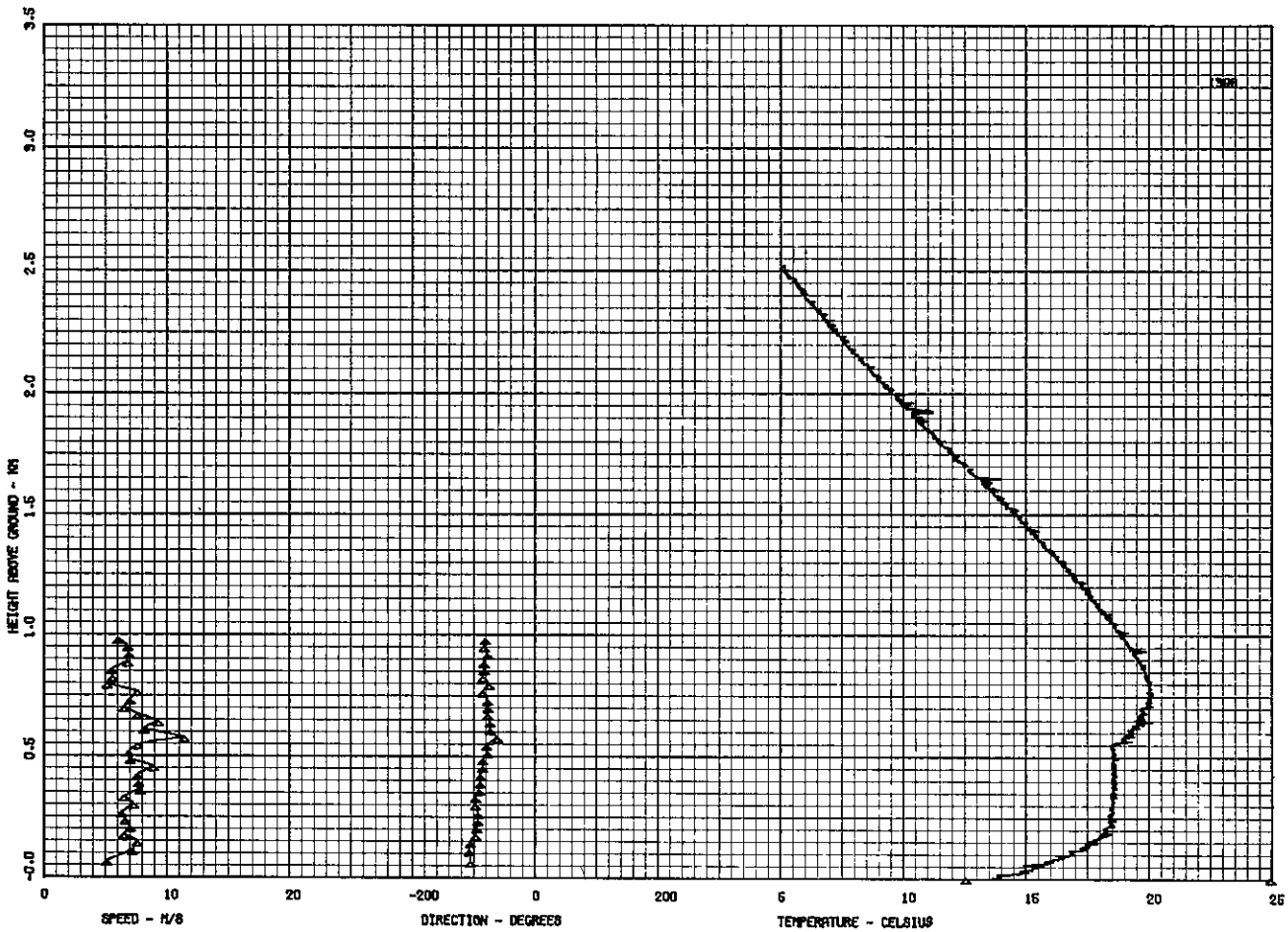
RUN 81 ALTON 4/7/75 REL. 0760 SURF.W. NOT M. CALIBR. FREQUENCY APPARENTLY INCORRECT.



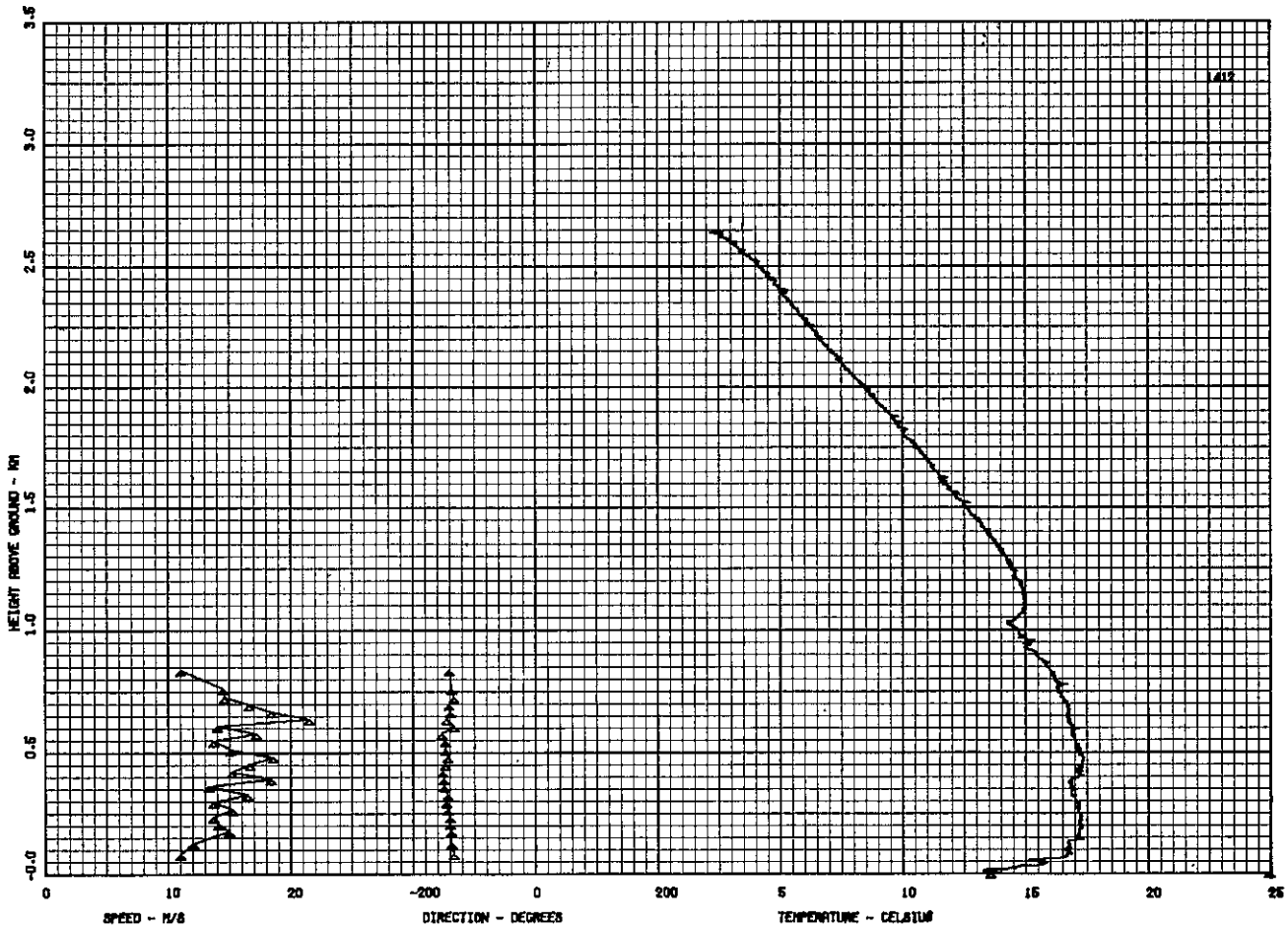
RUN 82 ALTON 4/8/75RELEASE 2022 S.W. 2.62 M/S FROM 23 DEG. BUZZER TIME 19 OR 17.1 SEC.



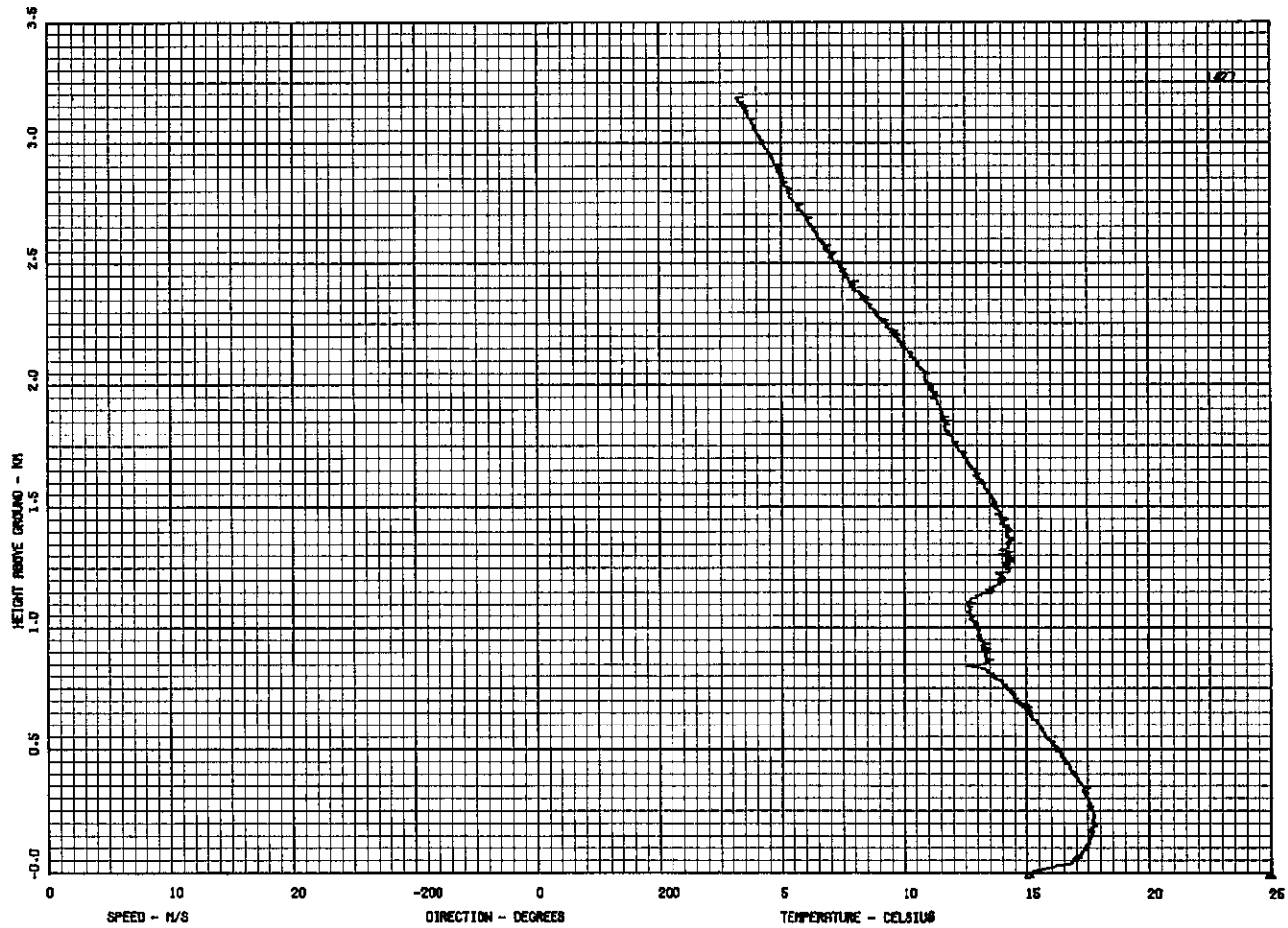
RUN 83 ALTON 4/8/75 RELEASE 2319 SURFACE WIND 3.43 M/S FORM 5 DEG.



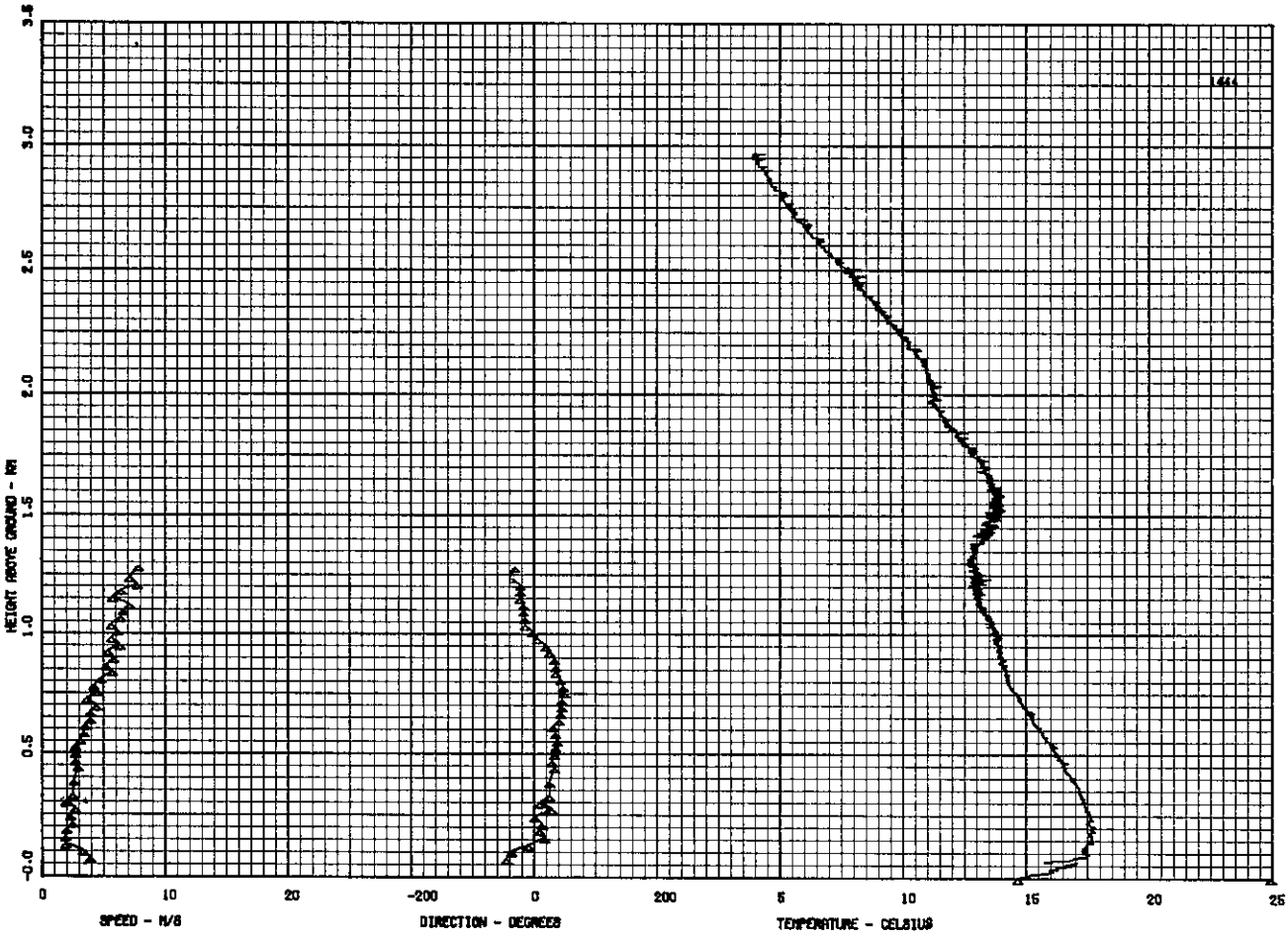
RUN 84 ALTON 5/8/75 RELEASE 2258 SURFACE WIND 1.76 M/S FROM UNMEASURED DIRCTION.



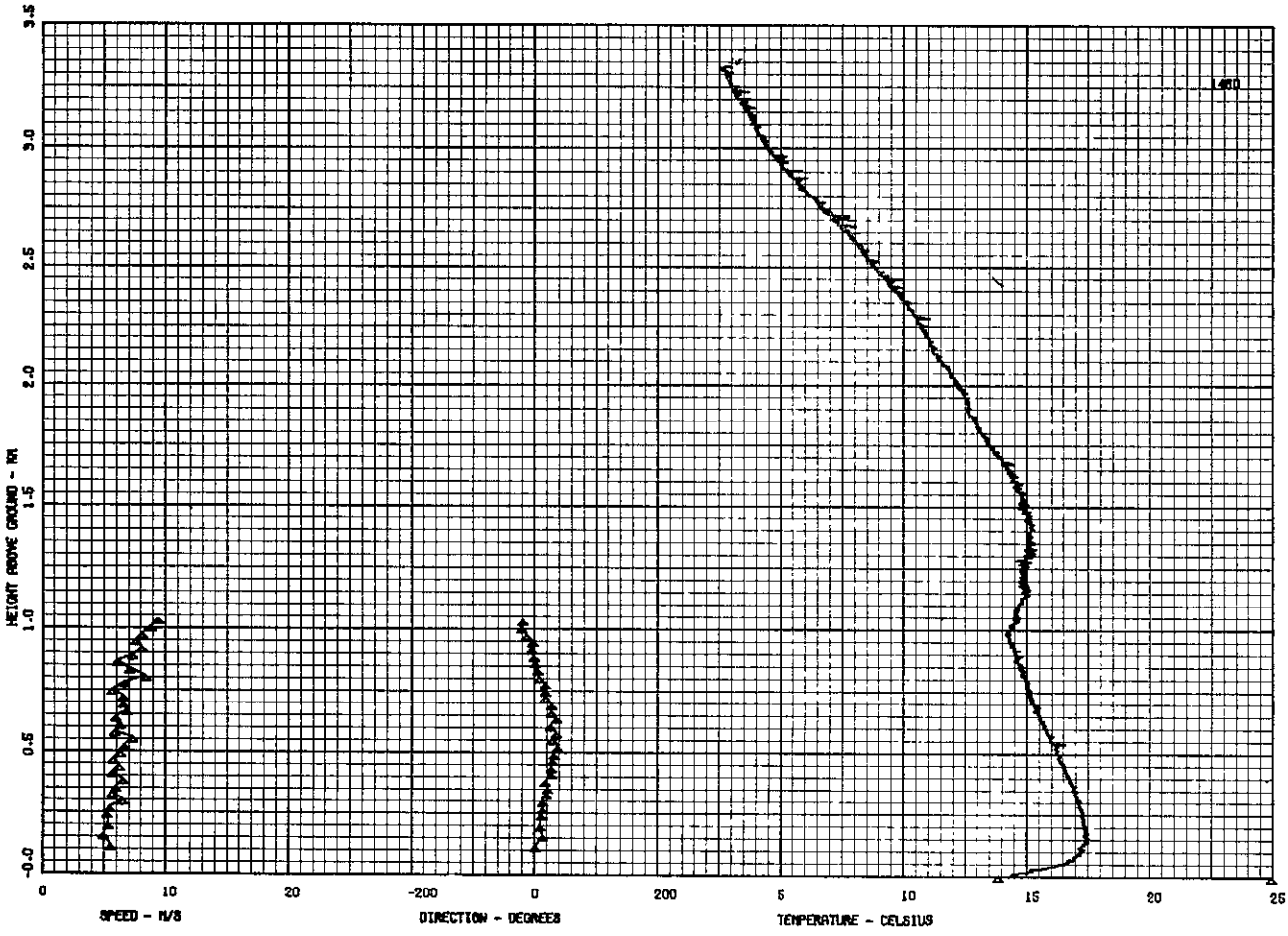
RUN 85 ALTON 6/8/75 RELEASE 0003 SURFACE WIND 2.69 M/S FROM 250 DEG.



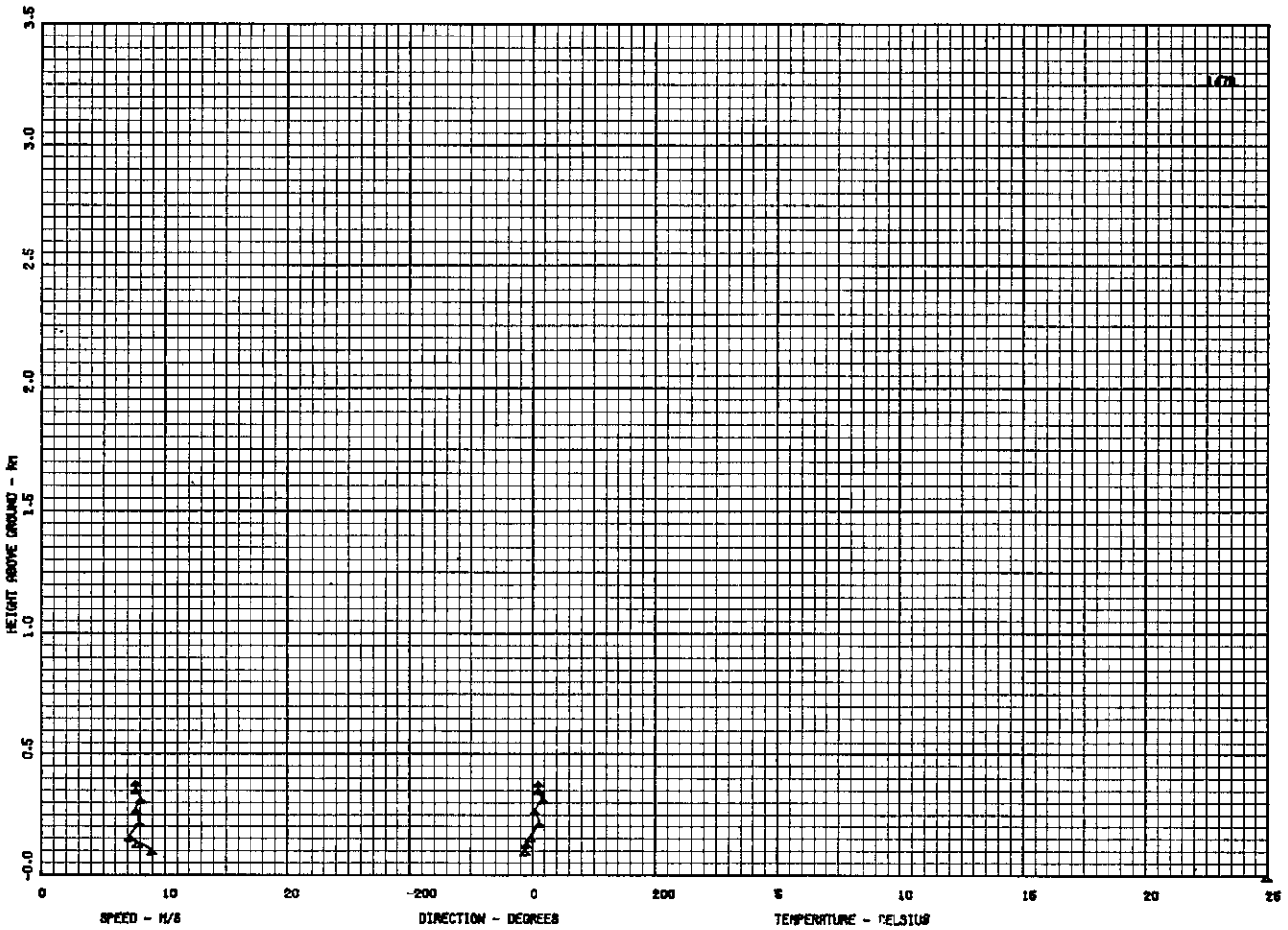
RUN 86 ALTON 6/8/75 RELEASE 2112 NO TRACKING.



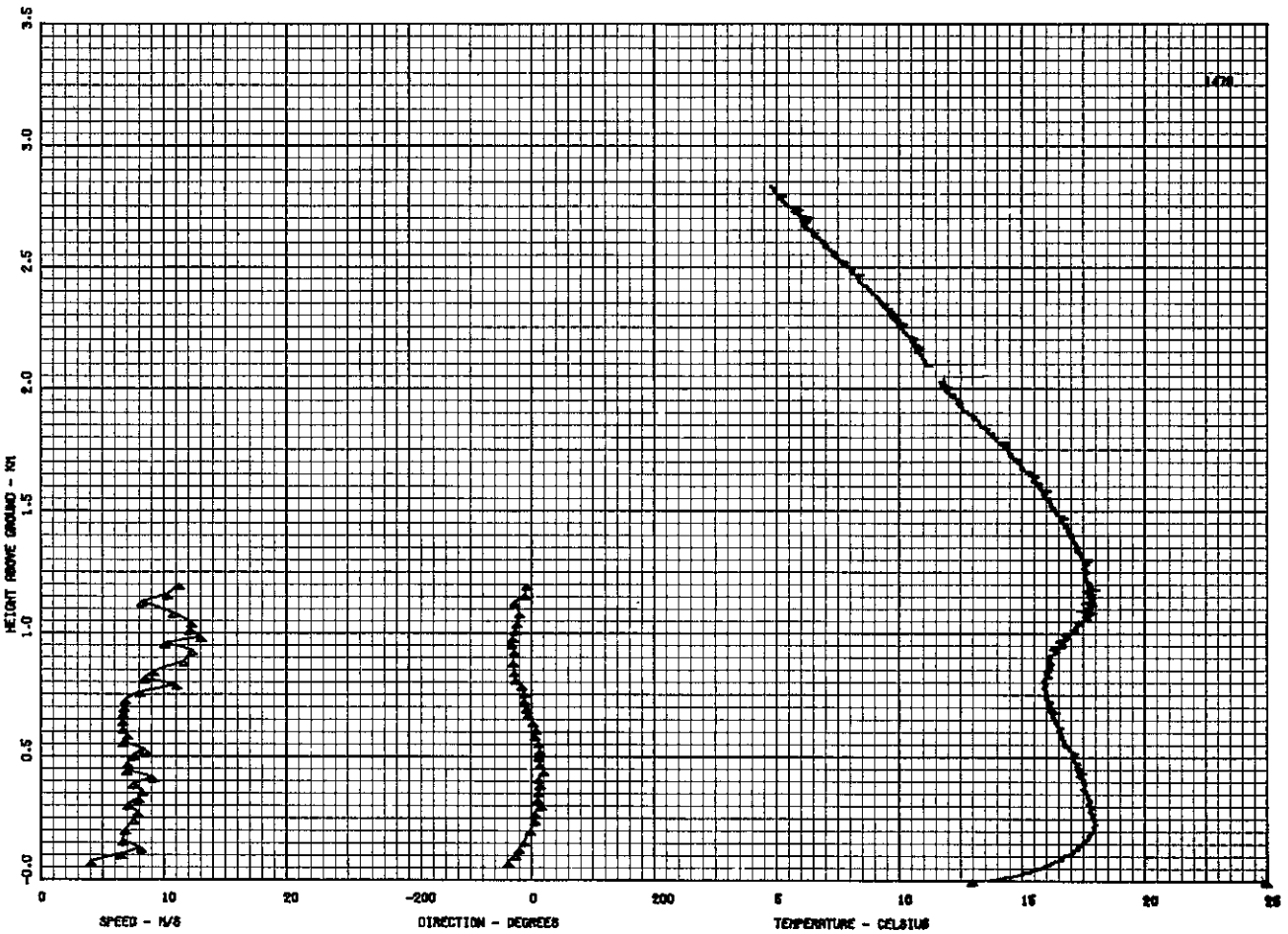
RUN 87 ALTON 6/8/75 RELEASE 2202 SURFACE WIND 1.79 M/S FROM APPROX 312 DEG.



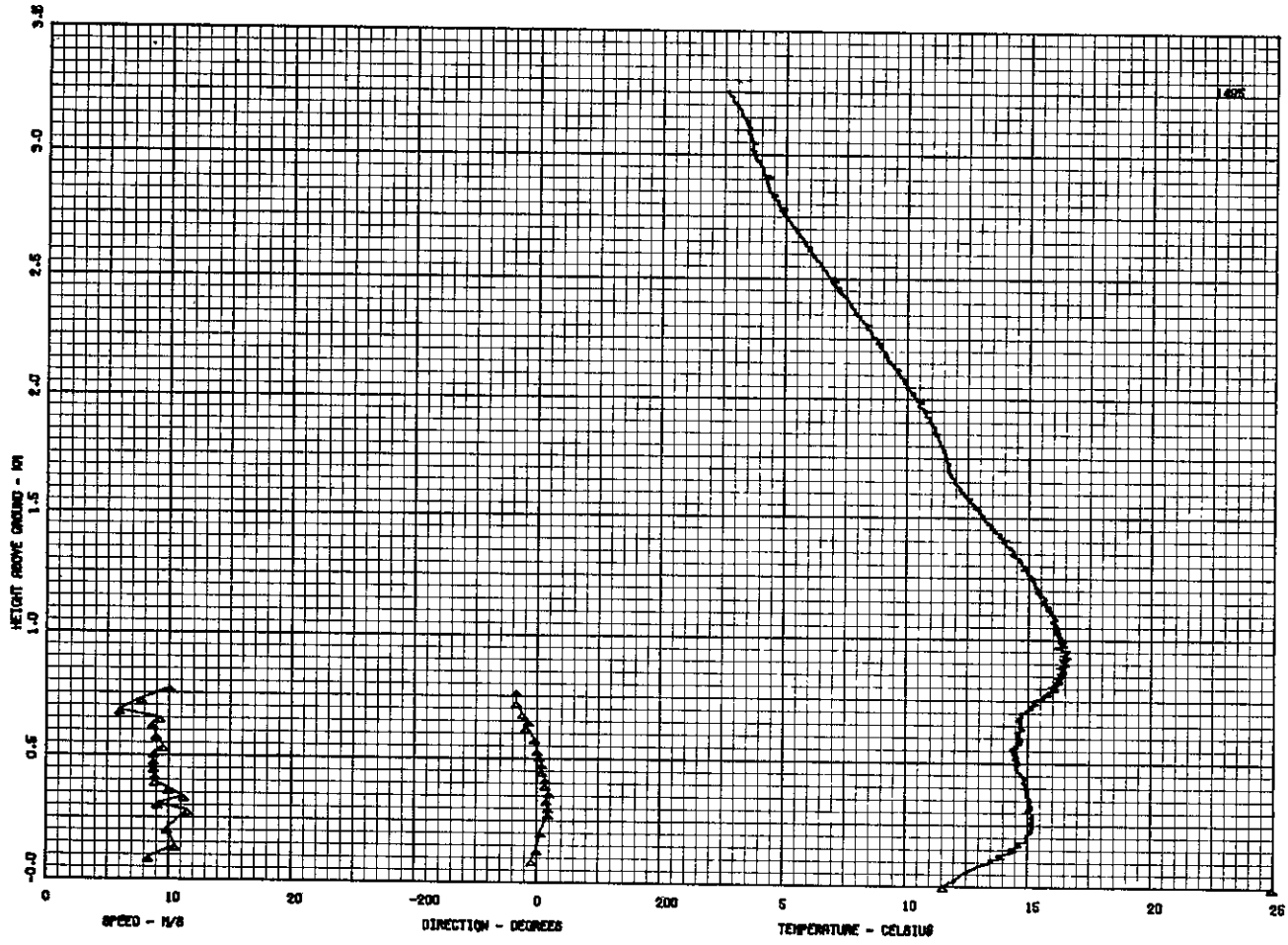
RUN 88 ALTON 6/8/75 RELEASE 2305 SURFACE WIND 2.3 M/S FROM 338 DEG.



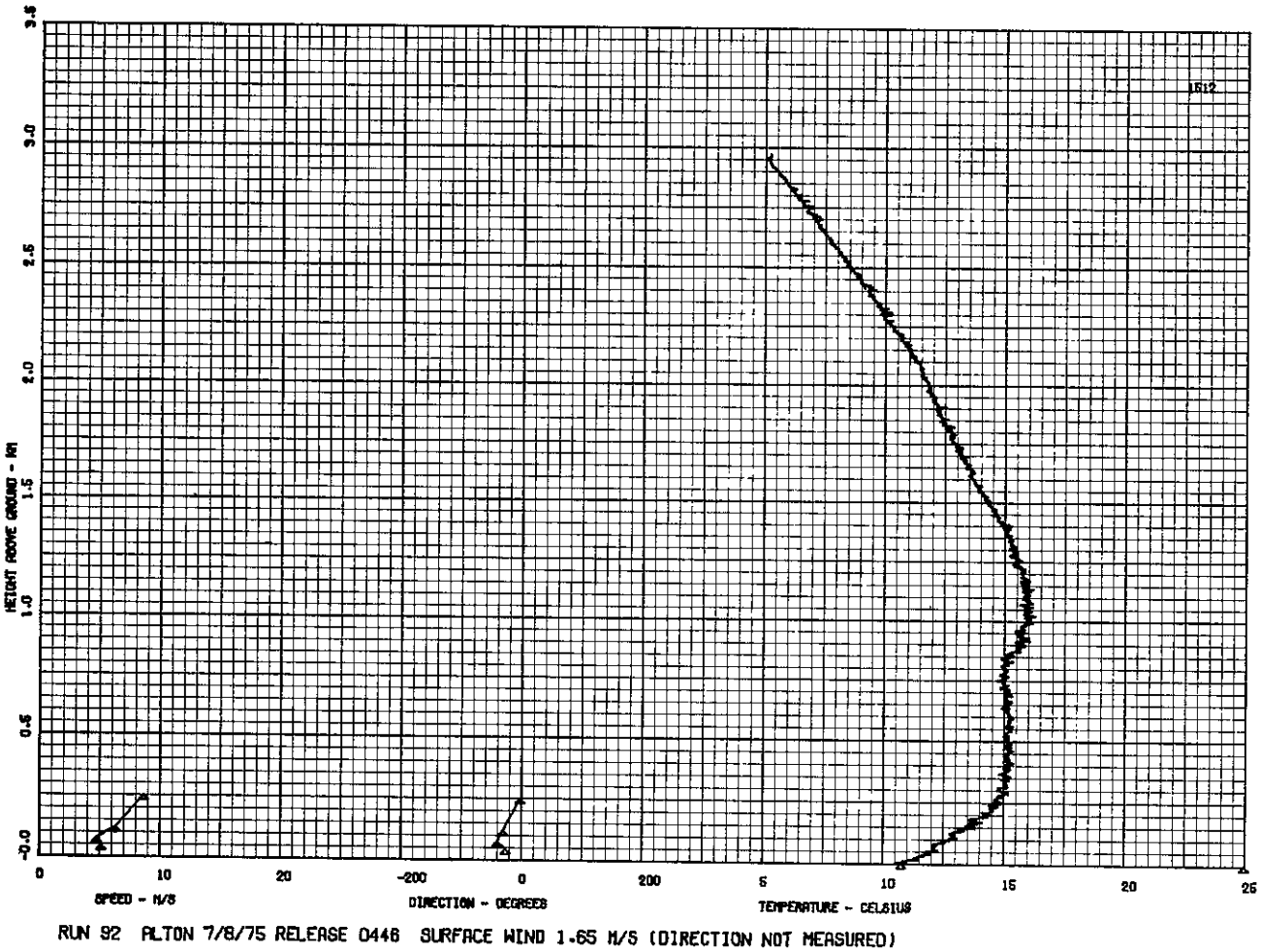
RUN 89 ALTON 7/8/75 RELEASE 0104 NO TAPE. SURF. W. 2.2 M/S FROM 350 DEG.



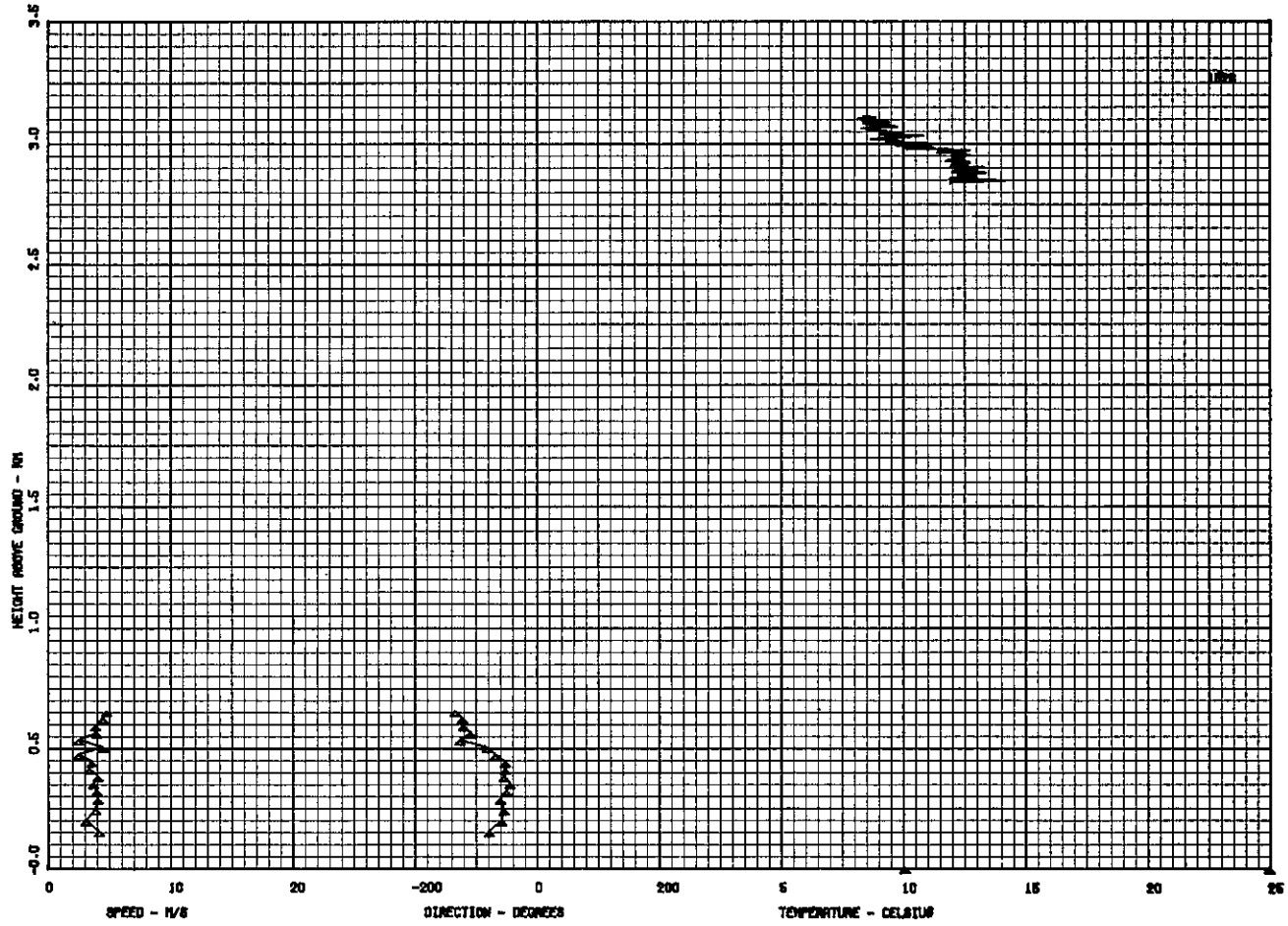
RUN 90 ALTON 7/8/75 RELEASE 0150 SURFACE WIND 1.98 M/S FROM 342 DEG.



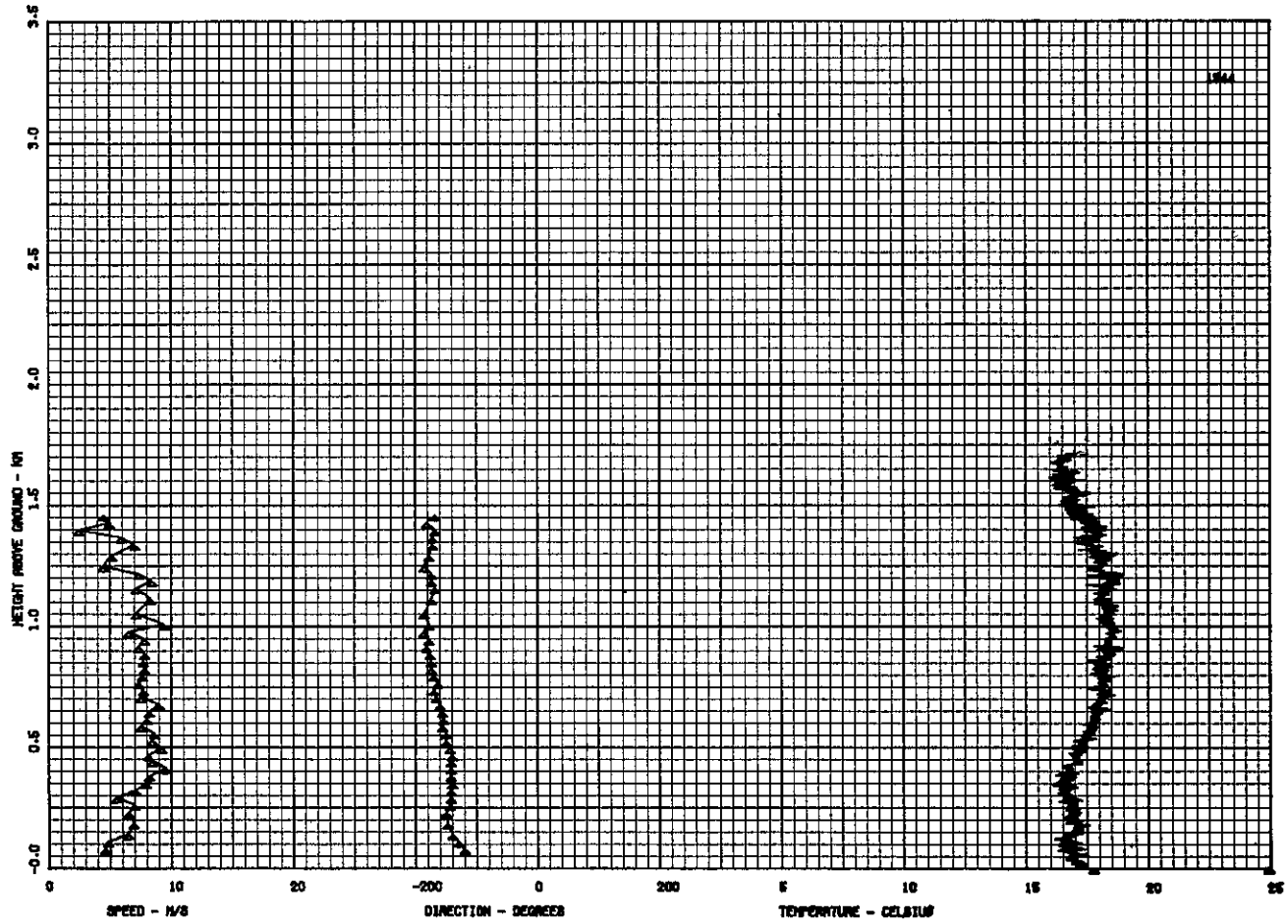
RUN 91 ALTON 7/8/75 RELEASE 0919 SURFACE WIND 1.1 M/S (DIRECTION NOT MEASURED)



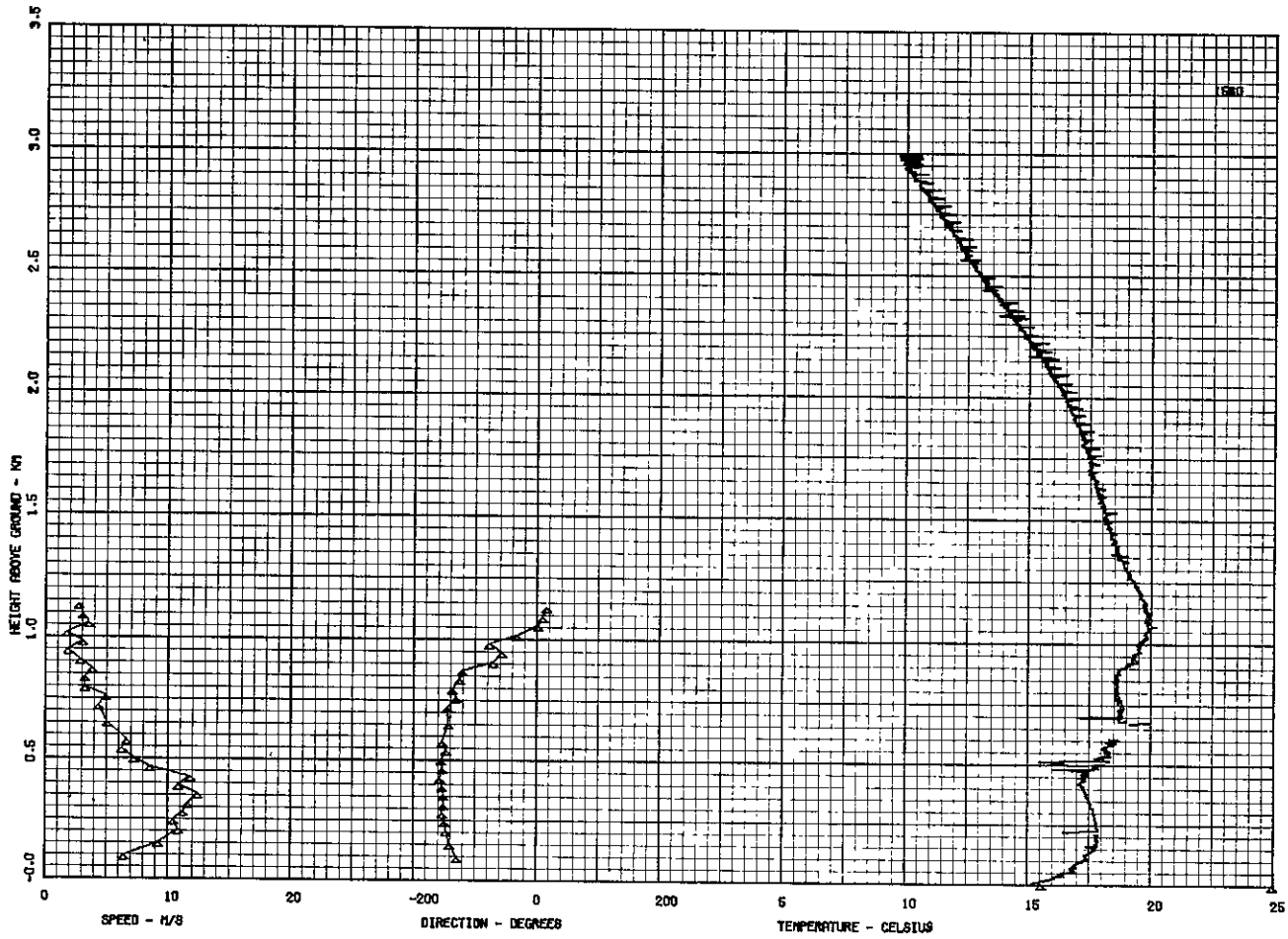
RUN 92 ALTON 7/8/75 RELEASE 0446 SURFACE WIND 1.65 M/S (DIRECTION NOT MEASURED)



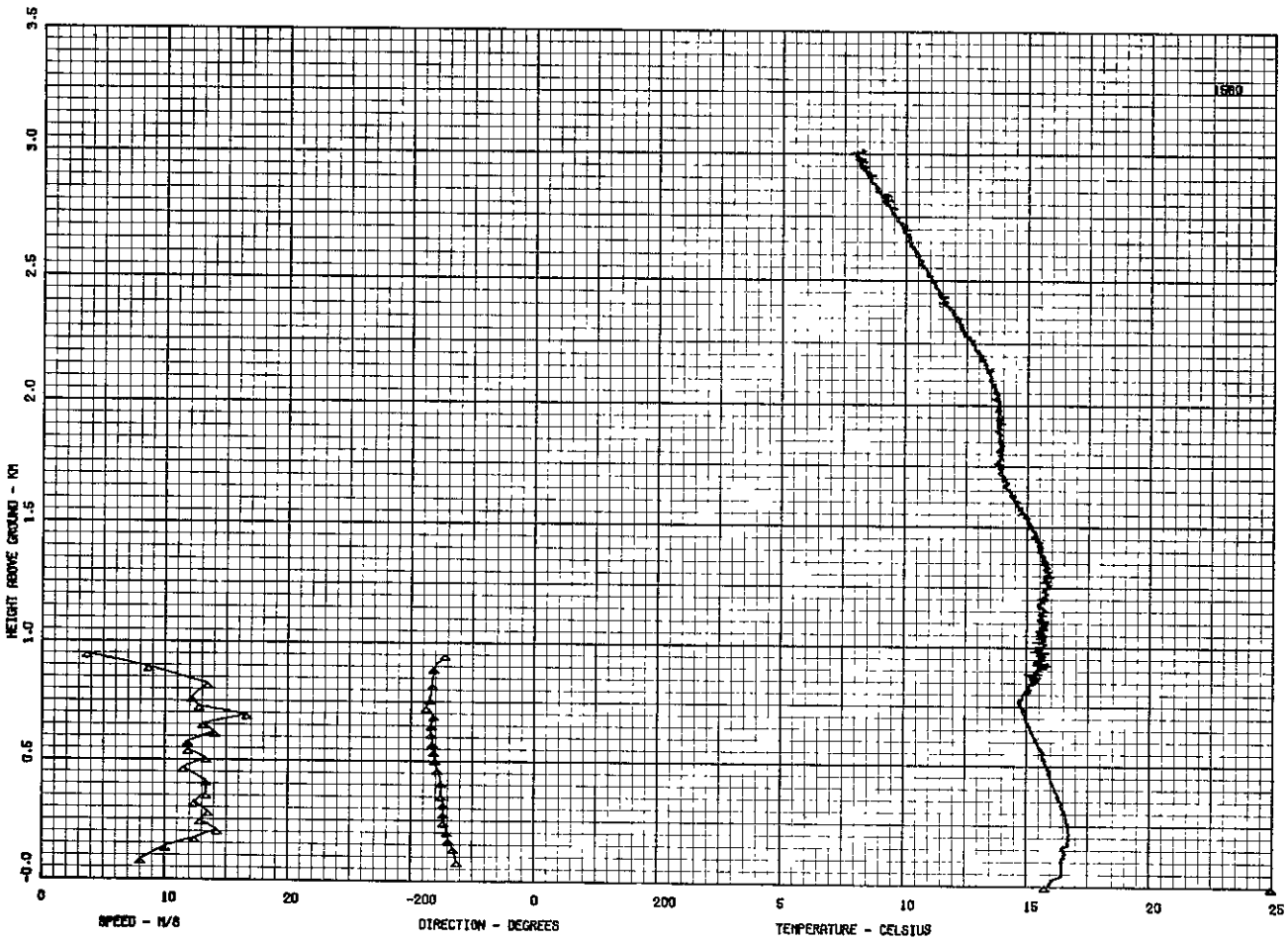
RUN 93 ALTON 7/8/75 RELEASE 0701 SURFACE WIND 2.15 M/S (DIRECTION NOT MEASURED)



RUN 94 ALTON 7/8/75 RELEASE 0940 SURFACE WIND 2.68 M/S FROM 258 DEG.



RUN 95 ALTON 8/8/75 RELEASE 2344 SURFACE WIND 2.57 M/S FROM 260 DEG.



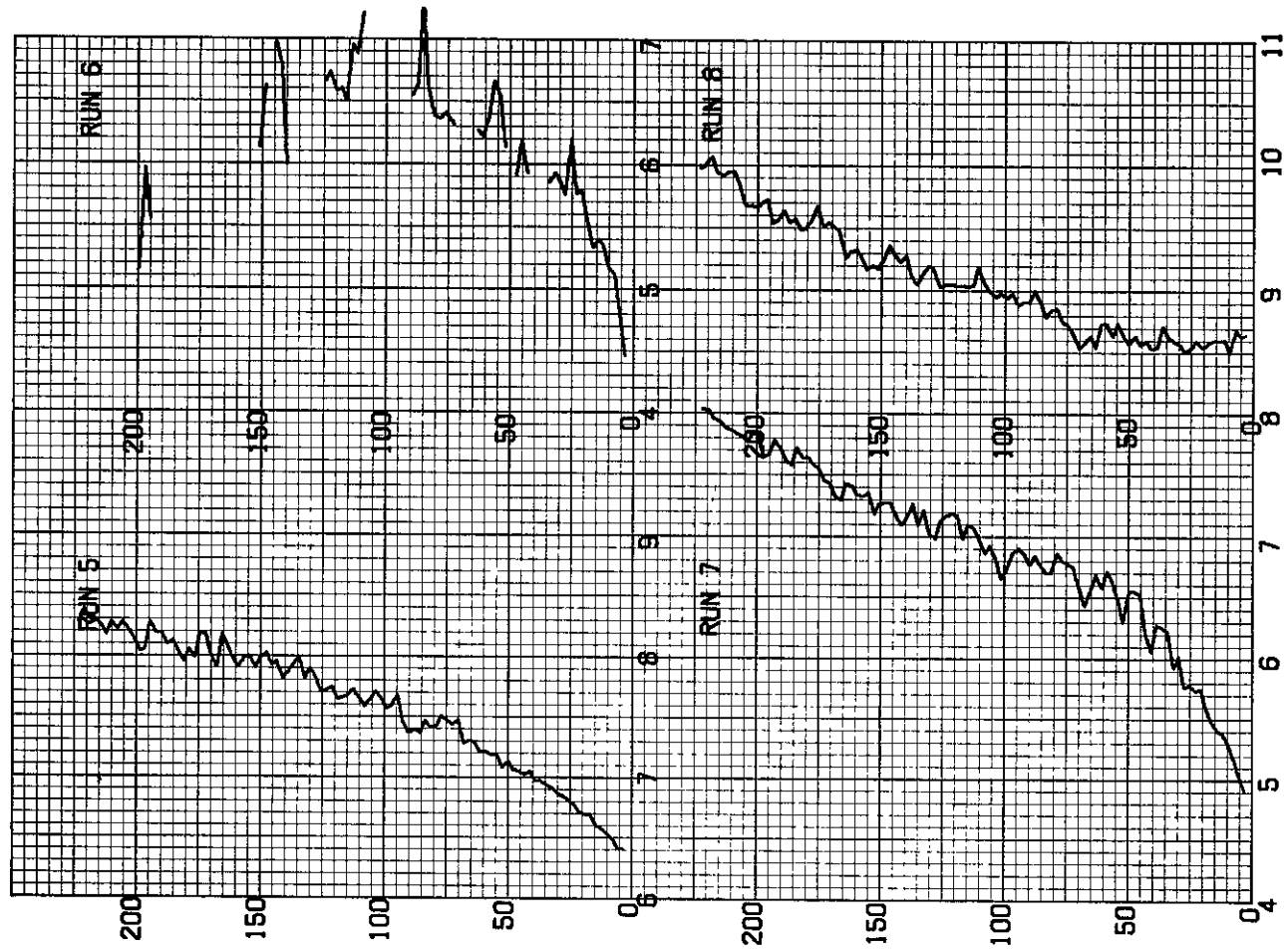
RUN 96 ALTON 9/8/75 RELEASE 0307 SURFACE WIND 3.24 M/S FROM 255 DEG.

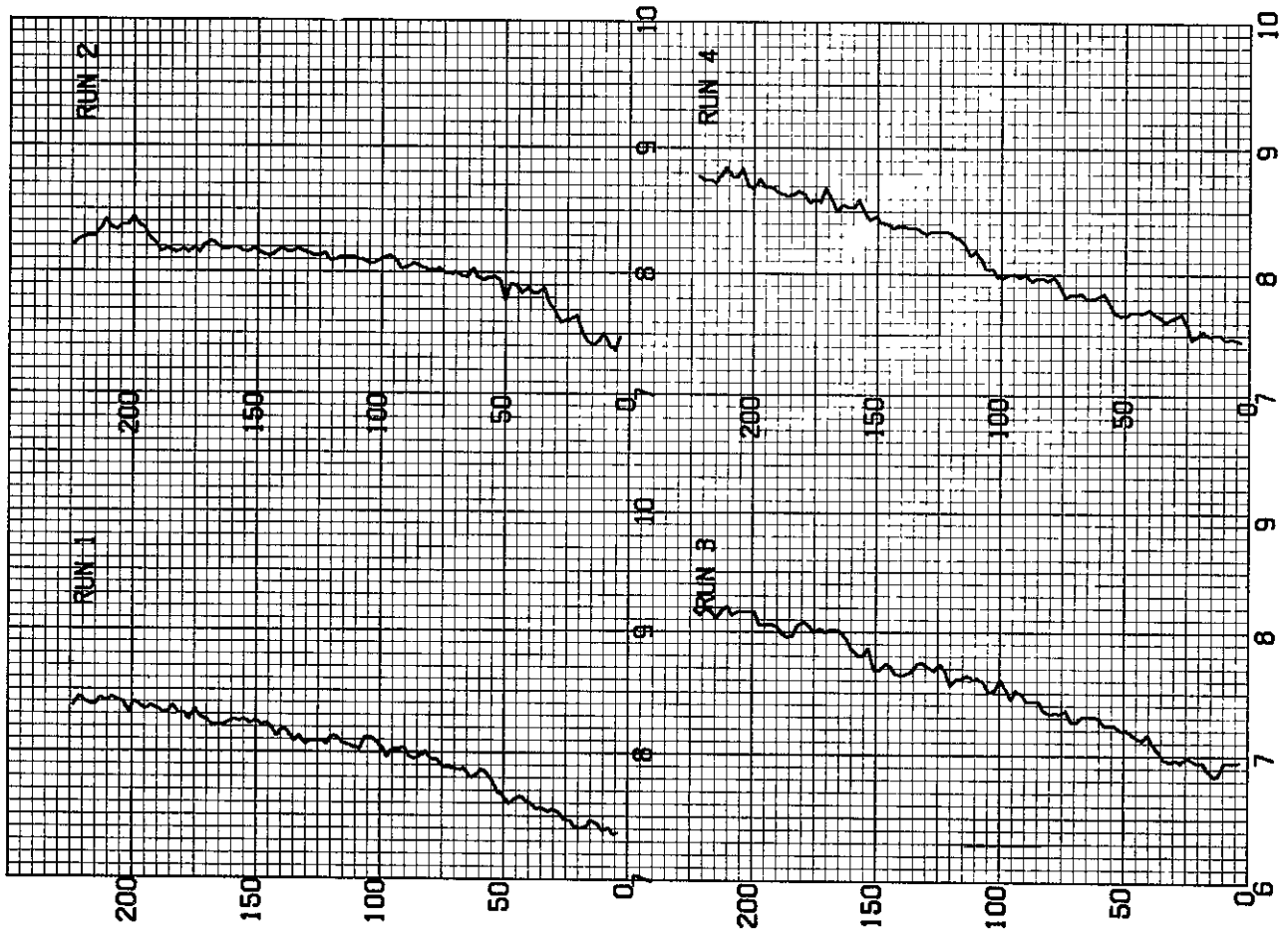
APPENDIX 4

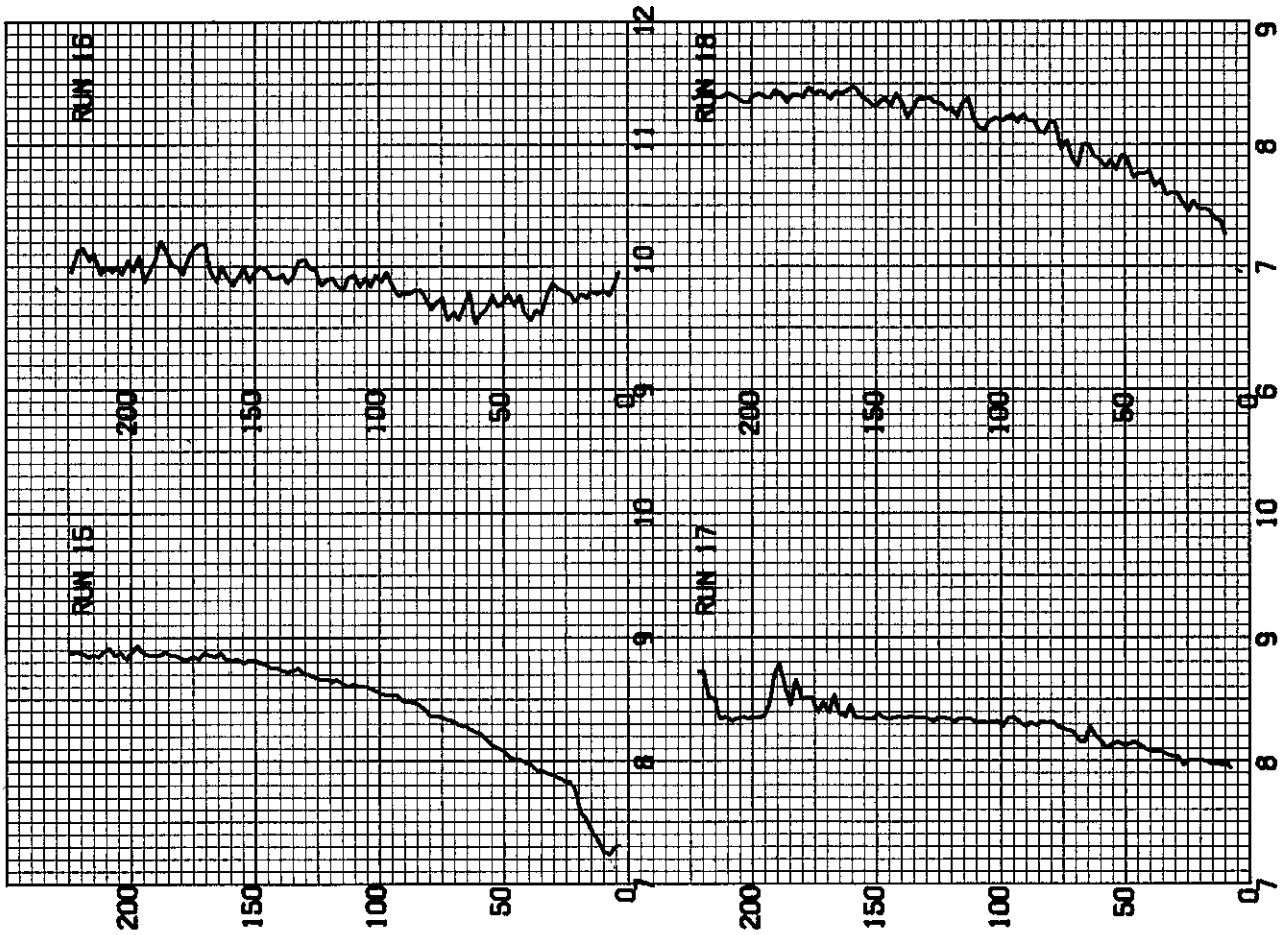
VERTICAL PROFILES OF AIR TEMPERATURE FOR THE LOWEST 250 METRES

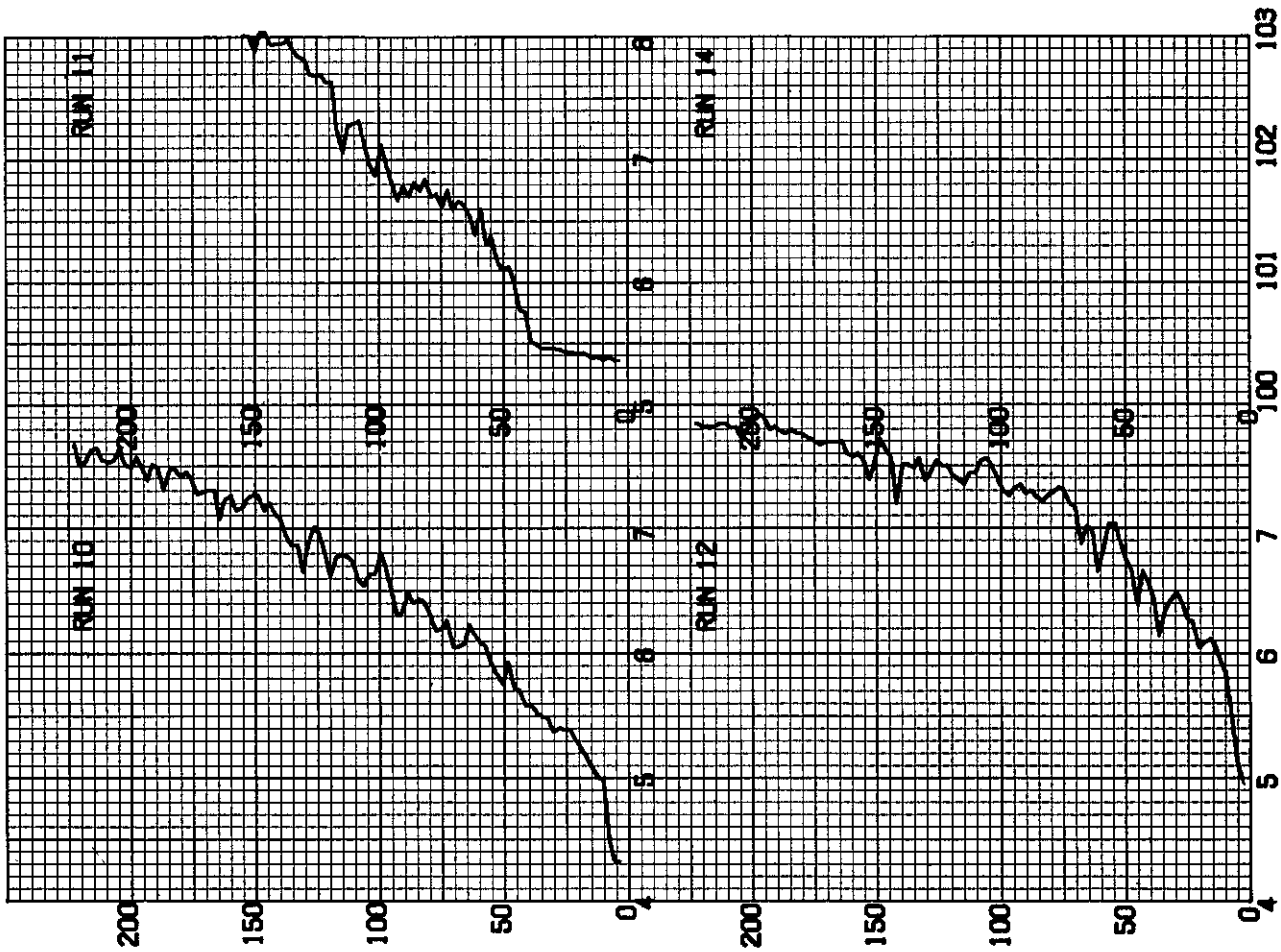
Note : (i) Refer to Appendix 3 for full details of each run.

(ii) Horizontal scale : temperature (^{o}C)
Vertical scale : height above ground (m).


RUN 5
RUN 6
RUN 7
RUN 8

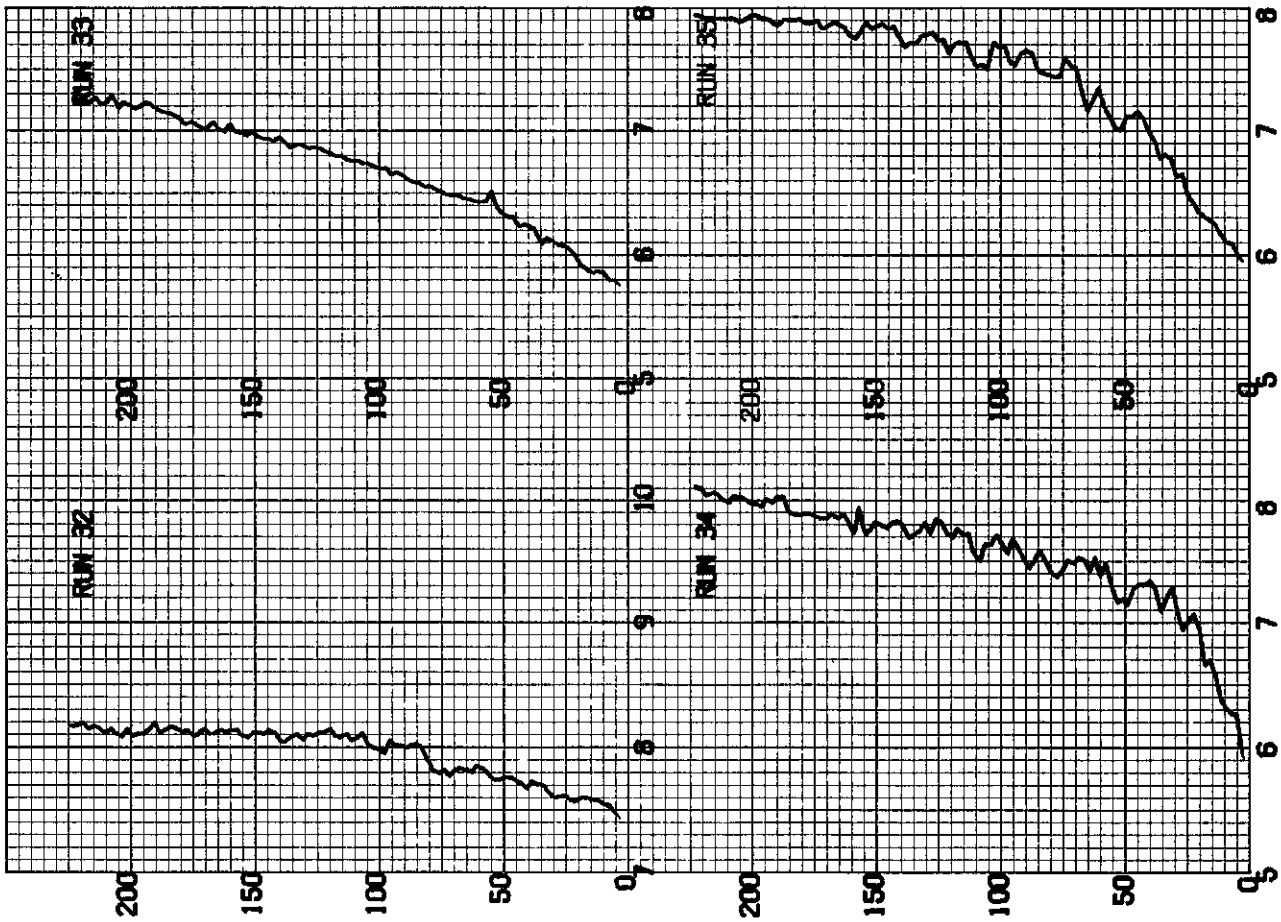

RUN 1
RUN 2
RUN 3
RUN 4

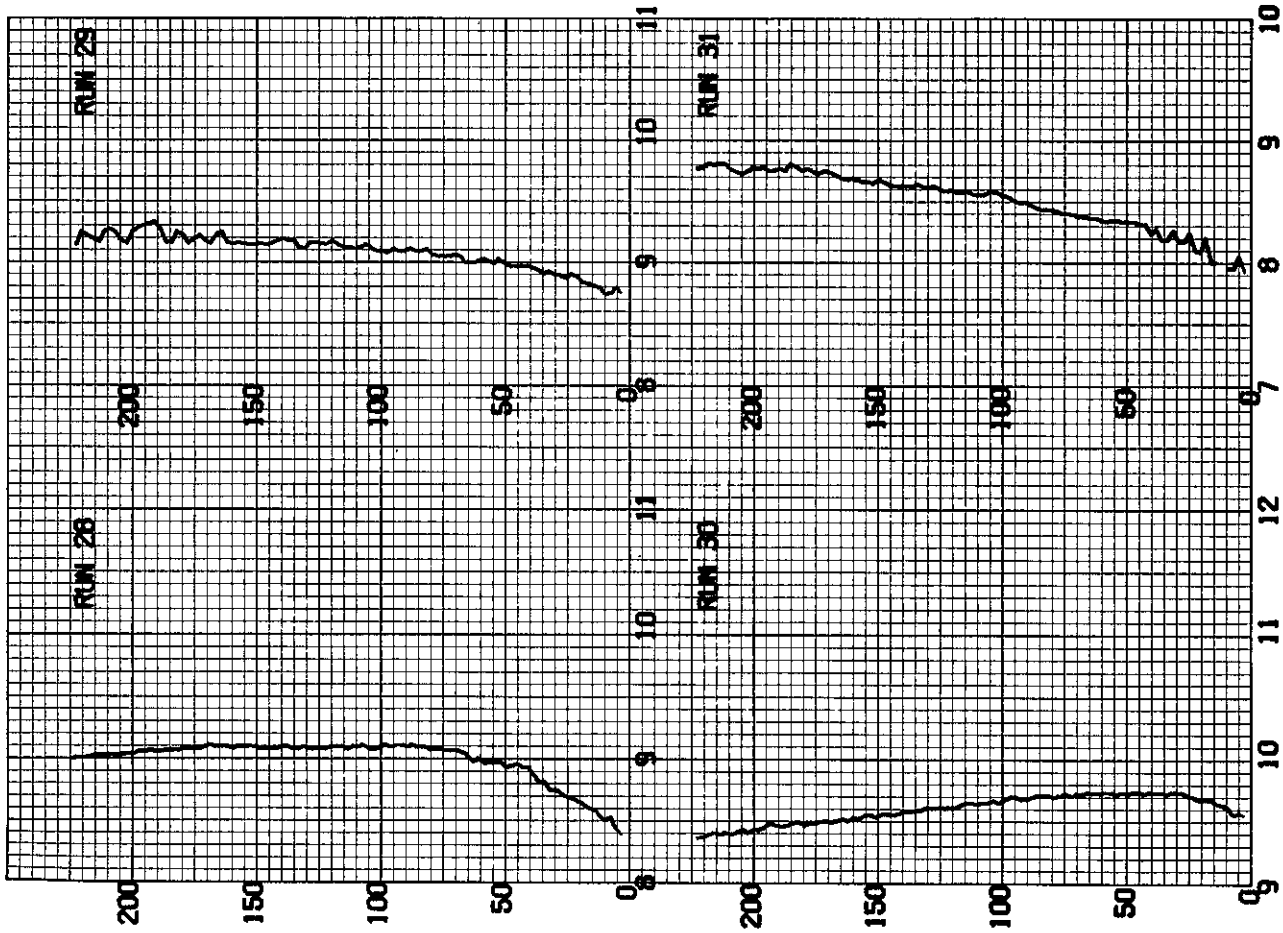

RUN 15
RUN 16
RUN 17
RUN 18

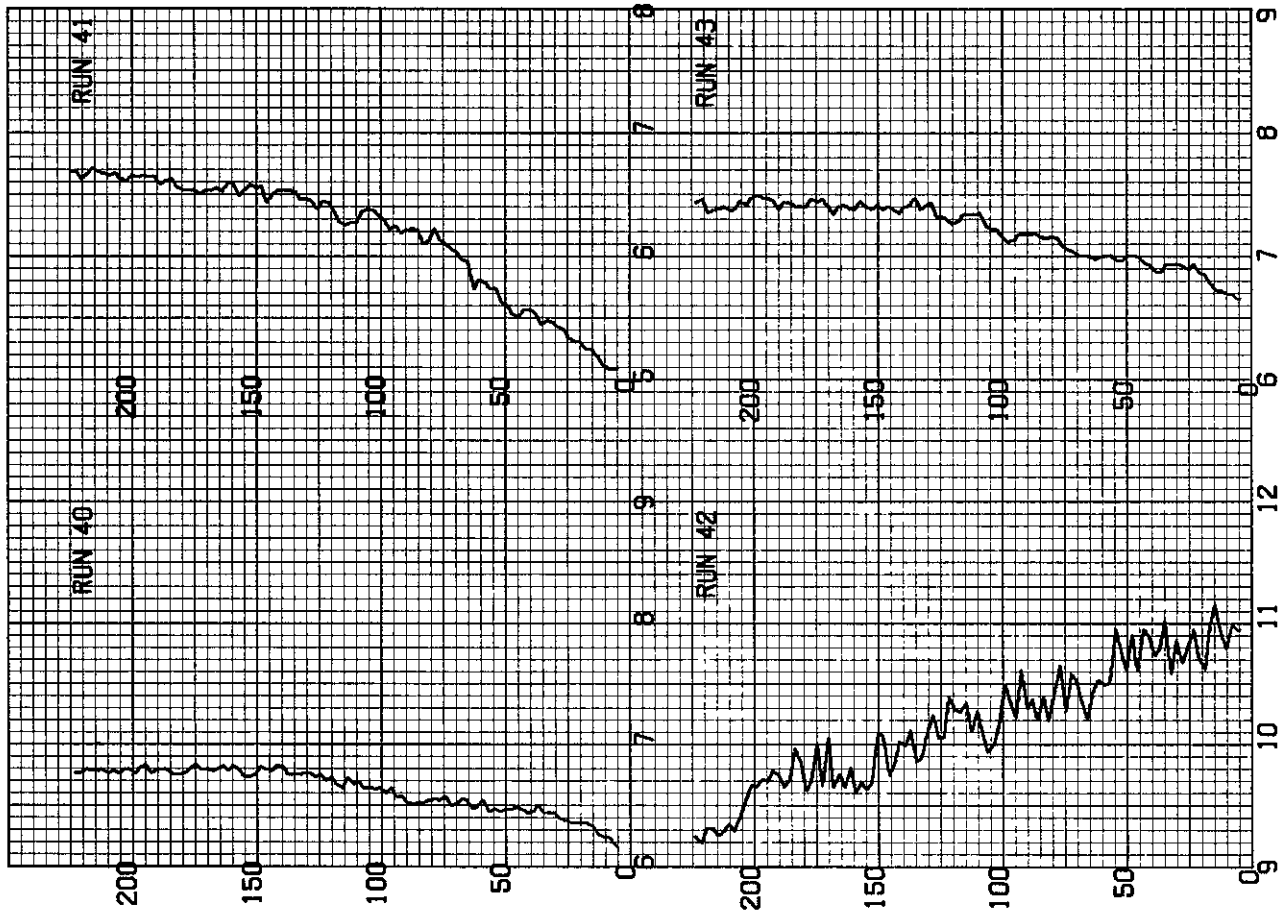

RUN 10
RUN 11
RUN 12
RUN 14

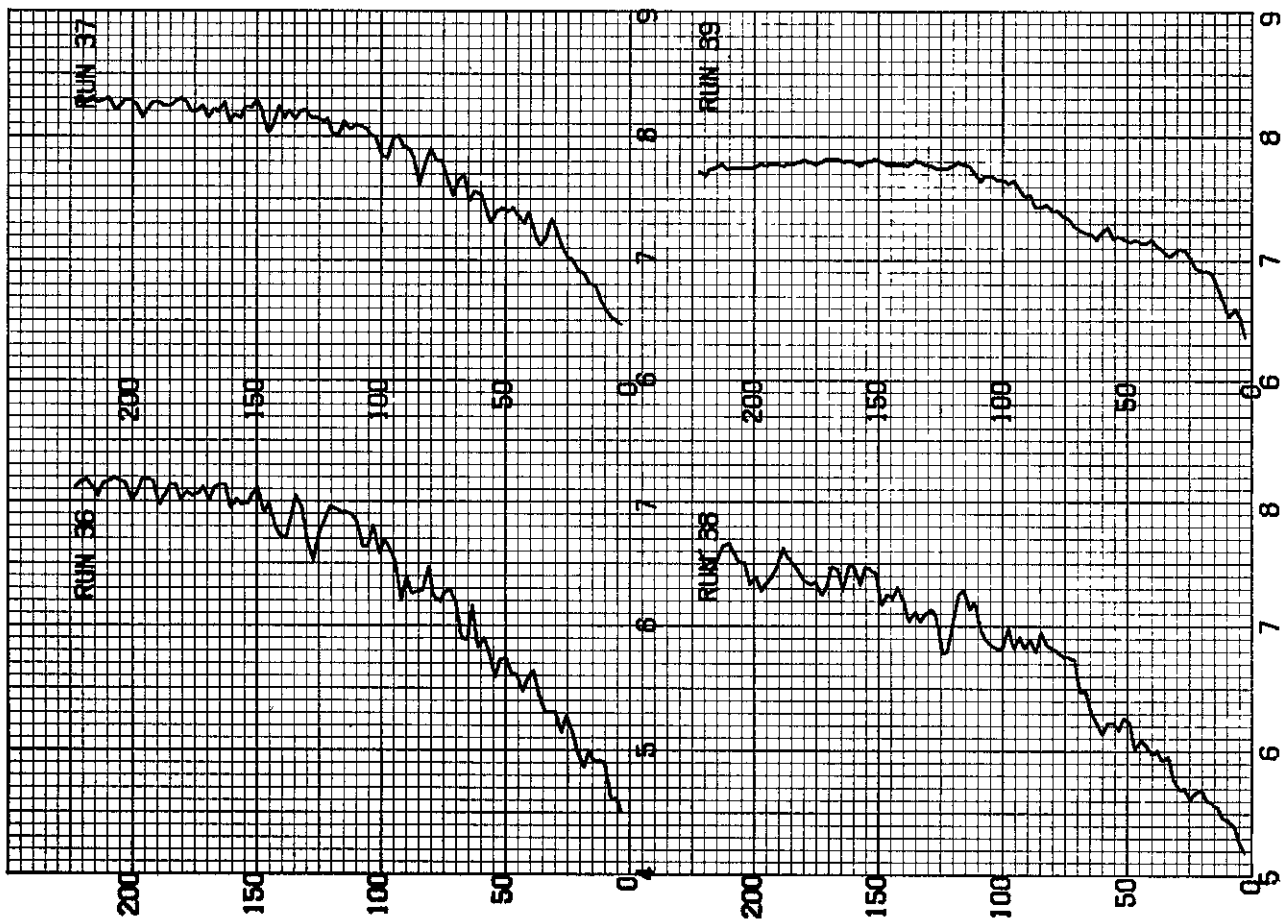

RUN 24
RUN 23
RUN 27
RUN 26

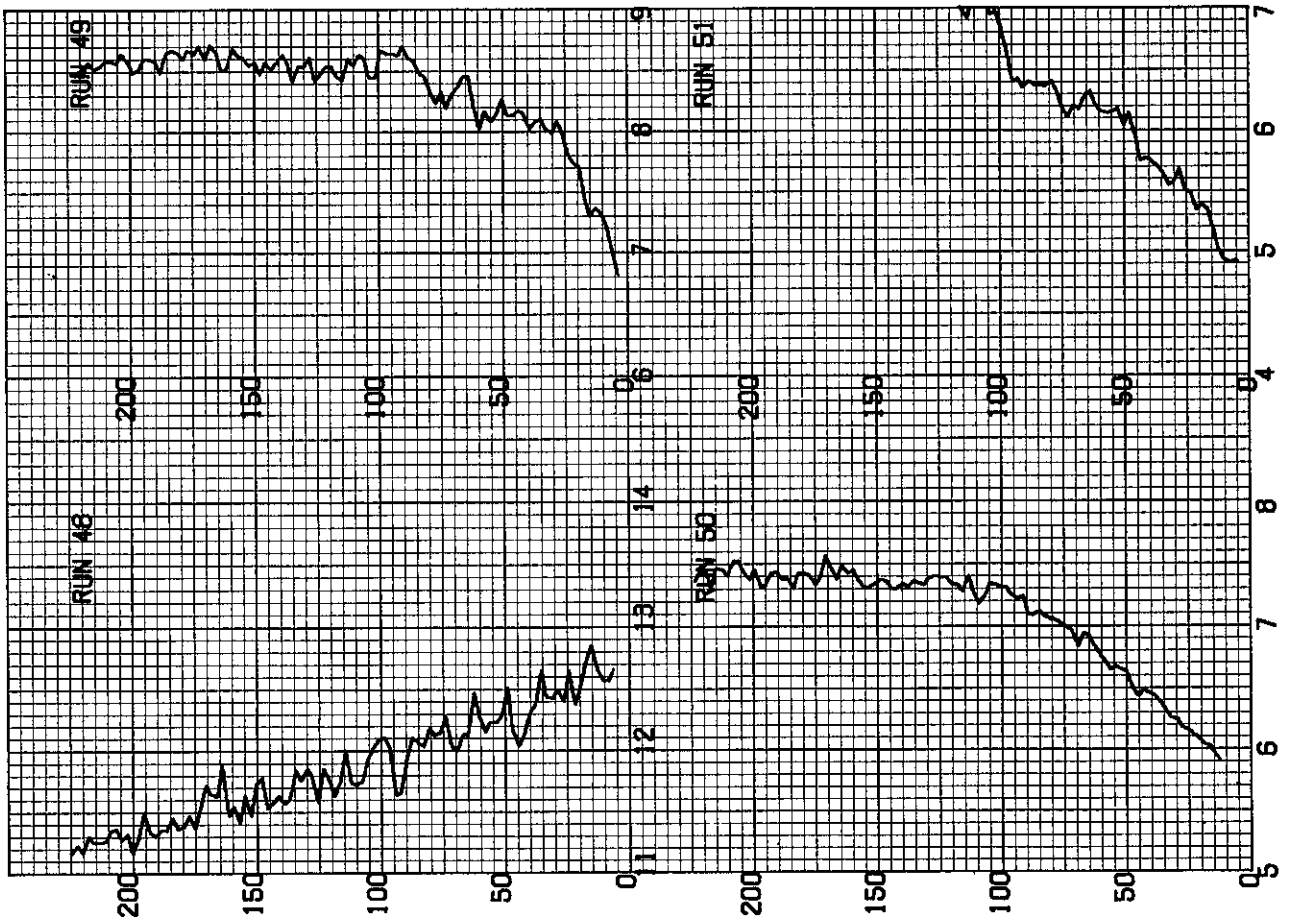

RUN 20
RUN 19
RUN 22
RUN 21

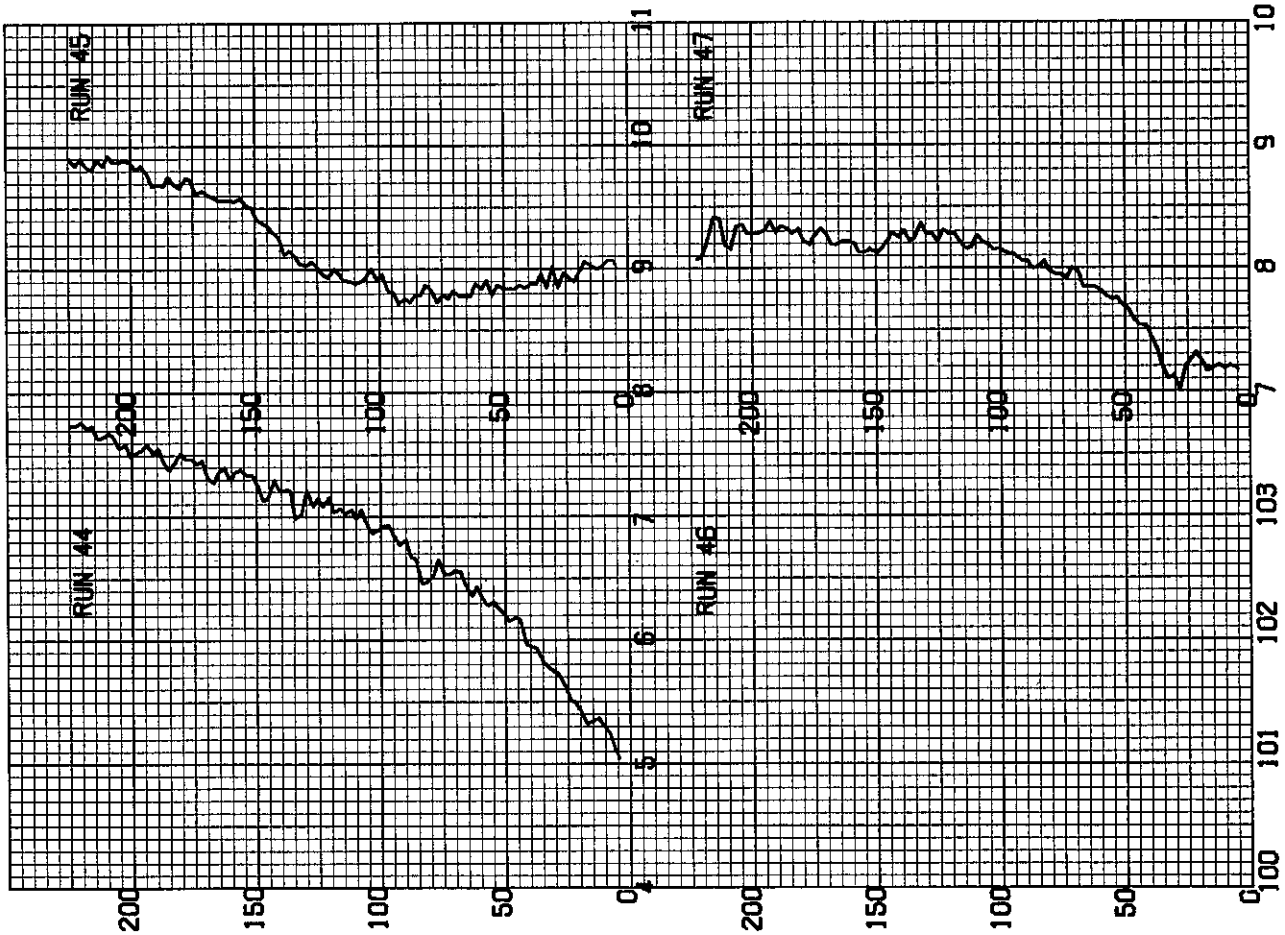

RUN 33
RUN 32
RUN 35
RUN 34

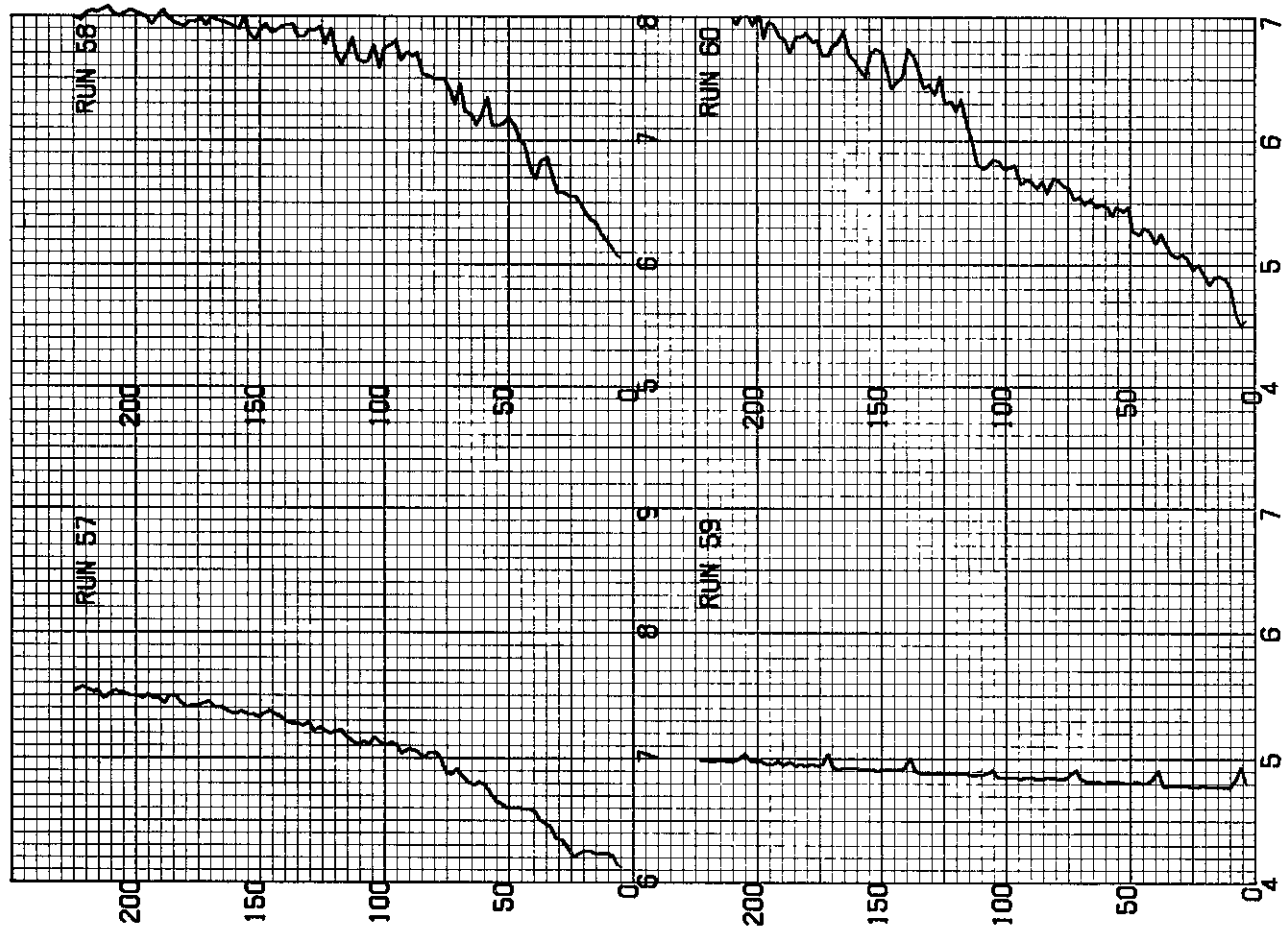

RUN 29
RUN 28
RUN 31
RUN 30

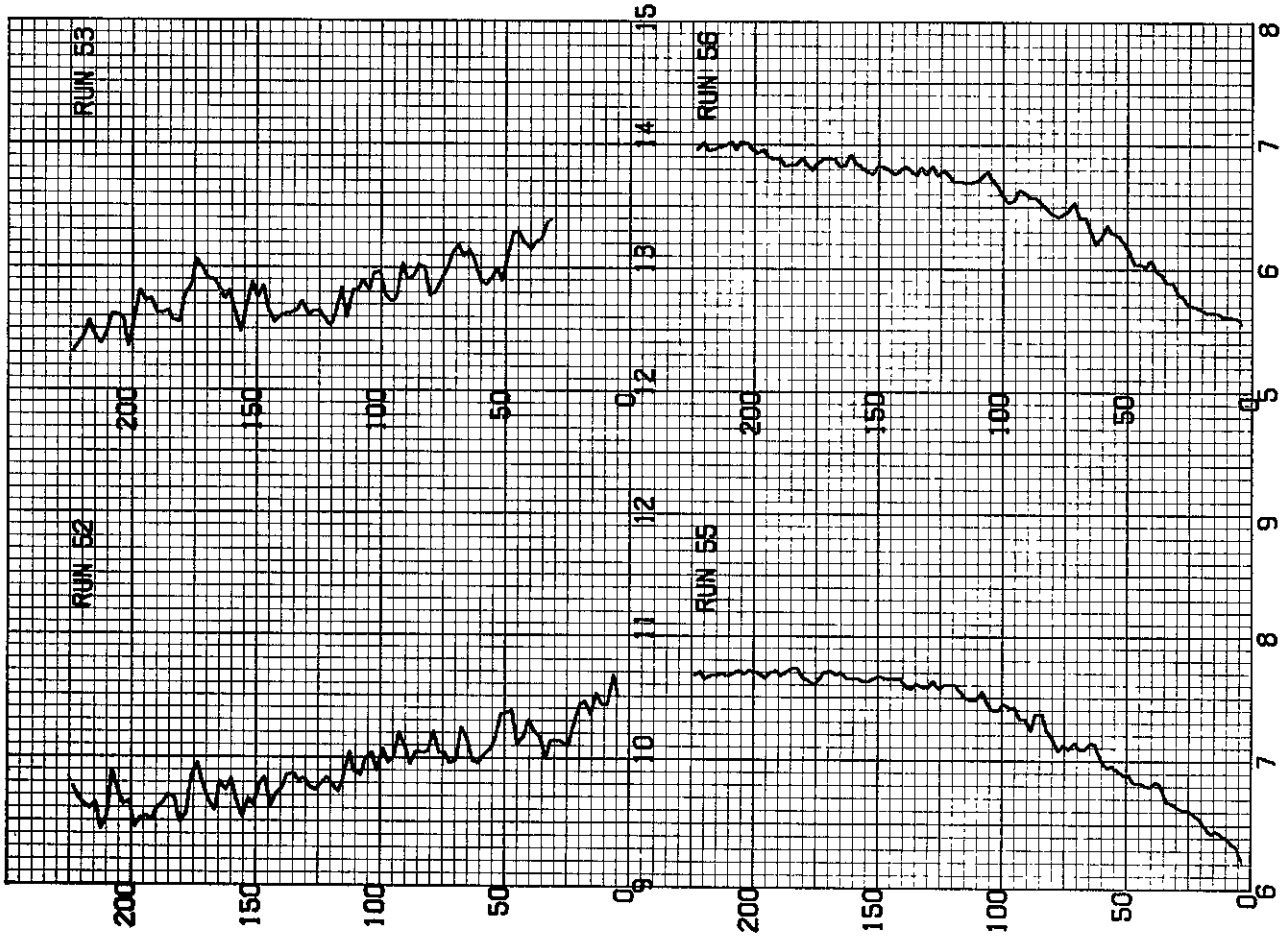

RUN 41
RUN 40
RUN 43
RUN 42

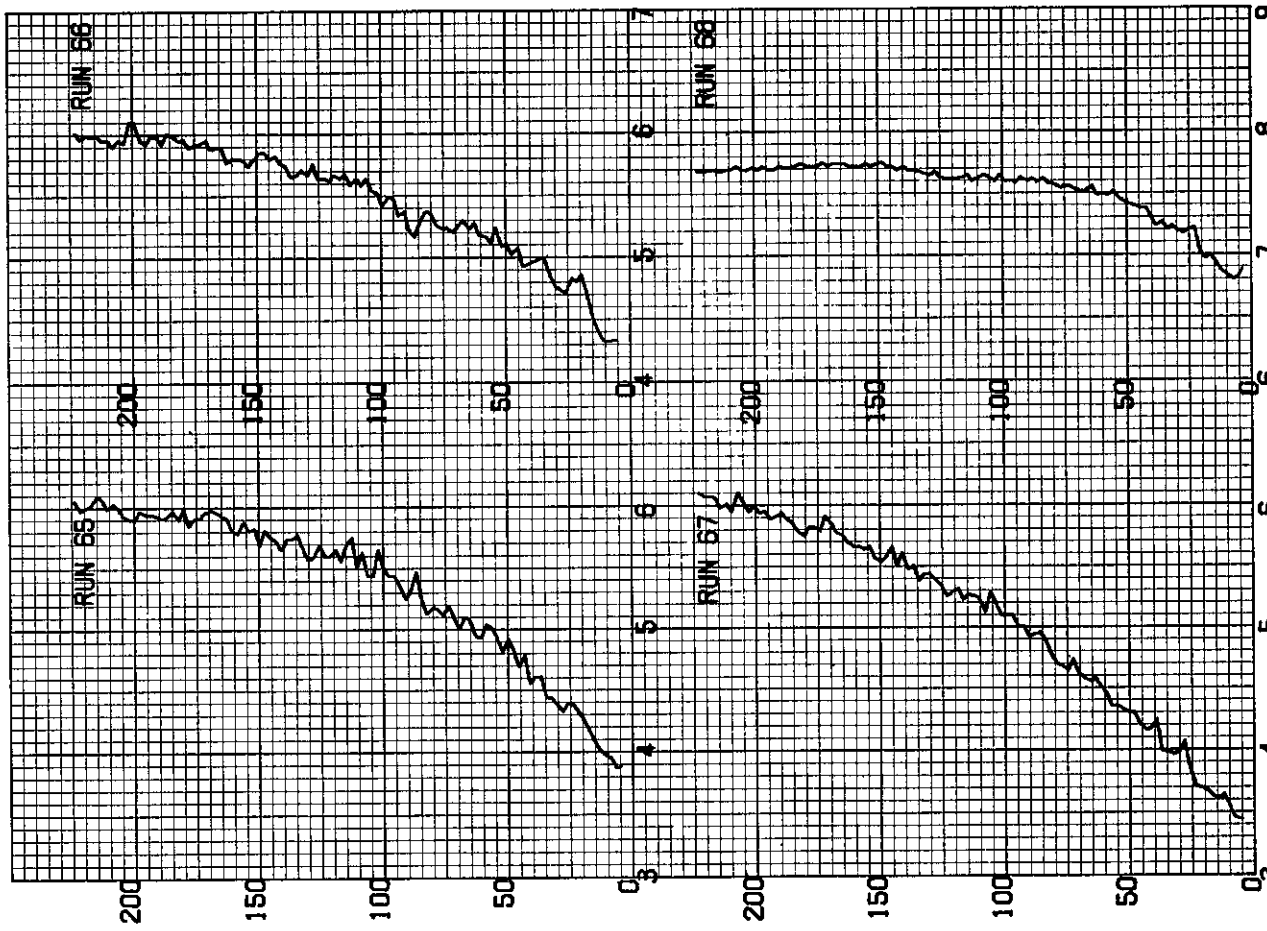

RUN 37
RUN 36
RUN 39
RUN 38

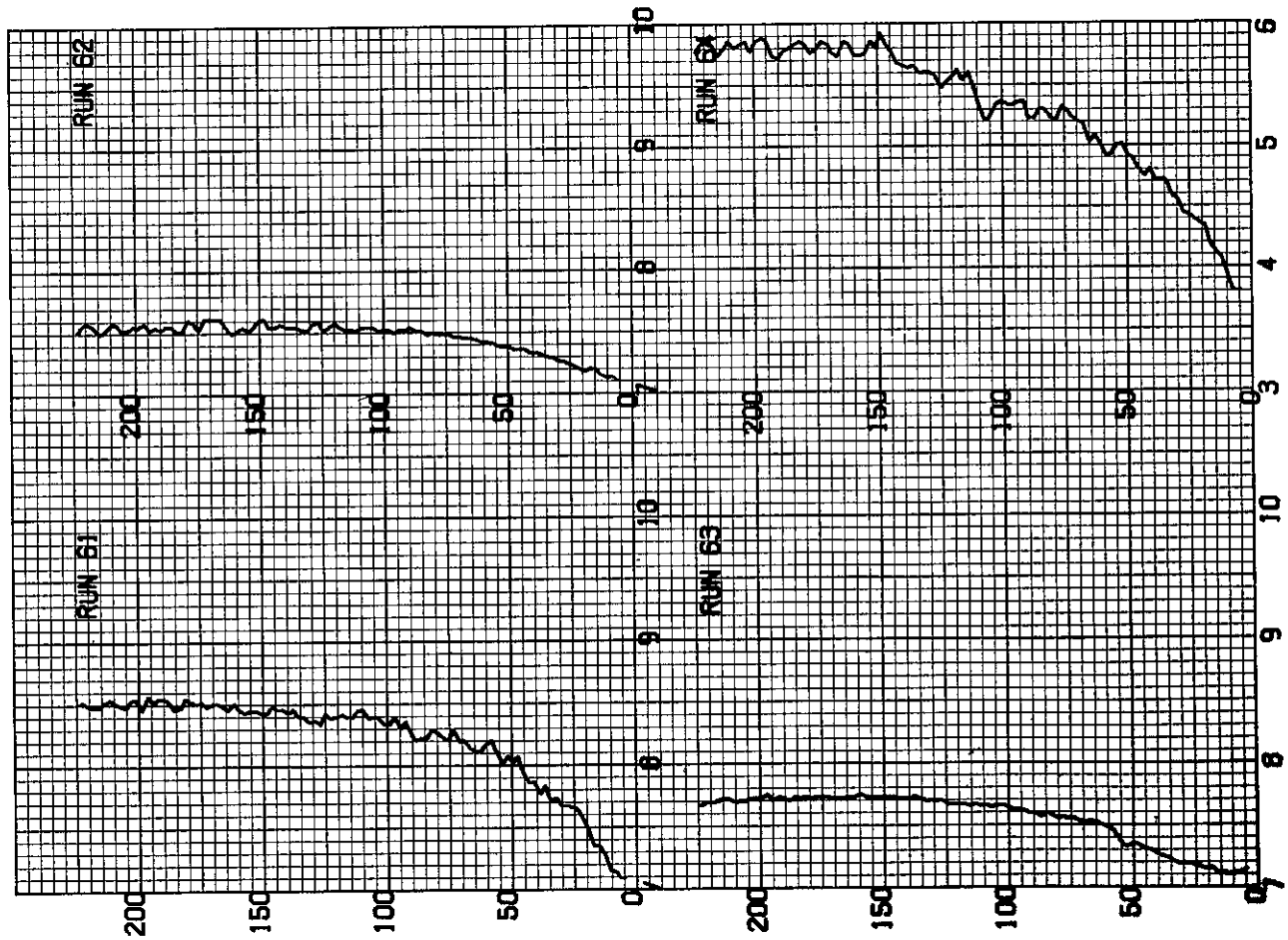

RUN 49
RUN 51
RUN 48
RUN 50

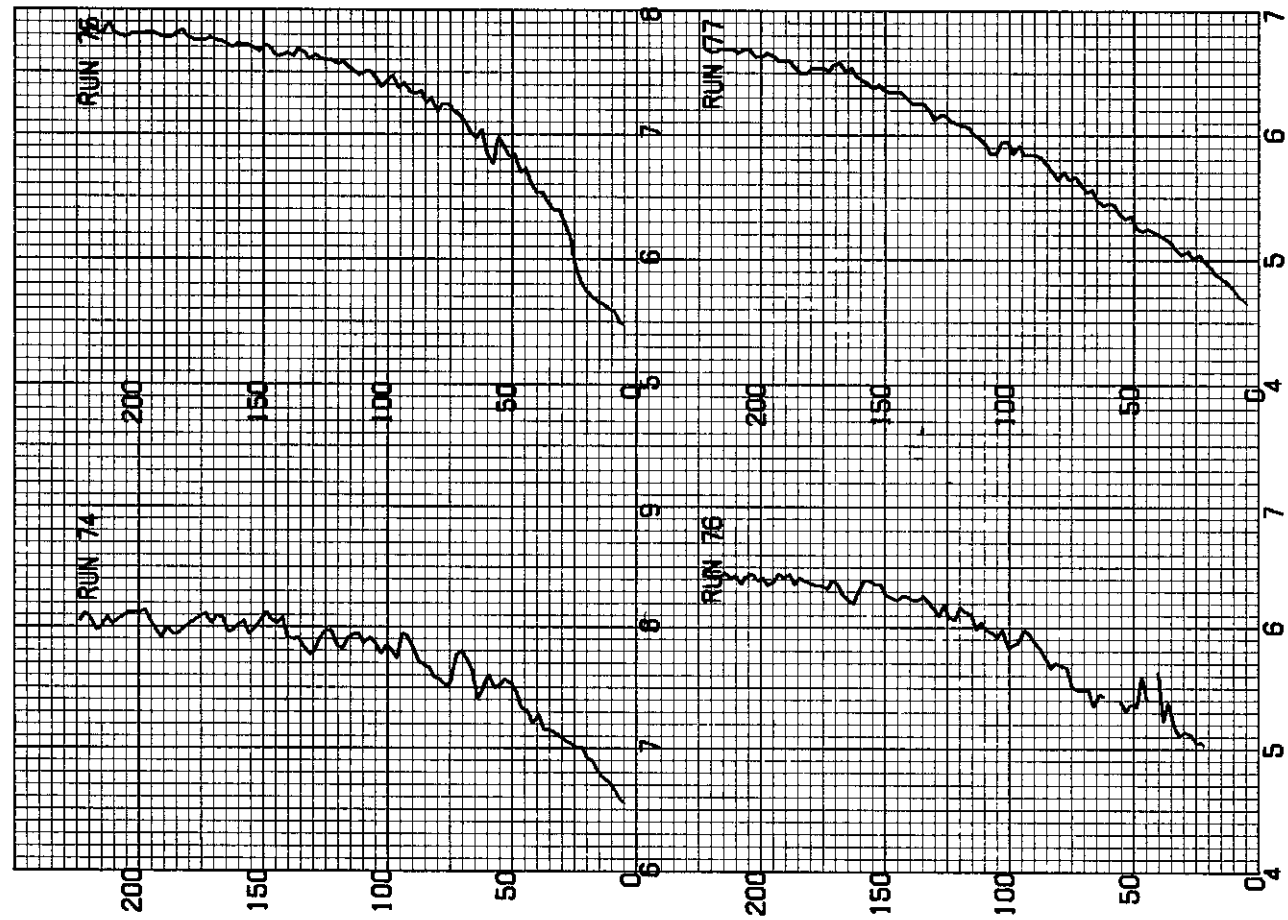

RUN 45
RUN 47
RUN 44
RUN 46

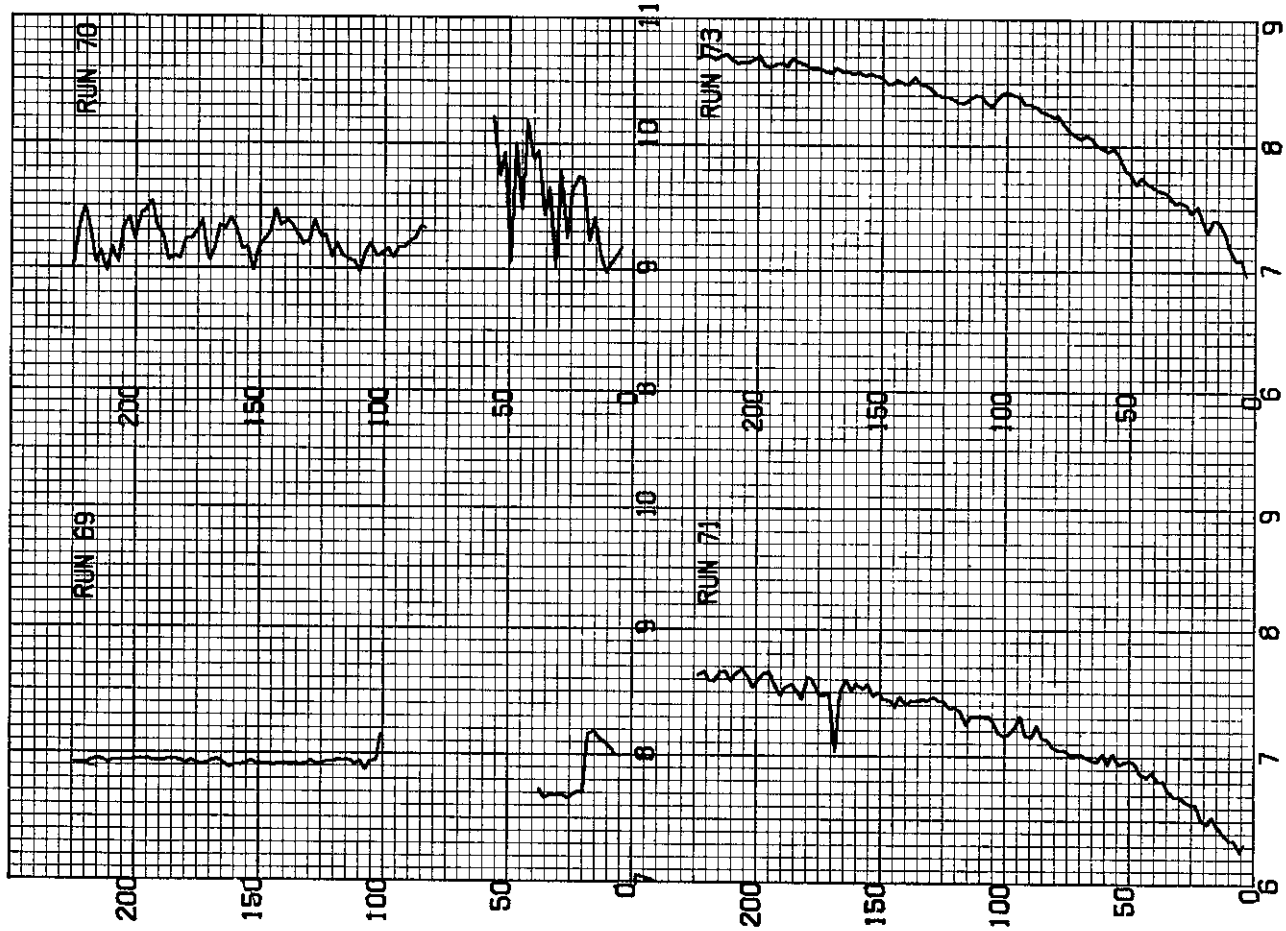

RUN 58
RUN 57
RUN 60
RUN 59

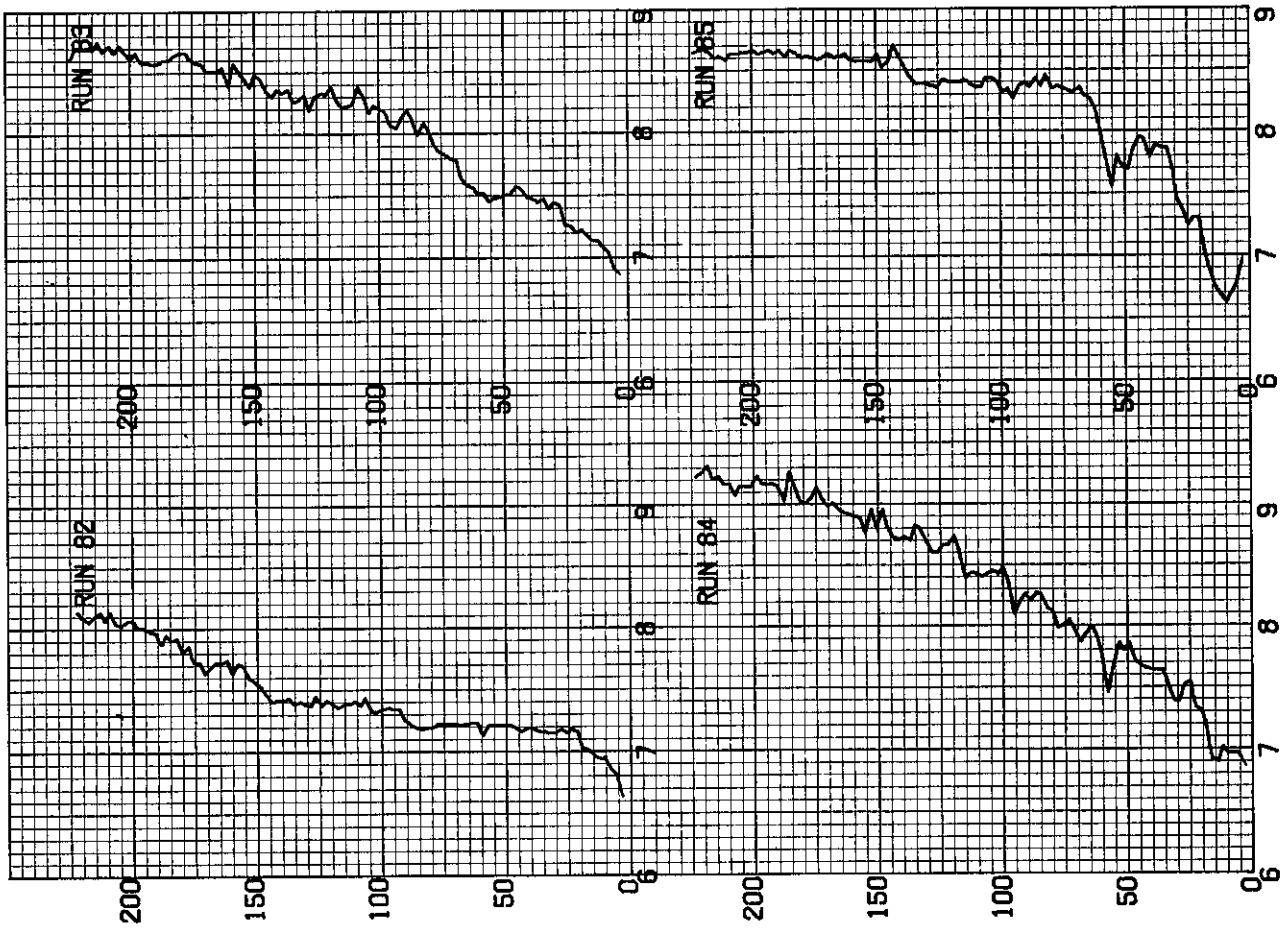

RUN 53
RUN 52
RUN 56
RUN 55

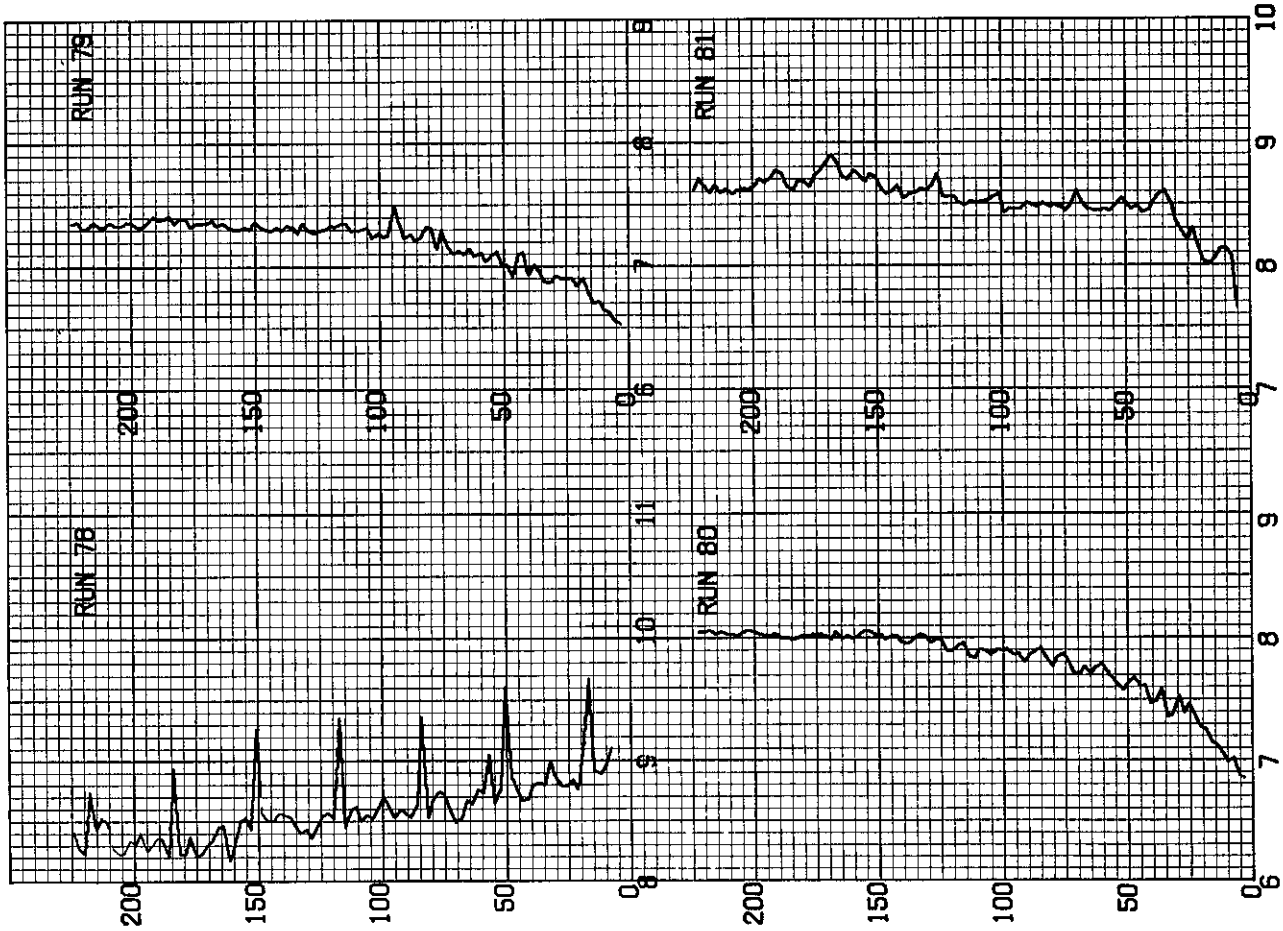

RUN 66
RUN 65
RUN 67
RUN 68

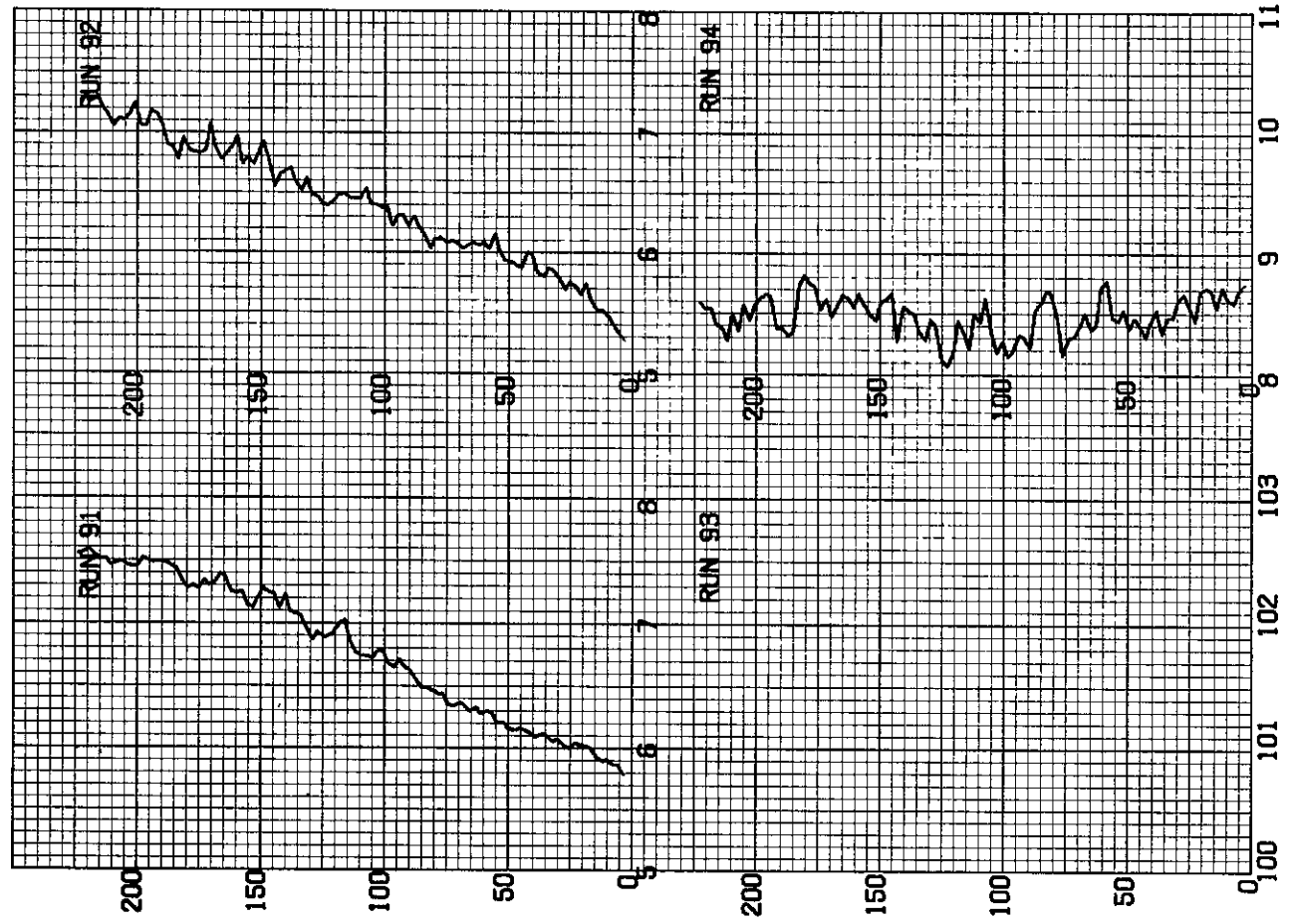

RUN 62
RUN 61
RUN 63
RUN 64

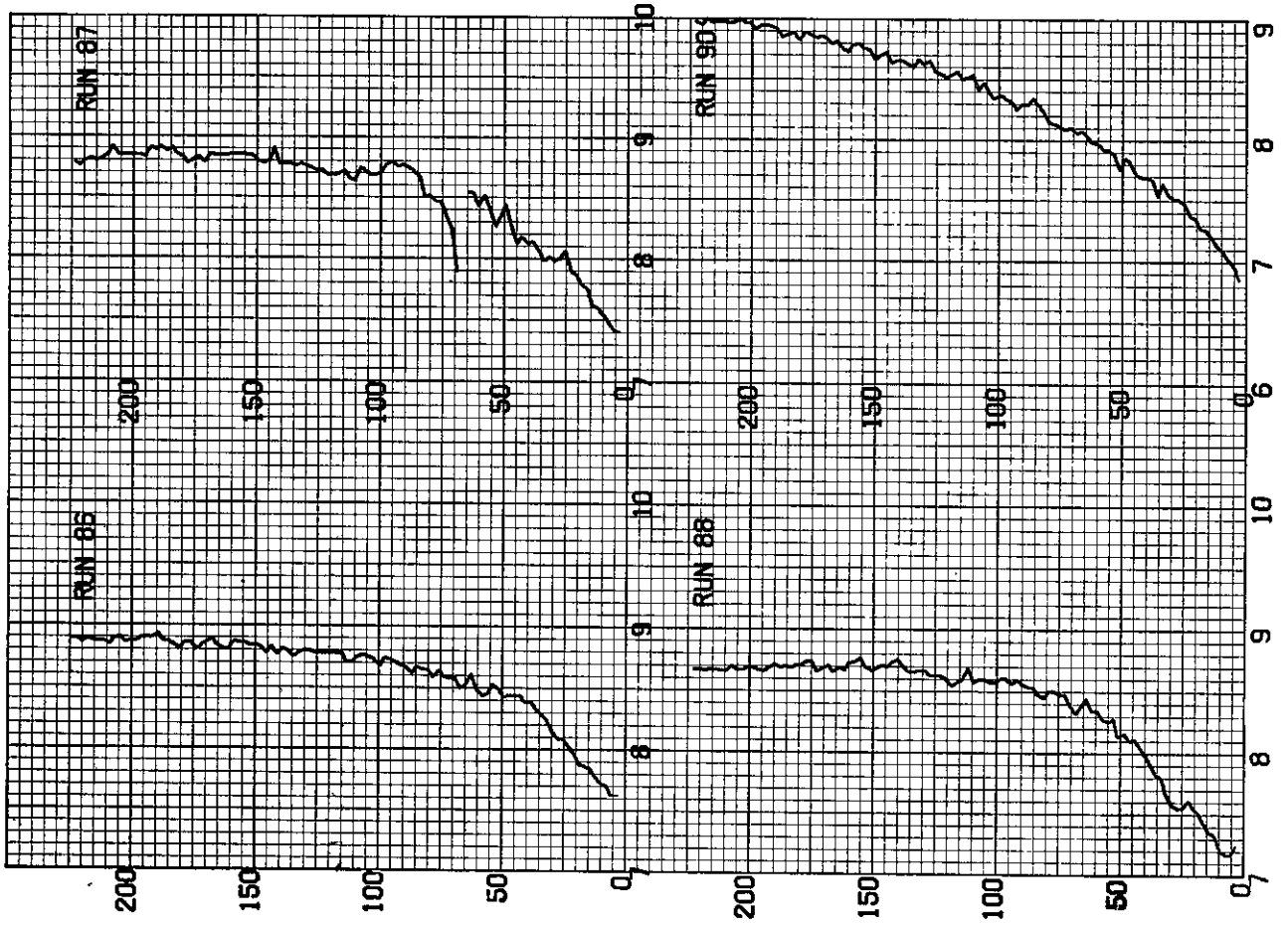

RUN 74
RUN 75
RUN 76
RUN 77

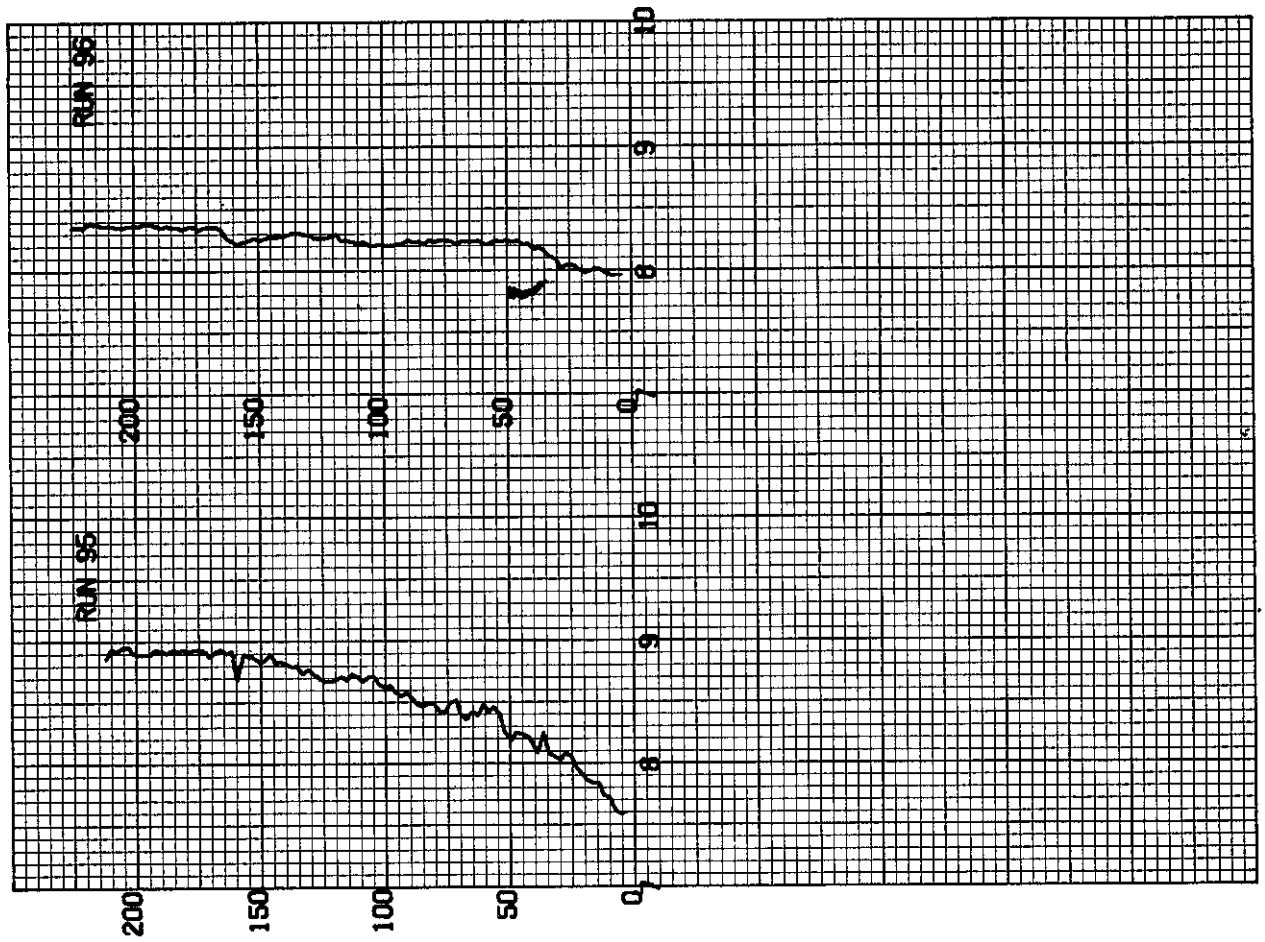

RUN 69
RUN 70
RUN 71
RUN 73


RUN 83
RUN 82
RUN 84
RUN 85


RUN 79
RUN 81
RUN 78
RUN 80


RUN 92
RUN 91
RUN 94
RUN 93


RUN 87
RUN 86
RUN 90
RUN 88


RUN 96
RUN 95
200
150
100
50
0
10
9
8
7

STATION 1
ARBORETUM

FROM 1/5 TO 27/8

MID-SECTOR ANGLE

TOTAL PROBABILITY %

$P_j(\theta_i)$

% PROBABILITY

APPROX. PASQUILL STABILITY CATEGORY

MEAN VELOCITY FOR CATEGORY (ms^{-1})

$P(\theta_i|\bar{u}_j)$

% PROBABILITY FOR VELOCITY RANGES (ms^{-1})

SEC	PTOT	U	A	U	B	U	C	U	D	U	E	U	F	U	LT.2	2-3	3-5	5-6	6-8	8-10	GT.10
5	5.16	3.3	.00	.0	.42	2.0	.11	5.6	1.73	4.5	1.70	2.4	1.20	1.7	1.70	1.17	1.59	.39	.32	.00	.00
15	12.43	3.4	.03	1.4	.92	2.9	.28	5.3	7.56	5.8	2.58	3.2	1.10	2.0	1.45	1.52	3.92	1.84	2.93	.78	.03
25	8.55	3.5	.11	1.6	.95	3.4	1.10	4.7	4.98	6.0	.74	3.1	.67	2.0	.88	.74	2.83	1.41	2.19	.35	.14
35	6.11	3.0	.03	.8	2.01	3.0	1.66	4.6	1.59	5.8	.57	2.1	.25	1.7	.92	.88	2.44	1.17	.60	.11	.00
45	3.96	3.0	.14	1.6	.78	3.0	1.13	4.3	1.31	5.8	.35	2.0	.25	1.3	.74	.35	1.48	.88	.42	.07	.00
55	1.52	3.2	.00	.0	.53	2.6	.39	4.3	.32	6.3	.14	2.1	.14	.8	.32	.35	.46	.21	.18	.00	.00
65	.88	2.2	.00	.0	.39	1.8	.25	3.8	.11	3.8	.03	.8	.11	.8	.39	.18	.25	.07	.00	.00	.00
75	.64	2.4	.03	1.6	.46	2.5	.07	4.7	.00	.0	.03	1.7	.03	1.1	.25	.21	.14	.03	.00	.00	.00
85	.71	2.2	.03	.9	.39	2.6	.11	4.3	.00	.0	.07	1.1	.11	1.8	.28	.21	.21	.00	.00	.00	.00
95	.78	3.0	.03	1.2	.42	2.7	.14	3.5	.03	7.3	.03	1.3	.11	1.9	.18	.32	.25	.00	.03	.00	.00
105	.49	3.2	.21	1.5	.25	2.3	.00	.0	.03	5.8	.00	.0	.00	.0	.25	.18	.03	.03	.00	.00	.00
115	.28	1.8	.07	1.6	.18	2.3	.00	.0	.00	.0	.03	1.4	.00	.0	.14	.14	.00	.00	.00	.00	.00
125	.28	2.4	.03	.9	.14	2.8	.07	3.7	.00	.0	.00	.0	.03	2.0	.11	.07	.11	.00	.00	.00	.00
135	.11	1.8	.00	.0	.07	1.8	.00	.0	.00	.0	.03	1.6	.00	.0	.07	.03	.00	.00	.00	.00	.00
145	.42	2.5	.00	.0	.28	2.6	.07	3.7	.00	.0	.03	.9	.03	2.7	.11	.14	.18	.00	.00	.00	.00
155	.53	3.0	.11	1.6	.14	2.1	.11	3.2	.11	4.3	.07	4.0	.00	.0	.14	.11	.28	.00	.00	.00	.00
165	.74	3.1	.07	1.7	.18	2.8	.21	4.6	.25	5.6	.03	1.0	.00	.0	.11	.11	.28	.14	.11	.00	.00
175	1.84	3.1	.11	1.9	.35	2.3	.25	4.3	.99	6.7	.07	2.2	.07	1.1	.32	.28	.25	.35	.39	.25	.00
185	2.19	3.4	.07	.8	.32	3.4	.28	4.1	1.34	7.7	.11	2.7	.07	1.6	.21	.11	.67	.14	.46	.42	.18
195	2.90	4.2	.03	1.5	.53	3.7	.46	5.3	1.77	7.8	.11	2.7	.00	.0	.14	.14	.57	.57	.64	.67	.18
205	3.74	3.6	.07	1.9	.42	3.5	.74	4.9	2.23	7.9	.14	1.5	.14	2.0	.28	.21	.78	.67	.81	.49	.49
215	3.25	3.1	.03	1.2	.21	2.6	.28	4.8	2.37	6.5	.28	2.4	.07	1.1	.28	.32	.67	.53	.88	.42	.14
225	2.51	3.4	.00	.0	.35	2.9	.18	4.2	1.41	5.1	.32	3.0	.25	2.1	.32	.46	1.02	.25	.39	.07	.00
235	4.45	3.0	.07	1.2	.46	3.1	.14	3.8	1.70	4.5	1.13	3.0	.95	2.0	.85	.99	1.98	.35	.25	.03	.00
245	3.46	2.7	.00	.0	.32	2.5	.00	.0	1.02	3.6	1.41	2.6	.71	2.1	.81	1.20	1.34	.07	.03	.00	.00
255	3.36	2.6	.00	.0	.21	1.7	.03	3.1	.64	3.5	1.41	2.4	1.06	2.3	.99	1.59	.64	.14	.00	.00	.00
265	2.05	2.1	.00	.0	.14	2.0	.00	.0	.25	2.7	1.02	1.8	.64	2.0	.99	.95	.11	.00	.00	.00	.00
275	1.52	1.8	.00	.0	.07	.9	.00	.0	.07	2.5	.81	1.9	.57	1.7	.88	.57	.07	.00	.00	.00	.00
285	1.77	2.2	.00	.0	.14	1.8	.00	.0	.18	4.0	.74	1.6	.74	1.3	1.34	.28	.11	.00	.07	.00	.00
295	1.80	1.9	.00	.0	.03	.7	.00	.0	.11	4.0	.99	1.4	.67	1.5	1.45	.28	.03	.00	.03	.00	.00
305	1.94	1.5	.00	.0	.07	.8	.00	.0	.07	2.3	.92	1.6	.88	1.3	1.59	.32	.03	.00	.00	.00	.00
315	2.44	2.0	.00	.0	.14	2.2	.00	.0	.18	3.3	.88	1.2	1.24	1.2	2.15	.14	.11	.00	.03	.00	.00
325	2.08	1.9	.03	1.7	.11	.8	.00	.0	.07	4.4	.78	1.2	1.10	1.3	1.87	.18	.00	.00	.03	.00	.00
335	2.44	2.3	.03	1.8	.18	2.1	.03	3.5	.21	3.3	.95	1.4	1.02	1.5	1.77	.39	.25	.03	.00	.00	.00
345	5.69	1.8	.11	1.3	.21	1.6	.00	.0	1.13	3.1	2.01	1.7	2.23	1.5	3.85	1.02	.78	.03	.00	.00	.00
355	6.92	2.8	.07	1.7	.49	2.8	.18	4.9	1.62	3.9	2.01	1.9	2.54	1.7	3.18	1.55	1.73	.28	.14	.03	.00
	99.9294	1.5542	13.2815		8.2656		35.3585		22.5715		18.9686		31.2964		17.8969	25.5740	9.6079	10.9502	3.7089	1.1657	

TOTAL PROBABILITIES FOR STABILITY CATEGORIES $\sum_{i=1}^{36} P_j(\theta_i)$, AND VELOCITY RANGES $\sum_{i=1}^{36} P(\theta_i|u_j)$

STATION 2
GRASS NURSERIES

FROM 1/5 TO 28/8

SEC	PLOT	U	A	U	B	U	C	U	D	U	E	U	F	U	LT.2	2-3	3-5	5-6	6-8	8-10	GT.10
5	4.77	3.0	.03	1.7	.53	2.6	.25	5.2	1.76	4.1	1.37	2.4	.84	2.0	1.23	1.23	1.61	.42	.28	.00	.00
15	9.44	3.3	.11	1.6	1.05	3.4	.46	5.3	3.86	4.5	2.81	3.0	1.16	2.1	1.40	2.14	4.07	1.09	.74	.00	.00
25	6.74	3.1	.07	1.6	1.61	3.5	1.02	4.8	2.21	4.7	1.26	2.3	.56	2.1	1.02	1.16	3.19	.91	.46	.00	.00
35	3.86	2.8	.14	1.4	1.09	2.8	.63	4.1	.70	4.8	.88	2.0	.42	1.8	1.16	.88	1.37	.28	.18	.00	.00
45	2.91	2.8	.21	1.3	1.02	2.8	.53	4.1	.46	4.9	.46	1.7	.25	1.9	.91	.60	.98	.42	.00	.00	.00
55	2.18	2.9	.03	2.0	.70	3.1	.84	3.9	.25	5.1	.21	1.6	.14	2.1	.28	.53	1.23	.11	.00	.03	.00
65	1.58	2.7	.21	1.6	.35	2.0	.60	4.0	.14	5.4	.21	1.8	.07	1.2	.56	.25	.60	.18	.00	.00	.00
75	1.61	1.9	.21	1.5	.84	2.3	.39	3.9	.00	.0	.14	1.4	.03	.6	.67	.39	.56	.00	.00	.00	.00
85	1.33	2.4	.11	1.1	1.02	2.4	.21	3.8	.00	.0	.00	.0	.00	.0	.32	.67	.35	.00	.00	.00	.00
95	.56	2.4	.03	1.4	.42	2.4	.11	3.4	.00	.0	.00	.0	.00	.0	.11	.28	.18	.00	.00	.00	.00
105	.60	1.2	.03	.7	.39	2.4	.00	.0	.00	.0	.11	1.1	.07	.7	.32	.25	.03	.00	.00	.00	.00
115	.53	1.8	.14	1.3	.25	1.8	.03	3.4	.00	.0	.07	1.2	.03	.5	.39	.11	.03	.00	.00	.00	.00
125	.74	2.3	.21	1.3	.39	1.9	.03	3.3	.00	.0	.11	2.6	.00	.0	.42	.25	.07	.00	.00	.00	.00
135	.74	1.8	.25	1.6	.32	2.1	.07	3.6	.00	.0	.07	.7	.03	1.0	.56	.07	.11	.00	.00	.00	.00
145	.46	1.9	.11	1.3	.21	2.4	.07	3.4	.00	.0	.03	.5	.03	1.9	.25	.11	.11	.00	.00	.00	.00
155	.63	2.3	.14	1.1	.35	2.5	.11	4.0	.00	.0	.03	1.8	.00	.0	.28	.14	.21	.00	.00	.00	.00
165	.67	2.8	.03	1.6	.39	2.4	.11	3.5	.03	3.8	.11	2.7	.00	.0	.18	.21	.28	.00	.00	.00	.00
175	1.58	2.7	.07	.9	.56	3.4	.39	4.4	.35	5.6	.18	1.2	.03	.9	.28	.18	.77	.32	.03	.00	.00
185	1.93	3.5	.14	1.4	.67	3.4	.56	4.5	.39	7.4	.03	2.5	.14	1.6	.35	.21	.77	.28	.21	.11	.00
195	2.81	3.4	.07	1.9	.67	3.7	.67	4.8	1.26	7.1	.11	2.0	.03	1.2	.18	.21	.91	.56	.63	.28	.03
205	3.37	3.5	.11	1.3	.81	3.6	.46	5.3	1.68	6.9	.28	2.0	.03	2.0	.28	.42	.84	.74	.56	.42	.11
215	2.70	4.0	.00	.0	.25	3.5	.25	5.4	1.90	6.9	.18	2.5	.14	1.5	.21	.21	.60	.49	.67	.35	.18
225	3.44	3.5	.00	.0	.53	2.7	.25	4.4	1.79	5.5	.70	3.1	.18	2.0	.42	.35	1.51	.53	.46	.18	.00
235	3.86	2.9	.03	1.5	.39	2.3	.14	3.9	2.14	5.0	.91	2.8	.25	1.9	.70	.39	1.65	.63	.39	.11	.00
245	3.33	2.6	.07	1.7	.21	2.3	.00	.0	1.47	4.2	1.16	2.8	.42	1.9	.84	.60	1.58	.11	.18	.03	.00
255	3.05	2.6	.11	1.6	.21	2.3	.03	3.3	.81	3.4	1.33	3.1	.56	2.0	.63	.98	1.37	.07	.00	.00	.00
265	2.46	2.3	.00	.0	.07	1.6	.00	.0	.49	3.3	1.26	2.2	.63	2.3	.81	1.02	.60	.03	.00	.00	.00
275	2.60	1.9	.00	.0	.18	1.9	.00	.0	.28	2.5	.98	1.4	1.16	1.9	1.47	1.09	.03	.00	.00	.00	.00
285	3.90	1.5	.03	.8	.11	.7	.00	.0	.74	2.5	1.30	1.7	1.72	2.0	1.79	2.04	.07	.00	.00	.00	.00
295	5.09	2.3	.00	.0	.07	1.4	.00	.0	.53	3.6	2.07	1.9	2.42	2.1	2.35	2.25	.39	.00	.11	.00	.00
305	4.18	1.9	.00	.0	.03	1.3	.00	.0	.32	3.2	1.83	1.5	2.00	1.7	2.98	.95	.21	.00	.03	.00	.00
315	2.42	1.5	.00	.0	.14	1.0	.00	.0	.07	2.2	.98	1.3	1.23	1.5	2.04	.39	.00	.00	.00	.00	.00
325	1.83	1.6	.03	1.3	.03	.8	.00	.0	.21	2.9	.67	1.3	.88	1.6	1.37	.39	.07	.00	.00	.00	.00
335	2.88	2.8	.00	.0	.11	2.7	.03	5.6	.21	2.8	1.05	1.3	1.47	1.8	1.90	.84	.11	.03	.00	.00	.00
345	4.18	2.3	.03	1.8	.21	2.9	.00	.0	.53	3.2	1.68	1.7	1.72	1.8	2.39	1.19	.56	.00	.03	.00	.00
355	5.05	2.7	.11	1.1	.42	2.5	.18	5.2	1.02	3.5	1.97	2.3	1.37	1.7	2.00	1.61	1.12	.28	.03	.00	.00

100.0000 2.8782 16.5672 8.3889 25.5879 26.5356 20.0421 33.0291 24.6349 28.1502 7.4763 4.9842 1.5093 .3159

STATION 3
MZINGAZI

FROM 1/5 TO 27/8

SEC	PTOT	U	A	U	B	U	C	U	D	U	E	U	F	U	LT.2	2-3	3-5	5-6	6-8	8-10	GT.10
15	2.30	3.0	.00	.0	.64	2.8	.03	5.6	.67	4.1	.53	1.5	.42	1.1	.95	.53	.60	.03	.18	.00	.00
25	7.39	3.1	.11	1.7	1.31	3.3	.46	4.9	3.64	5.9	1.20	1.6	.67	1.3	1.66	1.03	1.77	1.03	1.52	.39	.00
35	13.58	3.4	.21	1.4	1.27	3.5	.74	5.4	7.43	5.8	2.40	2.7	1.52	1.7	2.48	1.41	3.82	2.30	2.90	.67	.00
45	13.72	3.0	.03	1.0	.99	2.8	.67	4.5	4.84	5.0	4.10	2.7	3.08	1.9	3.18	3.36	4.56	1.13	1.38	.07	.03
55	9.05	3.3	.00	.0	.85	2.4	.85	4.3	2.40	5.4	2.76	2.3	2.19	1.8	2.90	2.09	2.44	.71	.74	.18	.00
65	7.07	2.9	.07	1.7	.85	2.9	.92	4.0	1.63	5.3	1.94	2.0	1.66	1.9	2.12	2.16	1.66	.50	.53	.11	.00
75	2.83	2.8	.03	1.2	.42	2.4	.46	4.0	.81	5.8	.78	1.6	.32	1.6	.88	.57	.71	.21	.42	.00	.03
85	1.45	2.8	.00	.0	.39	2.3	.35	4.4	.32	5.4	.11	.7	.28	1.2	.46	.25	.39	.28	.07	.00	.00
95	.85	2.7	.00	.0	.46	3.2	.07	3.5	.11	5.1	.03	.7	.18	1.2	.25	.18	.35	.03	.03	.00	.00
105	.35	2.5	.03	1.4	.21	2.3	.11	4.0	.00	.0	.00	.0	.00	.0	.07	.18	.11	.00	.00	.00	.00
115	.28	2.5	.03	1.3	.11	2.5	.03	3.2	.07	4.1	.00	.0	.03	1.3	.11	.07	.11	.00	.00	.00	.00
125	.42	2.7	.14	1.7	.14	2.2	.03	3.1	.03	5.1	.07	1.2	.00	.0	.25	.11	.03	.03	.00	.00	.00
135	.11	1.9	.00	.0	.03	2.5	.00	.0	.03	2.4	.00	.0	.03	.7	.03	.07	.00	.00	.00	.00	.00
145	.50	3.2	.07	1.5	.25	2.5	.07	3.6	.03	6.6	.00	.0	.07	1.8	.14	.18	.14	.00	.03	.00	.00
155	.46	2.6	.11	1.6	.25	3.1	.07	3.2	.00	.0	.00	.0	.03	2.5	.11	.21	.14	.00	.00	.00	.00
165	.71	3.1	.03	1.3	.28	2.7	.07	4.0	.14	4.8	.14	3.3	.03	2.7	.11	.18	.35	.03	.03	.00	.00
175	.74	3.6	.00	.0	.25	3.0	.11	3.9	.25	5.0	.07	3.6	.07	2.7	.07	.18	.35	.07	.07	.00	.00
185	1.59	3.3	.03	1.9	.25	2.9	.28	3.9	.85	5.8	.14	2.5	.03	2.5	.14	.18	.67	.18	.42	.00	.00
195	2.23	3.5	.00	.0	.42	3.0	.42	4.3	1.17	6.1	.18	3.2	.03	1.1	.14	.21	.88	.35	.39	.25	.00
205	2.44	3.8	.00	.0	.57	2.9	.21	4.7	1.45	6.9	.18	2.0	.03	2.5	.18	.39	.57	.25	.67	.32	.07
215	2.72	3.5	.00	.0	.53	2.7	.42	4.3	1.70	7.3	.03	1.7	.03	1.3	.21	.18	.50	.39	1.03	.35	.07
225	2.97	4.0	.00	.0	.32	3.5	.81	4.7	1.45	7.3	.25	2.9	.14	1.6	.25	.14	.95	.57	.53	.42	.11
235	3.04	3.2	.03	1.0	.28	3.1	.39	4.7	2.12	7.1	.14	1.9	.07	1.4	.18	.25	.71	.32	.88	.53	.18
245	3.25	3.7	.03	1.8	.50	3.1	.21	5.4	1.73	6.6	.60	3.4	.18	2.3	.32	.35	.99	.57	.60	.39	.03
255	3.71	3.3	.14	1.1	.14	3.7	.07	4.1	2.44	5.9	.81	3.0	.11	2.0	.46	.39	1.17	.60	.81	.21	.07
265	3.75	3.1	.21	1.2	.14	2.1	.03	5.9	1.59	5.3	1.10	2.4	.67	1.7	1.27	.74	.88	.28	.42	.07	.07
275	2.83	2.9	.03	1.1	.14	2.2	.03	4.8	.71	5.1	.88	2.2	1.03	1.8	1.06	1.03	.39	.07	.18	.07	.03
285	2.05	3.0	.00	.0	.03	2.1	.07	4.0	.21	5.1	.88	1.9	.85	1.7	1.13	.50	.32	.03	.03	.03	.00
295	1.24	1.8	.03	1.1	.00	.0	.00	.0	.07	3.5	.42	1.2	.71	1.5	.92	.25	.07	.00	.00	.00	.00
305	1.45	2.3	.03	1.1	.03	1.6	.00	.0	.14	5.7	.67	1.5	.57	1.4	1.13	.14	.07	.07	.00	.03	.00
315	.99	1.5	.00	.0	.07	1.7	.00	.0	.03	2.4	.50	1.0	.39	1.0	.88	.11	.00	.00	.00	.00	.00
325	.88	1.8	.00	.0	.07	1.7	.00	.0	.07	3.2	.42	1.1	.32	1.0	.78	.07	.03	.00	.00	.00	.00
335	.60	1.3	.11	.9	.07	1.2	.00	.0	.03	2.2	.32	1.0	.07	1.1	.57	.03	.00	.00	.00	.00	.00
345	.81	2.1	.07	1.4	.03	2.7	.00	.0	.14	4.7	.39	.9	.18	.8	.64	.07	.03	.00	.07	.00	.00
355	1.03	1.6	.18	1.1	.14	2.1	.00	.0	.03	2.0	.39	1.3	.28	1.2	.88	.07	.07	.00	.00	.00	.00

100.0000 1.8388 12.4470 8.0269 38.5785 22.6308 16.4781 27.2984 17.8571 25.9901 10.0424 14.0028 4.1018 .7072

STATION 4
BERM WALL

FROM 1/5 TO 6/7

SEC	PIOT	U	A	U	B	U	C	U	D	U	E	U	F	U	LT.2	2-3	3-5	5-6	6-8	8-10	GT.10
5	4.55	3.4	.06	1.5	.38	3.3	.19	5.3	2.34	5.5	1.33	3.0	.25	1.9	.38	.88	1.90	.57	.51	.13	.19
15	7.96	3.8	.06	1.2	.69	3.4	.25	5.5	5.12	6.3	1.39	3.5	.44	2.7	.32	.62	2.59	1.64	1.77	.69	.13
25	8.78	3.5	.25	1.6	.88	3.2	.00	.0	6.00	7.1	1.26	3.2	.38	2.5	.38	1.20	2.02	1.33	1.77	1.45	.63
35	6.19	3.5	.13	1.4	.69	3.5	.32	4.5	4.11	6.4	.69	2.8	.25	2.2	.32	.82	1.64	1.01	1.71	.44	.25
45	4.99	4.1	.00	.0	.38	2.5	.69	4.3	3.60	6.8	.13	3.1	.19	3.9	.38	.19	1.14	.57	1.96	.69	.06
55	2.34	3.2	.13	1.3	.32	2.5	.76	4.3	.88	6.6	.19	1.5	.06	3.0	.44	.19	.76	.32	.63	.00	.00
65	1.58	3.3	.13	1.5	.38	2.5	.13	3.3	.88	6.4	.06	2.7	.00	.0	.25	.25	.32	.19	.51	.06	.00
75	2.08	4.1	.00	.0	.51	3.5	.63	4.4	.88	6.8	.00	.0	.06	1.9	.06	.25	.69	.25	.69	.13	.00
85	1.52	3.7	.13	1.7	.38	2.9	.63	4.0	.38	6.4	.00	.0	.00	.0	.25	.06	.69	.32	.19	.00	.00
95	.63	3.3	.06	.6	.44	2.8	.06	4.8	.06	5.1	.00	.0	.00	.0	.19	.19	.19	.06	.00	.00	.00
105	.25	3.2	.00	.0	.13	2.4	.13	3.9	.00	.0	.00	.0	.00	.0	.00	.13	.13	.00	.00	.00	.00
115	.51	2.8	.00	.0	.25	2.7	.19	3.4	.00	.0	.00	.0	.06	2.4	.00	.32	.19	.00	.00	.00	.00
125	.32	1.8	.06	.0	.19	2.2	.06	3.2	.00	.0	.00	.0	.00	.0	.13	.13	.06	.00	.00	.00	.00
135	1.01	2.7	.19	1.6	.44	2.2	.13	4.0	.13	4.2	.06	1.4	.06	2.6	.51	.13	.32	.06	.00	.00	.00
145	.51	3.0	.19	1.2	.00	.0	.13	5.2	.06	3.6	.06	2.9	.06	2.0	.25	.06	.13	.06	.00	.00	.00
155	.88	3.5	.19	1.7	.44	3.3	.13	4.2	.13	4.7	.00	.0	.00	.0	.19	.13	.51	.06	.00	.00	.00
165	1.26	2.6	.13	1.3	.57	3.0	.25	3.5	.13	3.7	.06	2.0	.13	2.3	.32	.25	.63	.06	.00	.00	.00
175	1.39	4.0	.06	1.7	.25	2.8	.19	4.2	.76	7.0	.13	4.0	.00	.0	.06	.19	.38	.32	.32	.06	.06
185	1.26	5.1	.00	.0	.25	2.9	.32	4.5	.69	8.0	.00	.0	.00	.0	.06	.13	.32	.13	.38	.13	.13
195	1.64	3.6	.13	1.1	.32	2.7	.38	4.5	.76	7.3	.00	.0	.06	2.4	.19	.25	.38	.38	.13	.25	.06
205	2.27	4.9	.00	.0	.38	3.3	.25	4.7	1.52	7.6	.13	3.9	.00	.0	.06	.13	.57	.32	.82	.06	.32
215	3.41	4.0	.13	1.8	.25	4.3	.19	4.3	2.78	7.5	.06	2.3	.00	.0	.13	.13	.38	.76	1.14	.44	.44
225	3.41	3.5	.06	.9	.32	2.4	.19	4.8	2.46	7.8	.19	2.7	.19	2.4	.25	.32	.51	.19	1.14	.57	.44
235	3.92	3.5	.00	.0	.13	1.4	.19	4.3	2.59	6.1	.57	3.7	.44	2.2	.25	.57	.95	.69	1.14	.25	.06
245	6.95	2.8	.19	1.4	.06	1.1	.13	4.1	3.60	5.2	2.02	2.9	.95	3.3	1.07	1.45	2.08	1.52	.76	.06	.00
255	4.61	2.7	.13	1.3	.00	.0	.06	3.2	1.90	4.2	1.14	2.9	1.39	2.0	1.01	1.52	1.45	.51	.13	.00	.00
265	3.10	2.5	.06	1.4	.06	2.8	.06	3.5	.82	3.3	1.01	2.2	1.07	2.0	1.33	.95	.76	.06	.00	.00	.00
275	2.15	2.9	.00	.0	.32	2.3	.06	4.1	.25	4.1	1.20	2.0	.32	1.8	1.01	.57	.51	.06	.00	.00	.00
285	1.96	2.0	.00	.0	.00	.0	.00	.0	.25	2.8	.63	1.7	1.07	1.7	1.39	.44	.13	.00	.00	.00	.00
295	2.15	1.9	.00	.0	.00	.0	.00	.0	.44	2.2	1.01	1.7	.69	1.7	1.39	.76	.00	.00	.00	.00	.00
305	2.21	2.0	.00	.0	.00	.0	.00	.0	.32	2.7	.88	1.6	1.01	1.7	1.64	.51	.06	.00	.00	.00	.00
315	2.97	2.0	.00	.0	.00	.0	.00	.0	.38	2.4	1.20	1.7	1.39	1.7	2.15	.82	.00	.00	.00	.00	.00
325	2.46	2.4	.00	.0	.00	.0	.00	.0	.32	2.9	.95	2.1	1.20	2.0	1.14	1.07	.25	.00	.00	.00	.00
335	2.34	2.4	.00	.0	.00	.0	.00	.0	.38	3.1	.88	2.2	1.07	1.8	1.33	.76	.25	.00	.00	.00	.00
345	3.60	3.0	.00	.0	.06	3.5	.00	.0	1.14	3.7	1.71	2.8	.69	2.3	.76	1.14	1.58	.06	.06	.00	.00
355	2.84	2.6	.06	1.1	.06	2.9	.00	.0	1.26	4.6	1.07	2.4	.38	1.9	.69	.69	.82	.38	.25	.00	.00
	100.		2.53		9.54		6.70		47.32		20.03		13.90		20.28	18.38		25.27	11.88	15.98	5.43	2.78

STATION 6
PORT DURNFORD

FROM 1/5 TO 29/8

SEC	PTOT	U	A	U	B	U	C	U	D	U	E	U	F	U	LT.2	2-3	3-5	5-6	6-8	8-10	GT.10
5	5.32	4.2	.00	.0	.14	3.1	.10	5.5	4.31	6.7	.70	3.8	.07	1.9	.14	.17	1.08	.97	2.23	.63	.10
15	7.90	4.1	.03	1.8	.24	3.5	.14	5.2	6.99	7.3	.38	3.3	.10	3.4	.21	.10	1.29	.87	2.92	2.02	.49
25	9.36	4.5	.00	.0	.31	3.2	.21	5.3	8.21	7.3	.49	3.6	.17	3.2	.28	.17	1.32	1.01	3.97	2.23	.42
35	5.60	4.2	.03	1.9	.49	3.8	.28	5.1	4.35	7.1	.38	3.5	.07	3.9	.17	.24	1.22	.56	2.19	1.08	.14
45	4.98	4.4	.00	.0	.52	3.2	.31	4.9	3.97	7.2	.17	2.4	.00	.0	.10	.35	.73	.87	1.60	.97	.35
55	3.06	4.2	.07	1.8	.31	3.6	.77	4.4	1.84	7.0	.07	4.2	.00	.0	.07	.10	1.08	.52	.77	.52	.00
65	1.70	3.8	.00	.0	.31	3.4	.49	4.8	.84	6.9	.03	2.0	.03	1.9	.14	.07	.56	.28	.45	.21	.00
75	1.32	4.1	.00	.0	.31	2.2	.38	4.4	.59	6.7	.00	.0	.03	3.0	.14	.17	.35	.24	.35	.07	.00
85	1.11	3.8	.00	.0	.17	2.2	.24	4.7	.63	5.9	.07	2.4	.00	.0	.07	.17	.17	.42	.28	.00	.00
95	1.11	3.0	.03	1.6	.52	3.0	.31	4.1	.14	6.1	.07	2.0	.03	1.2	.14	.38	.35	.14	.10	.00	.00
105	.80	3.6	.10	1.7	.49	3.4	.07	3.4	.10	7.5	.00	.0	.03	2.0	.17	.21	.31	.00	.07	.03	.00
115	.77	3.4	.10	1.5	.52	2.2	.07	3.5	.07	6.3	.00	.0	.00	.0	.35	.21	.14	.03	.03	.00	.00
125	.59	1.6	.07	1.4	.45	2.2	.00	.0	.00	.0	.07	1.1	.00	.0	.24	.35	.00	.00	.00	.00	.00
135	.42	3.6	.03	1.7	.10	2.9	.10	3.5	.14	7.2	.00	.0	.03	2.6	.07	.03	.21	.00	.07	.00	.03
145	.38	3.2	.03	.9	.10	1.8	.10	4.4	.07	7.6	.00	.0	.07	1.4	.14	.07	.07	.03	.07	.00	.00
155	.28	3.3	.07	1.7	.07	2.5	.03	3.5	.07	7.2	.03	1.5	.00	.0	.10	.07	.03	.00	.07	.00	.00
165	1.04	4.3	.17	1.3	.17	3.1	.14	4.2	.56	8.5	.00	.0	.00	.0	.17	.10	.28	.07	.07	.21	.14
175	2.89	3.6	.14	1.8	.38	2.9	.49	4.5	1.77	9.6	.03	1.0	.07	1.9	.24	.24	.63	.31	.31	.35	.80
185	2.71	4.2	.07	1.6	.24	3.2	.38	4.1	1.98	9.5	.00	.0	.03	2.5	.07	.14	.63	.24	.35	.42	.87
195	1.74	4.2	.03	1.5	.31	3.9	.21	4.3	1.11	9.9	.07	1.5	.00	.0	.14	.03	.49	.14	.14	.31	.49
205	1.60	4.3	.07	1.5	.14	3.8	.17	4.3	1.08	9.8	.14	2.2	.00	.0	.14	.07	.28	.07	.35	.21	.49
215	1.95	4.6	.07	1.7	.14	3.6	.21	4.8	1.50	10.6	.03	2.1	.00	.0	.07	.10	.17	.31	.21	.24	.84
225	2.12	5.4	.00	.0	.52	3.7	.28	4.5	1.25	9.7	.07	3.6	.00	.0	.00	.17	.56	.17	.38	.31	.52
235	3.58	4.3	.03	1.9	.28	2.8	.21	5.1	3.03	8.9	.00	.0	.03	2.8	.10	.28	.14	.28	1.04	.80	.94
245	4.04	4.1	.03	1.6	.17	3.6	.21	4.5	3.38	7.6	.17	3.2	.07	4.1	.17	.10	.70	.70	.97	.94	.45
255	4.56	3.9	.00	.0	.14	3.6	.10	4.7	3.55	6.4	.59	3.5	.17	1.5	.17	.28	1.39	1.01	1.01	.49	.21
265	5.53	3.6	.00	.0	.21	2.4	.10	4.2	4.00	5.0	1.04	3.9	.17	2.4	.21	.38	2.99	1.25	.66	.03	.00
275	3.62	3.0	.03	1.3	.14	2.5	.10	3.9	1.67	4.6	1.32	3.7	.35	2.1	.28	.52	2.16	.45	.17	.03	.00
285	2.51	3.5	.00	.0	.00	.0	.03	4.8	.66	3.6	1.57	3.8	.24	2.0	.21	.52	1.70	.03	.03	.00	.00
295	1.95	3.2	.00	.0	.03	2.6	.00	.0	.77	4.1	.73	3.5	.42	2.5	.07	.56	1.22	.07	.03	.00	.00
305	1.53	2.7	.00	.0	.07	2.4	.00	.0	.28	3.3	.84	2.9	.35	2.3	.38	.45	.70	.00	.00	.00	.00
315	1.43	2.7	.07	1.6	.00	.0	.00	.0	.28	3.6	.70	3.1	.38	2.6	.35	.38	.70	.00	.00	.00	.00
325	1.11	3.4	.00	.0	.00	.0	.00	.0	.31	4.6	.56	3.4	.24	2.3	.17	.24	.56	.07	.07	.00	.00
335	2.23	2.6	.03	1.7	.07	1.3	.00	.0	.90	4.2	.90	3.5	.31	2.4	.24	.59	1.11	.17	.10	.00	.00
345	4.18	3.8	.07	1.8	.10	4.3	.03	5.6	2.64	5.0	1.01	3.6	.31	2.5	.28	.70	1.84	.59	.66	.07	.03
355	4.91	3.6	.03	1.1	.17	3.4	.14	5.4	3.44	5.5	.94	3.8	.17	2.2	.14	.66	1.60	1.18	1.15	.03	.14

99.5304 1.4614 8.3855 6.4370 66.4927 13.1872 4.0014 6.1587 9.4294 28.7404 13.0828 22.8949 12.2129 7.4461

STATION 7
U.V.S.

FROM 1/5 TO 28/8

SEC	PTOT	U	A	U	B	U	C	U	D	U	E	U	F	U	LT.2	2-3	3-5	5-6	6-8	8-10	GT.10
5	3.79	2.4	.11	1.3	.28	3.C	.CO	.C	.70	4.3	1.47	1.9	1.23	1.5	2.03	.74	.74	.14	.14	.00	.00
15	6.77	3.1	.14	1.4	.91	3.6	.25	5.1	1.93	4.6	2.03	2.0	1.51	1.5	2.59	1.16	1.93	.49	.56	.03	.00
25	7.62	3.1	.35	1.5	1.26	3.5	.56	4.9	2.45	4.7	1.62	2.2	1.37	1.8	2.38	1.3C	2.66	.77	.7C	.00	.00
35	5.19	2.9	.21	1.6	1.40	3.4	.32	4.7	1.16	4.9	1.30	1.5	.81	1.5	2.07	1.02	1.40	.32	.39	.00	.00
45	2.84	2.9	.03	1.1	.95	3.1	.42	4.3	.25	5.1	.56	2.5	.63	1.7	.91	.88	.81	.14	.11	.00	.00
55	3.79	2.8	.07	1.2	1.05	2.7	.84	4.1	.32	5.9	1.09	1.5	.42	1.2	1.47	.81	1.16	.25	.11	.00	.00
65	2.63	2.7	.11	1.1	1.02	2.4	.46	3.9	.21	5.9	.56	1.4	.28	1.3	1.09	.77	.53	.18	.07	.00	.00
75	2.24	2.6	.25	1.1	.81	2.5	.39	4.2	.25	4.9	.39	1.6	.18	1.3	.88	.63	.49	.25	.00	.00	.00
85	1.58	2.3	.28	1.1	.56	2.C	.42	3.6	.07	4.2	.11	1.6	.14	1.4	.67	.42	.46	.00	.03	.00	.00
95	1.33	2.0	.11	1.2	.49	2.7	.21	3.8	.00	.0	.32	1.0	.21	1.0	.63	.35	.35	.00	.00	.00	.00
105	.84	1.9	.14	.9	.46	2.2	.14	3.9	.00	.0	.07	.8	.03	1.7	.46	.18	.18	.03	.00	.00	.00
115	.95	1.9	.25	1.3	.63	2.1	.03	3.4	.00	.C	.03	.9	.00	.0	.60	.28	.07	.00	.00	.00	.00
125	.35	1.3	.00	.0	.32	2.C	.00	.C	.00	.0	.00	.C	.03	.6	.21	.11	.03	.00	.00	.00	.00
135	.46	2.1	.11	1.5	.25	2.4	.07	3.4	.00	.C	.03	1.2	.00	.0	.21	.14	.11	.00	.00	.00	.00
145	.63	1.8	.03	1.5	.42	2.3	.03	3.2	.00	.C	.07	1.1	.07	.8	.28	.25	.11	.00	.00	.00	.00
155	.67	3.0	.07	1.8	.32	2.6	.14	3.9	.03	4.0	.03	3.5	.07	2.2	.21	.18	.28	.00	.00	.00	.00
165	1.12	3.3	.80	.0	.25	3.5	.32	3.8	.35	4.5	.18	2.3	.03	2.0	.07	.18	.63	.21	.03	.00	.00
175	1.93	2.9	.03	.9	.86	2.9	.32	4.3	.49	5.6	.14	2.7	.07	1.3	.32	.46	.74	.21	.18	.03	.00
185	2.38	3.2	.11	1.3	.91	3.2	.32	4.1	.81	6.1	.18	2.8	.07	1.8	.39	.28	.98	.32	.35	.07	.00
195	3.02	3.4	.11	.9	.60	3.7	.67	4.6	1.26	7.1	.18	2.2	.21	1.8	.42	.21	.91	.46	.77	.18	.07
205	2.35	3.6	.11	1.2	.60	3.6	.35	4.8	1.19	7.3	.07	2.3	.03	2.2	.18	.28	.60	.35	.46	.35	.14
215	3.09	3.4	.03	1.4	.49	3.5	.28	5.3	1.82	6.5	.21	1.8	.25	2.1	.42	.21	.84	.70	.53	.25	.14
225	3.12	3.5	.00	.0	.28	3.0	.25	4.7	1.61	5.5	.70	2.3	.28	1.8	.60	.32	1.12	.39	.60	.07	.03
235	4.31	2.7	.07	1.1	.42	2.4	.11	3.8	1.19	4.6	1.72	2.2	.81	1.9	1.65	.98	1.26	.21	.11	.11	.00
245	6.10	2.5	.00	.0	.35	1.6	.03	3.0	1.51	3.7	2.49	2.1	1.72	2.1	2.42	2.10	1.37	.14	.03	.03	.00
255	4.73	2.0	.03	1.3	.39	1.6	.00	.C	.60	3.3	1.93	1.7	1.79	1.6	2.81	1.40	.49	.03	.00	.00	.00
265	4.03	1.6	.03	1.0	.25	1.6	.00	.C	.21	2.4	1.54	1.3	2.00	1.5	3.23	.74	.07	.00	.00	.00	.00
275	3.65	1.7	.00	.0	.18	1.1	.00	.C	.18	3.4	1.51	1.1	1.79	1.3	3.09	.49	.03	.00	.00	.00	.00
285	1.68	2.9	.00	.0	.03	.9	.00	.0	.07	4.4	.67	1.1	.91	1.1	1.58	.03	.00	.00	.00	.07	.00
295	2.24	1.2	.00	.0	.07	.7	.00	.0	.07	2.3	1.30	.9	.81	.8	2.17	.07	.00	.00	.00	.00	.00
305	2.21	1.5	.00	.0	.11	.8	.00	.C	.11	3.1	1.02	1.C	.98	.9	2.10	.03	.07	.00	.00	.00	.00
315	2.00	.9	.03	.7	.07	1.1	.00	.0	.00	.0	.88	.7	1.02	1.0	1.96	.03	.00	.00	.00	.00	.00
325	1.61	2.3	.07	1.5	.00	.0	.00	.0	.03	5.8	.81	.8	.70	.9	1.58	.00	.00	.03	.00	.00	.00
335	2.70	2.3	.00	.0	.14	2.9	.00	.0	.07	4.1	1.44	1.1	1.05	1.1	2.35	.14	.21	.00	.00	.00	.00
345	2.84	1.7	.03	1.0	.03	1.0	.00	.0	.21	4.5	1.09	1.0	1.47	1.1	2.56	.18	.00	.00	.11	.00	.00
355	3.02	2.4	.11	1.6	.14	2.9	.07	4.5	.25	2.9	1.16	1.3	1.30	1.3	2.21	.42	.35	.03	.00	.00	.00

100.C000 3.0154 17.2861 6.9776 19.3899 29.0673 24.2637 48.7728 17.7419 20.9677 5.6452 5.2945 1.1921 .3857

STATION 8
KWA MBONAMBI

FROM 2/5 TO 27/8

SEC	PTOT	U	A	U	B	U	C	U	D	U	E	U	F	U	LT.2	2-3	3-5	5-6	6-8	8-10	GT.10
5	9.94	4.4	.00	.0	.46	3.3	.18	5.1	7.26	6.5	1.78	3.9	.25	3.1	.11	.57	3.31	1.57	2.42	1.89	.07
15	10.26	4.9	.00	.0	.57	3.9	.36	4.8	7.23	6.5	2.03	3.9	.07	6.5	.11	.25	4.20	1.53	2.24	1.64	.28
25	8.16	4.0	.00	.0	.64	3.4	.78	4.6	5.66	5.7	.96	3.7	.11	2.7	.07	.46	3.99	1.03	1.96	.61	.03
35	5.02	3.4	.03	1.7	.61	3.0	1.03	4.5	2.88	6.1	.36	2.7	.11	2.3	.18	.61	1.85	.71	1.39	.25	.03
45	3.35	3.8	.00	.0	.36	3.5	.89	4.3	1.75	6.3	.25	2.7	.11	2.2	.07	.43	1.21	.46	.93	.18	.07
55	1.57	2.7	.03	1.5	.21	3.5	.64	4.0	.50	4.5	.14	1.9	.03	.7	.14	.14	1.07	.14	.07	.00	.00
65	1.35	3.5	.00	.0	.32	3.2	.50	4.3	.46	5.2	.03	2.8	.03	2.0	.07	.14	.68	.36	.11	.00	.00
75	1.00	3.4	.07	1.5	.28	2.9	.43	4.3	.18	5.6	.03	2.6	.00	.0	.11	.18	.43	.25	.03	.00	.00
85	.89	3.8	.00	.0	.50	3.1	.25	4.0	.11	5.2	.03	3.0	.00	.0	.03	.28	.46	.11	.00	.00	.00
95	.71	2.6	.14	1.7	.46	2.6	.11	3.6	.00	.0	.00	.0	.00	.0	.18	.36	.18	.00	.00	.00	.00
105	.25	3.7	.03	1.7	.11	1.9	.03	4.3	.03	8.7	.03	1.7	.00	.0	.11	.07	.03	.00	.00	.03	.00
115	.28	2.2	.00	.0	.14	2.3	.00	.0	.00	.0	.14	2.1	.00	.0	.07	.21	.00	.00	.00	.00	.00
125	.36	4.0	.00	.0	.07	2.3	.07	4.6	.07	6.1	.14	3.2	.00	.0	.07	.07	.14	.03	.03	.00	.00
135	.93	3.2	.07	1.9	.28	2.9	.25	3.9	.21	5.2	.07	3.0	.03	2.0	.18	.14	.50	.07	.00	.03	.00
145	.39	3.5	.03	1.3	.14	2.8	.14	4.7	.03	6.0	.03	2.7	.00	.0	.03	.14	.11	.11	.00	.00	.00
155	.53	4.0	.00	.0	.07	3.6	.14	4.2	.25	6.1	.07	2.2	.00	.0	.03	.03	.21	.11	.14	.00	.00
165	1.82	3.8	.00	.0	.32	2.8	.25	4.0	1.18	6.5	.03	2.6	.03	3.9	.03	.21	.61	.39	.28	.21	.07
175	1.60	3.7	.03	1.4	.21	2.8	.11	4.3	1.21	7.9	.00	.0	.03	1.9	.07	.14	.14	.32	.43	.28	.21
185	2.92	4.3	.00	.0	.53	3.4	.57	4.3	1.71	7.7	.07	4.5	.03	1.4	.03	.11	1.03	.39	.61	.57	.18
195	1.78	4.3	.07	1.8	.53	3.7	.28	4.6	.85	8.3	.03	3.0	.00	.0	.11	.14	.61	.25	.18	.32	.18
205	1.46	5.2	.00	.0	.21	3.8	.18	5.1	1.03	7.2	.03	4.5	.00	.0	.00	.11	.25	.36	.36	.28	.11
215	1.92	4.7	.00	.0	.11	3.8	.25	5.0	1.50	8.0	.03	1.6	.03	5.0	.07	.03	.39	.21	.39	.46	.36
225	3.17	4.5	.00	.0	.43	3.9	.53	5.0	1.99	7.8	.18	4.1	.03	1.5	.03	.14	.96	.39	.75	.57	.32
235	1.82	3.6	.03	1.9	.21	3.5	.39	4.7	.96	6.3	.14	2.8	.07	2.6	.11	.14	.68	.25	.50	.07	.07
245	1.75	3.9	.00	.0	.28	3.6	.18	3.8	.85	5.8	.32	3.2	.11	2.9	.07	.36	.71	.18	.32	.11	.00
255	3.74	4.0	.00	.0	.21	3.3	.28	4.4	2.10	5.0	1.03	3.8	.11	3.6	.03	.36	2.17	.82	.28	.07	.00
265	4.95	3.7	.00	.0	.18	3.7	.14	4.2	2.46	4.6	1.89	3.6	.28	2.7	.11	1.10	2.81	.53	.25	.07	.07
275	4.42	3.2	.00	.0	.18	2.8	.14	3.4	1.64	4.0	1.85	3.3	.61	2.5	.28	1.21	2.67	.11	.11	.03	.00
285	4.42	3.1	.00	.0	.14	3.1	.00	.0	1.53	3.5	2.03	3.3	.71	2.6	.25	1.28	2.85	.03	.00	.00	.00
295	2.14	2.5	.03	1.8	.11	1.8	.00	.0	.61	3.8	.78	2.8	.61	2.4	.39	.89	.78	.03	.00	.03	.00
305	1.71	2.6	.00	.0	.11	2.0	.00	.0	.39	3.4	.71	2.4	.50	2.5	.39	.82	.46	.00	.03	.00	.00
315	1.71	3.1	.00	.0	.11	3.5	.00	.0	.39	3.7	.68	2.6	.53	2.4	.36	.78	.46	.07	.00	.03	.00
325	1.42	2.5	.03	1.8	.07	2.2	.00	.0	.50	3.6	.57	2.7	.25	2.3	.28	.57	.50	.00	.07	.00	.00
335	2.39	3.3	.00	.0	.21	2.7	.11	4.8	.85	4.1	.53	2.8	.68	2.4	.32	1.07	.78	.07	.11	.03	.00
345	3.03	3.2	.00	.0	.28	2.9	.07	3.5	1.39	4.2	.71	2.9	.57	2.3	.28	1.07	1.14	.39	.14	.00	.00
355	6.87	4.0	.00	.0	.46	3.3	.28	4.9	4.13	5.6	1.67	3.8	.32	2.4	.14	.71	2.99	1.50	1.14	.36	.03
	100.0		0.64		10.15		9.58		53,41		19.44		6.27		4.95	15.35		41,38		12.78	15.29	3.16	2.10

STATION 9
ALTON

FROM 2/5 TO 27/8

SEC	PIOT	U	A	U	B	U	C	U	D	U	E	U	F	U	LT.2	2-3	3-5	5-6	6-8	8-10	GT.10
5	9.63	4.0	.00	.0	.26	3.2	.11	5.5	5.36	6.0	1.77	3.0	2.11	2.2	.60	2.87	2.72	.87	1.21	1.21	.15
15	10.20	3.8	.07	1.3	.34	3.8	.15	5.3	6.99	6.6	1.77	3.4	.87	2.3	.45	1.25	2.79	1.51	2.27	1.77	.15
25	6.76	4.0	.00	.0	.23	3.2	.49	5.4	4.95	6.1	.79	3.4	.30	1.7	.26	.45	2.34	1.21	1.36	.83	.30
35	5.17	3.3	.15	1.6	.57	3.2	.45	5.2	2.27	6.0	1.06	2.2	.68	1.3	1.25	.38	1.59	.91	.68	.38	.00
45	4.76	3.4	.03	1.8	.87	3.0	1.17	4.8	2.15	5.7	.45	3.4	.07	1.7	.26	.49	1.93	1.21	.83	.03	.00
55	3.89	3.4	.07	1.6	.94	2.8	1.32	4.6	1.32	5.8	.23	2.5	.00	.0	.26	.60	1.44	1.02	.49	.07	.00
65	2.42	2.8	.03	.5	.83	3.1	.76	4.3	.49	5.3	.23	2.0	.07	1.5	.26	.45	1.25	.26	.19	.00	.00
75	1.06	3.1	.07	1.2	.53	2.5	.19	4.1	.07	6.2	.11	2.2	.07	2.3	.30	.45	.23	.03	.03	.00	.00
85	.60	3.2	.00	.0	.30	2.4	.19	3.6	.03	5.1	.07	1.5	.00	.0	.19	.11	.26	.03	.00	.00	.00
95	.42	2.8	.03	1.9	.23	2.4	.15	4.2	.00	.0	.00	.0	.00	.0	.15	.03	.19	.03	.00	.00	.00
105	.64	2.1	.03	.8	.38	2.5	.15	3.5	.00	.0	.00	.0	.07	1.4	.15	.26	.23	.00	.00	.00	.00
115	.38	2.9	.03	1.2	.19	2.4	.07	4.2	.03	5.4	.00	.0	.03	1.3	.15	.03	.15	.03	.00	.00	.00
125	.45	2.3	.03	1.6	.15	2.8	.19	3.8	.00	.0	.07	1.0	.00	.0	.11	.11	.23	.00	.00	.00	.00
135	.64	2.4	.11	1.8	.38	2.6	.11	3.6	.00	.0	.03	1.7	.00	.0	.23	.23	.19	.00	.00	.00	.00
145	.38	2.5	.03	1.6	.19	2.6	.07	3.9	.03	2.3	.00	.0	.03	2.0	.11	.15	.11	.00	.00	.00	.00
155	.64	3.1	.07	1.4	.19	3.4	.19	4.1	.15	5.3	.03	1.6	.00	.0	.11	.07	.30	.15	.00	.00	.00
165	1.47	3.6	.11	1.5	.23	2.7	.19	4.9	.79	7.0	.11	2.5	.03	2.8	.23	.19	.15	.26	.49	.15	.00
175	1.66	3.8	.03	.3	.42	2.7	.49	4.2	.64	7.2	.07	4.3	.00	.0	.11	.19	.72	.15	.30	.19	.00
185	1.85	3.6	.11	1.2	.72	3.6	.19	5.1	.72	6.3	.07	2.1	.03	3.0	.15	.19	.76	.38	.30	.03	.03
195	1.77	3.5	.03	1.4	.23	3.5	.34	4.2	1.02	6.8	.15	1.8	.00	.0	.15	.07	.60	.23	.49	.23	.00
205	2.15	3.6	.11	.5	.53	2.7	.19	4.5	1.21	7.6	.11	2.5	.00	.0	.30	.23	.42	.30	.45	.26	.19
215	1.77	3.7	.11	1.5	.34	3.8	.19	3.9	1.02	7.6	.11	1.7	.00	.0	.19	.03	.49	.19	.53	.23	.11
225	3.17	3.5	.07	1.8	.49	3.0	.38	5.0	2.04	6.9	.11	2.1	.07	2.0	.26	.30	.57	.60	1.06	.30	.07
235	3.17	3.4	.03	1.7	.26	3.4	.30	5.0	1.81	5.5	.57	2.8	.19	2.3	.38	.45	1.13	.49	.49	.15	.07
245	2.87	3.1	.03	.4	.26	3.7	.07	4.4	1.06	4.3	1.21	3.3	.23	2.5	.26	.68	1.62	.19	.03	.07	.00
255	4.31	2.9	.00	.0	.34	1.9	.03	3.2	1.47	4.1	1.66	3.0	.79	2.2	.72	1.47	1.77	.19	.15	.00	.00
265	3.17	2.7	.00	.0	.15	1.8	.07	3.9	.94	3.1	1.36	2.5	.64	2.0	.72	1.25	1.21	.00	.00	.00	.00
275	1.96	2.5	.00	.0	.11	2.1	.00	.0	.38	3.5	.76	2.2	.72	2.3	.60	.94	.38	.00	.03	.00	.00
285	1.70	2.2	.00	.0	.07	1.1	.00	.0	.26	3.4	.72	1.9	.68	2.4	.72	.87	.07	.00	.00	.03	.03
295	2.00	2.5	.00	.0	.03	3.0	.00	.0	.26	3.3	1.02	1.8	.68	2.1	.91	1.06	.00	.00	.00	.03	.00
305	2.15	2.0	.00	.0	.11	1.3	.00	.0	.30	2.4	.72	1.9	1.02	2.2	.79	1.28	.07	.00	.00	.00	.00
315	2.04	2.6	.00	.0	.00	.0	.00	.0	.19	3.9	.79	1.8	1.06	1.9	1.13	.79	.07	.00	.00	.00	.03
325	3.29	2.3	.00	.0	.11	2.6	.00	.0	.30	2.6	1.13	2.1	1.74	2.0	1.28	1.81	.19	.00	.00	.00	.00
335	4.23	2.3	.00	.0	.03	1.8	.00	.0	.87	3.3	.94	2.3	2.38	1.9	1.81	1.96	.30	.07	.07	.00	.00
345	4.38	2.6	.07	1.8	.23	2.5	.03	3.7	.87	3.5	1.59	2.1	1.59	2.1	1.77	1.66	.79	.07	.07	.00	.00
355	2.79	2.8	.07	1.7	.15	2.3	.03	5.1	.72	3.3	1.02	2.5	.79	2.1	.64	1.25	.83	.03	.03	.00	.00

99.9622 1.6616 11.4048 8.3082 40.7477 20.8837 16.9940 18.0136 24.8601 28.0967 10.4607 11.5937 6.0045 1.1707