Form: AWS WPC 9-16

411407

SAA 2000 8886 6000
DOCUMENT #

HEIGHT in feet (negative when pressure p_0 less than 1000 mb.)

0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600

PRESSURE in millibars

1000
995
990
985
980
975
970
965
960
955
950
945
940
935
930
925
920

1000
1005
1010
1015
1020
1025
1030
1035
1040
1045
1050
1055
1060

(—)   (+)

[50] 100 (67692)   (53173)
[60] 40 (109.2)
[70]
150 (44689)   150
30 (97.0)
[90]
[100] 200 -85   10   12   14
(53173) (38665)
20 (84.6)
250
(33985)
10 (72.5)
[150] 300
(44689) (30053)

-100
-95
-90
-85
-80
-75
-70
-65
-60

50 (121.4)   60 (133.6)   70 (145.8)

-105   -100

att 101

USAF SKEW T, log p DIAGRAM

TEMPERATURE IN DEGREES FAHRENHEIT

AGRAM

HEIT

P-T

56,900

7140

0890

3,130

WIND SCALE

US STANDARD ATMOSPHERE ALTITUDE

THOUSANDS OF METERS

THOUSANDS OF FEET

16.0 — 53
— 52
15.5 — 51
— 50
15.0 — 49
— 48
14.5 — 47
14.0 — 46
— 45
13.5 — 44
— 43
13.0 — 42
12.5 — 41
— 40
12.0 — 39
— 38
11.5 — 37
11.0 — 36
— 35
10.5 — 34
10.0 — 33
— 32
9.5 — 31
— 30
9.0 — 29
8.5 — 28
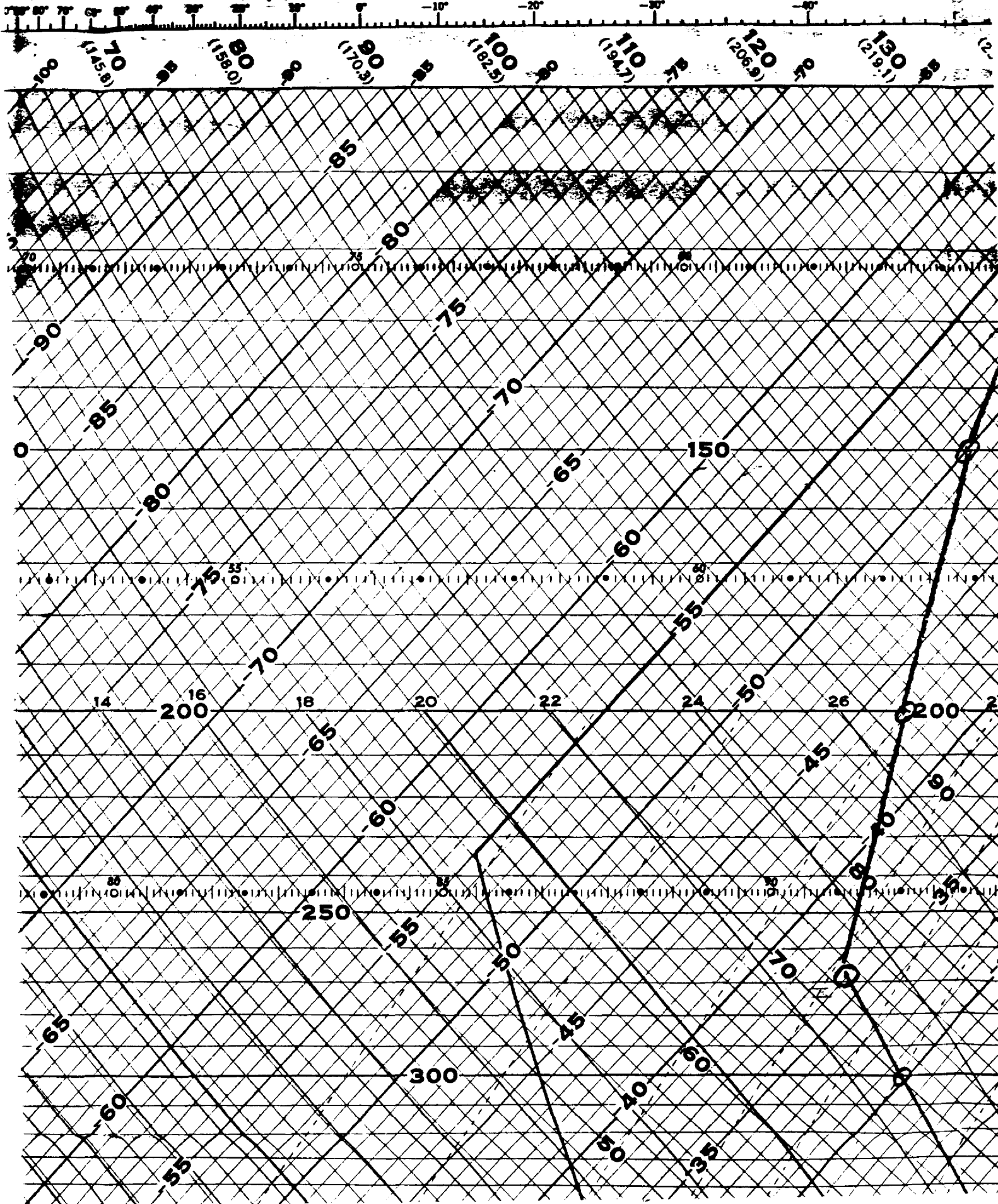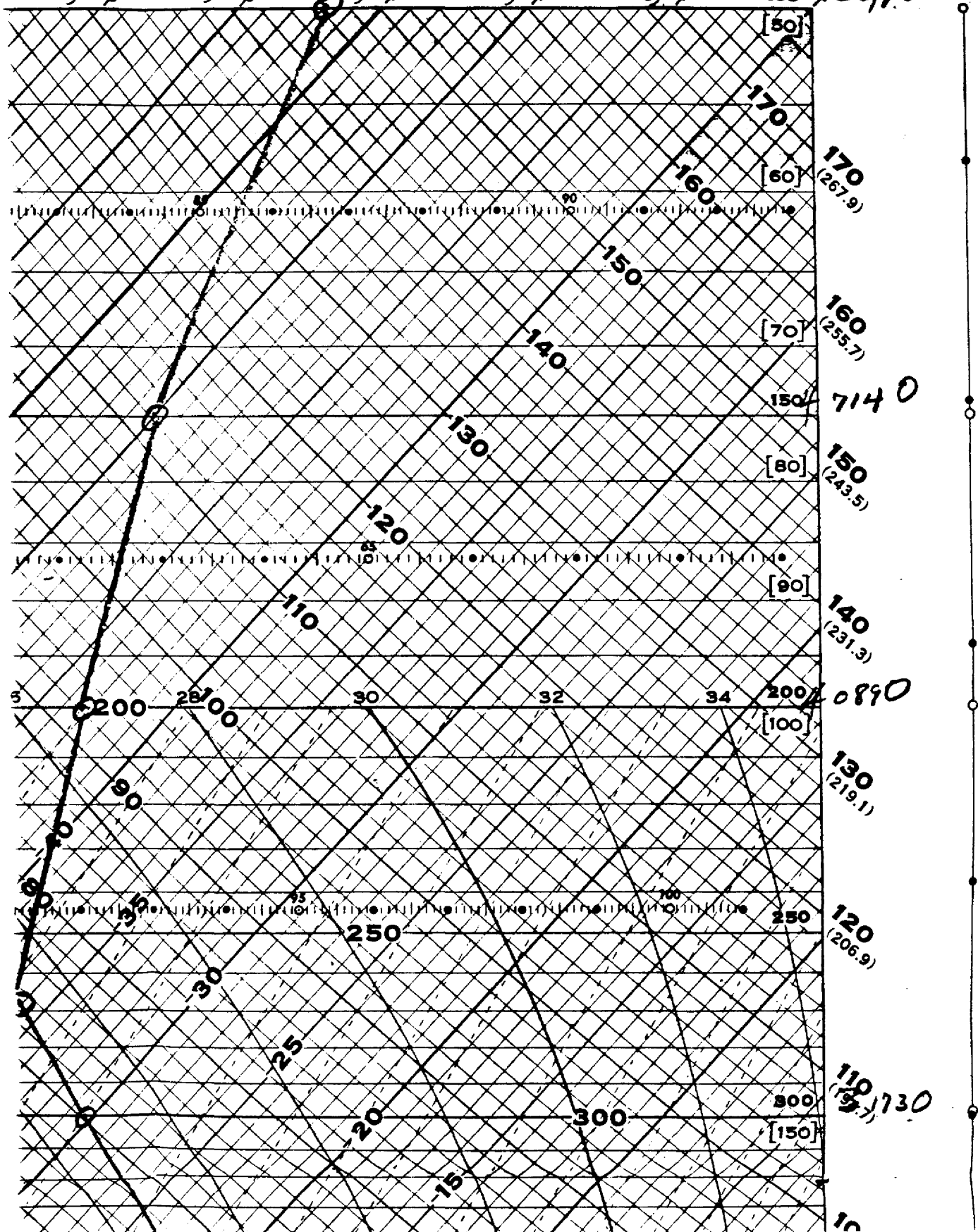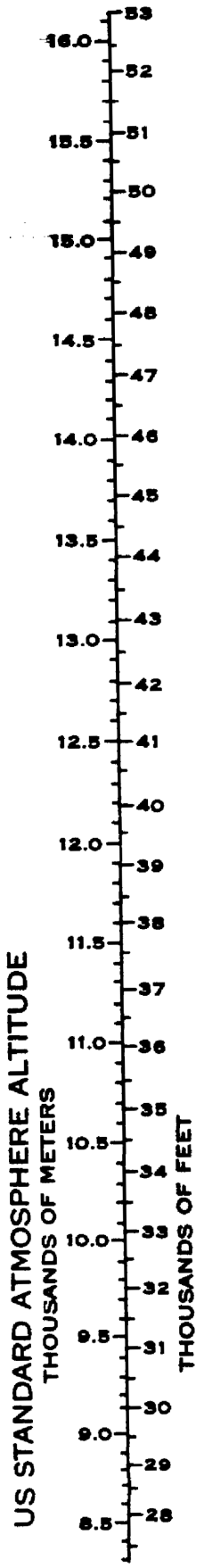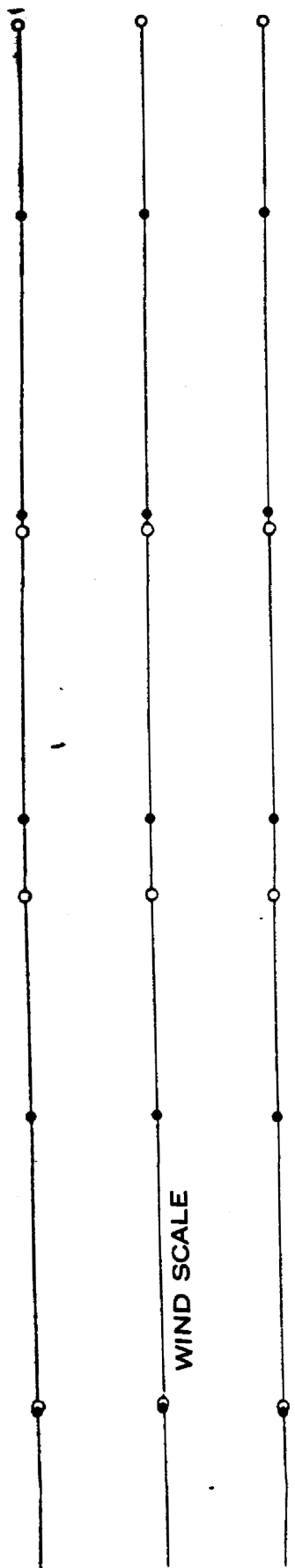
EXPLANATION

ISOBARS are straight, horizontal brown lines. The heights in feet of the pressure surfaces in the U.S. Standard atmosphere are in parenthesis ( ) below the pressure values on the left.

ISOTHERMS (°C) are the straight, equidistant brown lines running diagonally upward from left to right.

DRY ADIABATS are the slightly curved brown lines that intersect the 1000 mb. isobar at intervals of 2°C, and run diagonally upward from right to left. The Dry Adiabats for the folded portion of the pressure range are labeled with two (2) values. (See below).

SATURATED ADIABATS are the curved green lines that intersect the 1000 mb. Isobar at intervals of 2°C, diverging upward and tending to become parallel to the dry adiabats.

SATURATION MIXING RATIO (in gm. per kg.) is represented by dashed green lines. Their values appear at the bottom of diagram.

THICKNESS (in hundreds of geopotential feet) of the layers between the levels 1000, 700, 500, 300, 200, 150 and 100 mb. is represented by numbers and a graduation along the middle of each layer. The thicknesses are obtained from the virtual temperature curve by the equal-area method, using any straight line as a dividing line.

HEIGHT in geopotential feet above mean sea level, or station level, of the 1000 mb. surface is obtained from the nomogram in the upper left-hand corner by drawing a straight line from the point on the temperature scale (°F) through the point p_0 (mean sea level or station pressure) on the pressure scale, and reading the height on the height scale.

U.S. STANDARD ATMOSPHERE SOUNDING is indicated by a thick brown line.

The saturated adiabats and isopleths of saturation mixing ratio are computed by use of vapor pressure over a plane water surface at all temperatures.

Extension of chart to 50 mb has been accomplished by overlap with pressure indicated in brackets, $[200]$ at 400 mb, and $[50]$ at 100 mb. Dry adiabats for the overlap are labeled in parentheses ( ).
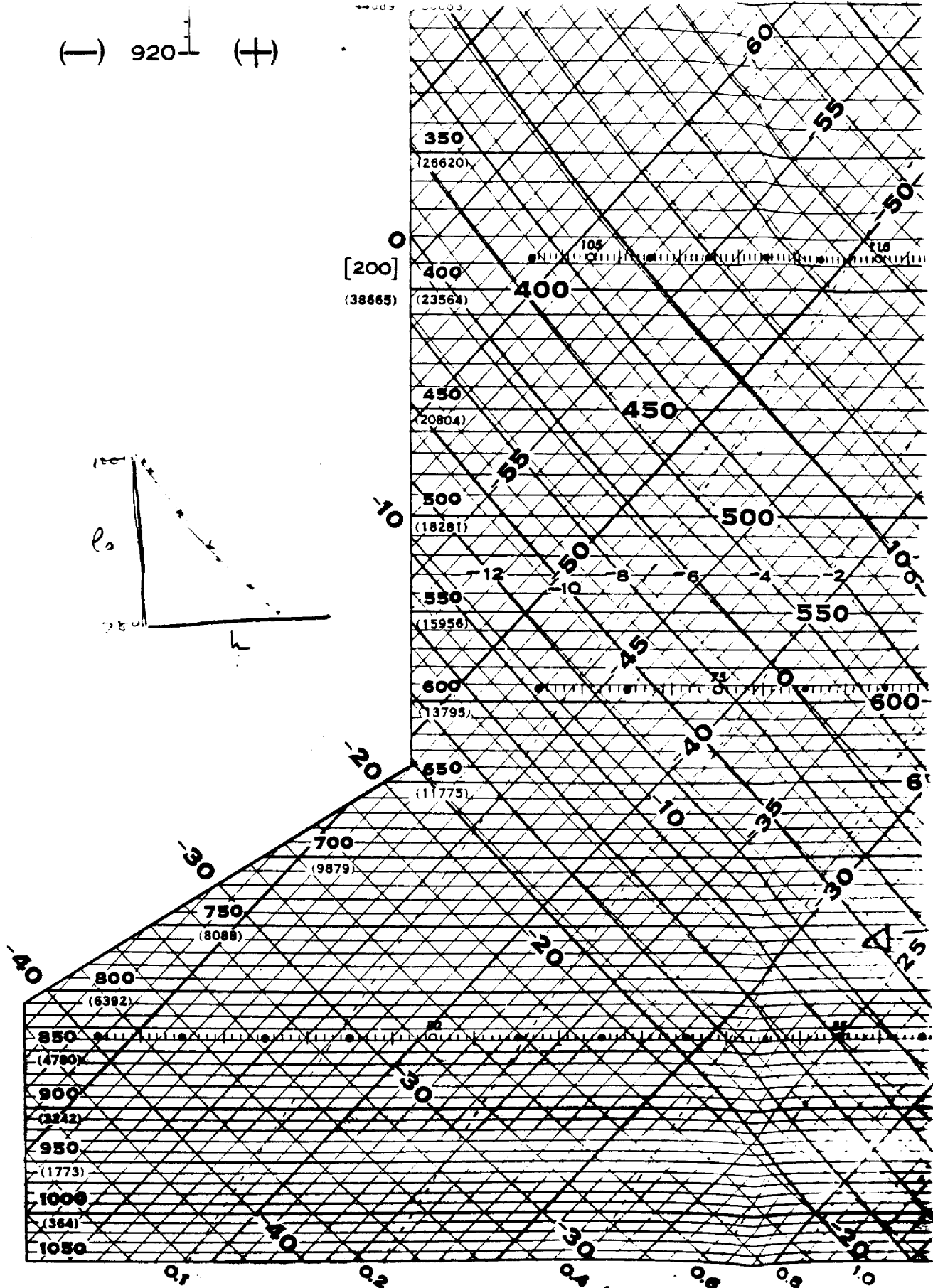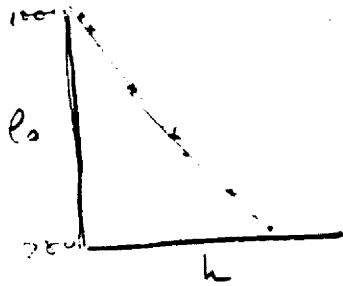
APPROXIMATE VIRTUAL TEMPERATURE may be obtained from the formula $T_v = T + \frac{w}{6}$ where T_v is virtual temperature in °C, T is free air temperature in °C, and w is mixing ratio in grams/kilogram. For purposes of thickness computation, use the mean temperature of the layer for T and use the mean mixing ratio of the layer for w.
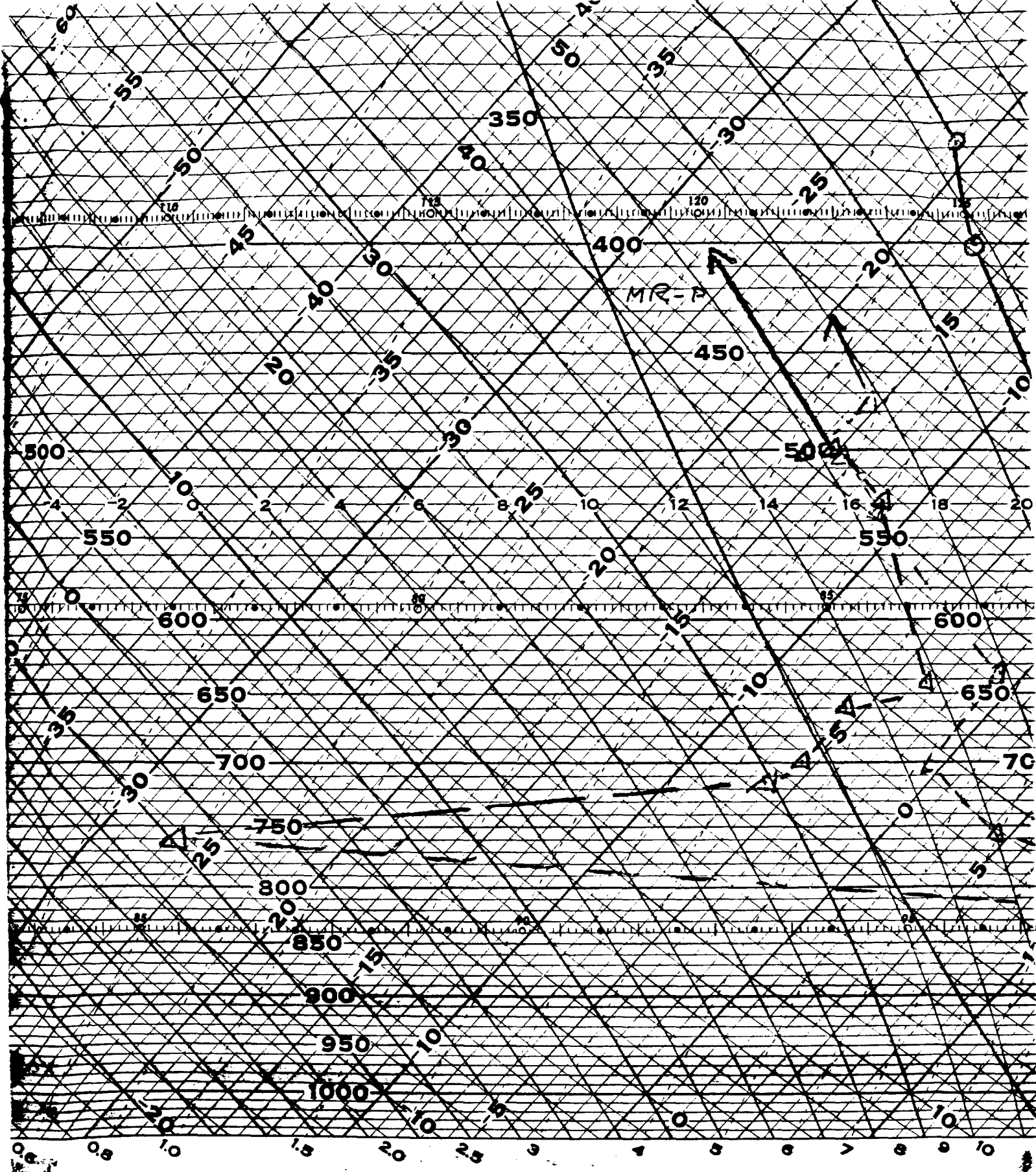
Sounding data will be entered on two (2) sets of charts. One chart will include 0300Z and 1500Z soundings; the other 0900Z and 2100Z soundings. To provide twelve (12) hour continuity the preceding 1500Z or the 2100Z soundings, whichever the case may be, will be entered as a trace of the temperature curve without the reproduction of data or circling of any point. (See AWSM-105-22).

Black dots ● along wind scale lines indicate the levels for which wind data is reported and plotted. The open circles ○ indicate the mandatory pressure levels at which wind data is also entered.
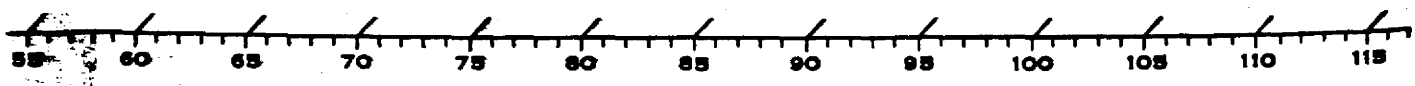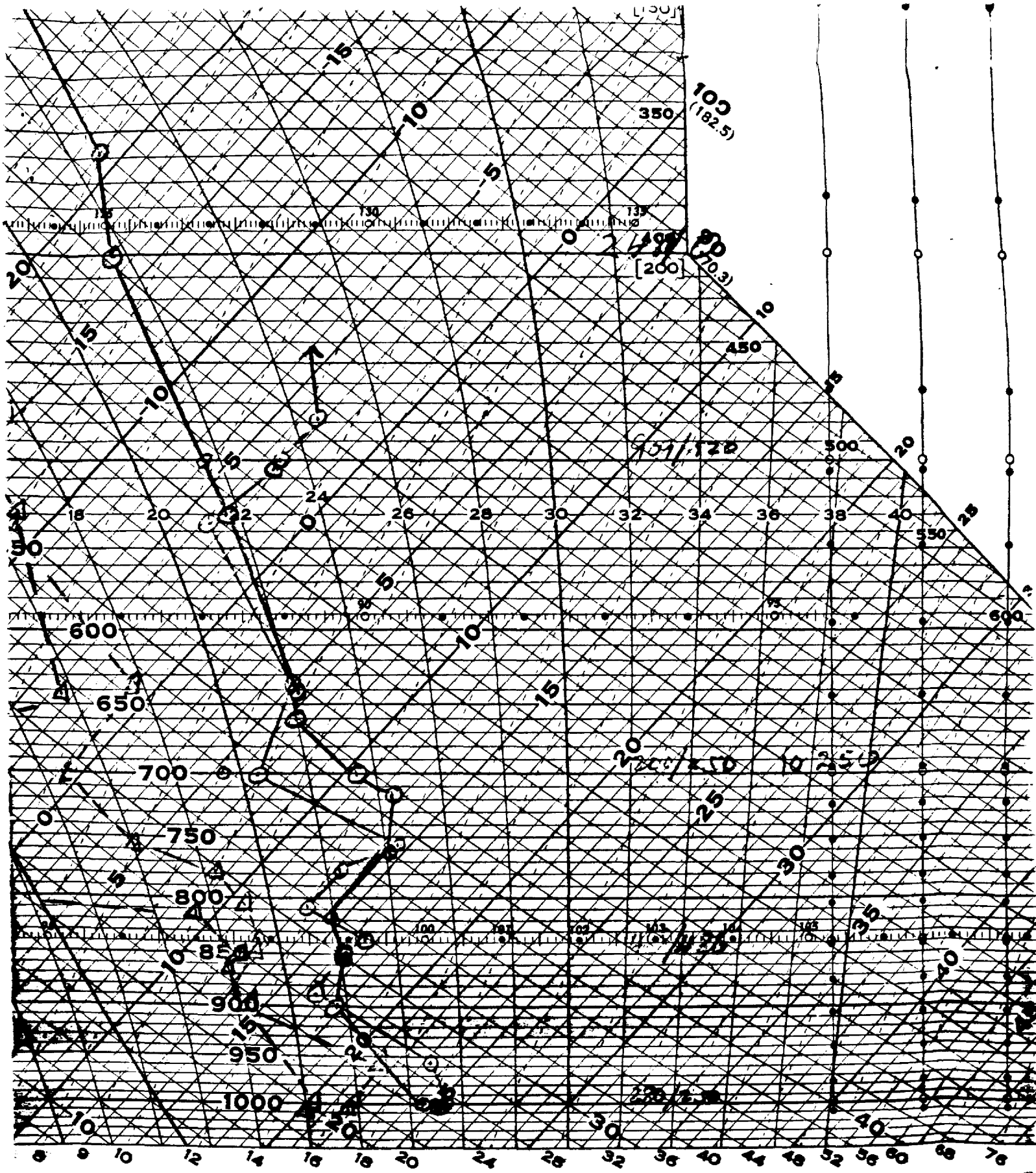
HEIGHT

(—) 920 (+)

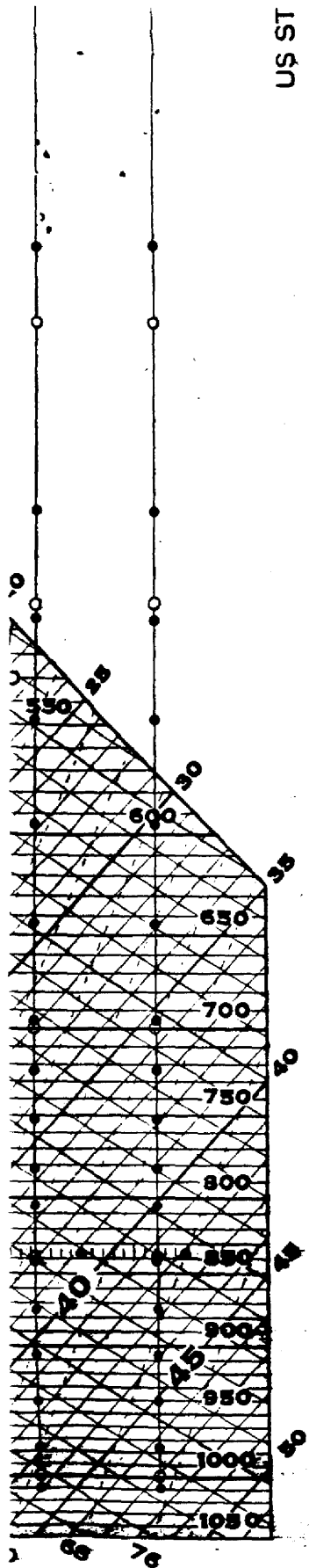[200]

1500
1600
1700
1800
1900
2000
2100
2200
2300

60
55
50

350
(26620)

O

400
(23564)   **400**

450
(20804)   **450**

-10

500
(18281)   **500**

55
50
45
-12
-10   8   6   4   2   10-6

550
(15956)   **550**

600
(13795)   40   0   600

-20

650
(11775)   -10   35   6

-30

700
(9879)

-40

750
(8088)

800
(6392)   20   25

850
(4780)   30

900
(3242)   20

950
(1773)

1000
(364)   30   -30

1050   40   -30   -20   1.0

0.1   0.2   0.4   0.6   0.8   1.0

-45 -40 -35 -30 -25 -20 -15 -10 -5 0 5 X

FA|

FAHRENHEIT TEMPERATURE SCALE

$$\rho_0 - \frac{T_{w.6}}{2.3 \rangle T'^{\circ}A}$$

CVE 115	*BAIROKO*
NUMBER	STATION
1500 Z	*28 Feb. 54*
TIME (GCT)	DATE (GCT)

CVE 115	*BAIROKO*
NUMBER	STATION
0300 Z, R	*1 MARCH 54*
TIME (GCT)	DATE (GCT)

NUMBER	STATION
TIME (GCT)	DATE (GCT)

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