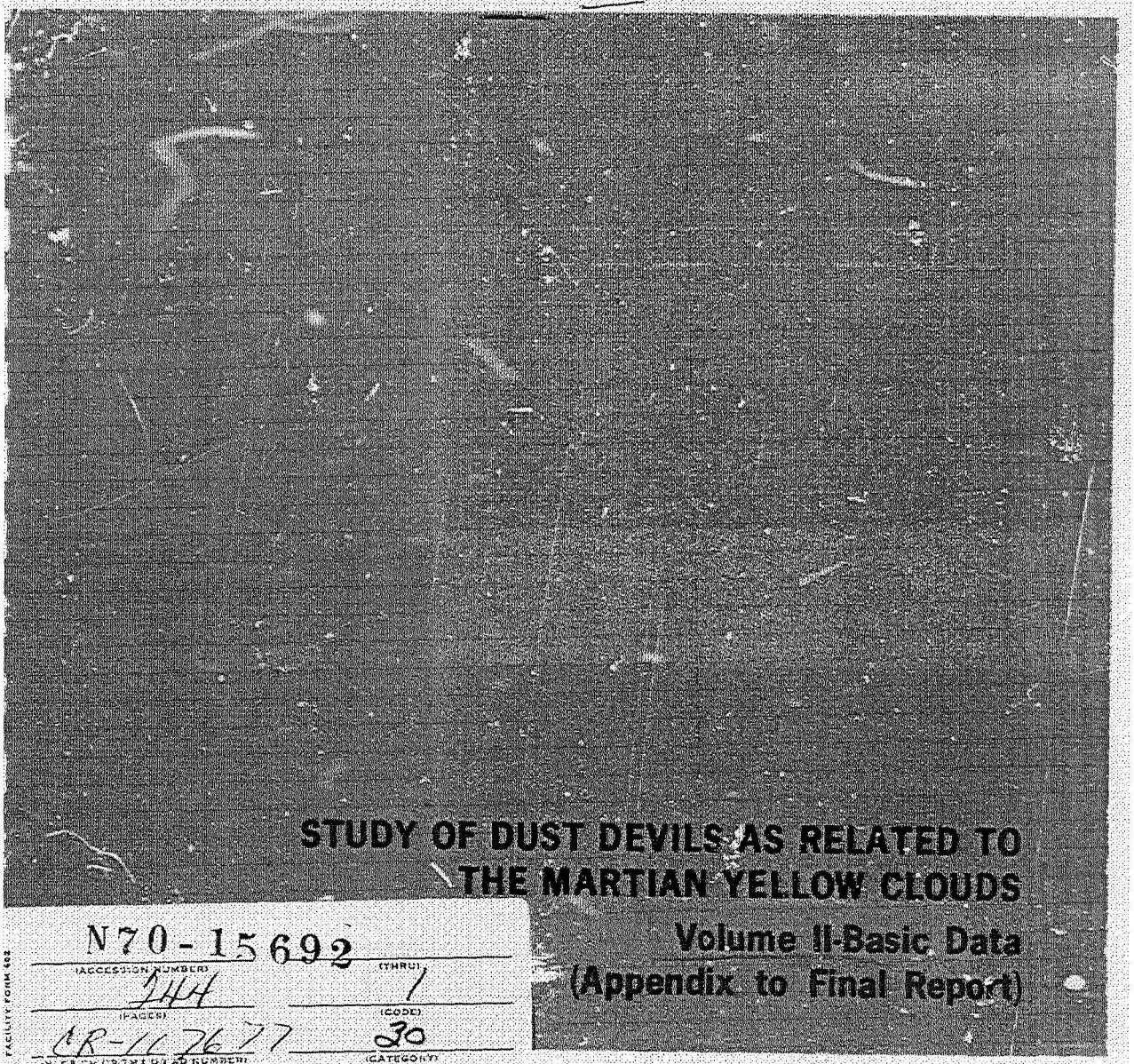
DAC-63112



STUDY OF DUST DEVILS AS RELATED TO THE MARTIAN YELLOW CLOUDS

Volume II-Basic Data (Appendix to Final Report)

N70-15692
(ACCESSION NUMBER) (THRU)
144 1
(PAGES) (CODE)
CR-106677 30
(NASA CR OR TMX OR AD NUMBER) (CATEGORY)
FACILITY FORM 602

MCDONNELL DOUGLAS ASTRONAUTICS COMPANY

MCDONNELL DOUGLAS CORPORATION

JANUARY 1969

STUDY OF DUST DEVILS AS RELATED TO THE MARTIAN YELLOW CLOUDS

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DAC-63112

Volume II-Basic Data (Appendix to Final Report)

PREPARED BY
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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RESEARCH AND DEVELOPMENT

MCDONNELL DOUGLAS ASTRONAUTICS COMPANY
WESTERN DIVISION

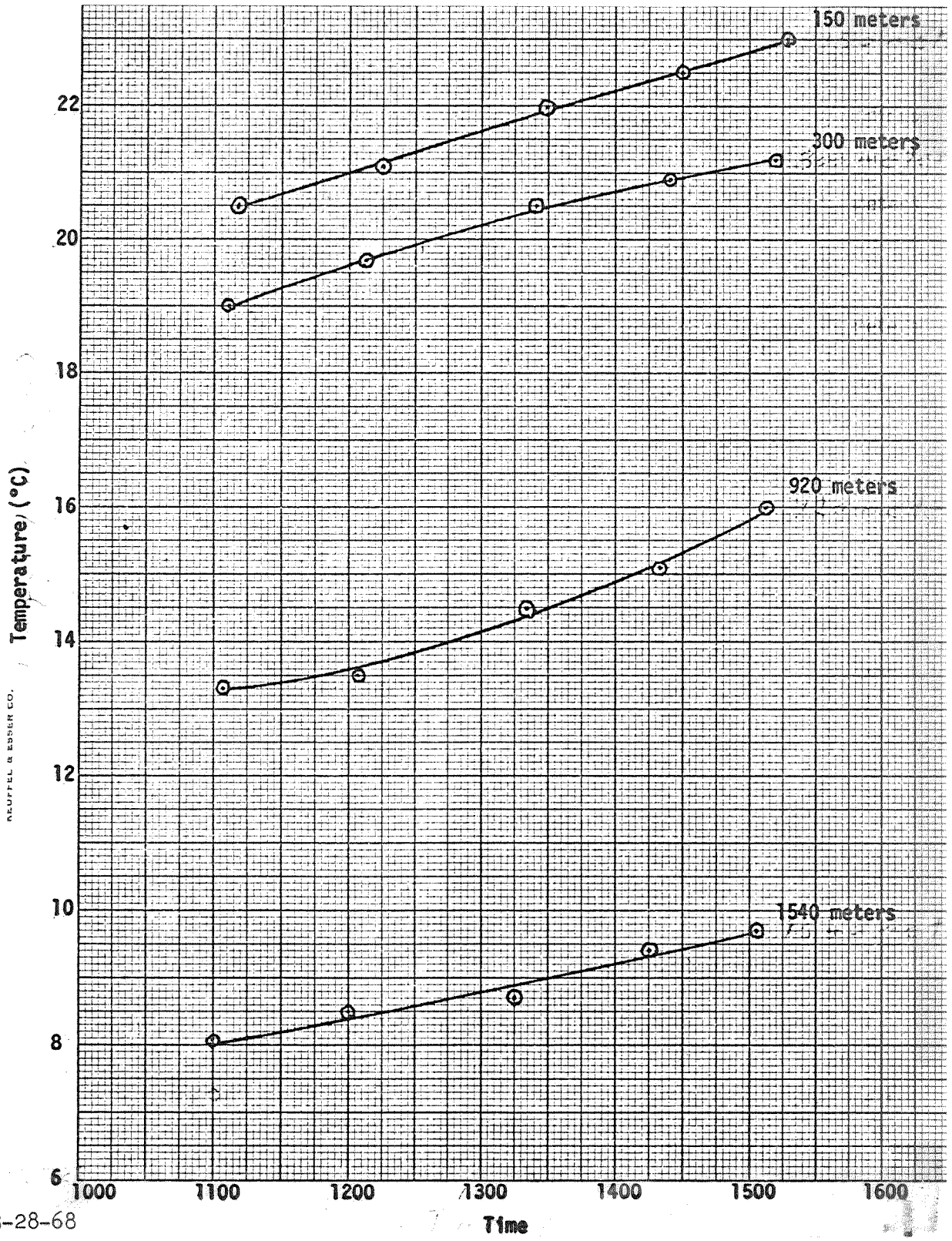
MCDONNELL DOUGLAS CORPORATION

PREFACE

This report summarizes work performed by the Space Sciences Department, McDonnell Douglas Astronautics Company - Western Division for the National Aeronautics and Space Administration under Contract NASw-1620. The work consisted of field experimental studies of dust devils, the establishment of a quantitative dust devil model, and the transformation of this model to Martian conditions to determine whether dust devils could occur on Mars and be responsible for the Martian yellow clouds. Volume I comprises the technical discussion and presents the program findings. The basic field experimental data are given in Volume II.

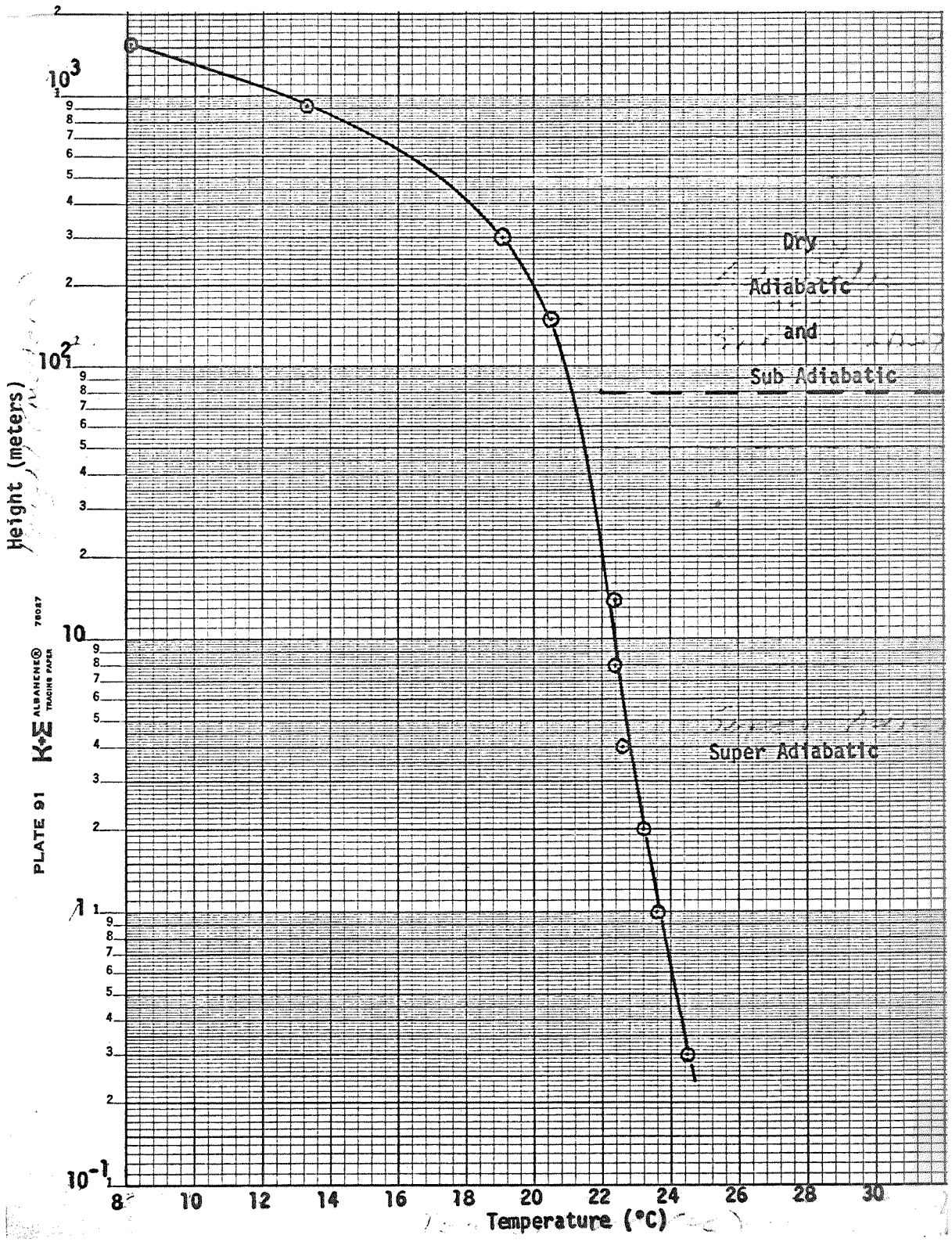
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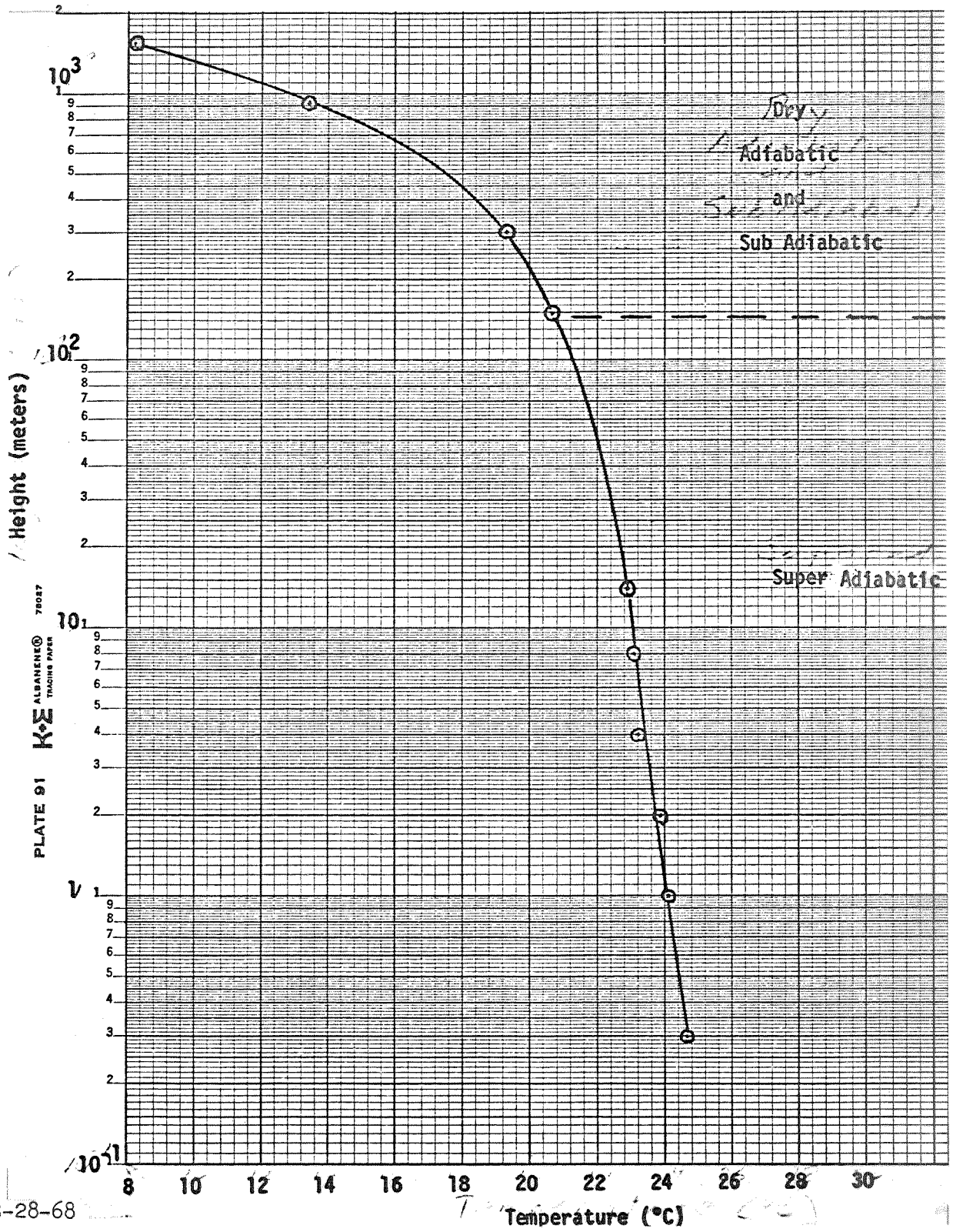
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Aircraft Soundings



3-28-68

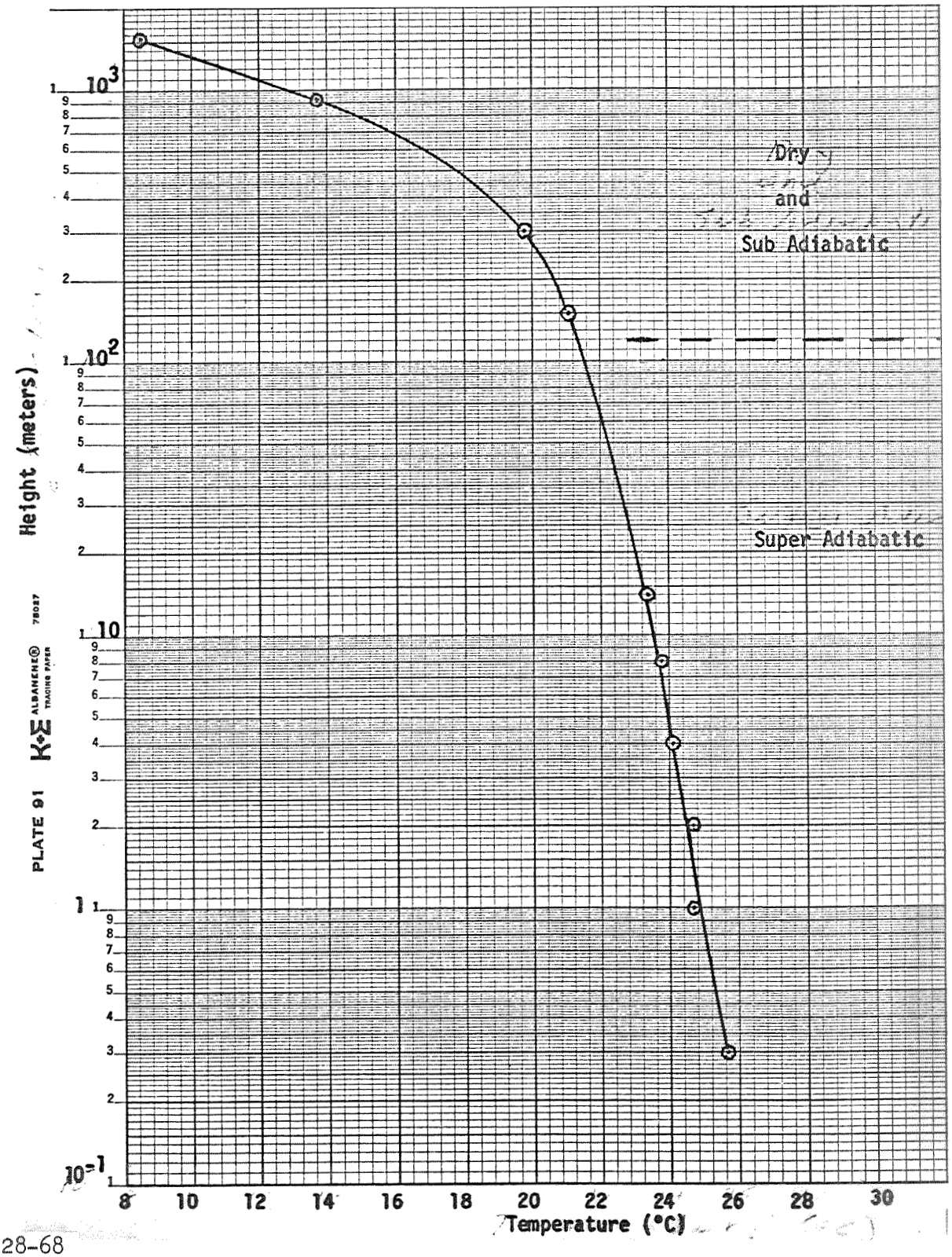
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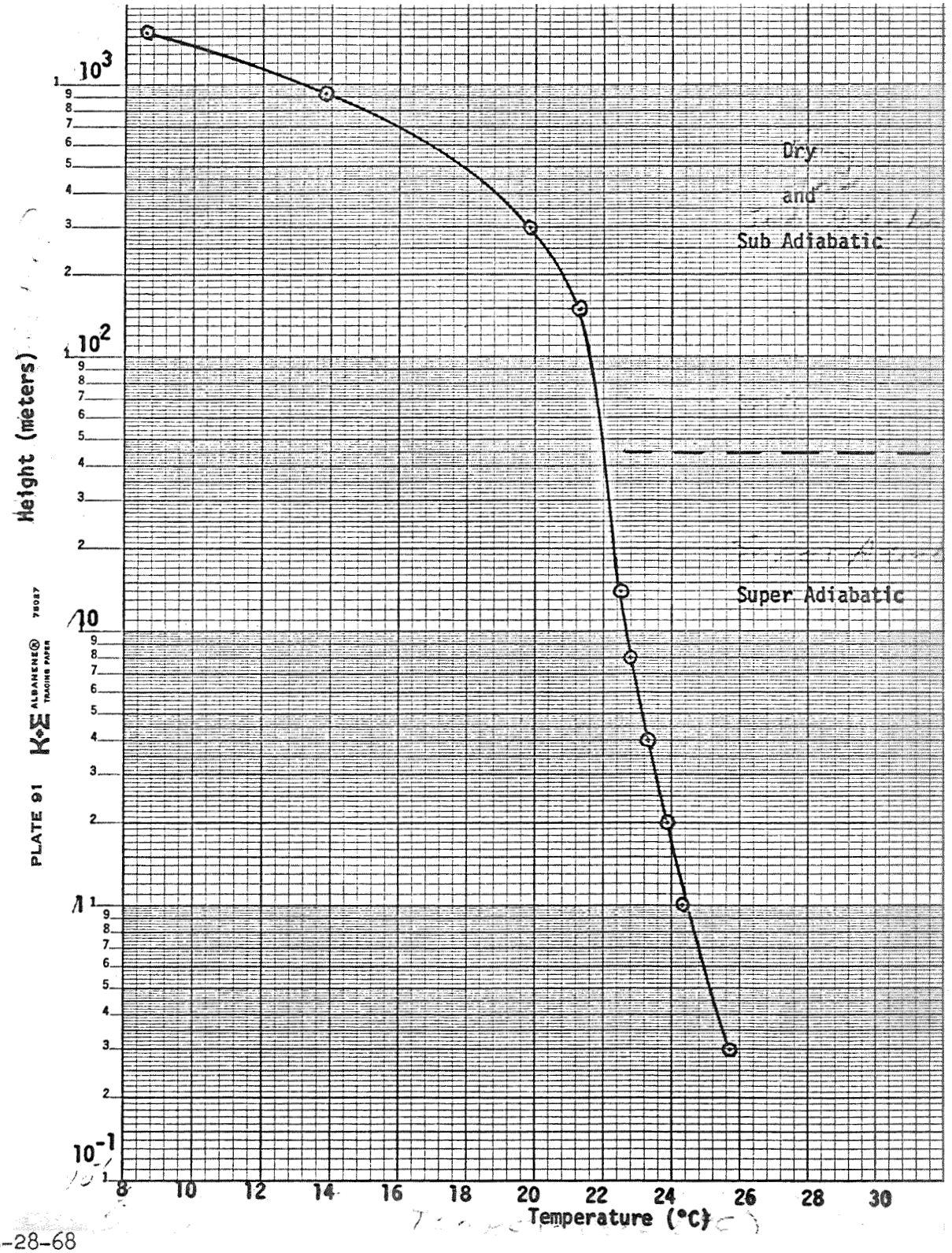
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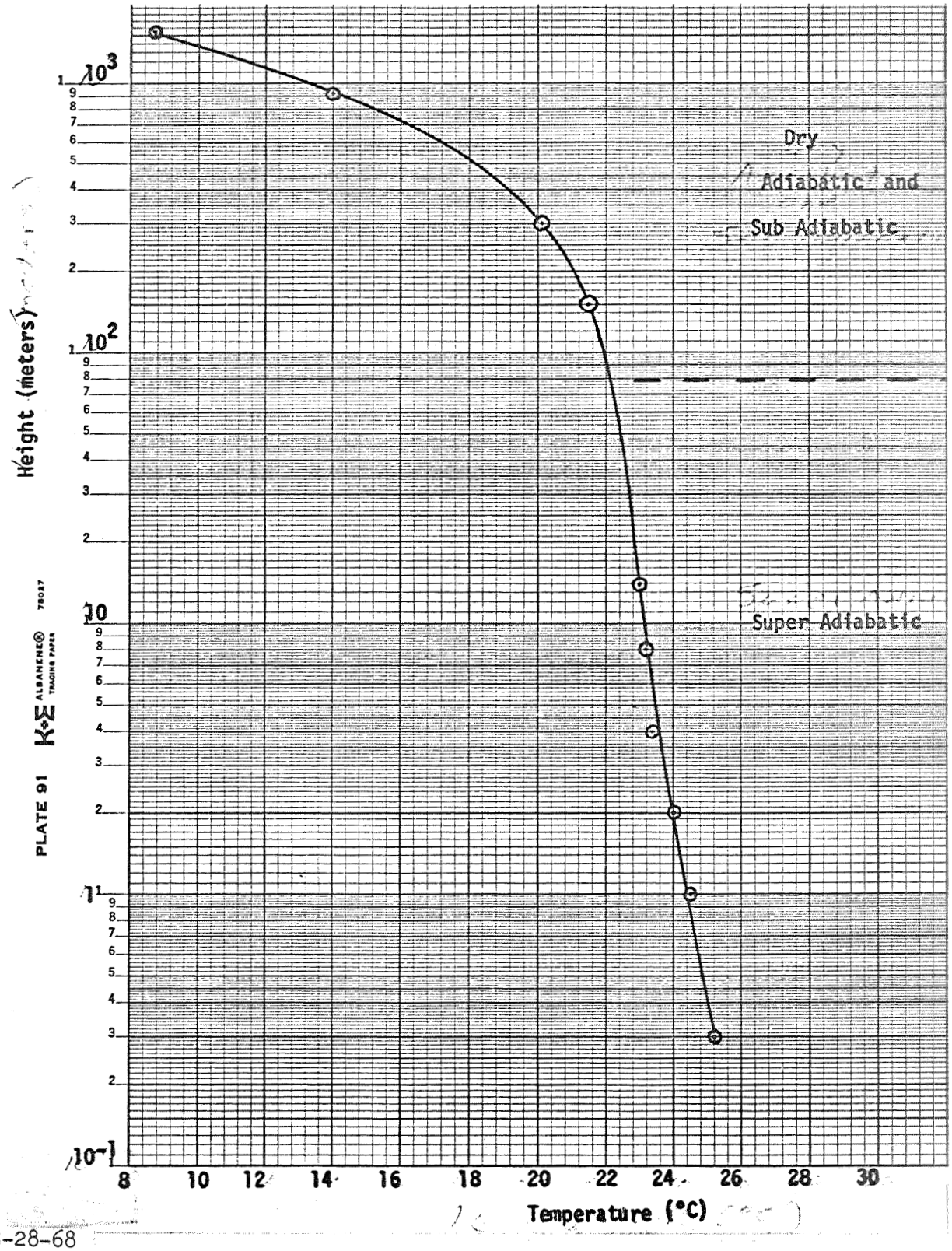
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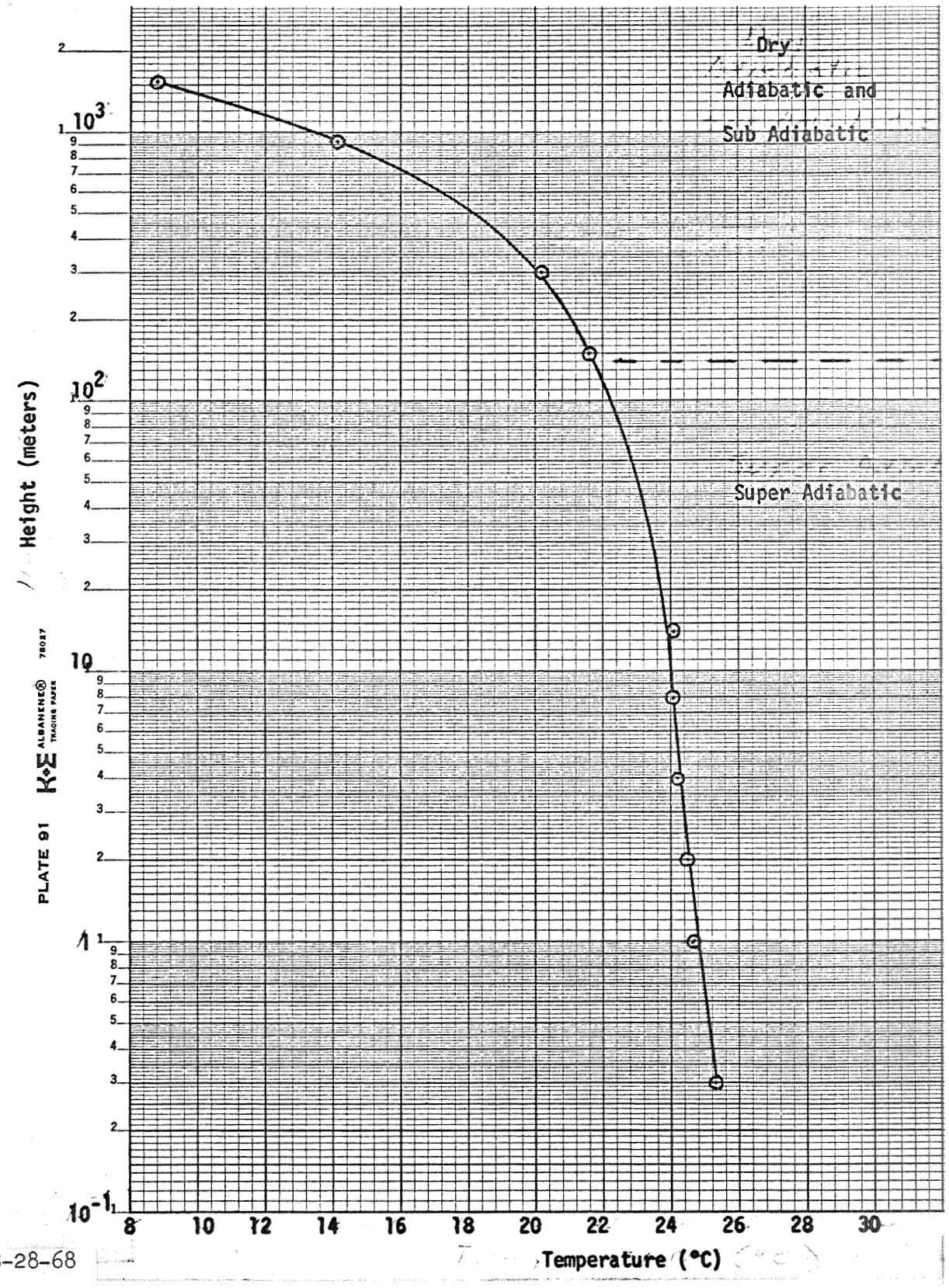
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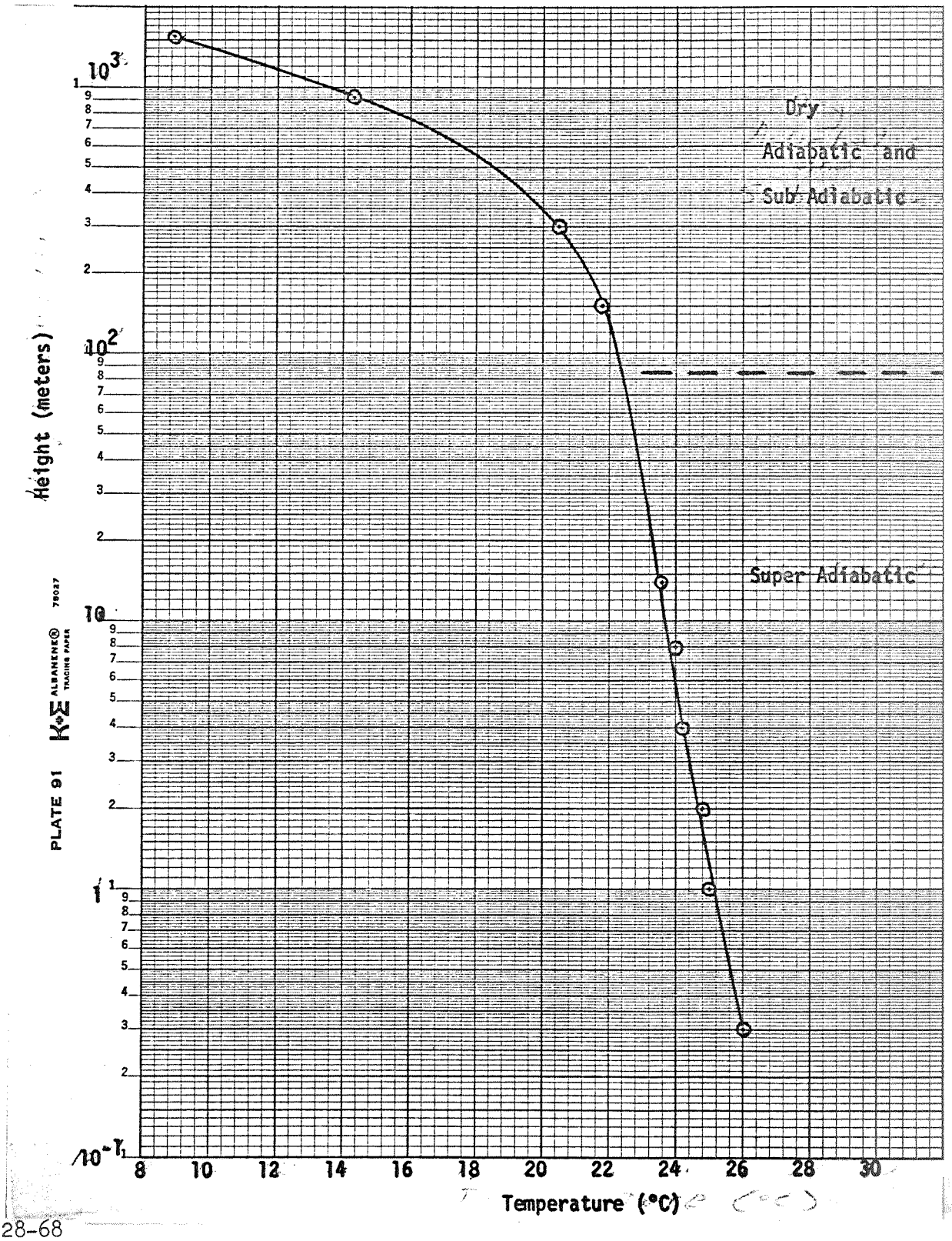
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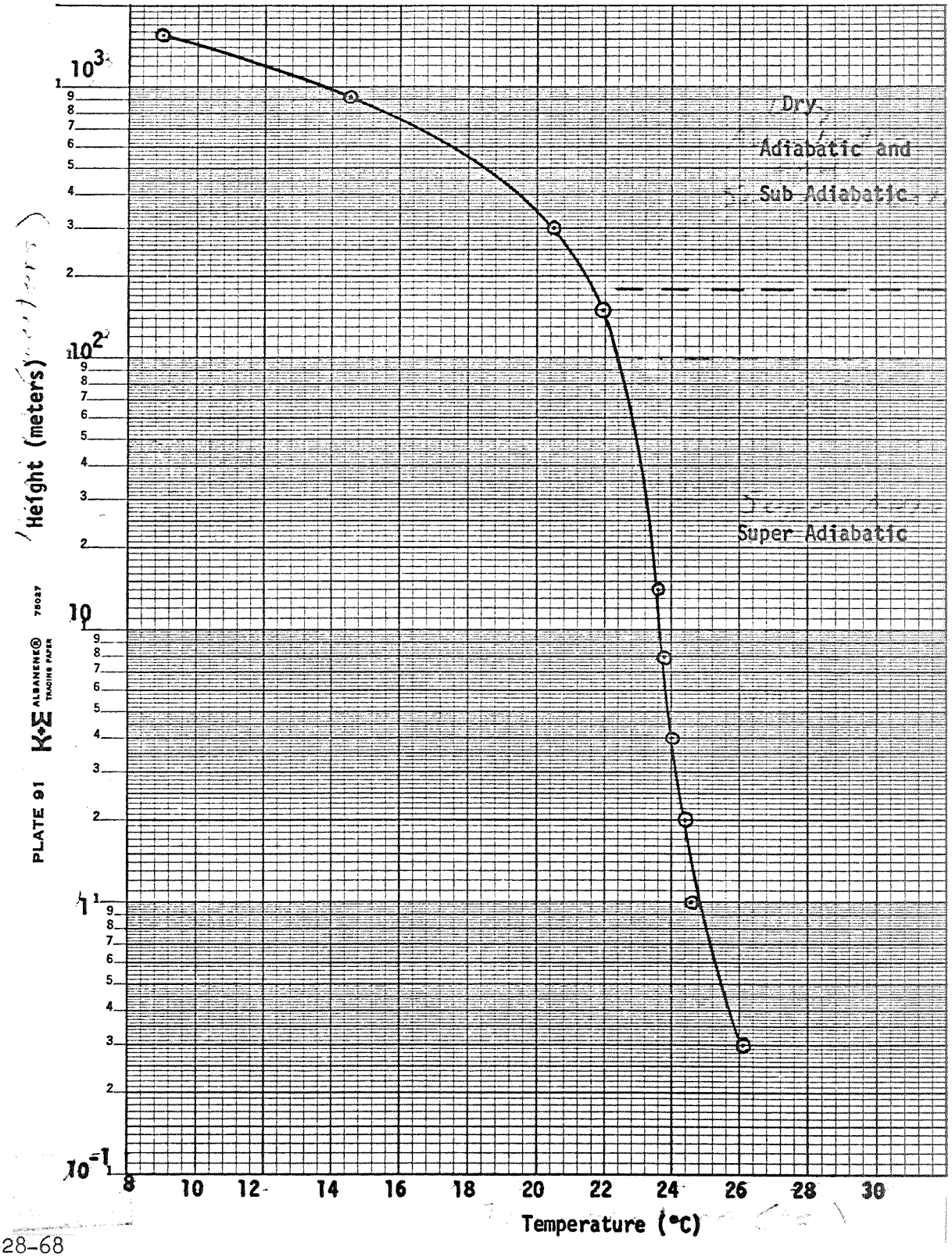
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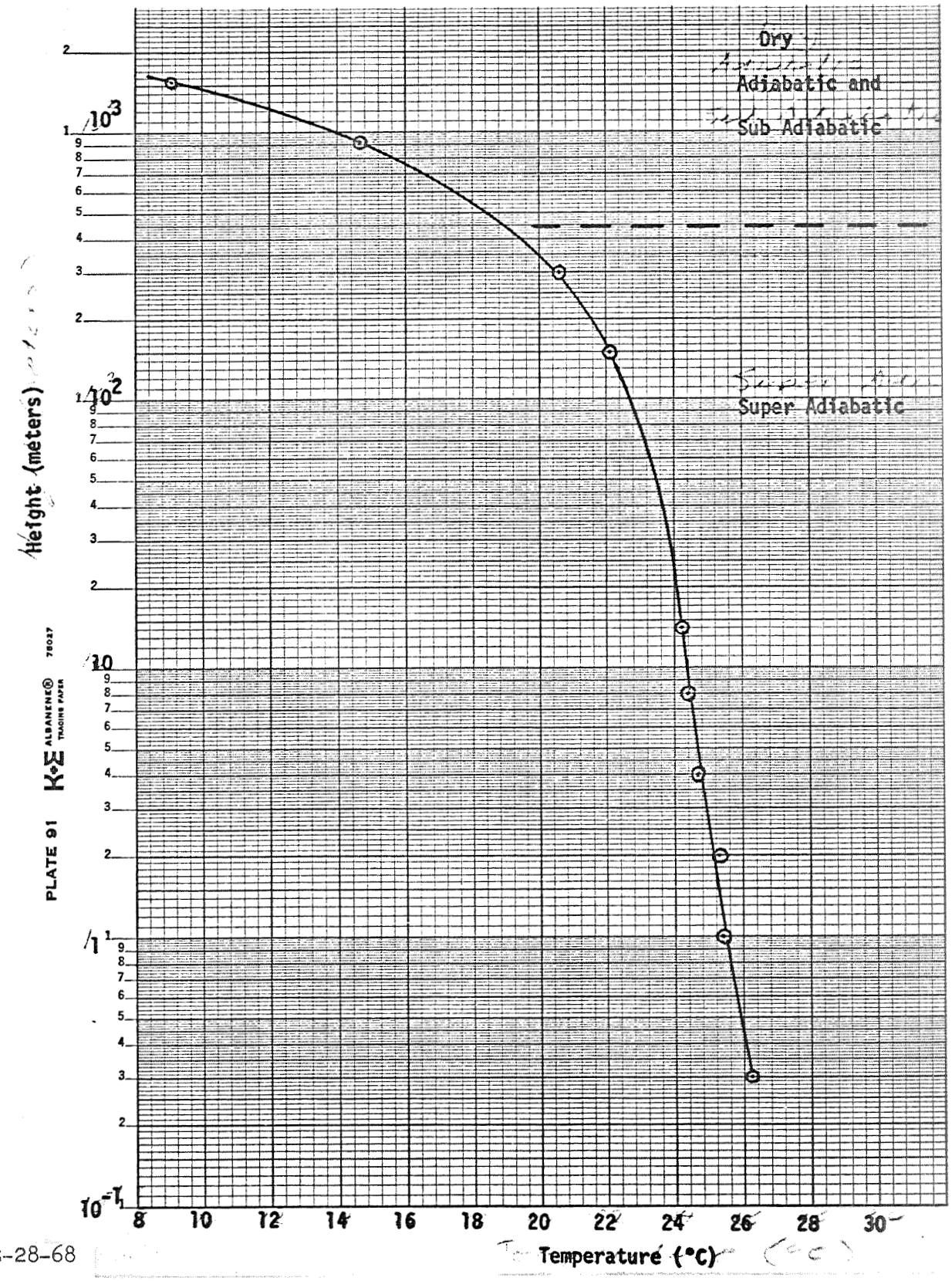
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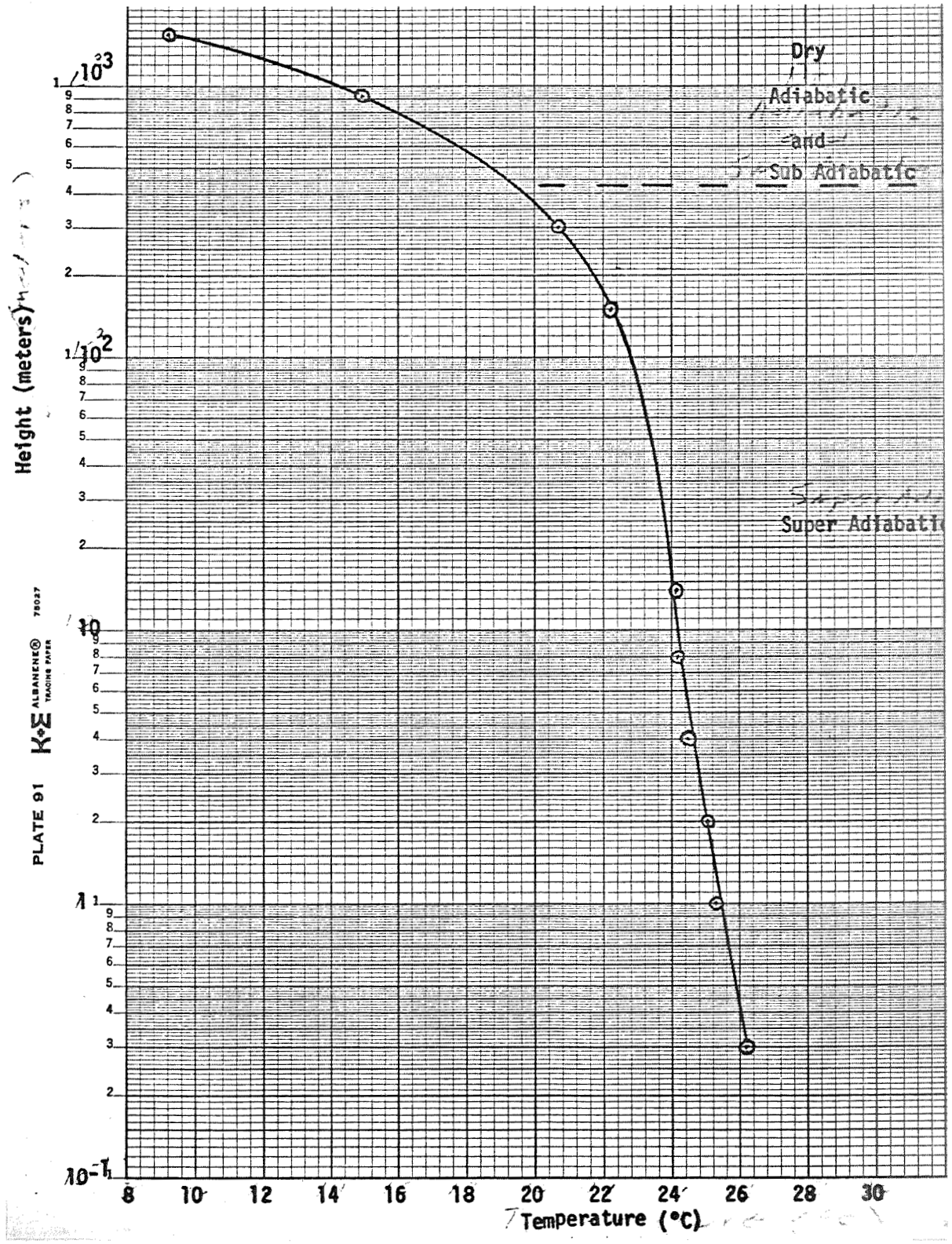
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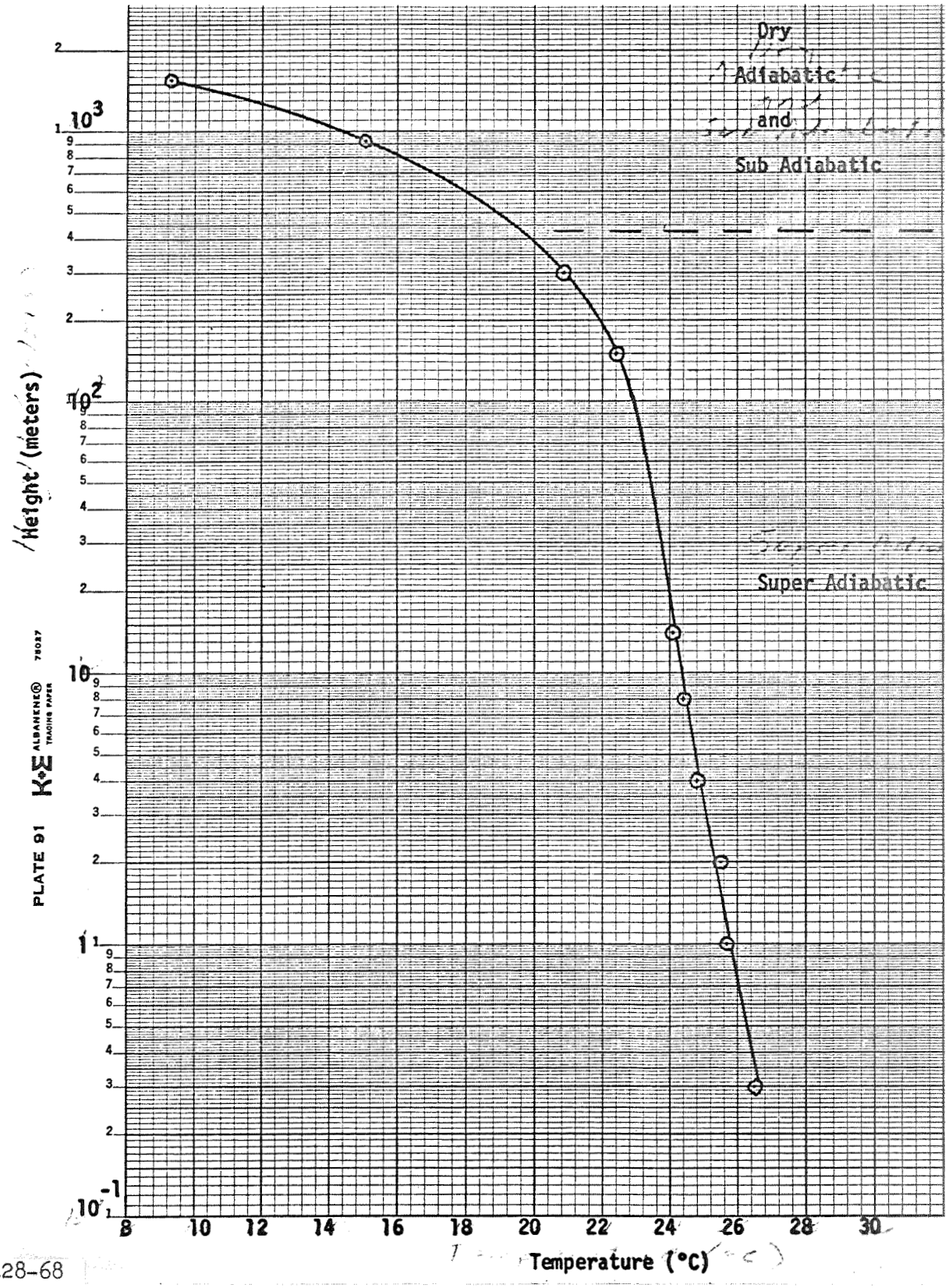
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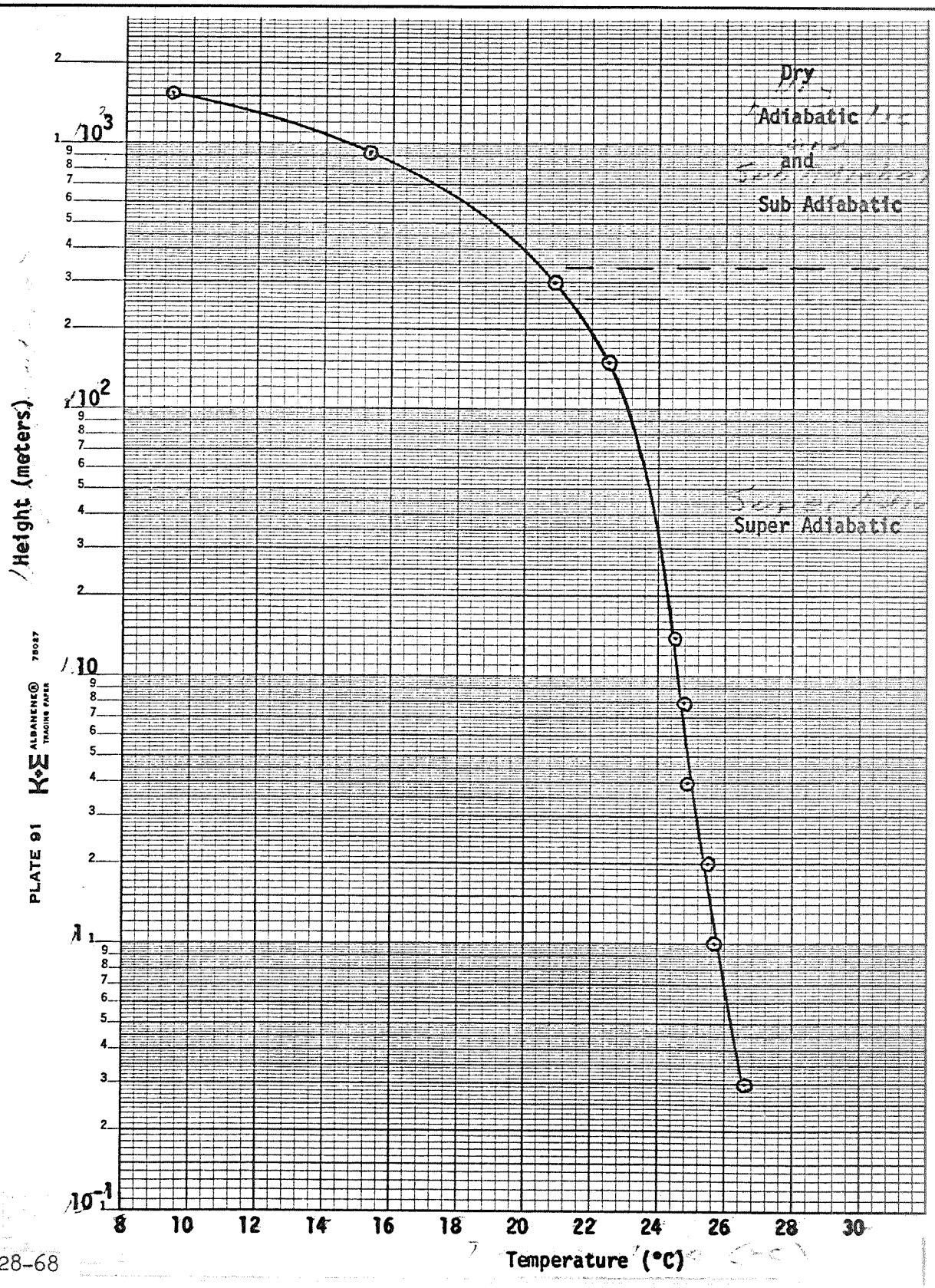
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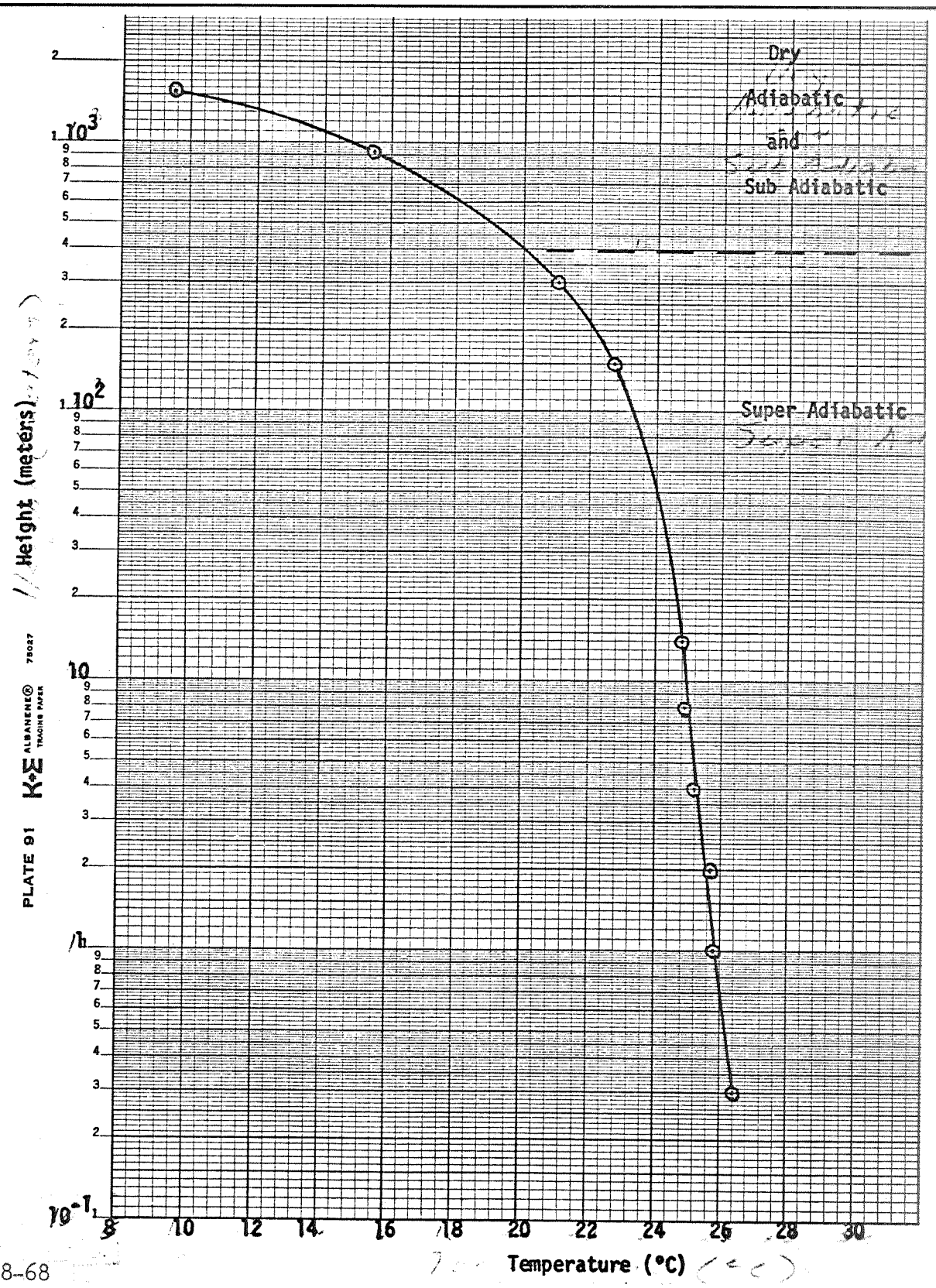
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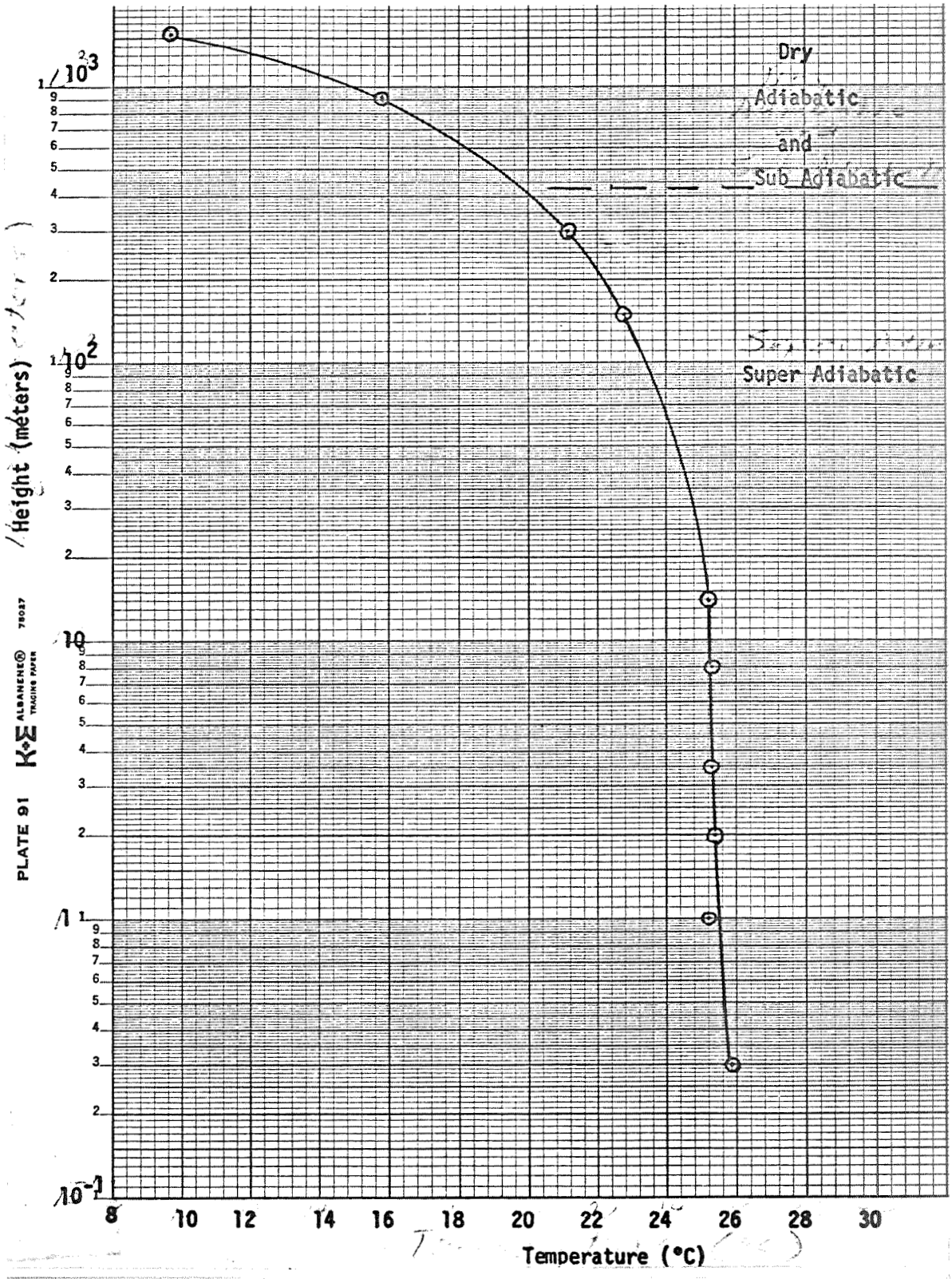
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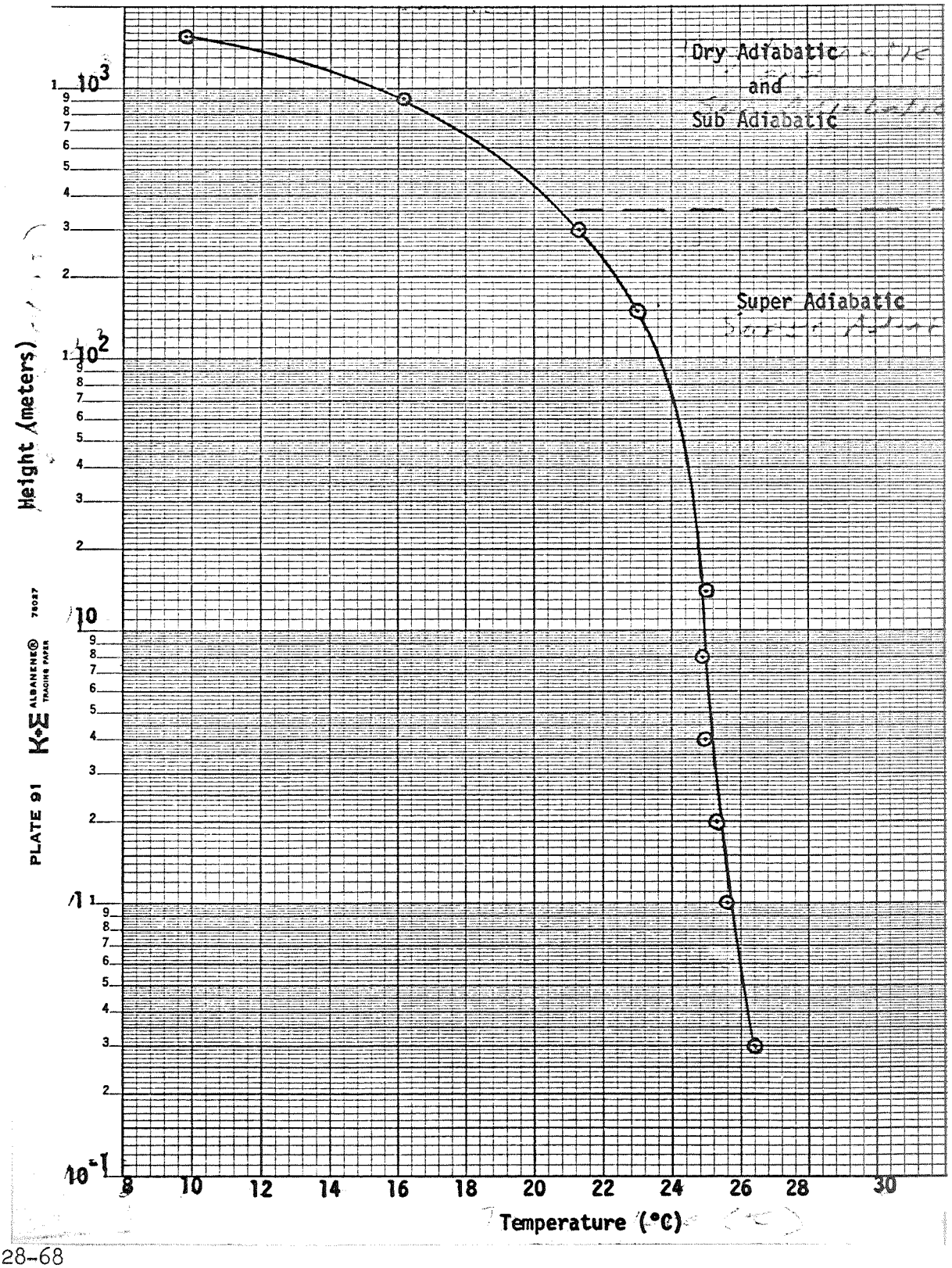
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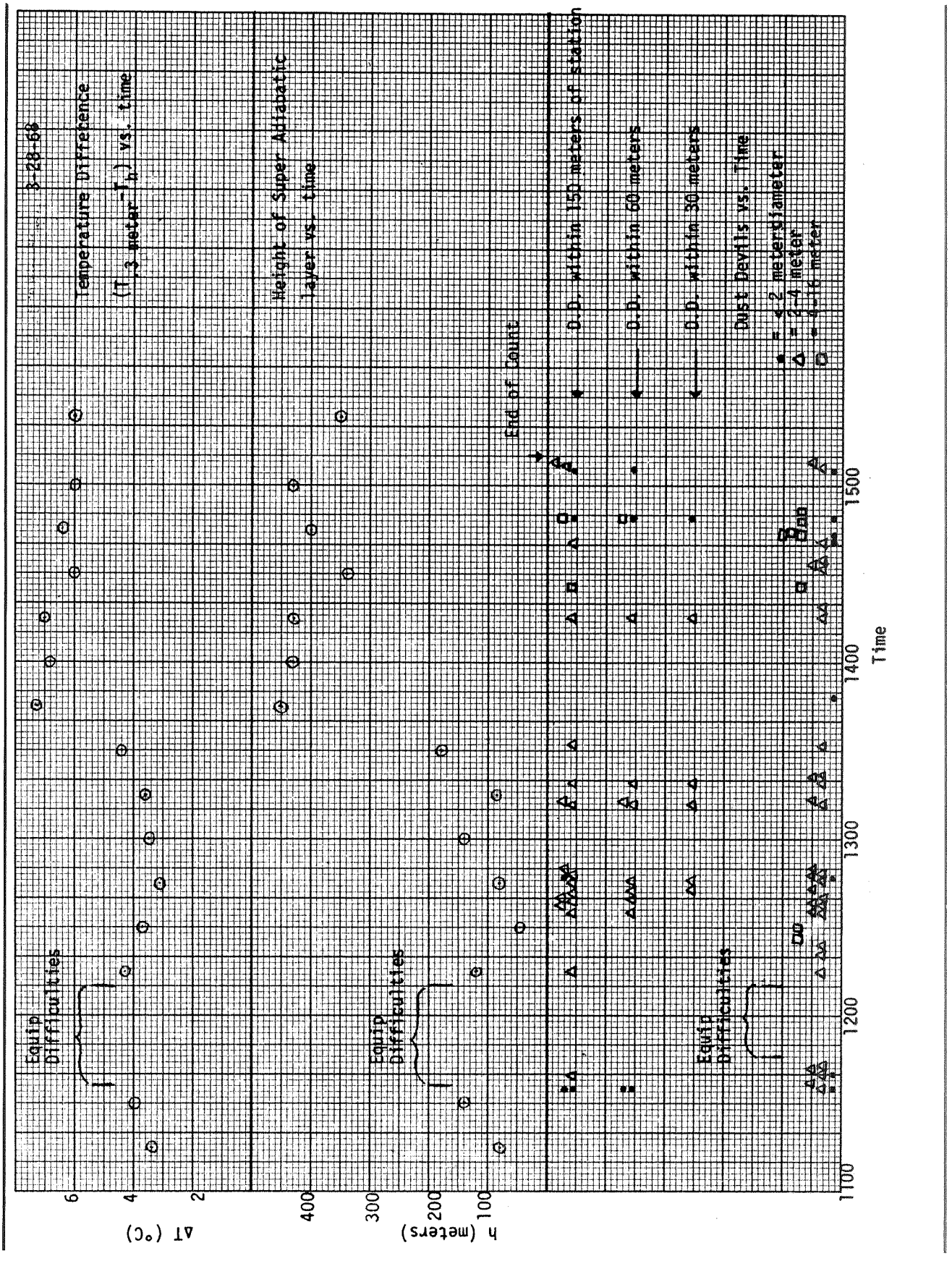
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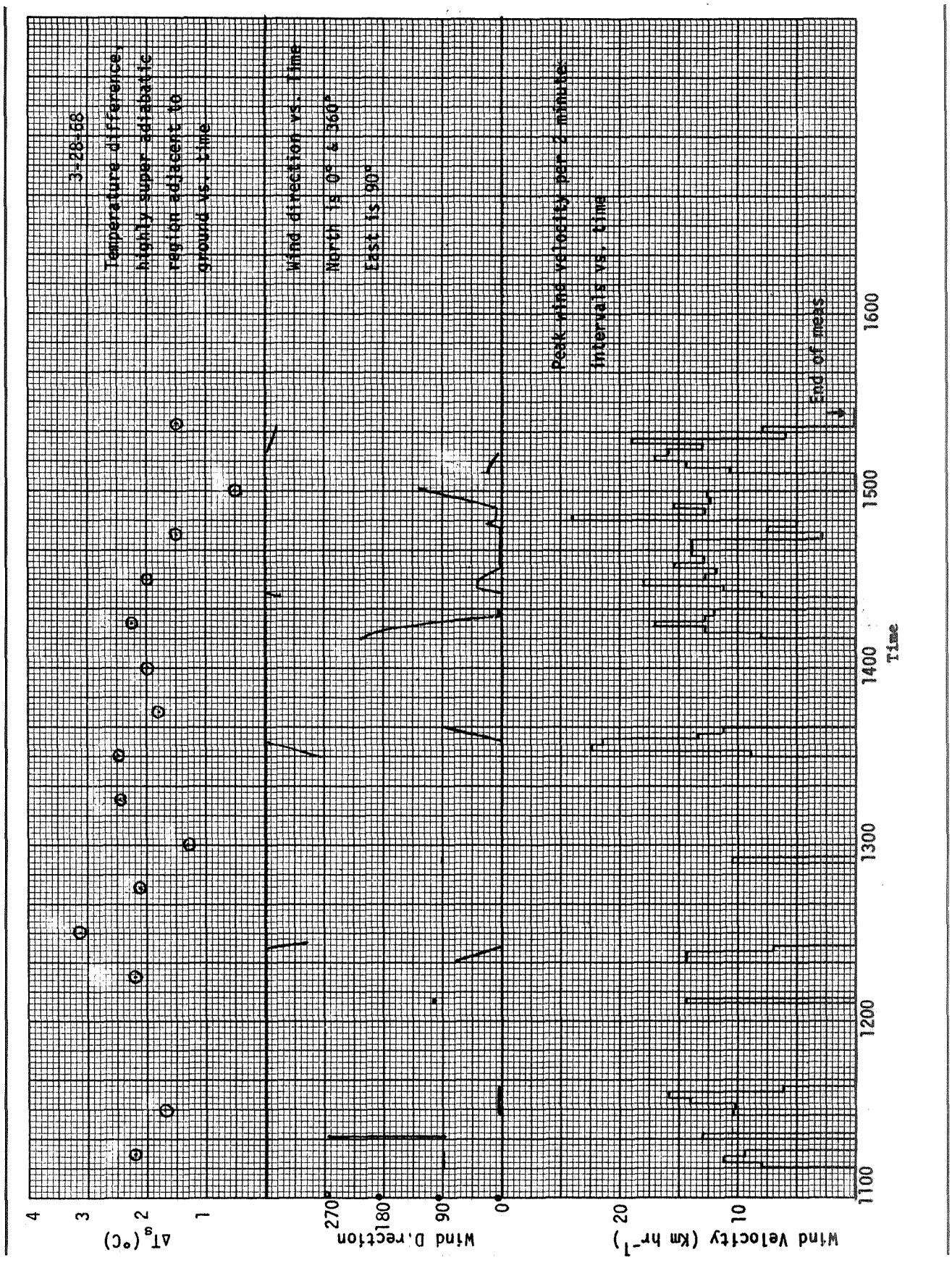

Dry Adiabatic
and
Sub Adiabatic
Super Adiabatic
Height (meters)
Temperature (°C)
8
10
12
14
16
18
20
22
24
26
28
30
PLATE 91
K+E ALBANENE® TRACING PAPER 79027

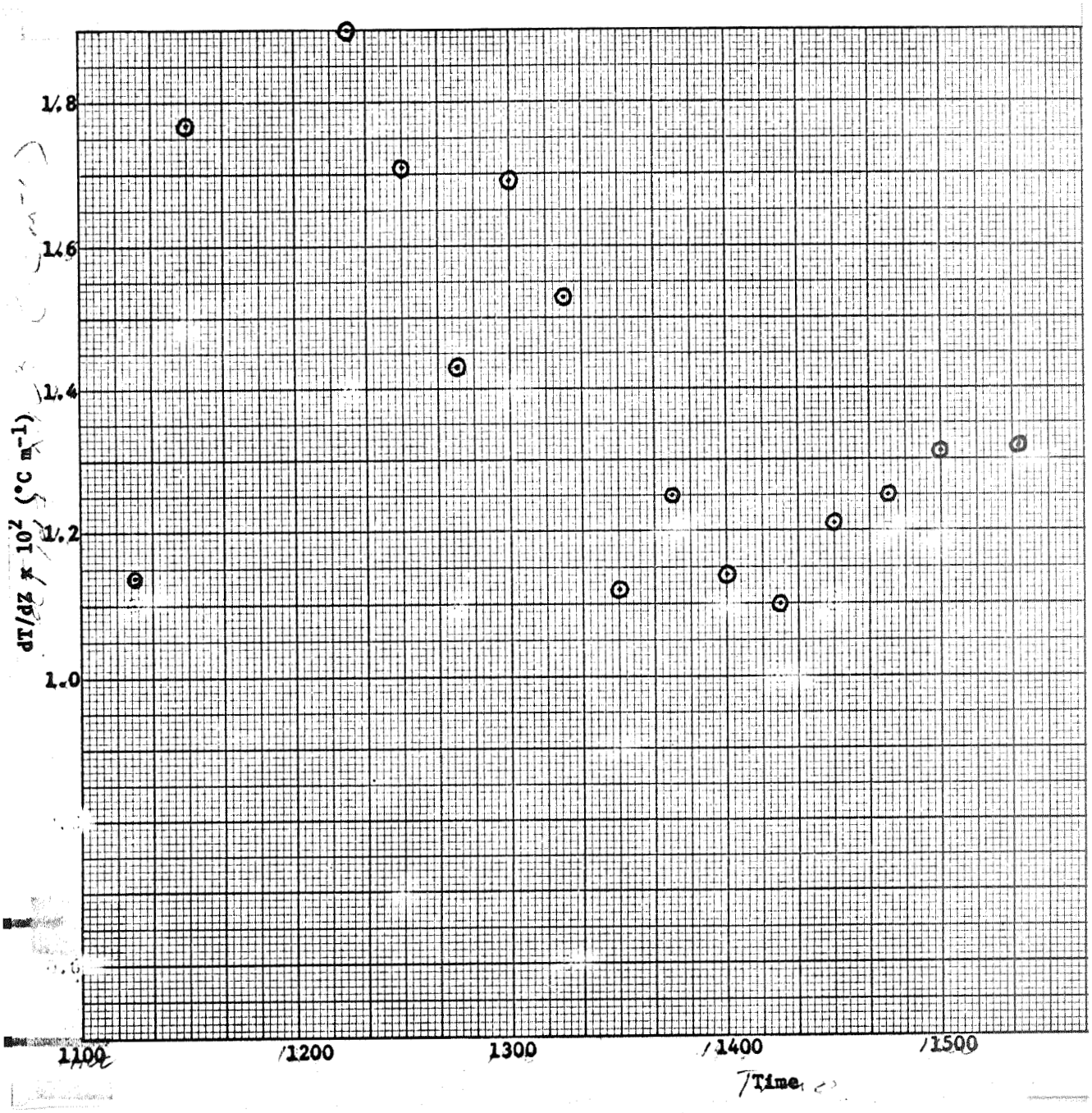
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1520


3-28-66
Temperature Difference
(T_3 meter - T_h) vs. time
Height of Super Adiabatic
Layer vs. time
End of Count
O.D. within 150 meters of station
O.D. within 60 meters
O.D. within 30 meters
Dust Devils vs. Time
= 2 meters/diameter
Δ = 2-4 meter
• 4-16 meter
Equip Difficulties
Equip Difficulties
Equip Difficulties
ΔT (°C)
h (meters)
Time
1100
1200
1300
1400
1500
2
4
6
100
200
300
400

M 30-692-9 (8-68)

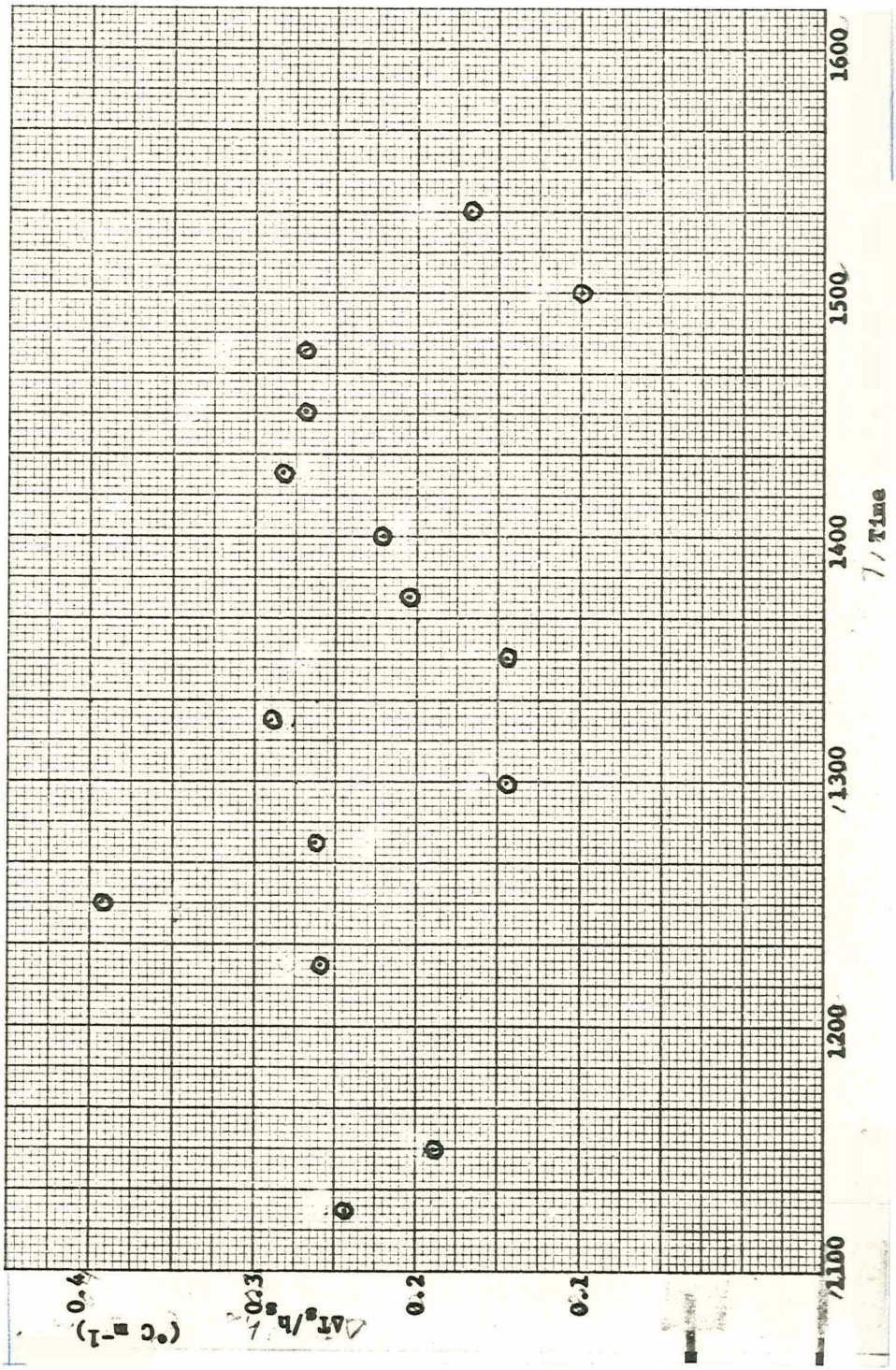

3-28-68
Temperature difference, highly super adiabatic region adjacent to ground vs. time
Wind direction vs. time
North is 0° & 360°
East is 90°
Peak wind velocity per 2 minute intervals vs. time
End of meas
ΔTs (°C)
Wind Direction
Wind Velocity (Km hr-1)
Time
4
3
2
1
270
180
90
0
20
10
1100
1200
1300
1400
1500
1600



3-28-68

Lapse Rate (dT/dz)

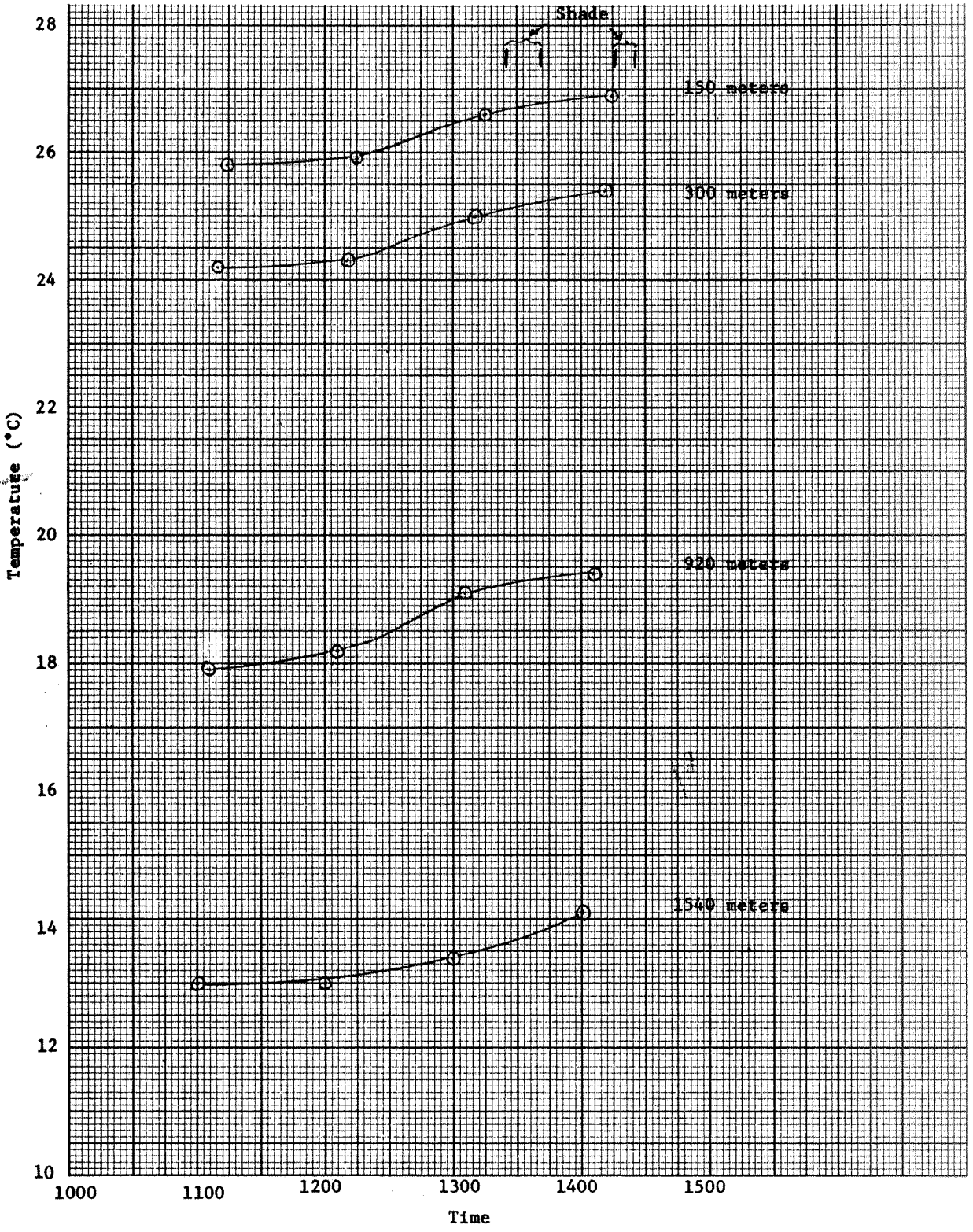
vs. Time



3-28-68

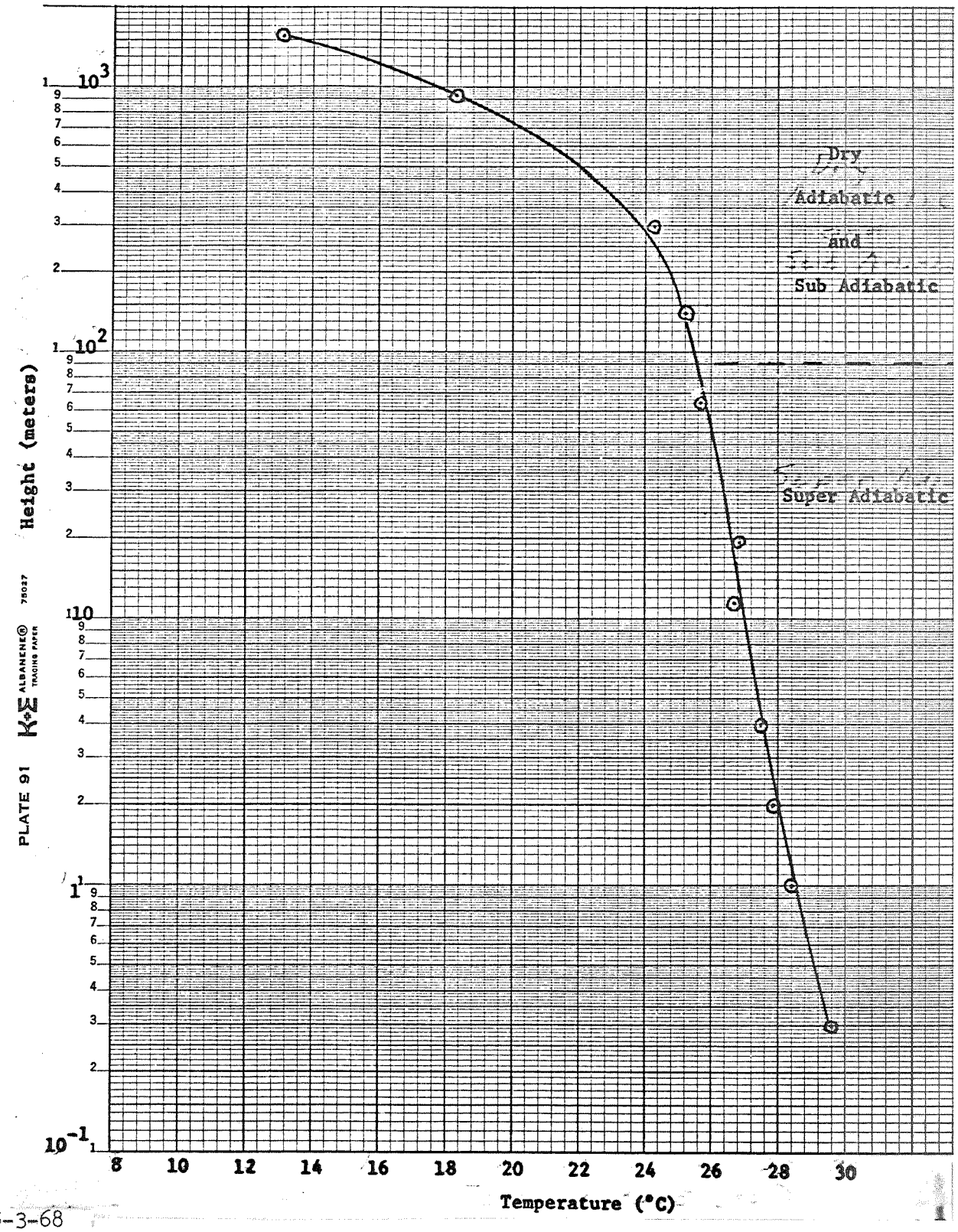
$\Delta T_s/h_s$ vs. Time

DATA FOR 5-3-68



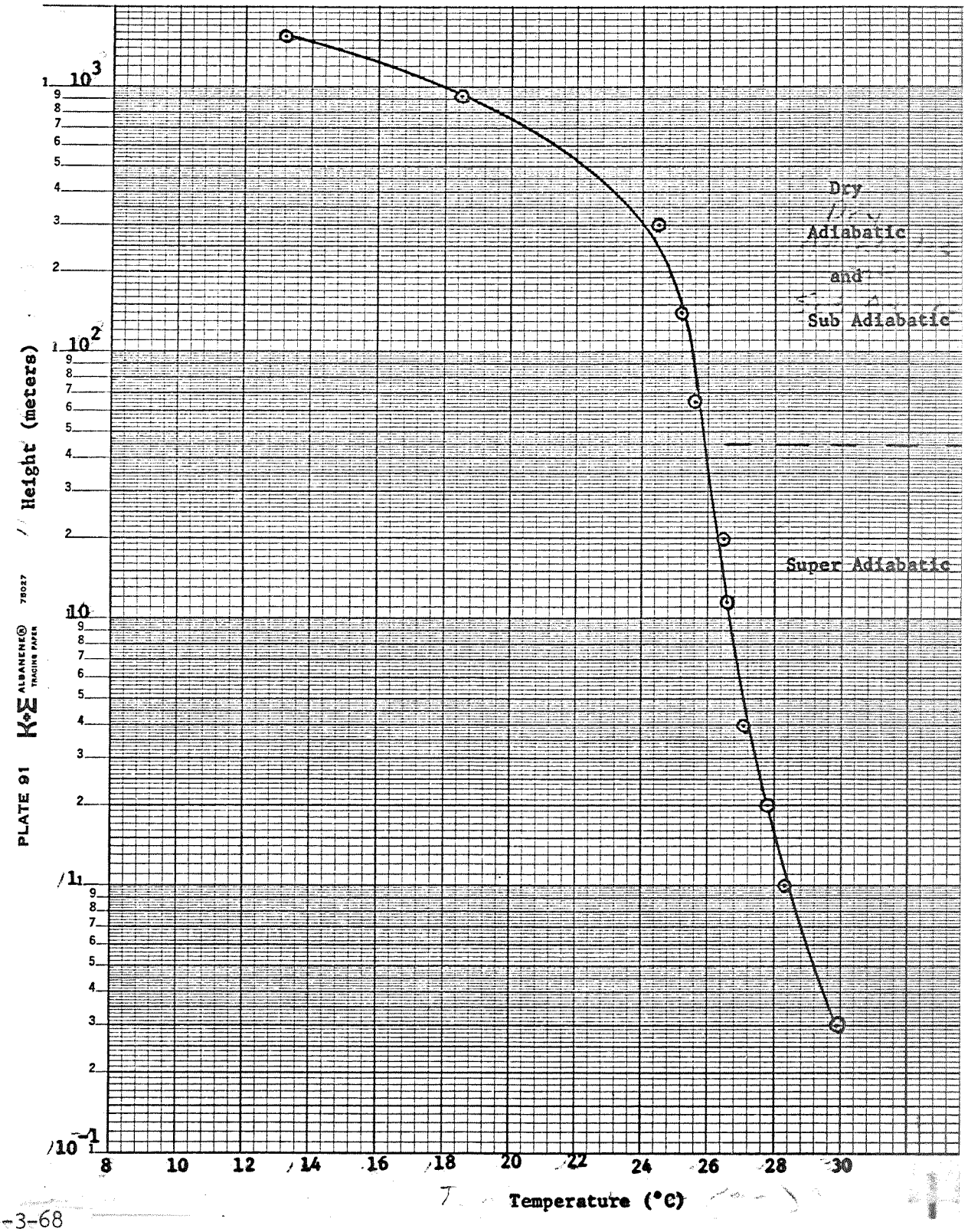
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Aircraft Soundings



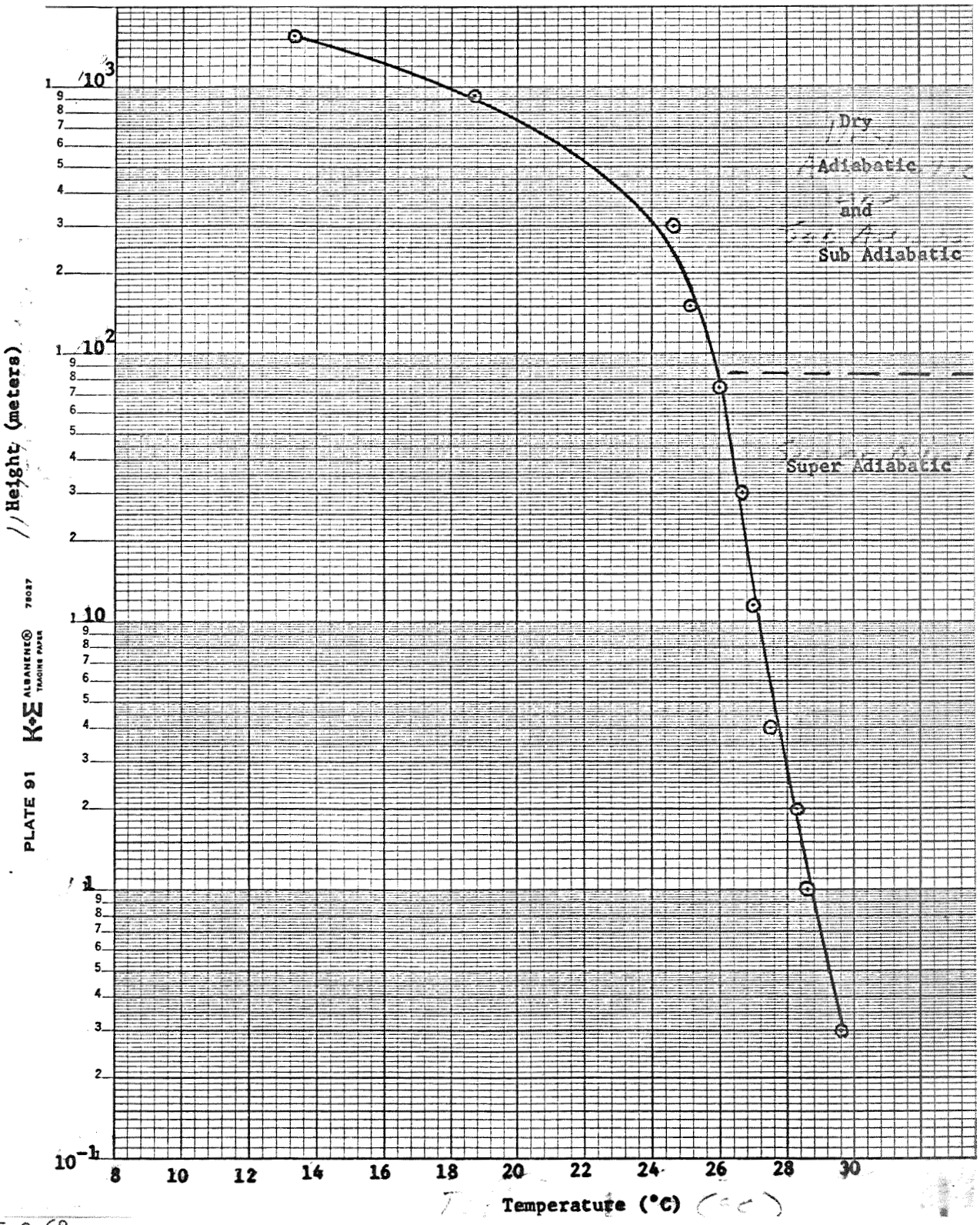
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1215 PDT



5-3-68

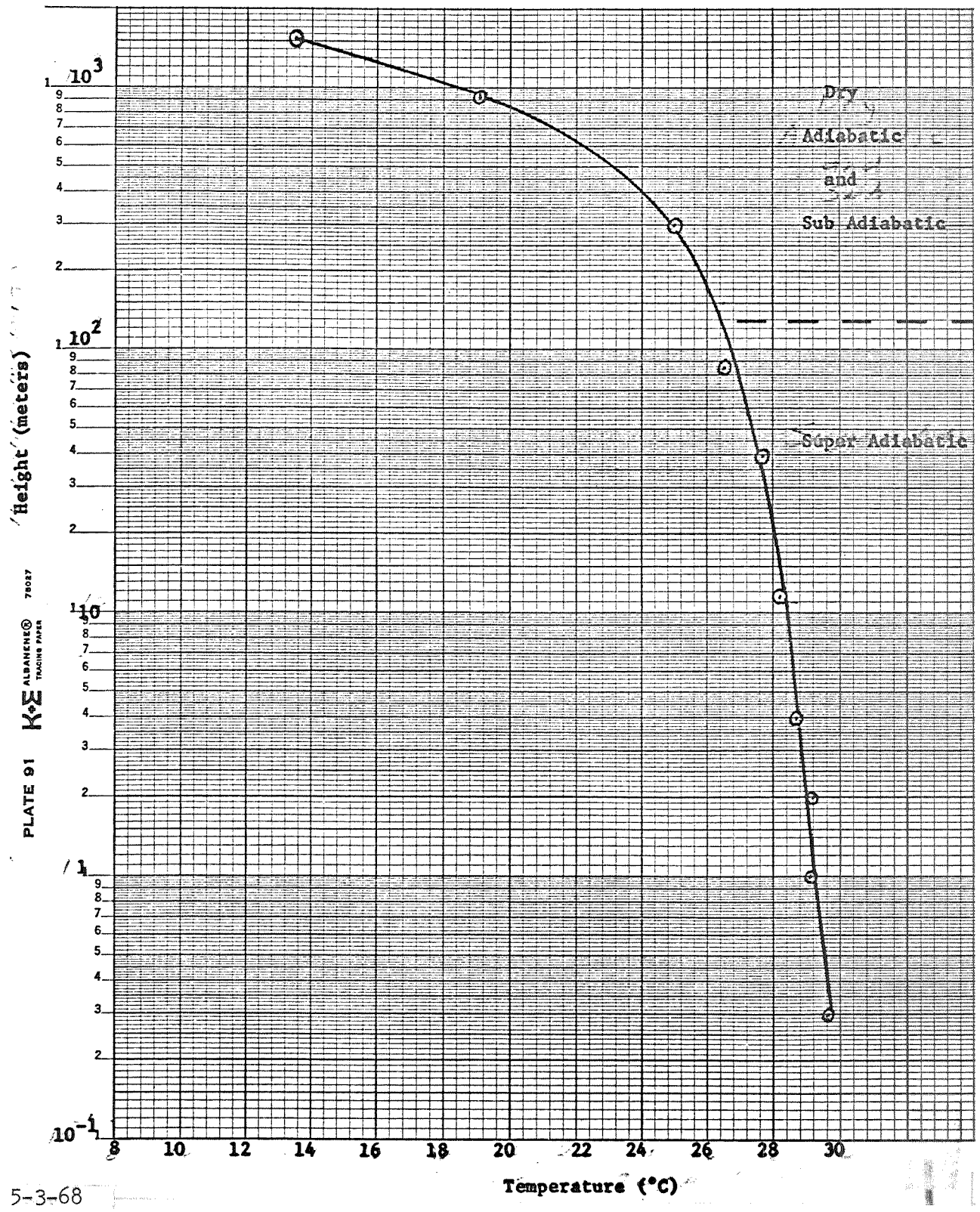
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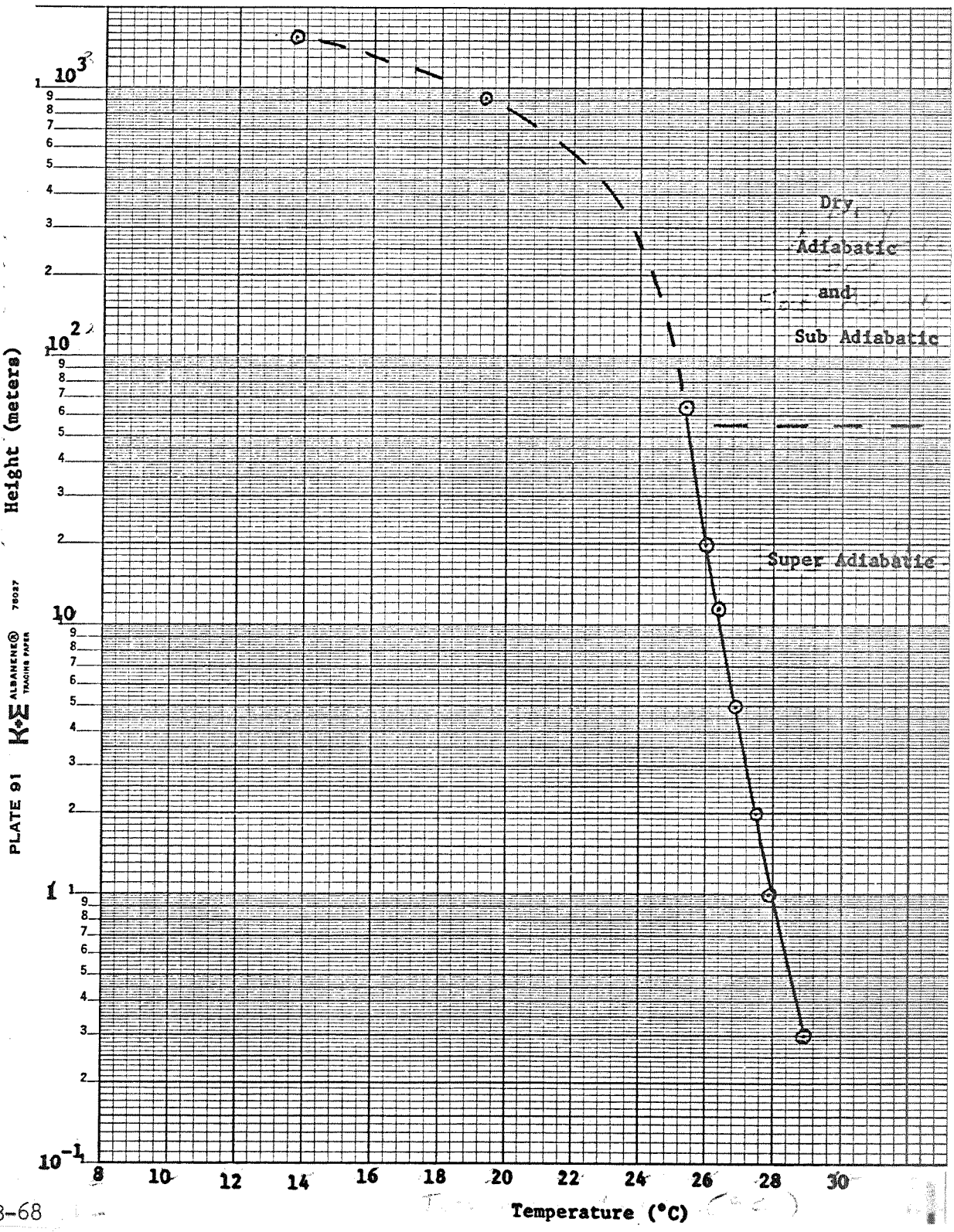
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M 30-692-6 (8-68)



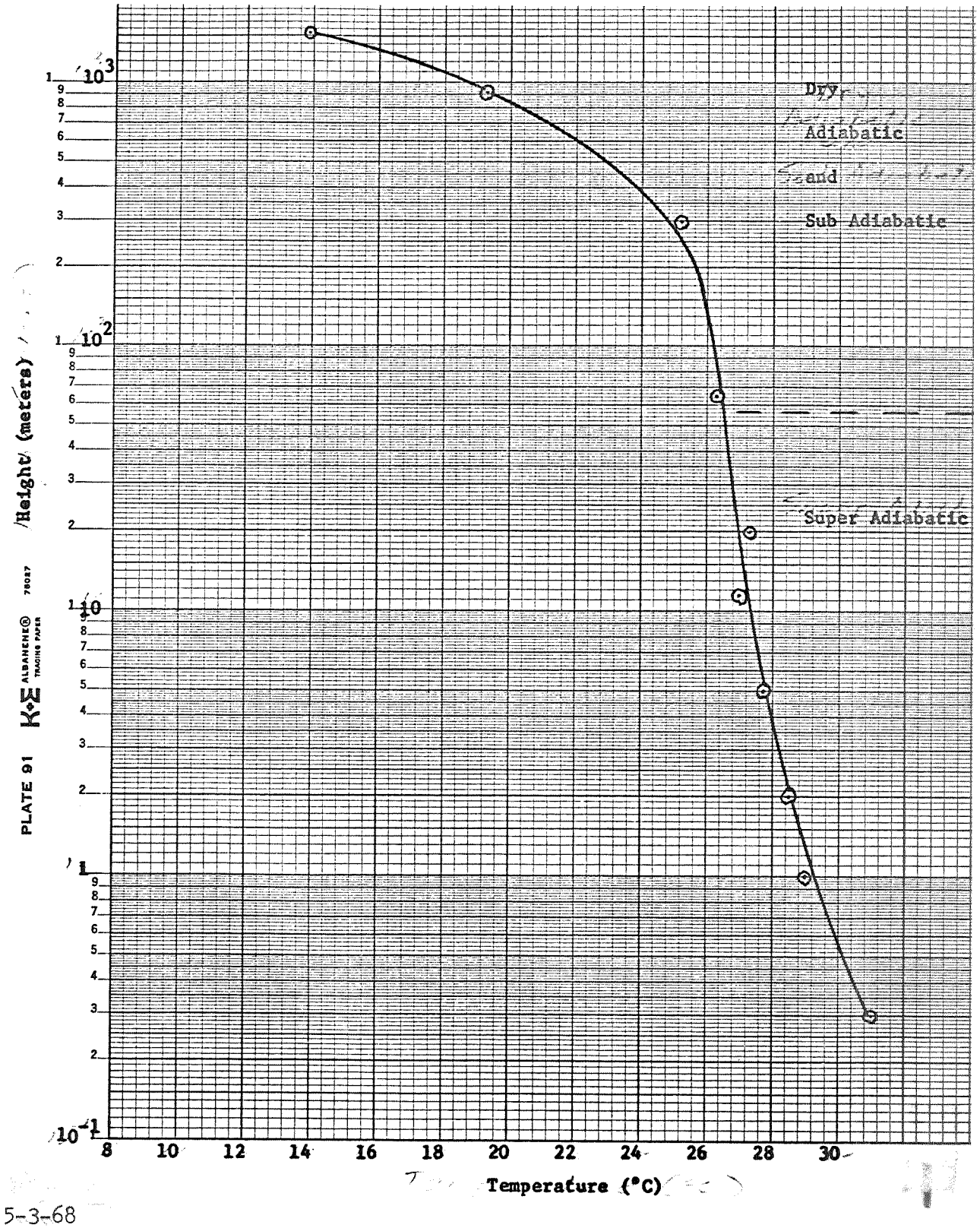
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1310 PDT



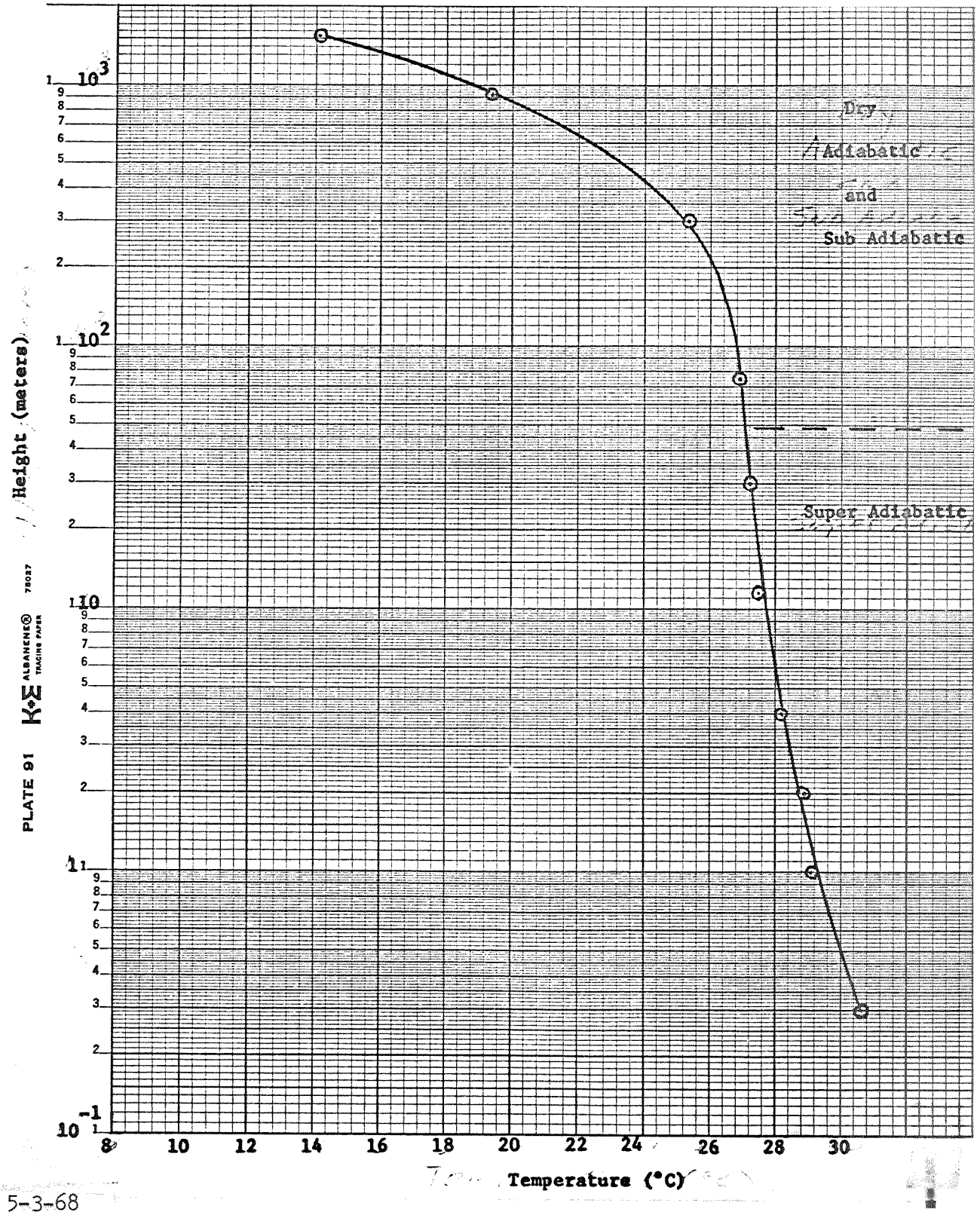
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SHADE

2M 30-692-6 (8-68)



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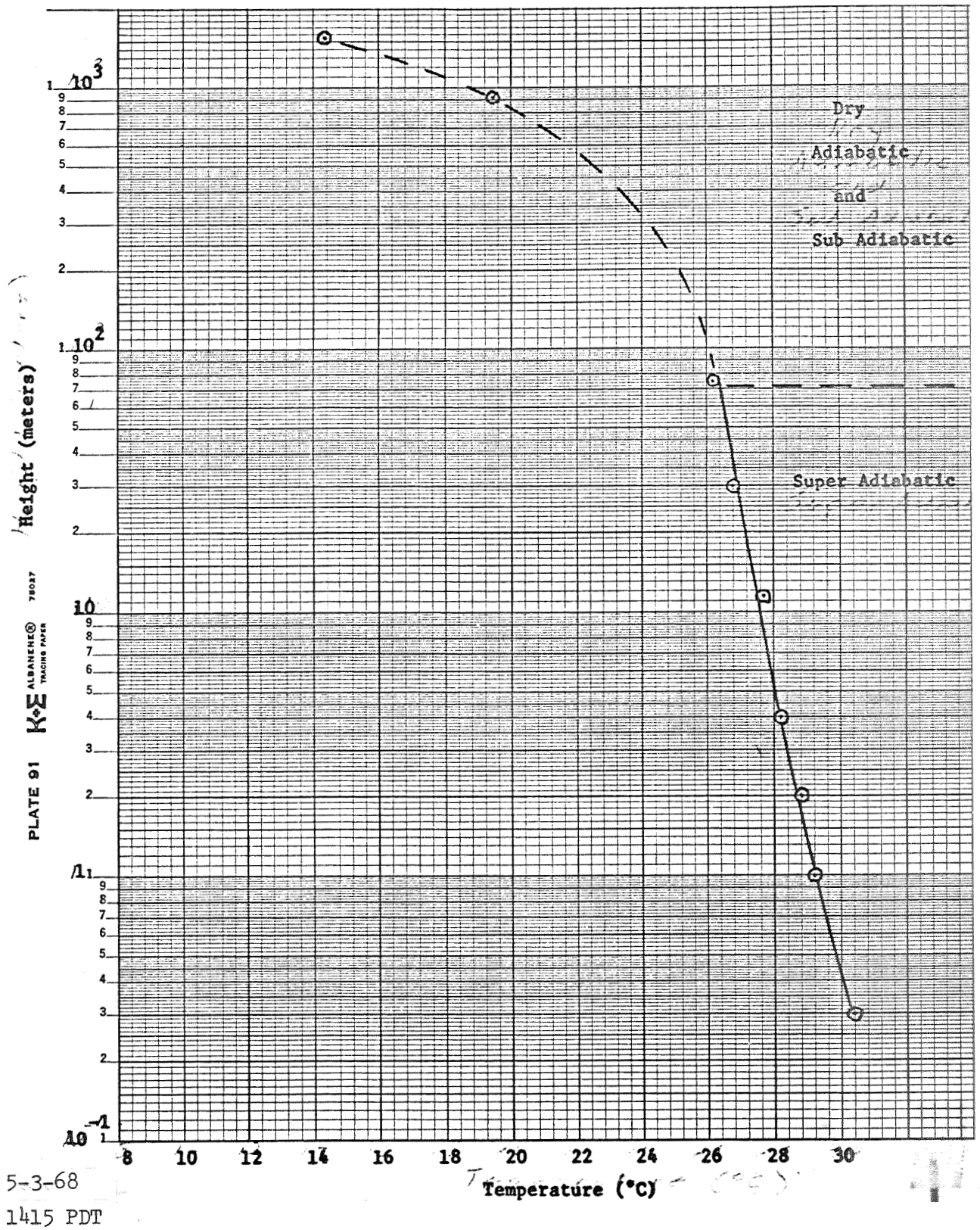
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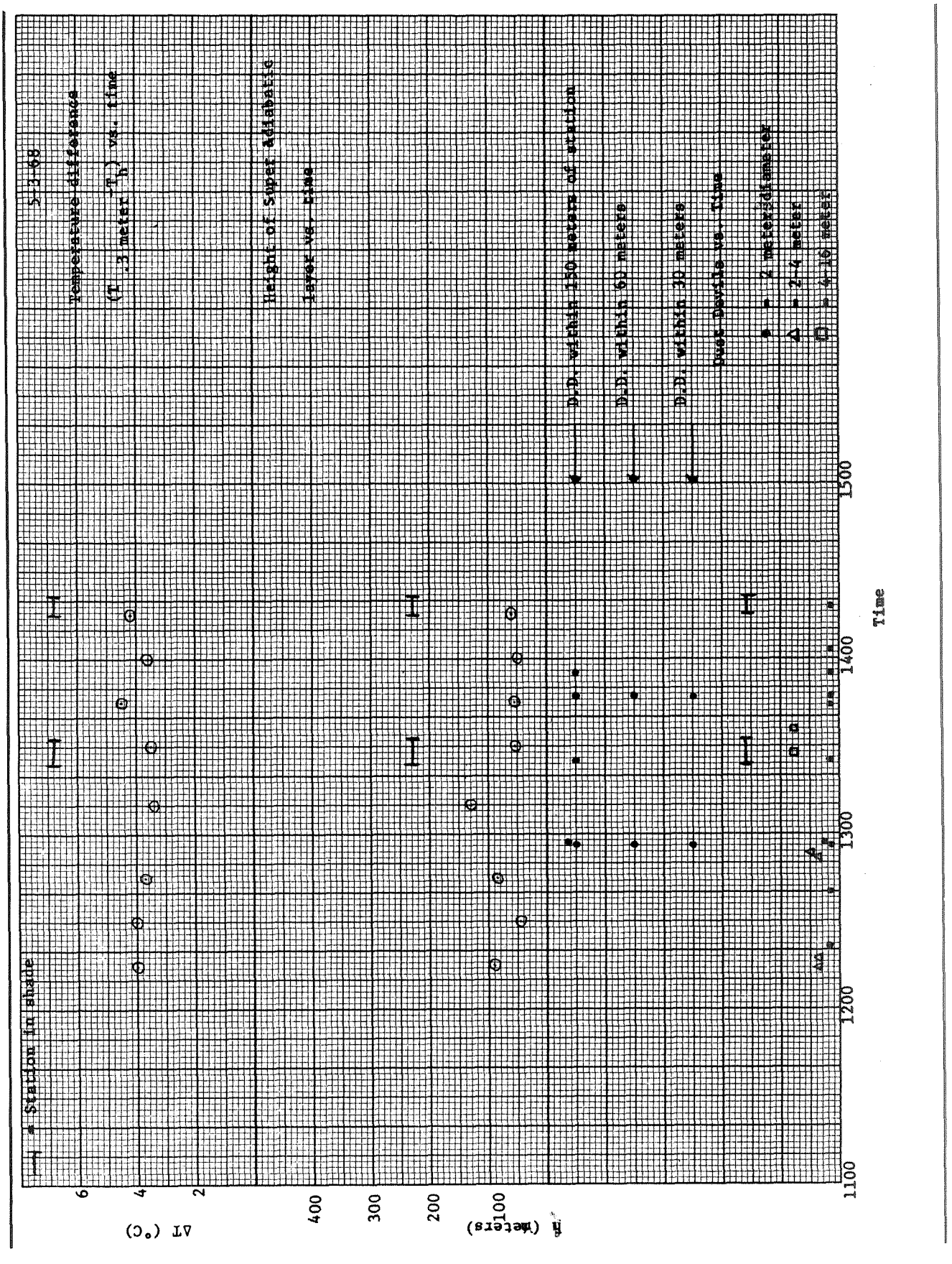
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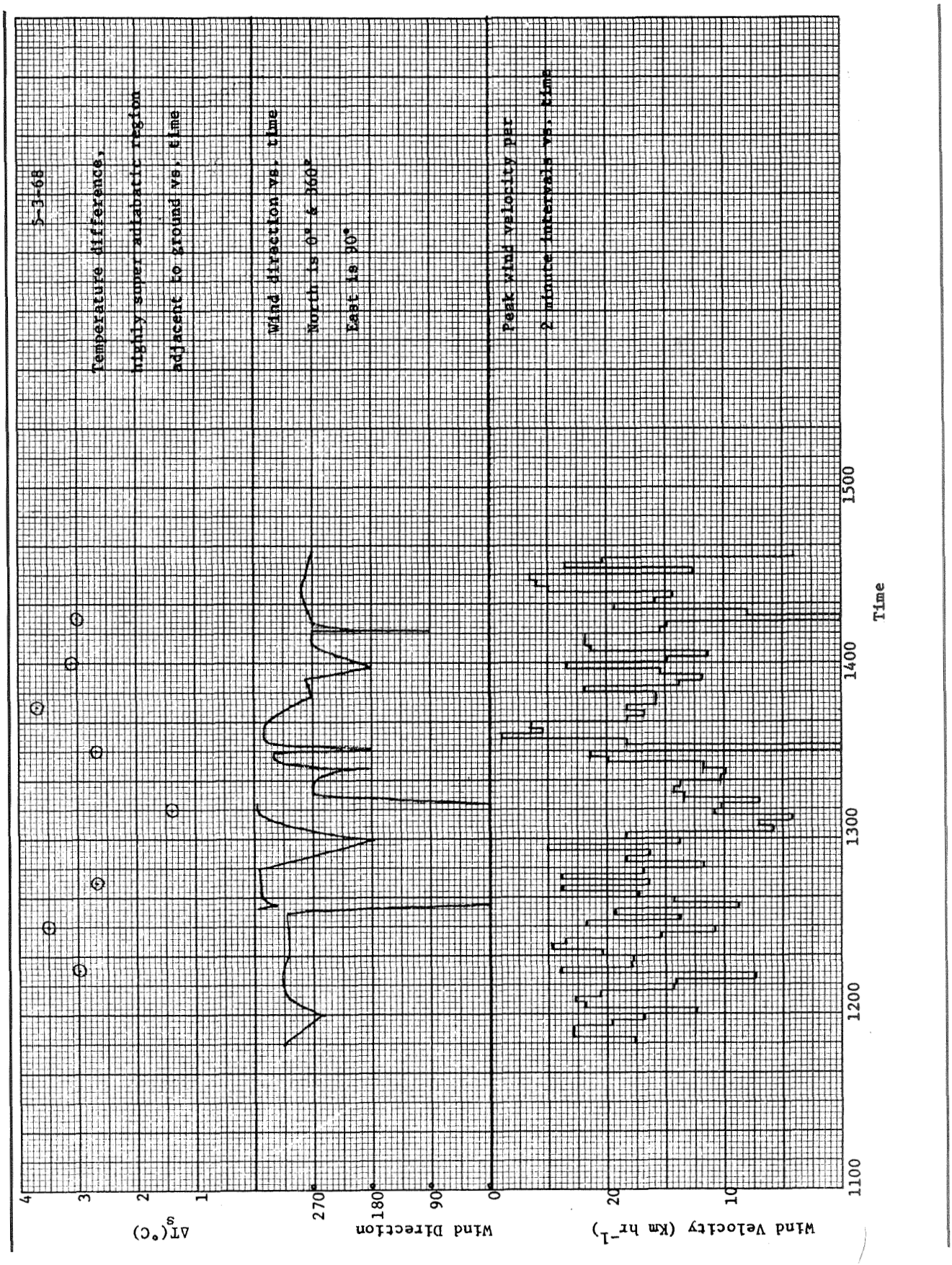
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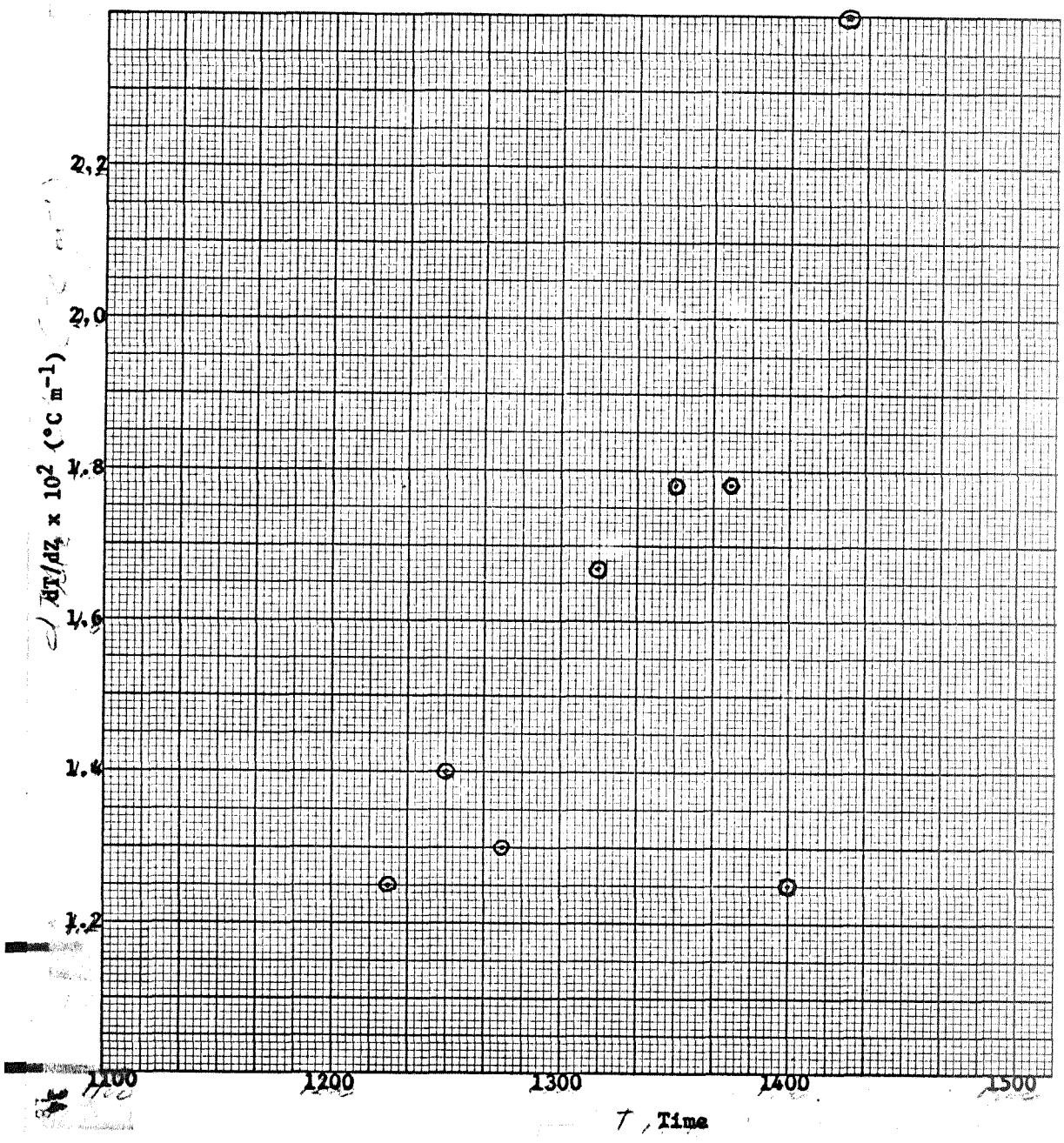


5-3-68
1415 PDT
Shade


5-3-68
Temperature difference
($T_{.3\ meter} - T_h$) vs. time
Height of Super Adiabatic
Layer vs. time
D.D. within 150 meters of station
D.D. within 60 meters
D.D. within 30 meters
Dust Devils vs. Time
* 2 meter diameter
Δ 2-4 meter
□ 4-10 meter
Station in shade
ΔT (°C)
h (meters)
Time
1100
1200
1300
1400
1500
2
4
6
100
200
300
400

30-692-9 (8-68)

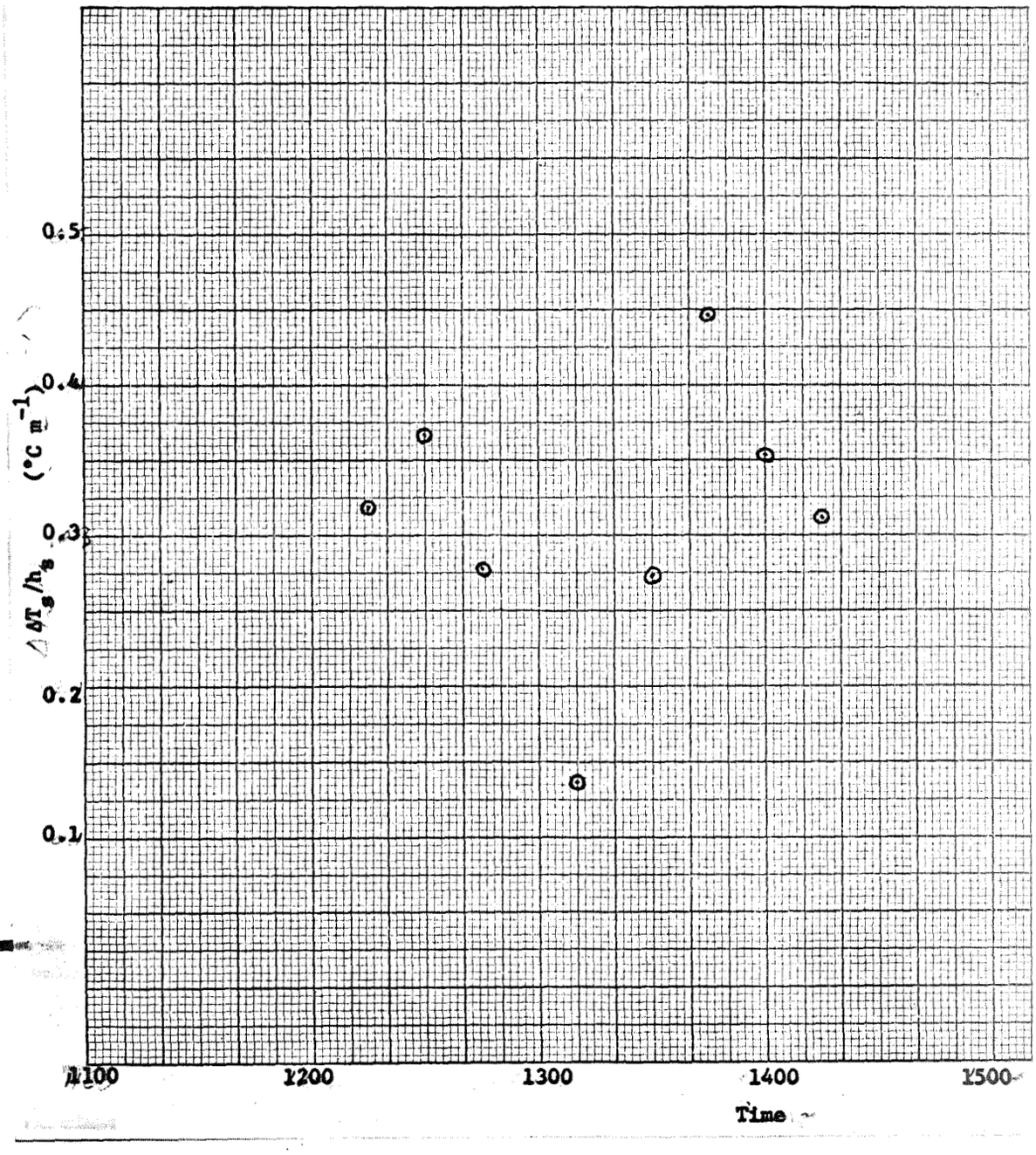

5-3-68
Temperature difference,
highly super adiabatic region
adjacent to ground vs. time
Wind direction vs. time
North is 0° & 360°
East is 90°
Peak wind velocity per
2 minute intervals vs. time
ΔT(°C)
Wind Direction
Wind Velocity (Km hr⁻¹)
Time
4
3
2
1
270
180
90
0
20
10
1100
1200
1300
1400
1500



5-3-68

Lapse Rate (dT/dZ)
vs. Time

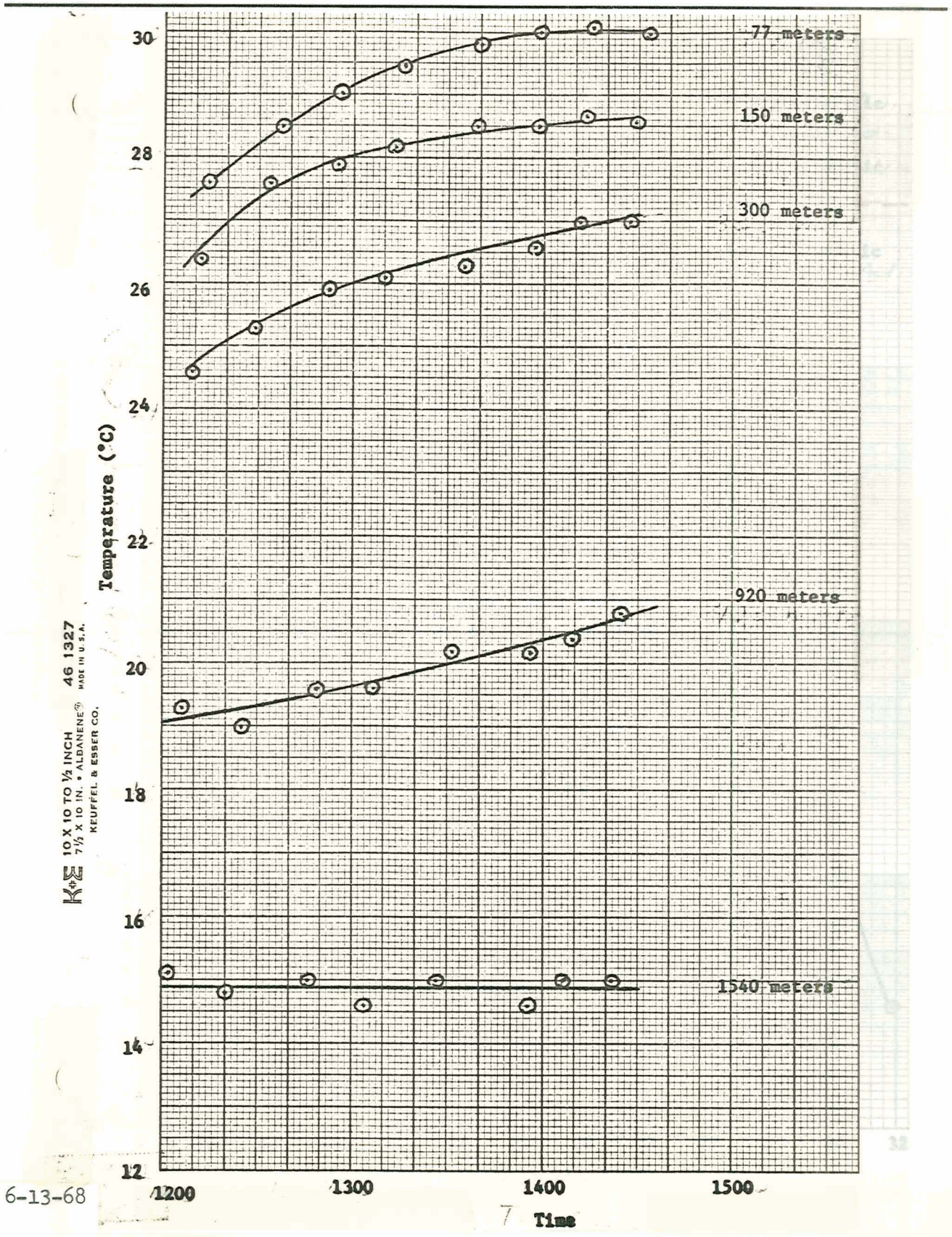
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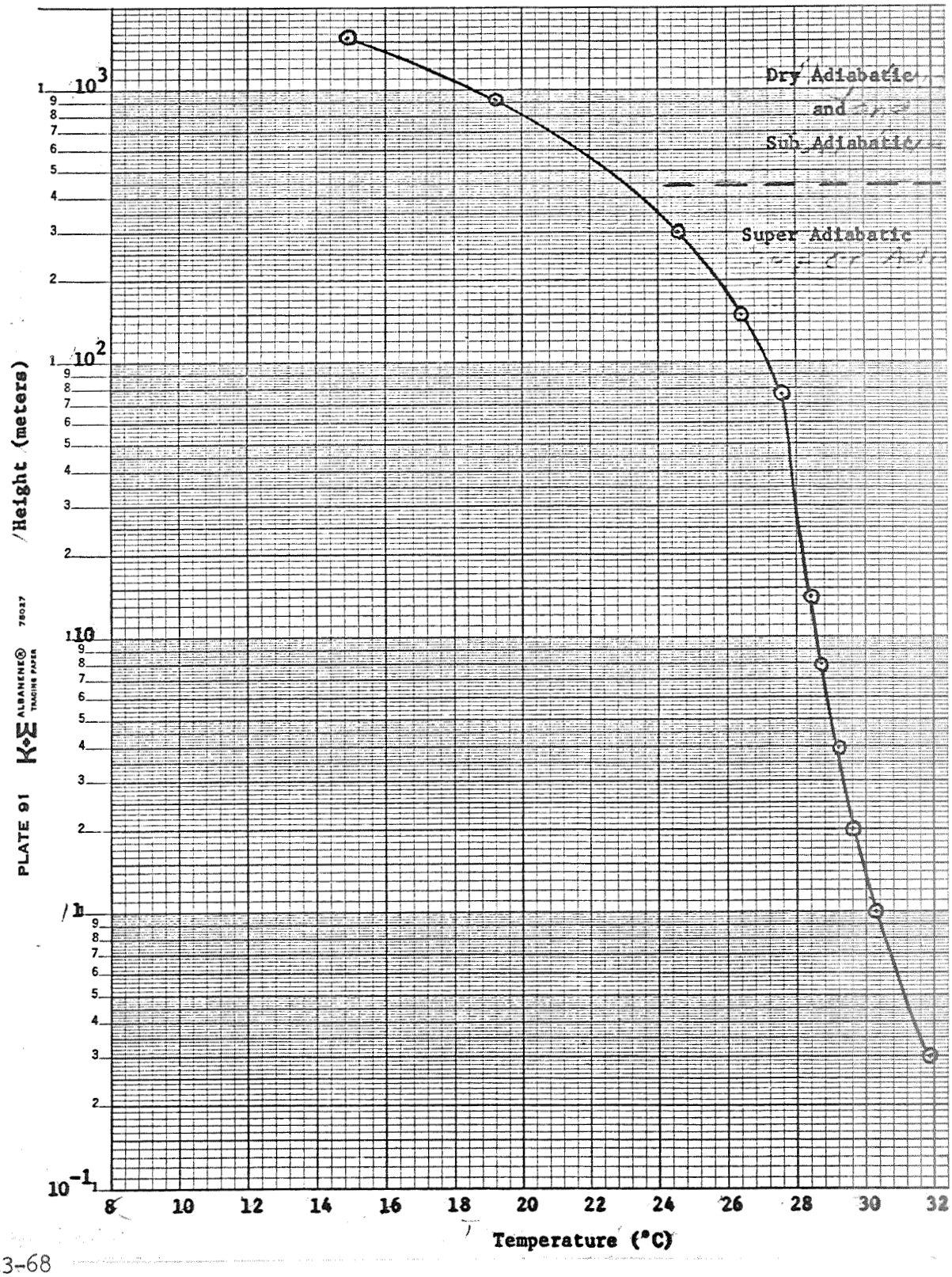
$\Delta T_s/h_s$ vs. Time

DATA FOR 6-13-68



6-13-68

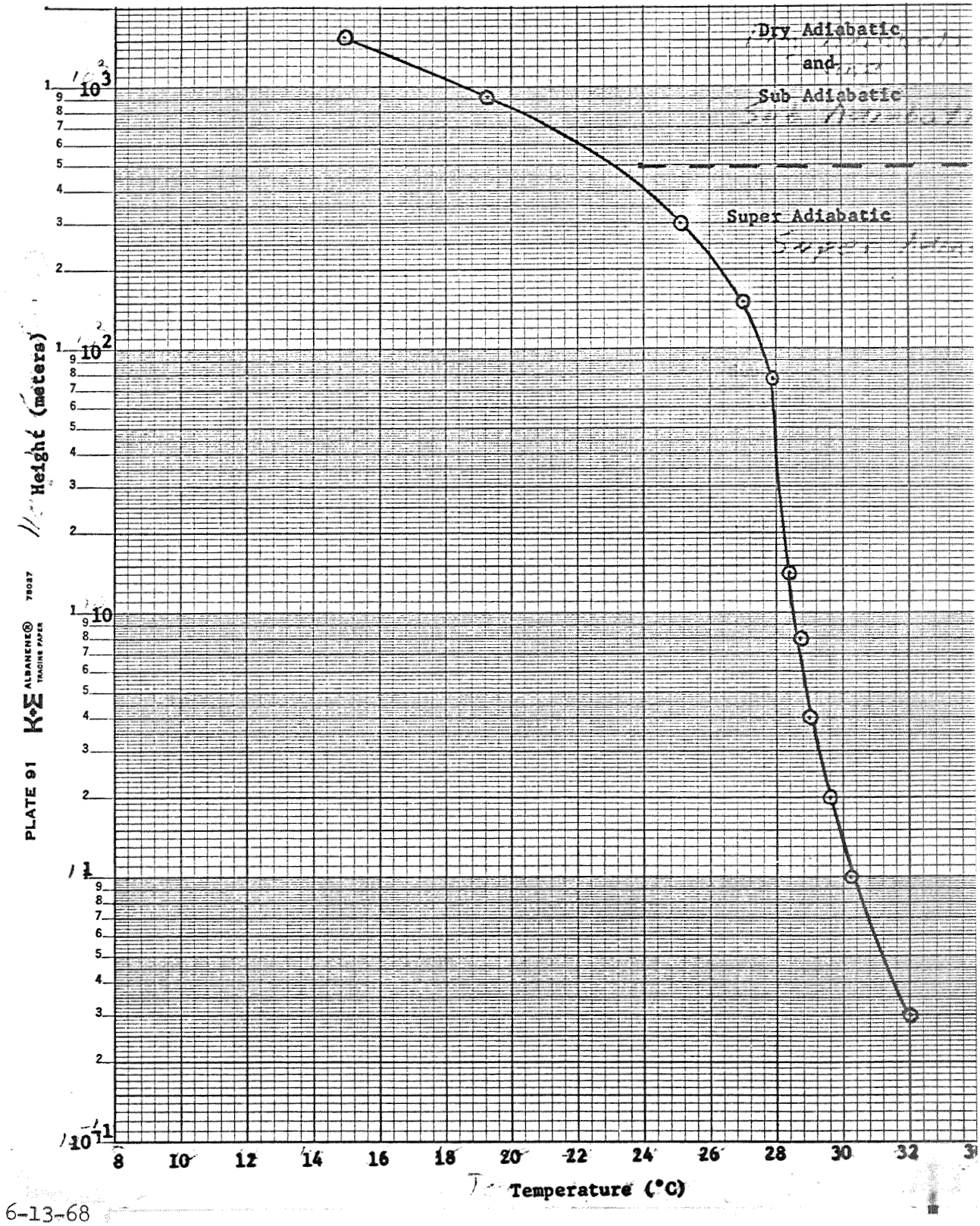
Aircraft Soundings



6-13-68

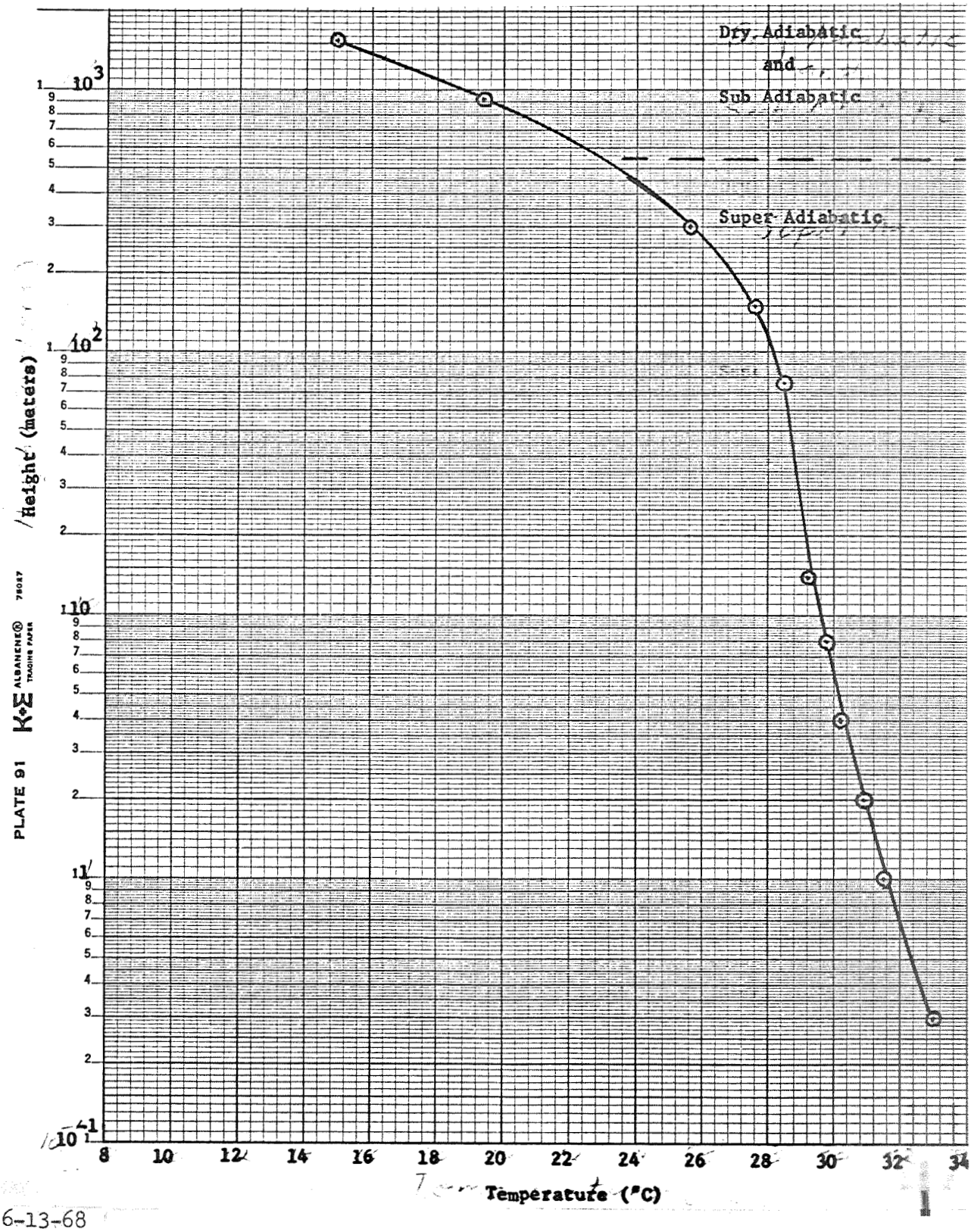
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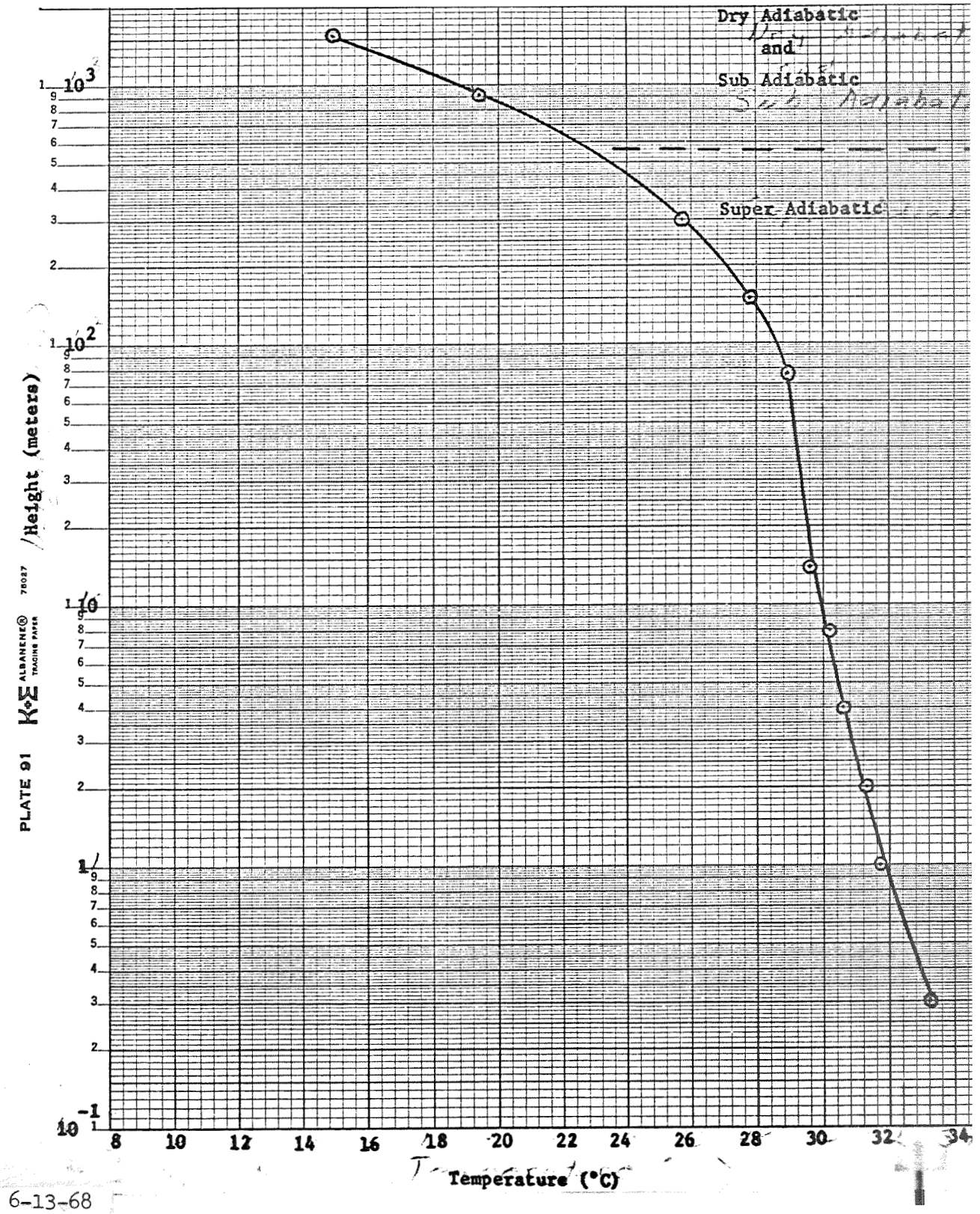
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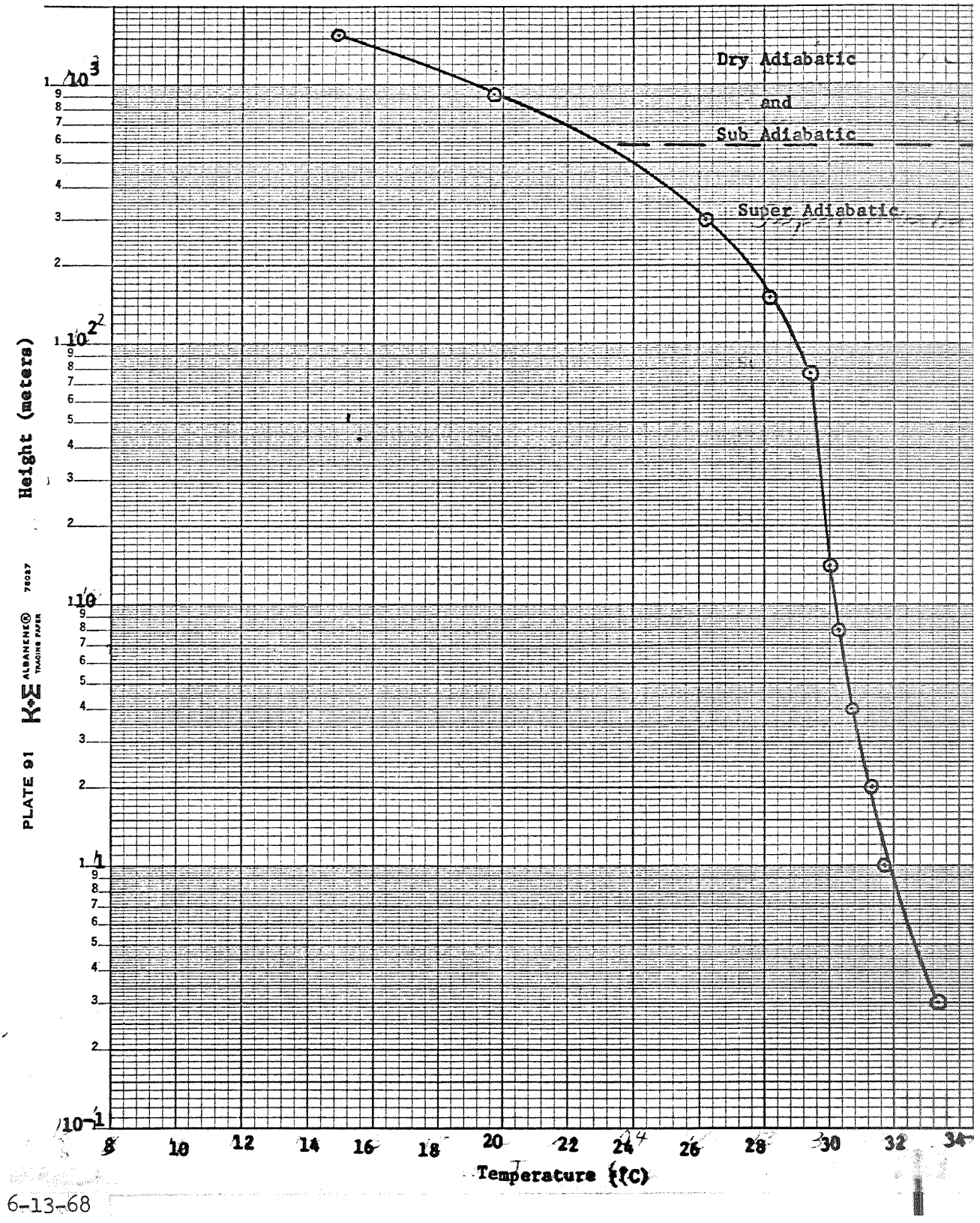
6-13-68

1238 PDT



6-13-68

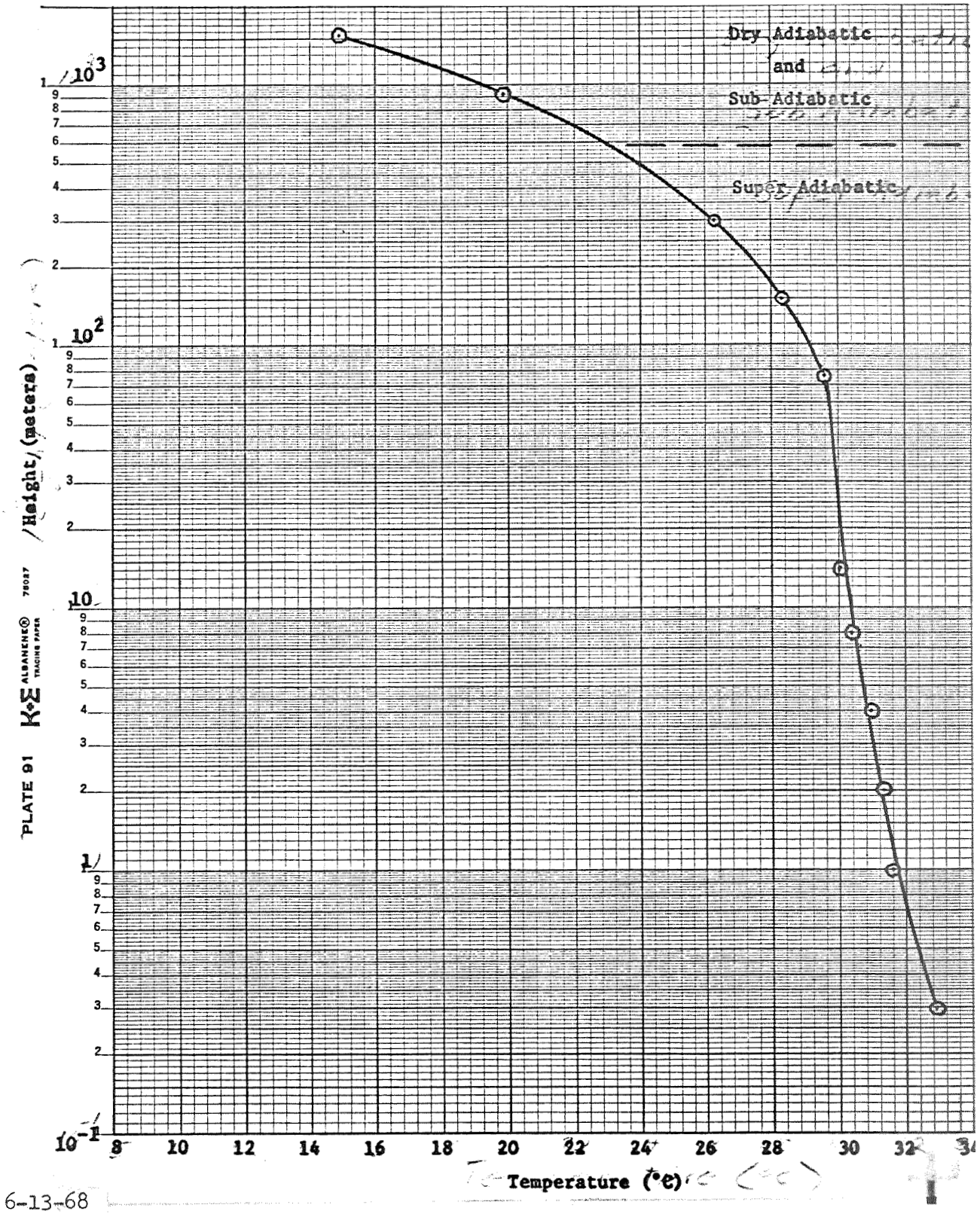
1245 PDT



6-13-68

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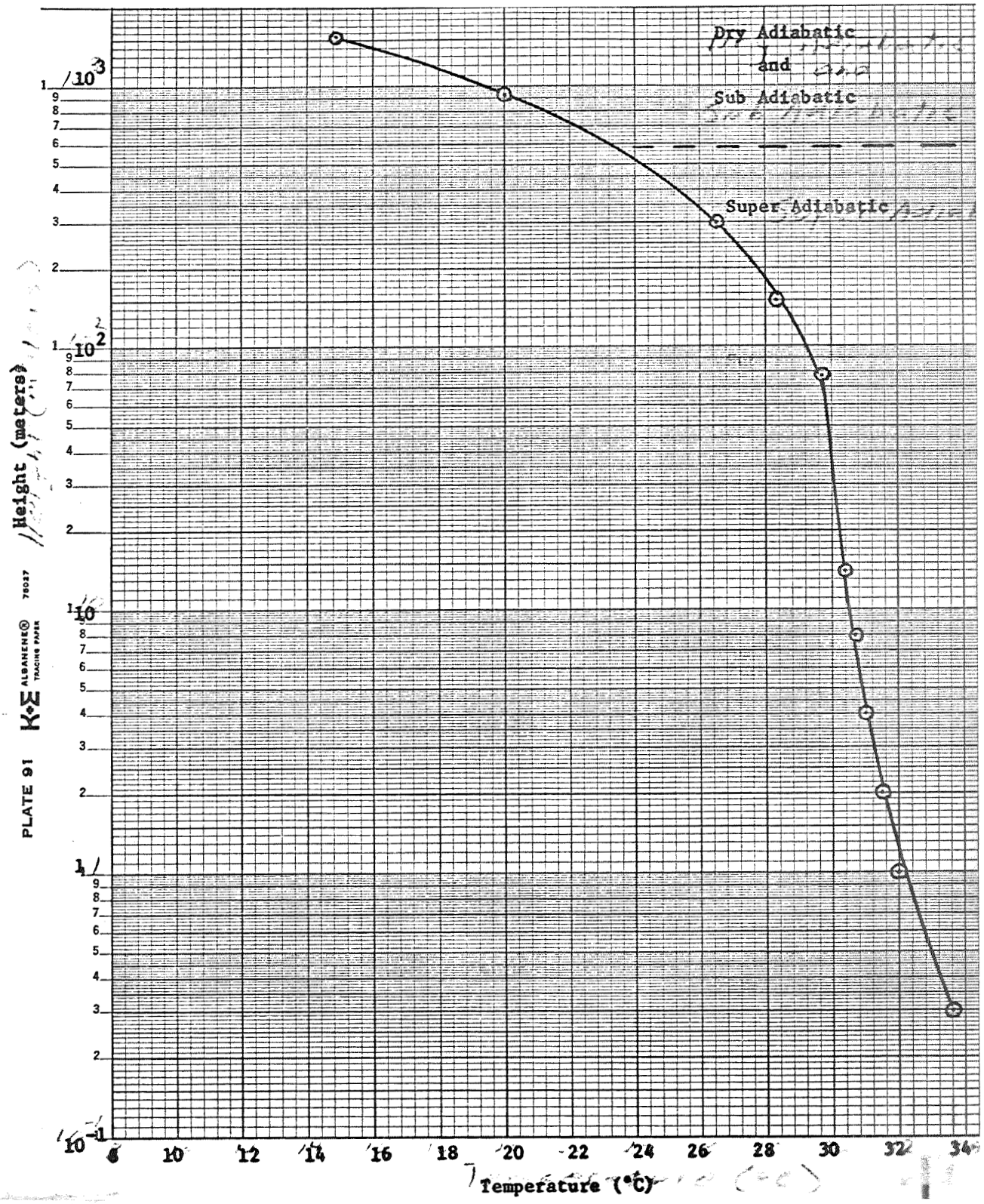
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6-13-68

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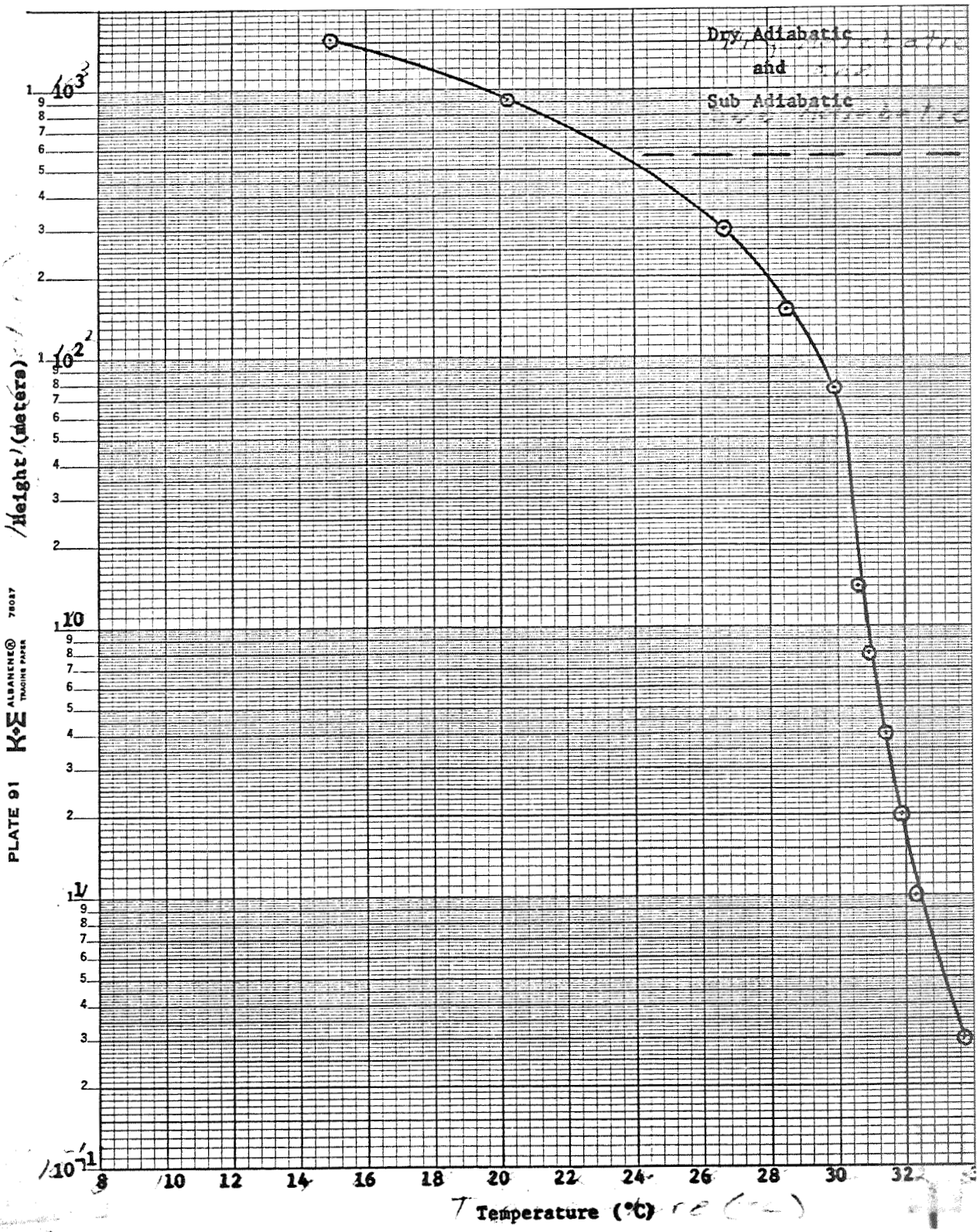
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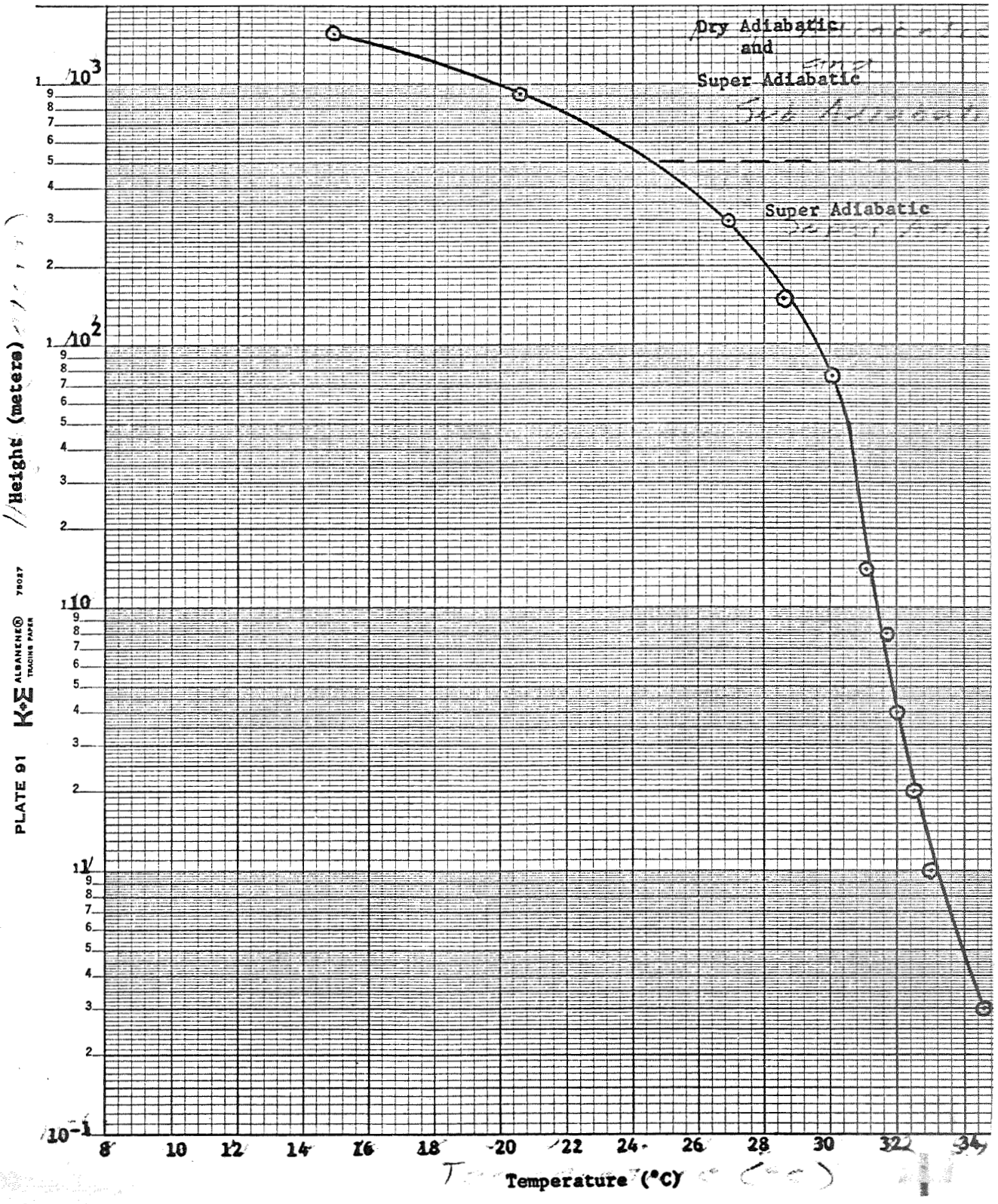
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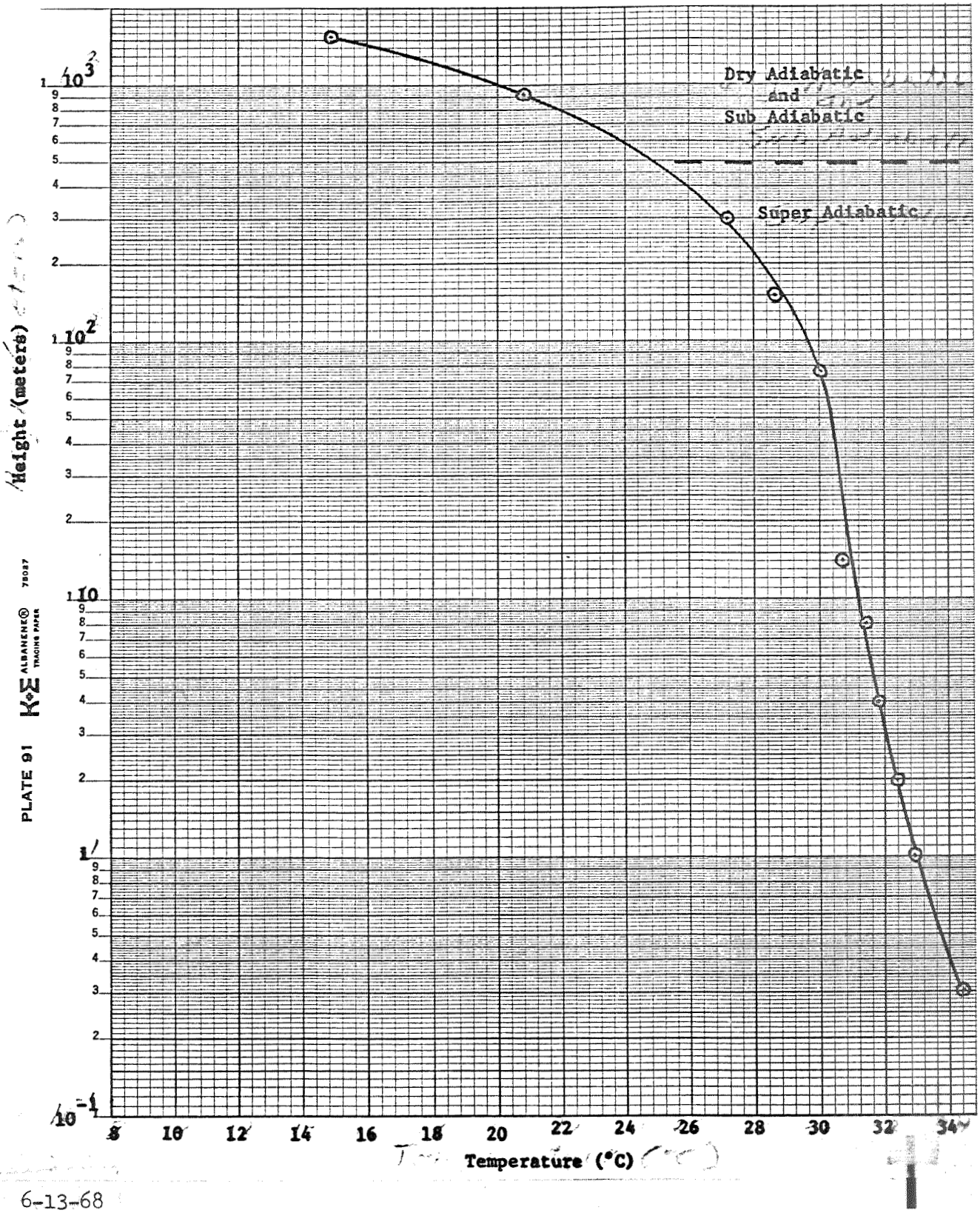
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1350 PDT



6-13-68

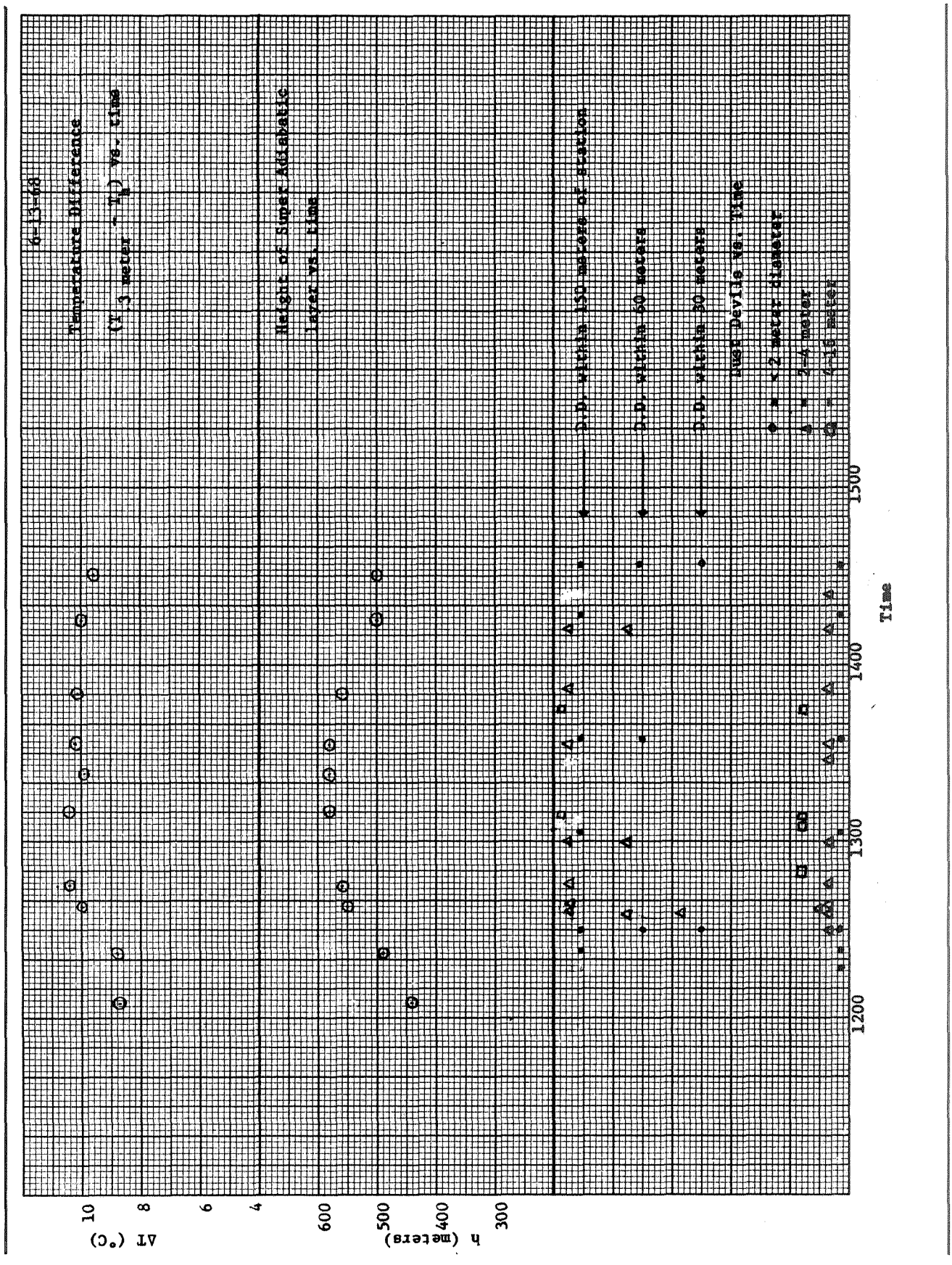
1415 PDT

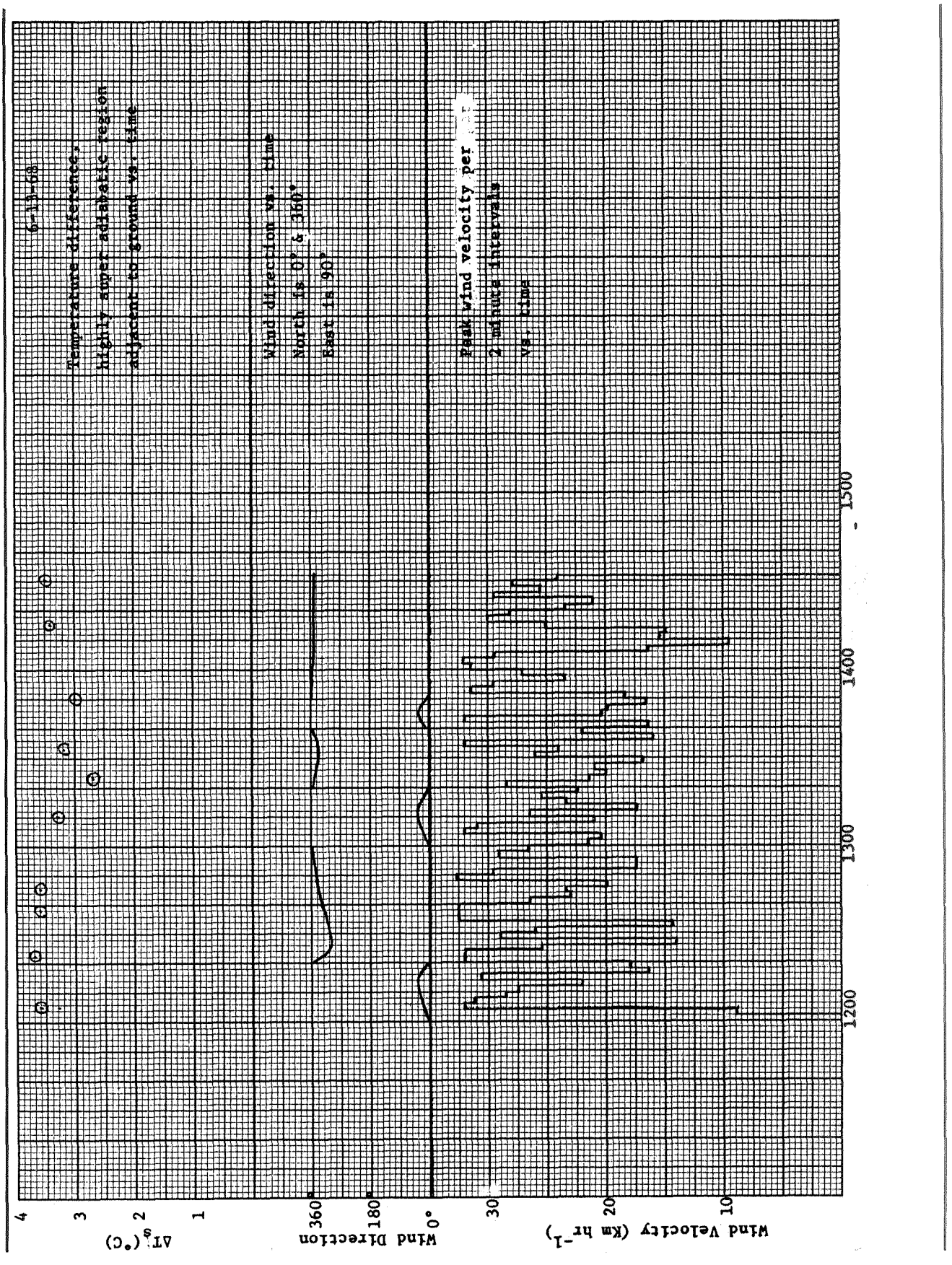


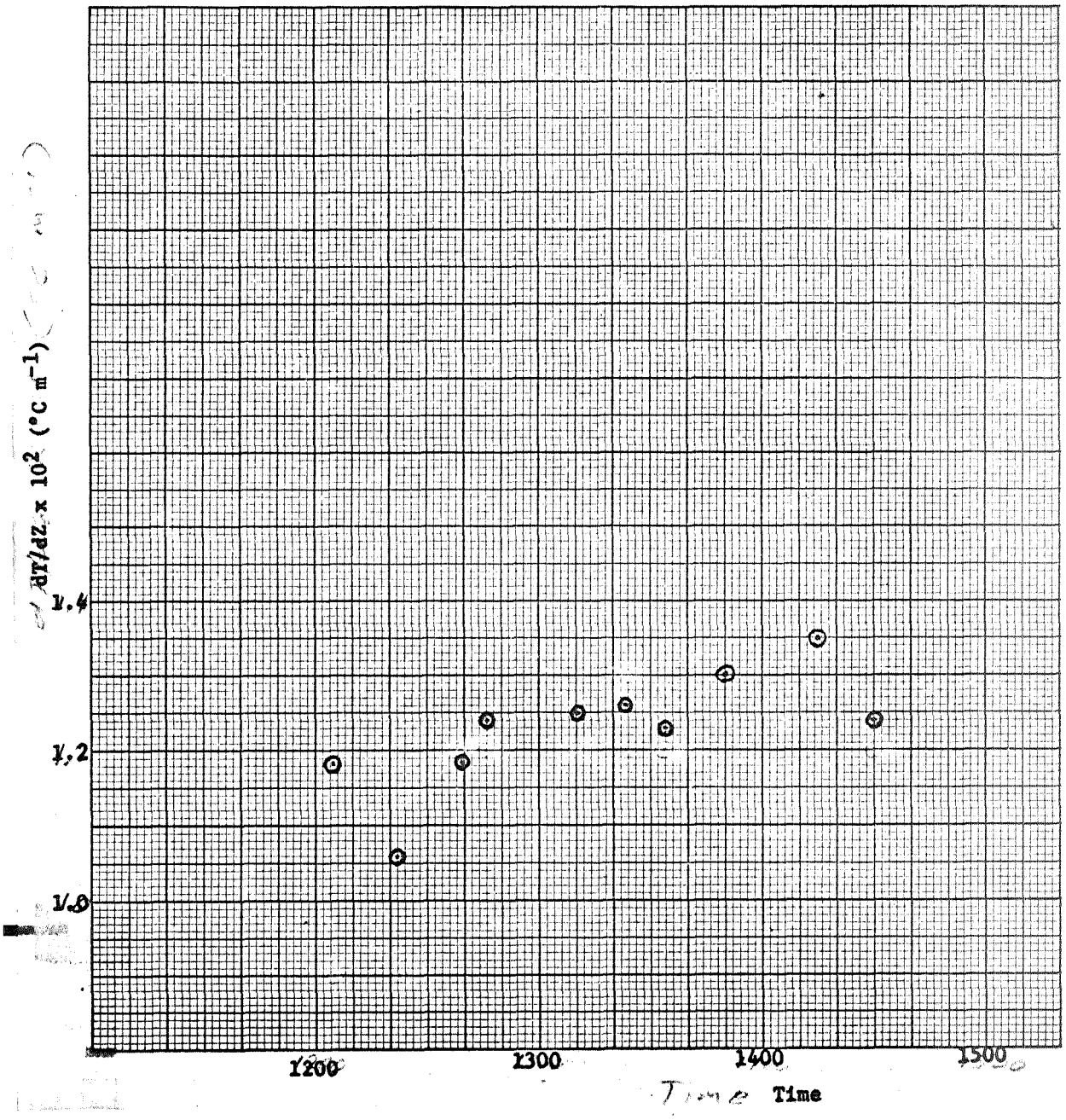
6-13-68

1430 PDT

RM 30-692-9 (8-68)



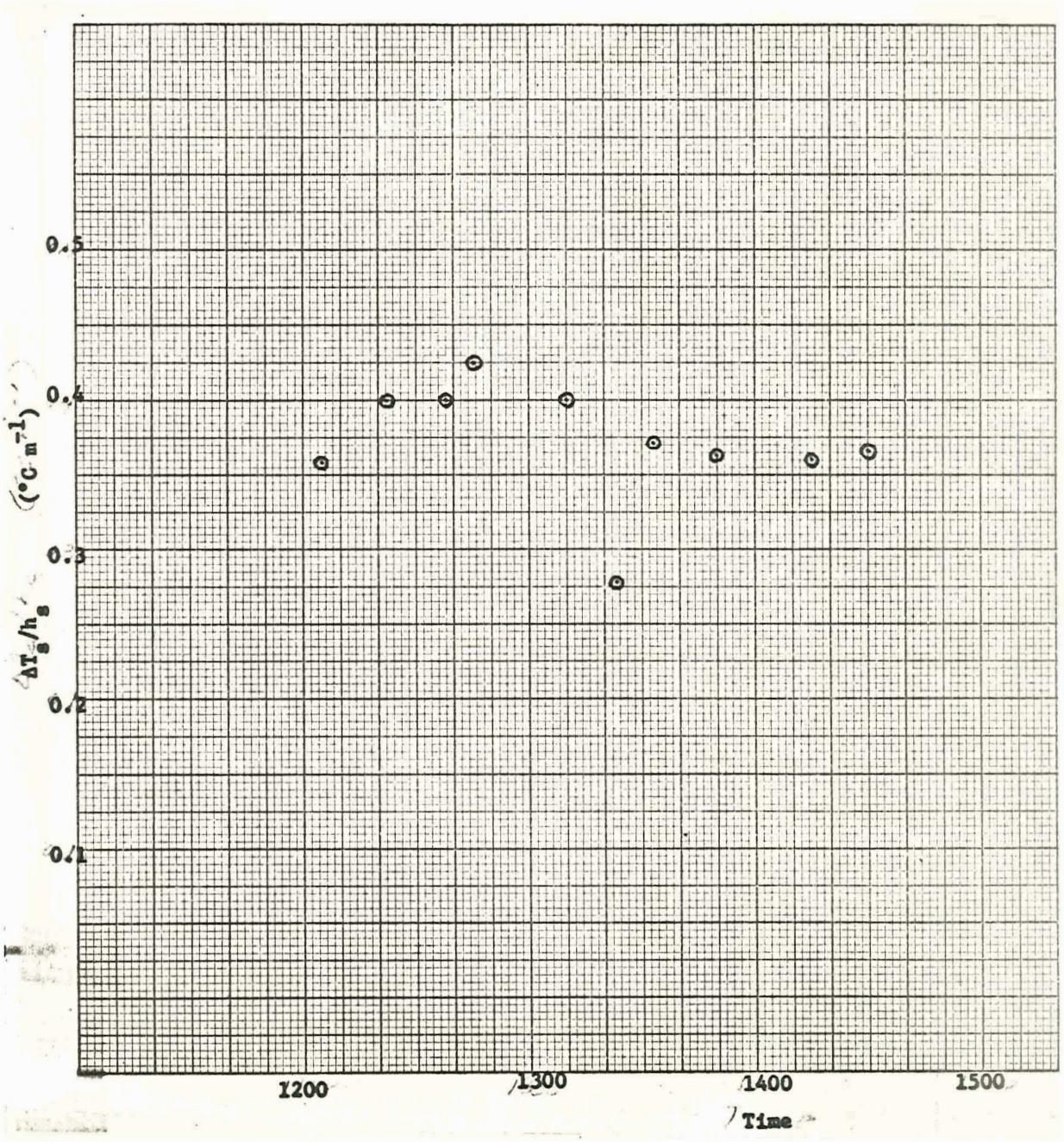

6-13-68
Temperature difference,
highly super adiabatic region
adjacent to ground vs. time
Wind direction vs. time
North is 0° & 360°
East is 90°
Peak wind velocity per
2 minute intervals
vs. time
ΔTs (°C)
Wind Direction
Wind Velocity (Km hr-1)
1200
1300
1400
1500



6-13-68

Lapse Rate (dT/dZ)

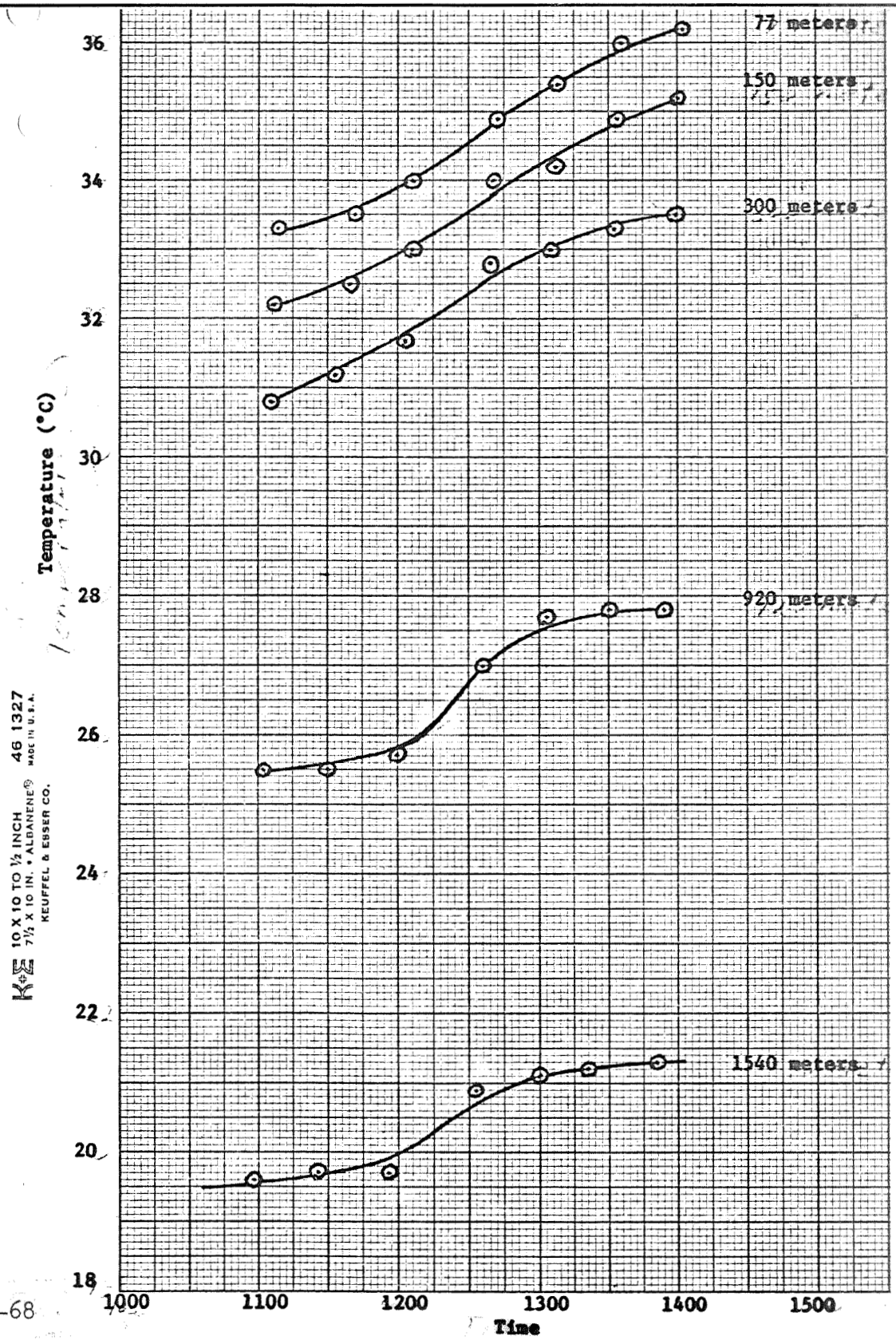
vs. Time



6-13-68

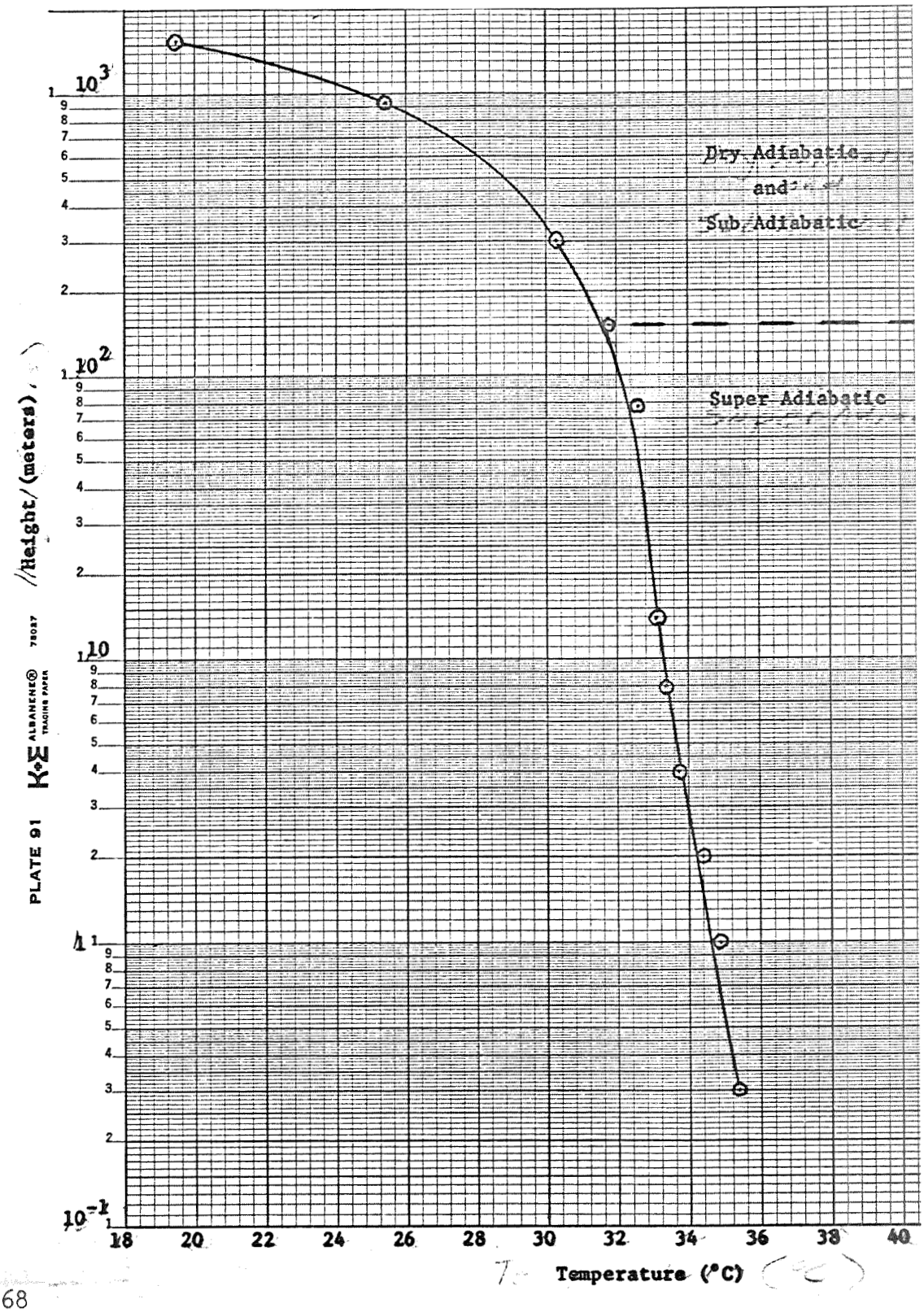
$\Delta T_s/h_s$ vs. Time

DATA FOR 6-26-68



6-26-68

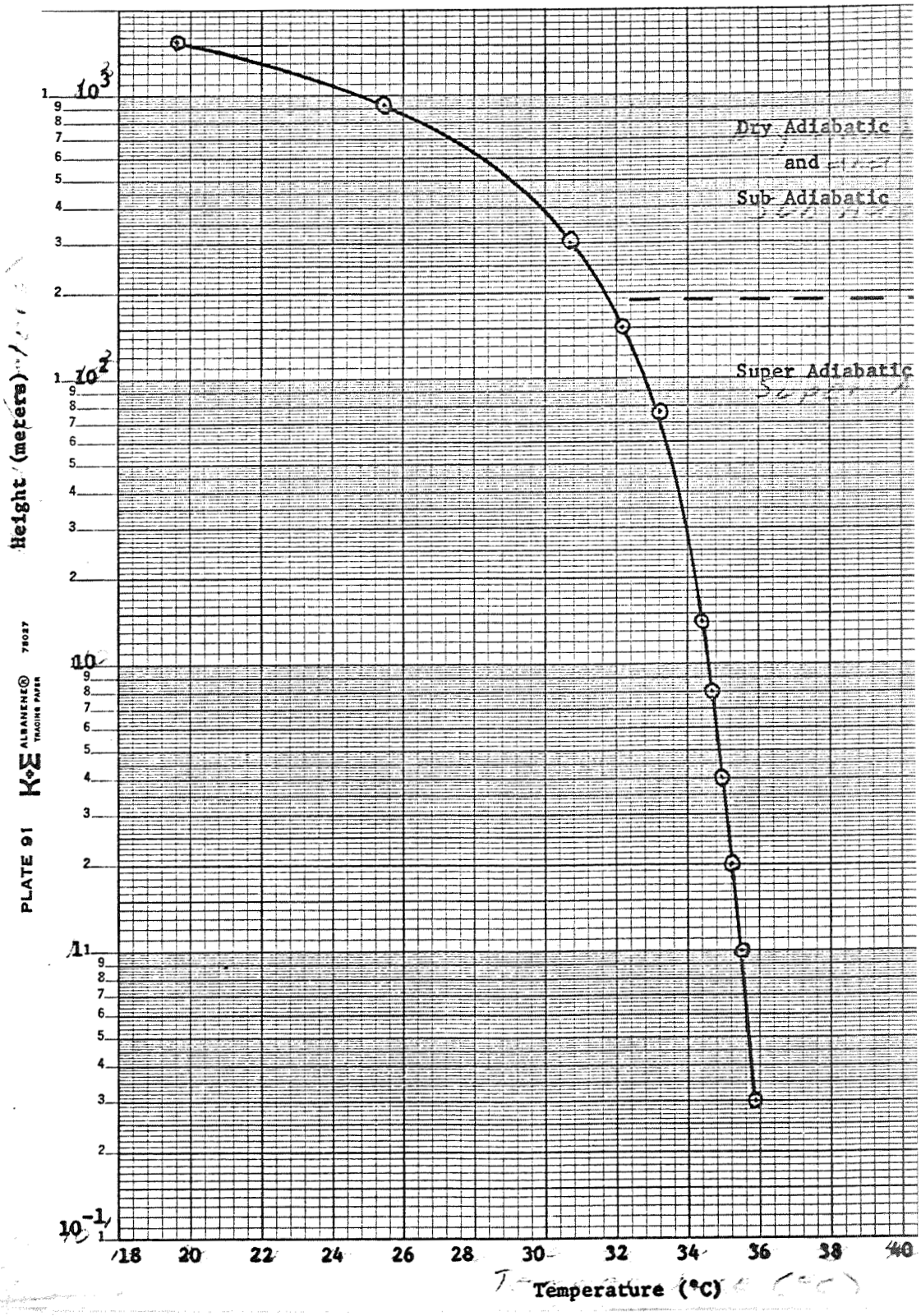
Aircraft Soundings



6-26-68

1030 PDT

M 30-692-6 (8-68)



6-26-68

1100 PDT

M 30-692-6 (8-68)

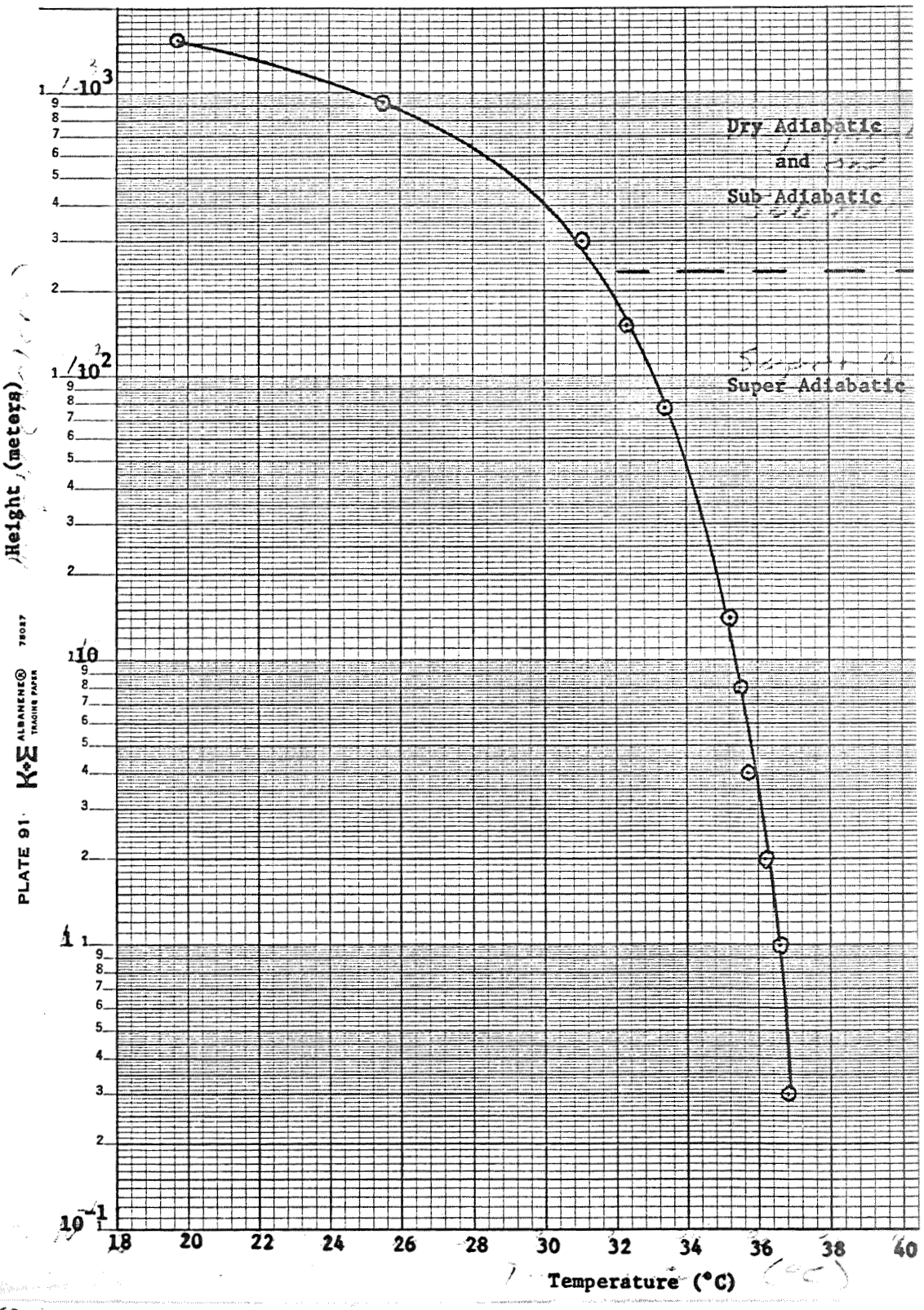
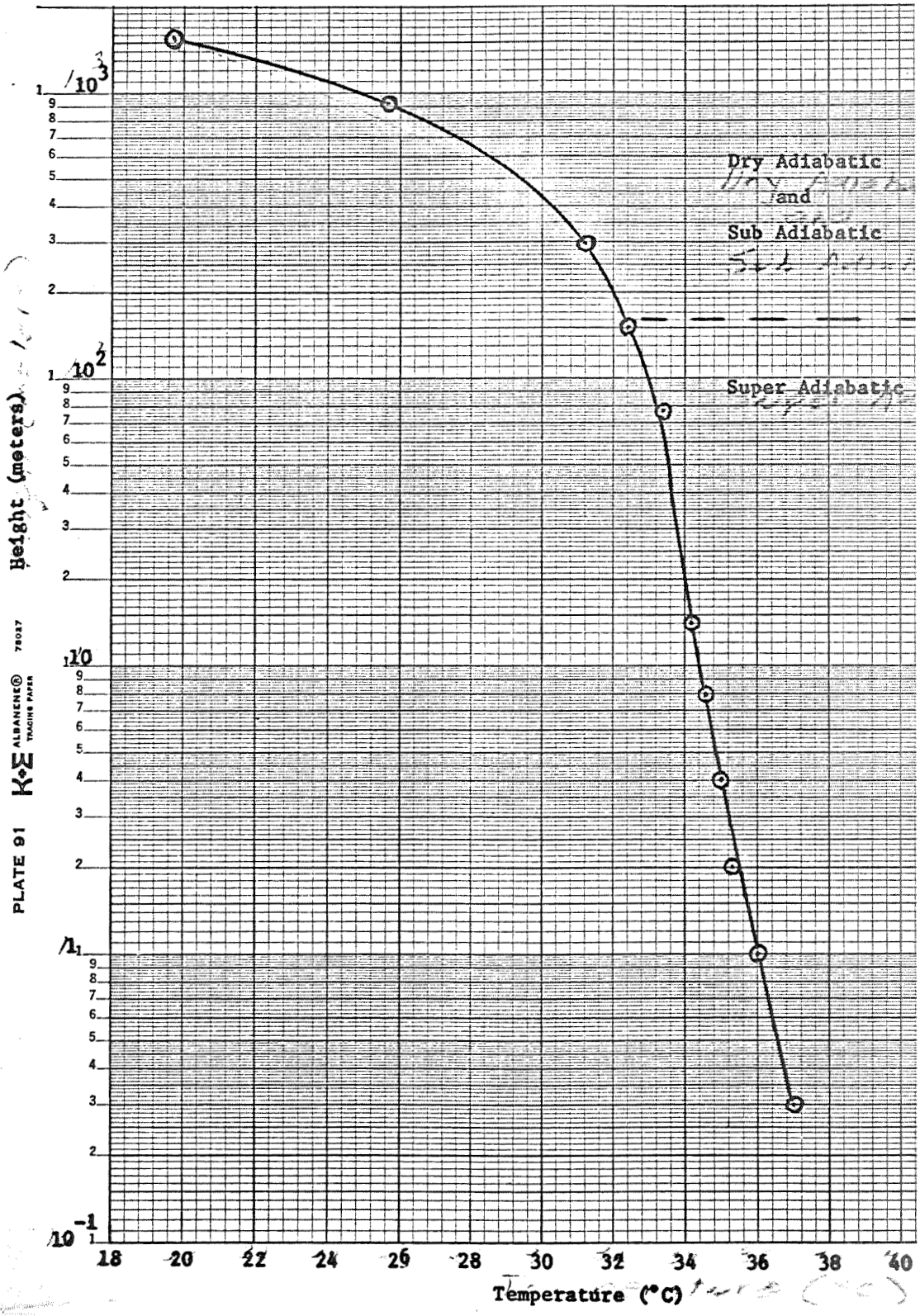


PLATE 91 K&E ALBANENE® TRACING PAPER 79037

6-26-68

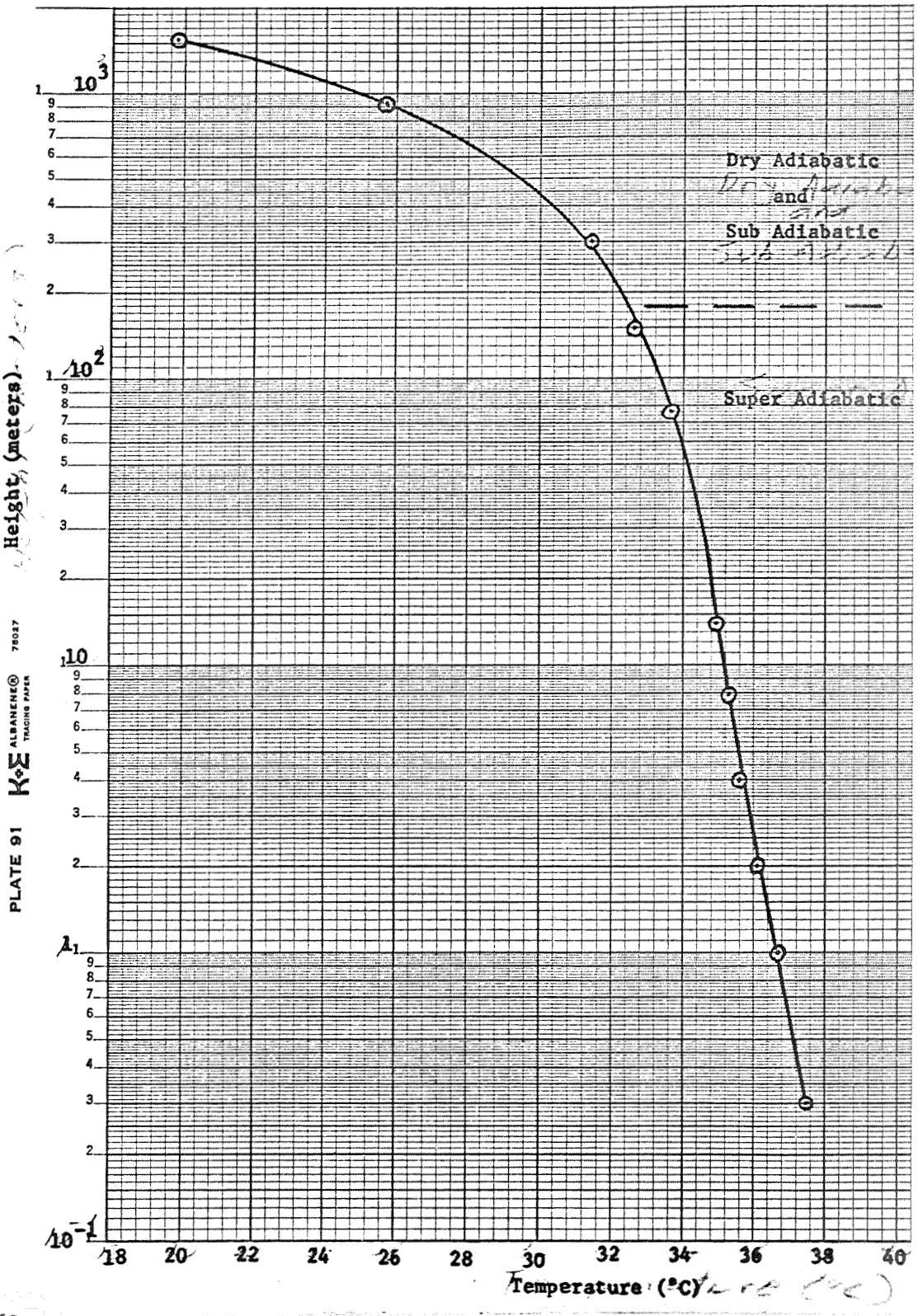
1120 PDT

M 30-692-6 (8-68)



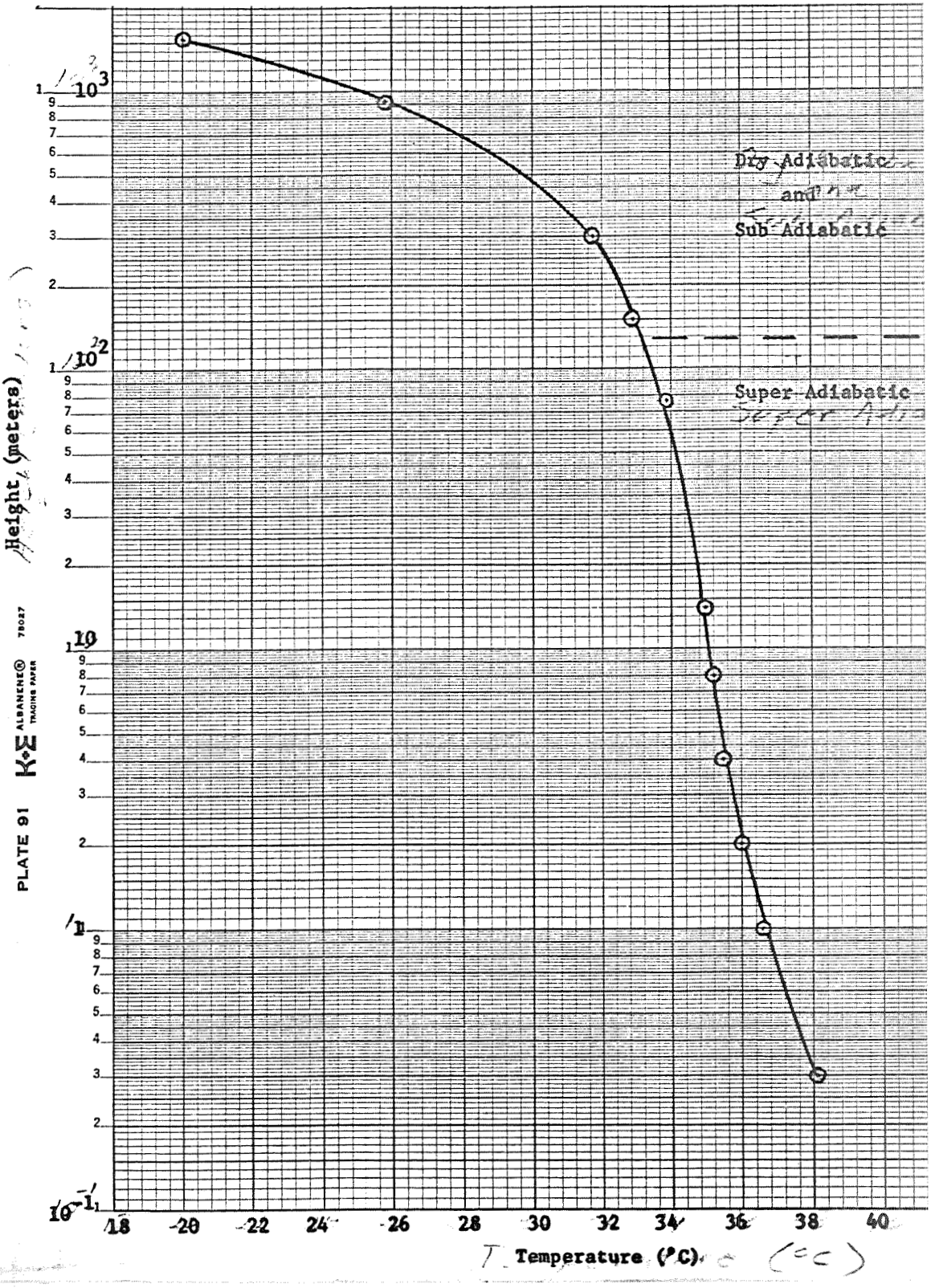
6-26-68

1130 PDT



6-26-68

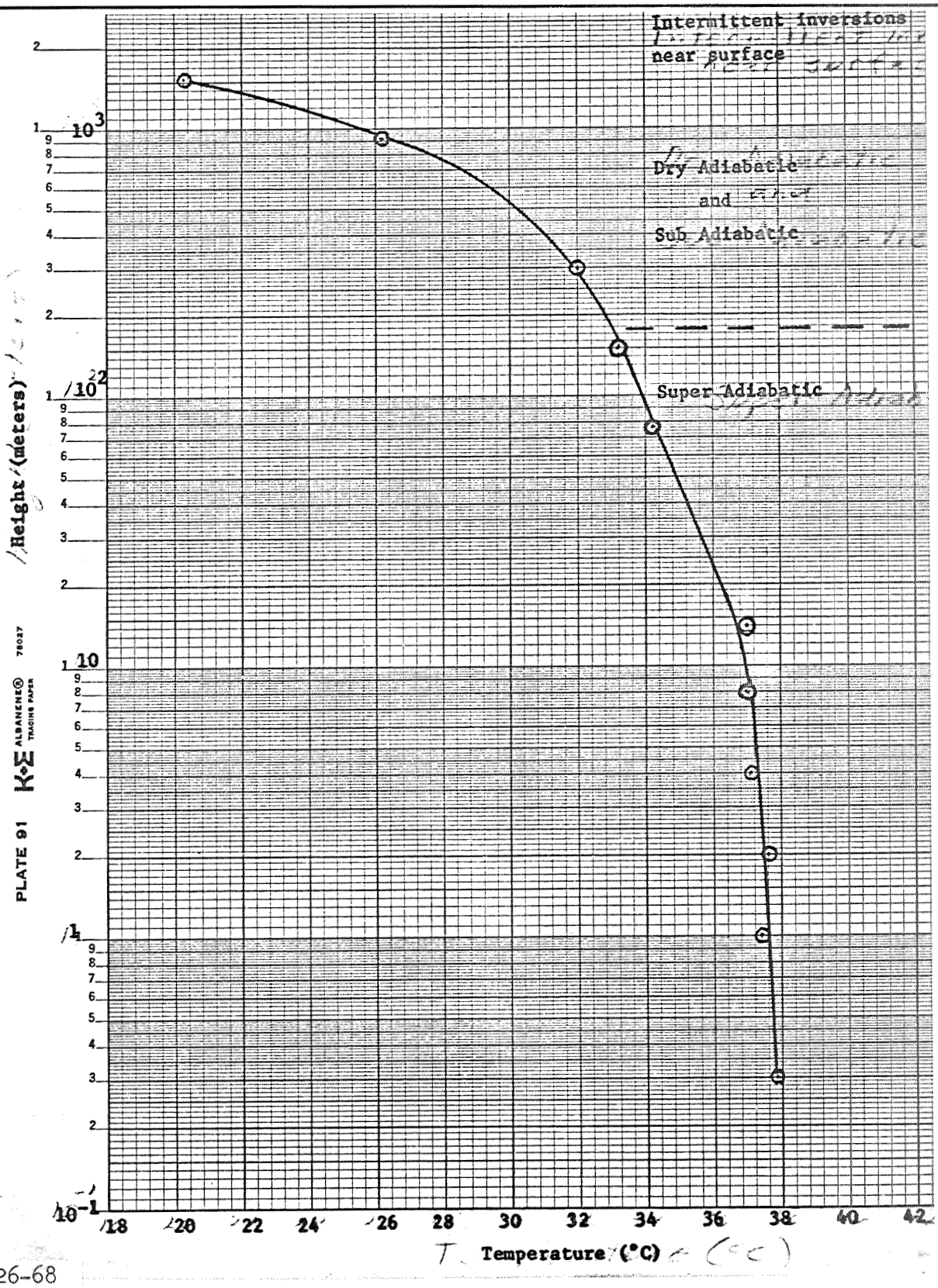
1145 PDT



6-26-68

1200 PDT

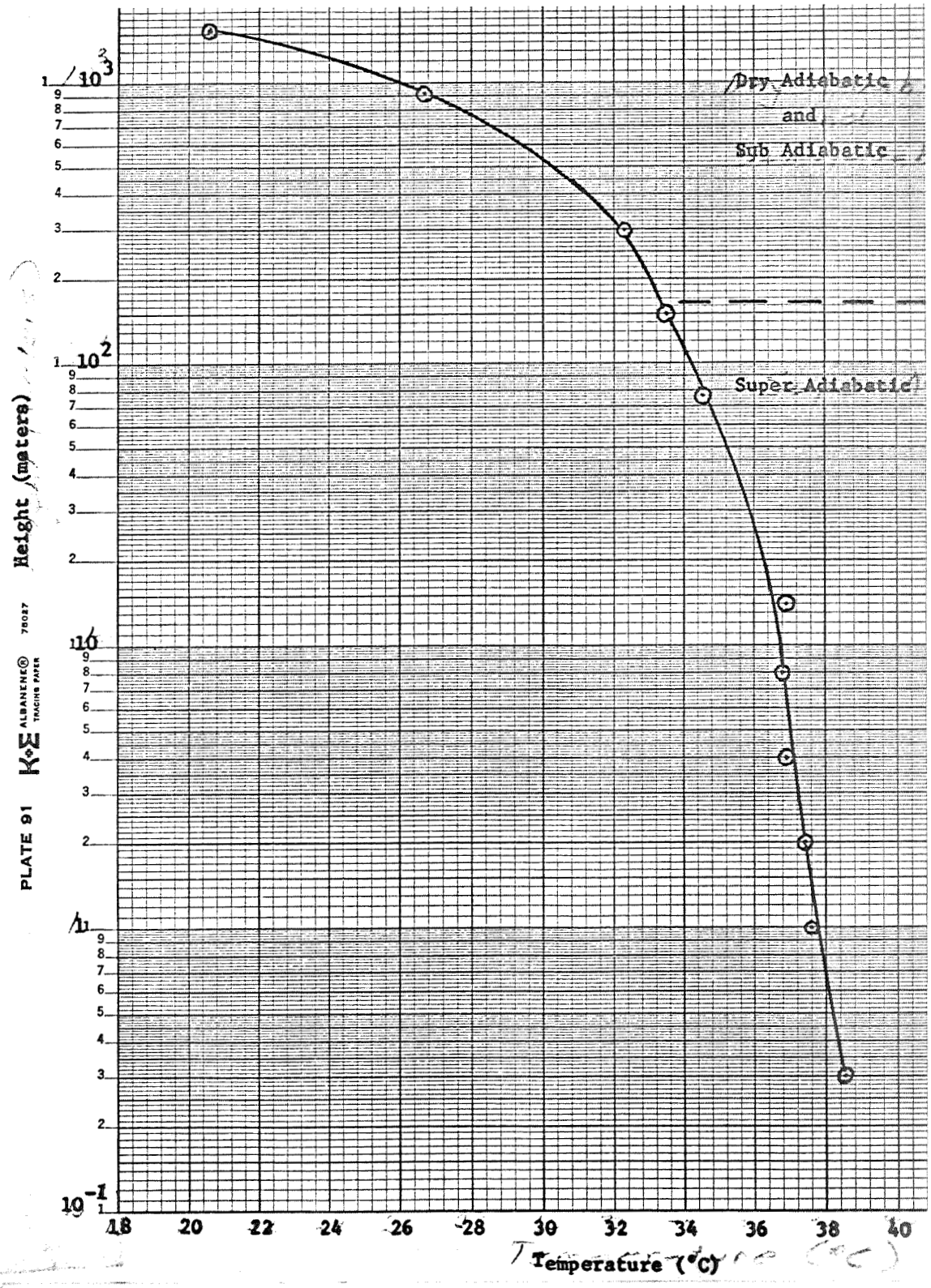
M 30-692-6 (8-68)



6-26-68

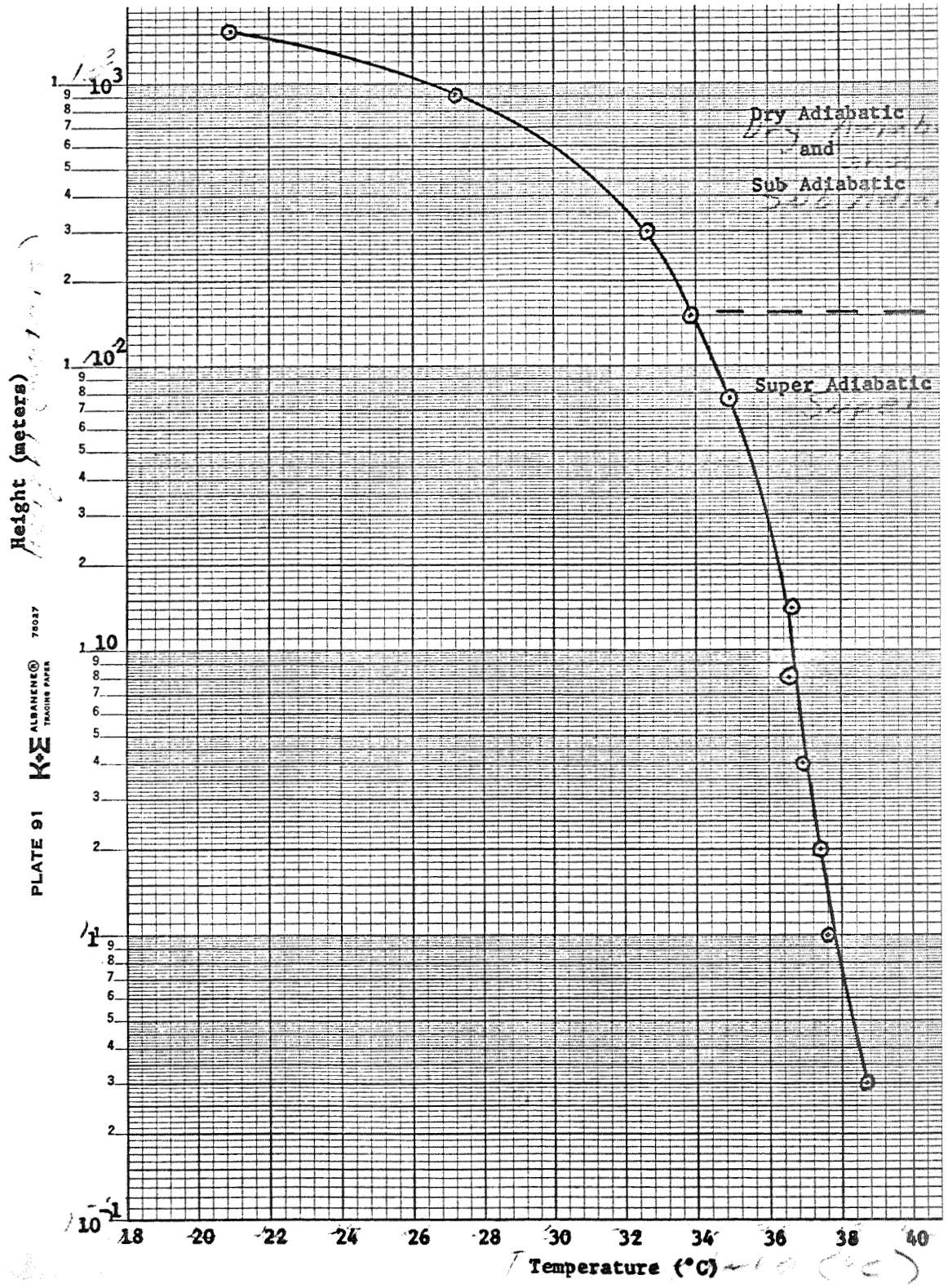
1215 PDT

M 30-692-6 (8-68)



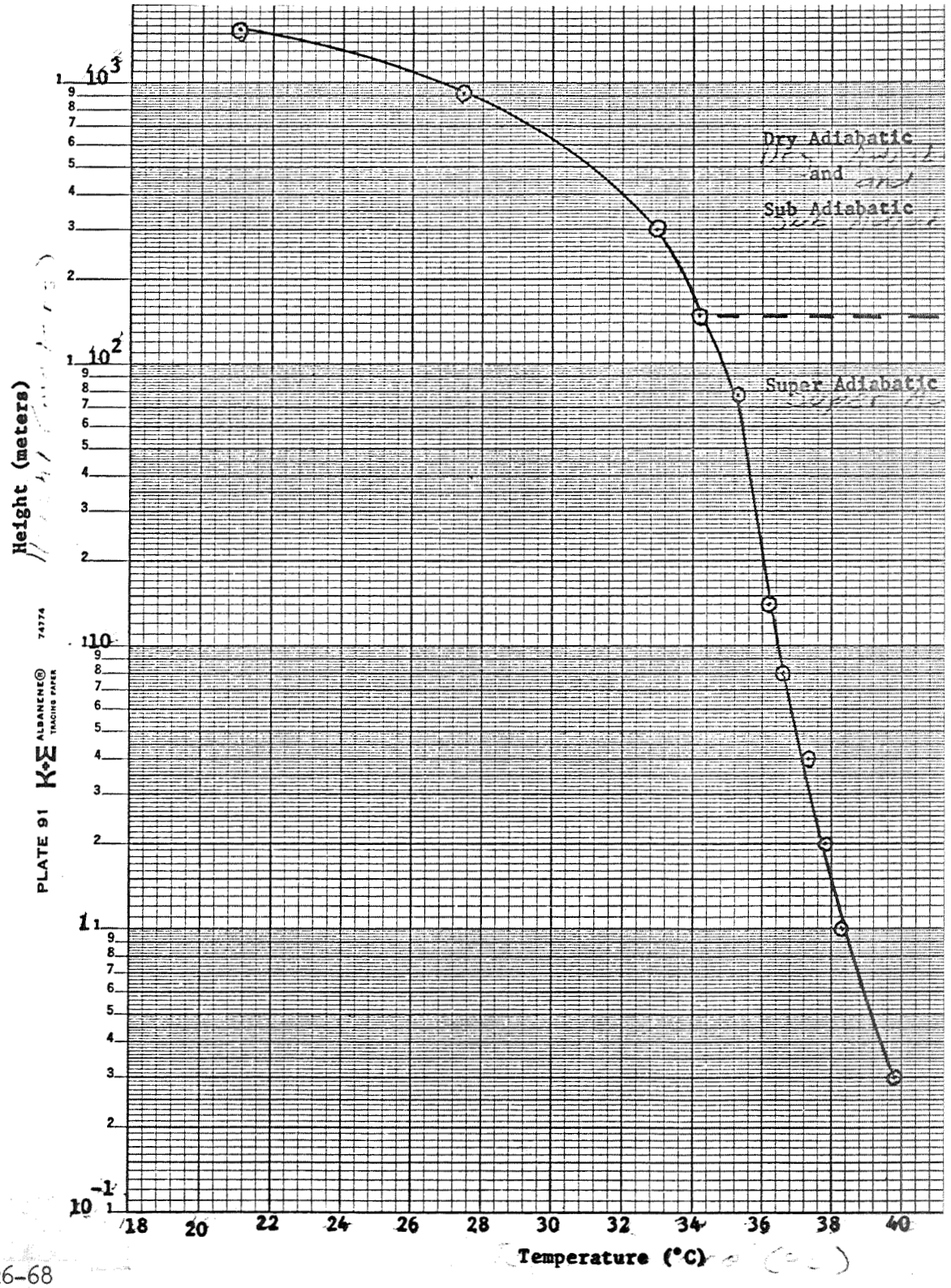
6-26-68

1230 PDT



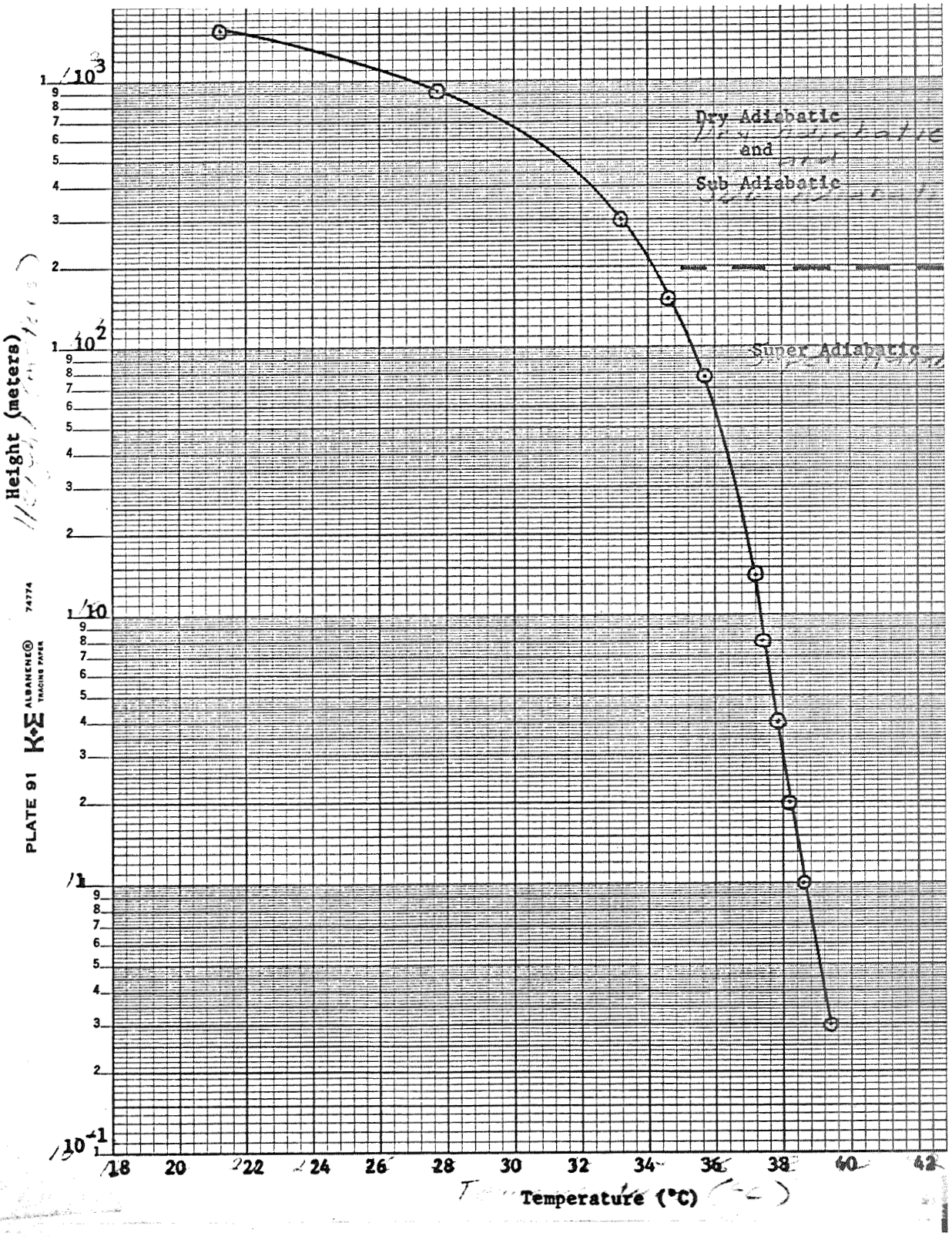
6-26-68

1245 PDT



6-26-68

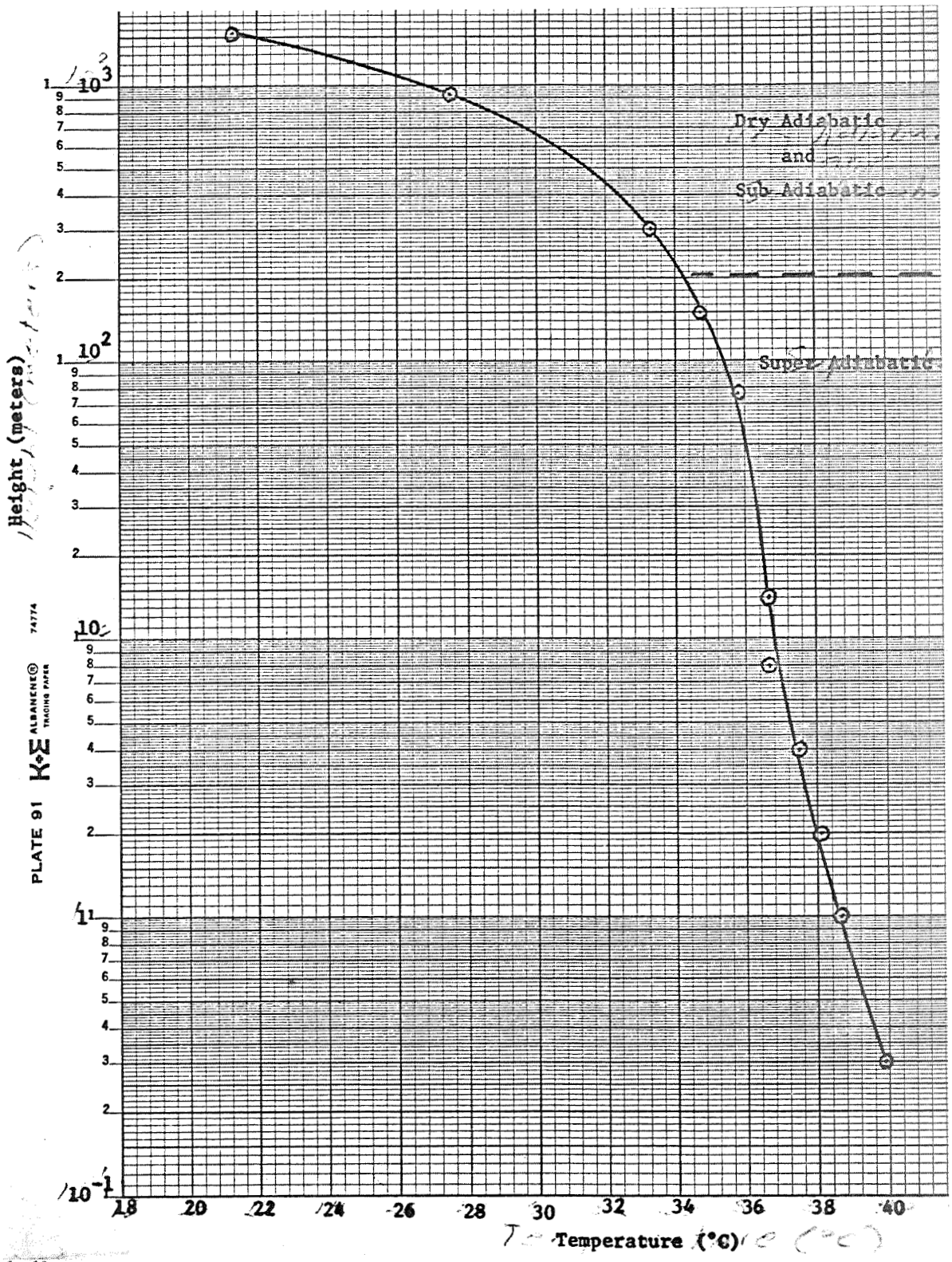
1300 PDT



6-26-68

1320 PDT

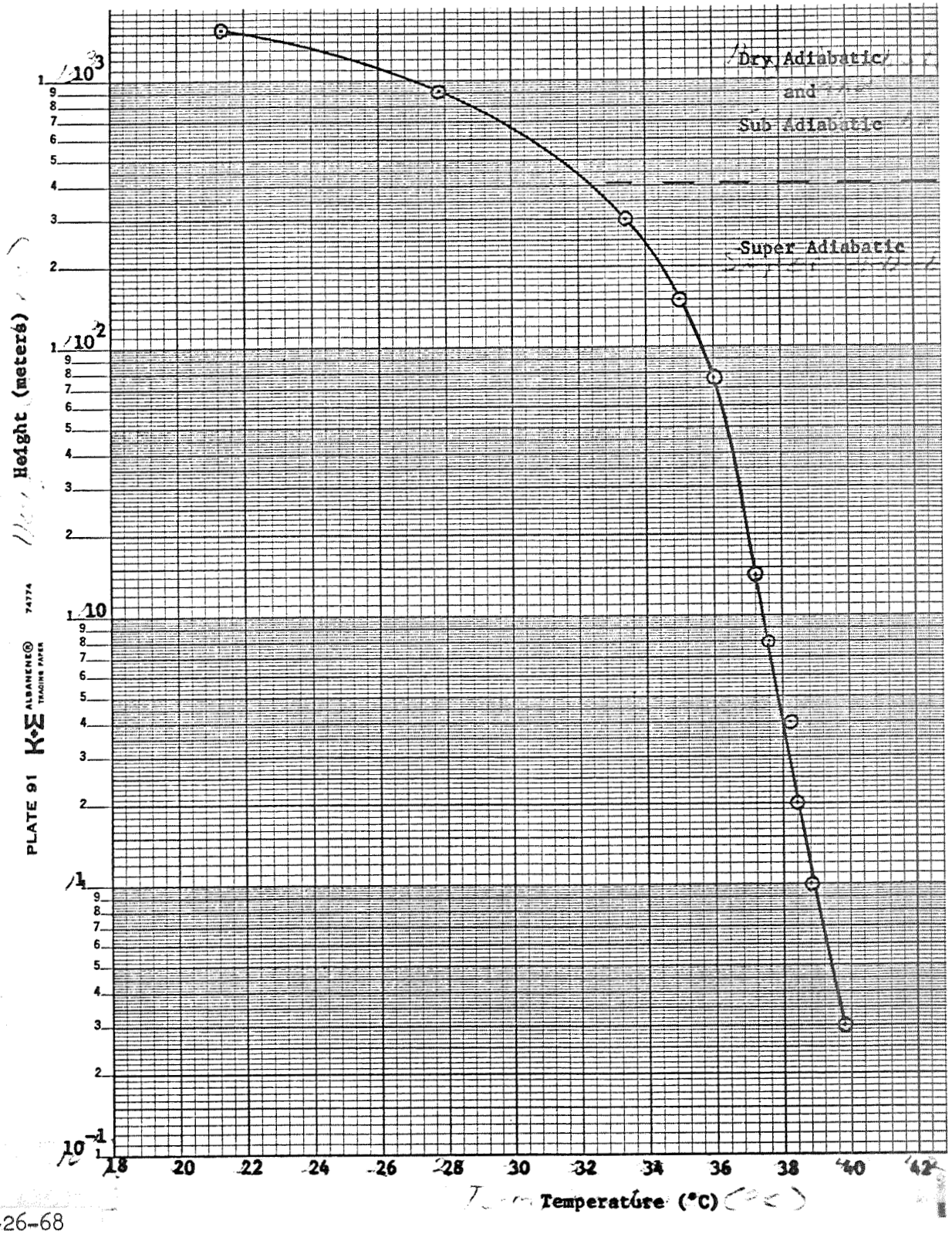
M 30-692-6 (8-68)



6-26-68

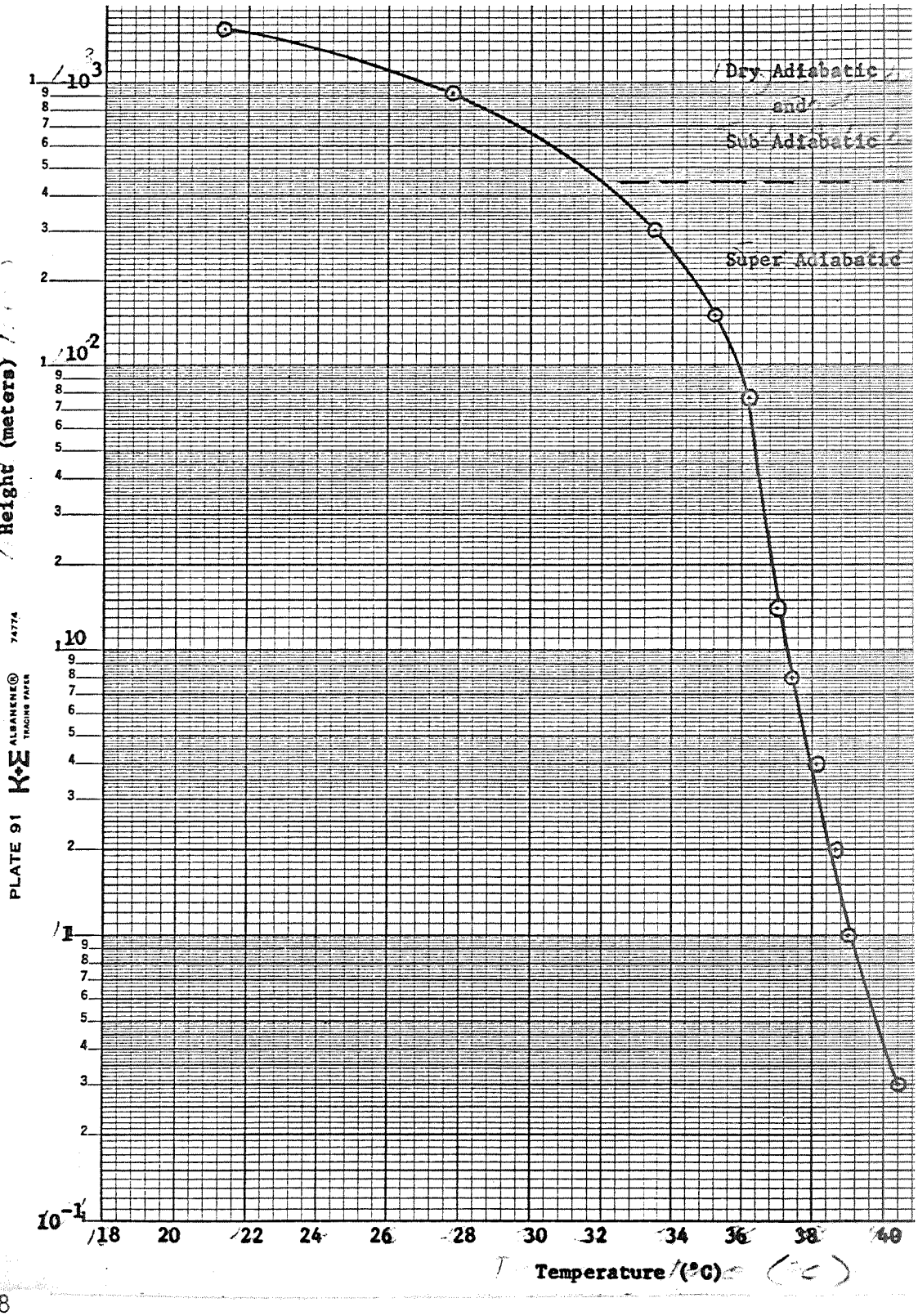
1330 PDT

M 30-692-6 (8-68)



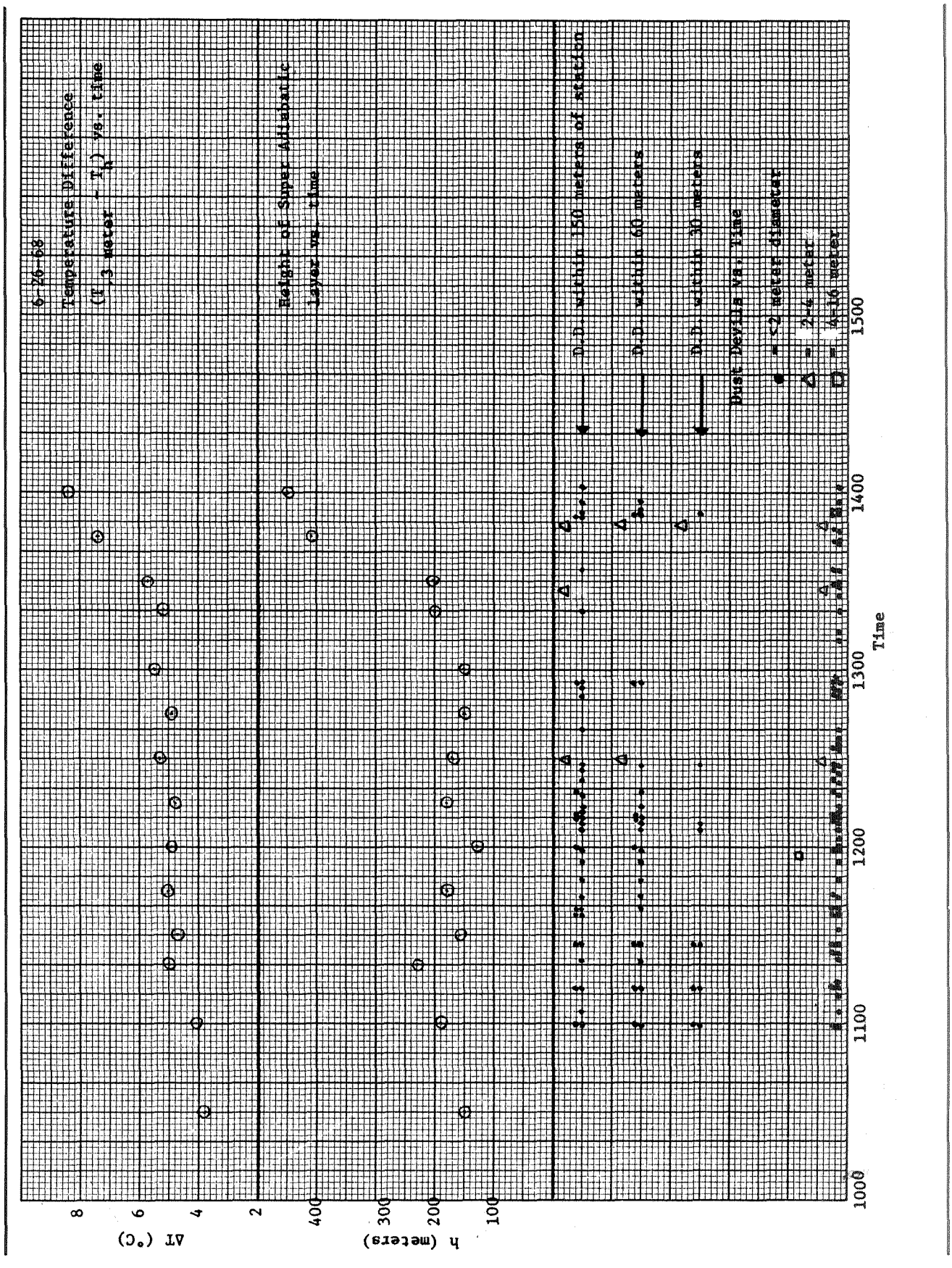
6-26-68

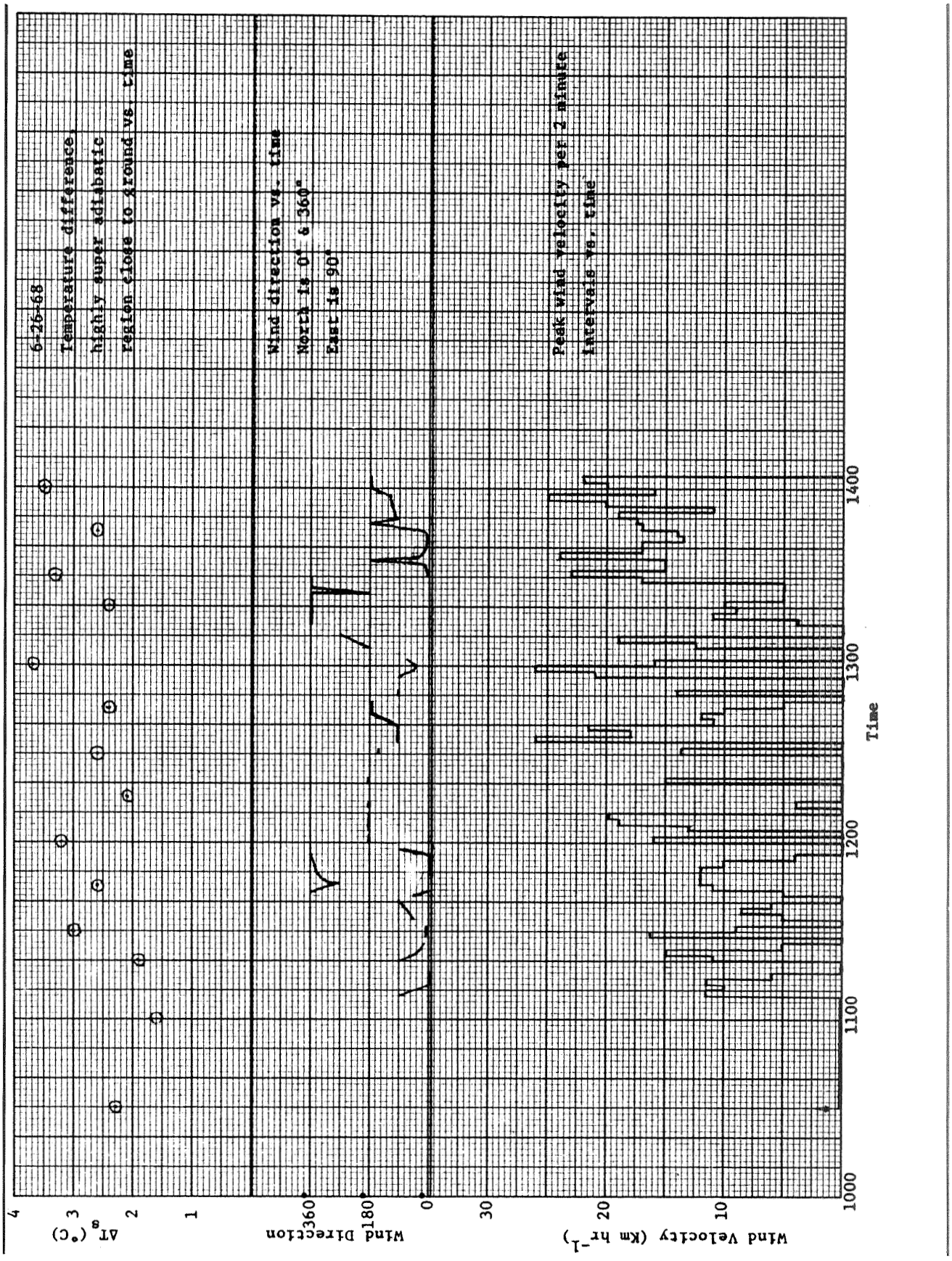
1345 PDT

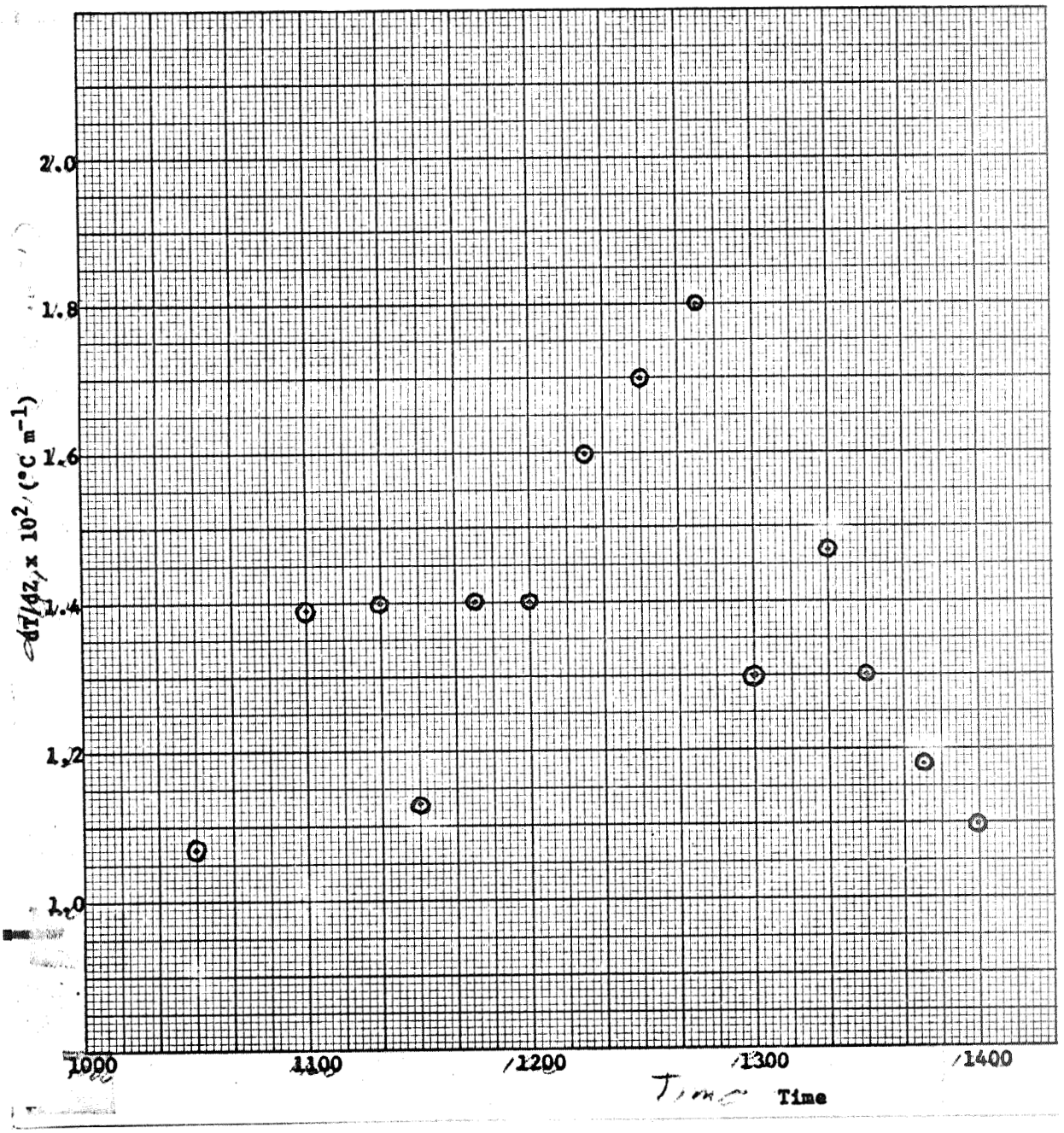


6-26-68

1400 PDT


6-26-68
Temperature Difference
(T_3 meter - T_1) vs. time
Height of Super Adiabatic
layer vs. time
D.D. within 150 meters of station
D.D. within 60 meters
D.D. within 30 meters
Dust Devils vs. time
● = <2 meter diameter
Δ = 2-4 meter
□ = 4-16 meter
ΔT (°C)
h (meters)
Time
1000
1100
1200
1300
1400
1500
2
4
6
8
100
200
300
400

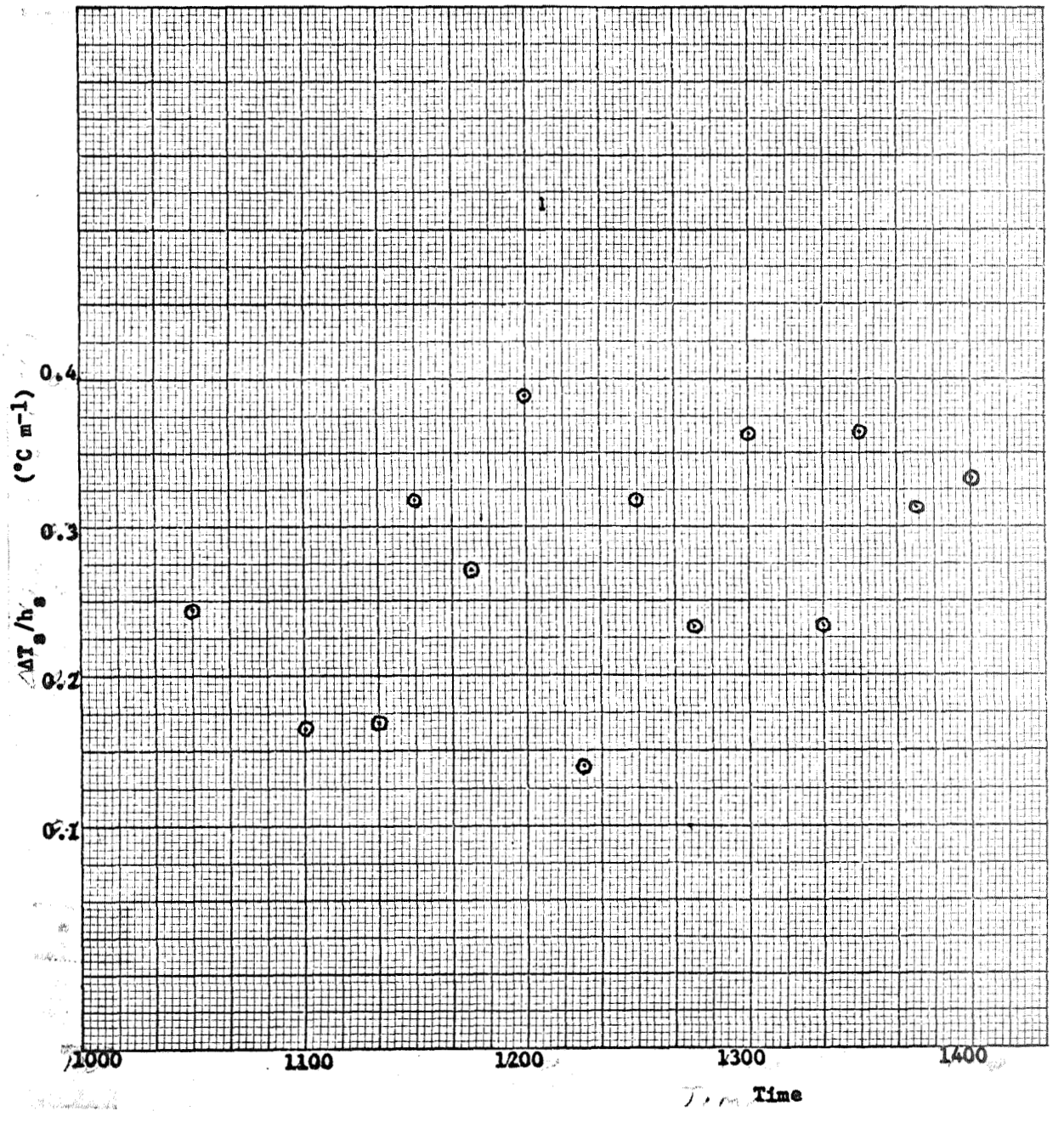

6-26-68
Temperature difference
highly super adiabatic
region close to ground vs time
Wind direction vs. time
North is 0° & 360°
East is 90°
Peak wind velocity per 2 minute
interval vs. time
ΔT_s (°C)
Wind Direction
Wind Velocity (Km hr^-1)
Time
1000
1100
1200
1300
1400



6-26-68

Lapse Rate (dT/Dz)

vs. Time

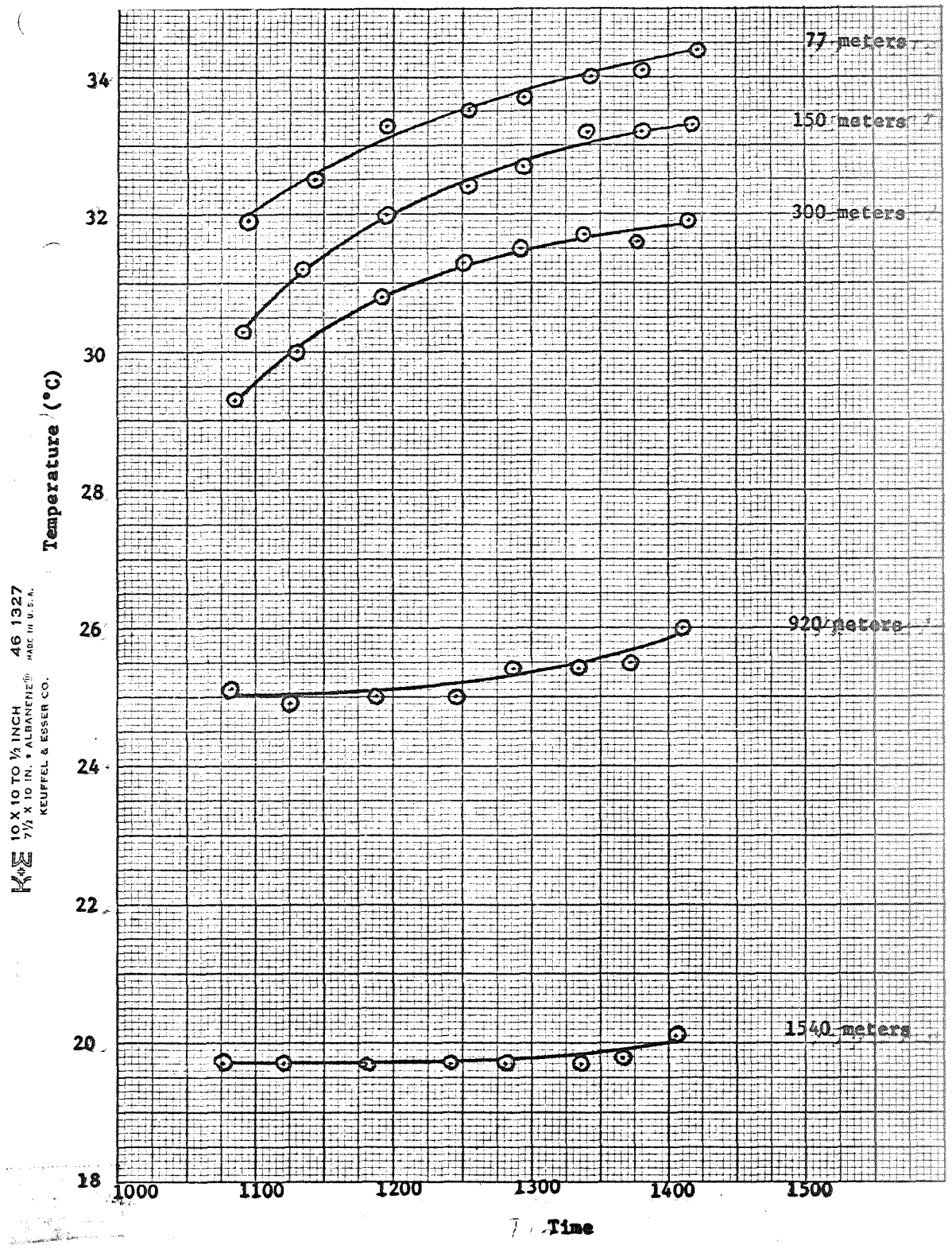


6-26-68

$\Delta T_s/h_s$ vs. Time

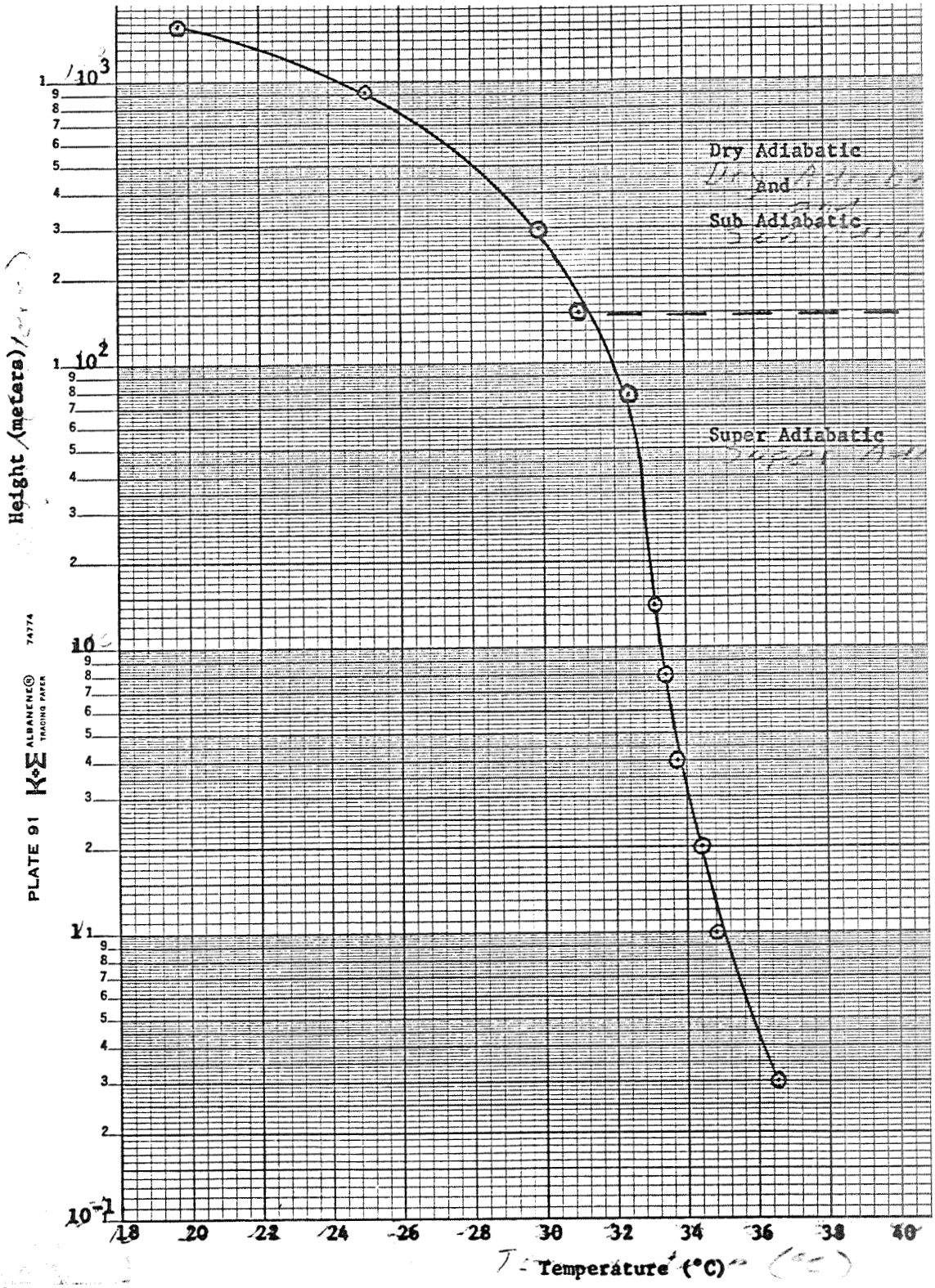
RM 30-692-6 (8-68)

DATA FOR 6-27-68



6-27-68

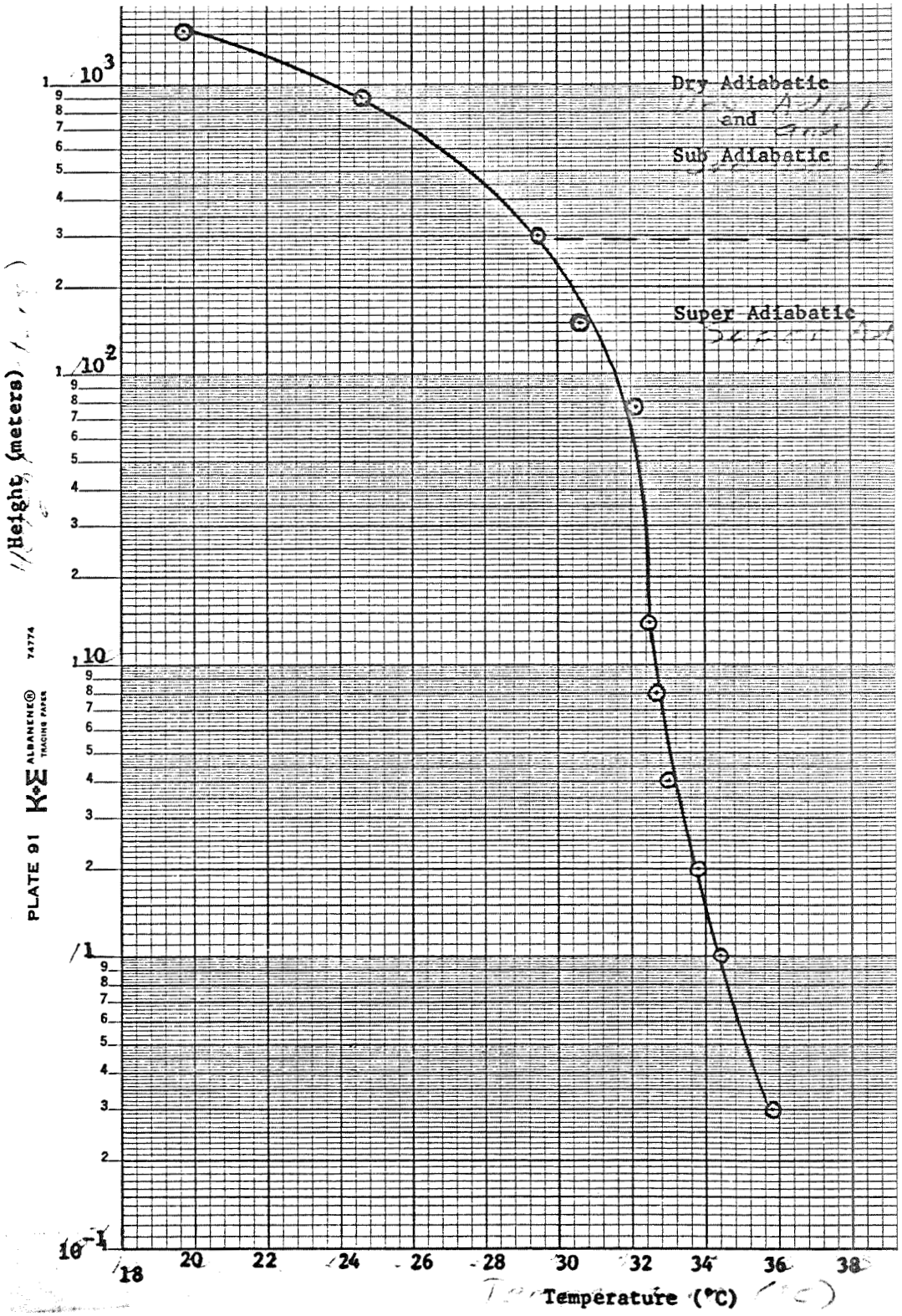
Aircraft Soundings



6-27-68

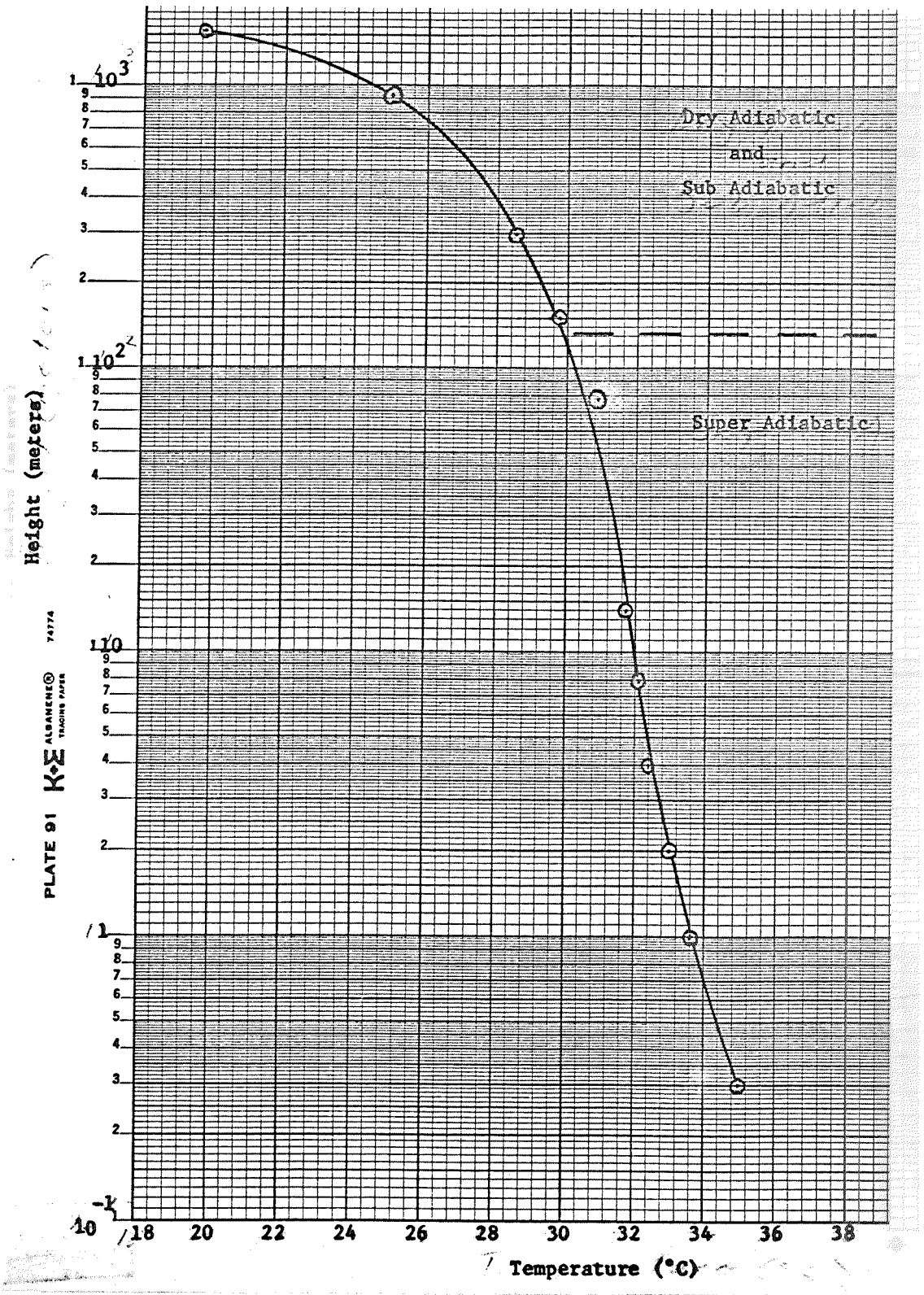
1035 PDT

M 30-692-6 (8-68)



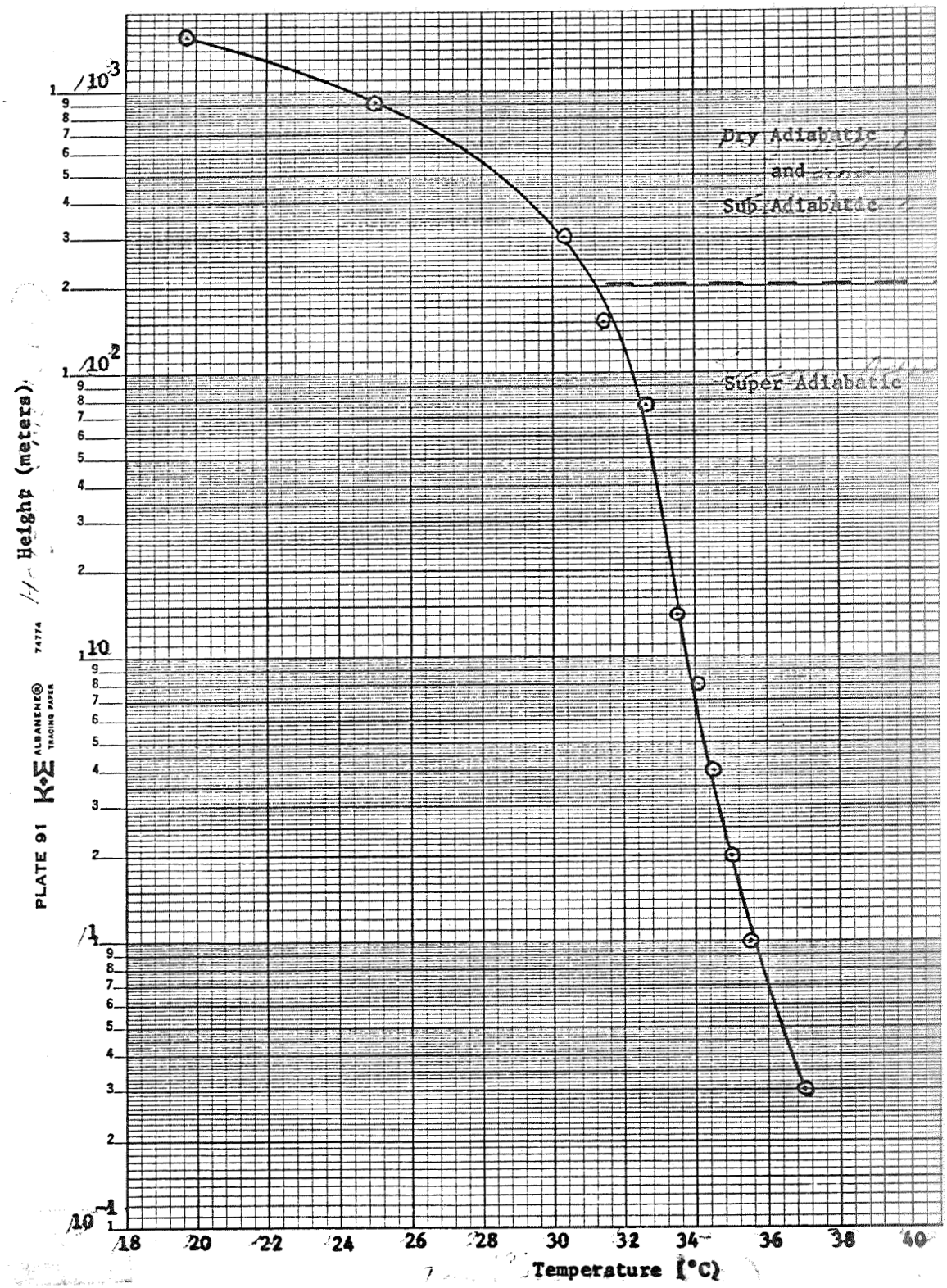
6-27-68

1100 PDT



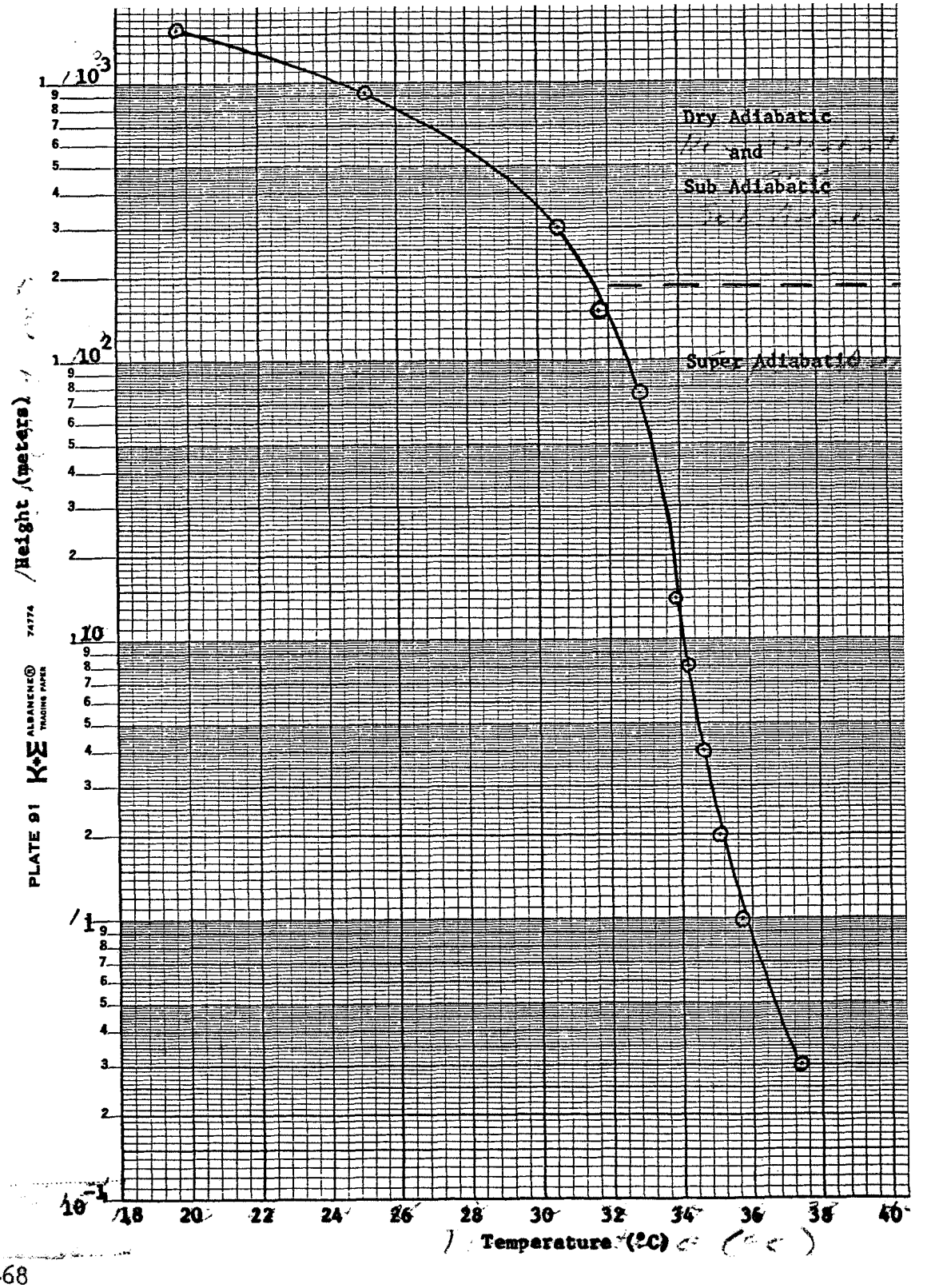
6-27-68

1115 PDT



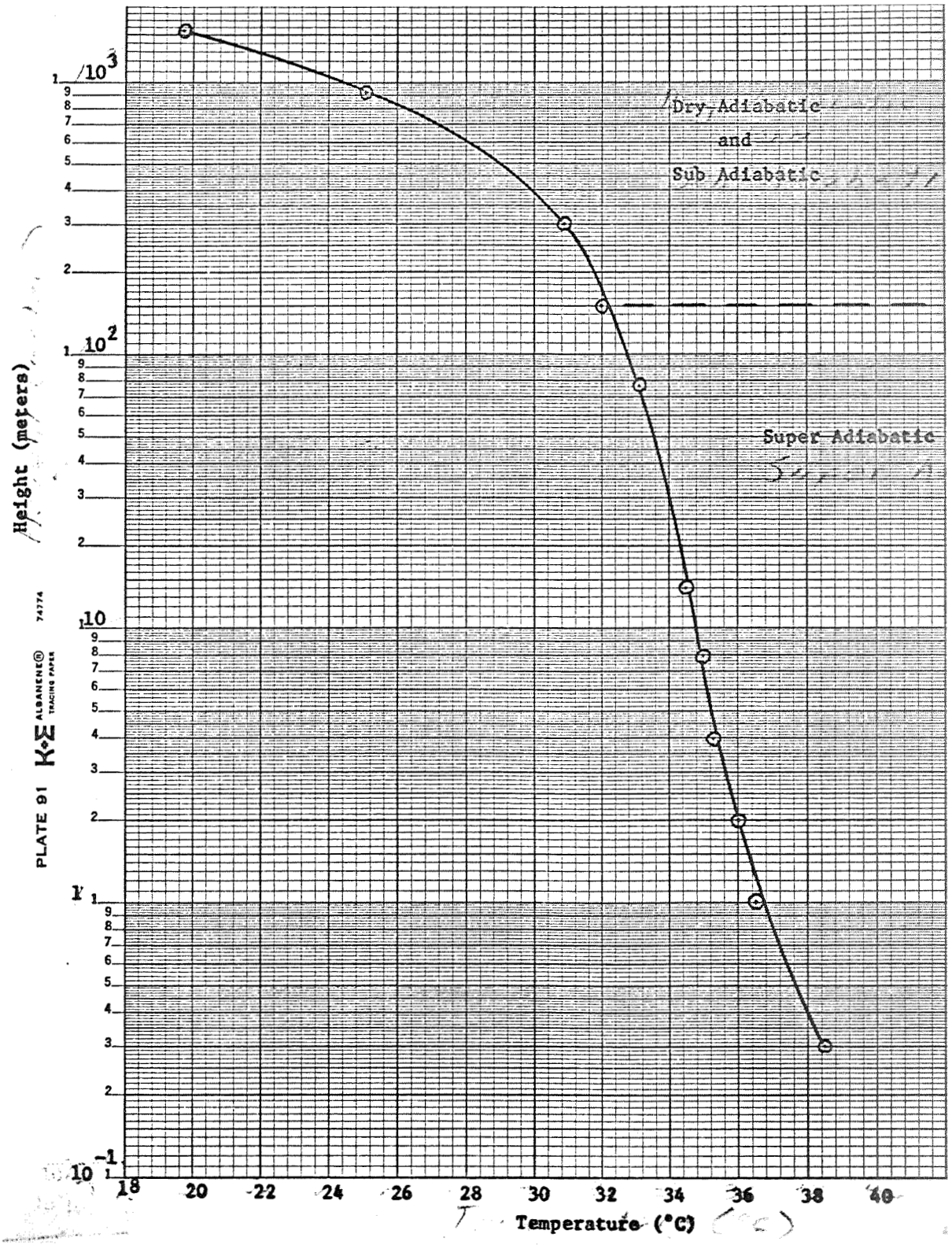
6-27-68

1130 PDT



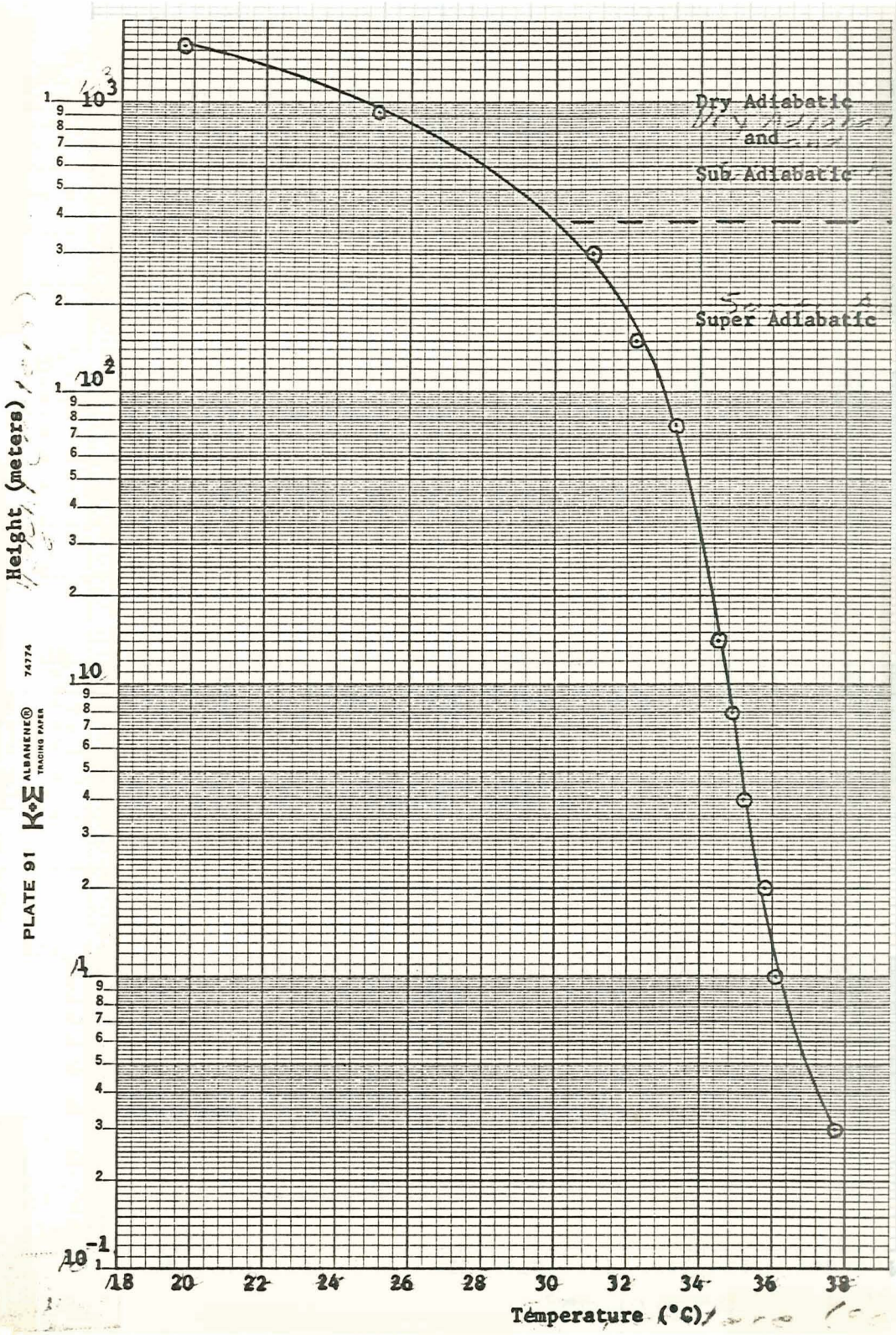
6-27-68

1145 PDT



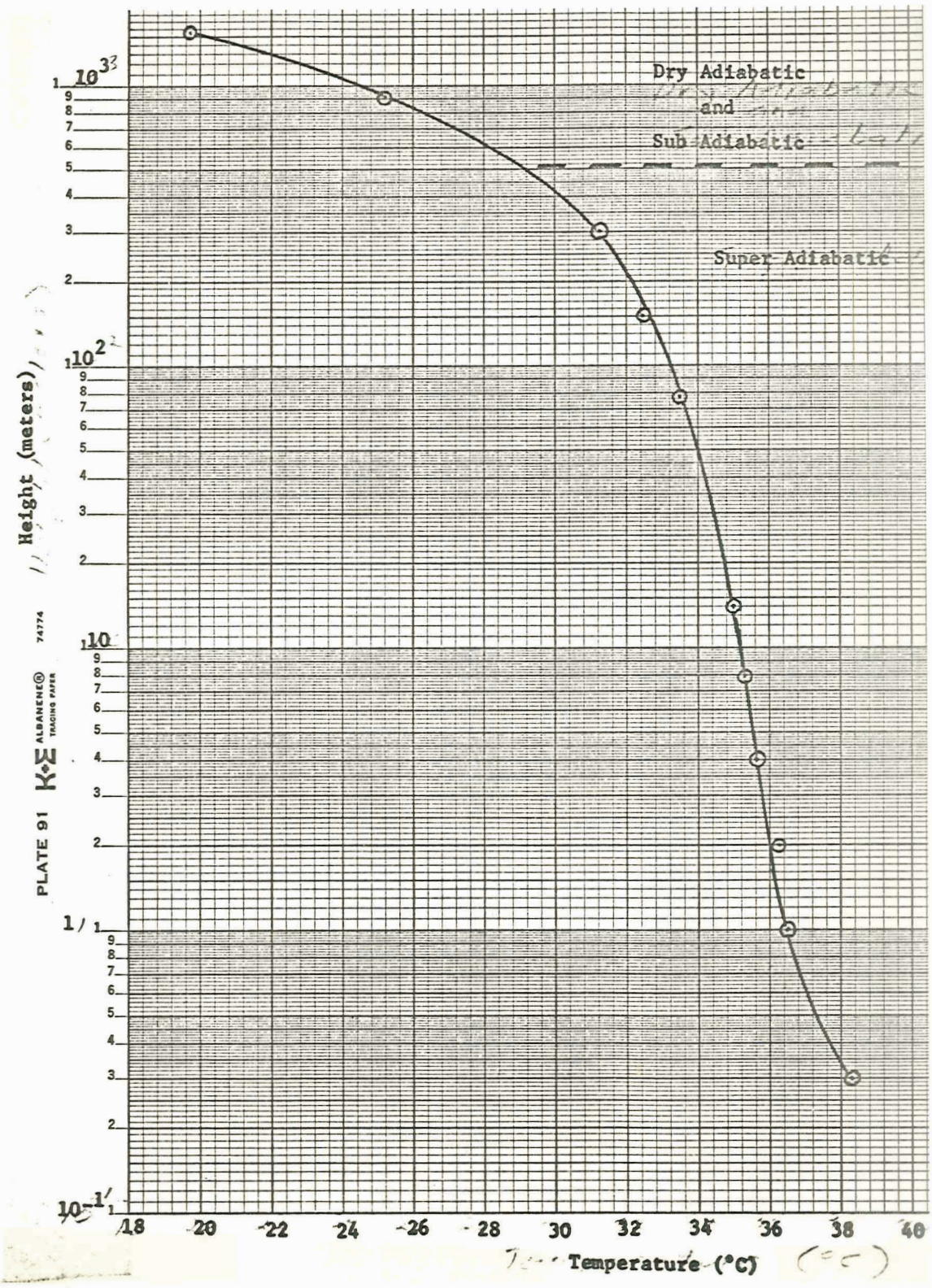
6-27-68

1200 PDT



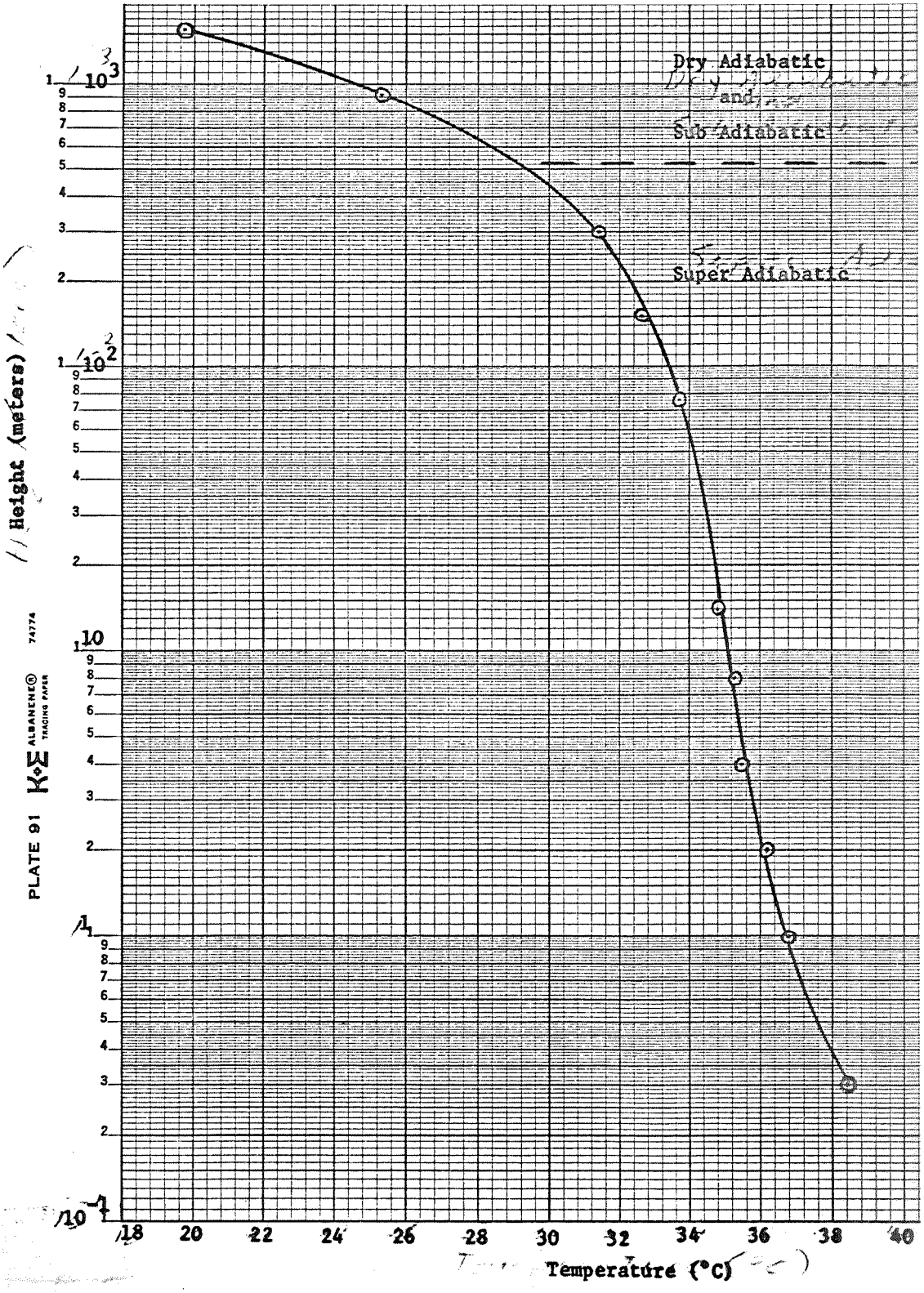
6-27-68

1215 PDT



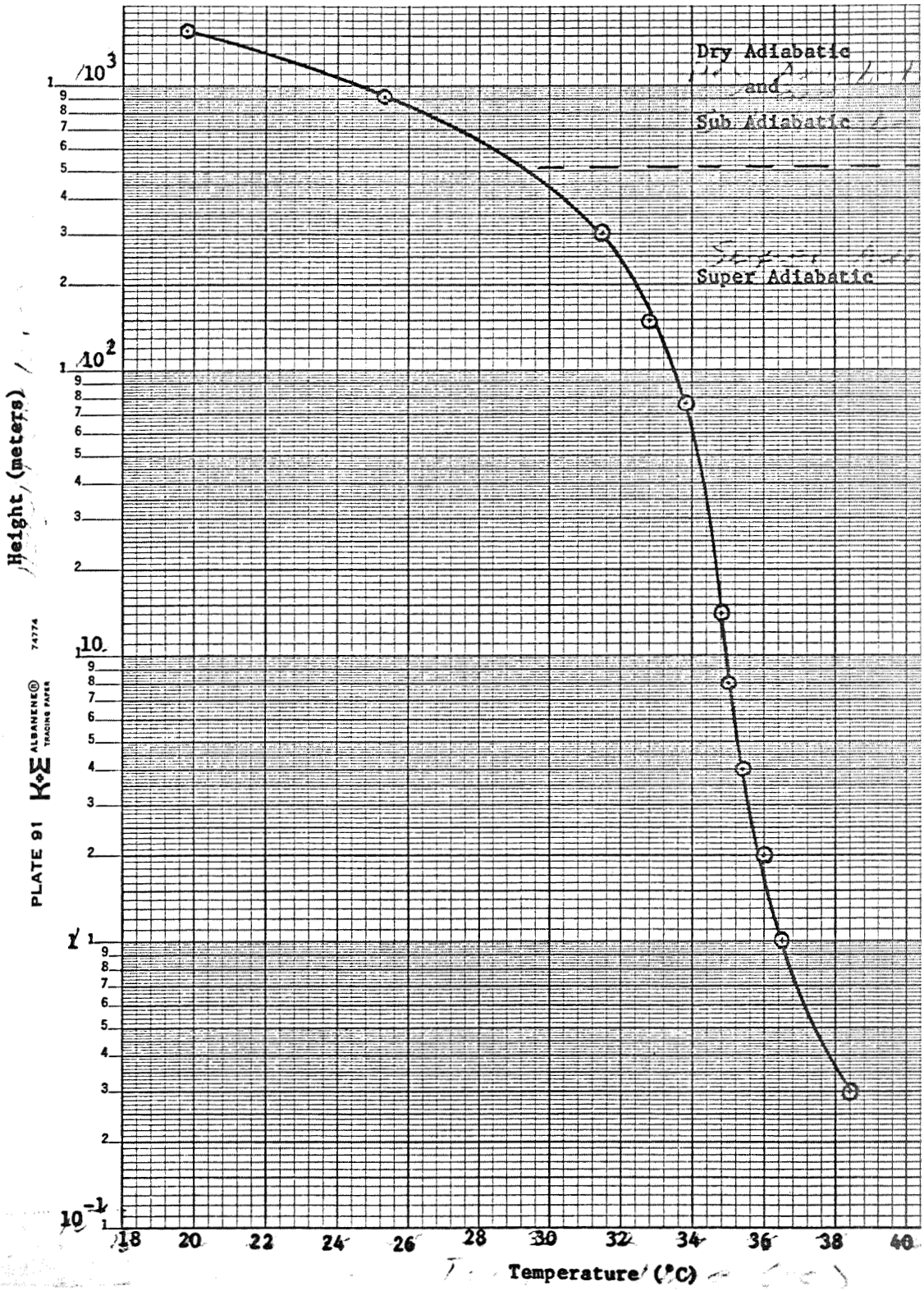
6-27-68

1230 PDT



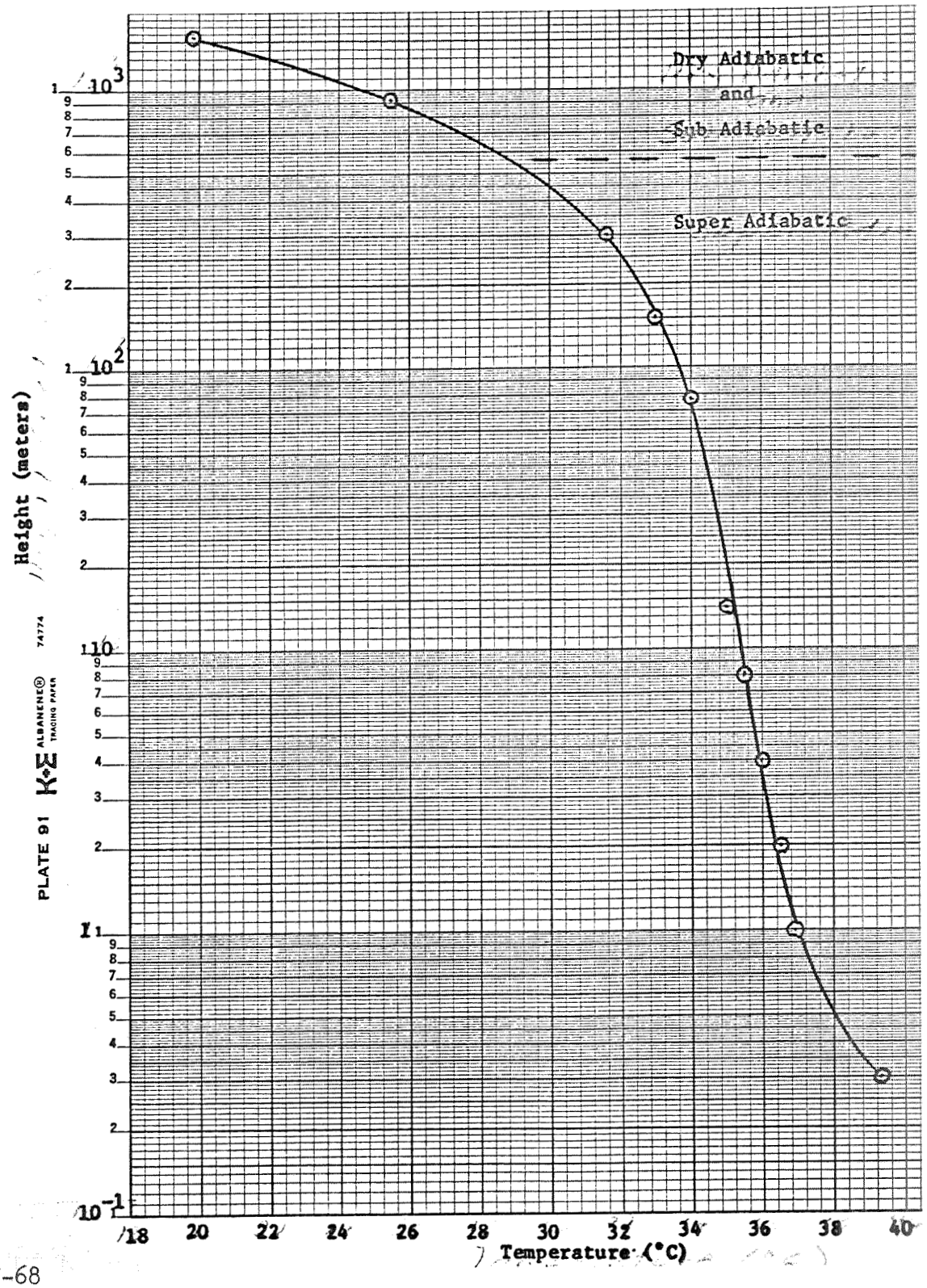
6-27-68

1245 PDT



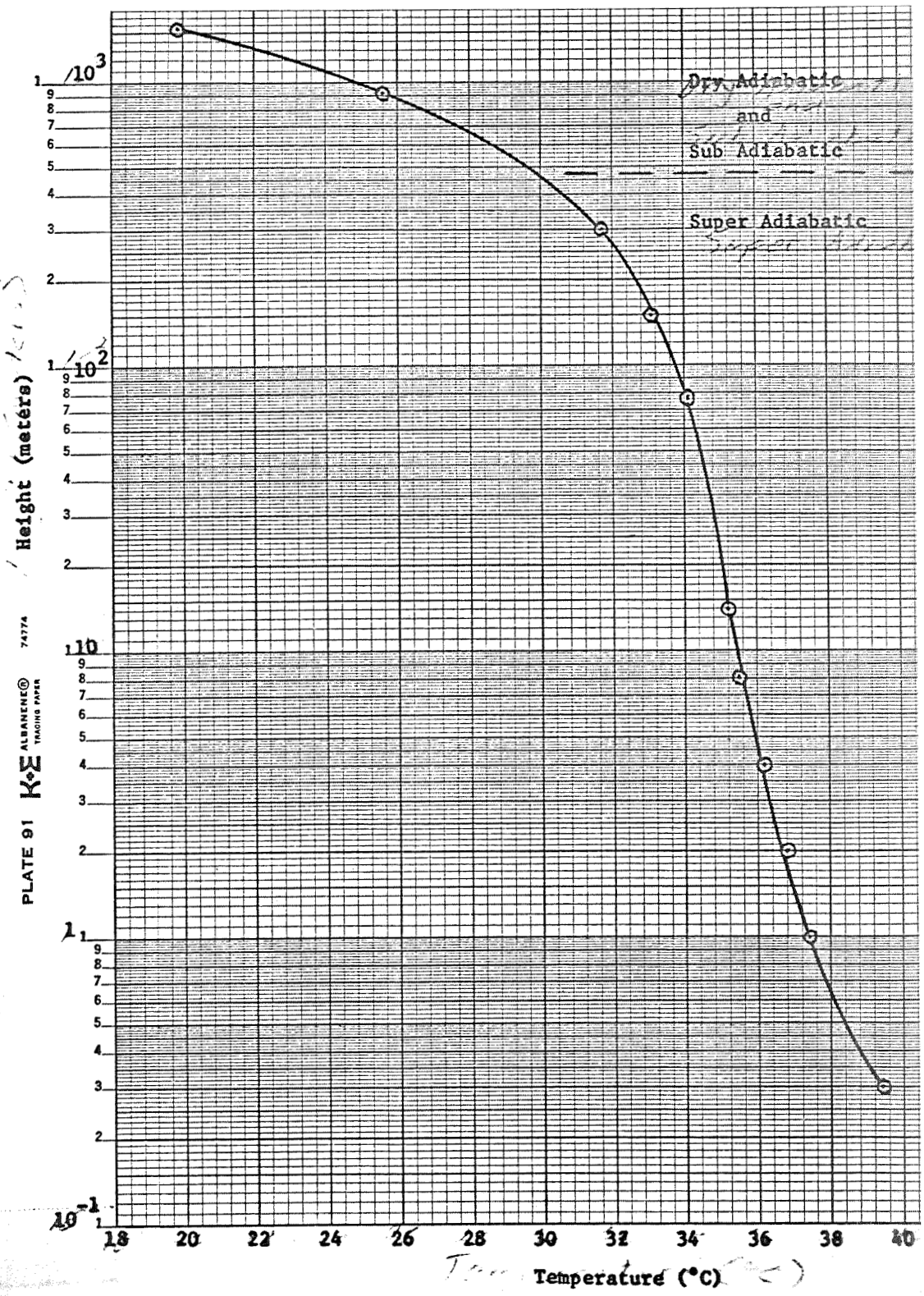
6-27-68

1300 PDT



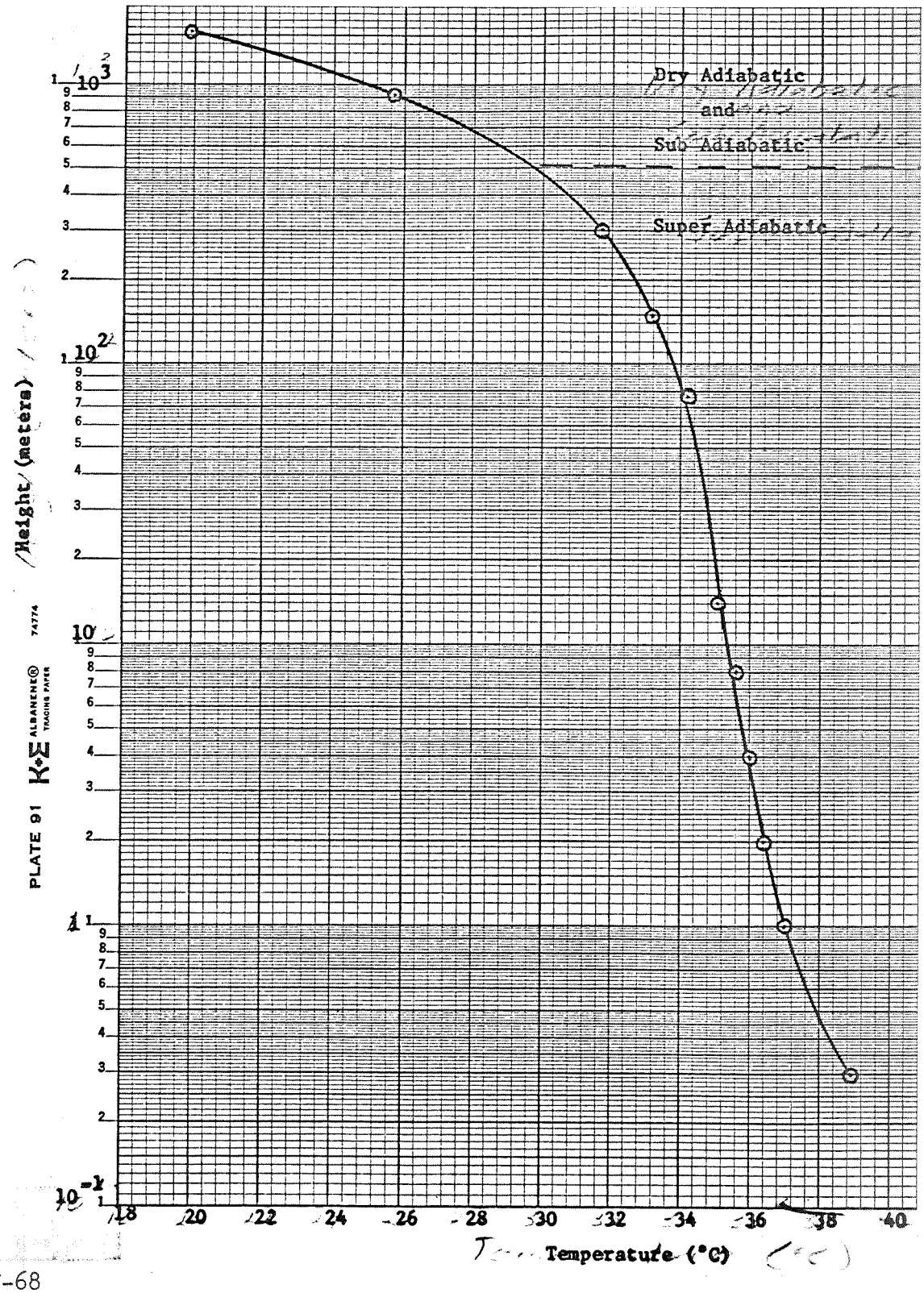
6-27-68

1320 PDT



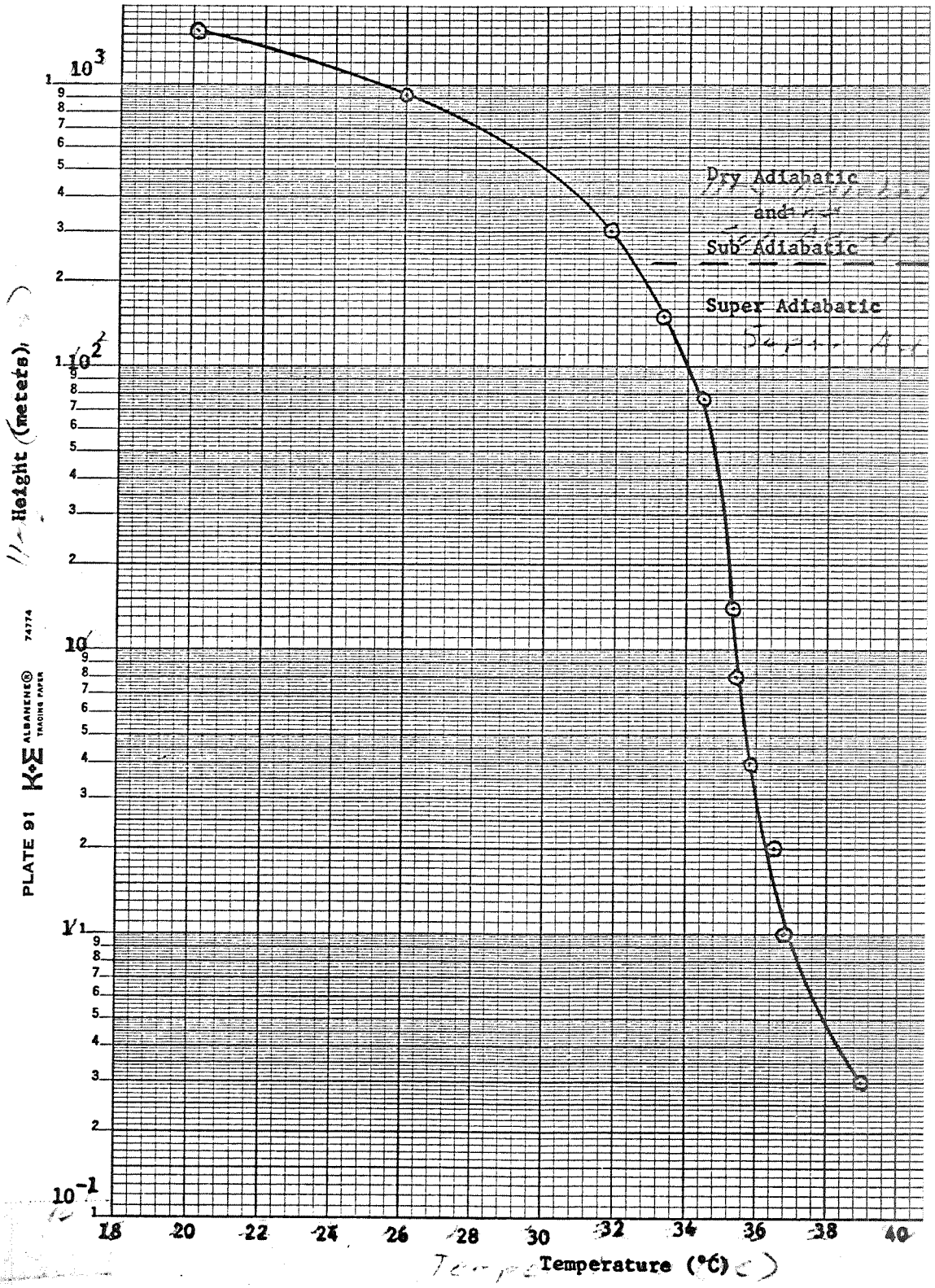
6-27-68

1330 PDT



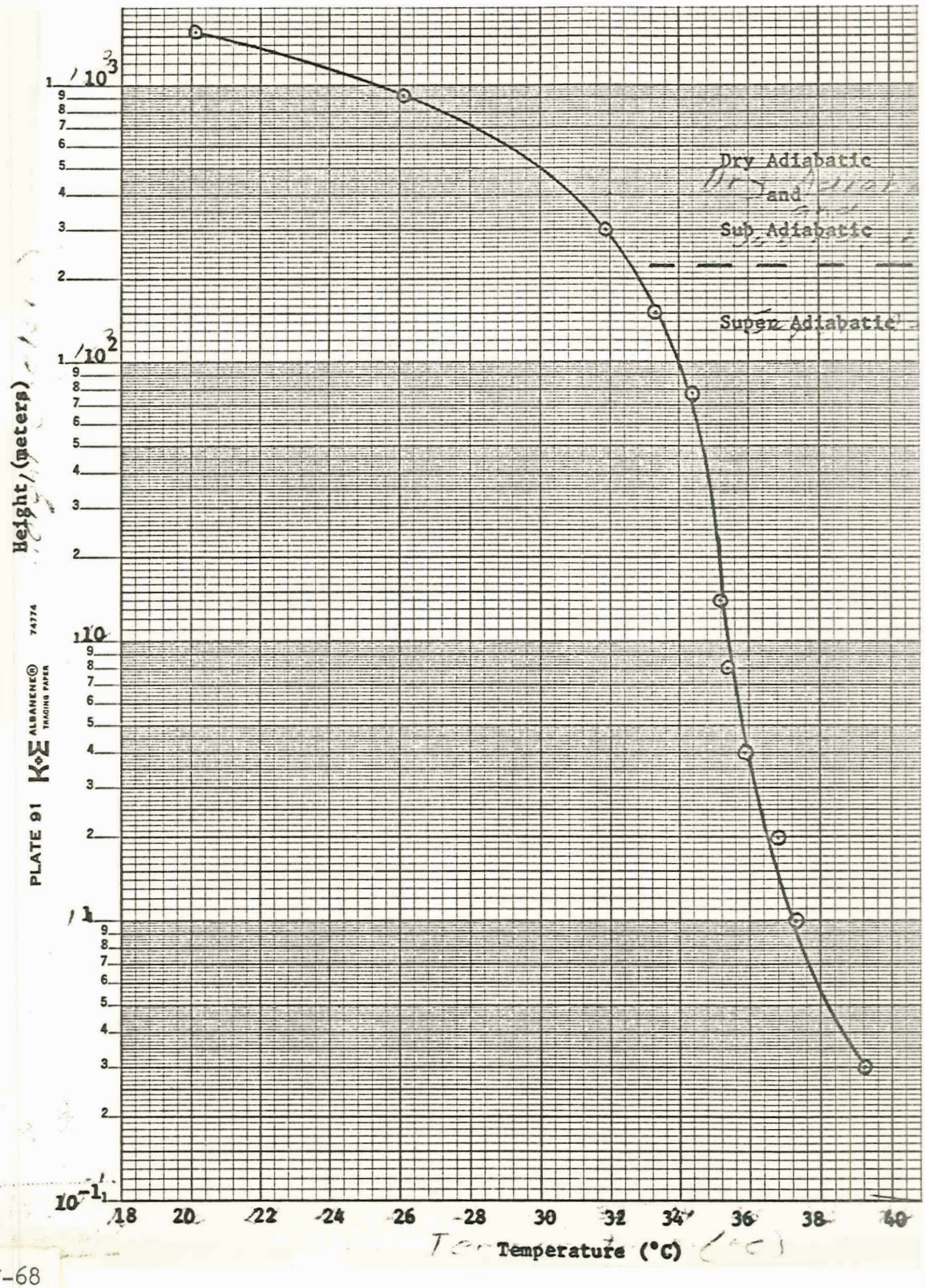
6-27-68

1345 PDT



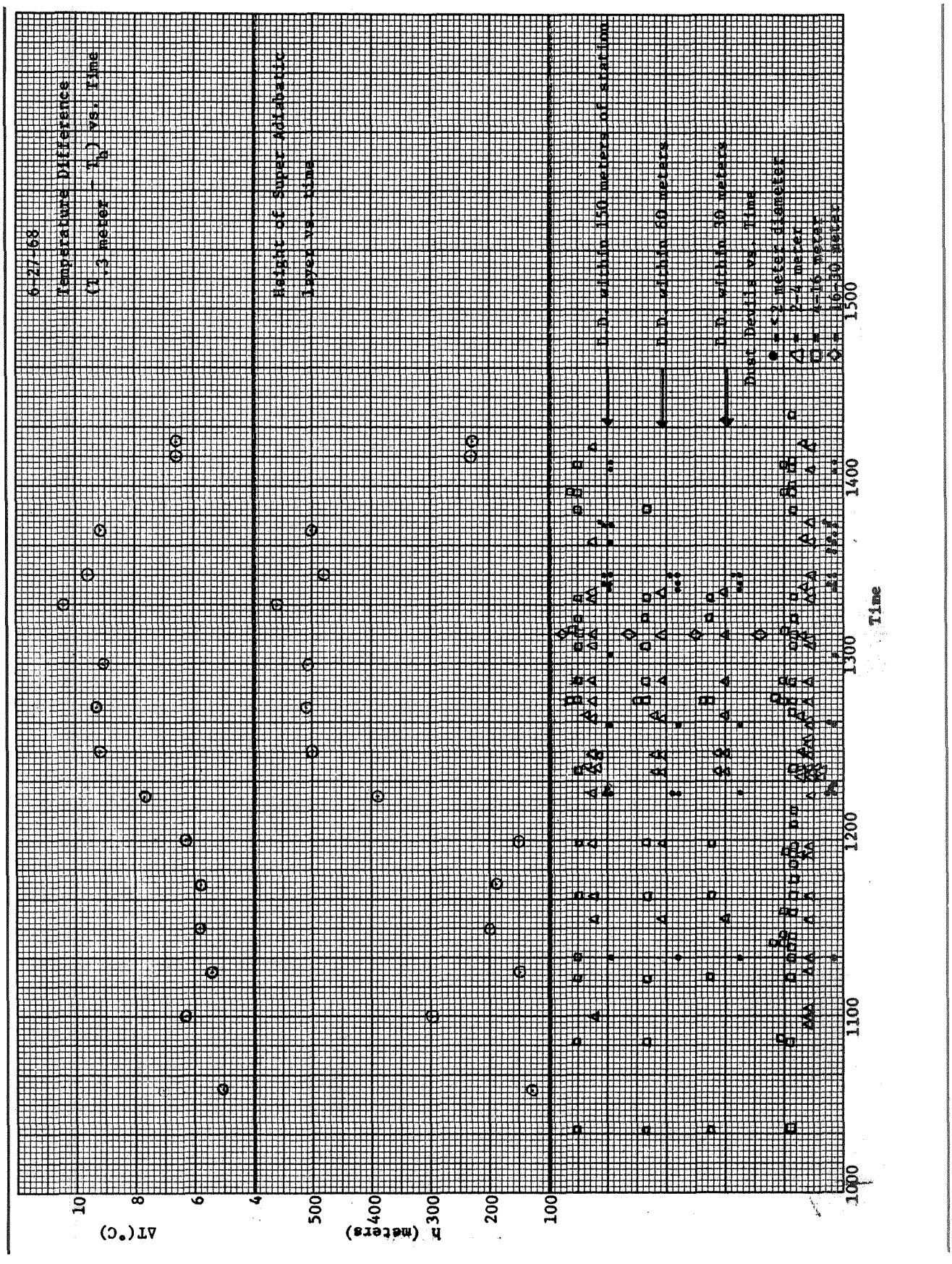
6-27-68

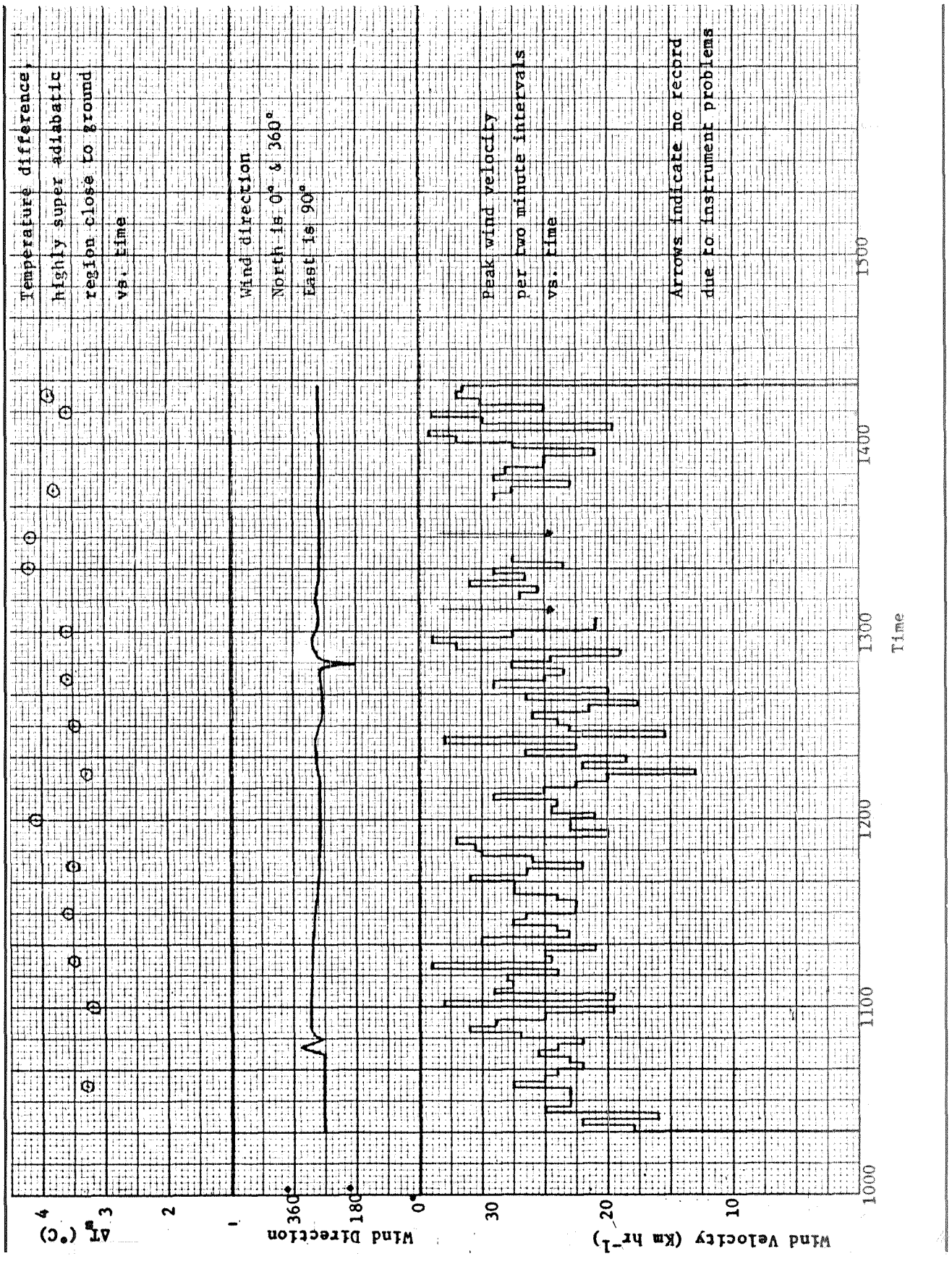
1410 PDT

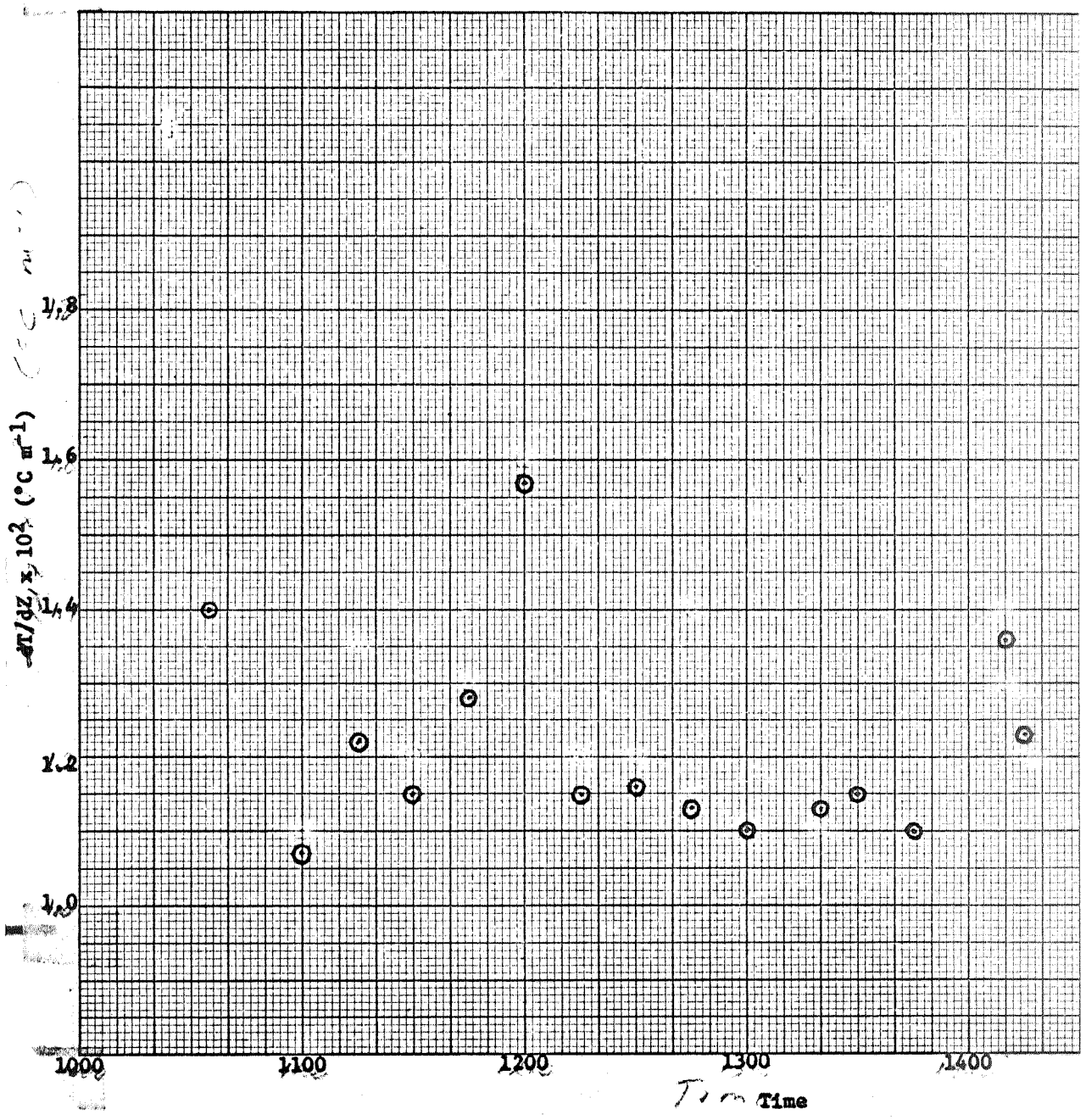


6-27-68

1415 PDT


6-27-68
Temperature Difference
($T_{1.3\ meter} - T_b$) vs. Time
Height of Super-Adiabatic
Layer vs. Time
D.D. within 150 meters of station
D.D. within 60 meters
D.D. within 30 meters
Dust Devils vs. Time
● = <2 meter diameter
▲ = 2-4 meter
□ = 4-16 meter
◇ = 16-30 meter
ΔT(°C)
h (meters)
Time
10
8
6
4
500
400
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200
100
1000
1100
1200
1300
1400
1500

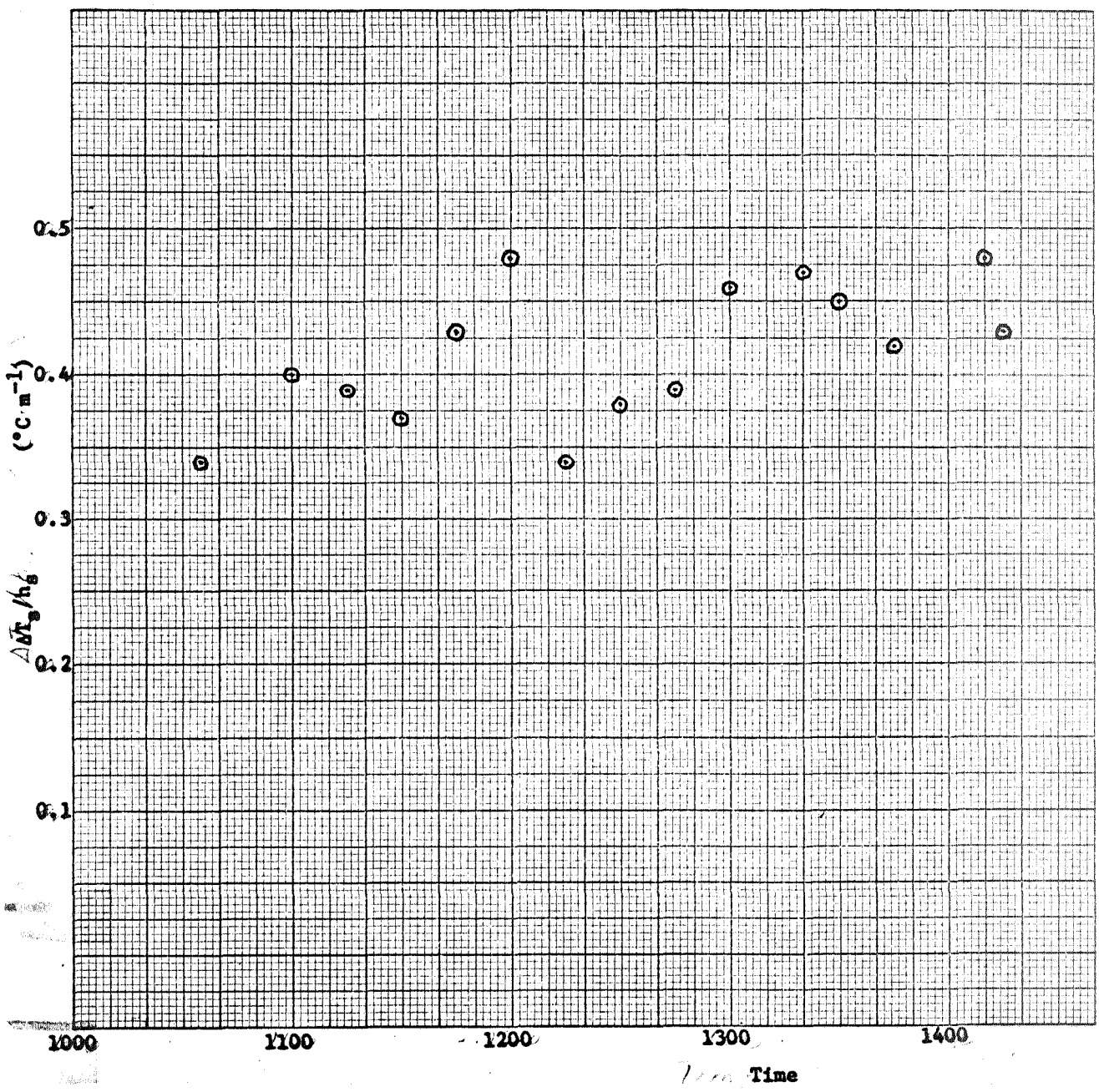

Temperature difference;
highly super adiabatic
region close to ground
vs. time
Wind direction
North is 0° & 360°
East is 90°
Peak wind velocity
per two minute intervals
vs. time
Arrows indicate no record
due to instrument problems
ΔT (°C)
Wind Direction
Wind Velocity (Km hr⁻¹)
Time
1000
1100
1200
1300
1400
1500



6-27-68

Lapse Rate (dT/dZ)

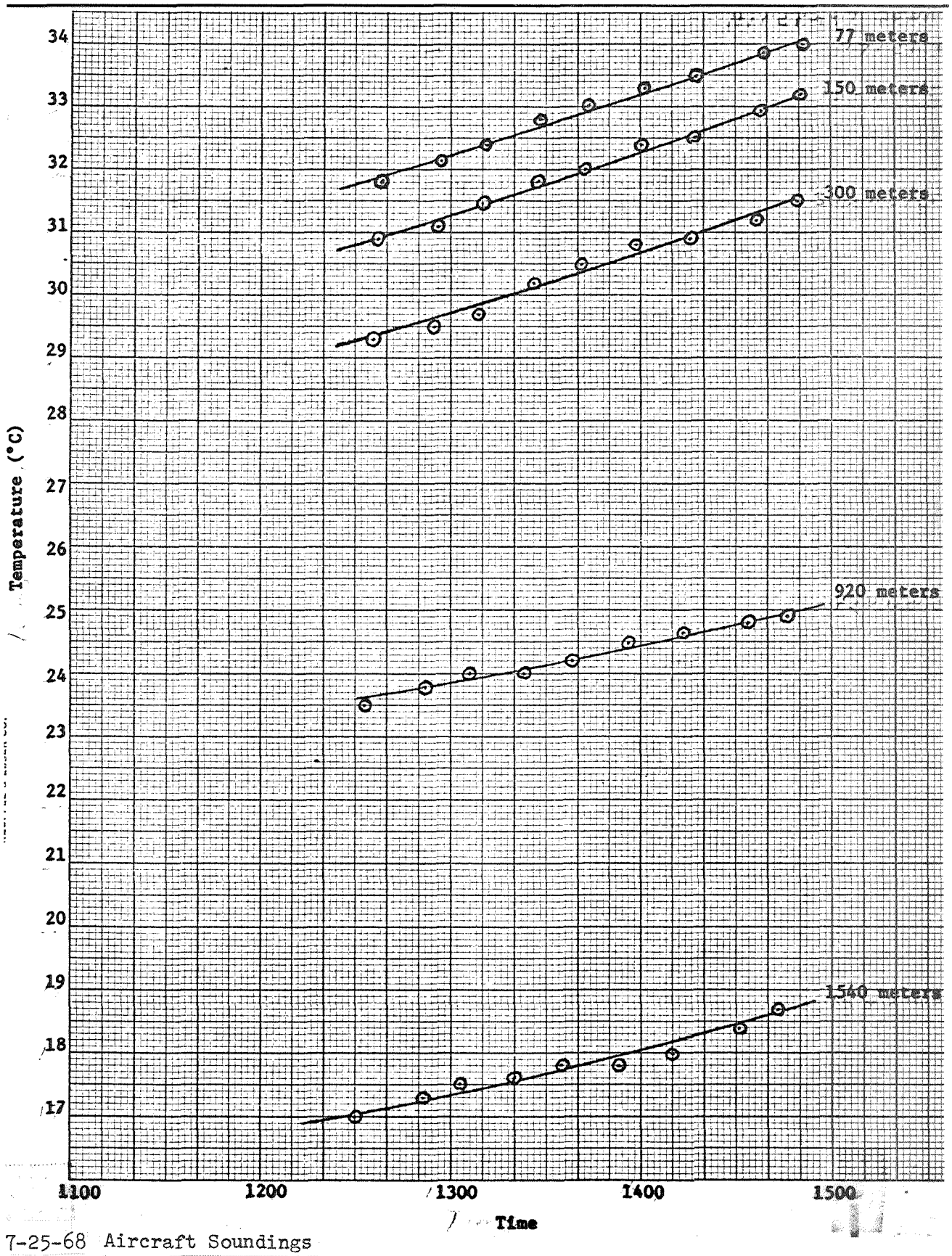
vs. Time



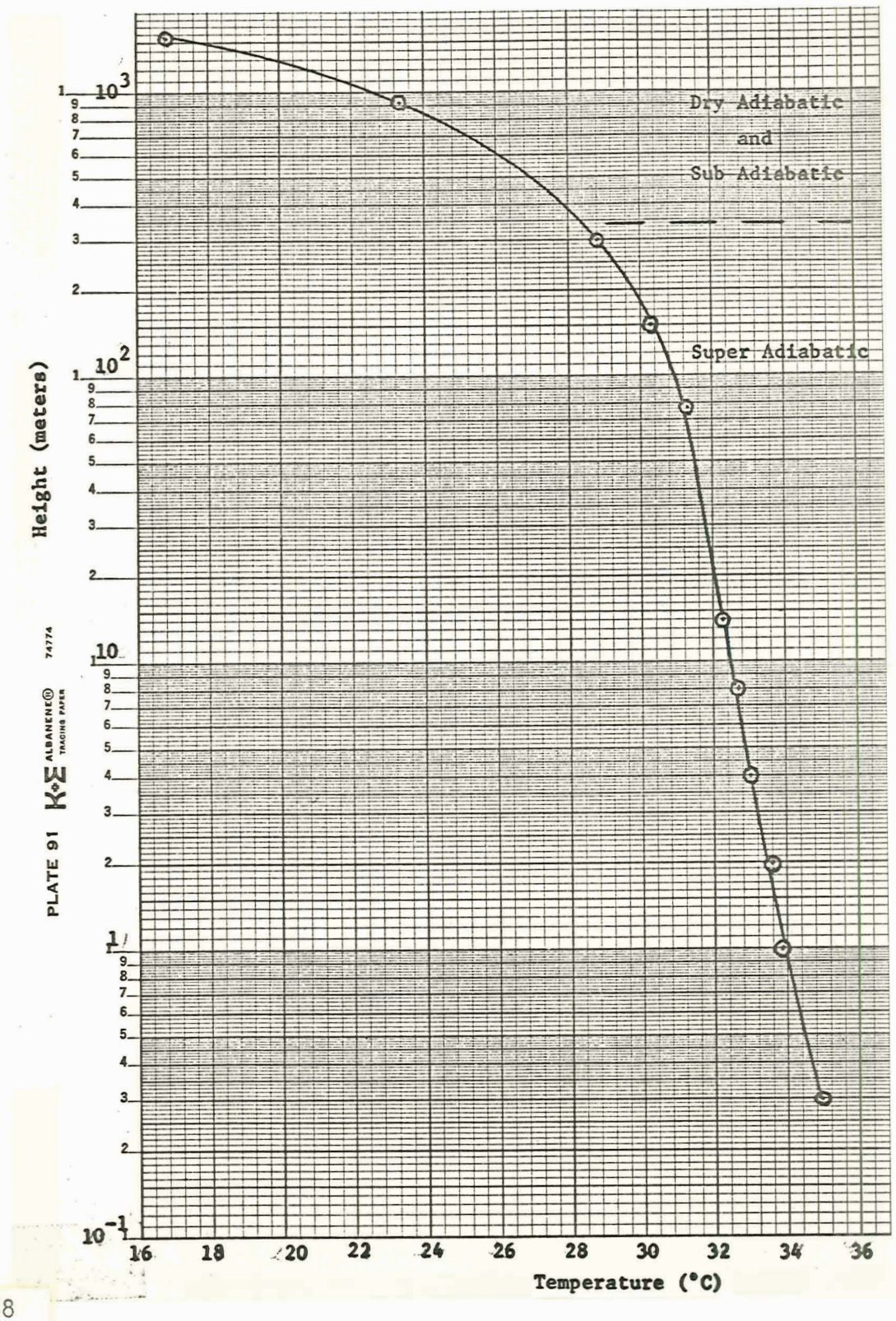
6-27-68

$\Delta T_s/h_s$ vs. Time

DATA FOR 7-25-68



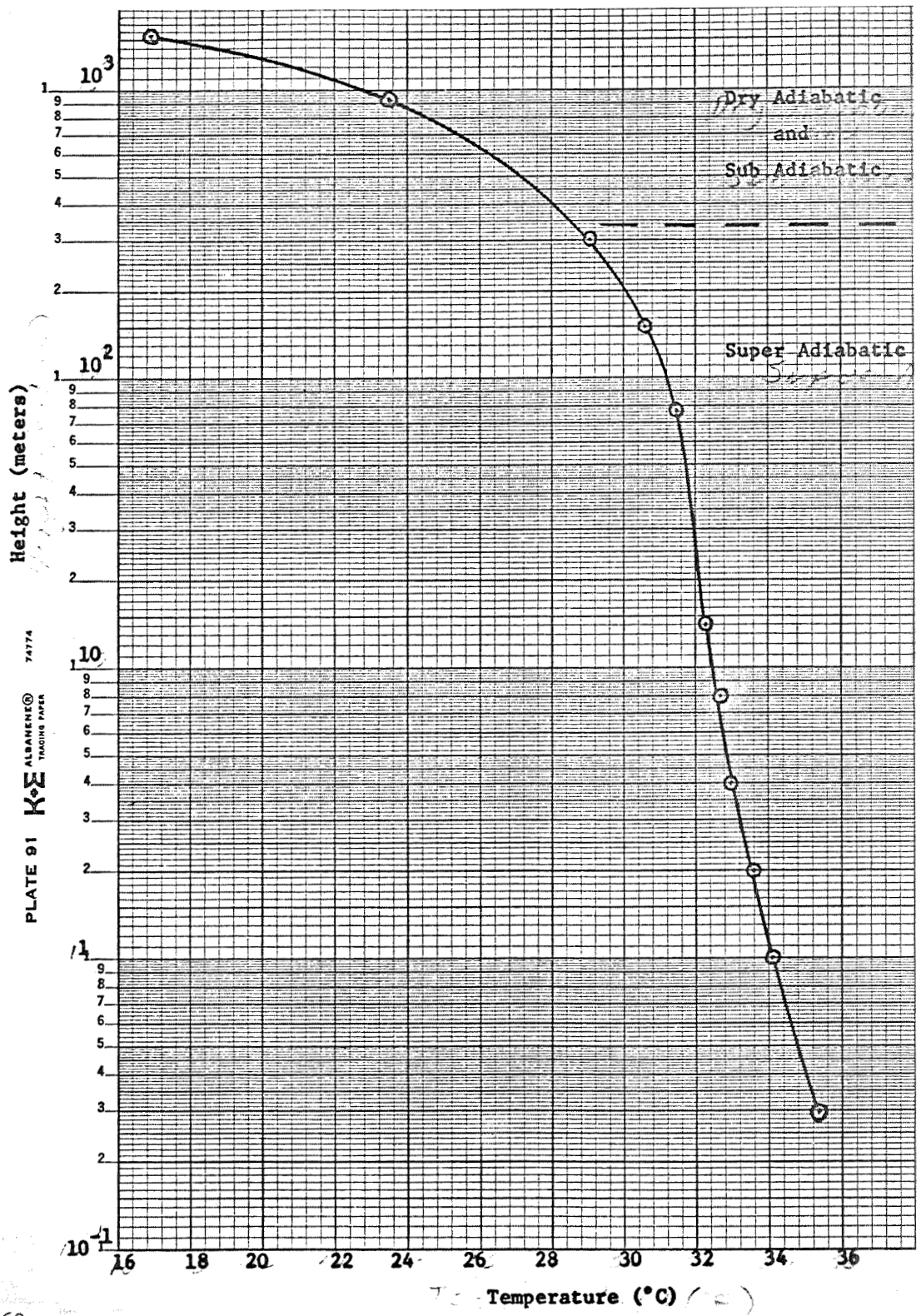
7-25-68 Aircraft Soundings



7-25-68

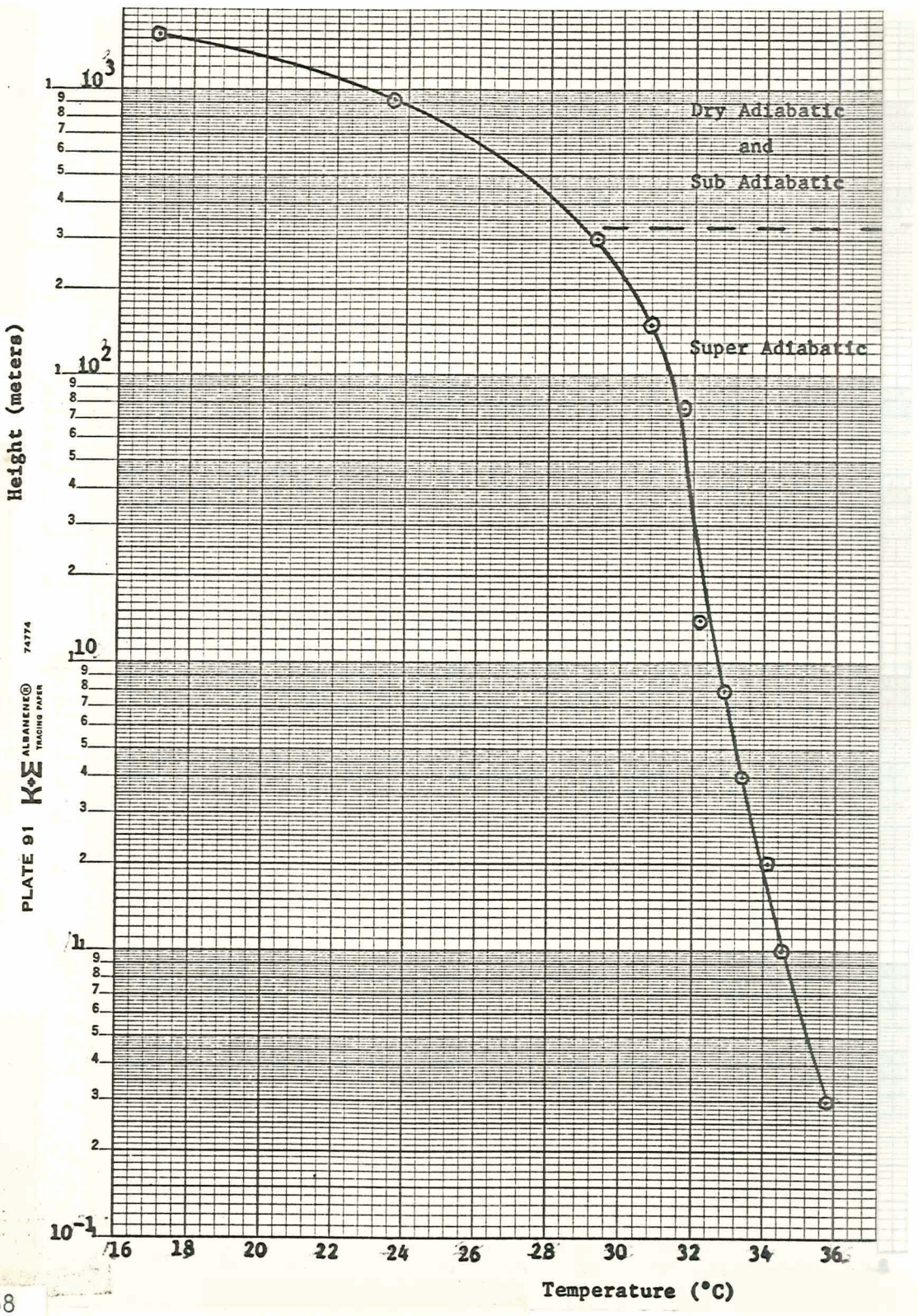
1200 PDT

M 30-692-6 (8-68)



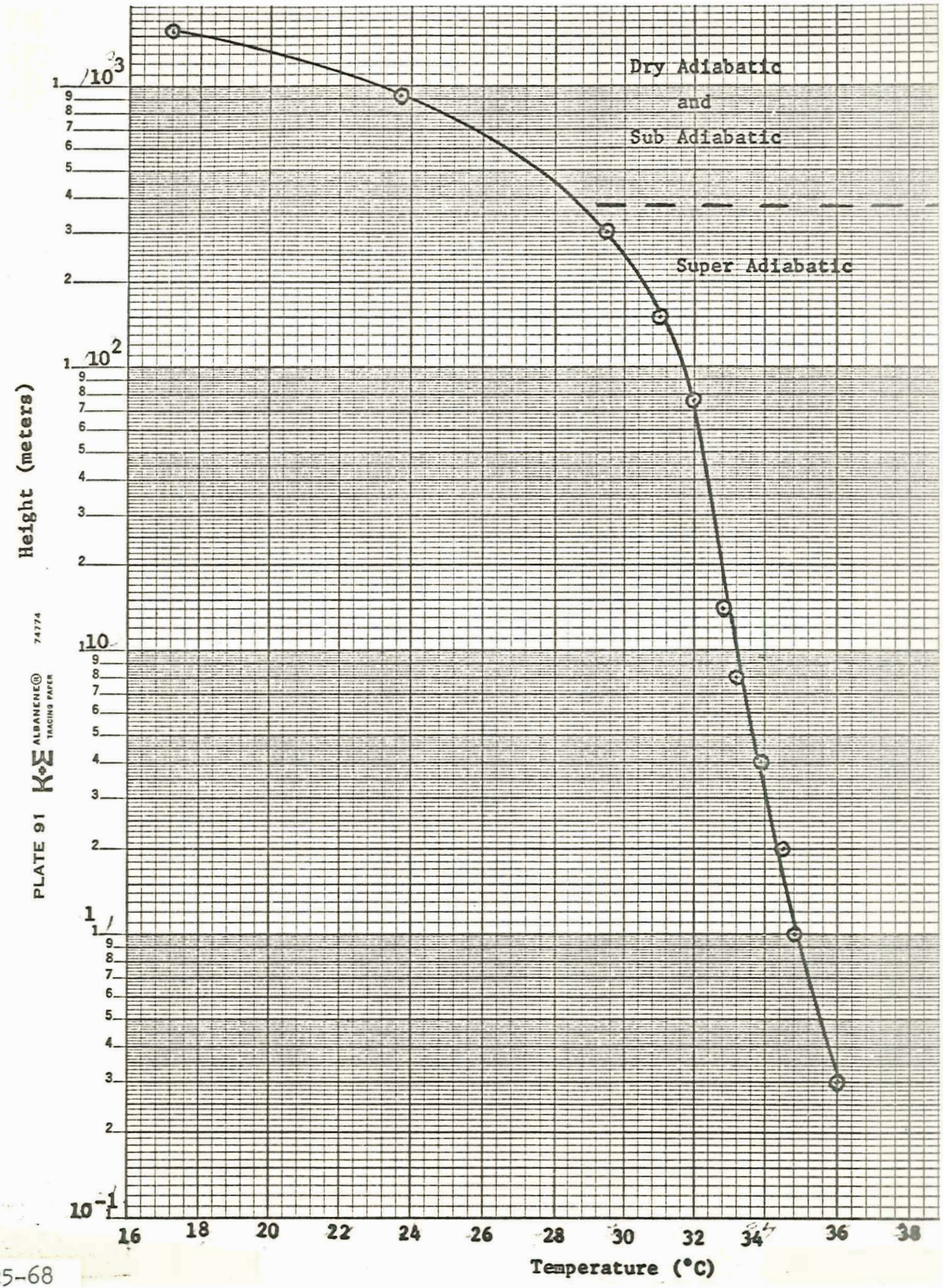
7-25-68

1215 PDT



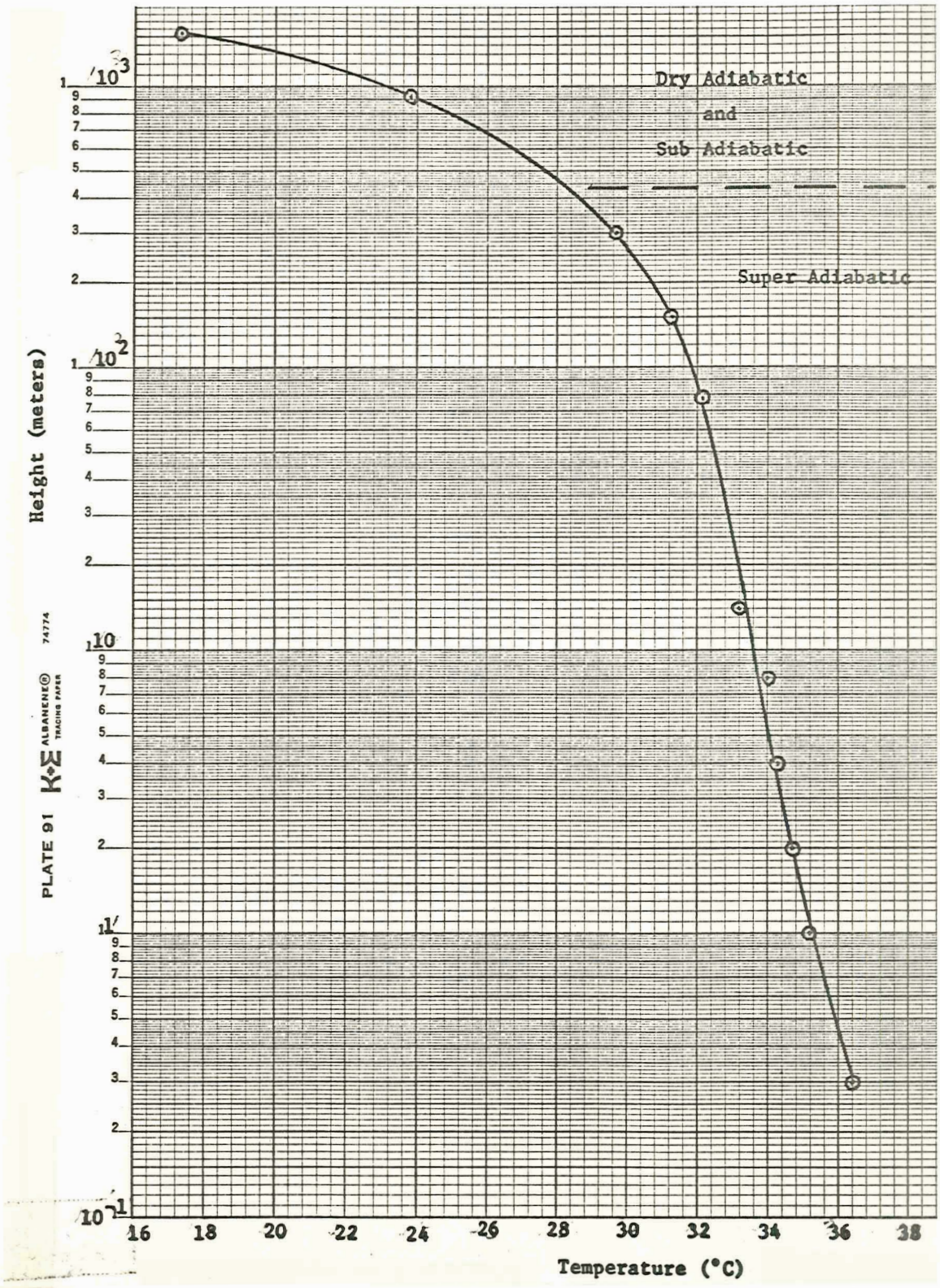
7-25-68

1230 PDT



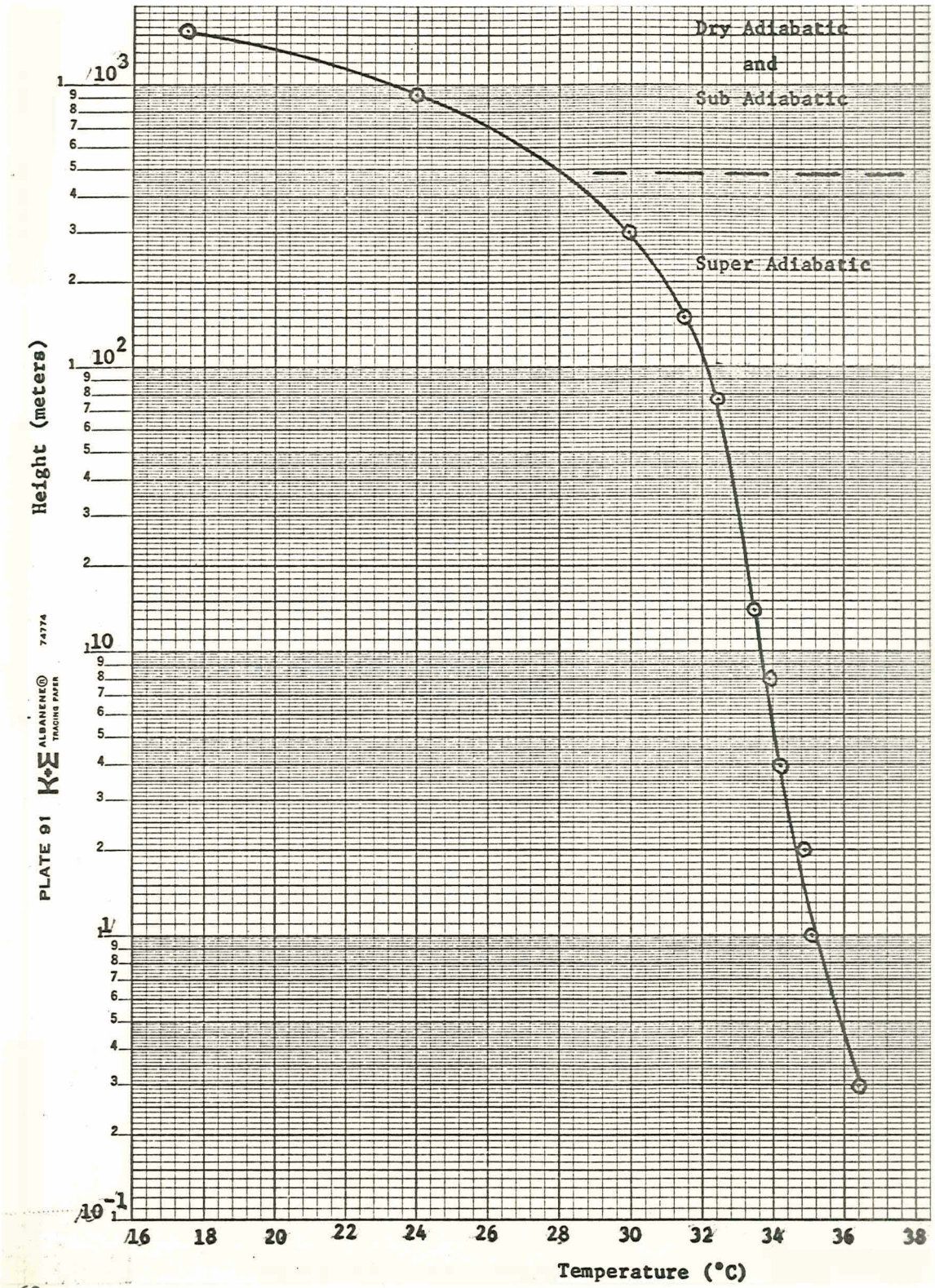
7-25-68

1245 PDT



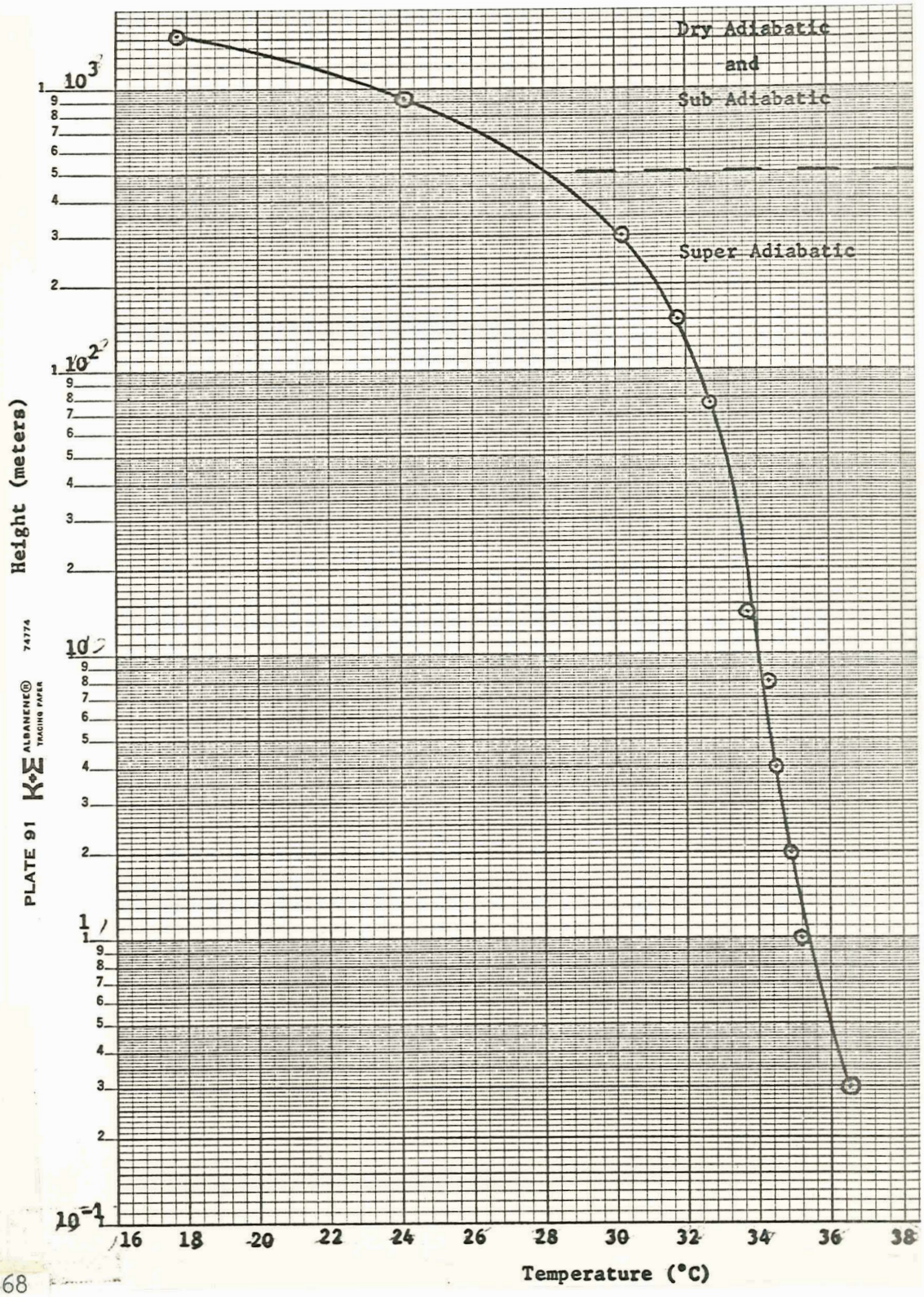
7-25-68

1300 PDT



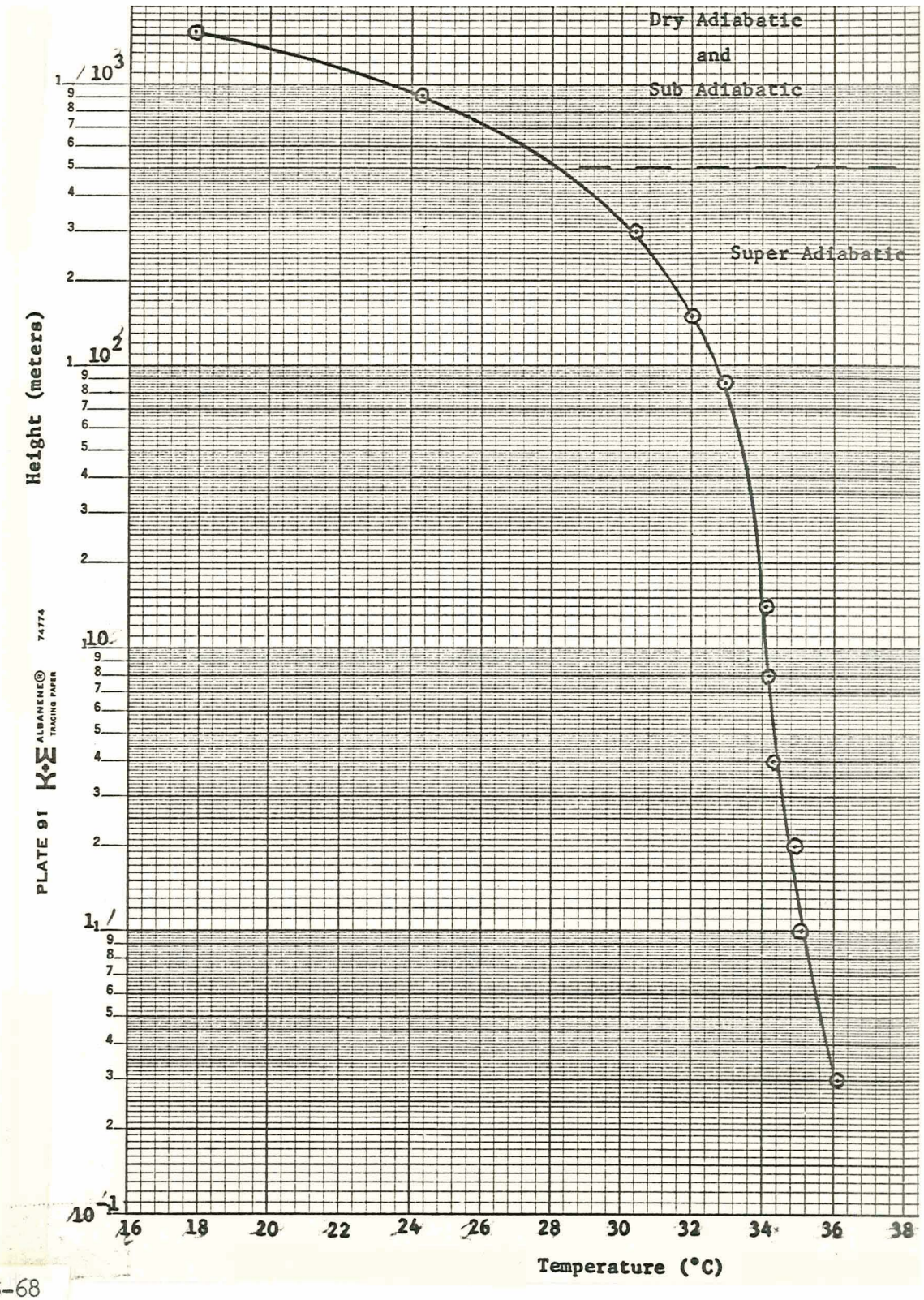
7-25-68

1315 PDT



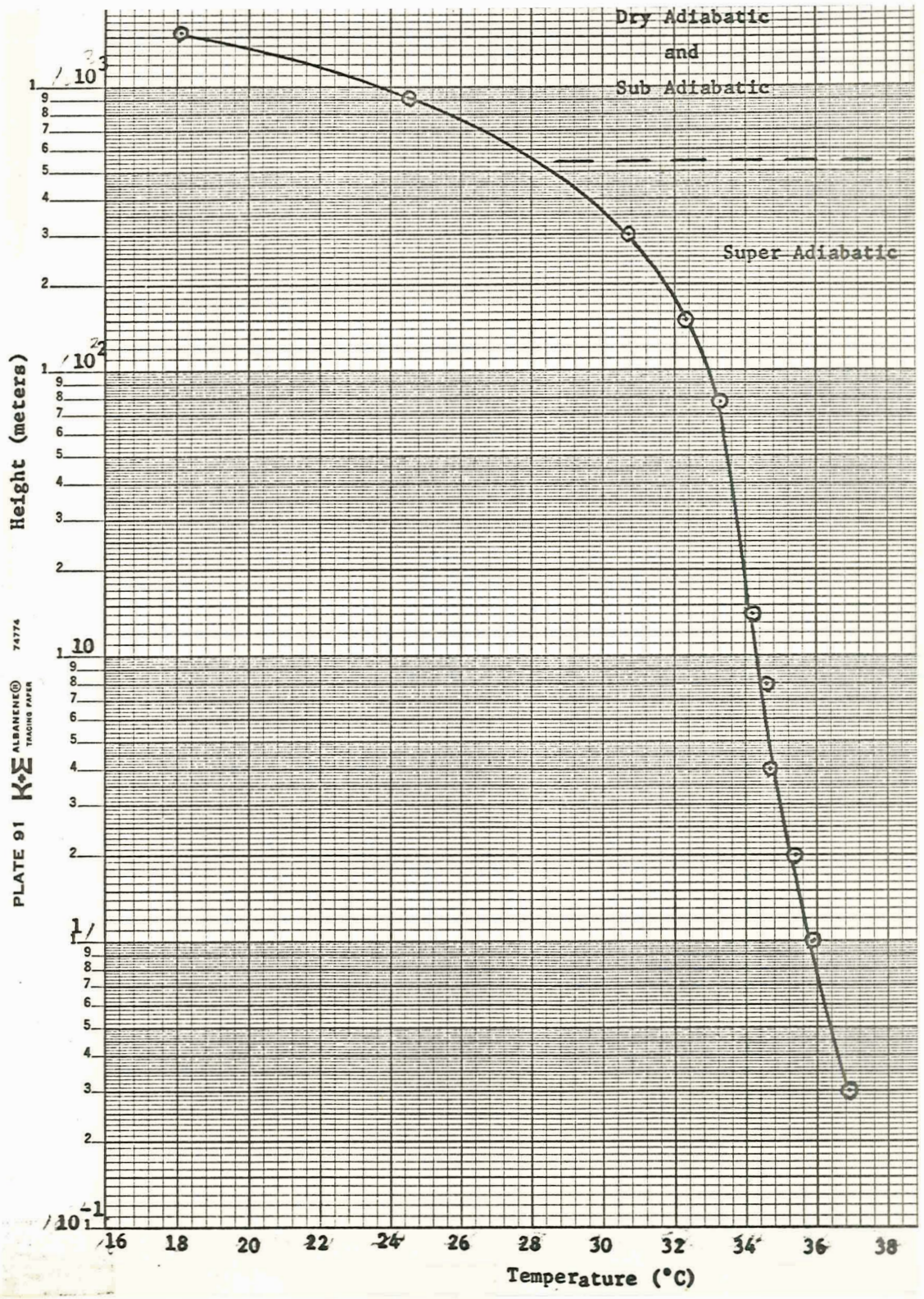
7-25-68

1330 PDT



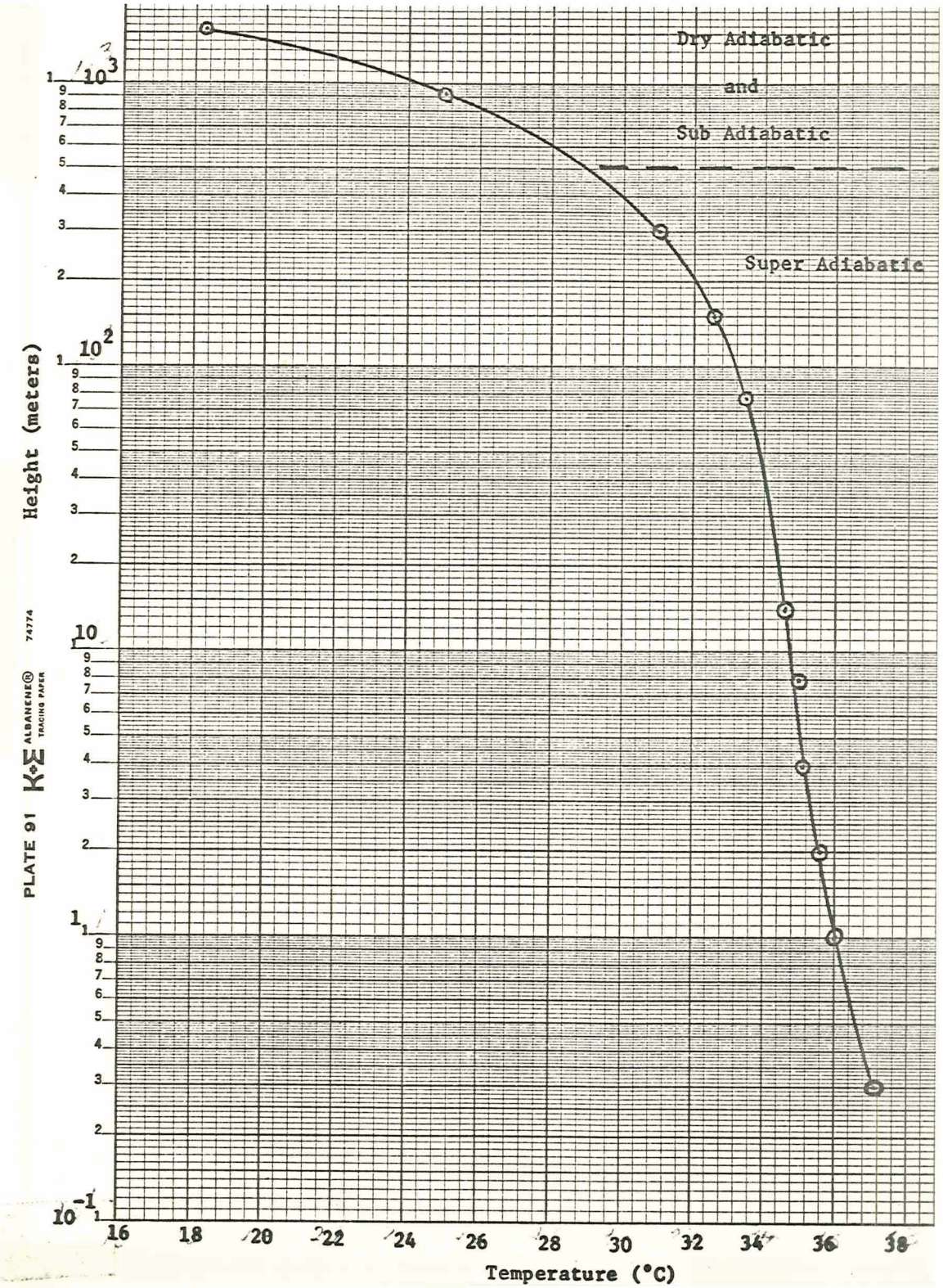
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1345 PDT



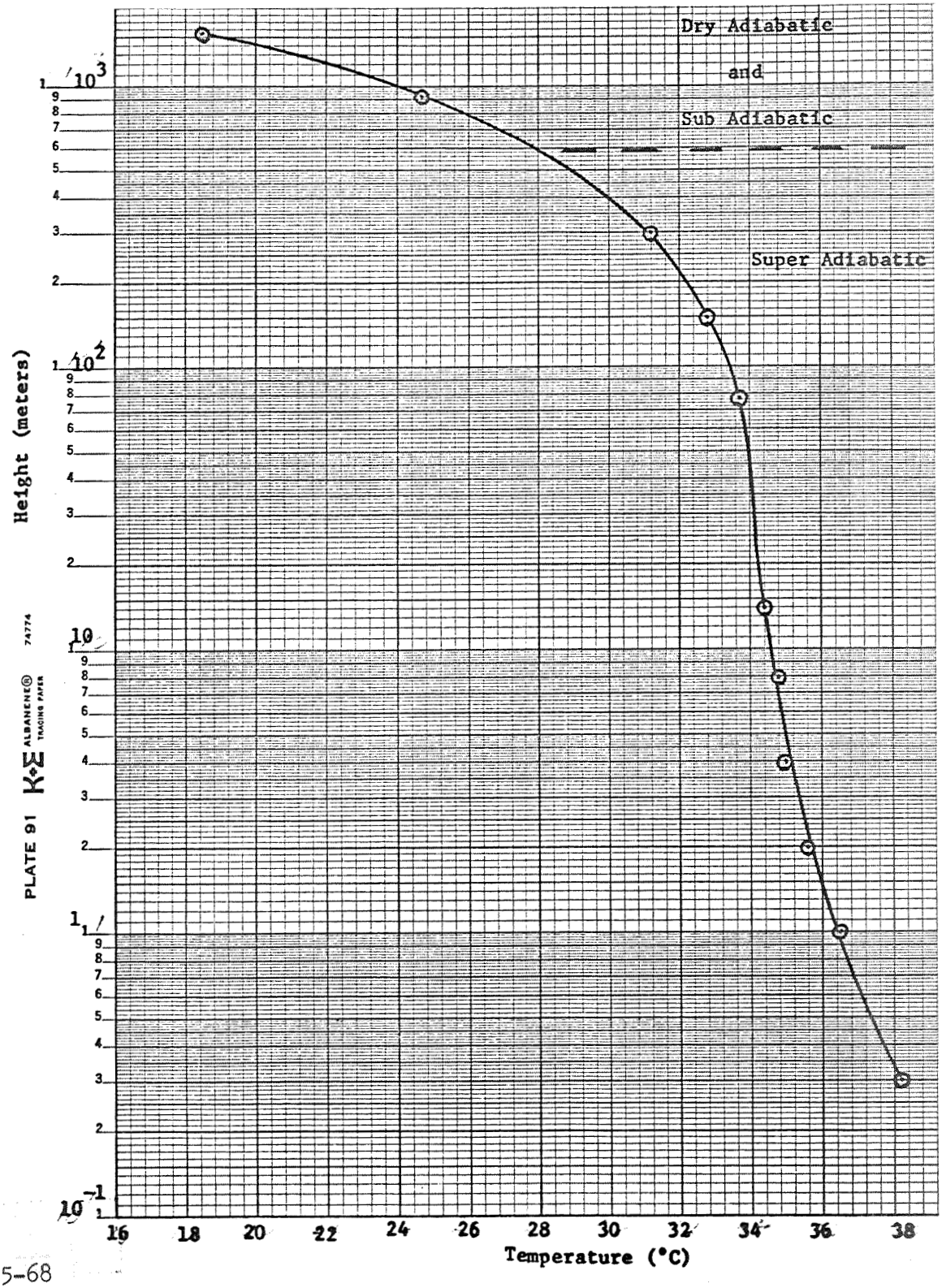
7-25-68

1405 PDT



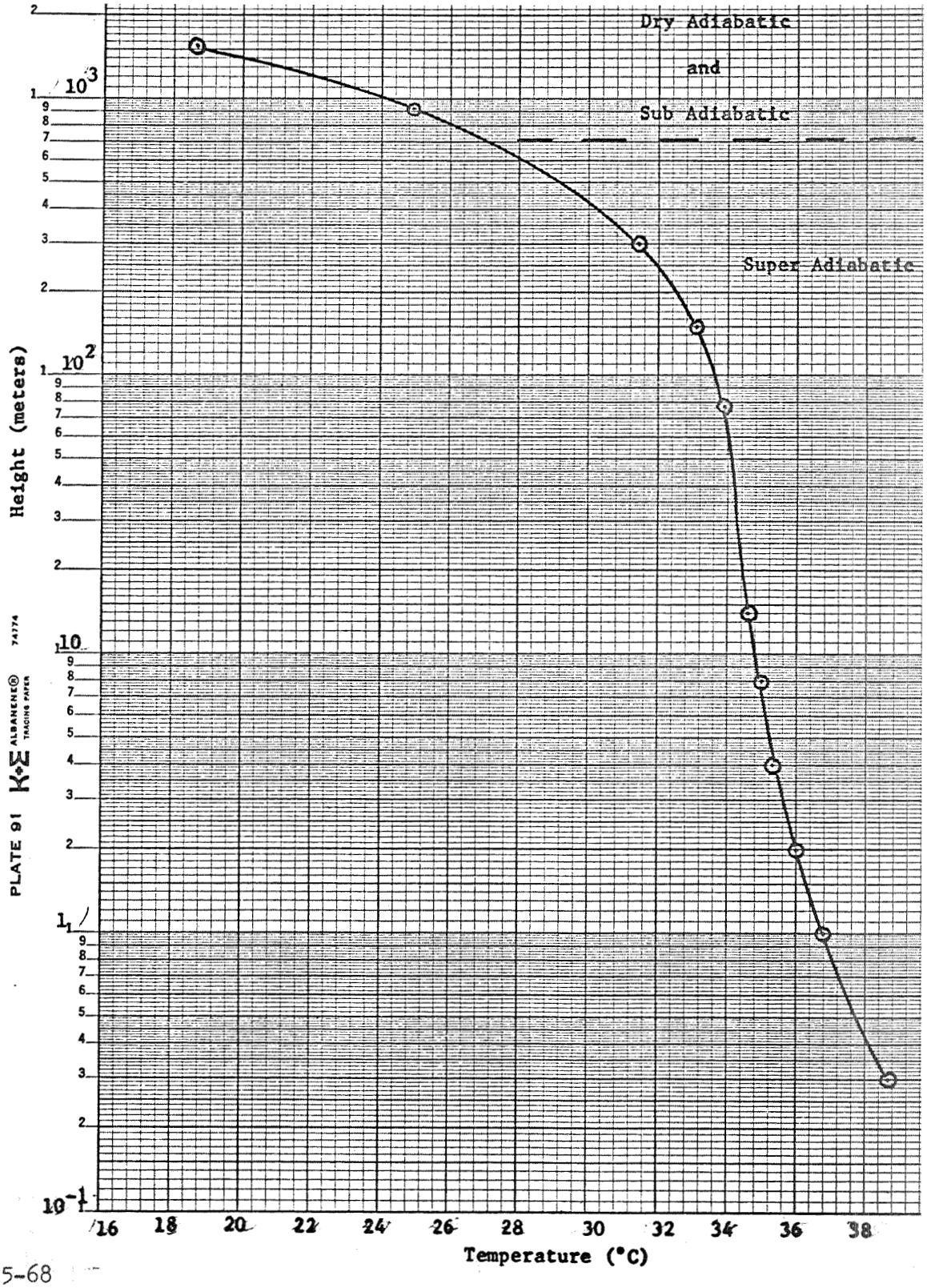
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1420 PDT



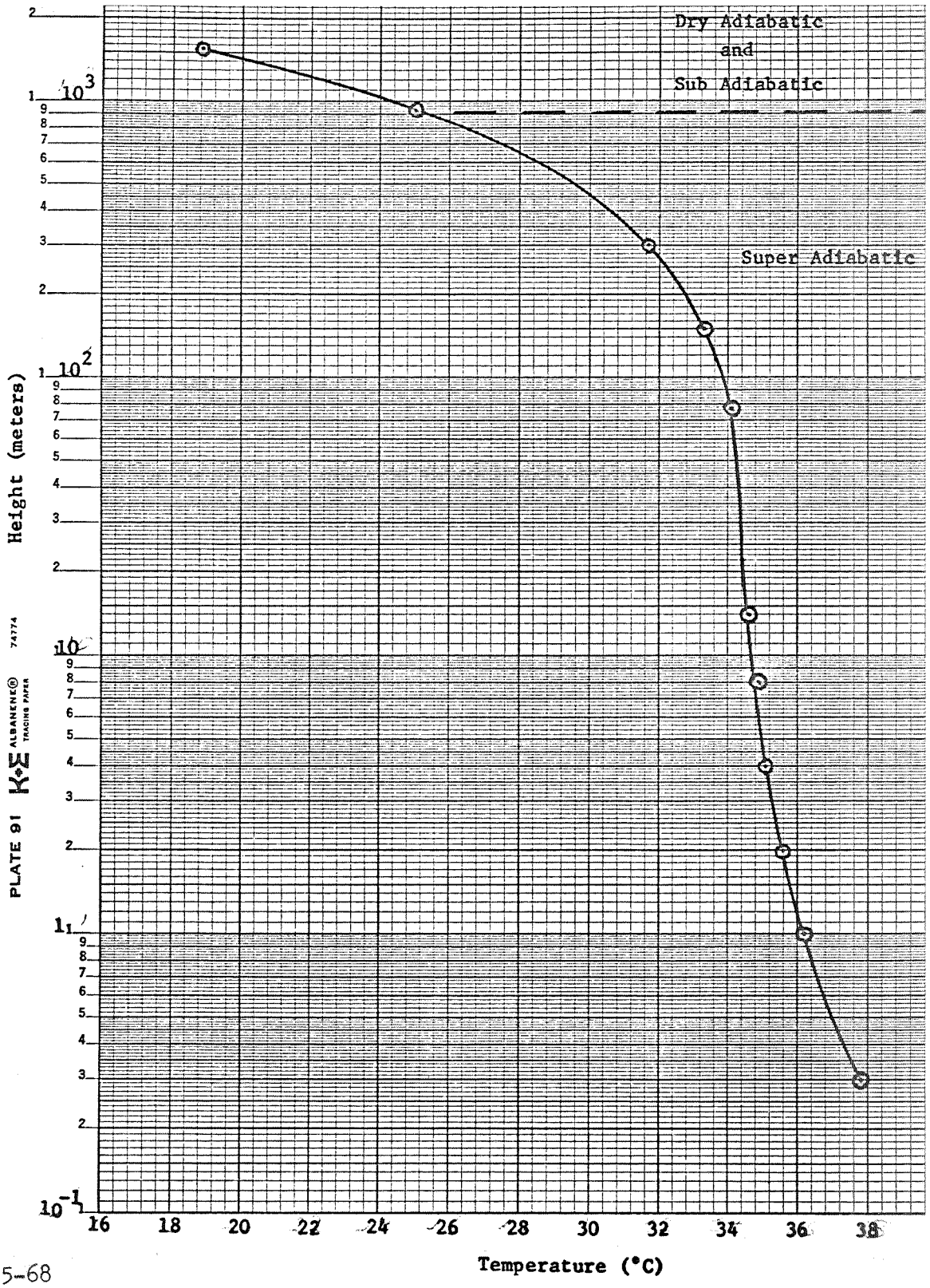
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1430 PDT



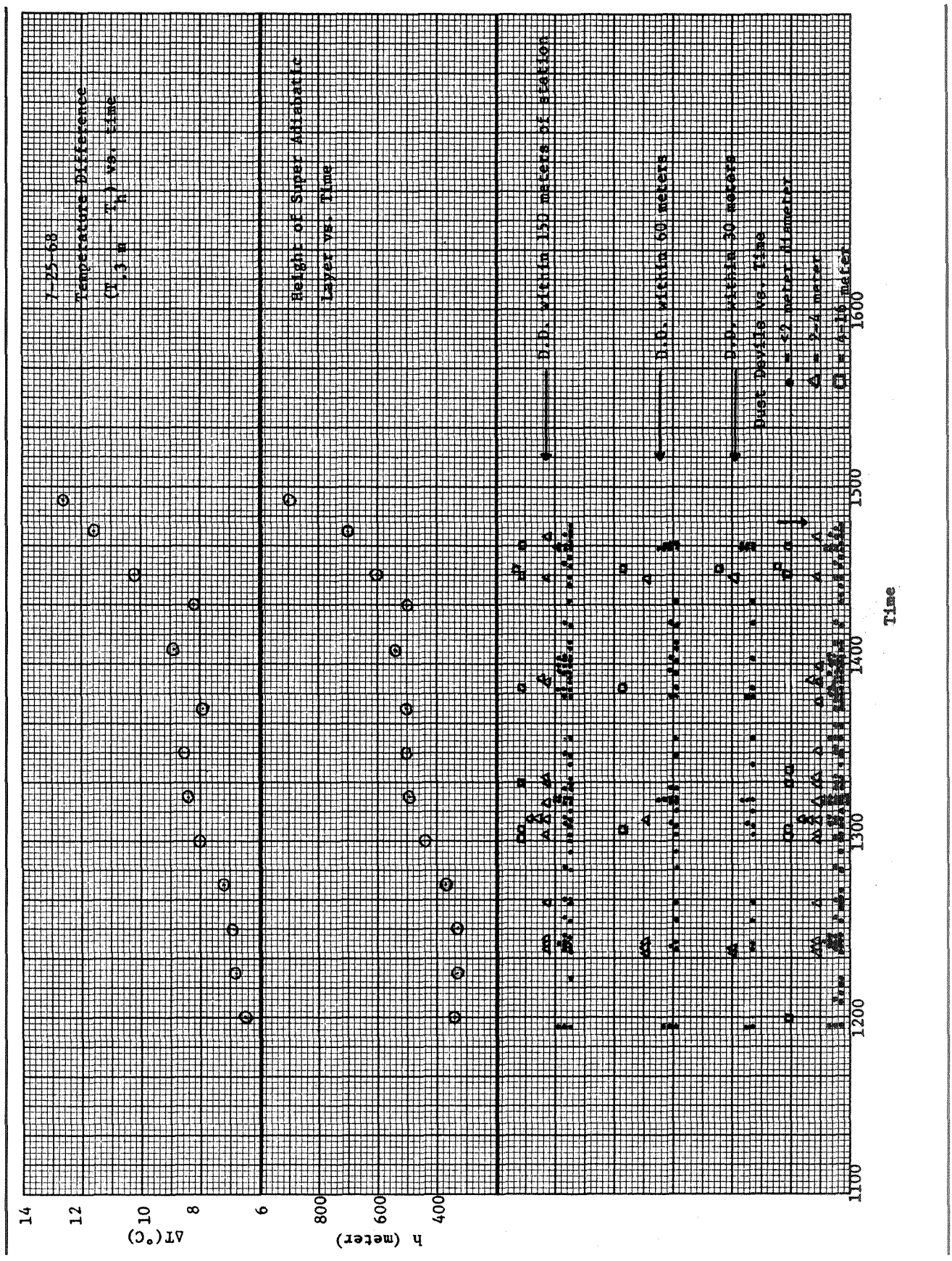
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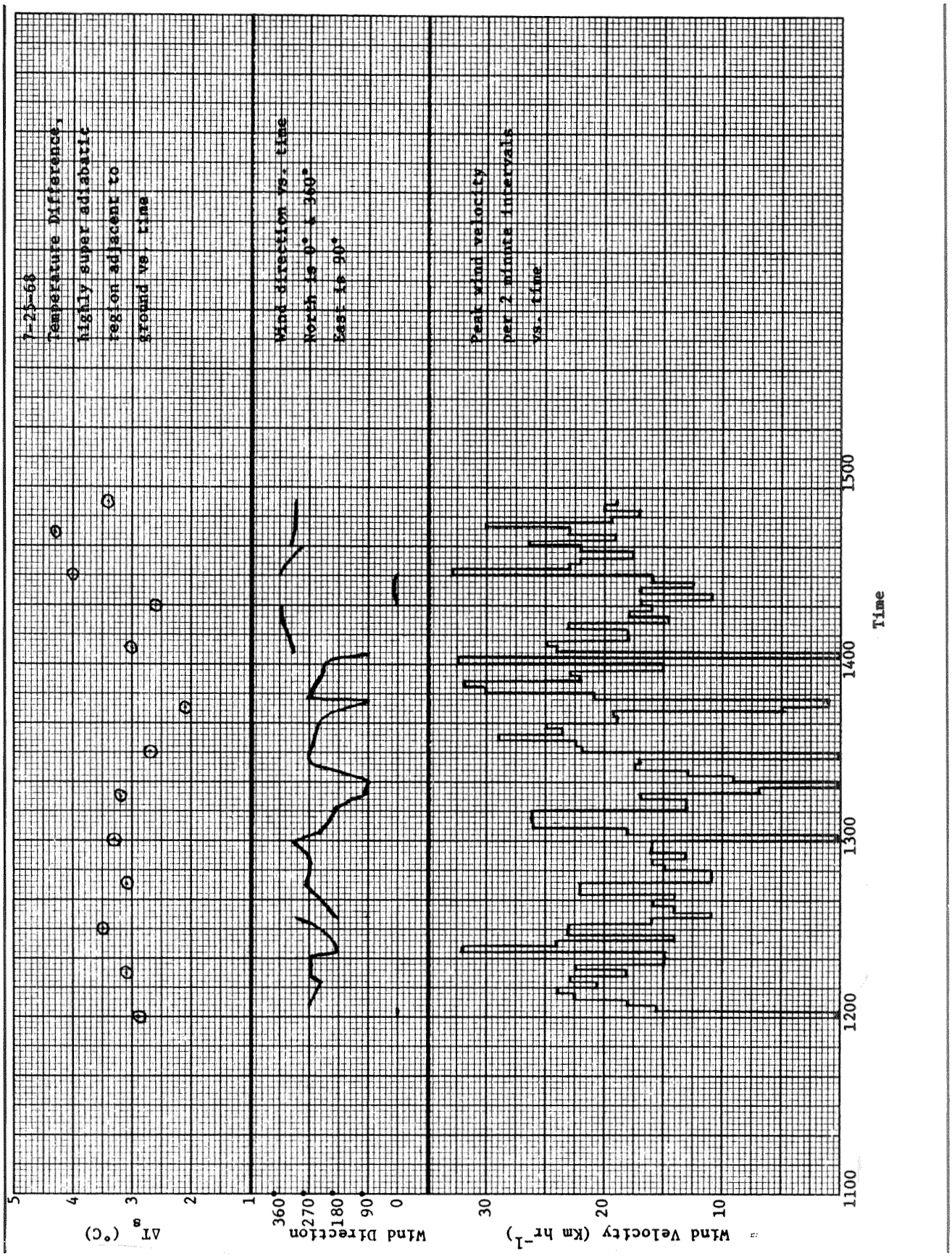
1445 PDT

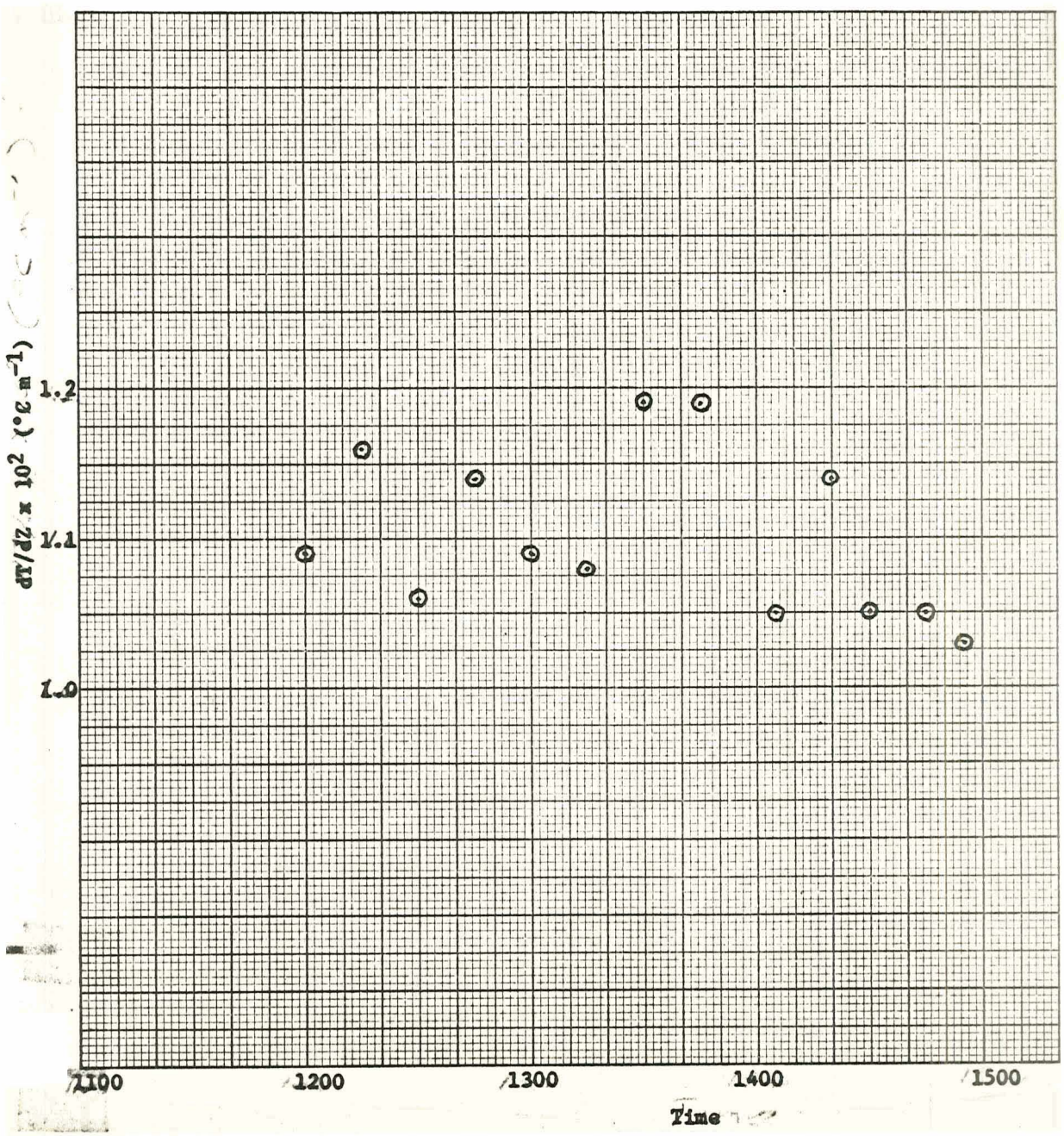


7-25-68

1455 PDT


7-25-68
Temperature Difference
(T3 - T1) vs. time
Height of Super Adiabatic
Layer vs. Time
D.D. within 150 meters of station
D.D. within 60 meters
D.D. within 30 meters
Dust Devils vs. time
= <9 meter diameter
= 9-4 meter
= 4-16 meter
ΔT(°C)
h (meter)
Time
1100
1200
1300
1400
1500
1600
14
12
10
8
6
800
600
400

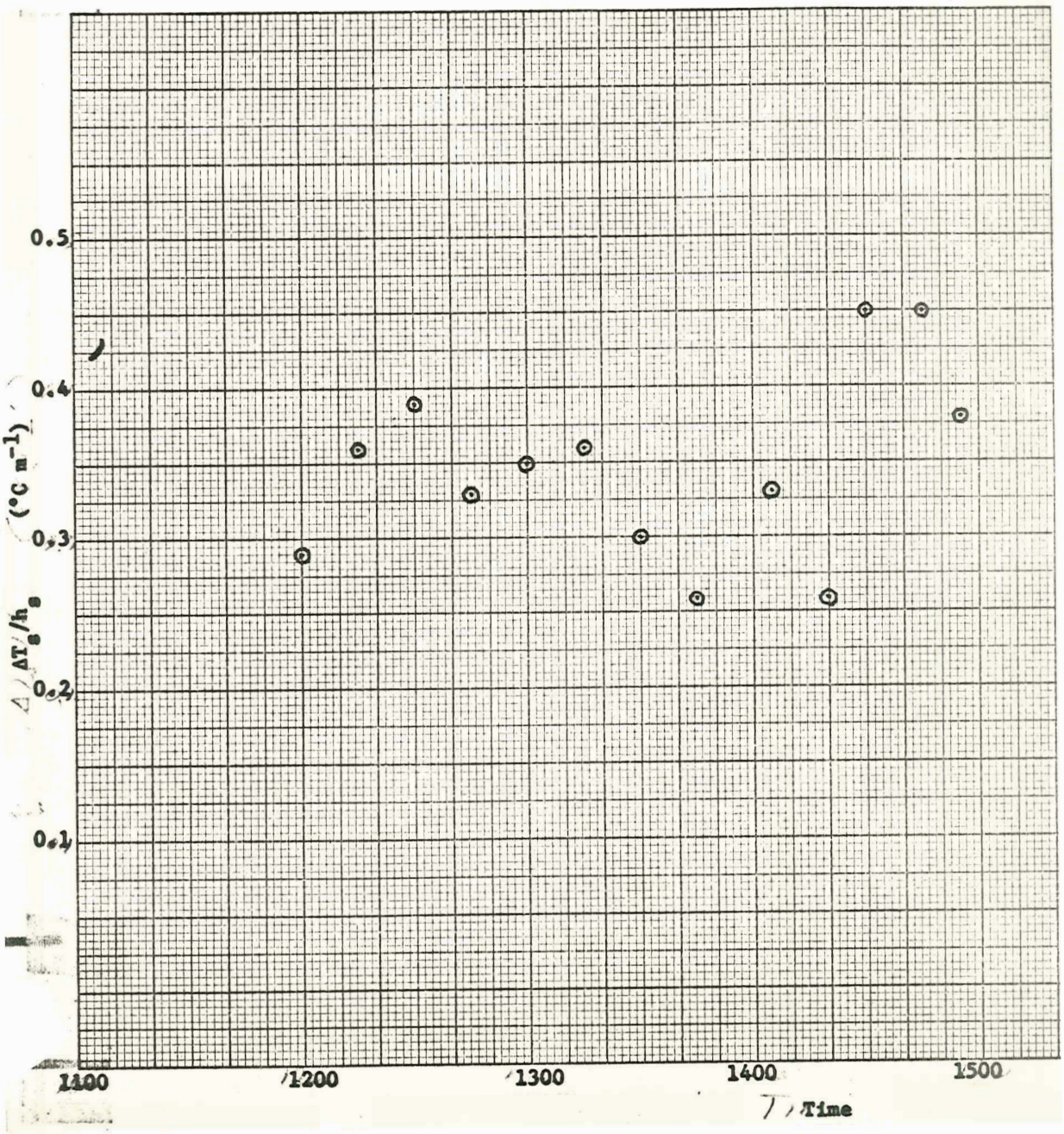

7-25-68
Temperature Difference,
highly super adiabatic
region adjacent to
ground vs. time
Wind direction vs. time
North is 0° + 360°
East is 90°
Peak wind velocity
per 2 minute intervals
vs. time
ΔT_s (°C)
Wind Direction
Wind Velocity (Km hr^-1)
Time
1100
1200
1300
1400
1500



7-25-68

Lapse Rate (dT/dZ)

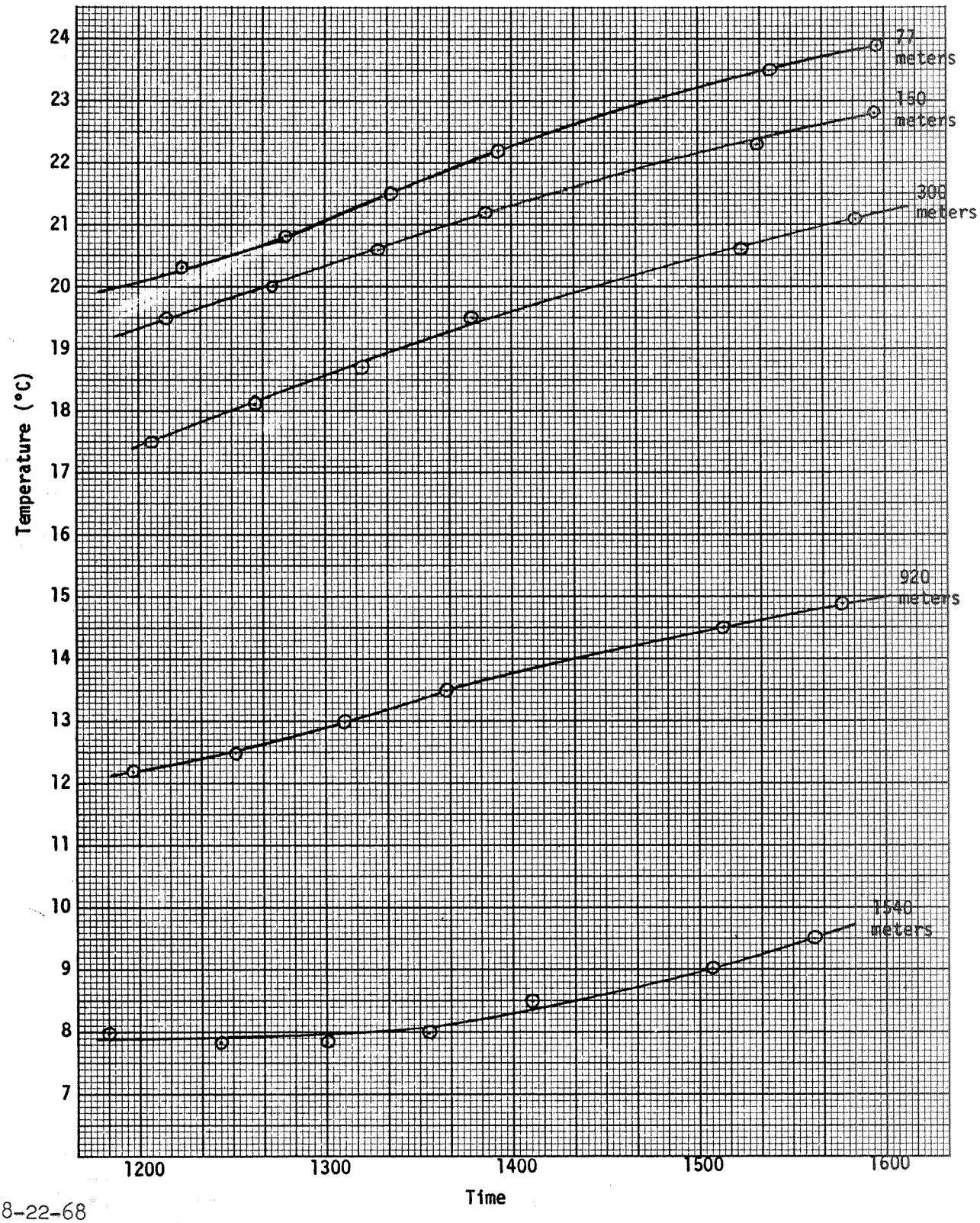
vs. Time



7-25-68

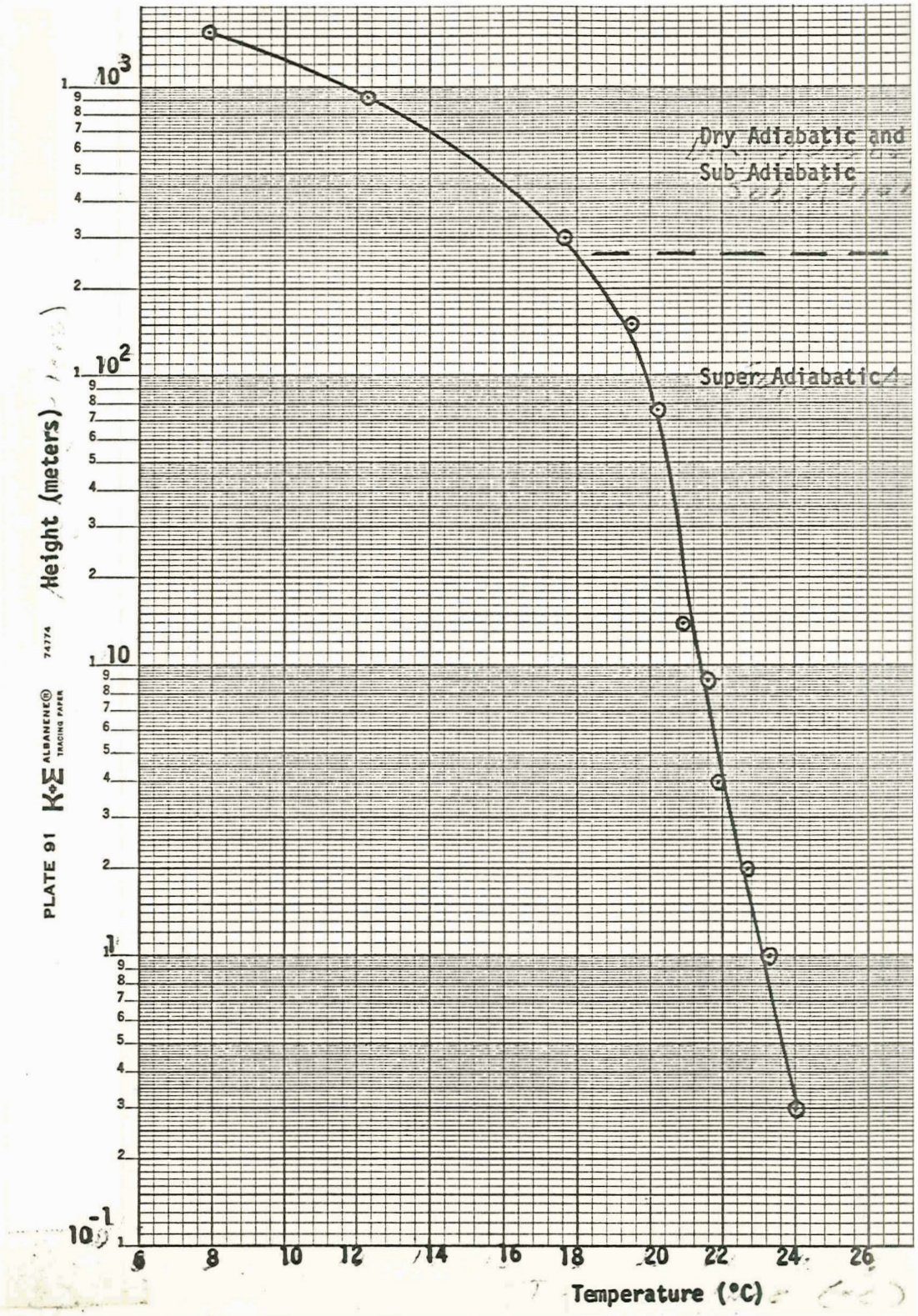
$\Delta T_s/h_s$ vs. Time

DATA FOR 8-22-68



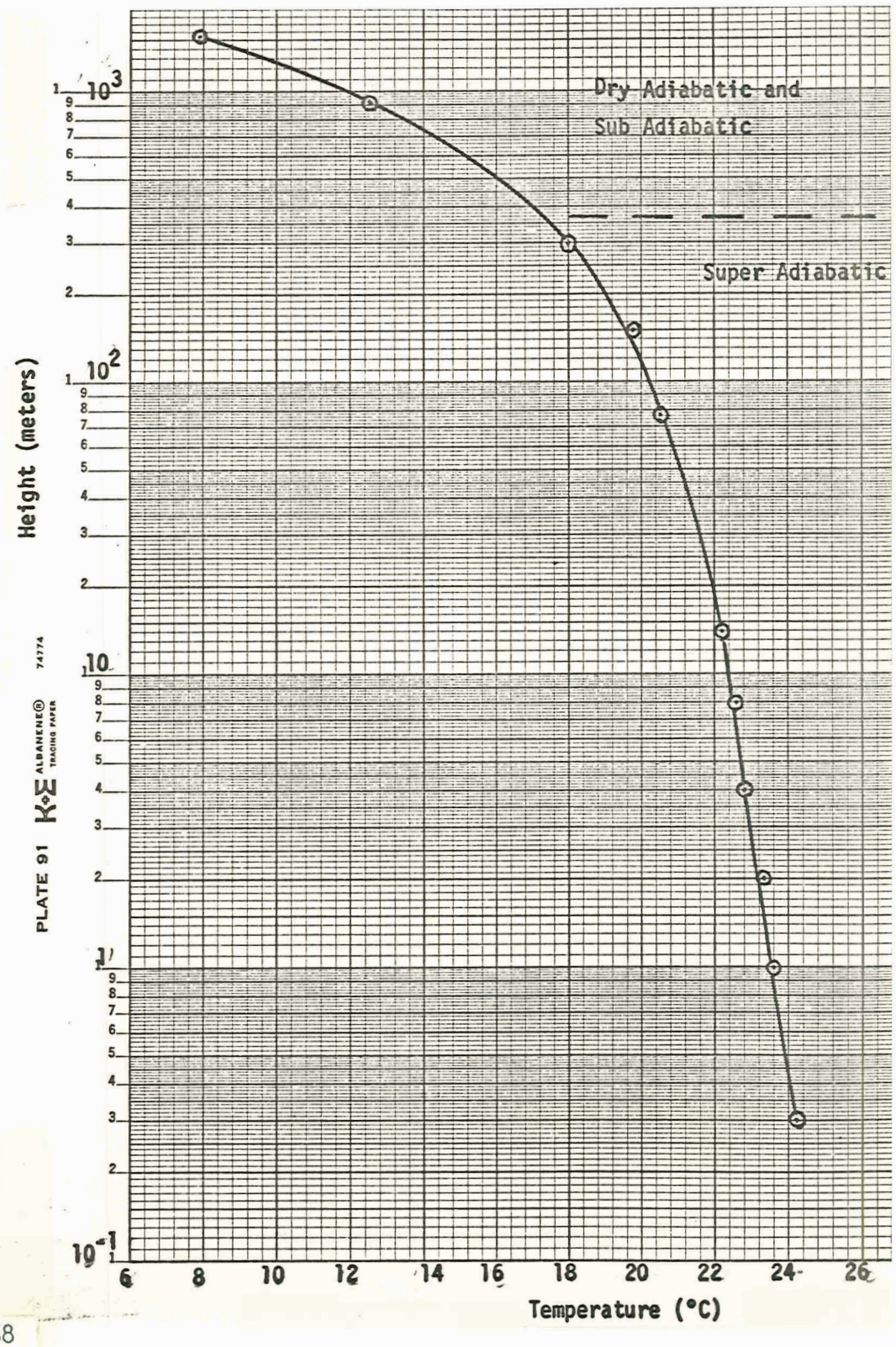
8-22-68

Aircraft Soundings



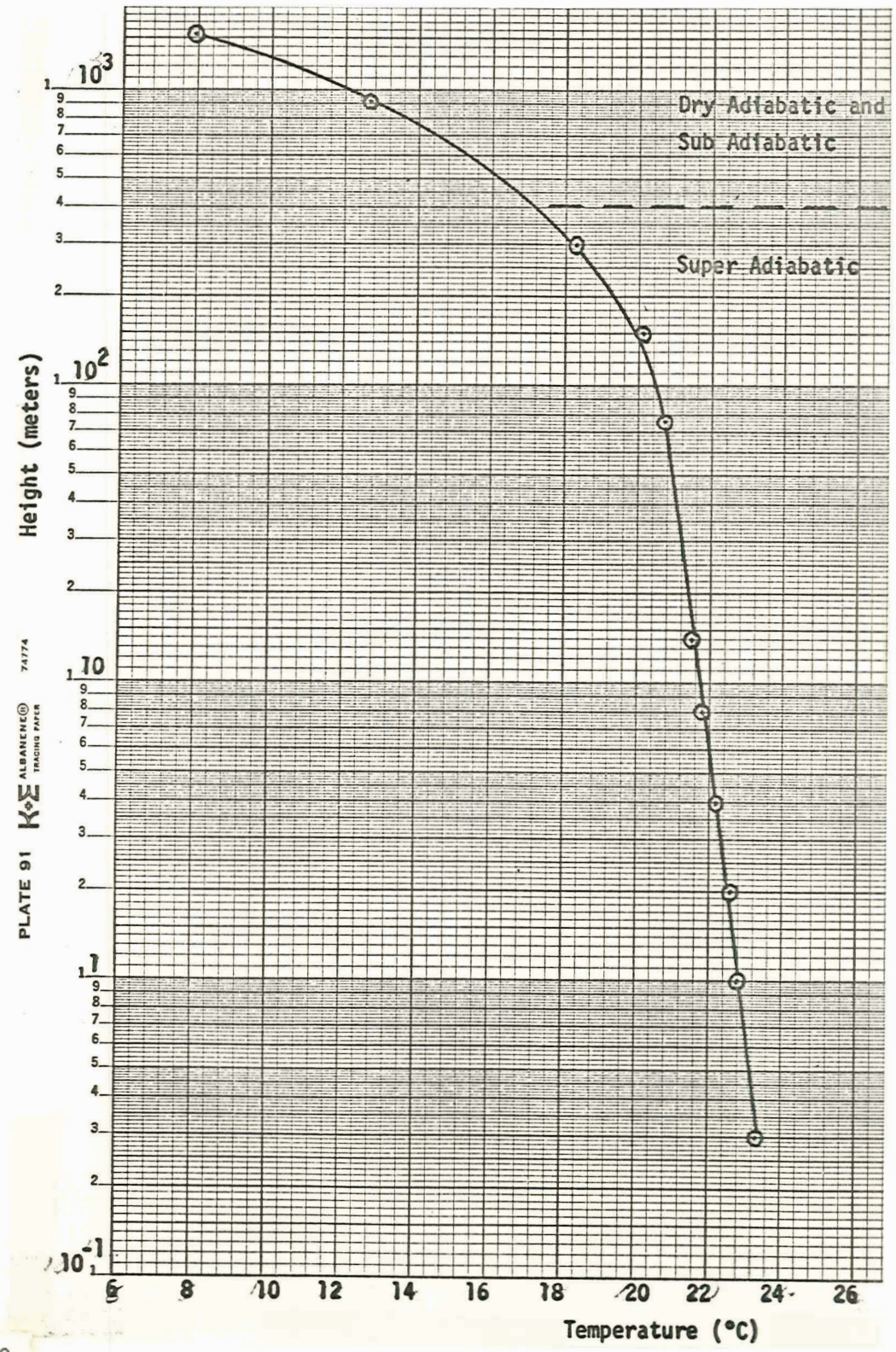
8-22-68

1210 PDT



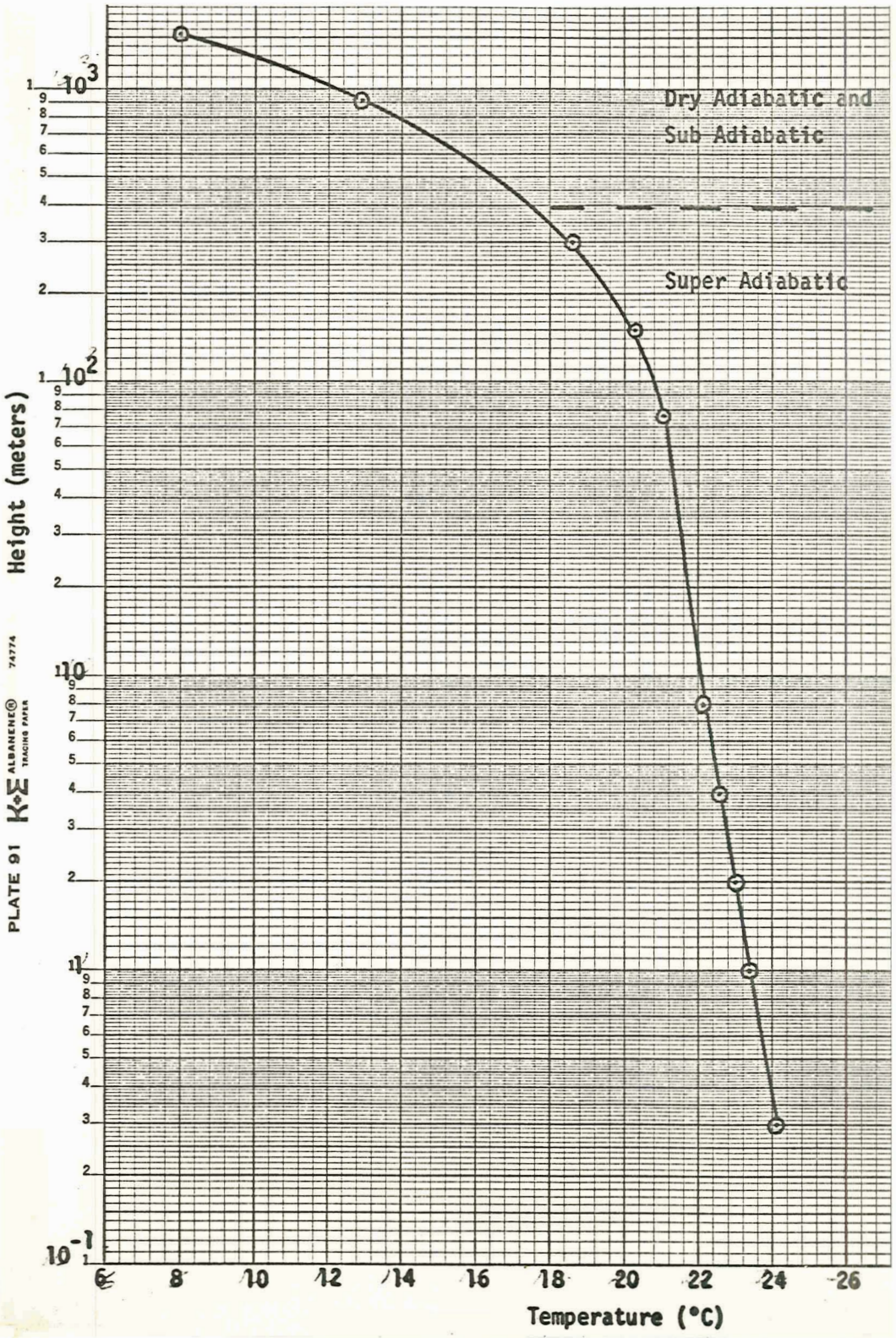
8-23-68

1230 PDT



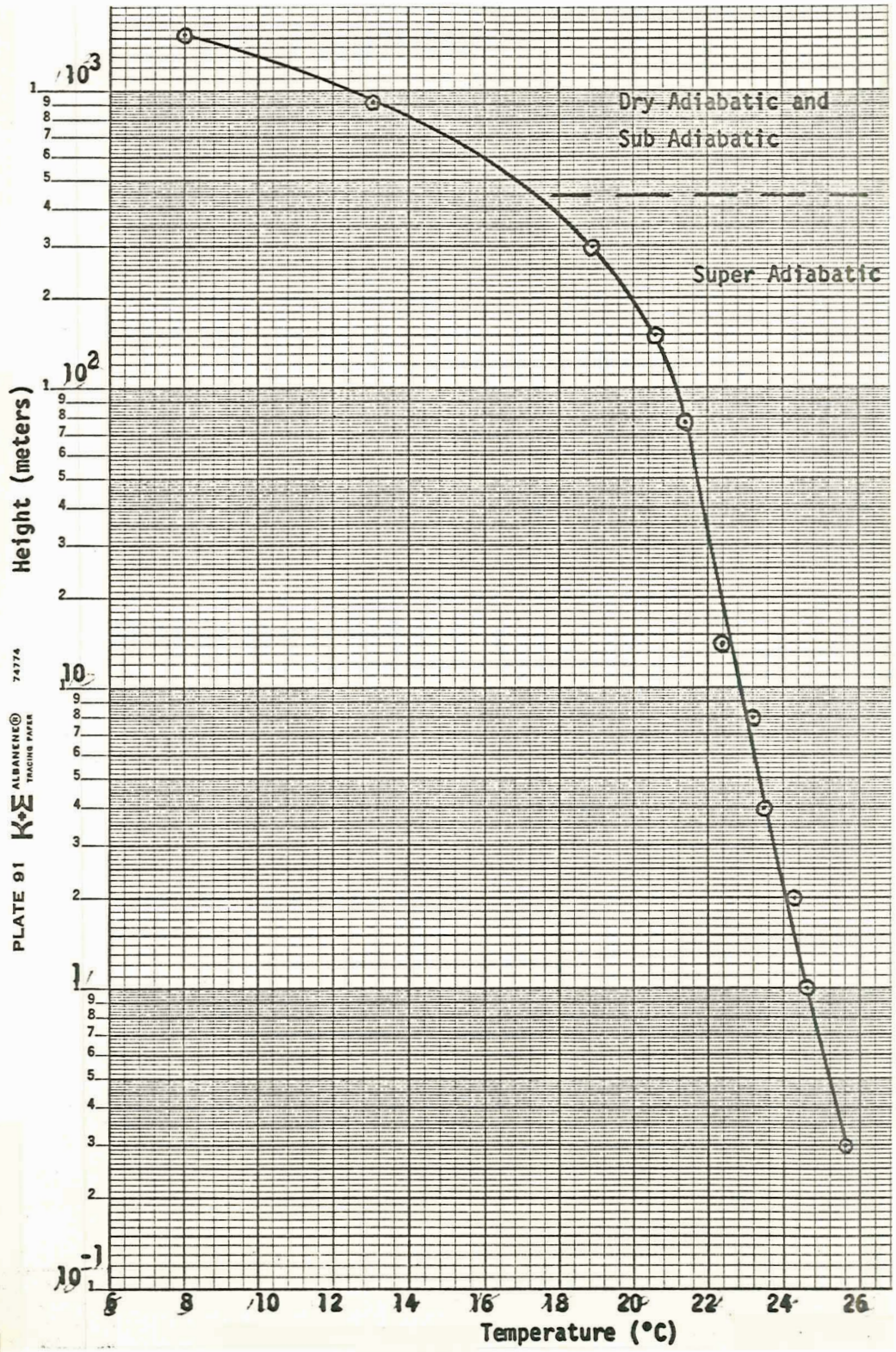
8-22-68

1245 PDT



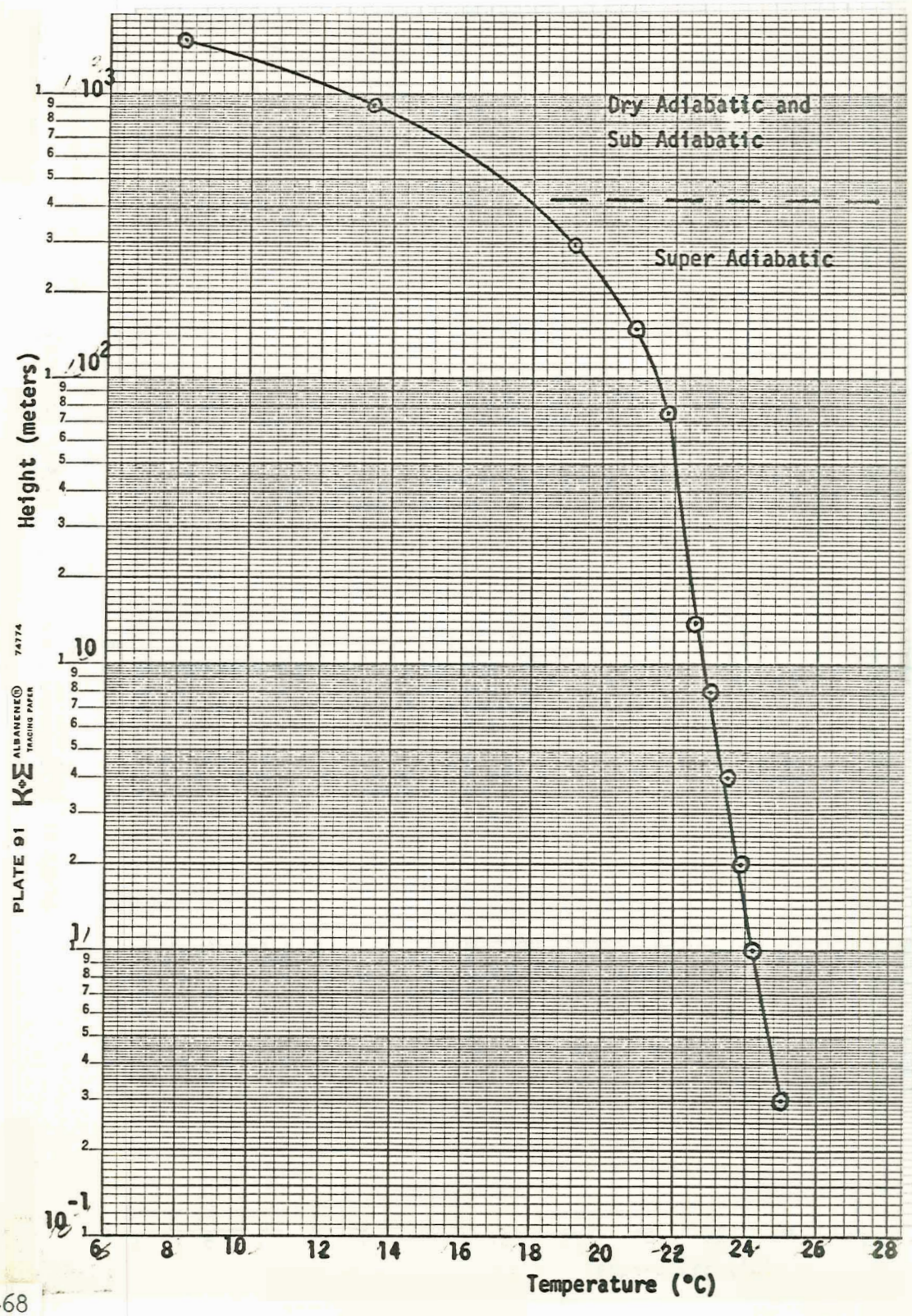
8-22-68

1300 PDT



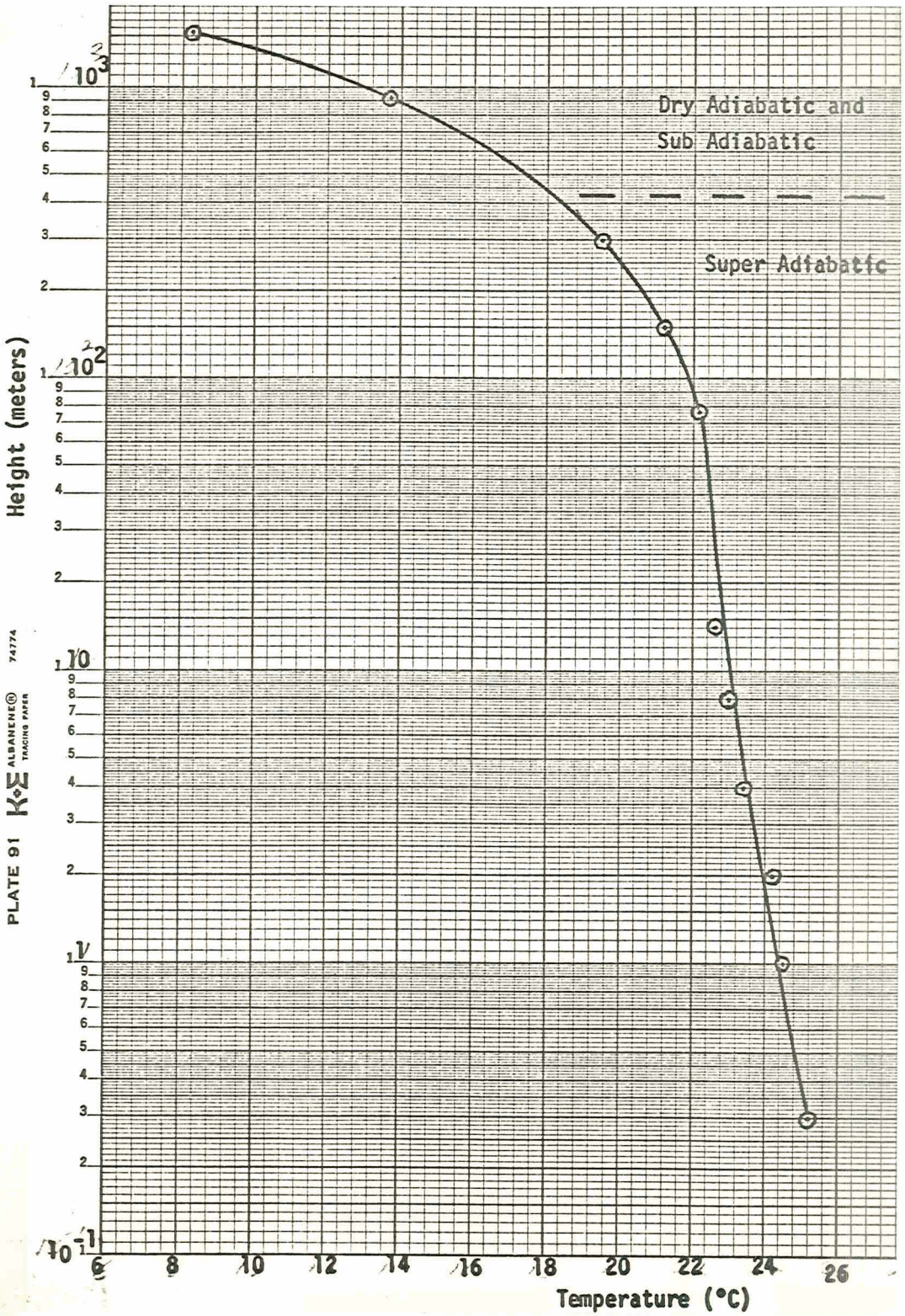
8-22-68

1315 PDT



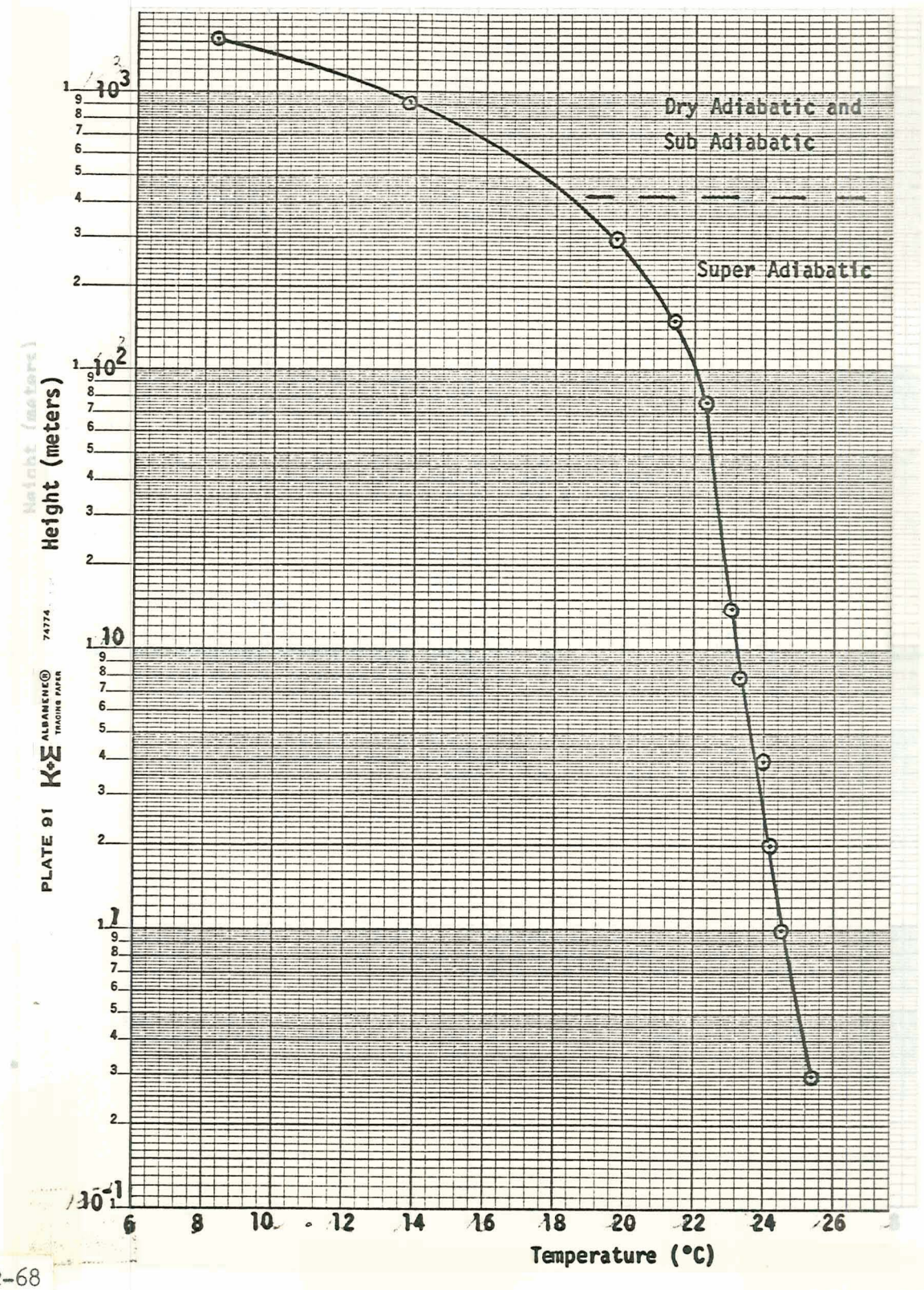
8-22-68

1335 PDT



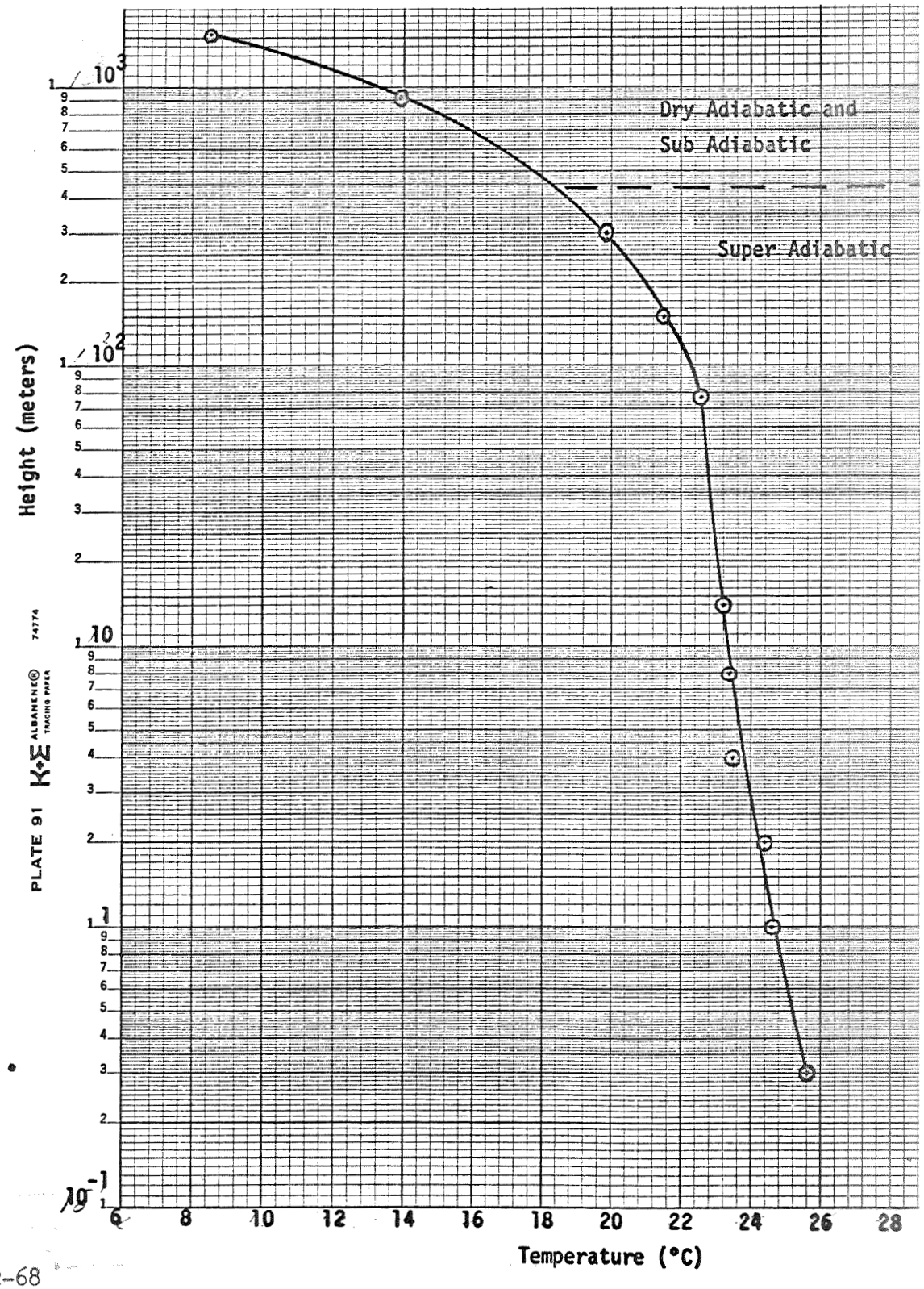
8-22-68

1345 PDT



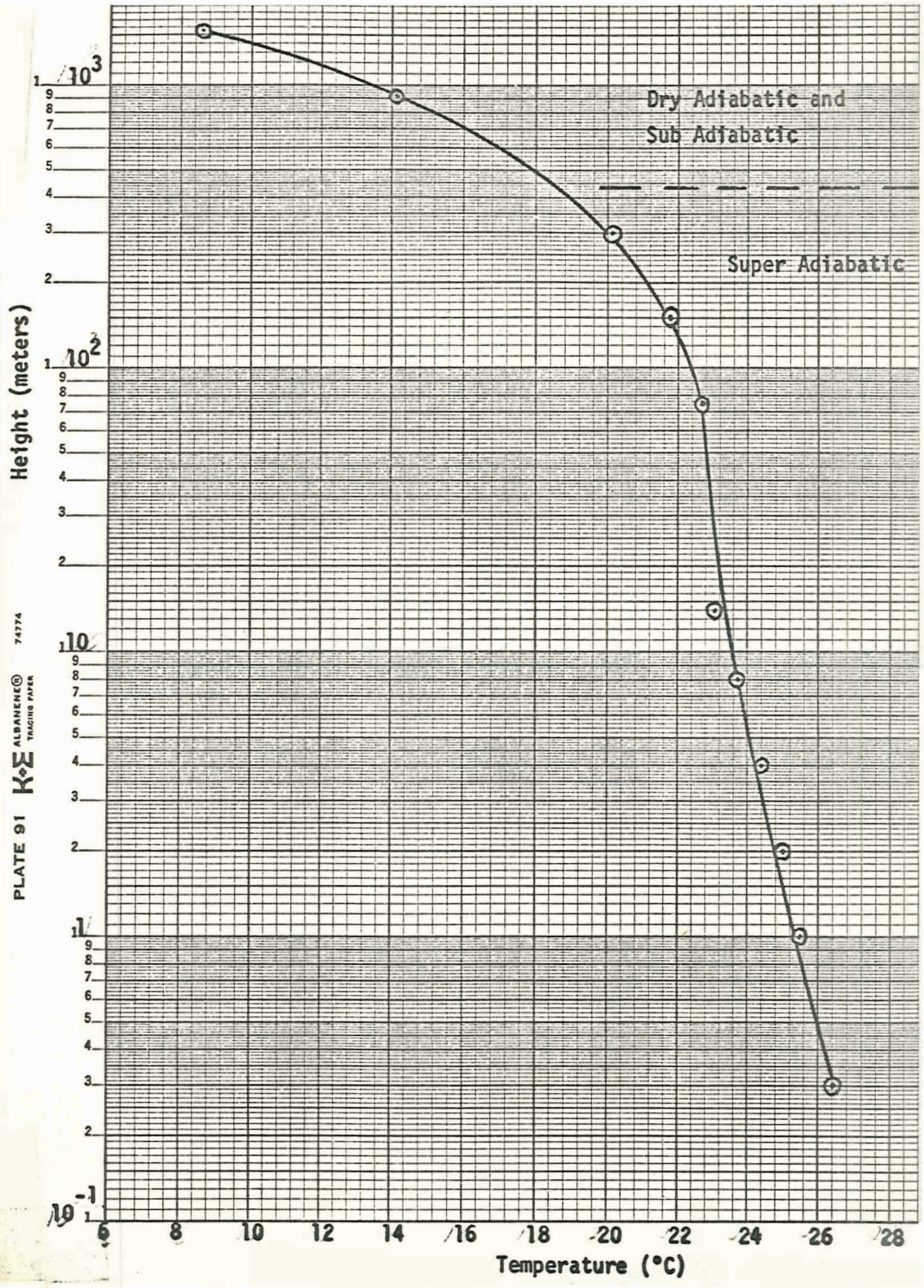
8-22-68

1405 PDT



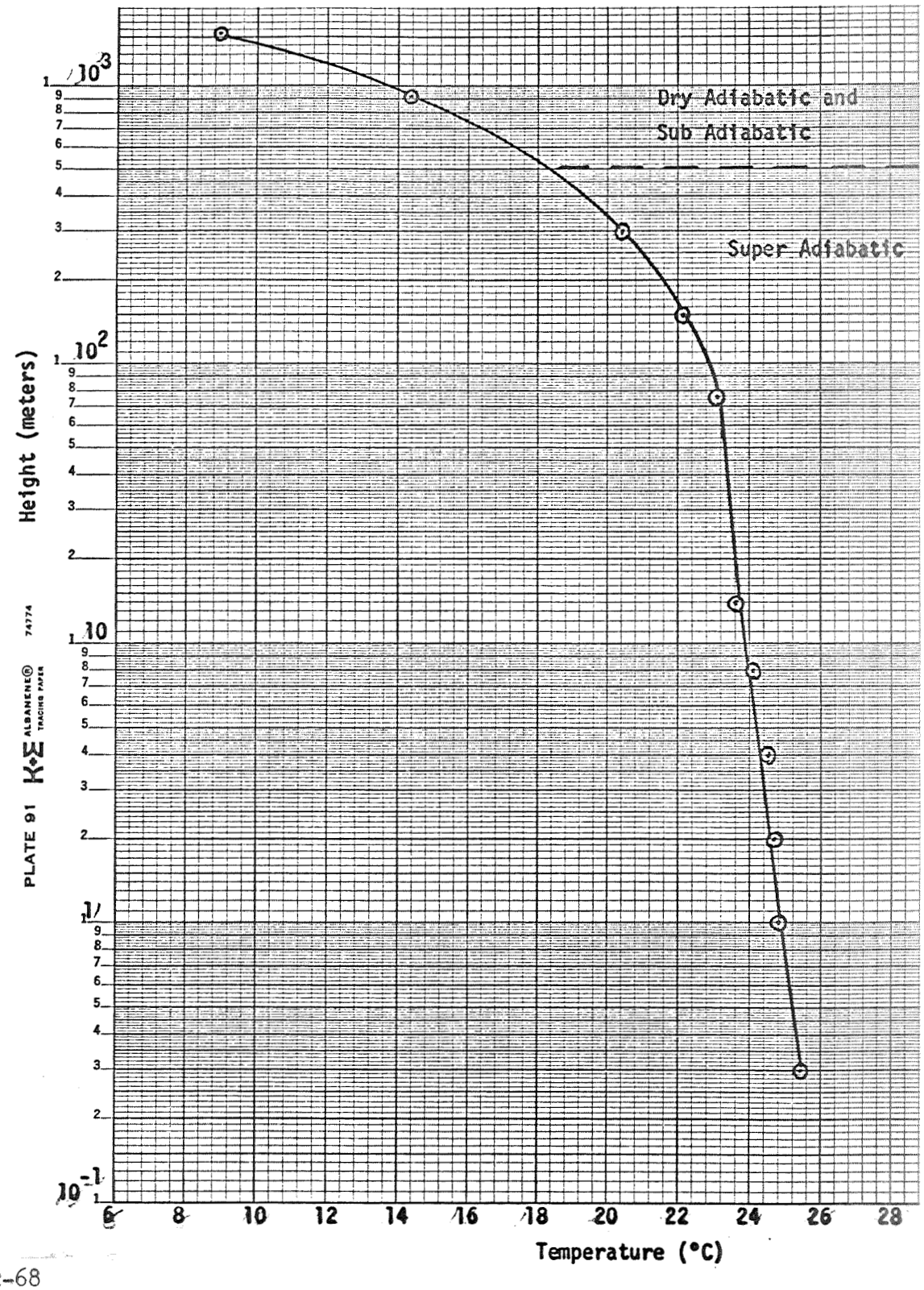
8-22-68

1415 PDT



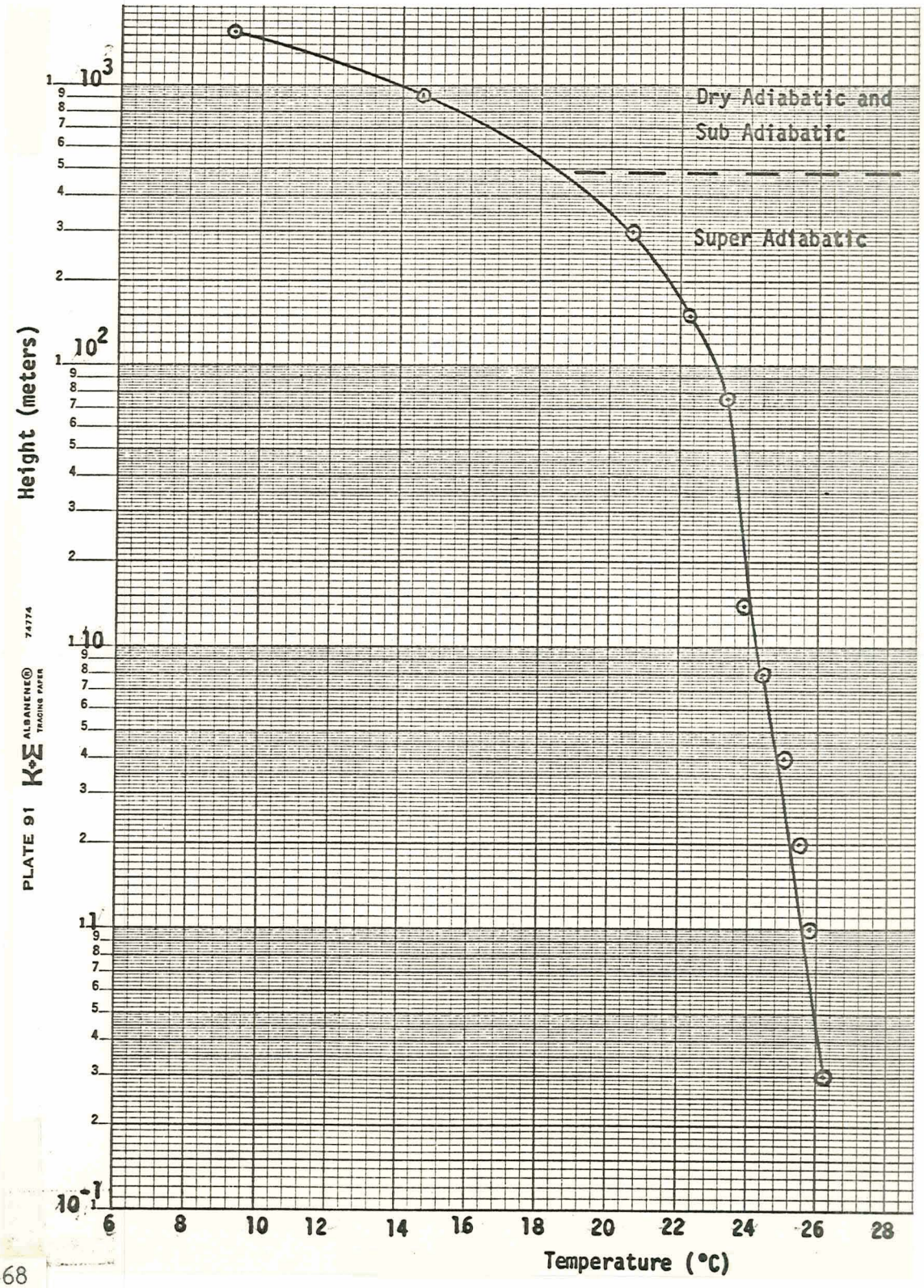
8-22-68

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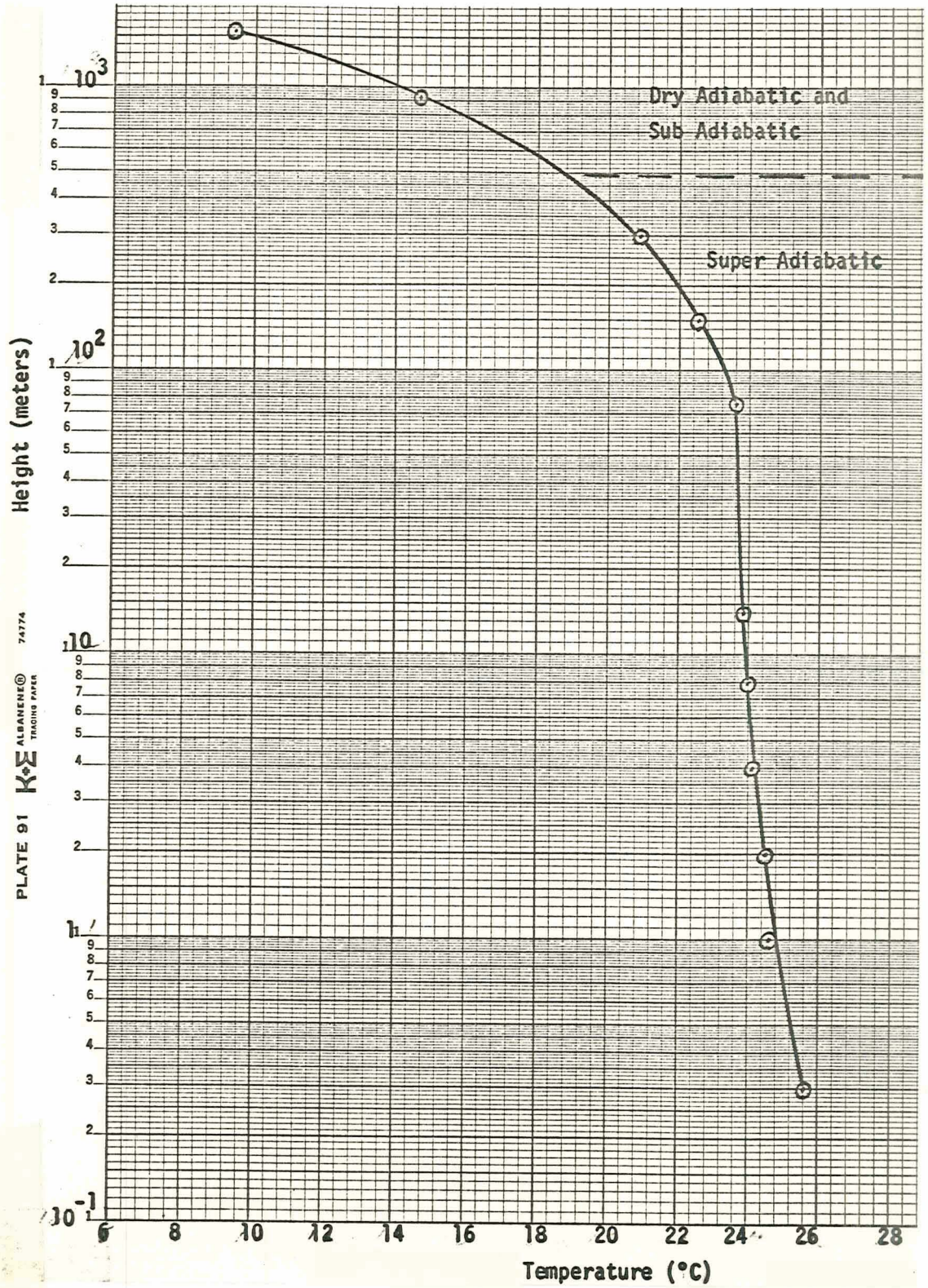
8-22-68

1455 PDT



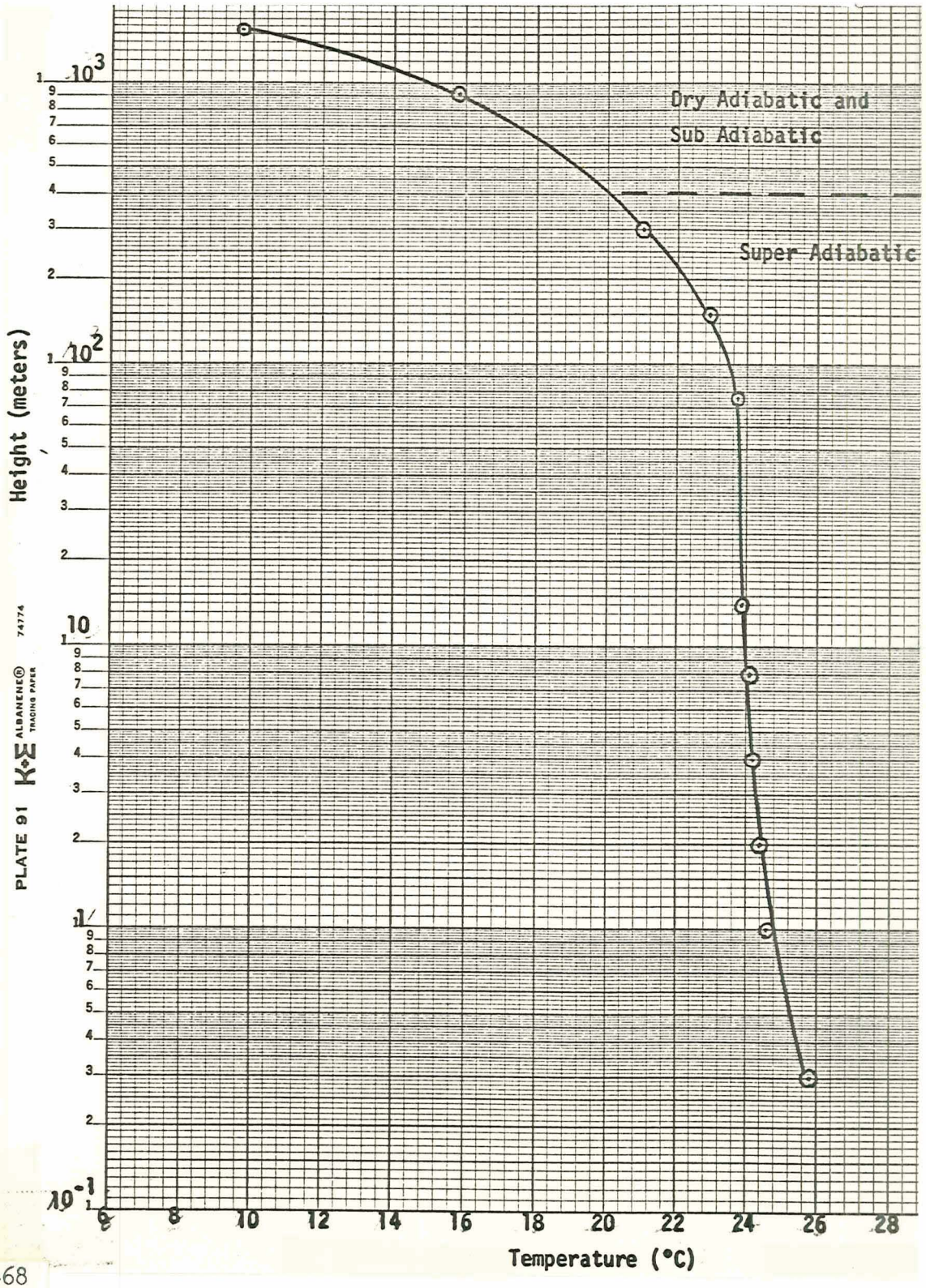
8-22-68

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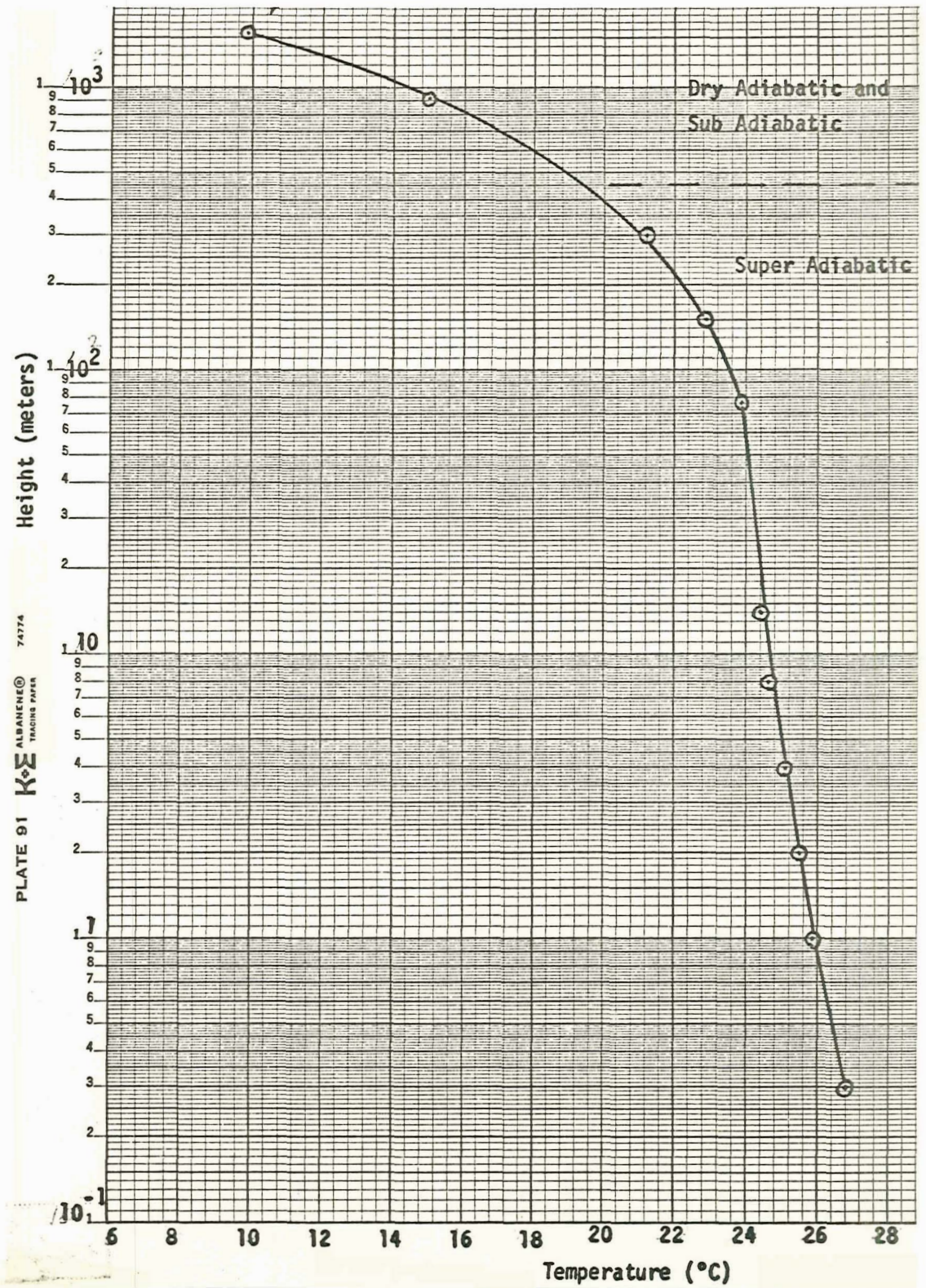
8-22-68

1530 PDT



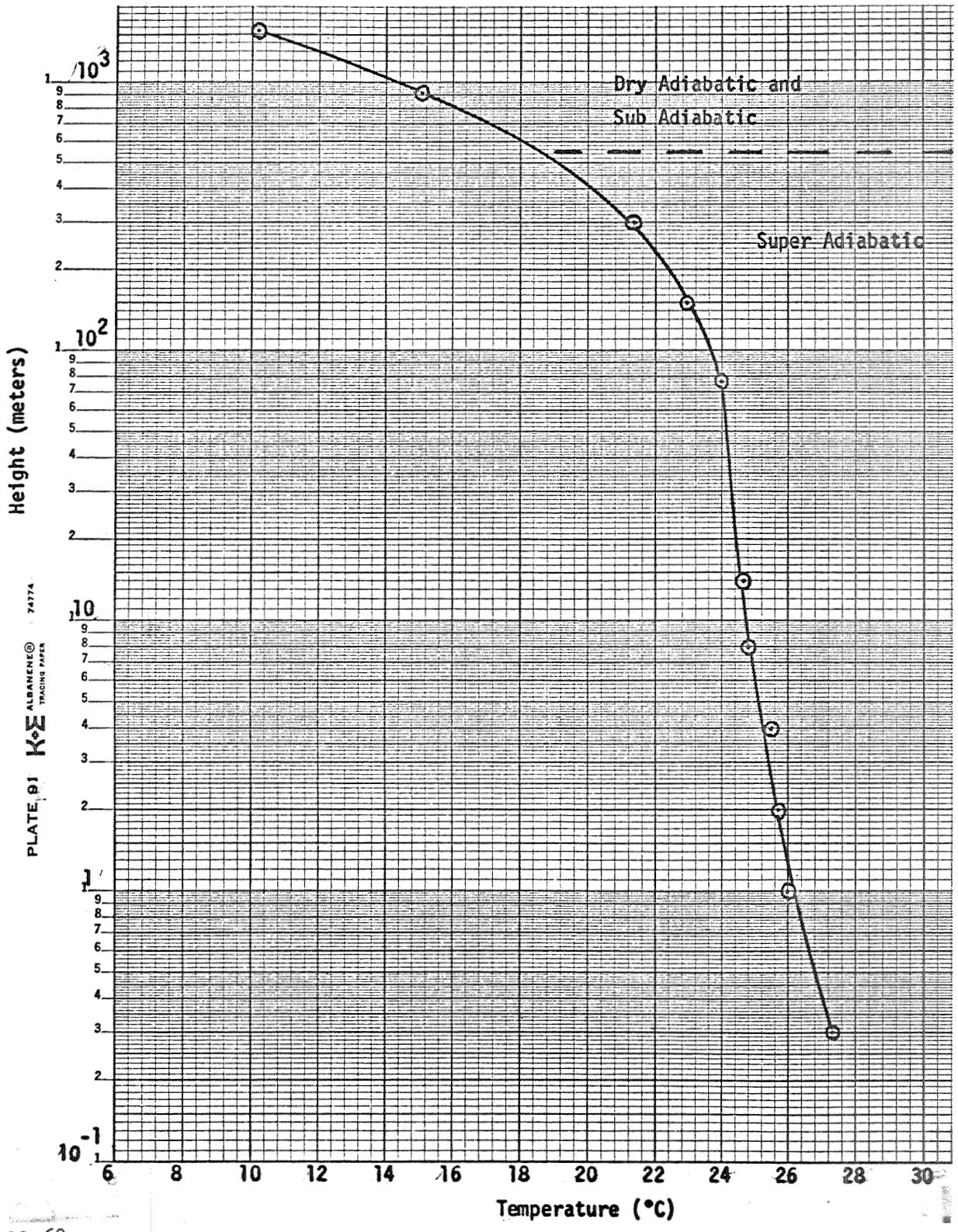
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1545 PDT



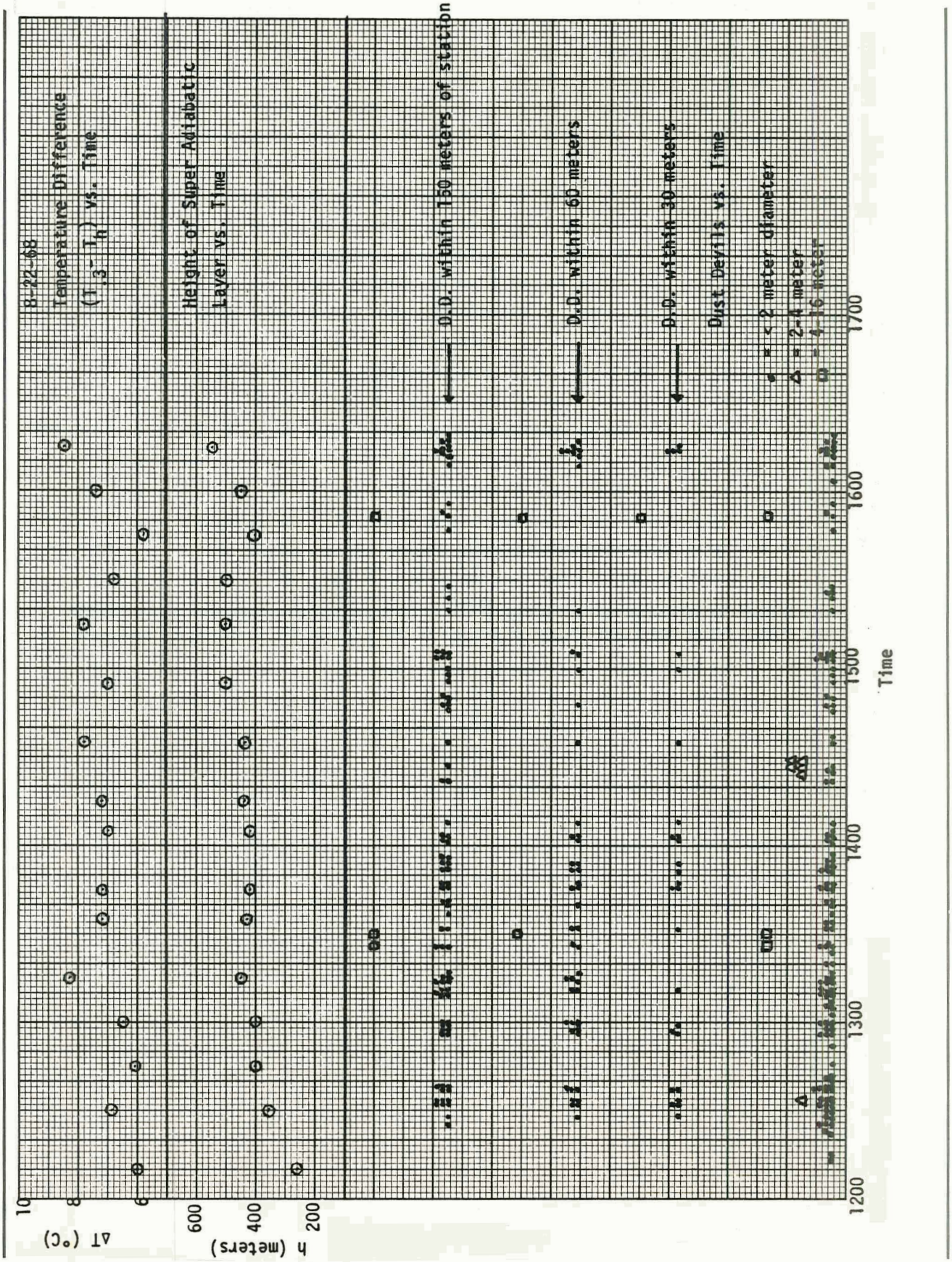
8-22-68

1600 PDT

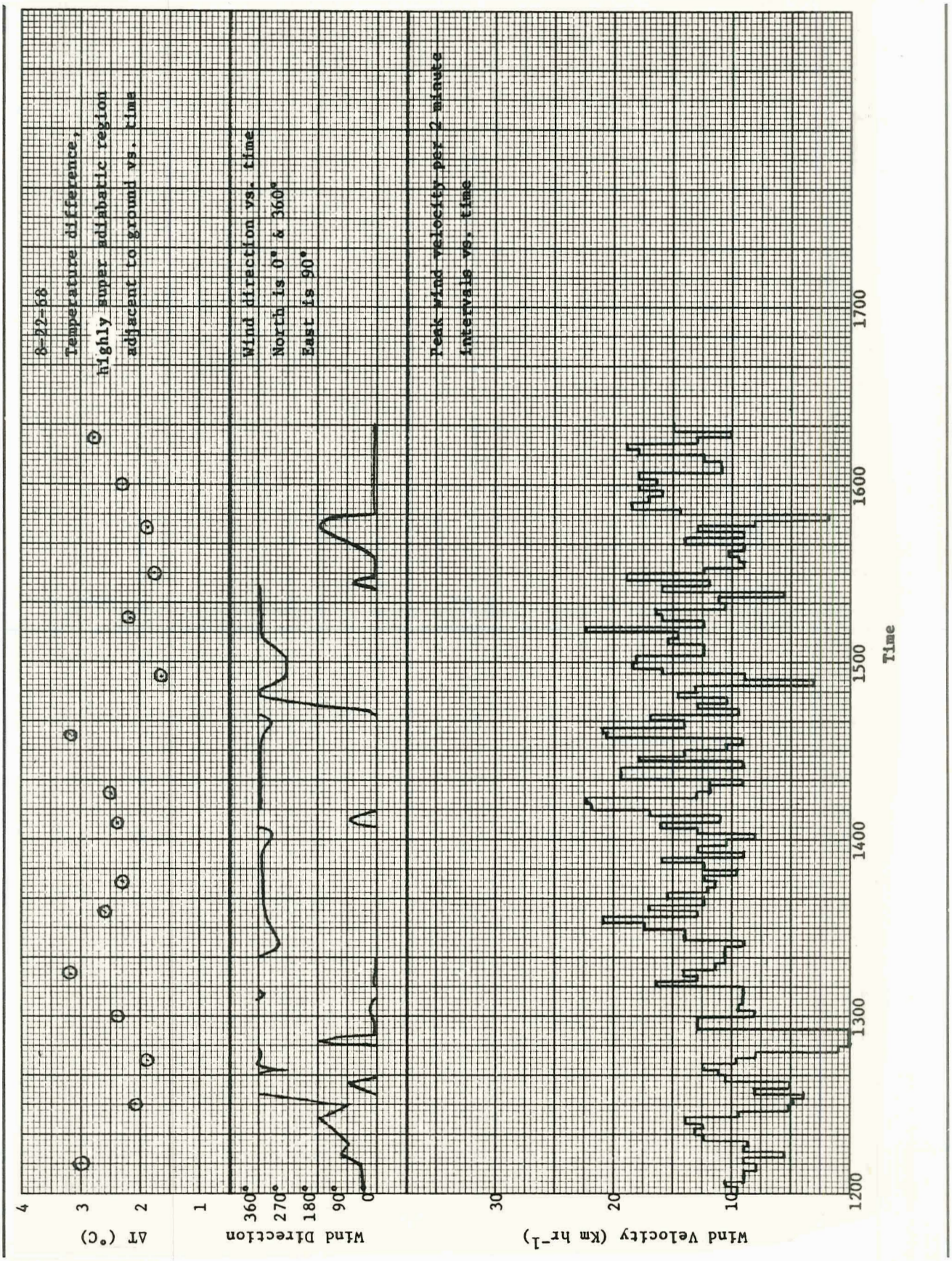


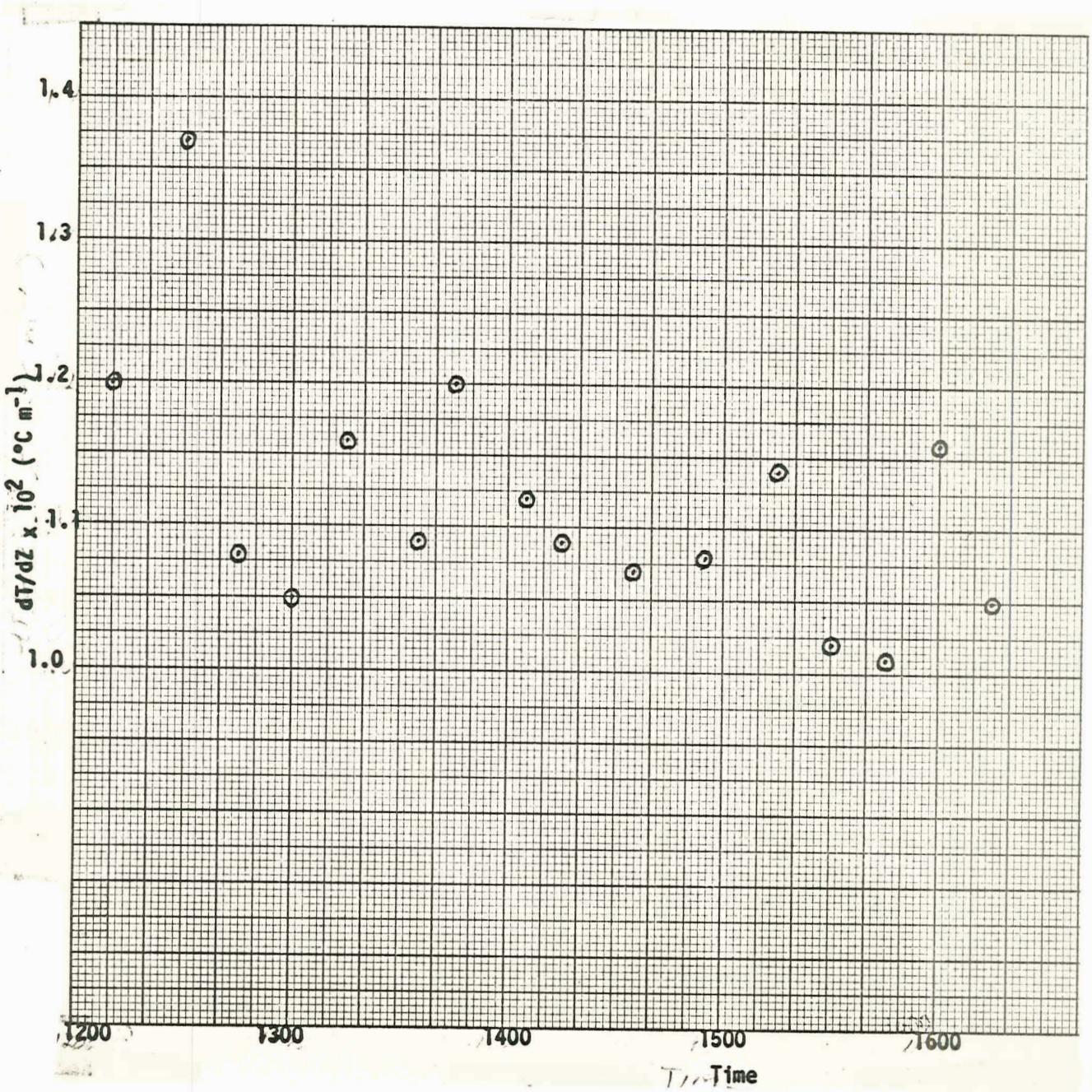
8-22-68

1615 PDT


8-22-68
Temperature Difference
($T_{.3} - T_h$) vs. Time
Height of Super Adiabatic
Layer vs. Time
O.D. within 150 meters of station
O.D. within 60 meters
O.D. within 30 meters
Dust Devils vs. Time
= < 2 meter diameter
Δ = 2-4 meter
= 4-16 meter
ΔT (°C)
h (meters)
Time
10
8
6
600
400
200
1200
1300
1400
1500
1600
1700

1 30-692-9 (8-68)

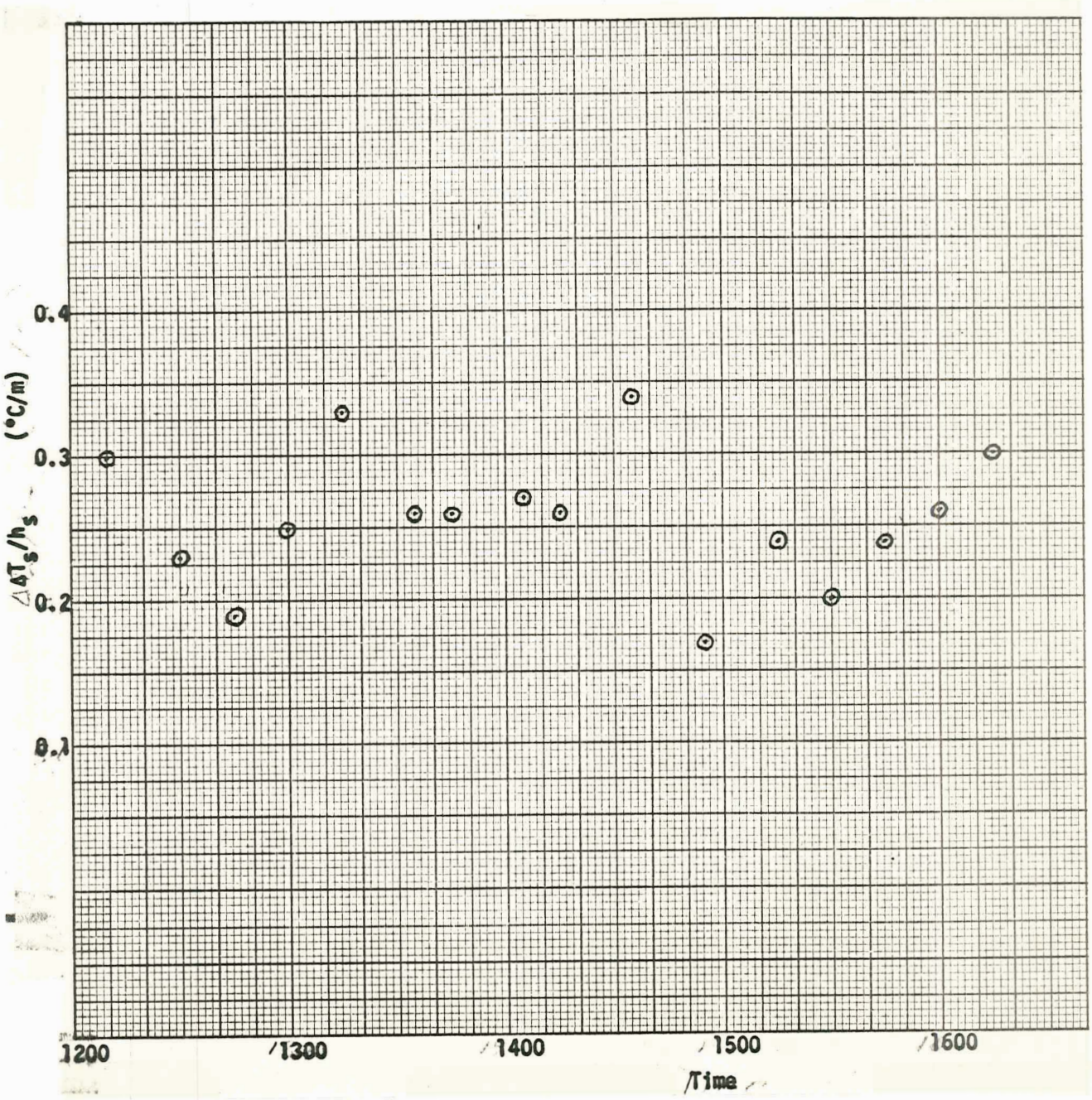

8-22-68
Temperature difference,
highly super adiabatic region
adjacent to ground vs. time
Wind direction vs. time
North is 0° & 360°
East is 90°
Peak wind velocity per 2 minute
intervals vs. time
ΔT (°C)
Wind Direction
Wind Velocity (Km hr⁻¹)
Time
4
3
2
1
360°
270°
180°
90°
0
30
20
10
1200
1300
1400
1500
1600
1700



8-22-68

Lapse Rate $(\frac{dT}{dZ})$ vs. Time

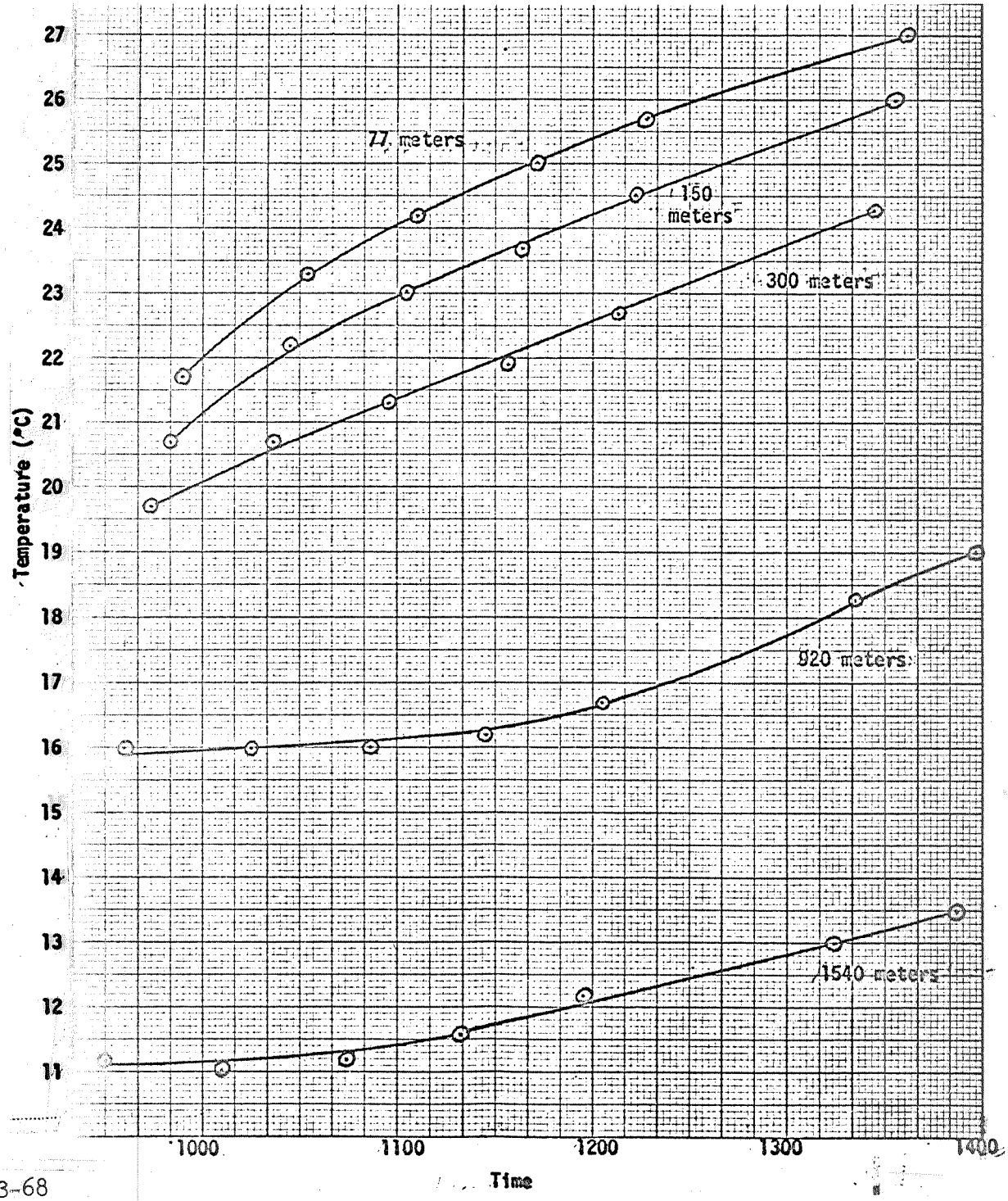
M 30-692-6 (8-68)



8-22-68

$\frac{\Delta T_s}{h_s}$ vs. Time

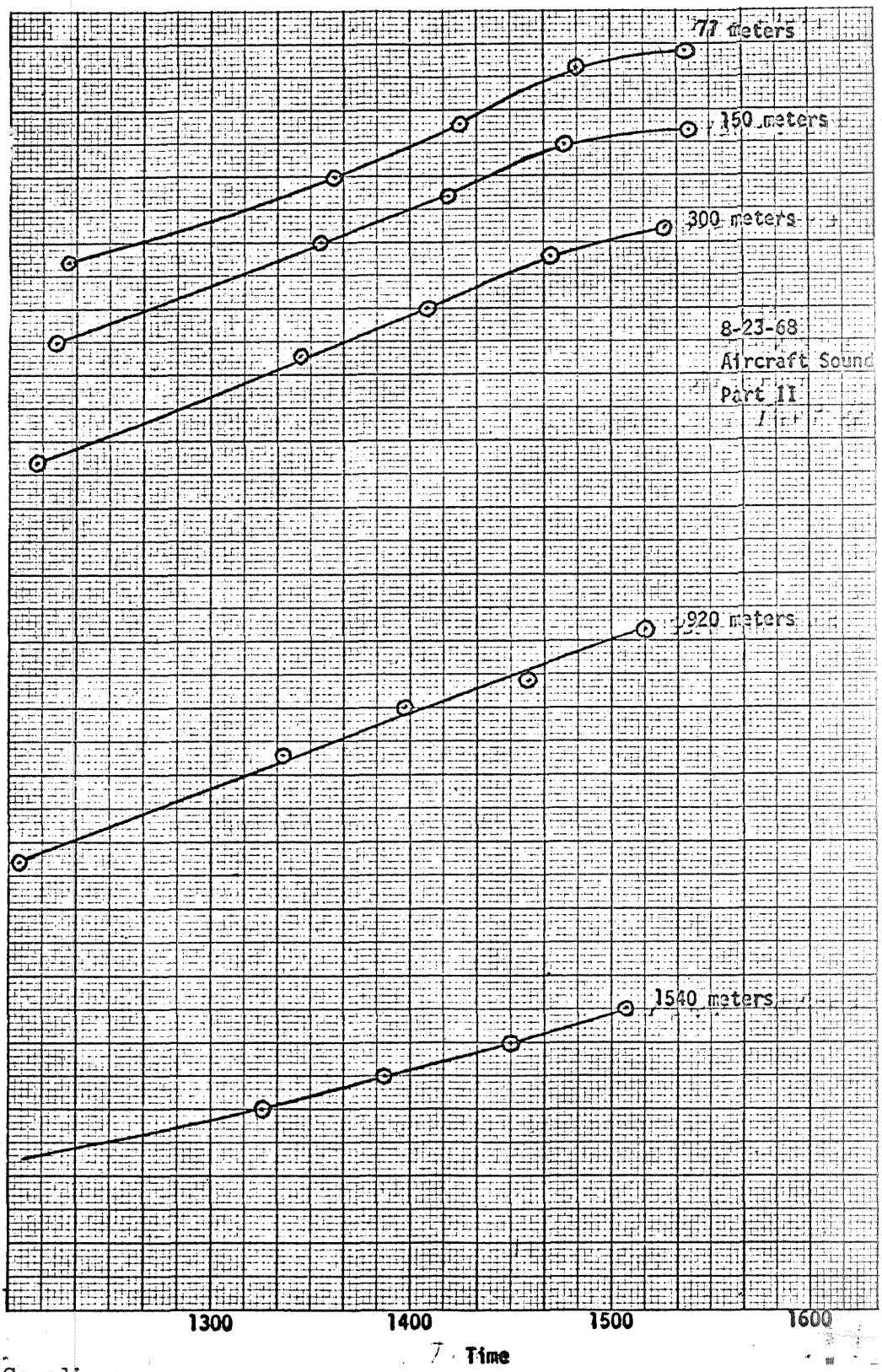
DATA FOR 8-23-68



8-23-68

Aircraft Soundings

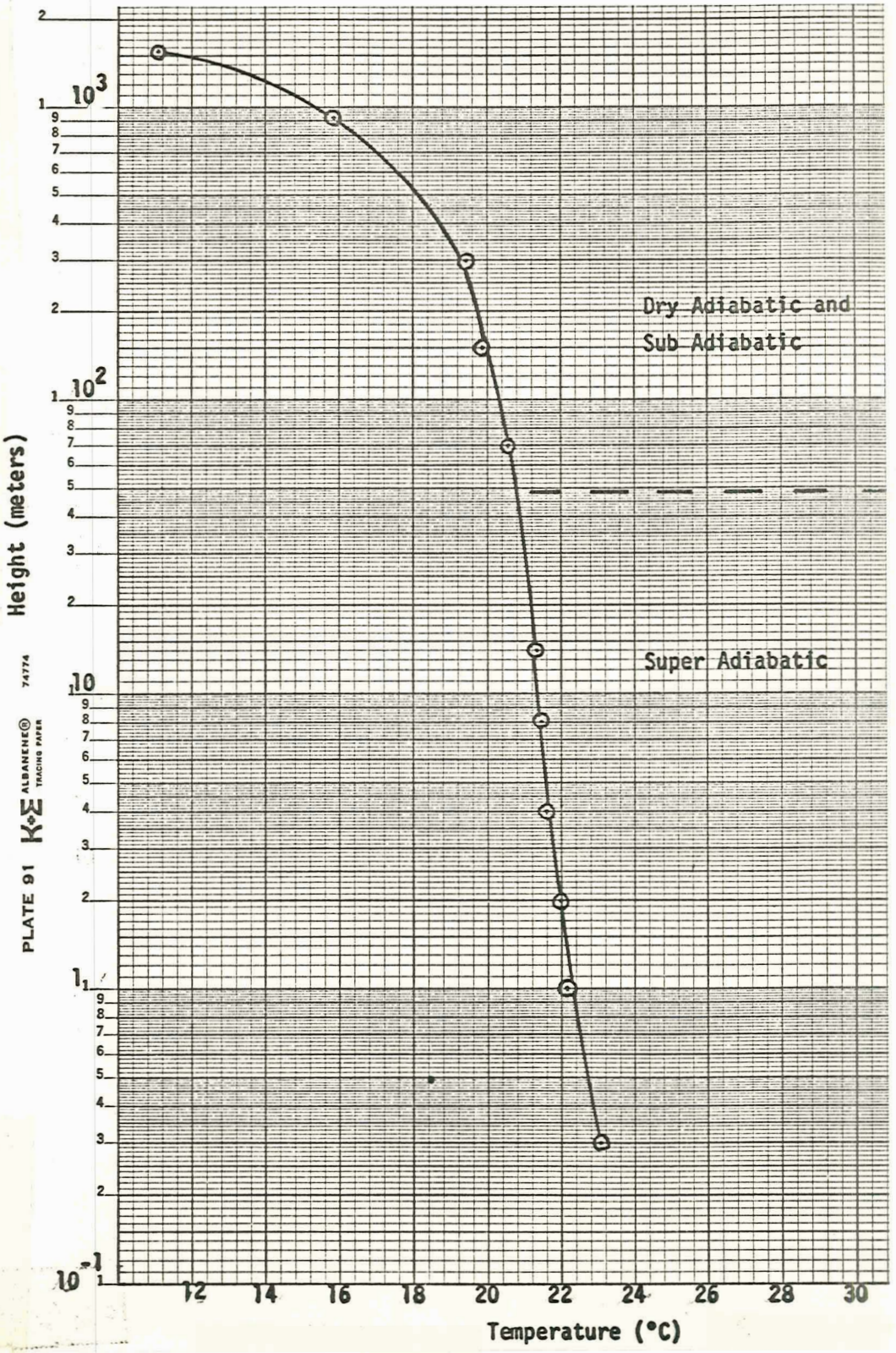
Part I



8-23-68

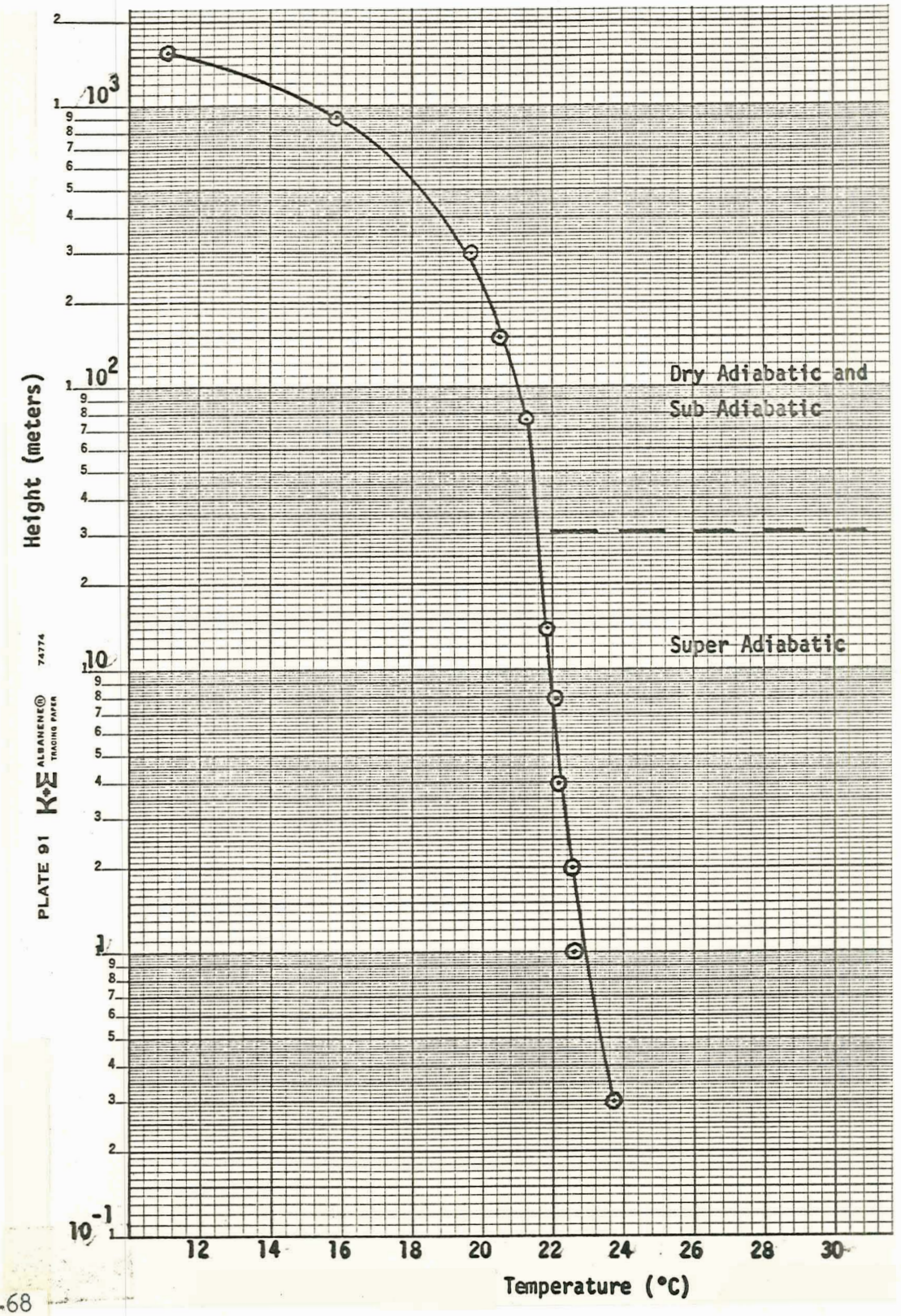
Aircraft Soundings

Part II



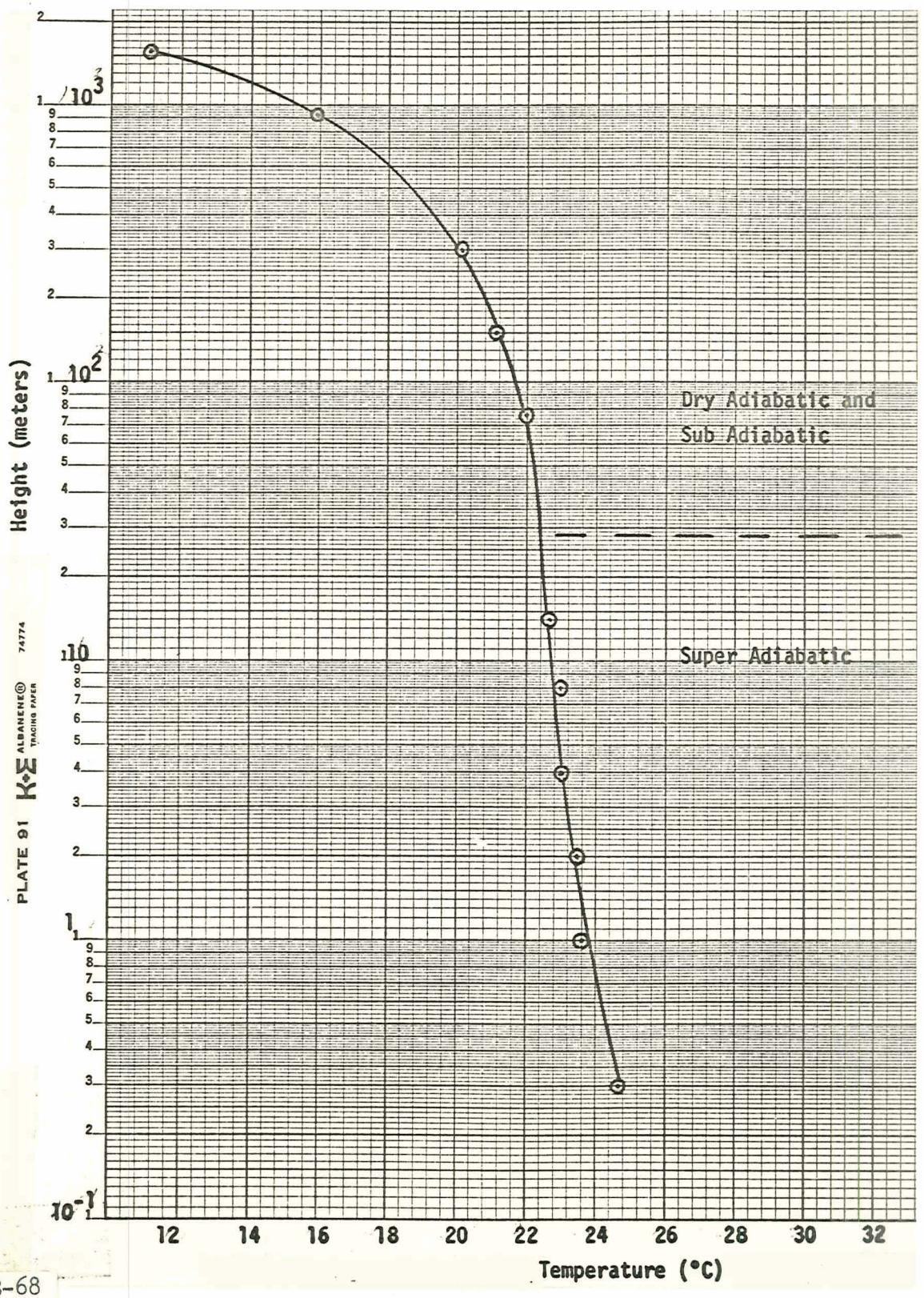
8-23-68

0930 PDT



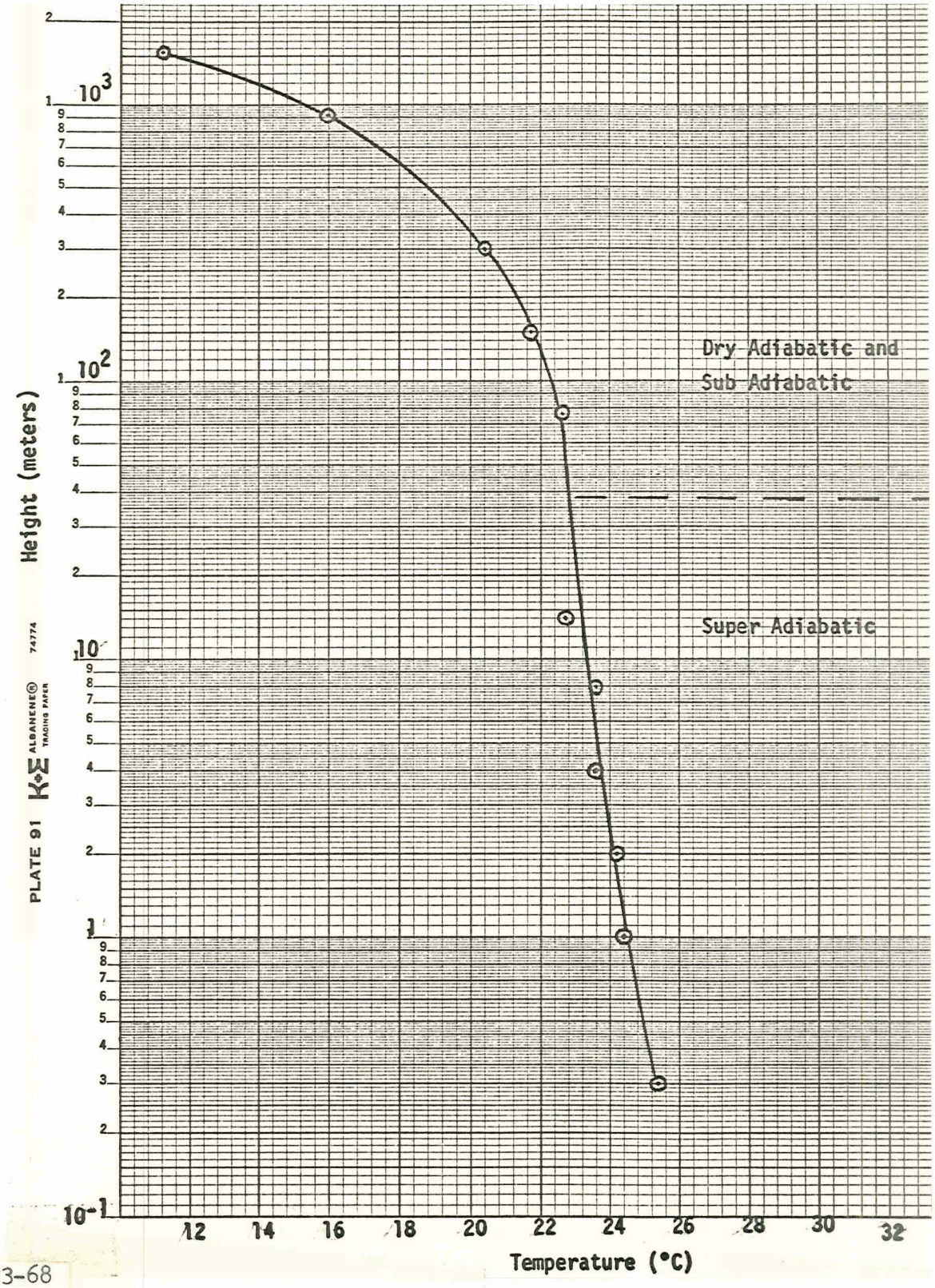
8-23-68

0945 PDT



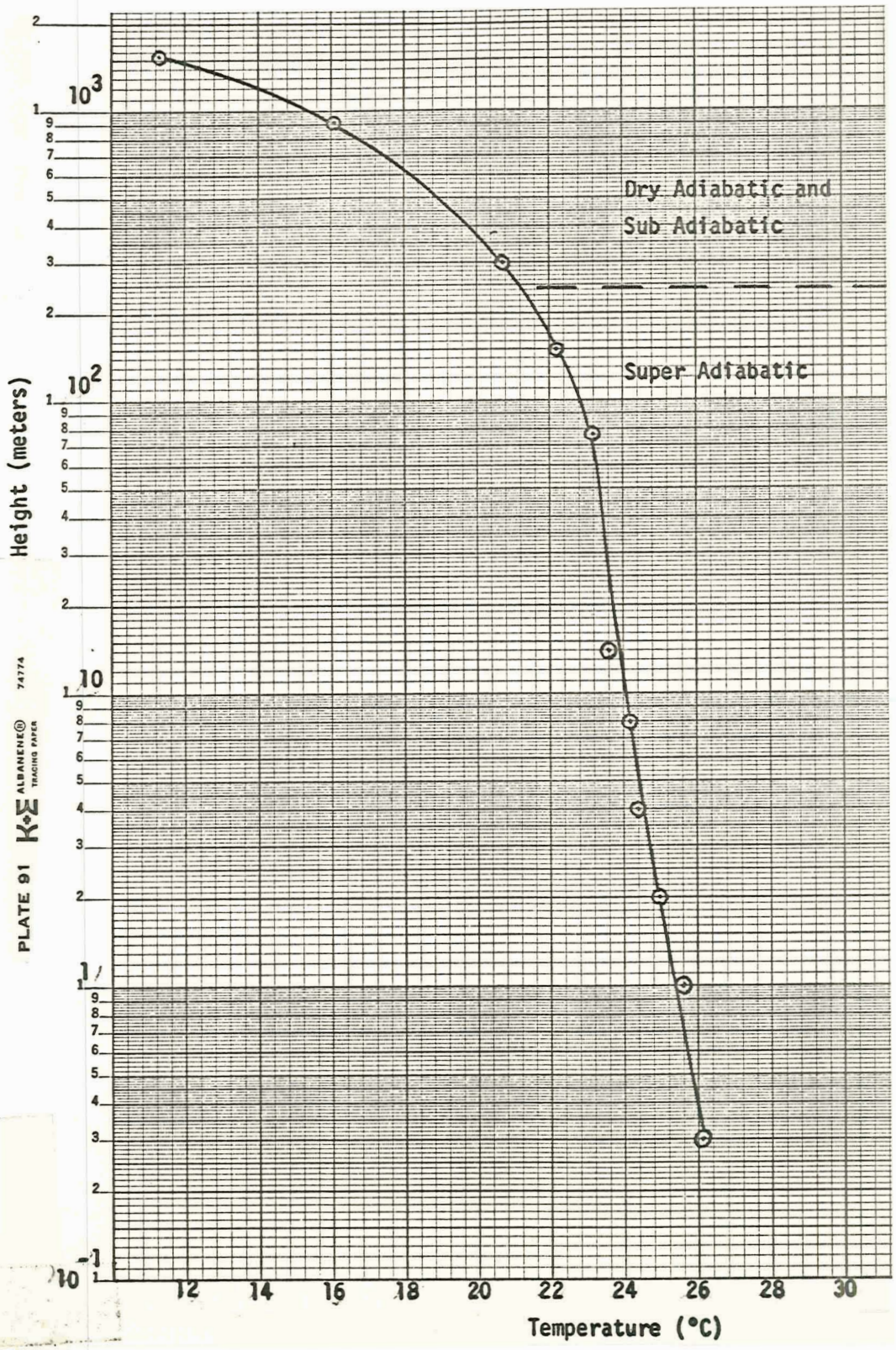
8-23-68

1000 PDT



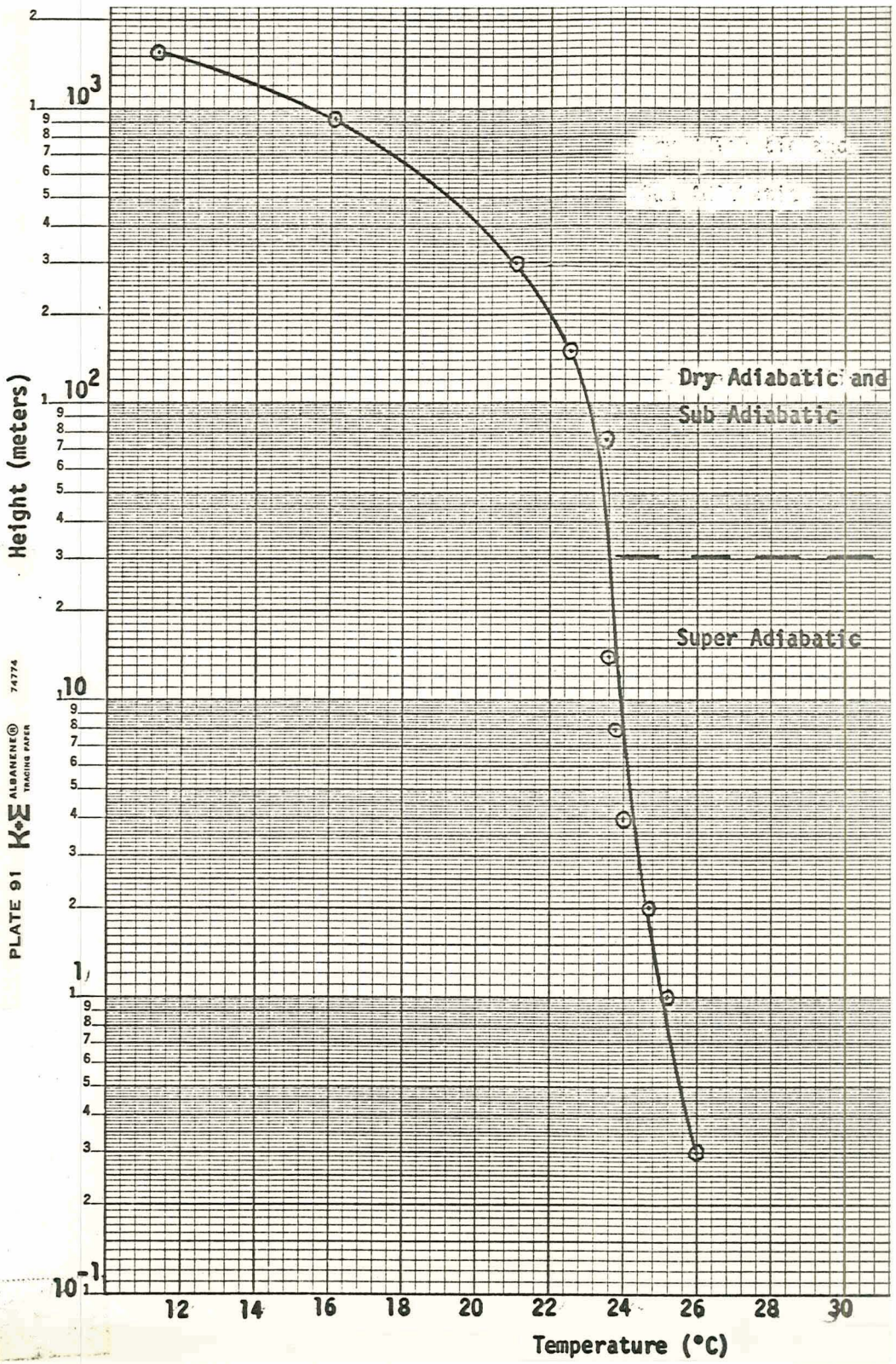
8-23-68

1015 PDT



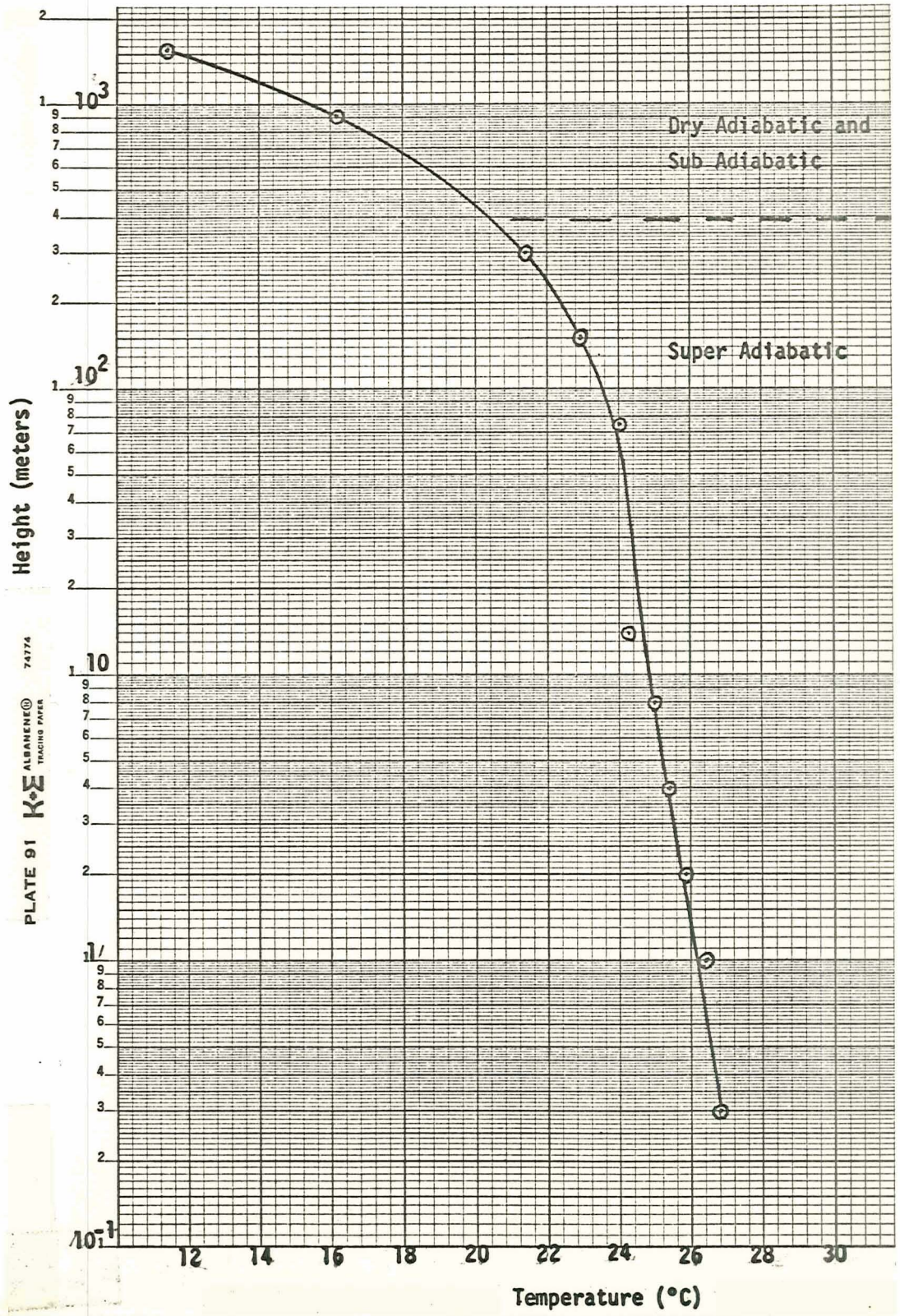
8-23-68

1030 PDT



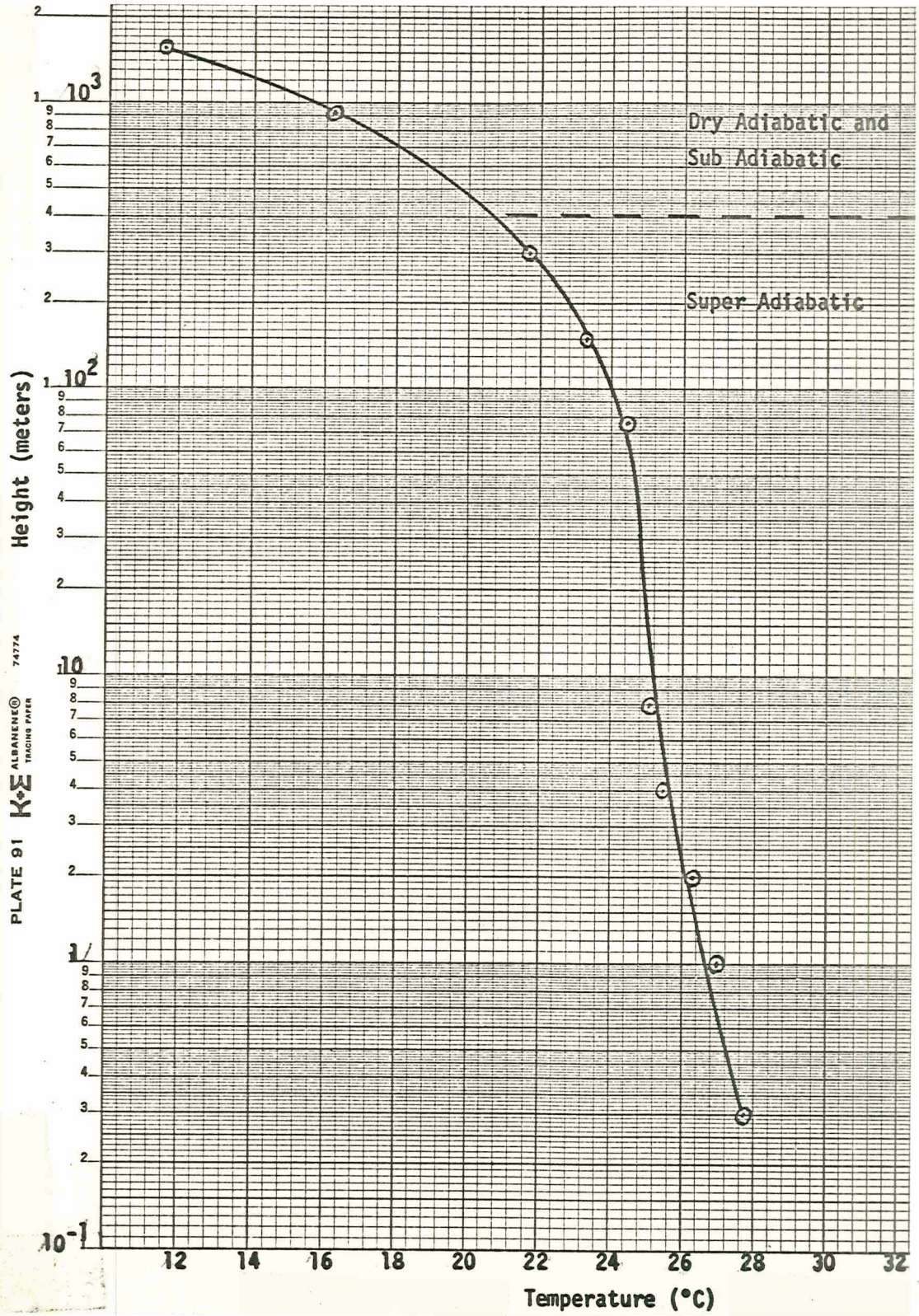
8-23-68

1045 PDT



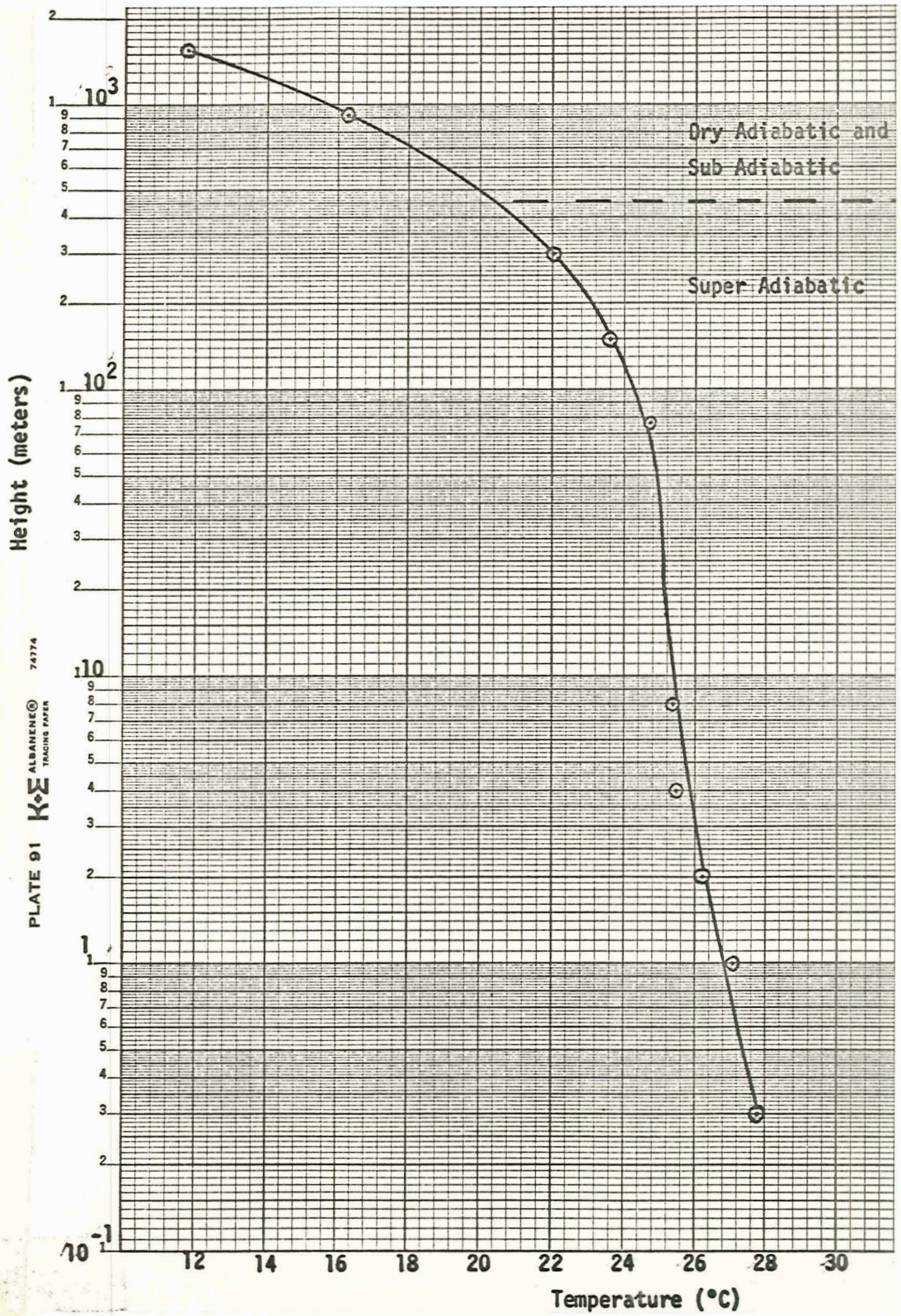
8-23-68

1100 PDT



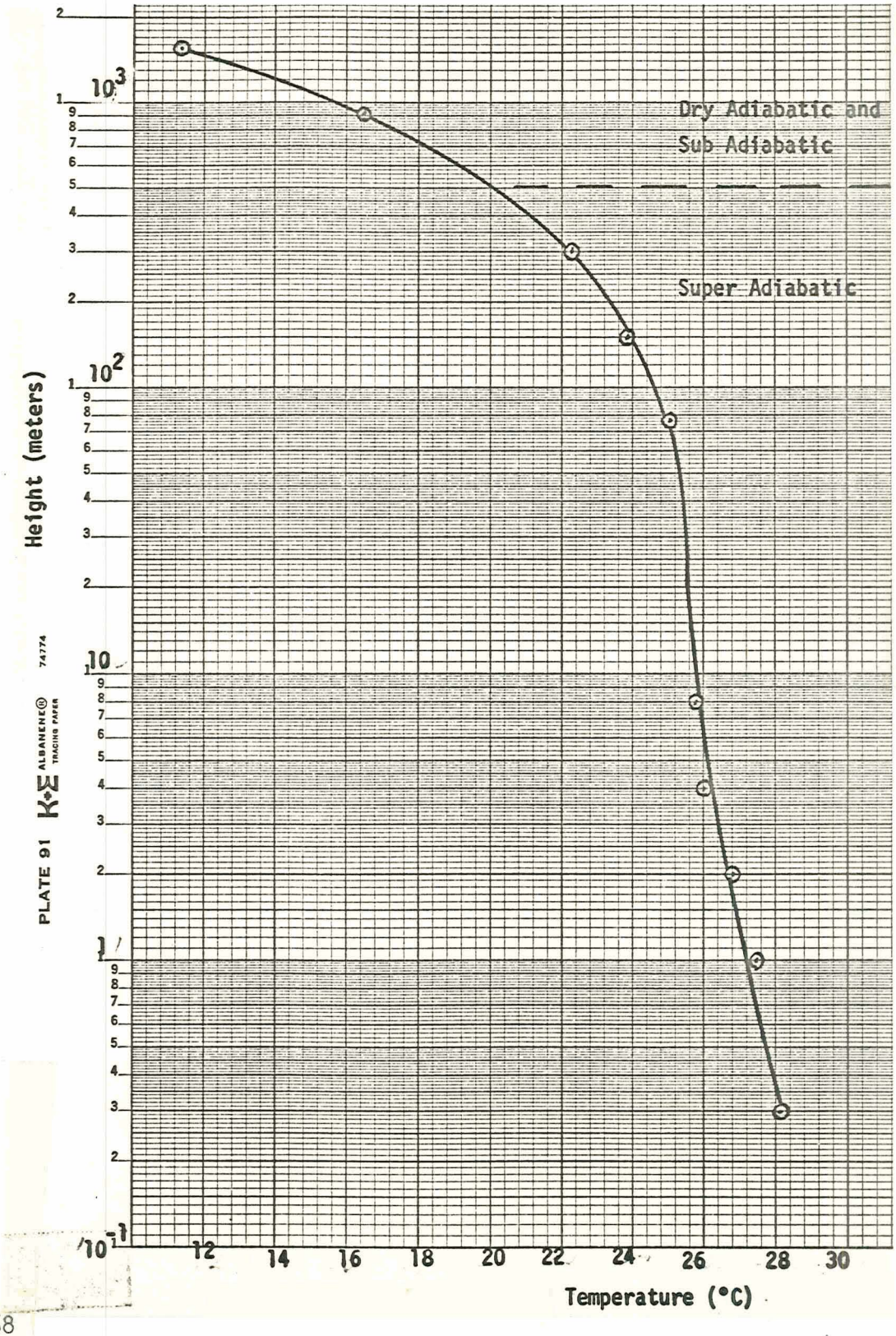
8-23-68

1117 PDT



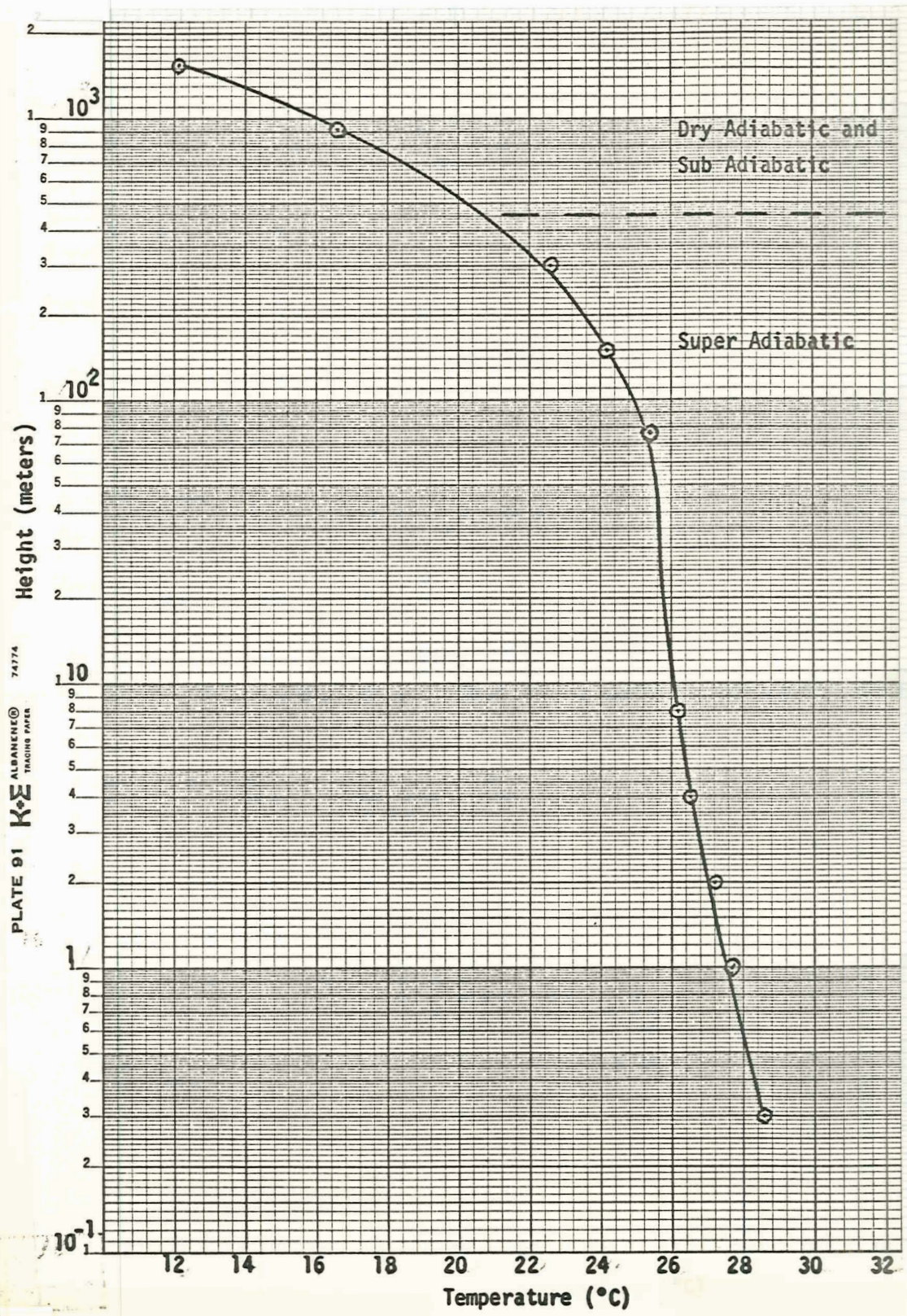
8-23-68

1130 PDT



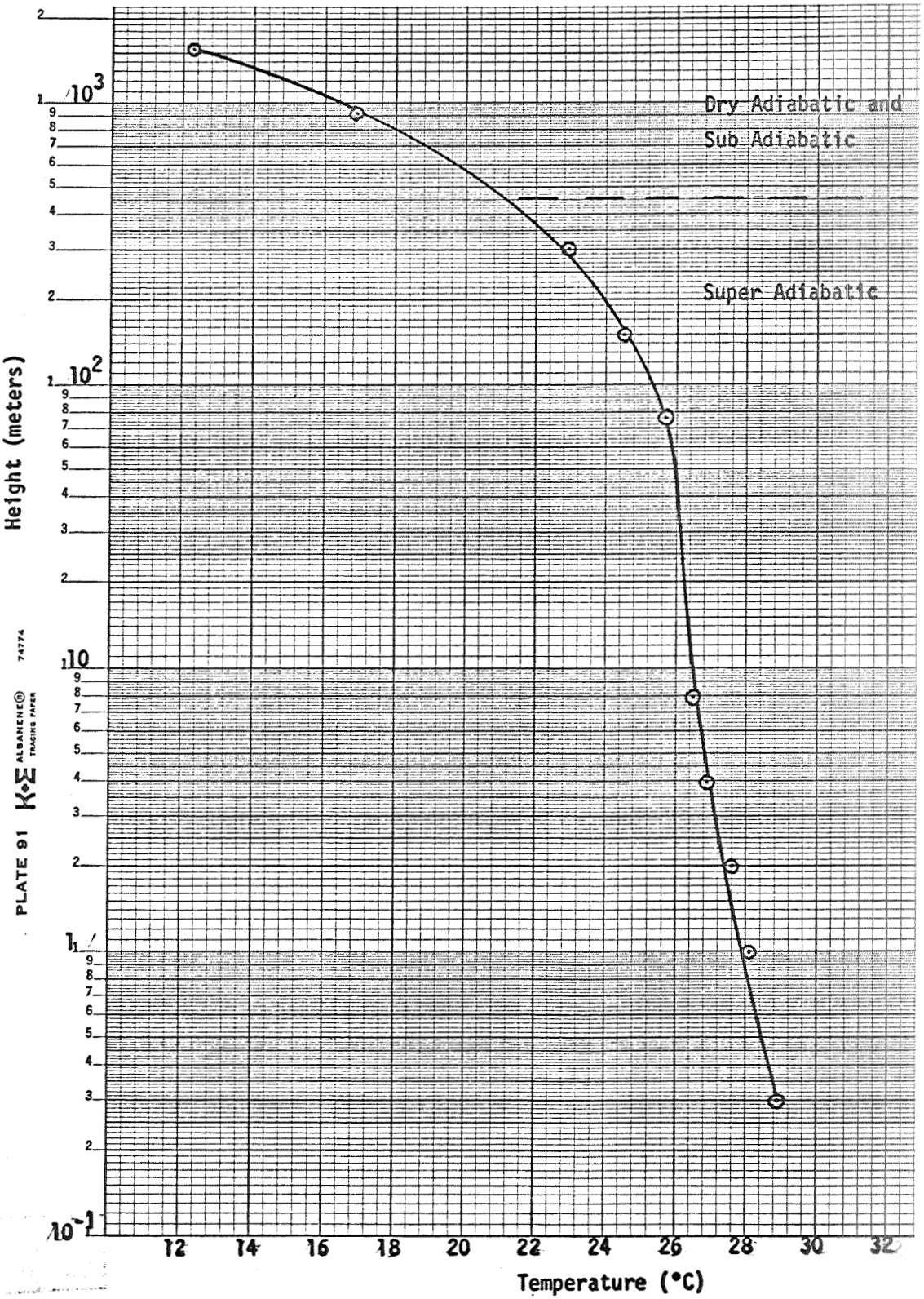
8-23-68

1145 PDT



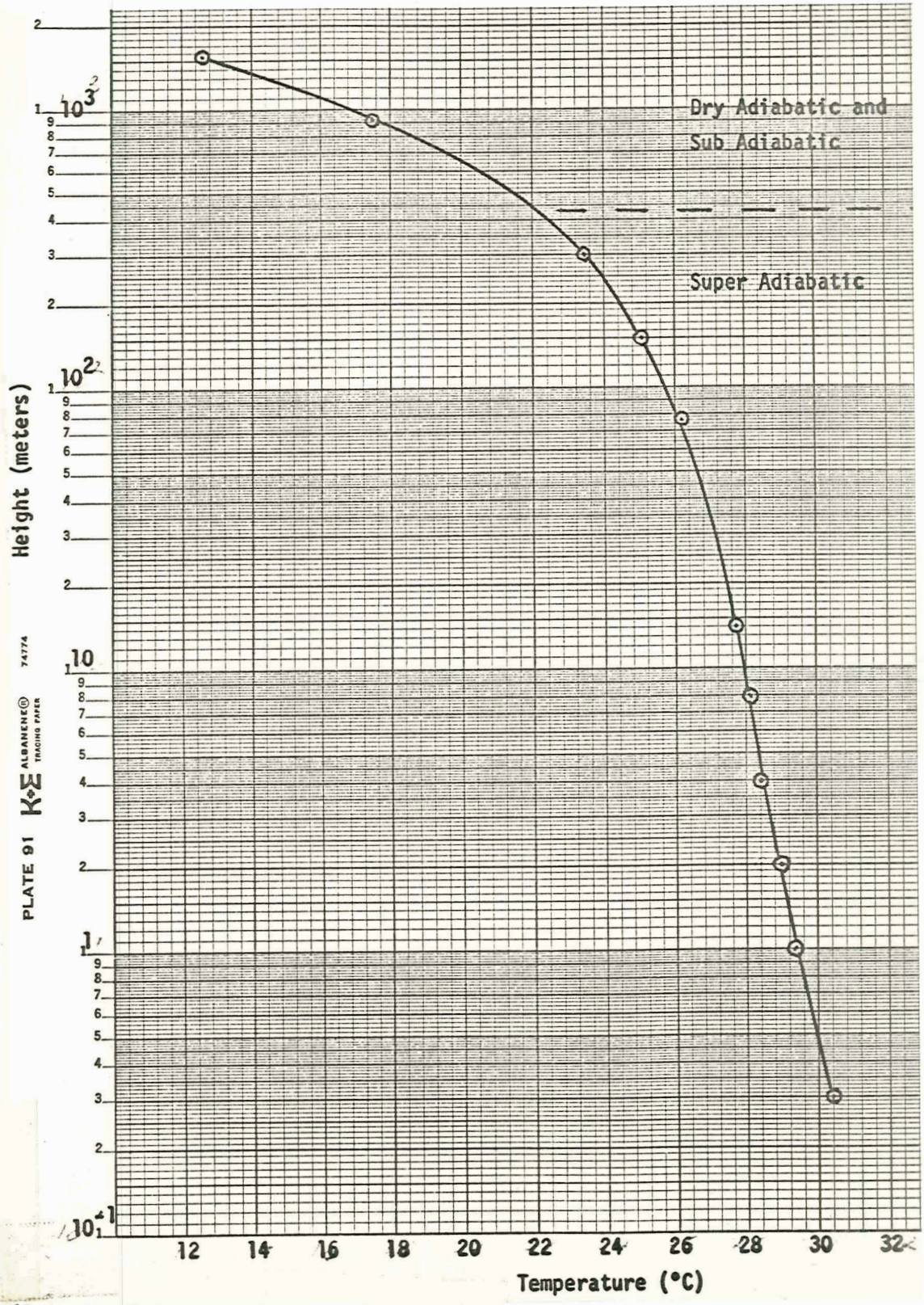
8-23-68

1200 PDT



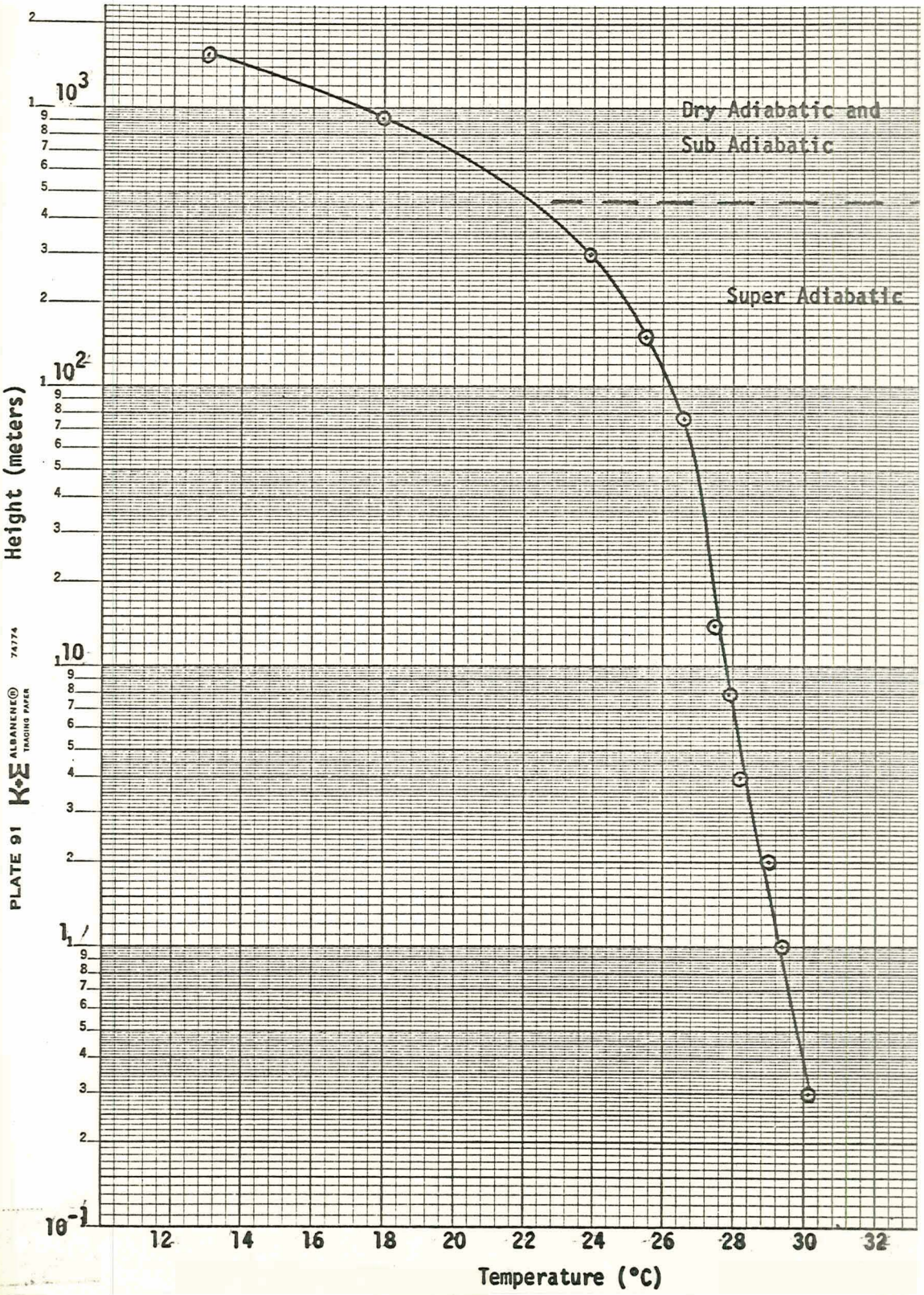
8-23-68

1215 PDT



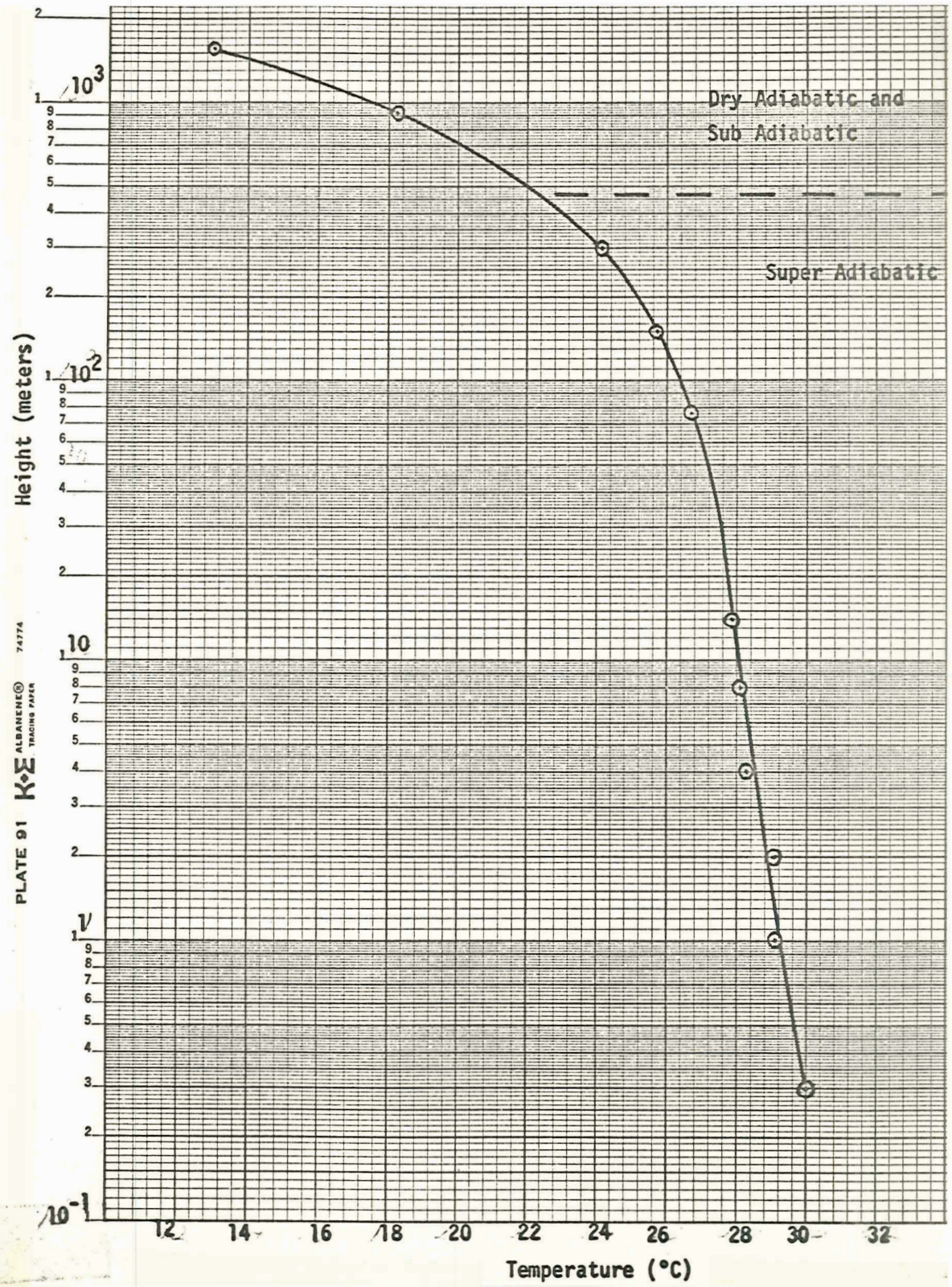
8-23-68

1245 PDT



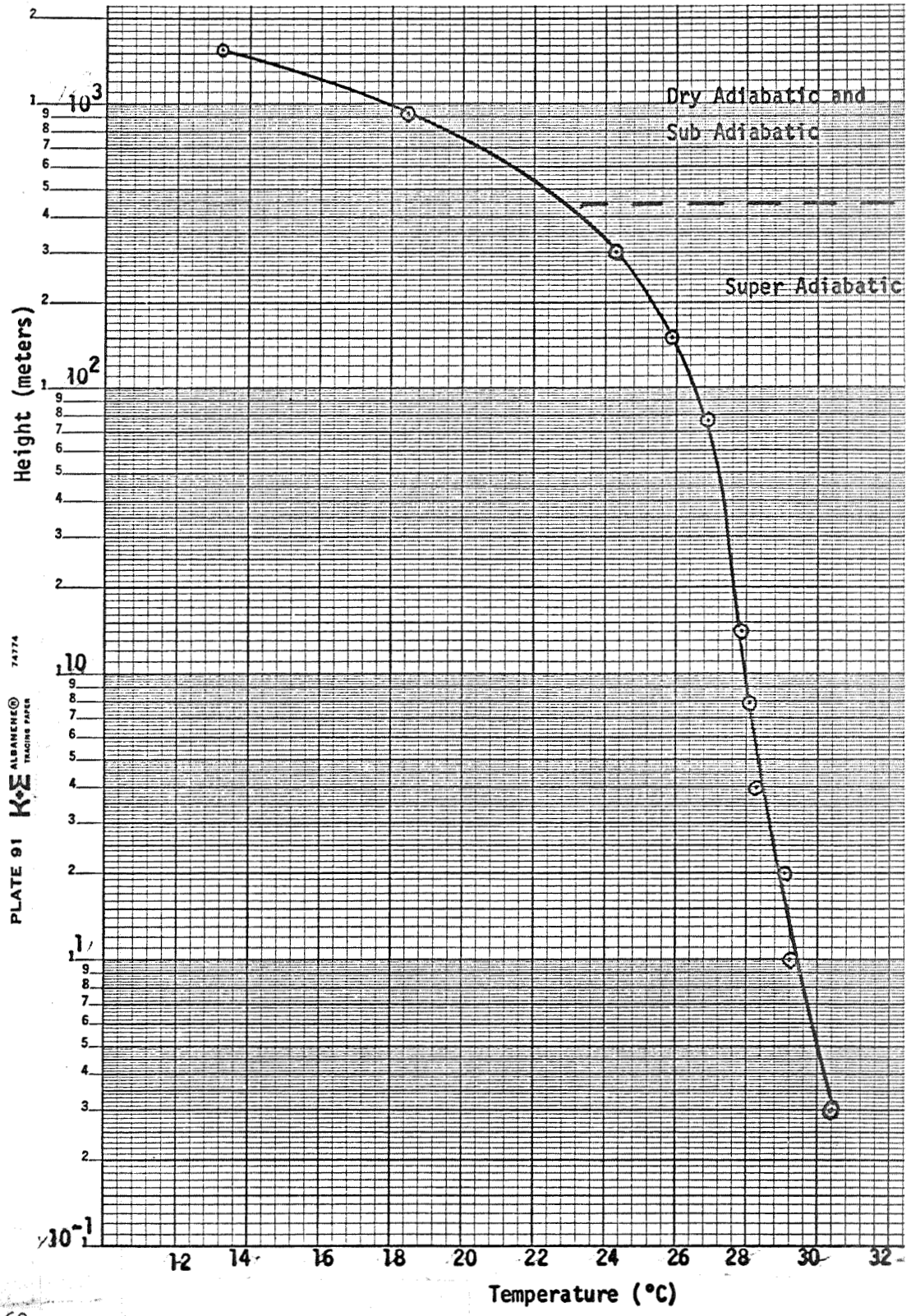
8-23-68

1310 PDT



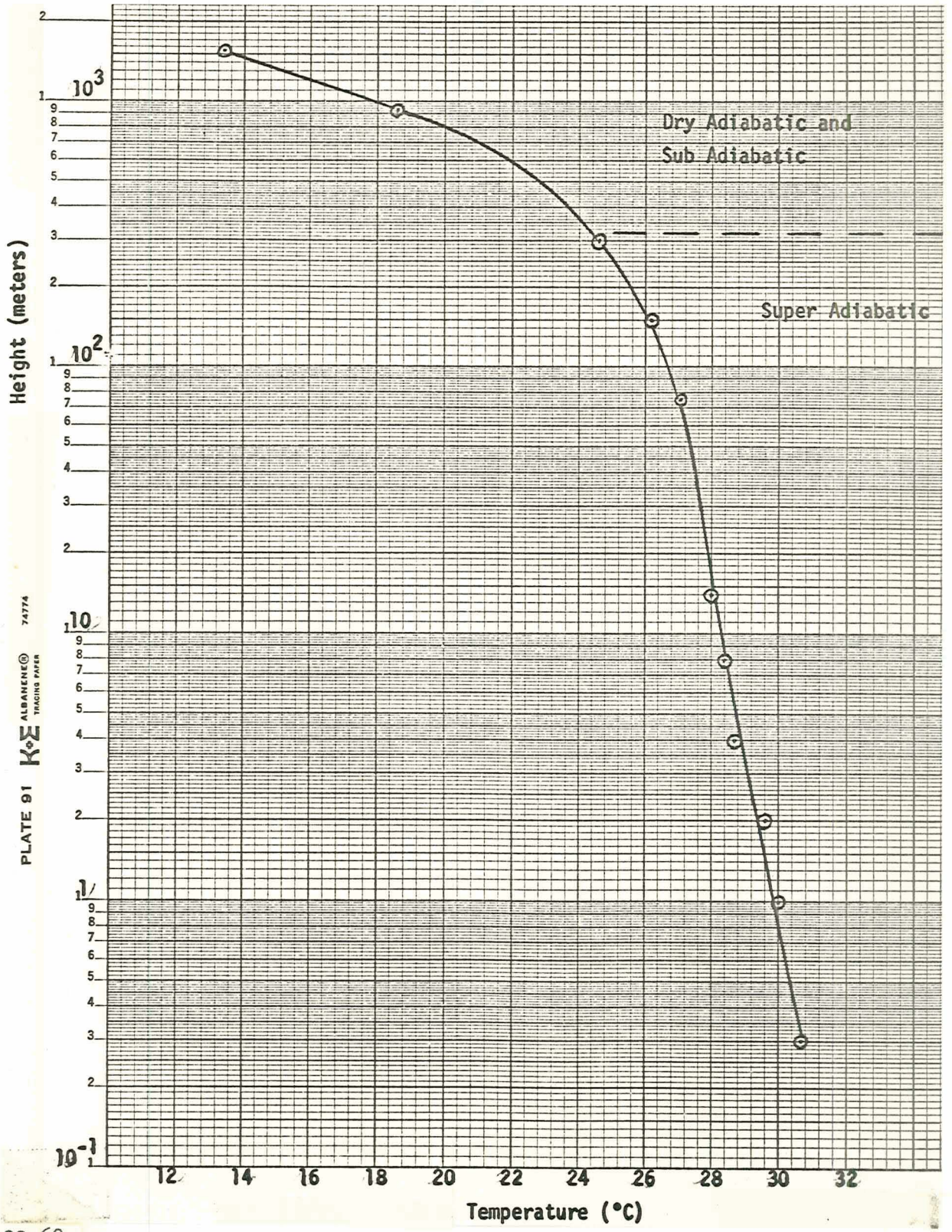
8-23-68

1320 PDT



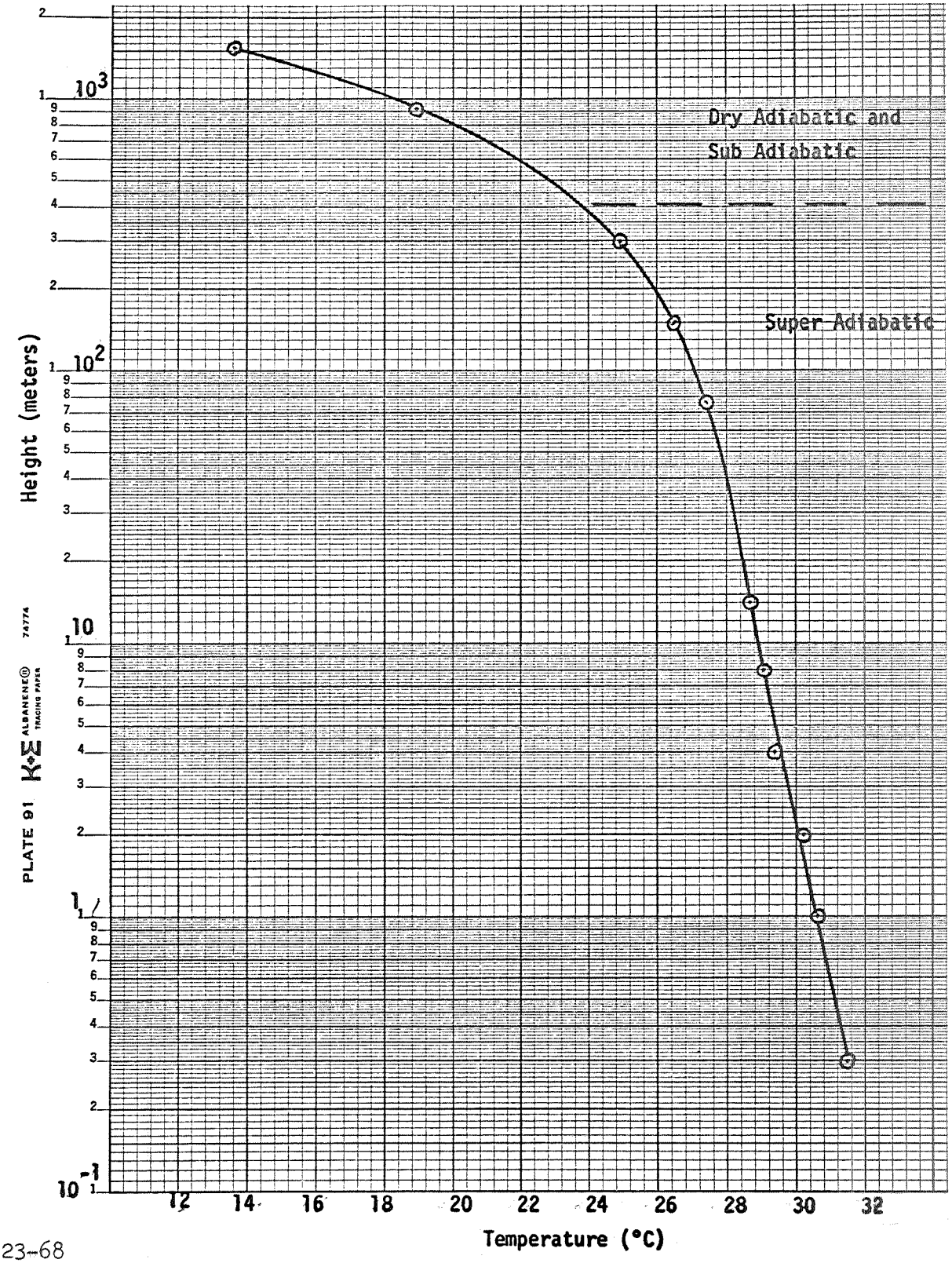
8-23-68

1330 PDT



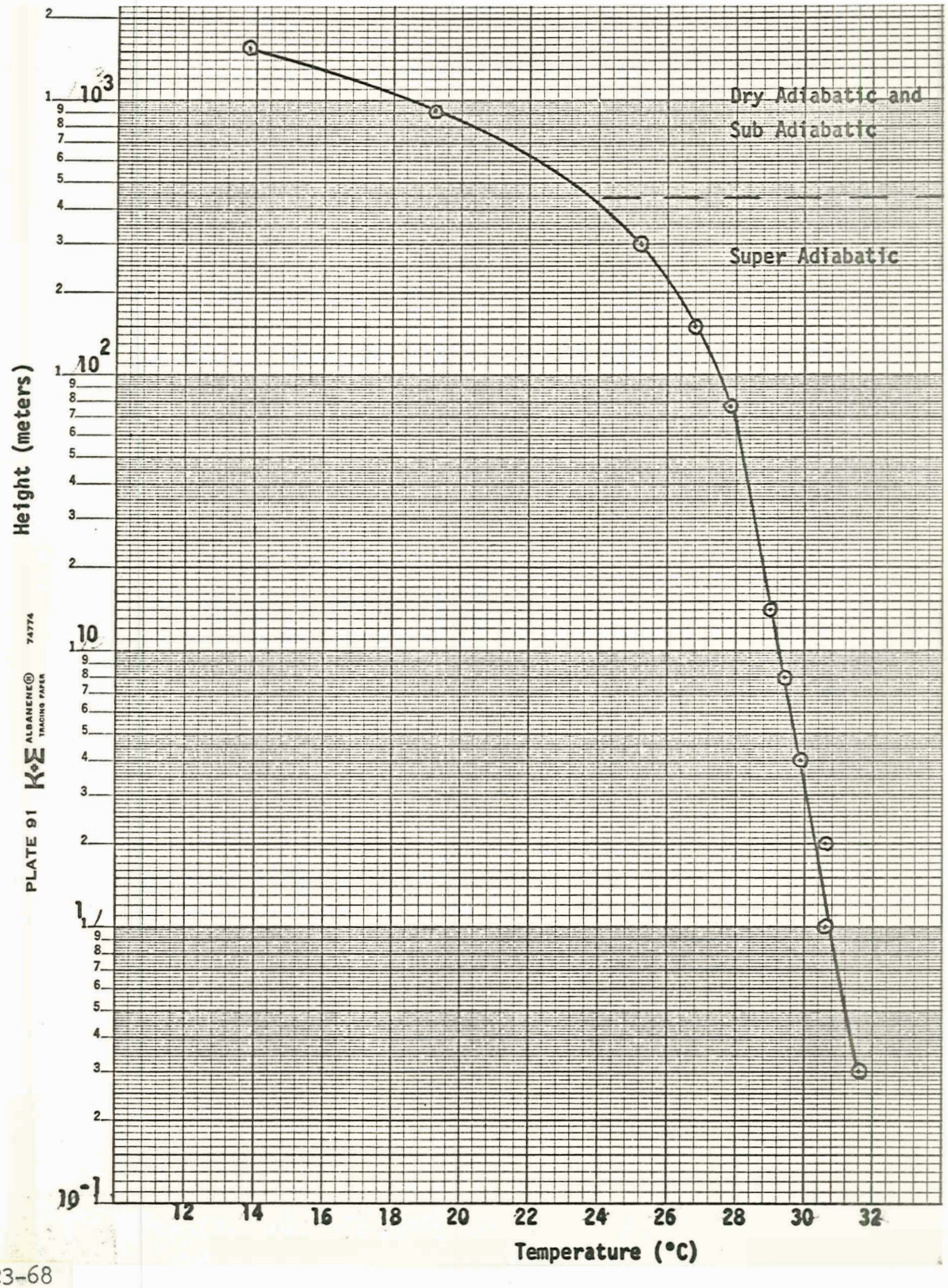
8-23-68

1345 PDT



8-23-68

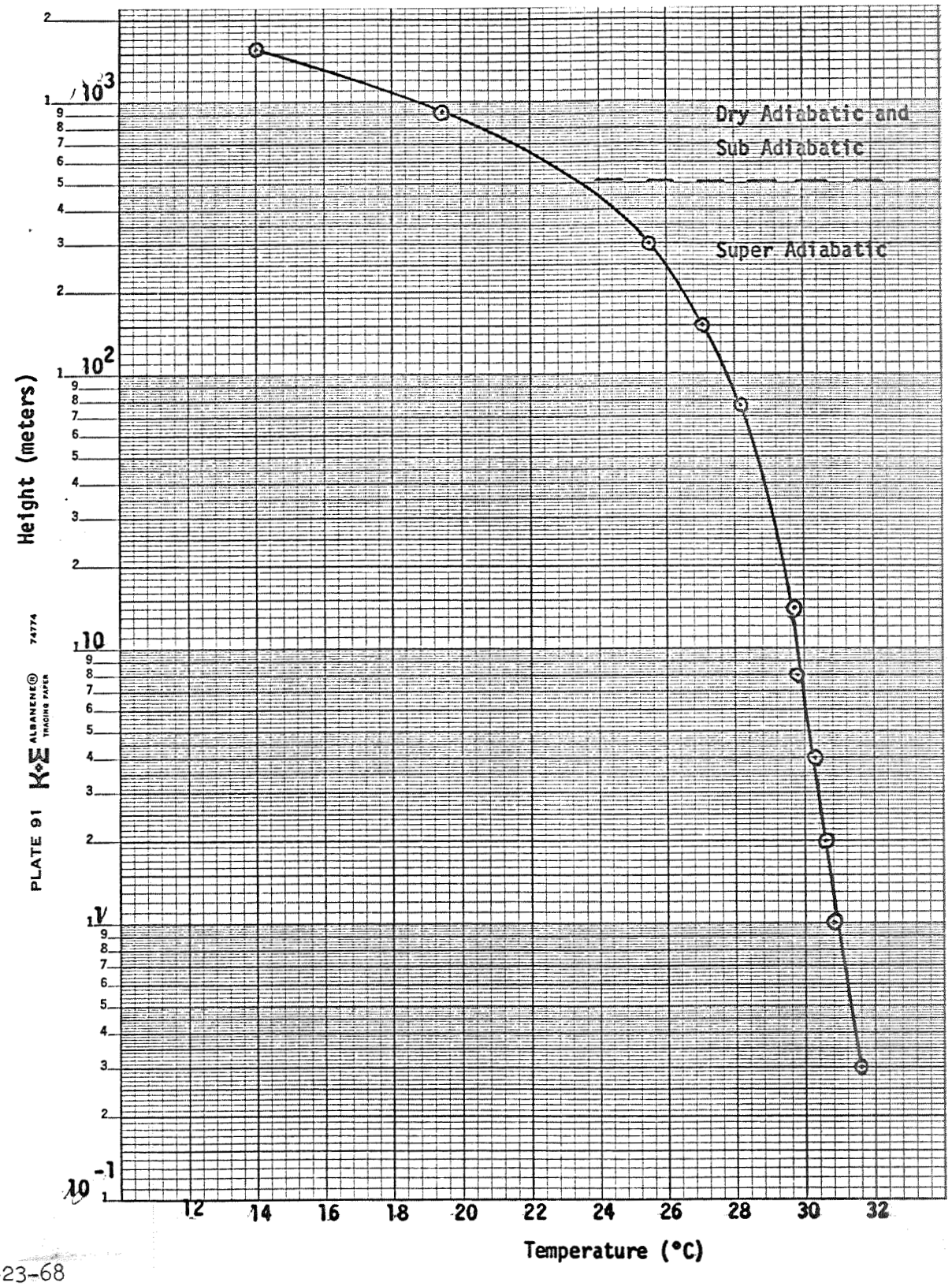
1400 PDT



8-23-68

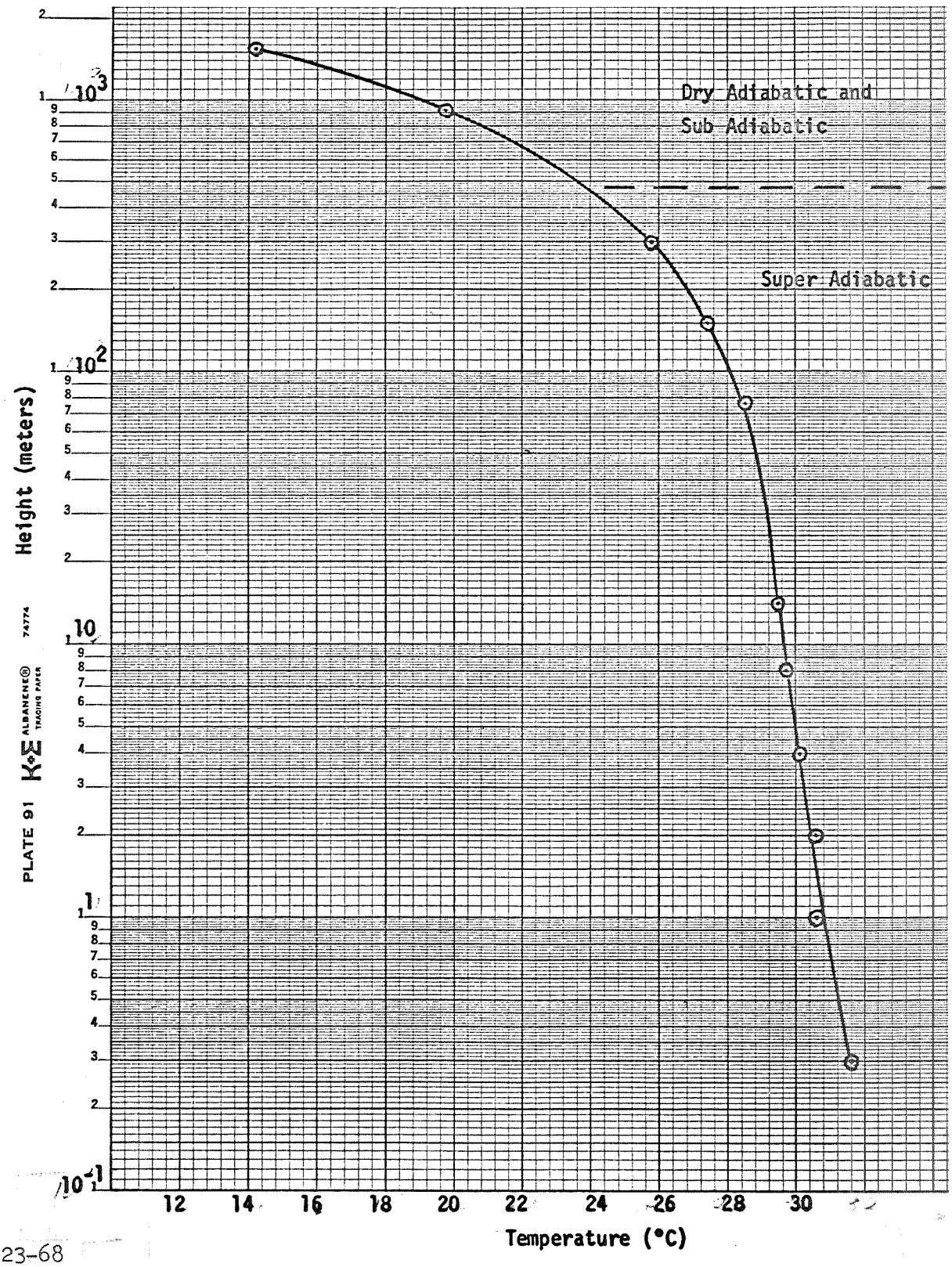
1415 PDT

M 30-692-6 (8-68)



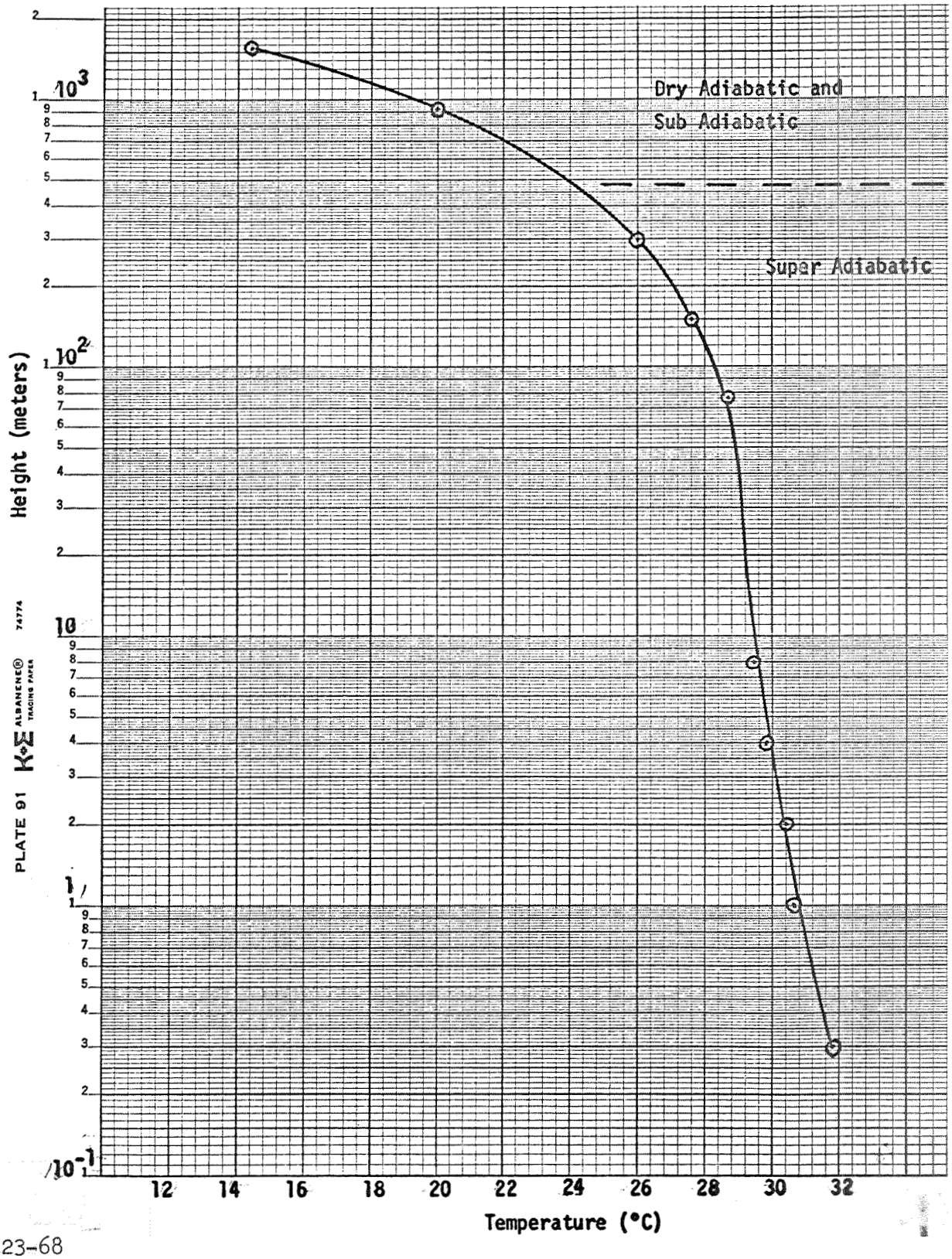
8-23-68

1430 PDT



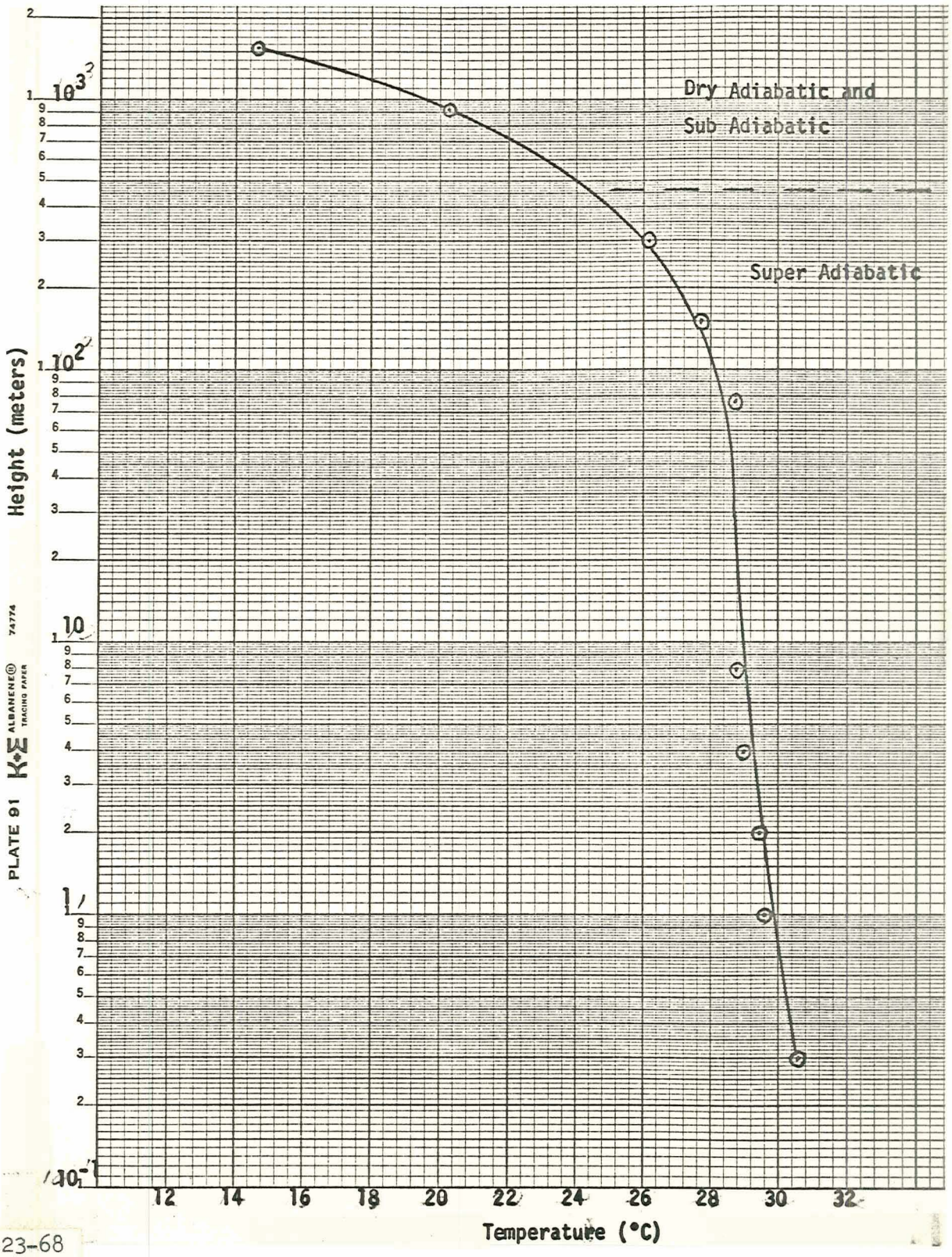
8-23-68

1445 PDT



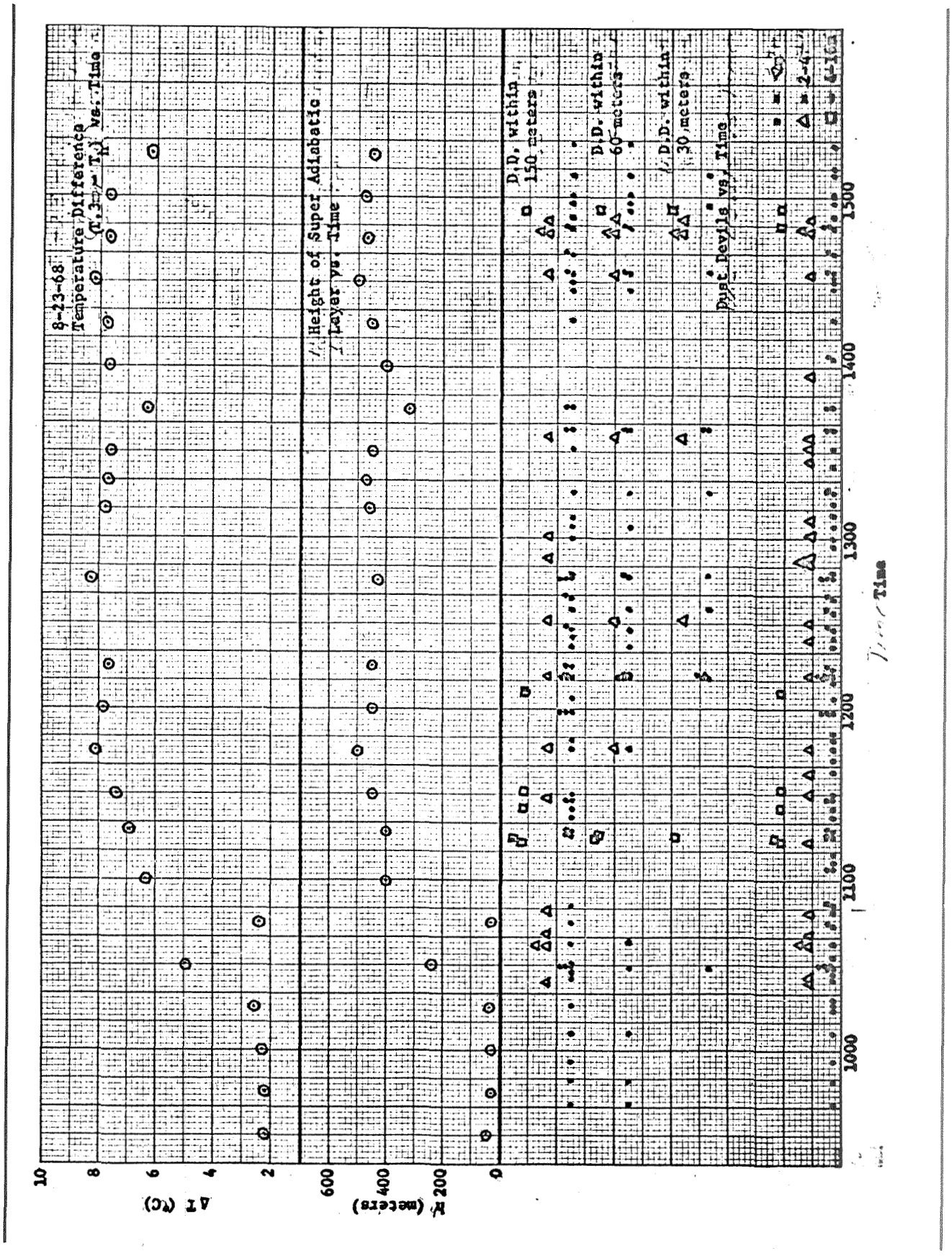
8-23-68

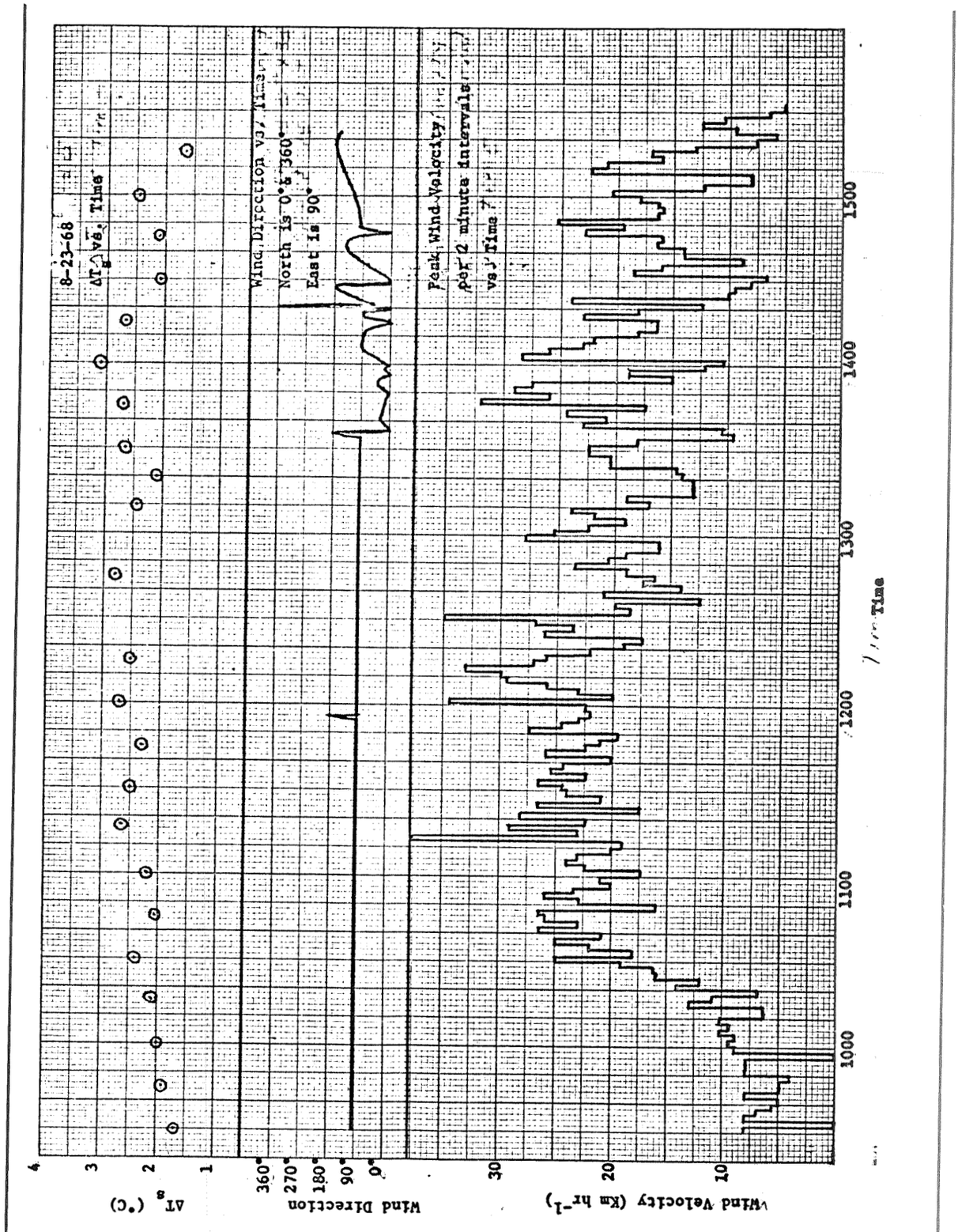
1500 PDT



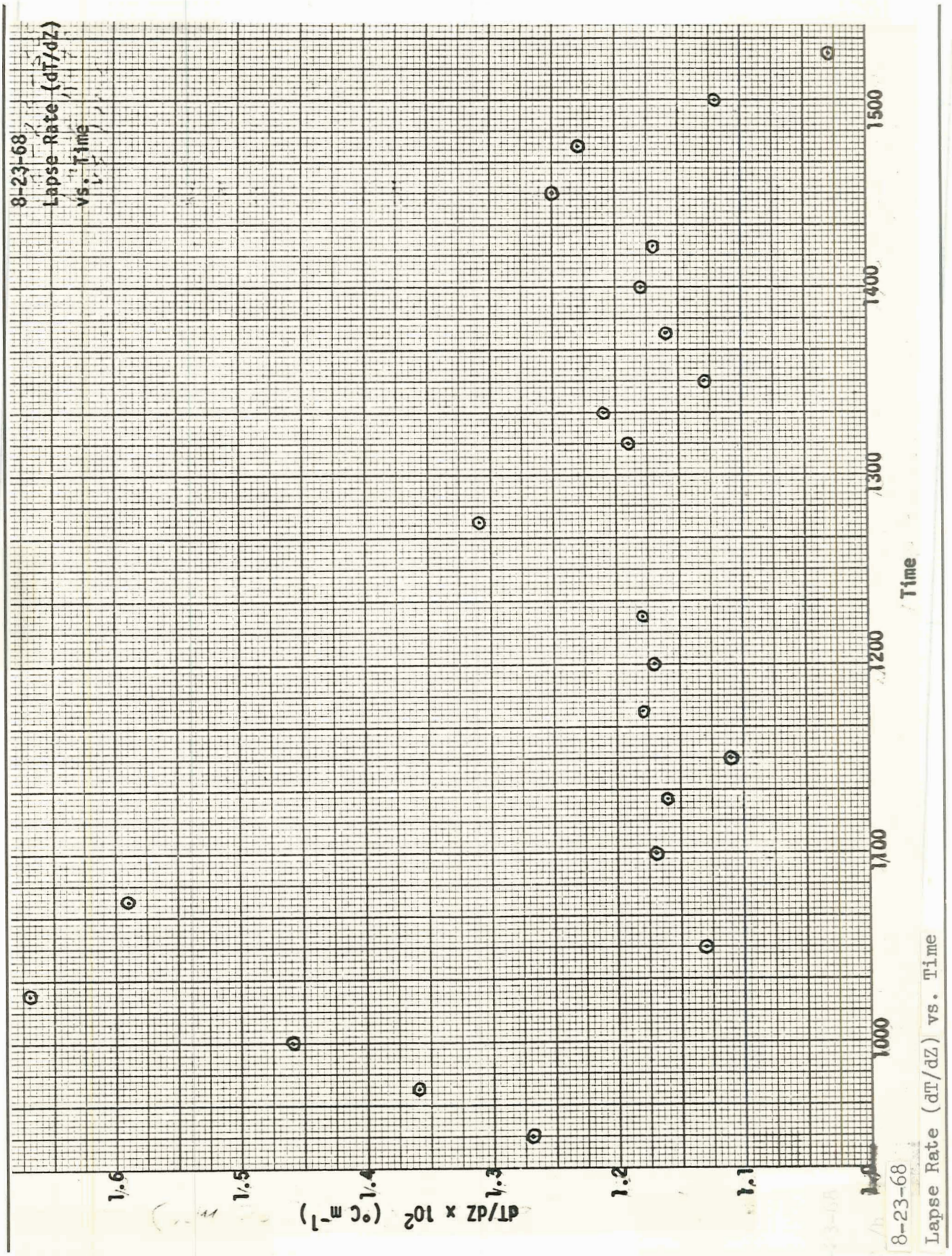
8-23-68

1515 PDT

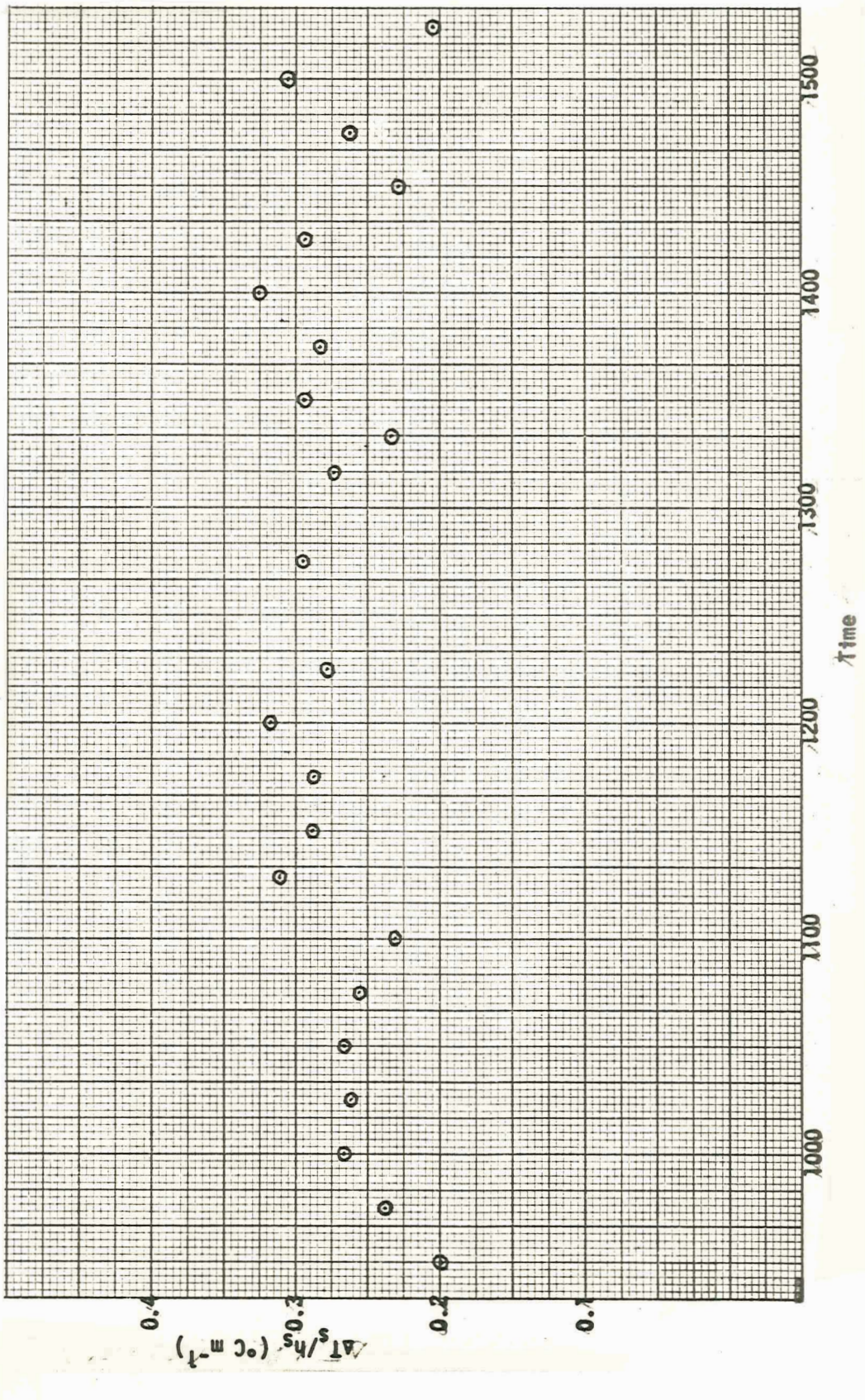

8-23-68
Temperature Difference
(T3m - T1) vs. Time
Height of Super Adiabatic
Layer vs. Time
D.D. within
150 meters
D.D. within
60 meters
D.D. within
30 meters
Dust Devils vs. Time
ΔT (°C)
h (meters)
Time
1000
1100
1200
1300
1400
1500


8-23-68
ΔTs vs. Time
Wind Direction vs. Time
North is 0°&360°
East is 90°
Peak Wind Velocity
per 2 minute intervals
vs. Time
ΔTs (°C)
Wind Direction
Wind Velocity (Km hr⁻¹)
Time
1000
1100
1200
1300
1400
1500
0°
90°
180°
270°
360°
10
20
30
1
2
3
4

0-692-9 (8-68)



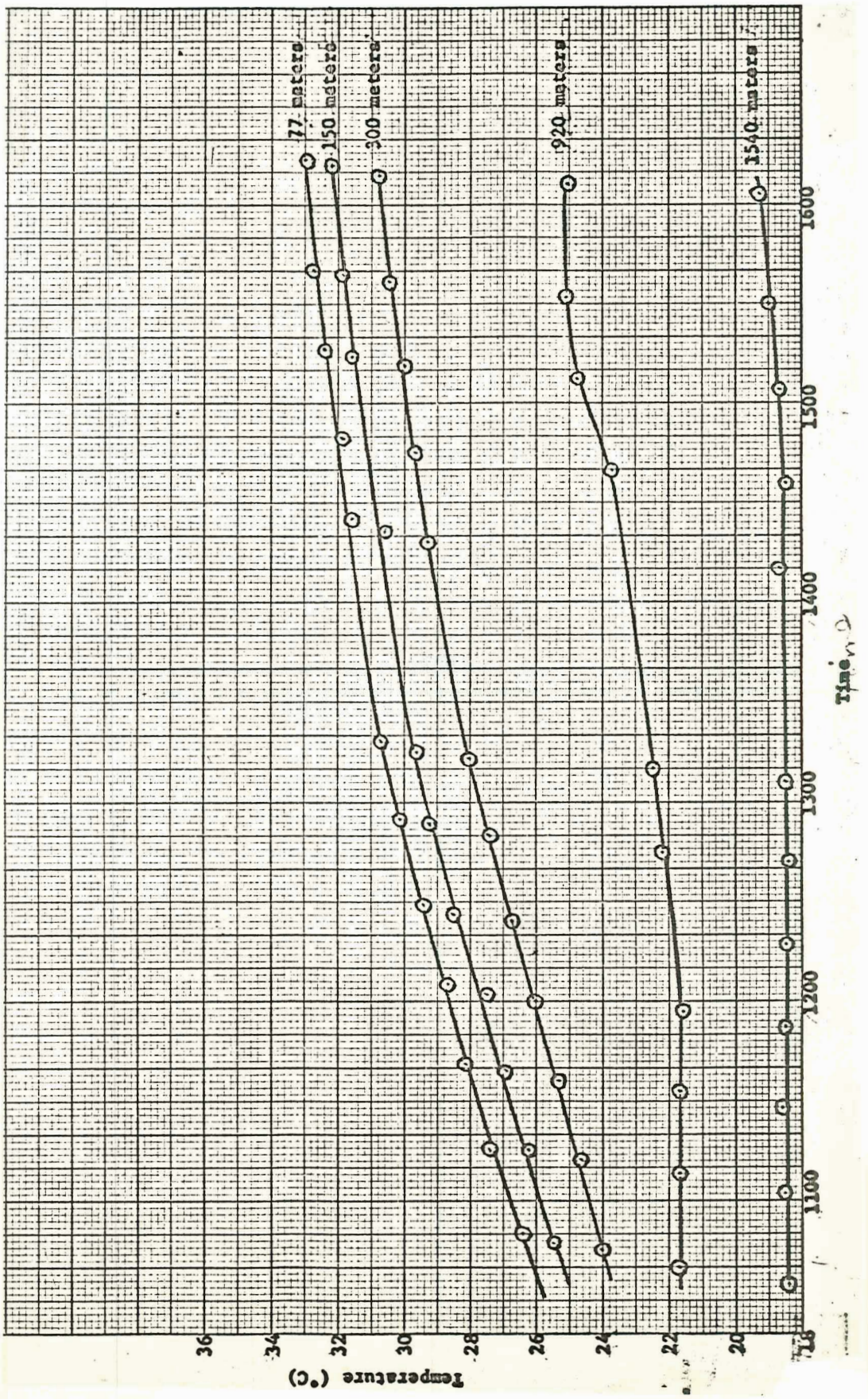
8-23-68
Lapse Rate (dT/dZ) vs. Time



8-23-68

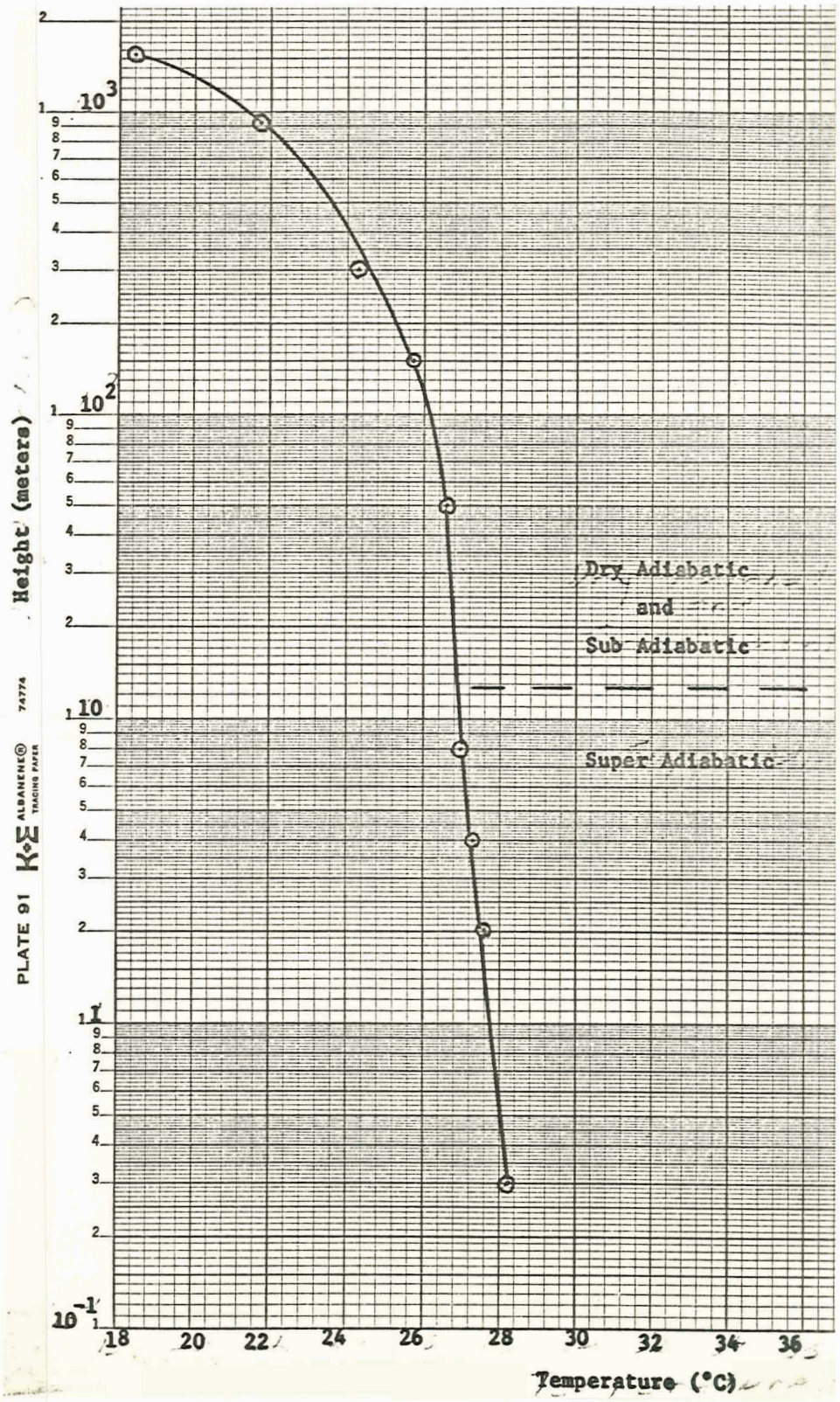
$\Delta T_s/h_s$ vs. Time

DATA FOR 8-28-68



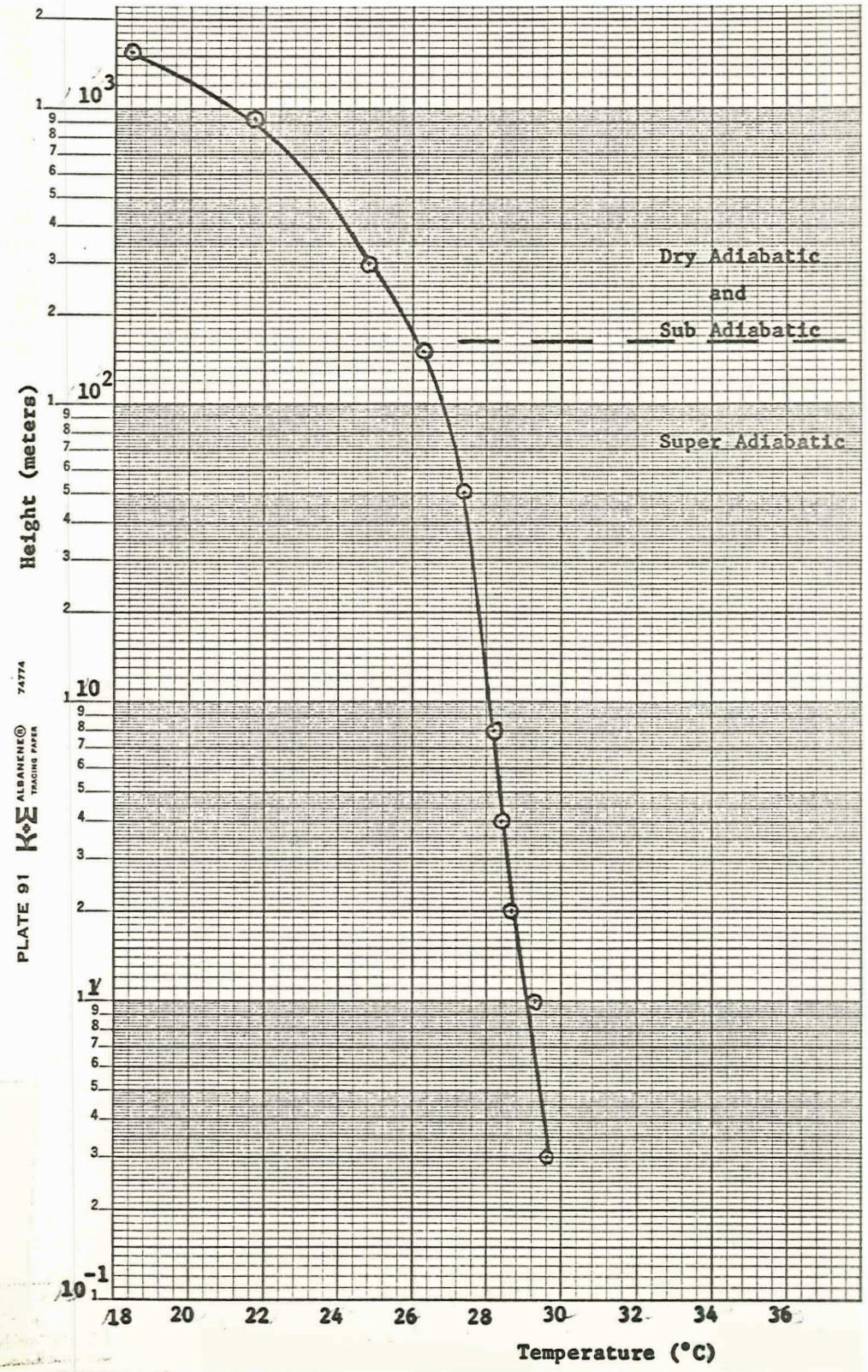
8-28-68

Aircraft Soundings



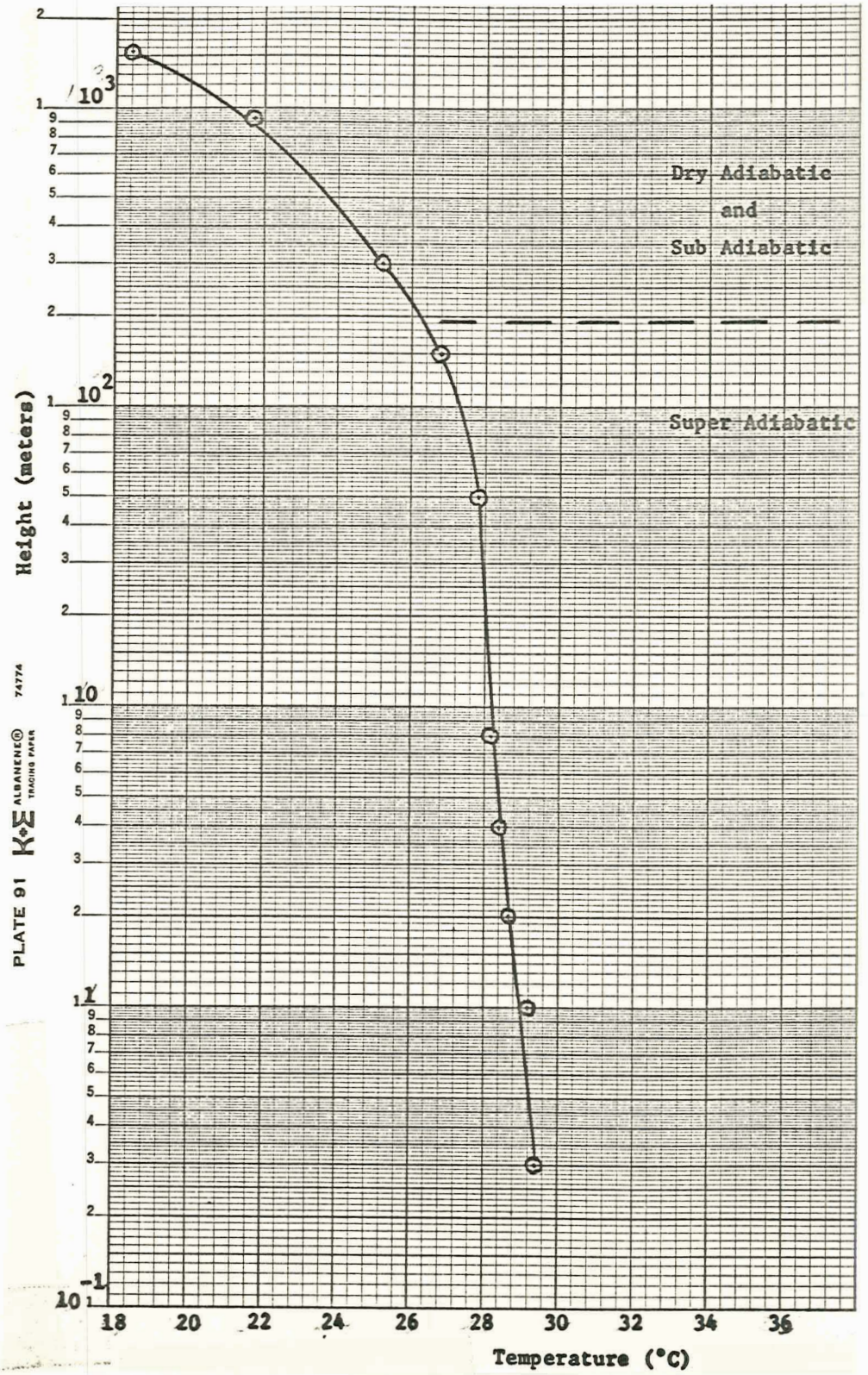
8-28-68

1055 PDT



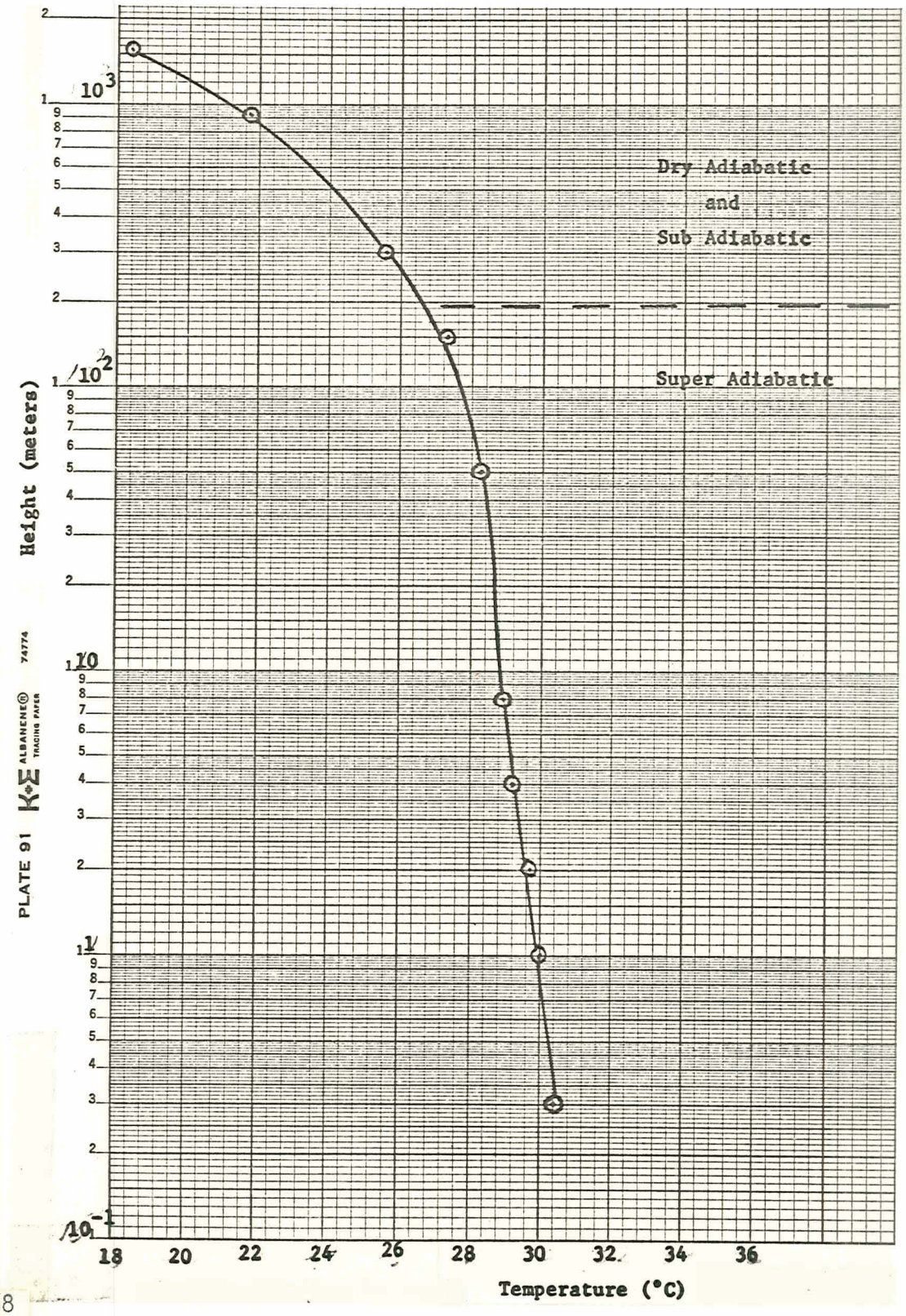
8-28-68

1115 PDT



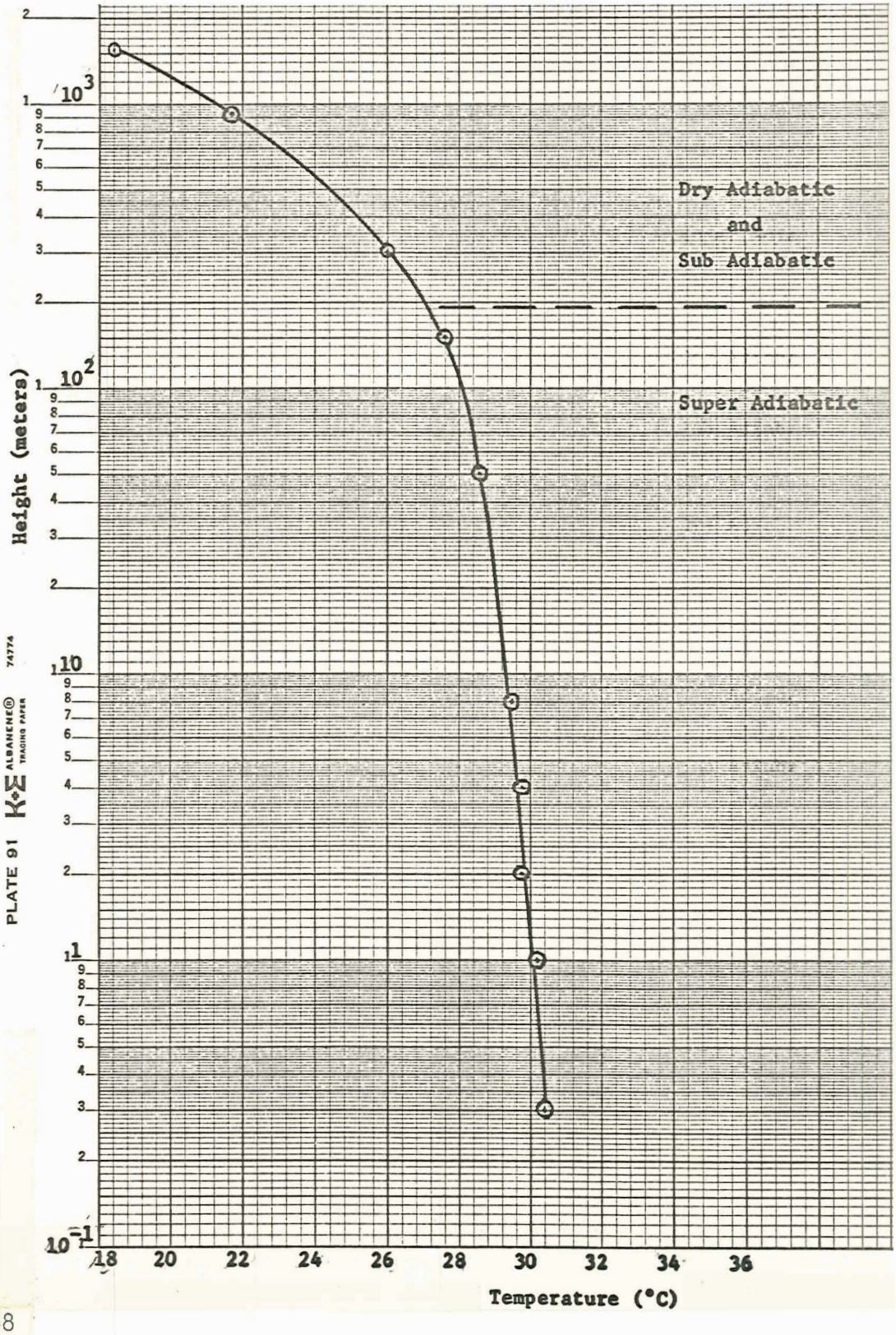
8-28-68

1130 PDT



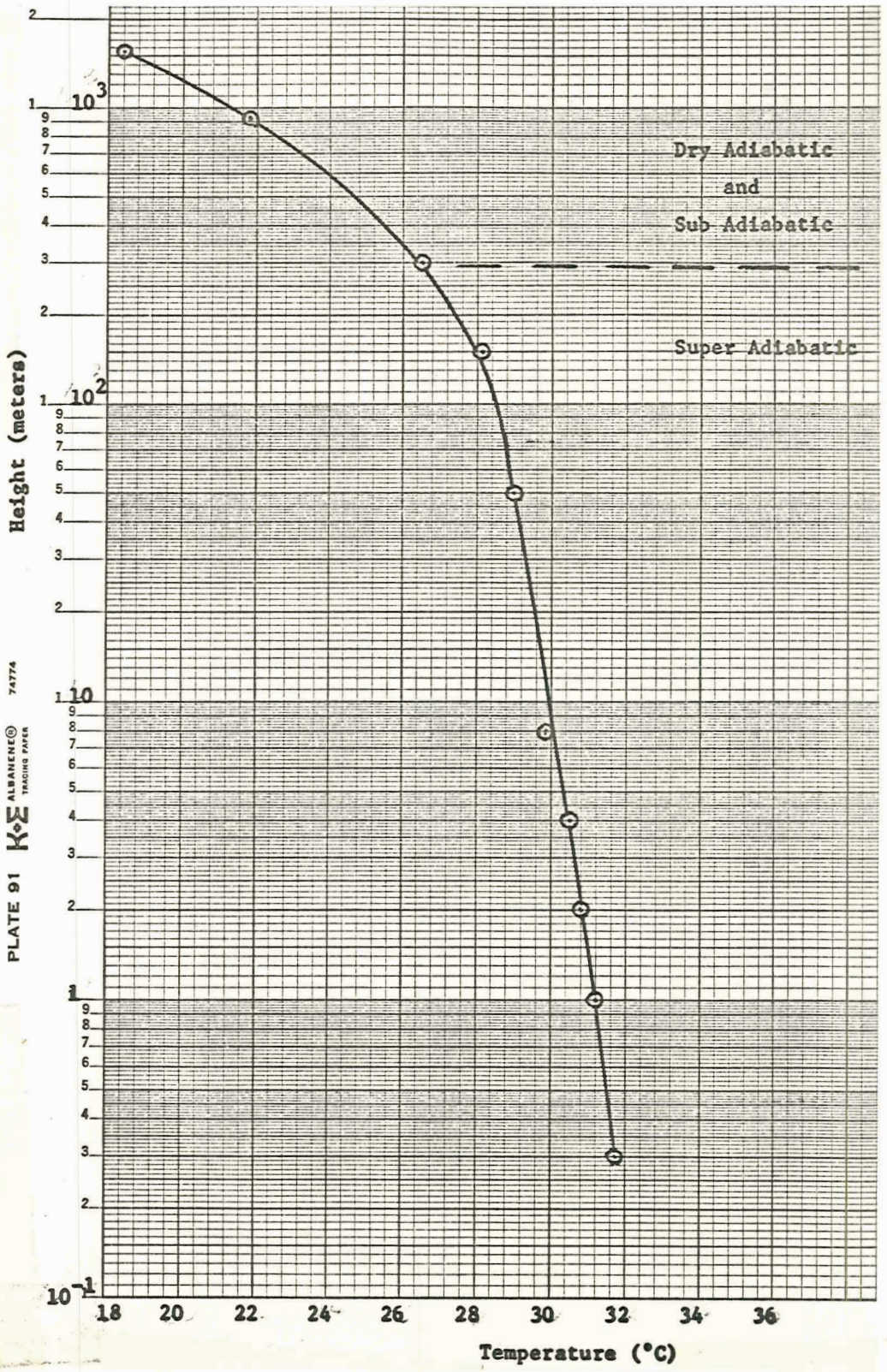
8-28-68

1145 PDT



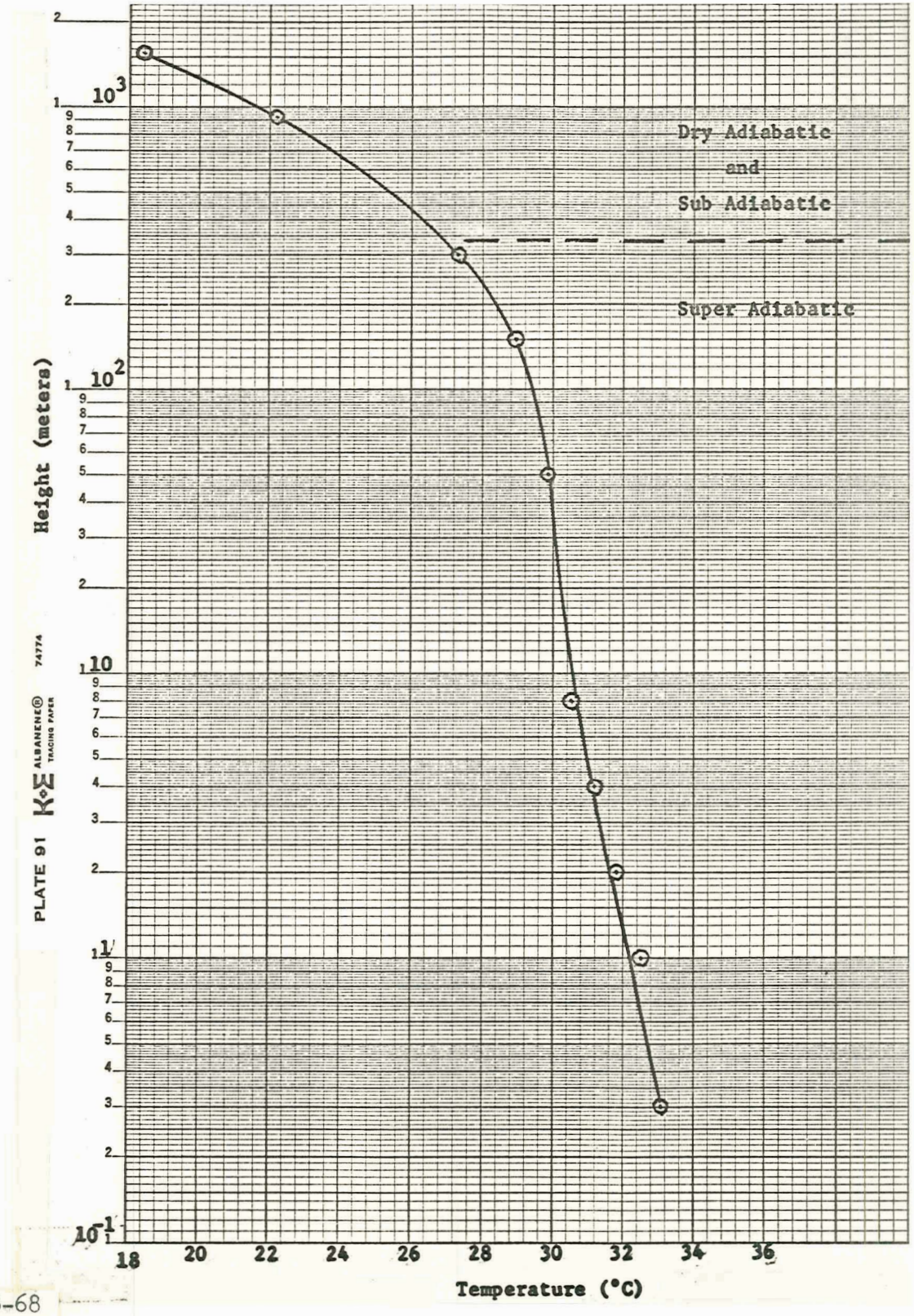
8-28-68

1200 PDT



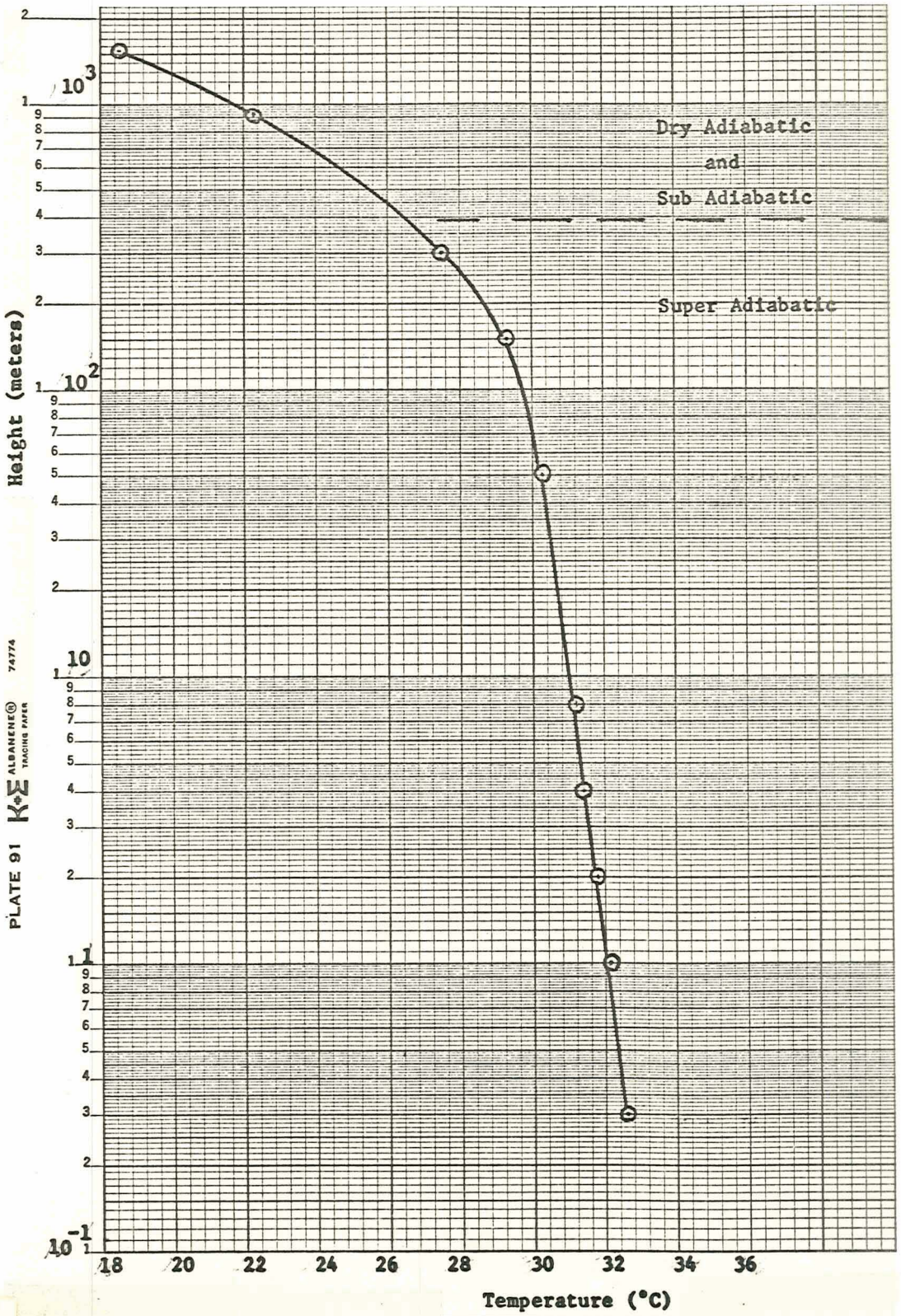
8-28-68

1215 PDT



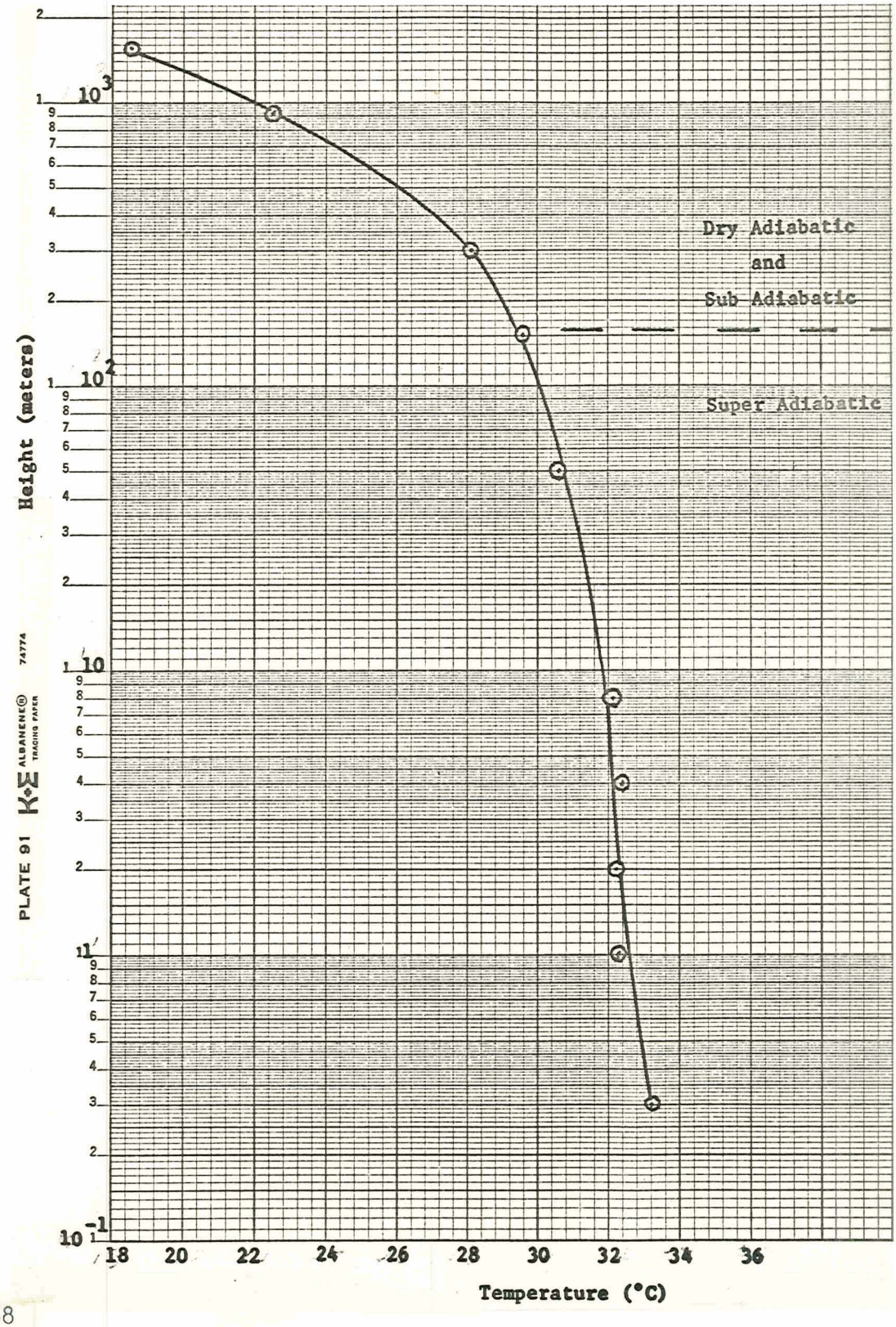
8-28-68

1245 PDT



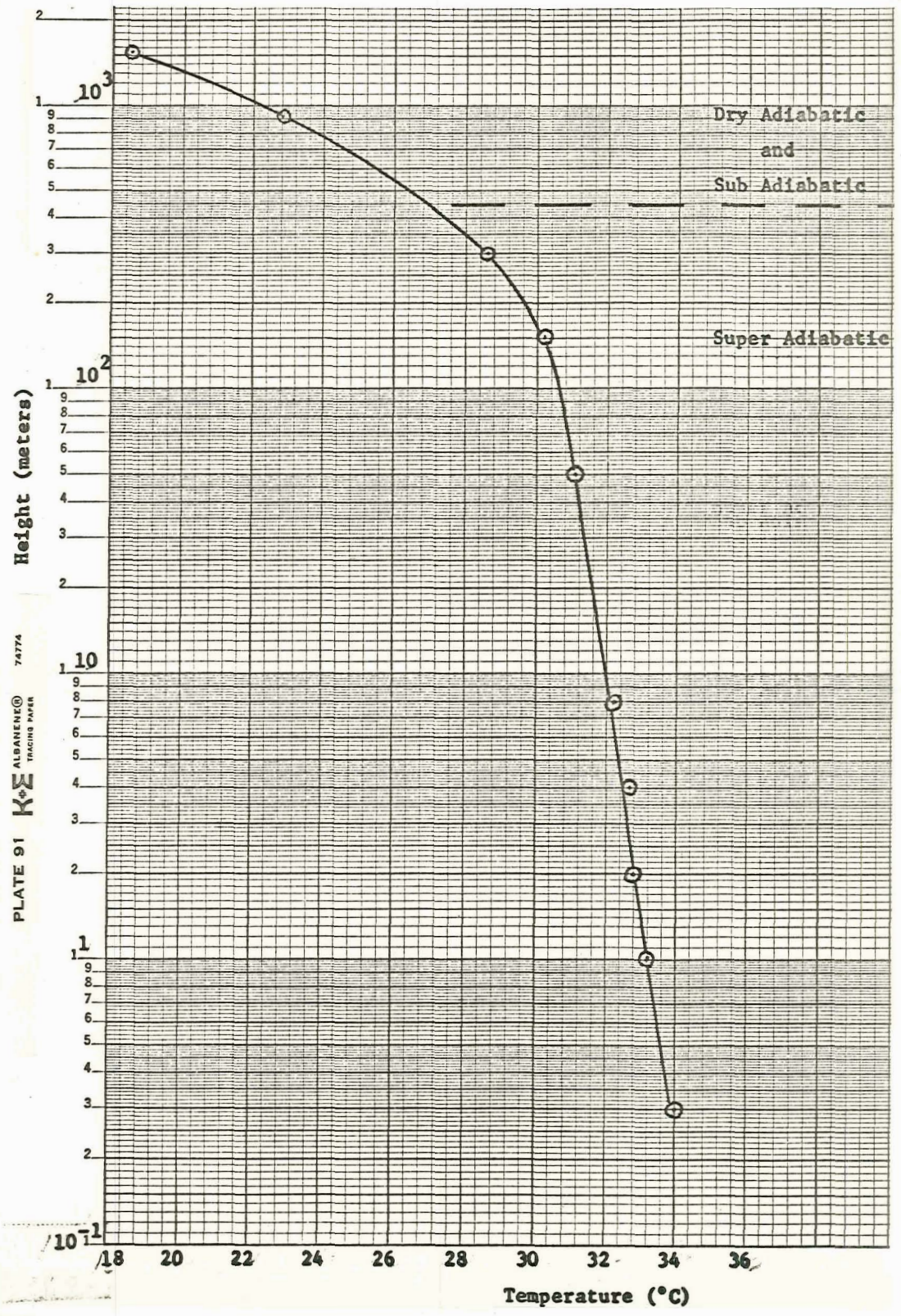
8-28-68

1300 PDT



8-28-68

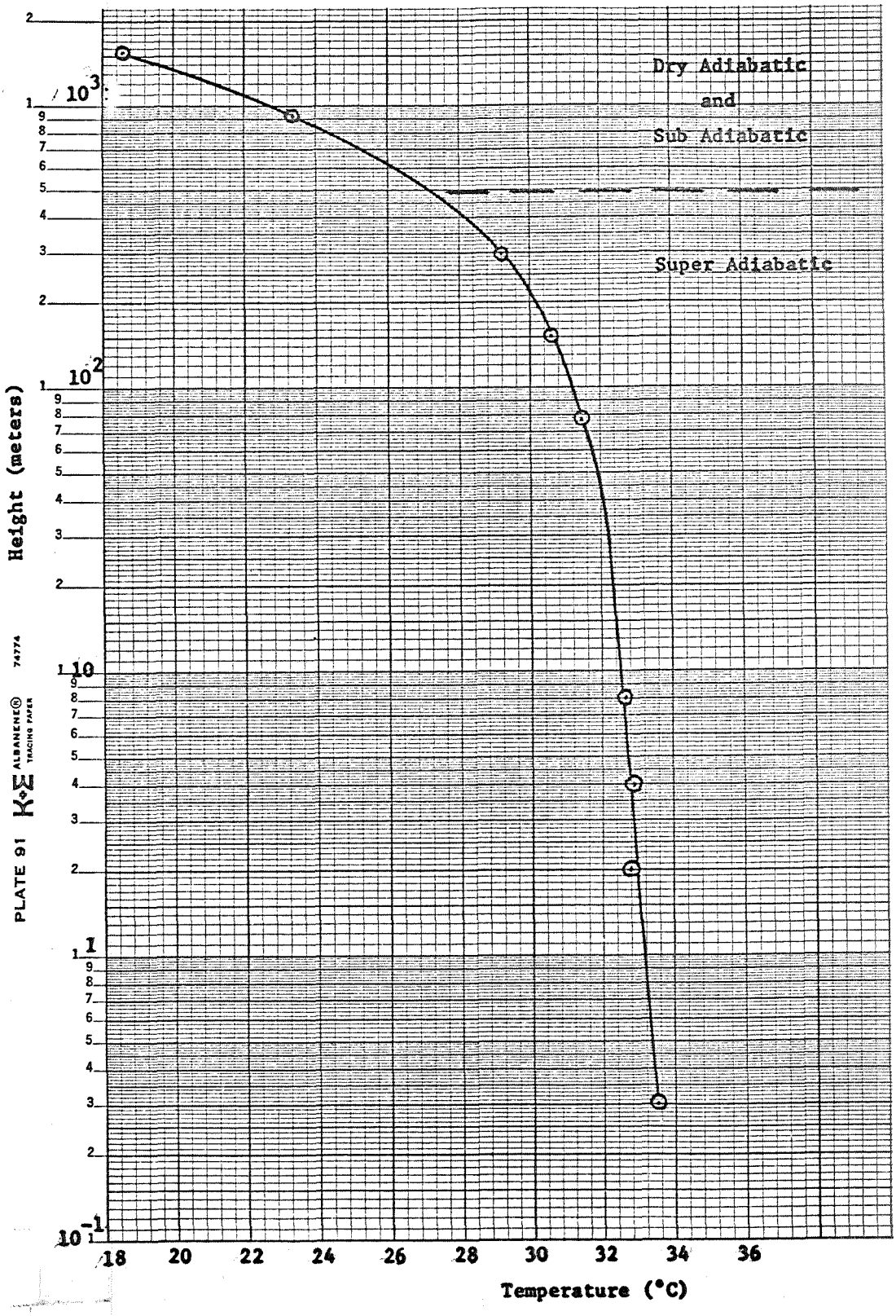
1315 PDT



8-28-68

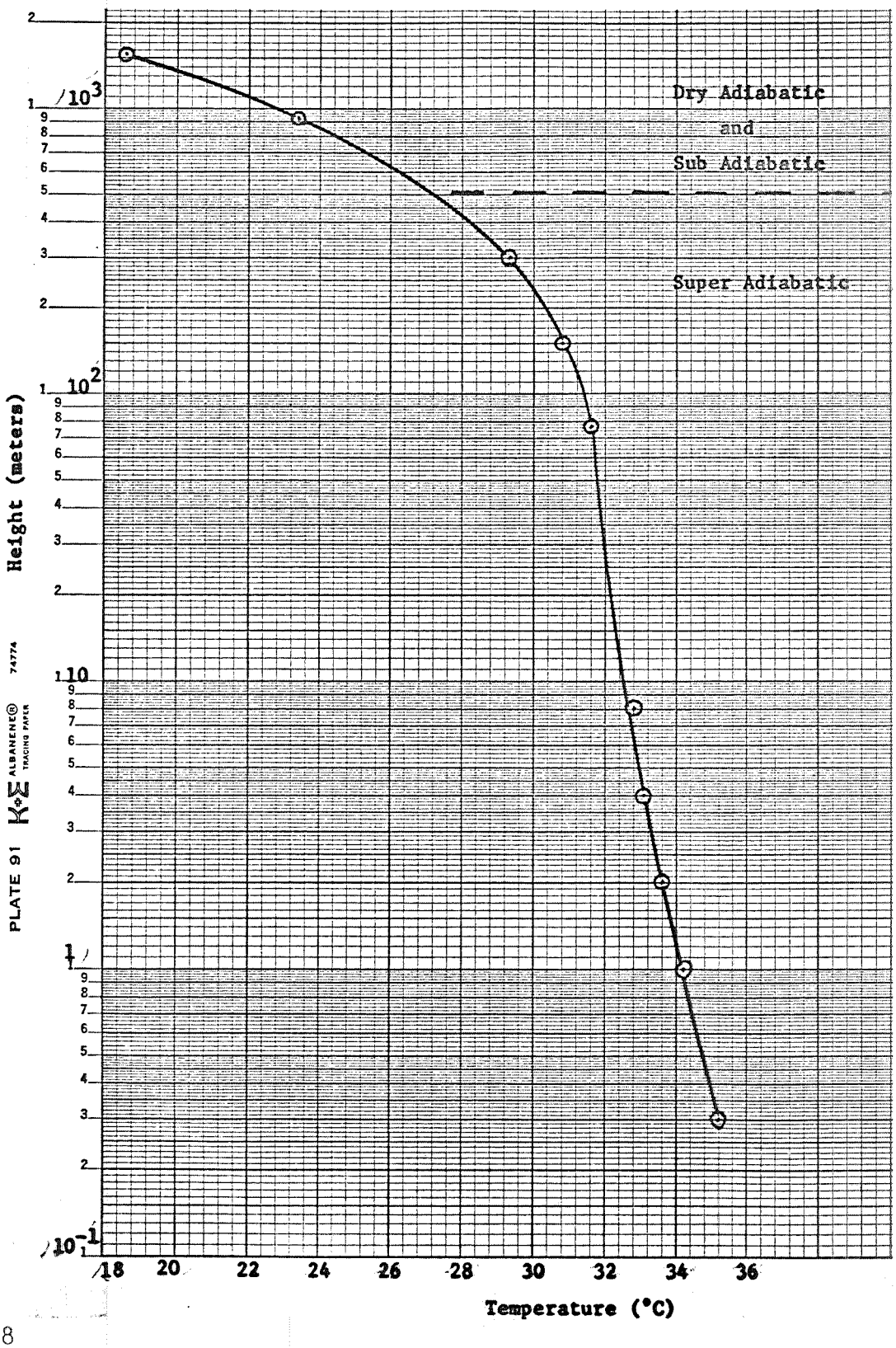
1340 PDT

M 30-692-6 (8-68)



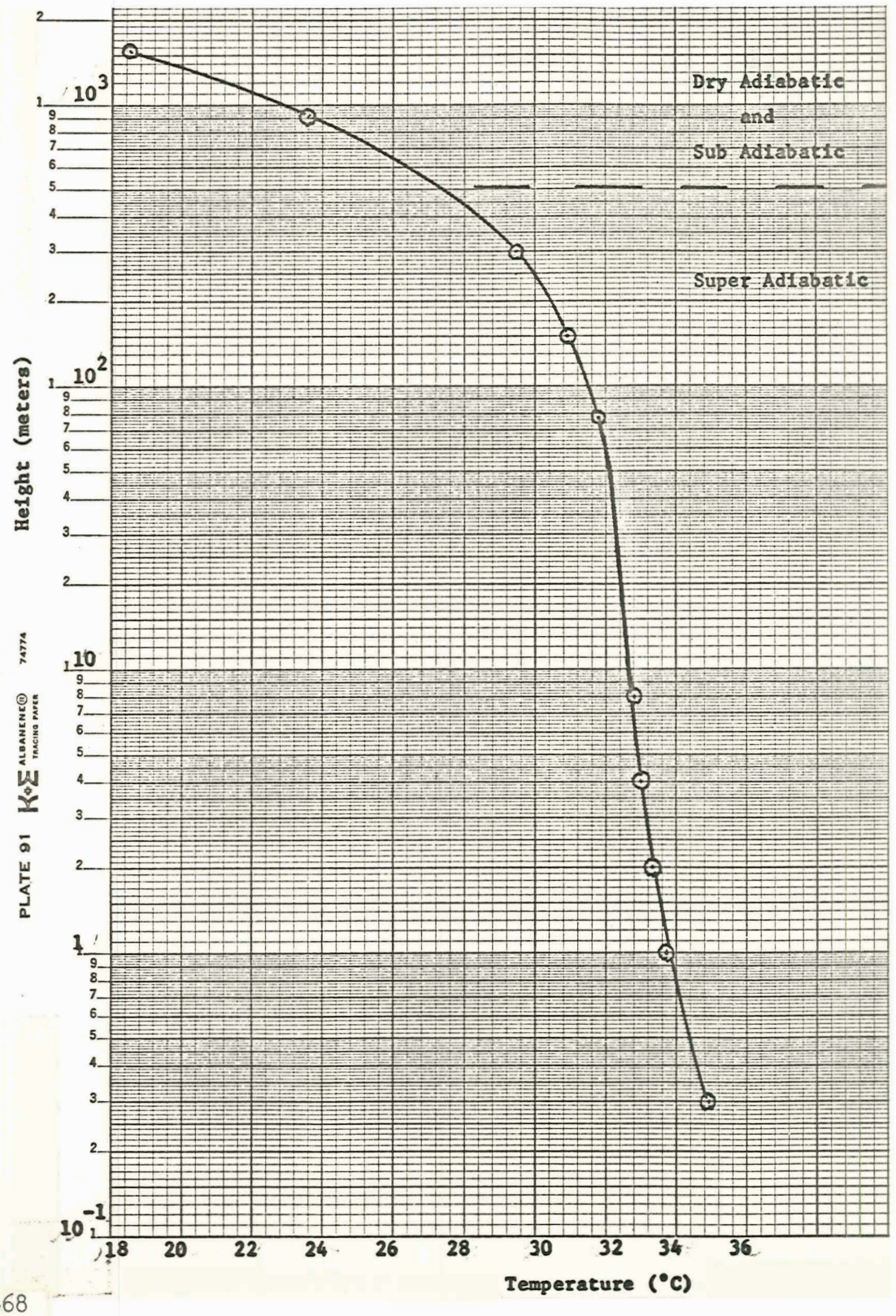
8-28-68

1410 PDT



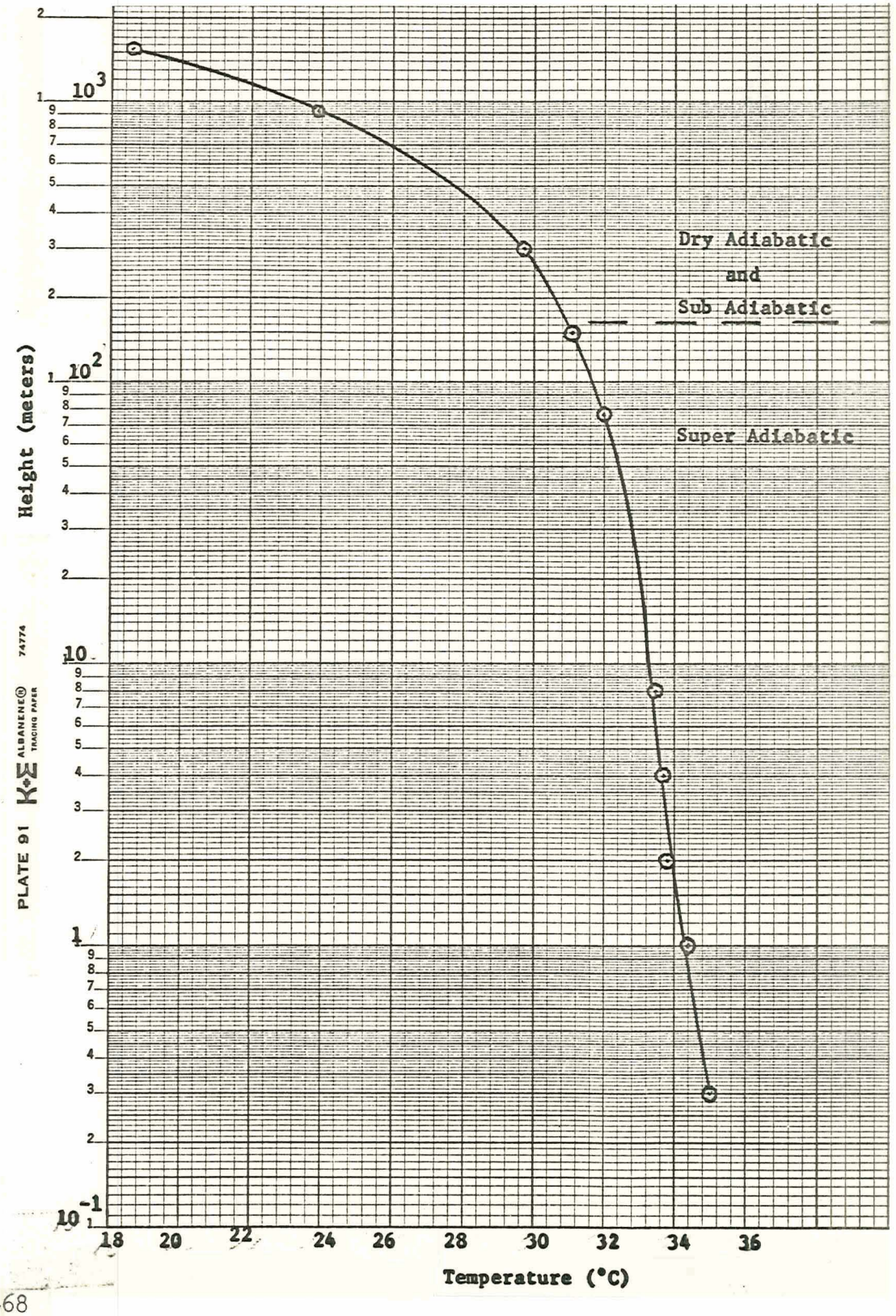
8-28-68

1420 PDT



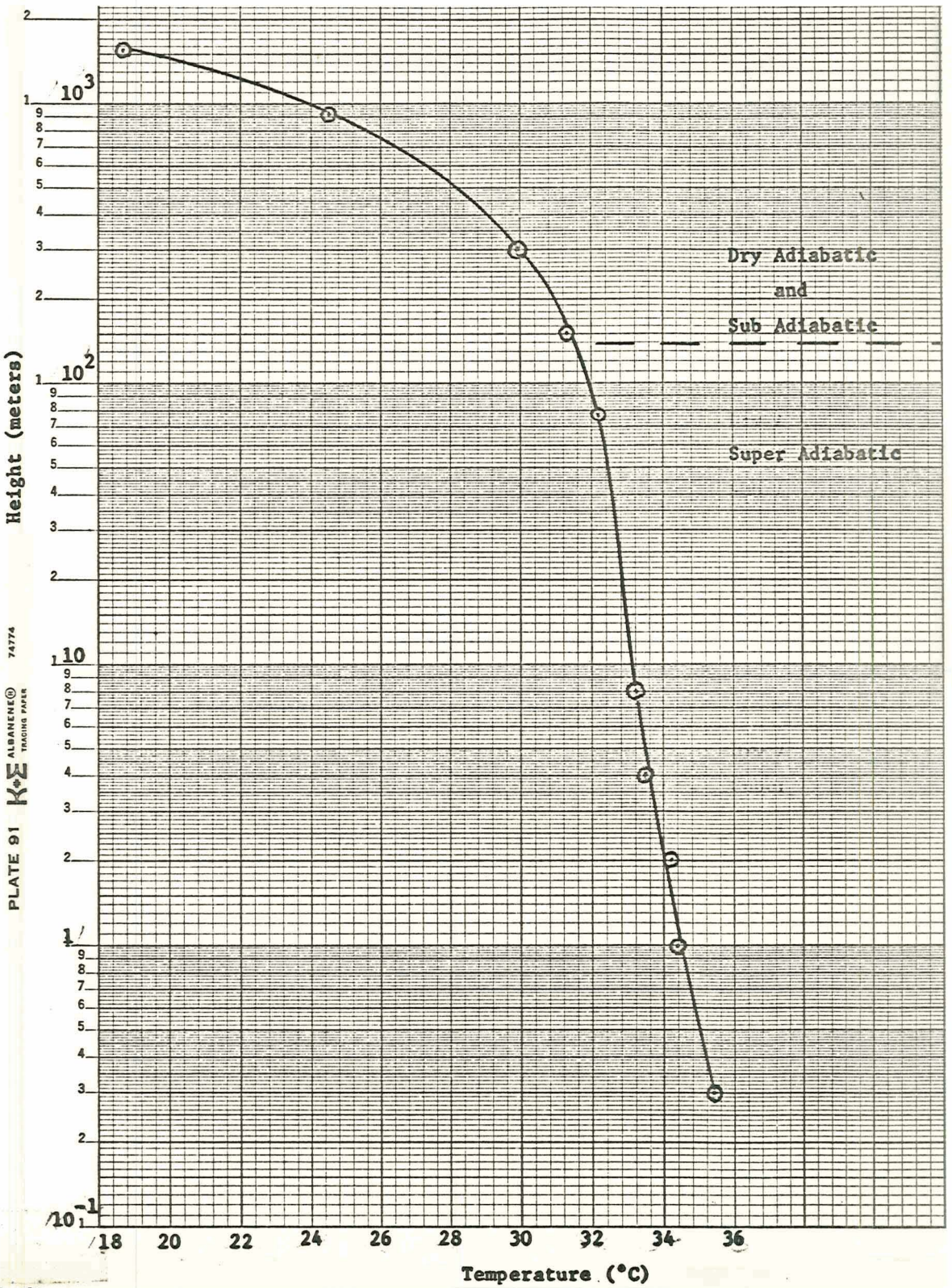
8-28-68

1430 PDT



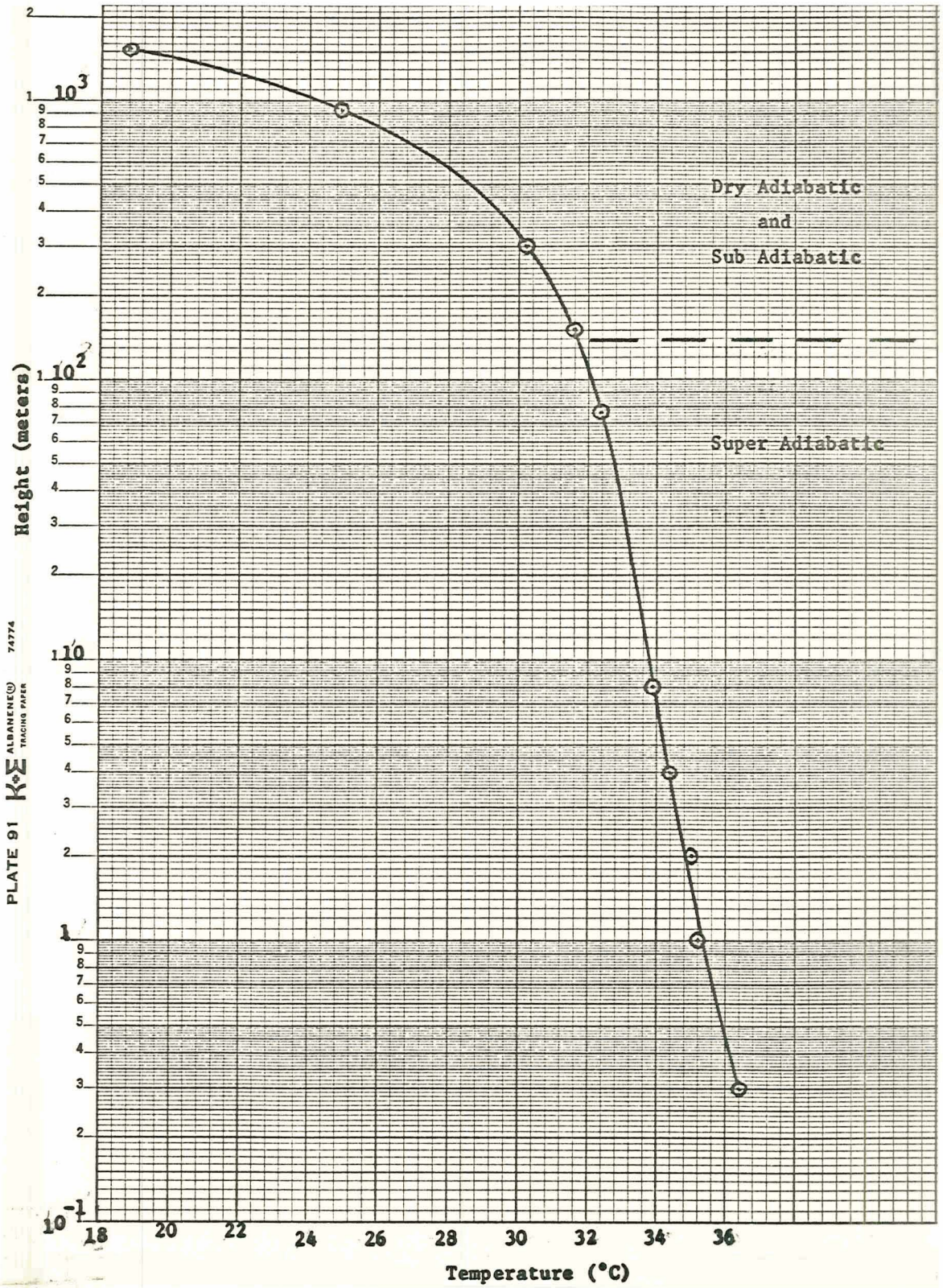
8-28-68

1445 PDT



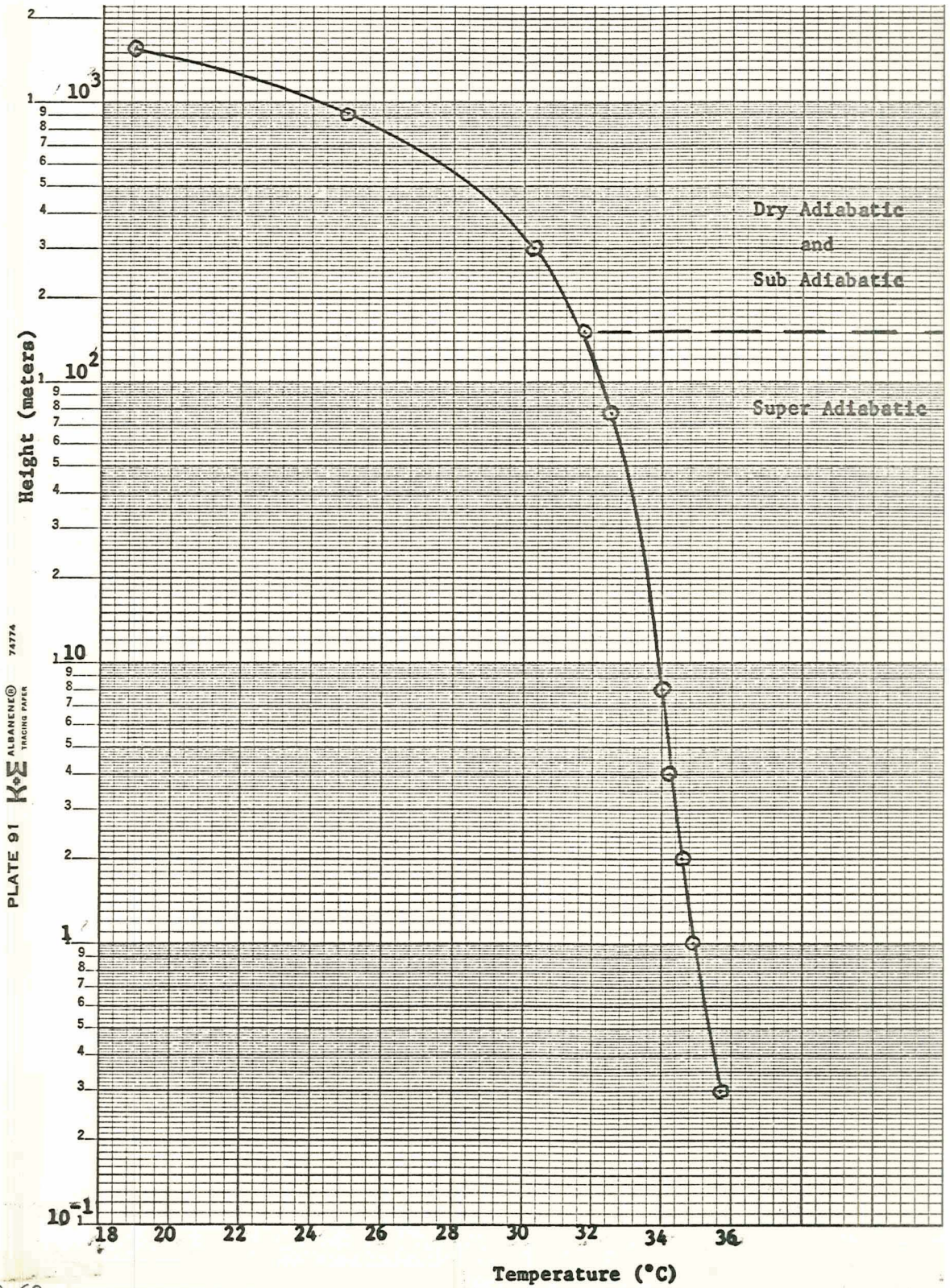
8-28-68

1500 PDT



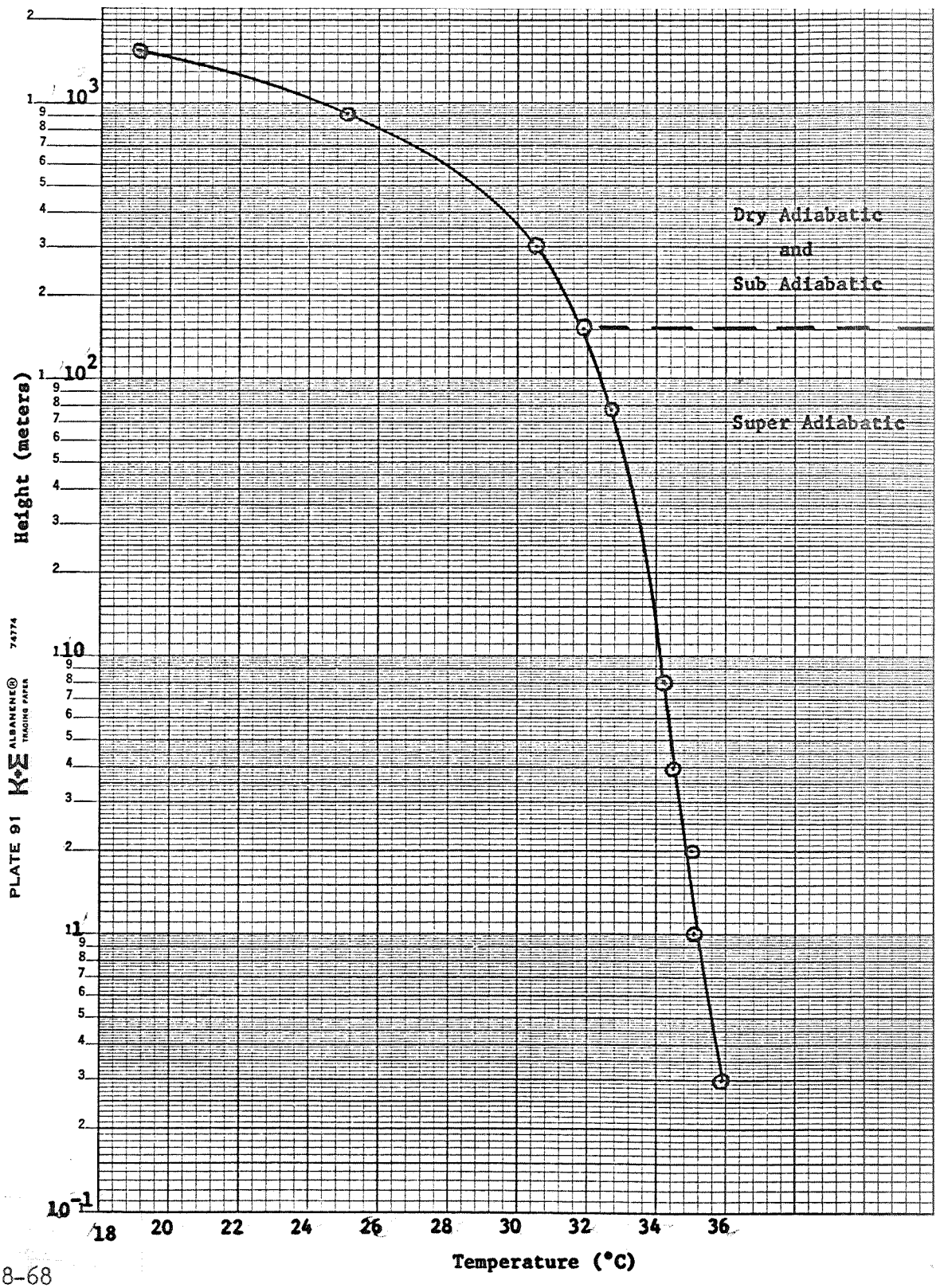
8-28-68

1518 PDT



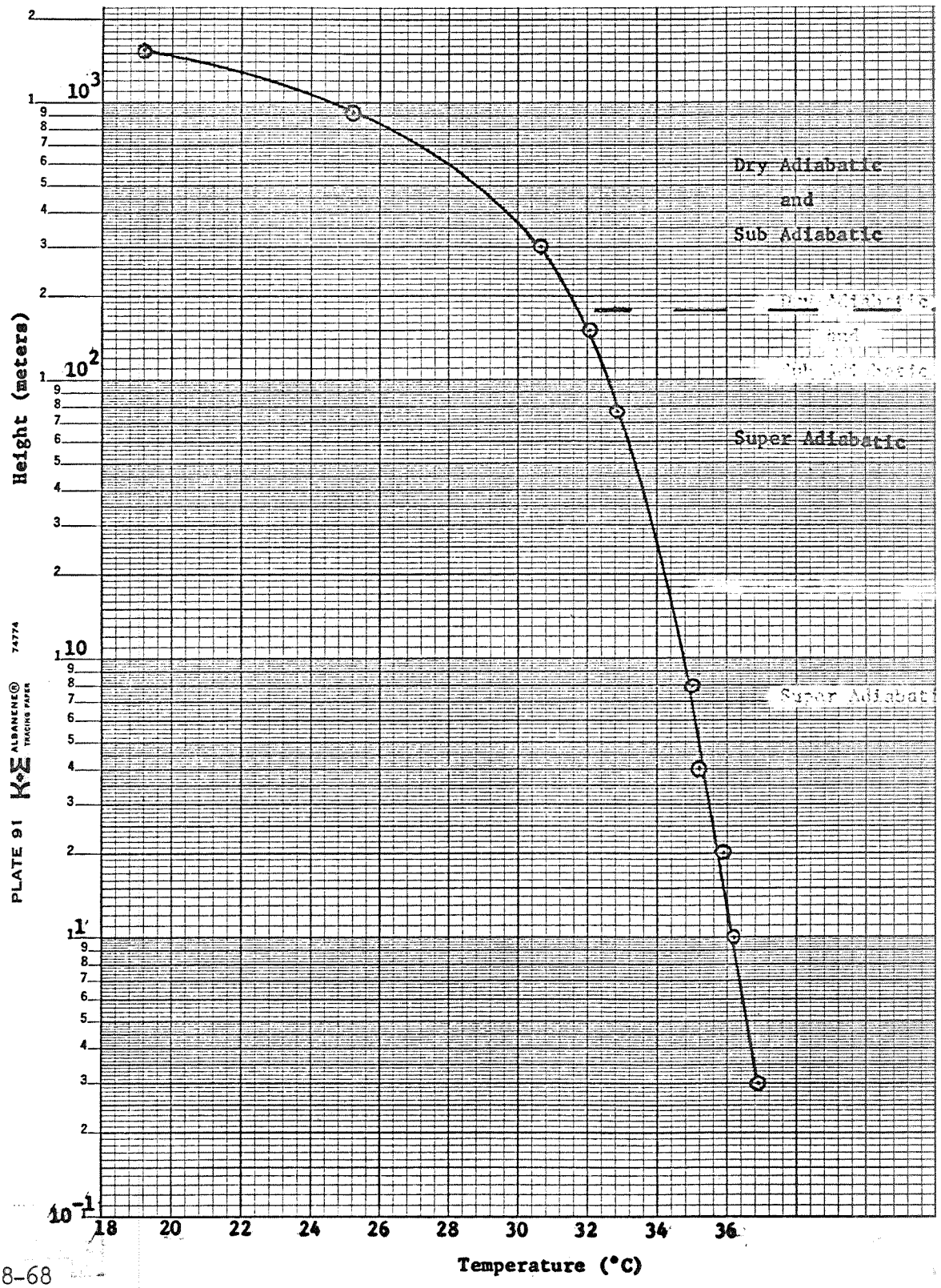
8-28-68

1530 PDT



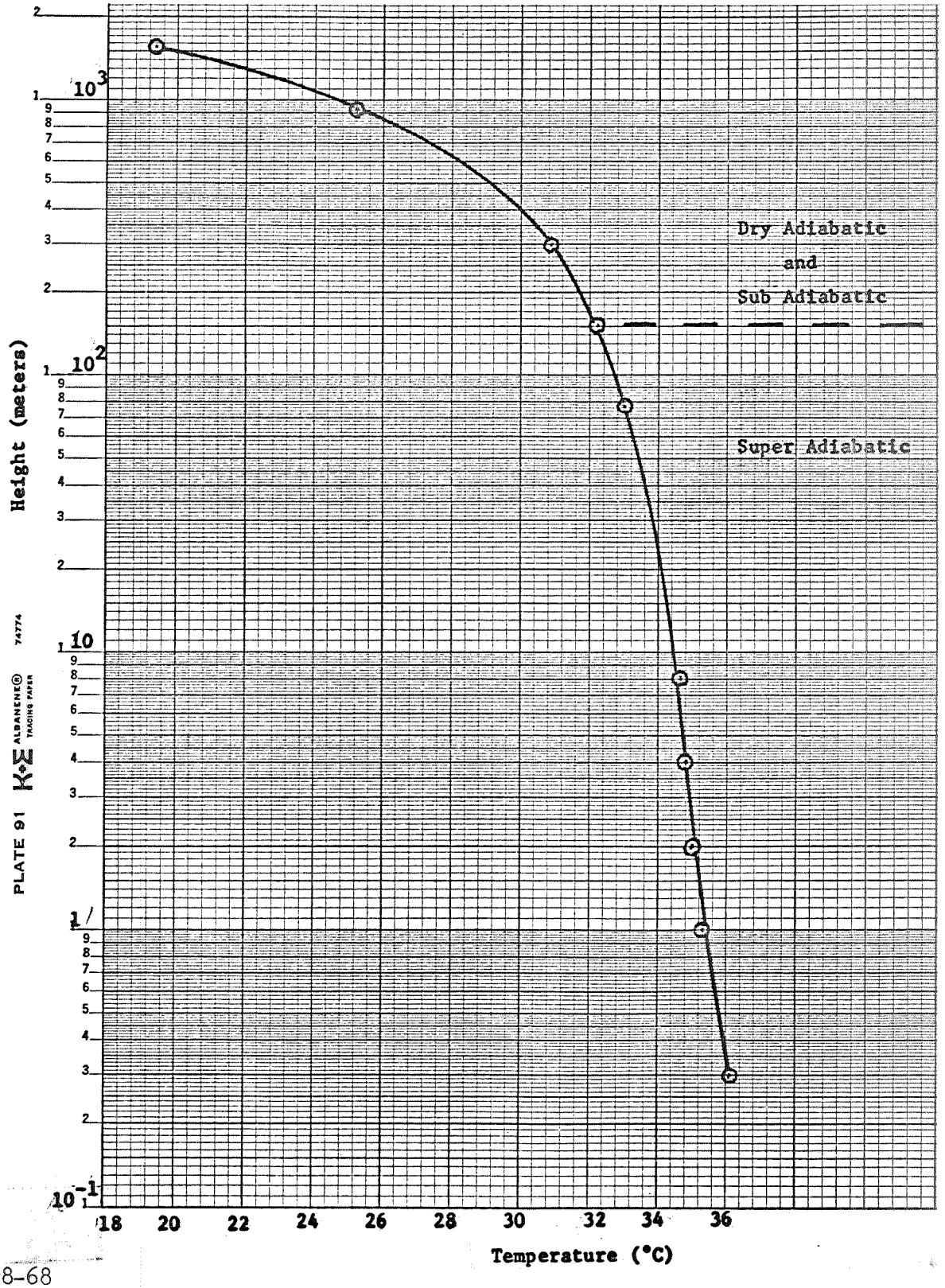
8-28-68

1545 PDT



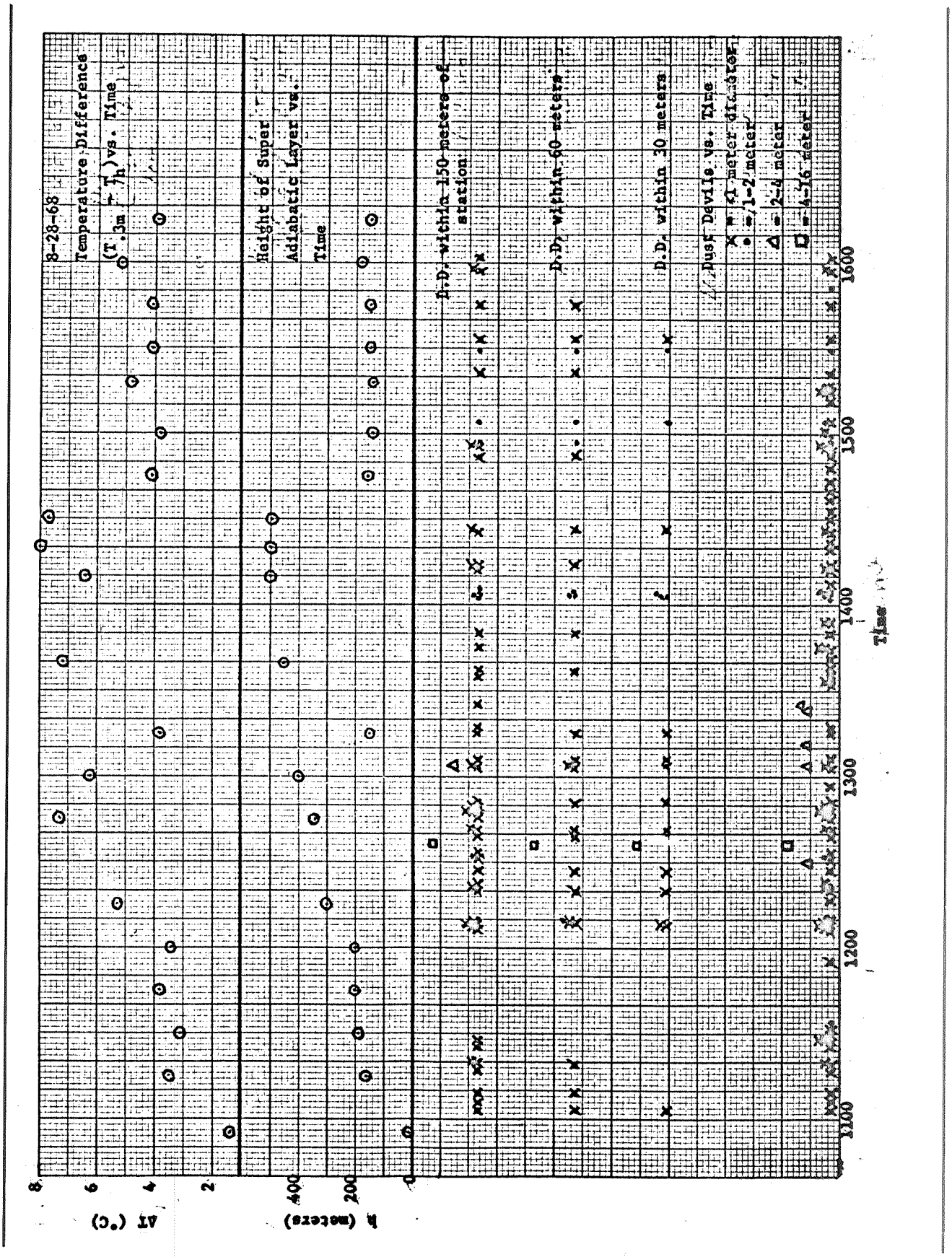
8-28-68

1600 PDT

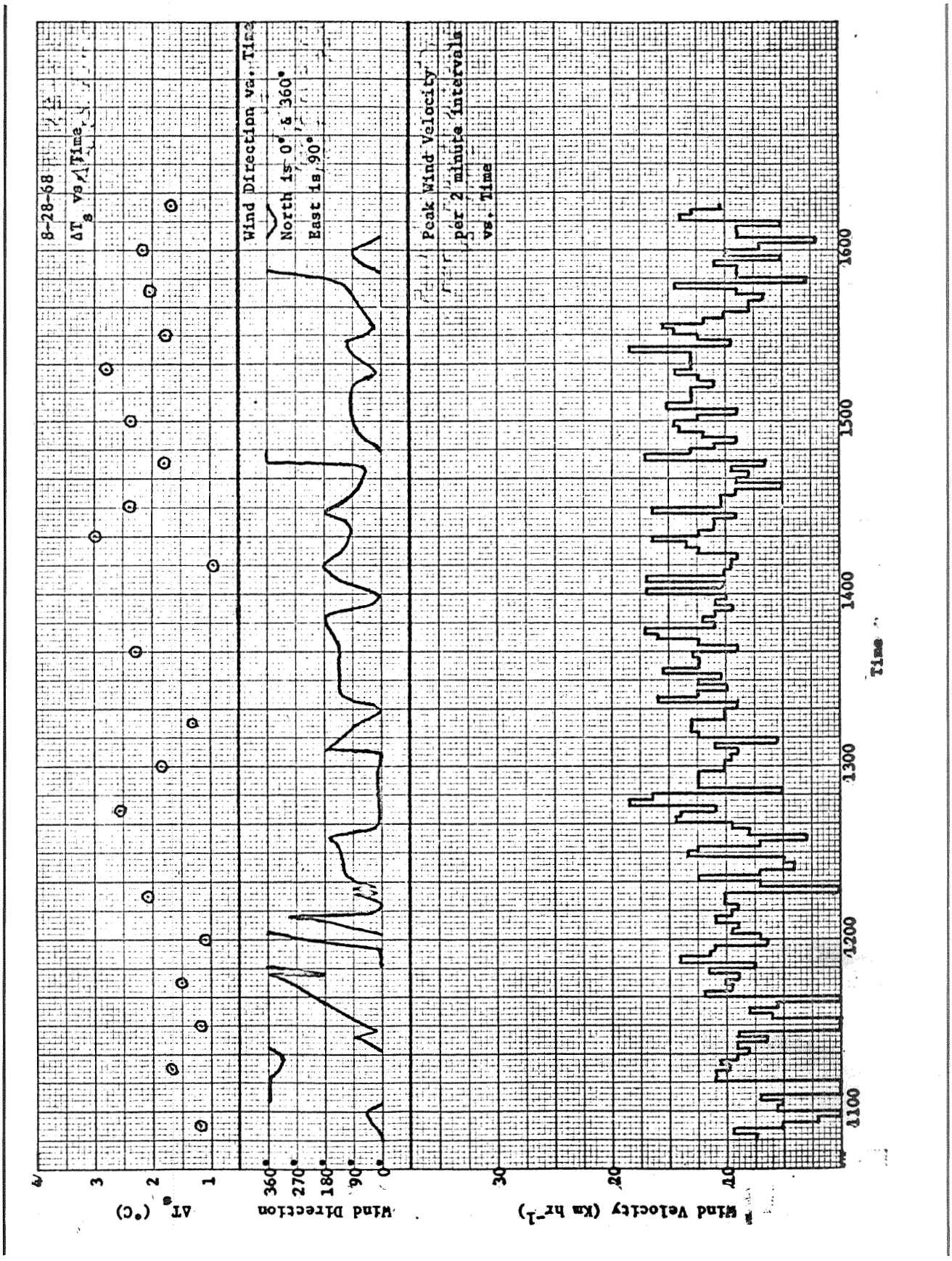


8-28-68

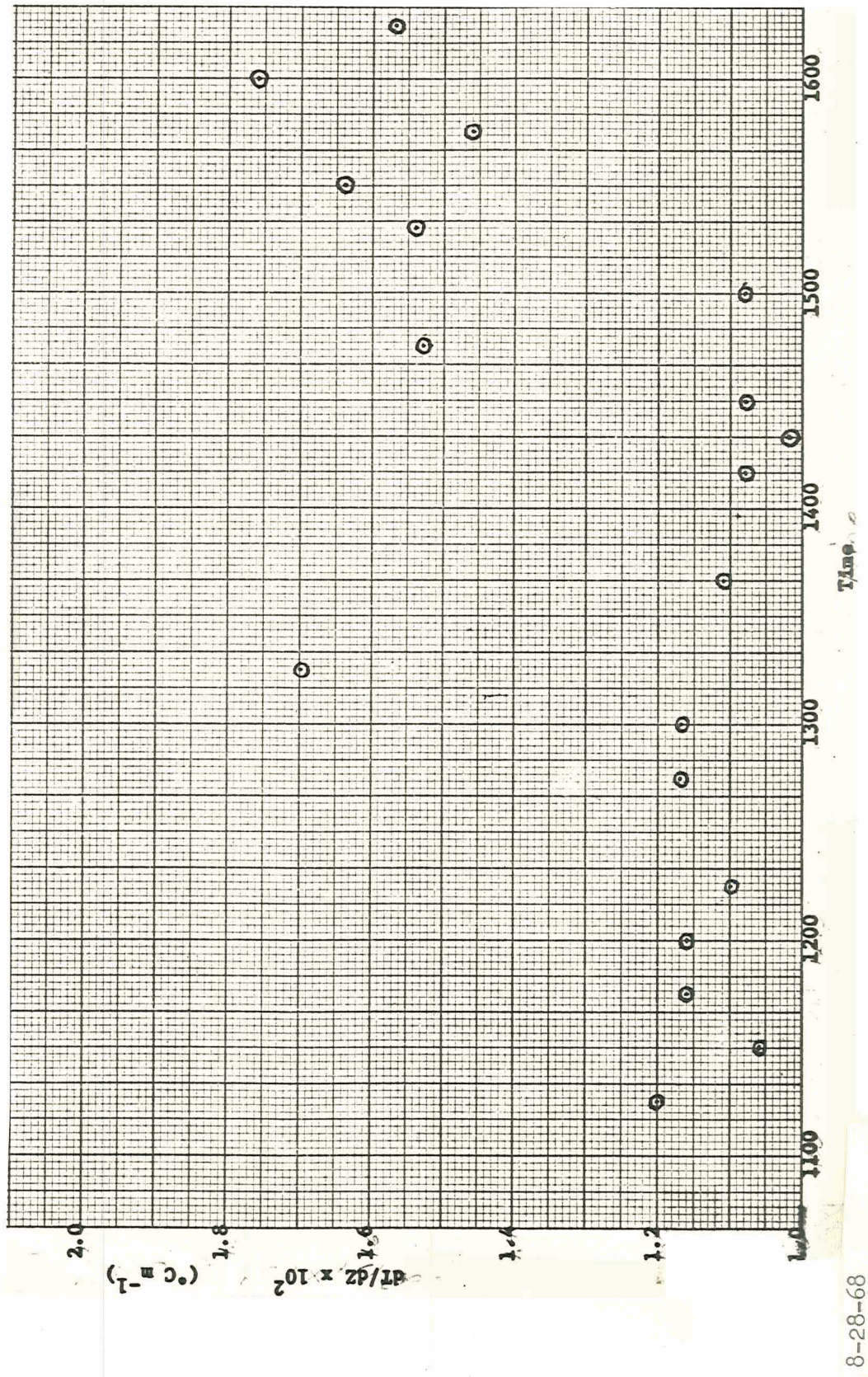
1615 PDT


8-28-68
Temperature Difference
$(T_{.3m} - T_h)$ vs. Time
Height of Super Adiabatic Layer vs. Time
P.D. within 150 meters of station
D.D. within 60 meters
D.D. within 30 meters
Dust Devils vs. Time
• = .1 meter diameter
• = 1-2 meter
Δ = 2-4 meter
□ = 4-16 meter
ΔT (°C)
h (meters)
Time
1100
1200
1300
1400
1500
1600
2
4
6
8
0
200
400

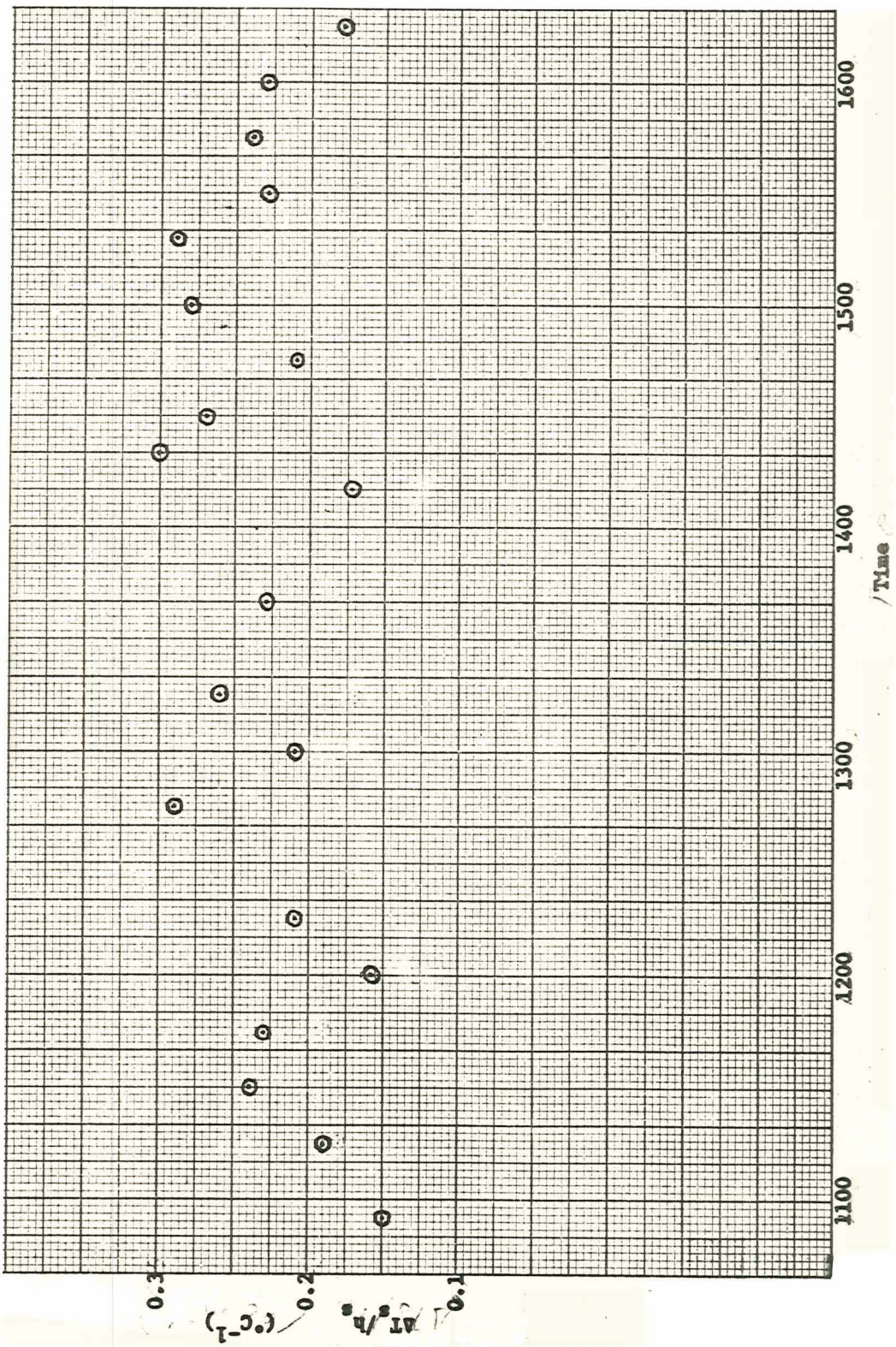
1 30-692-9 (8-68)


8-28-68
ΔT_s vs. Time
Wind Direction vs. Time
North is 0° & 360°
East is 90°
Peak Wind Velocity
per 2 minute intervals
vs. Time
ΔT_s (°C)
Wind Direction
Wind Velocity (Km hr^{-1})
Time
1100
1200
1300
1400
1500
1600

M 30-692-9 (8-68)



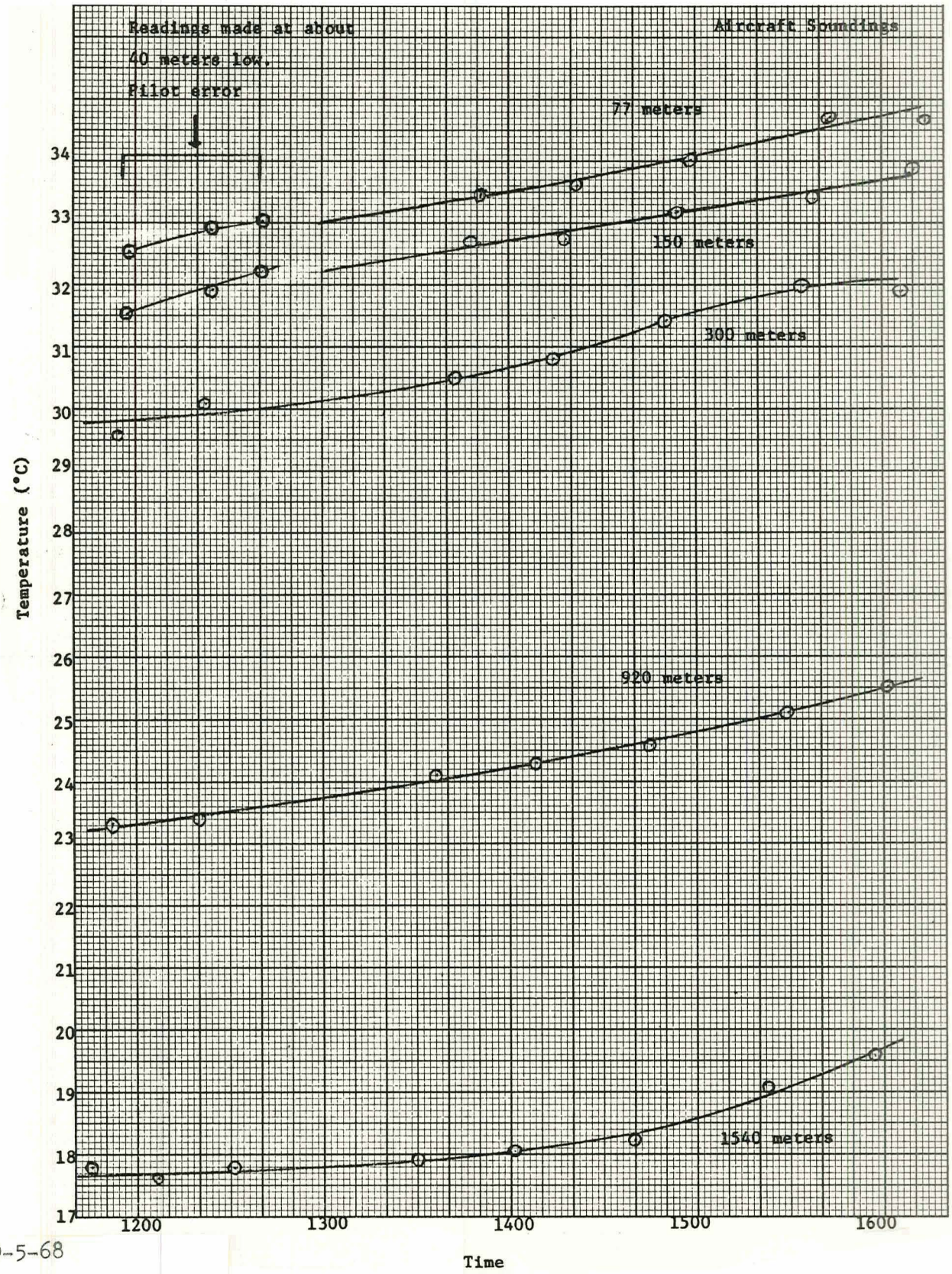
8-28-68
Lapse Rate (dT/dZ)
vs. Time



8-28-68

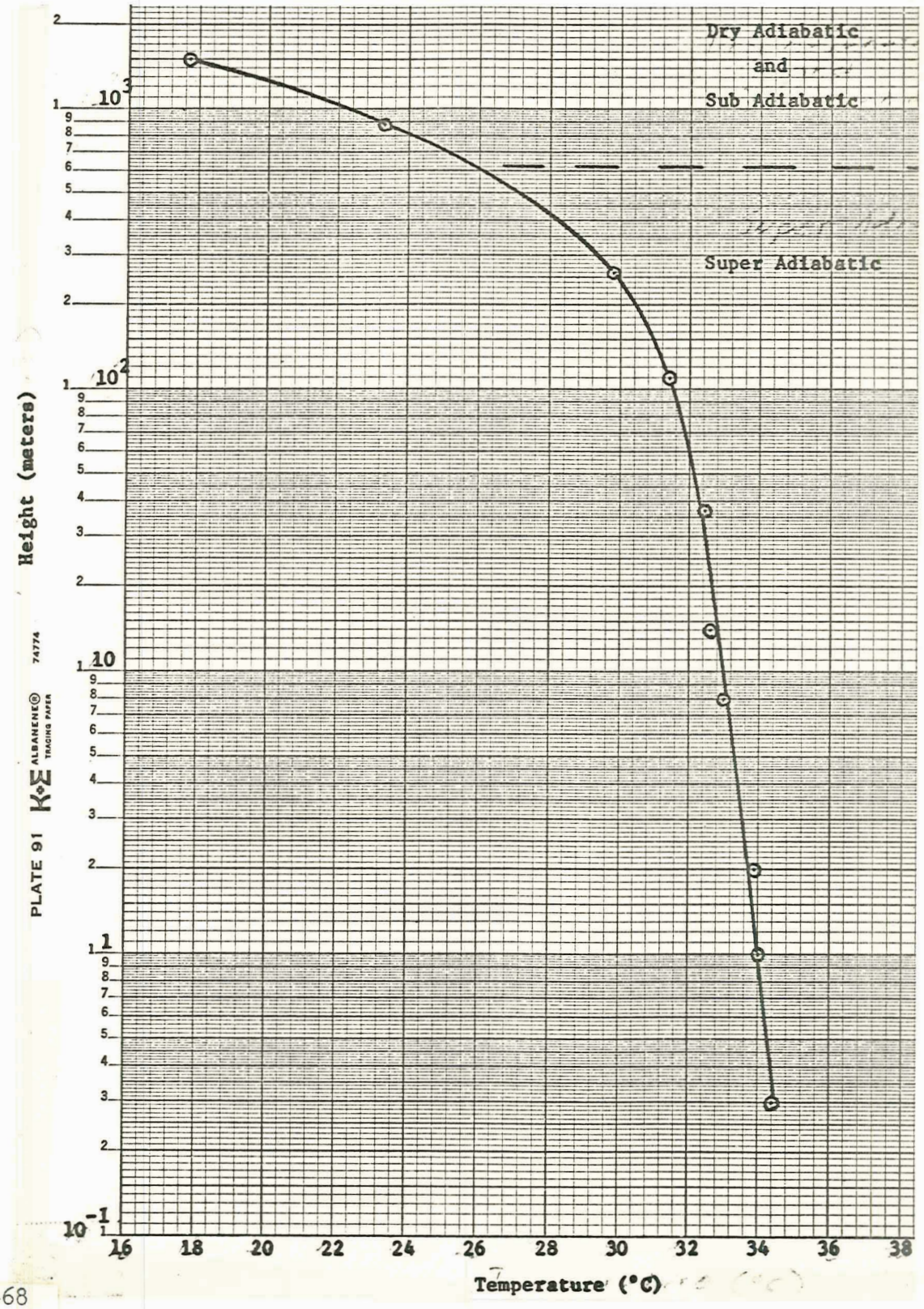
$\Delta T_s/h_s$ vs. Time

DATA FOR 9-5-68



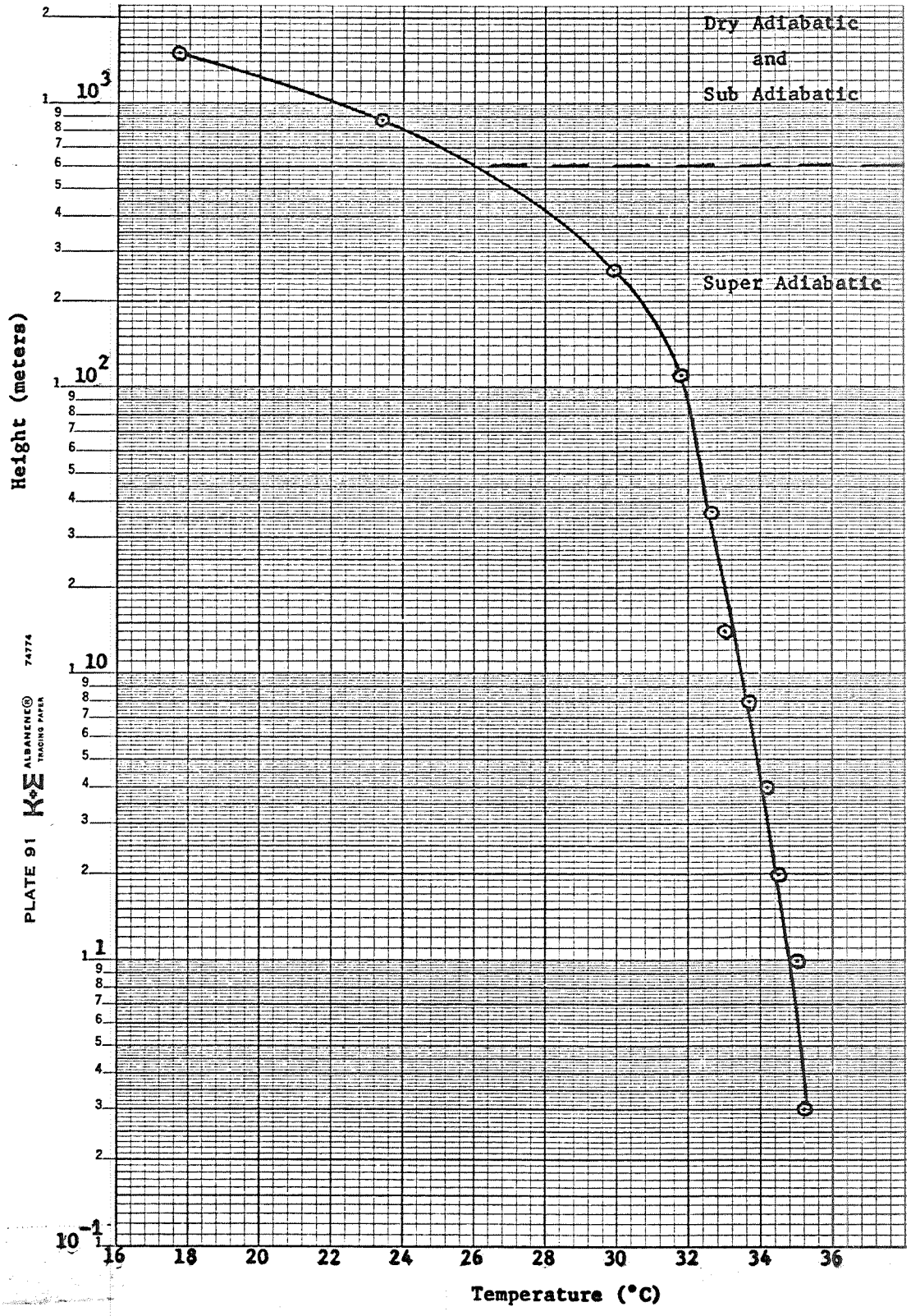
9-5-68

Aircraft Soundings



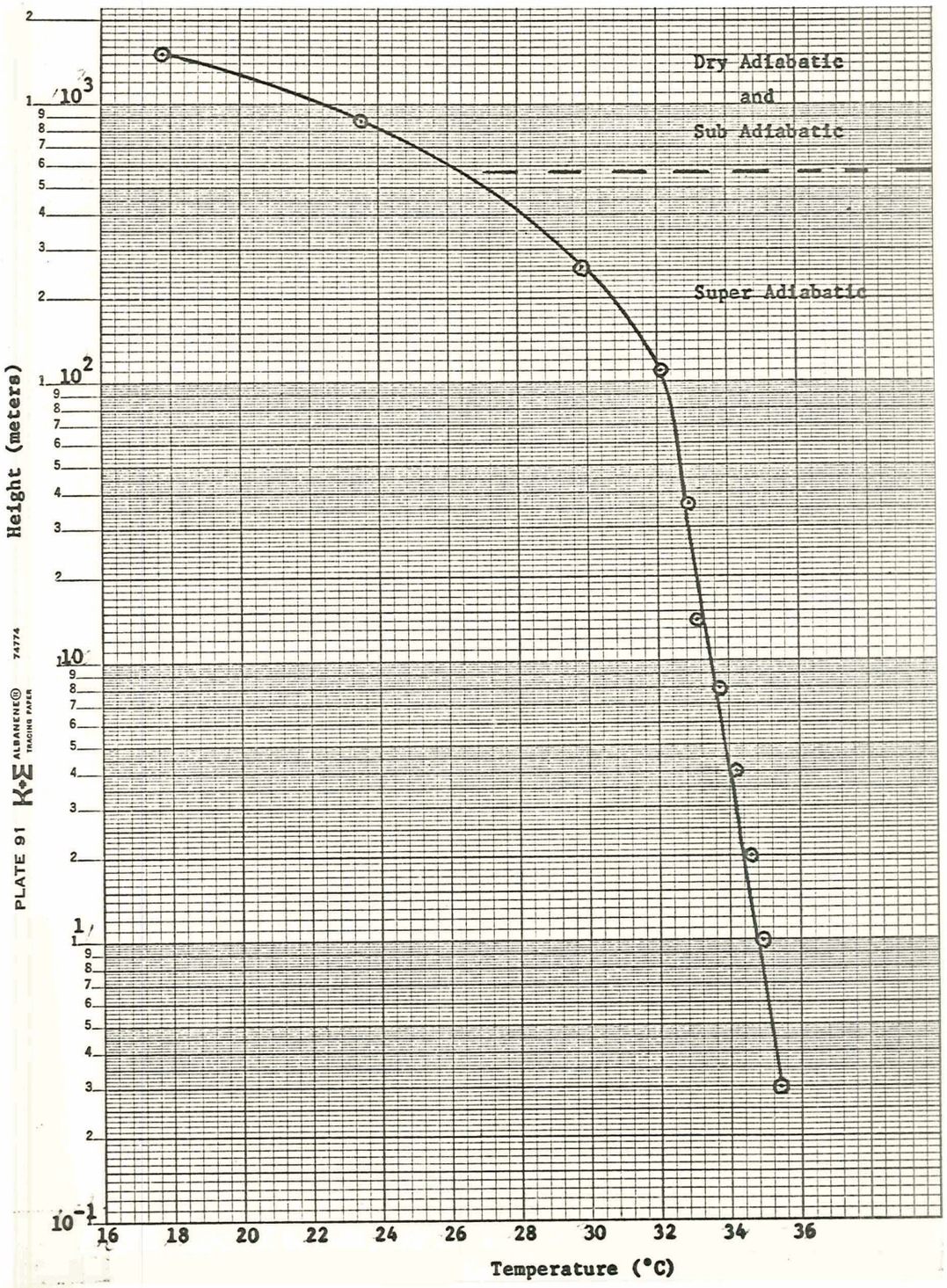
9-5-68

1155 PDT



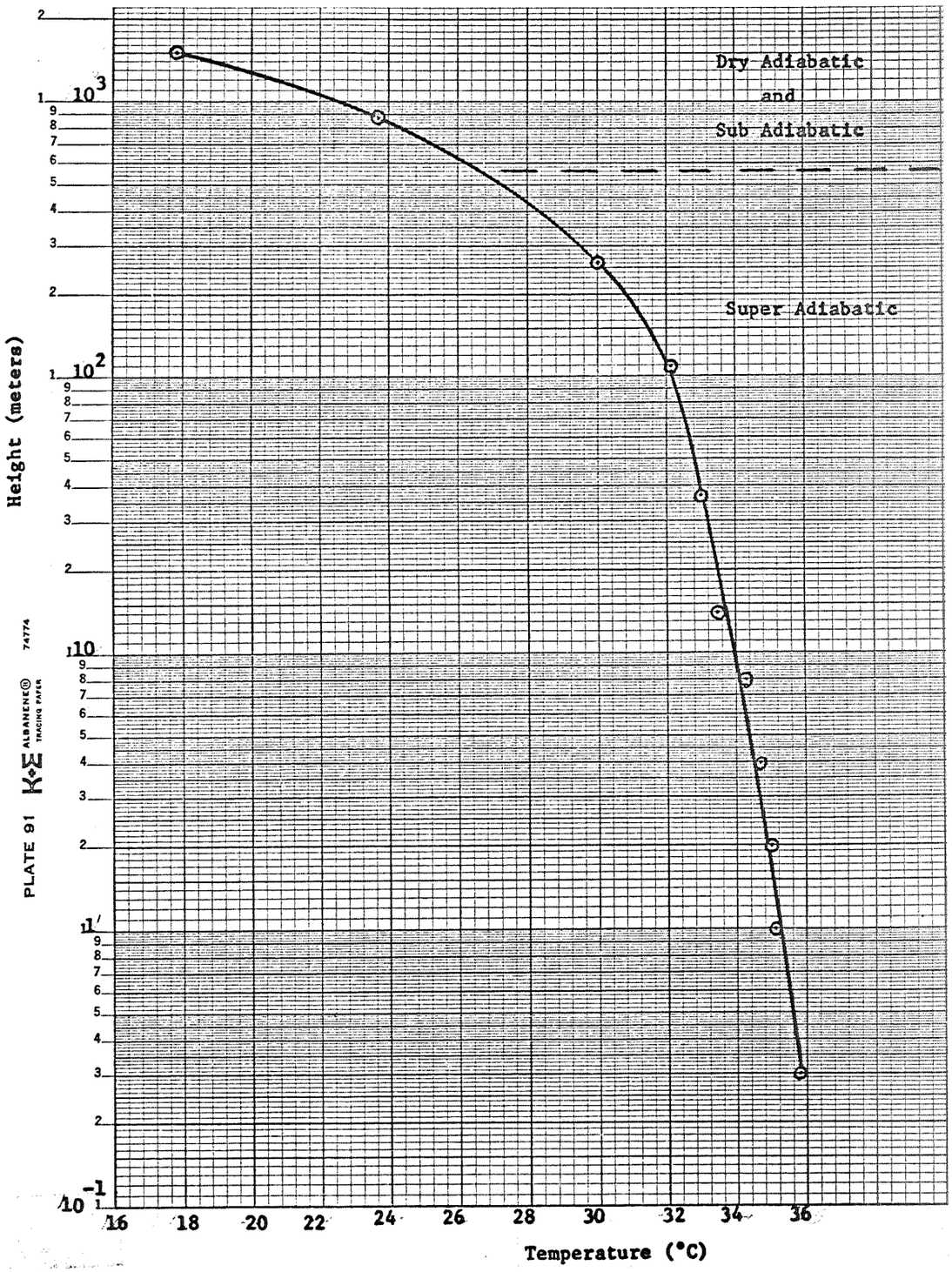
9-5-68

1215 PDT



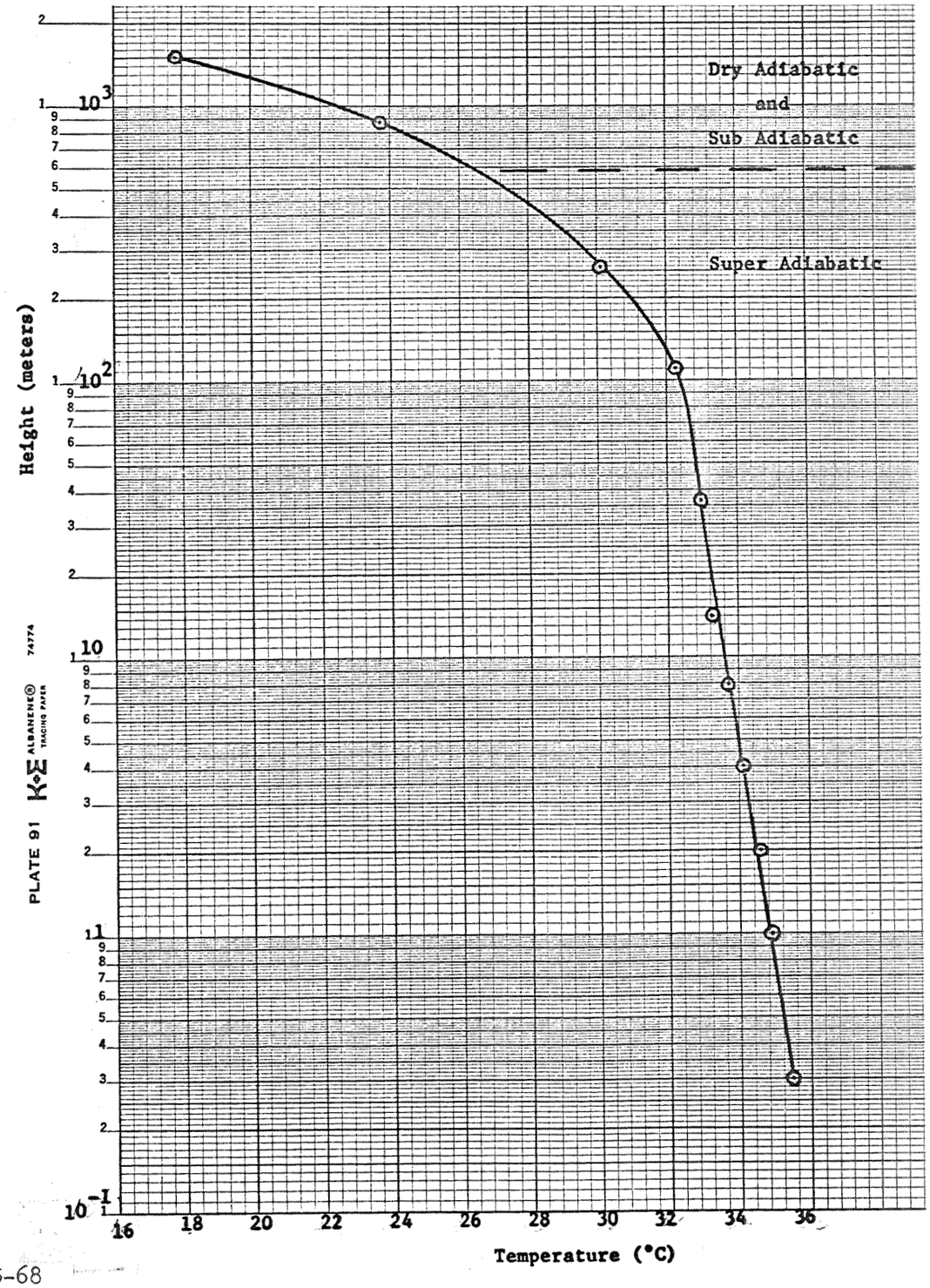
9-5-68

1230 PDT



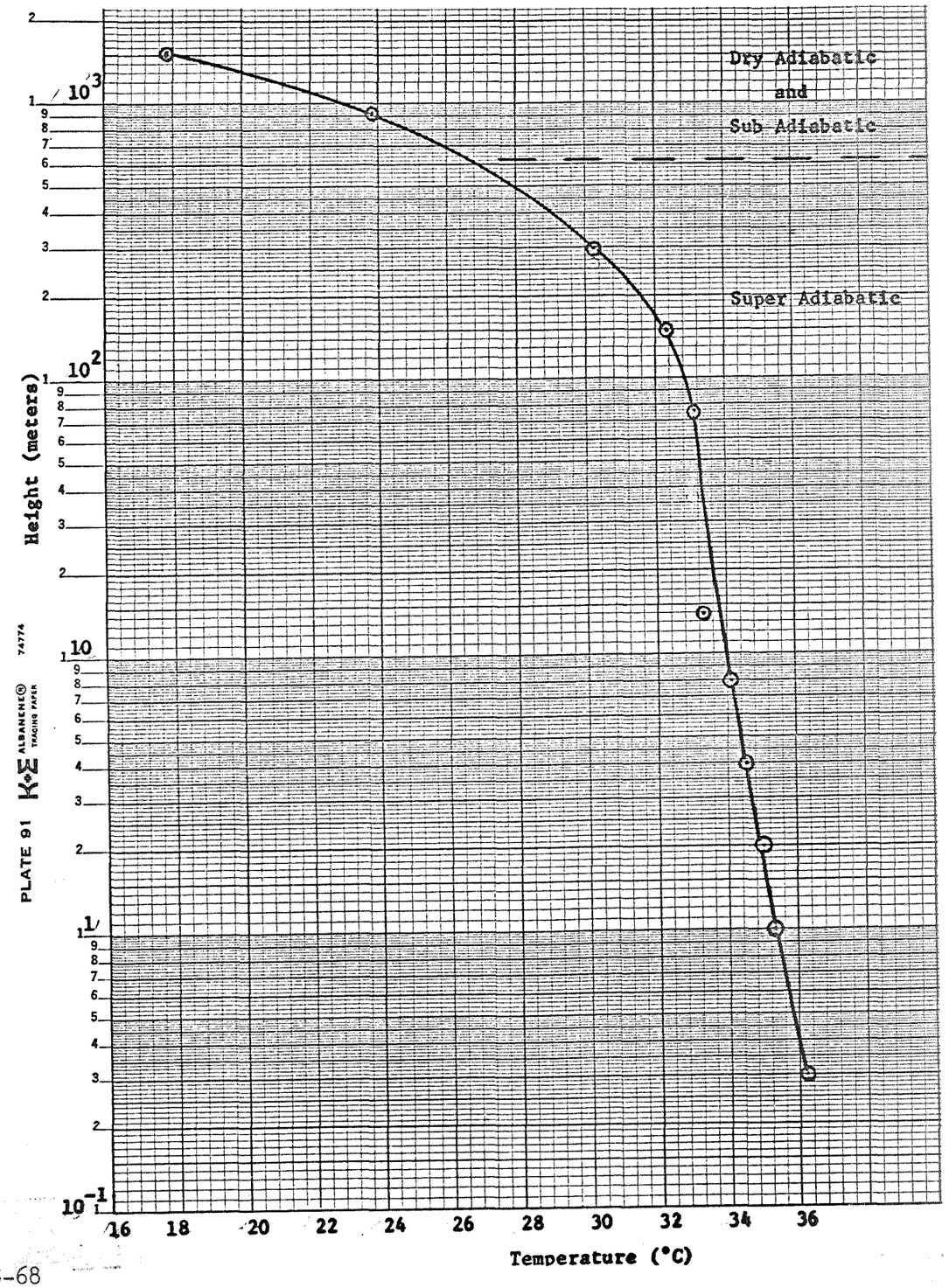
9-5-68

1245 PDT



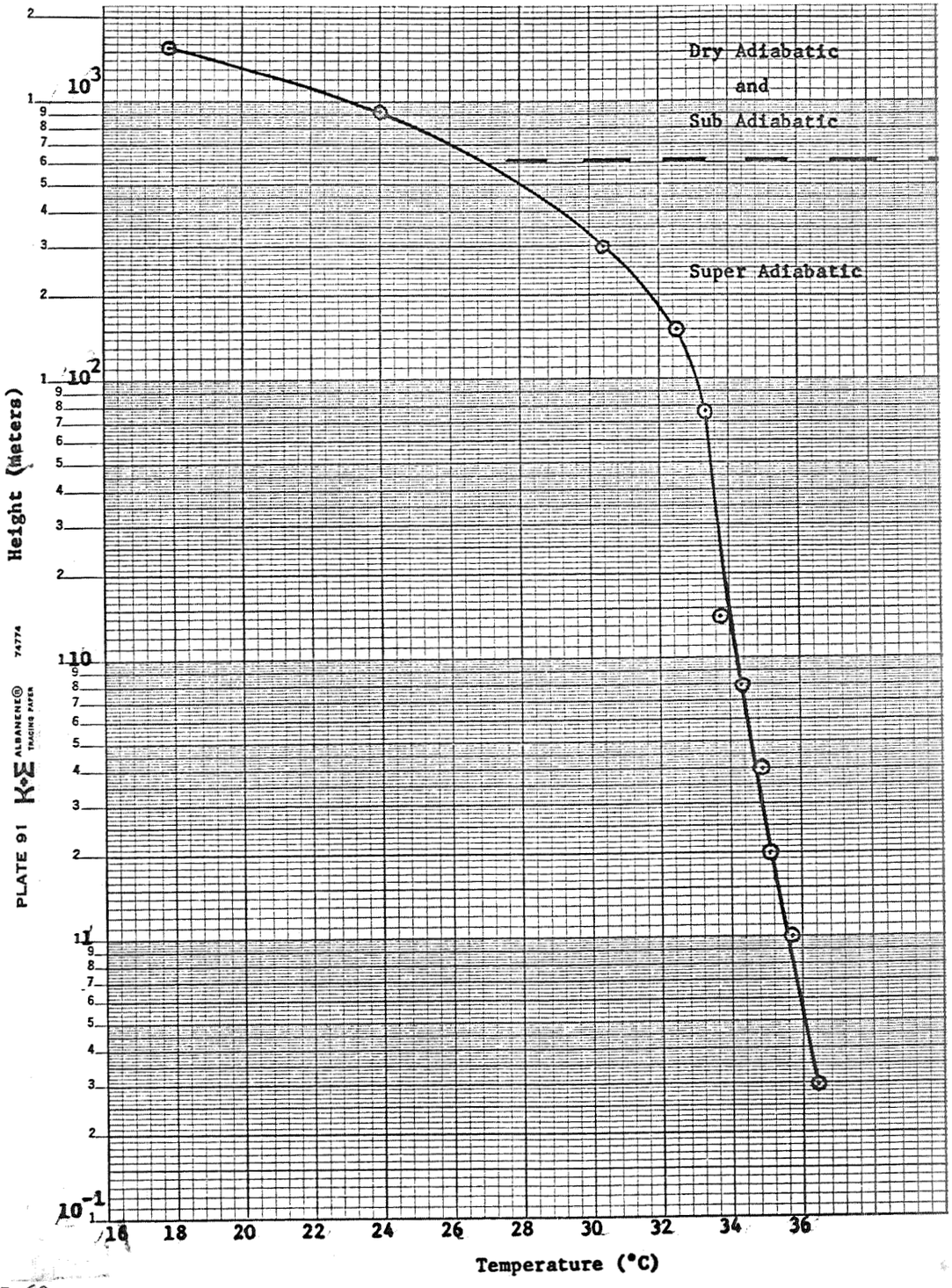
9-5-68

1300 PDT



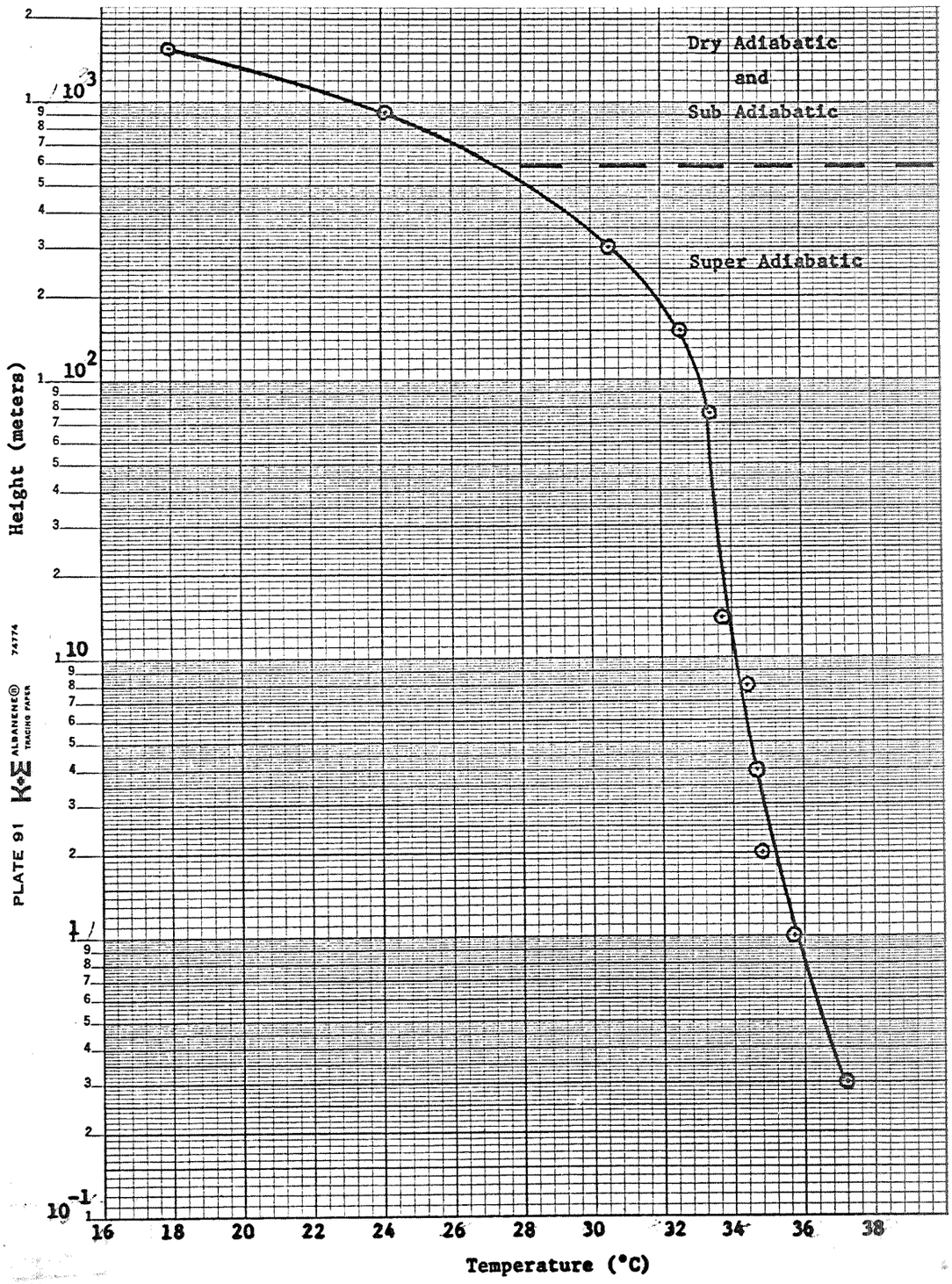
9-5-68

1315 PDT



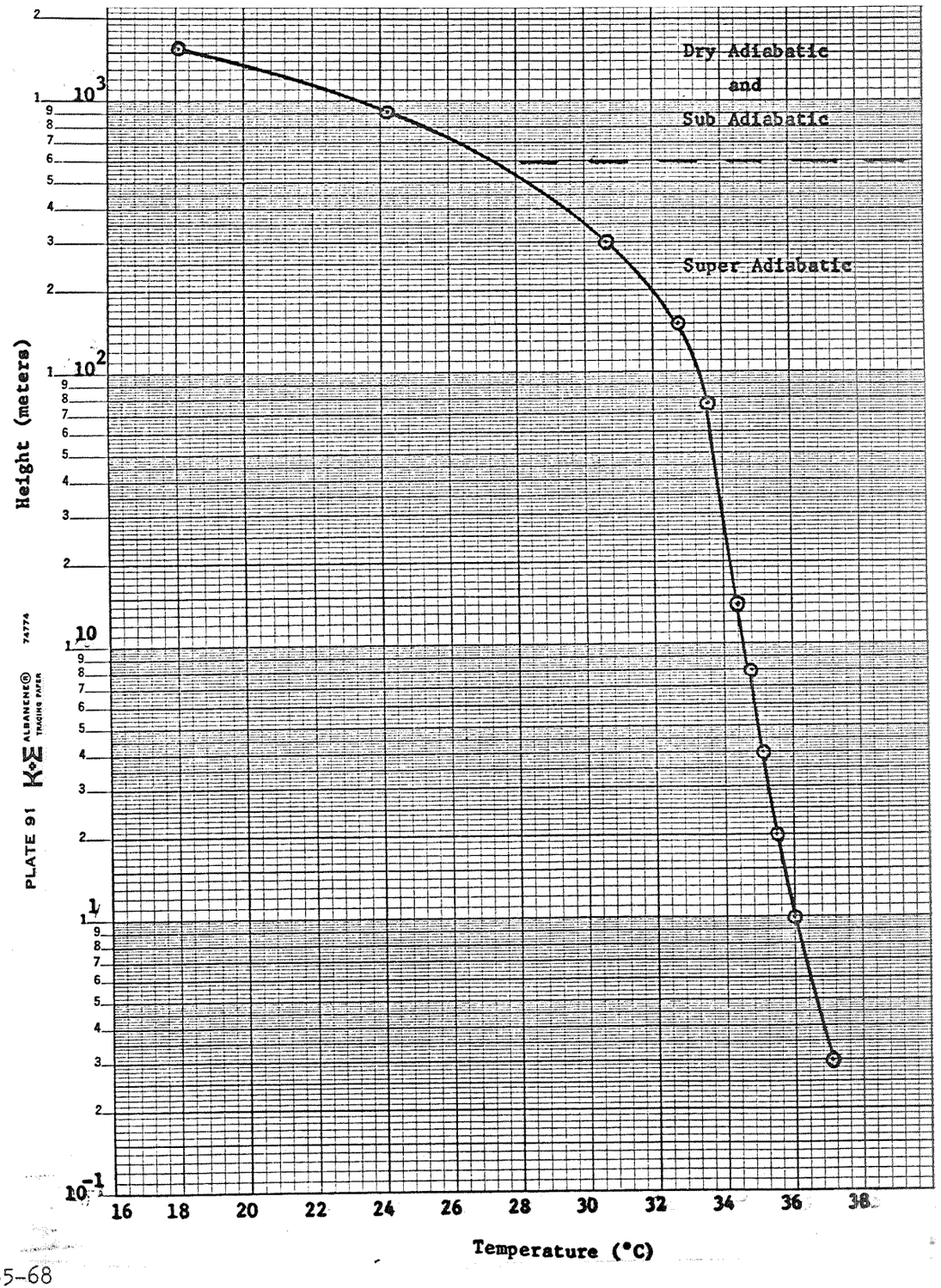
9-5-68

1330 PDT



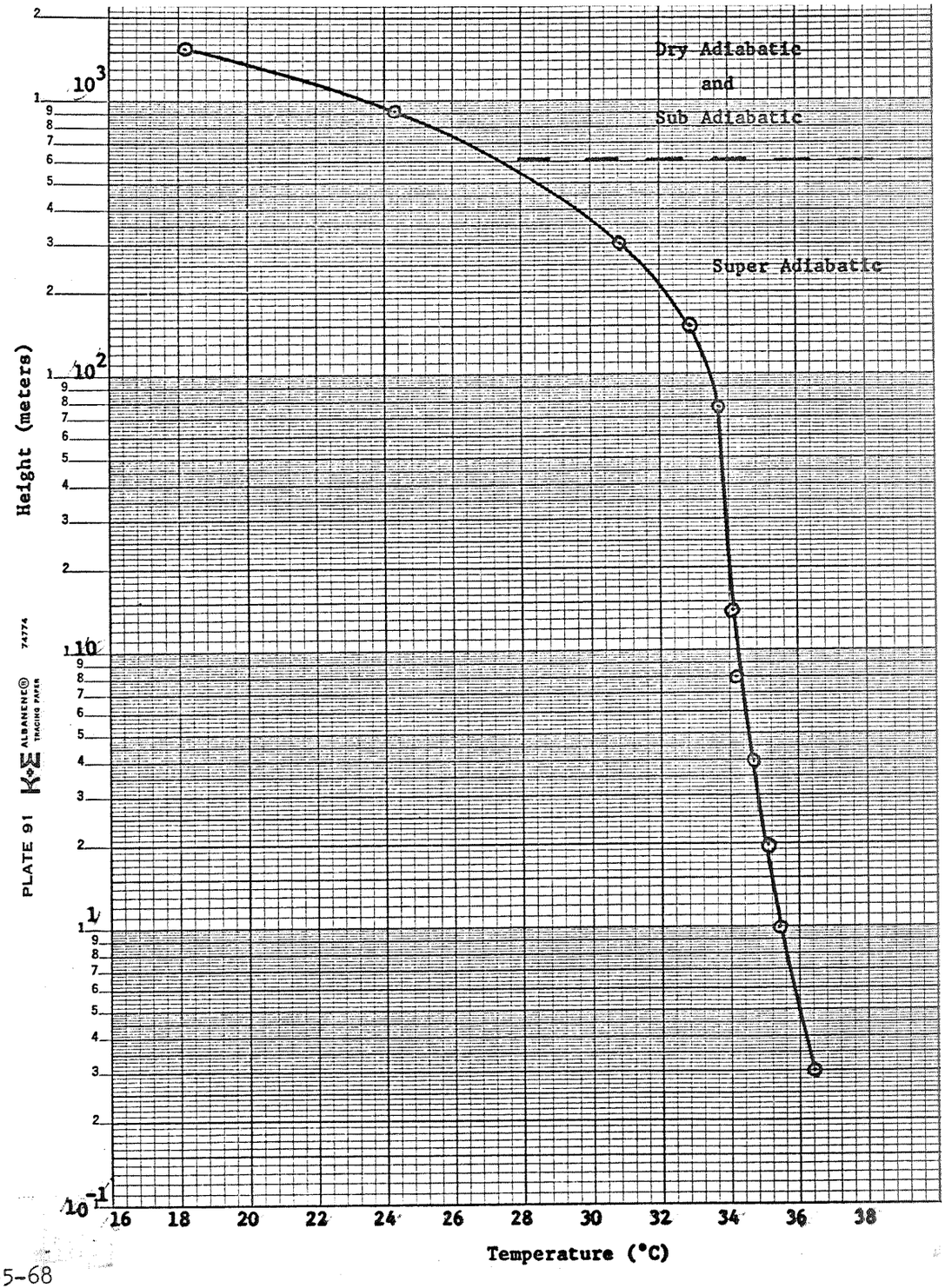
9-5-68

1345 PDT



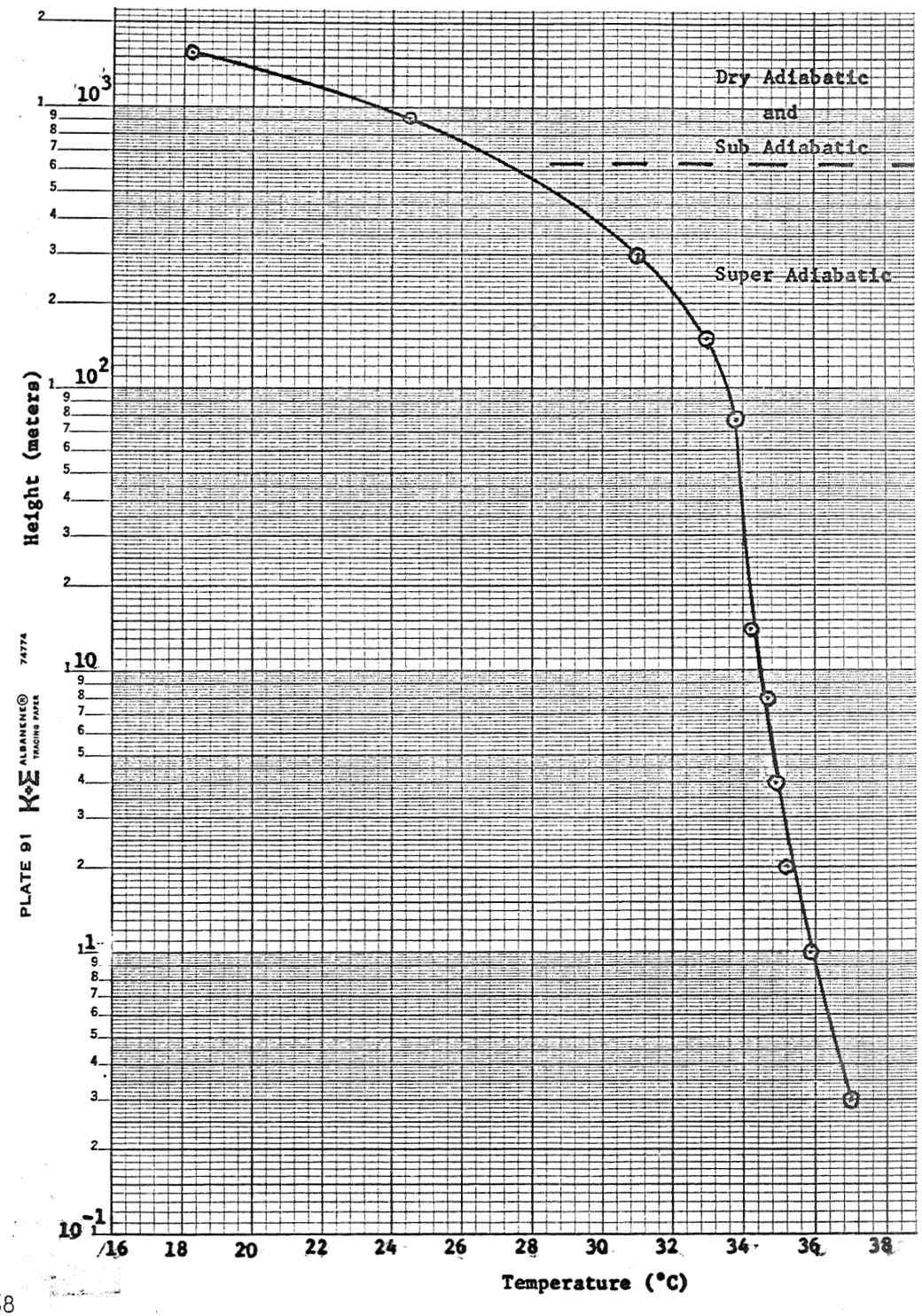
9-5-68

1400 PDT



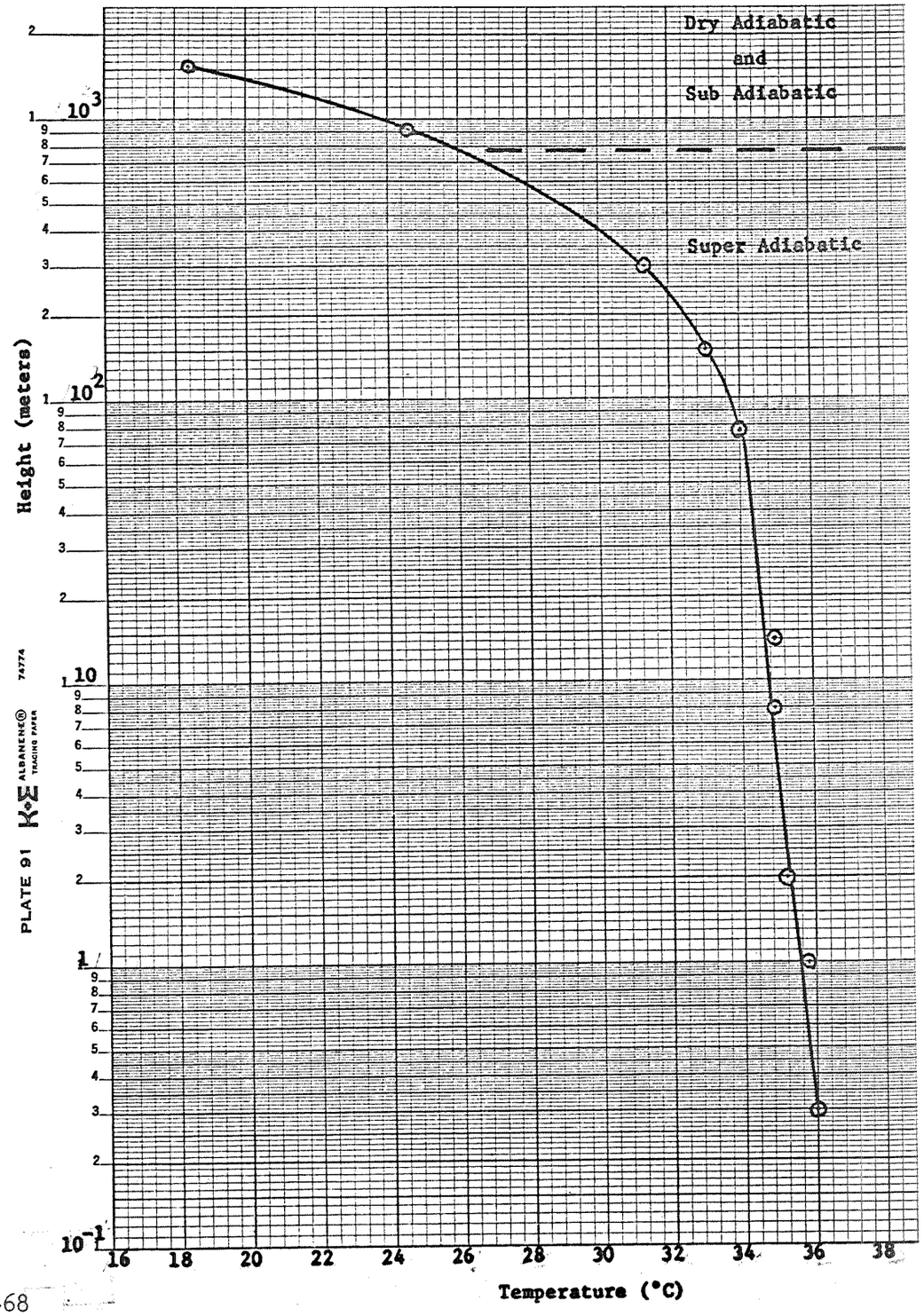
9-5-68

1415 PDT



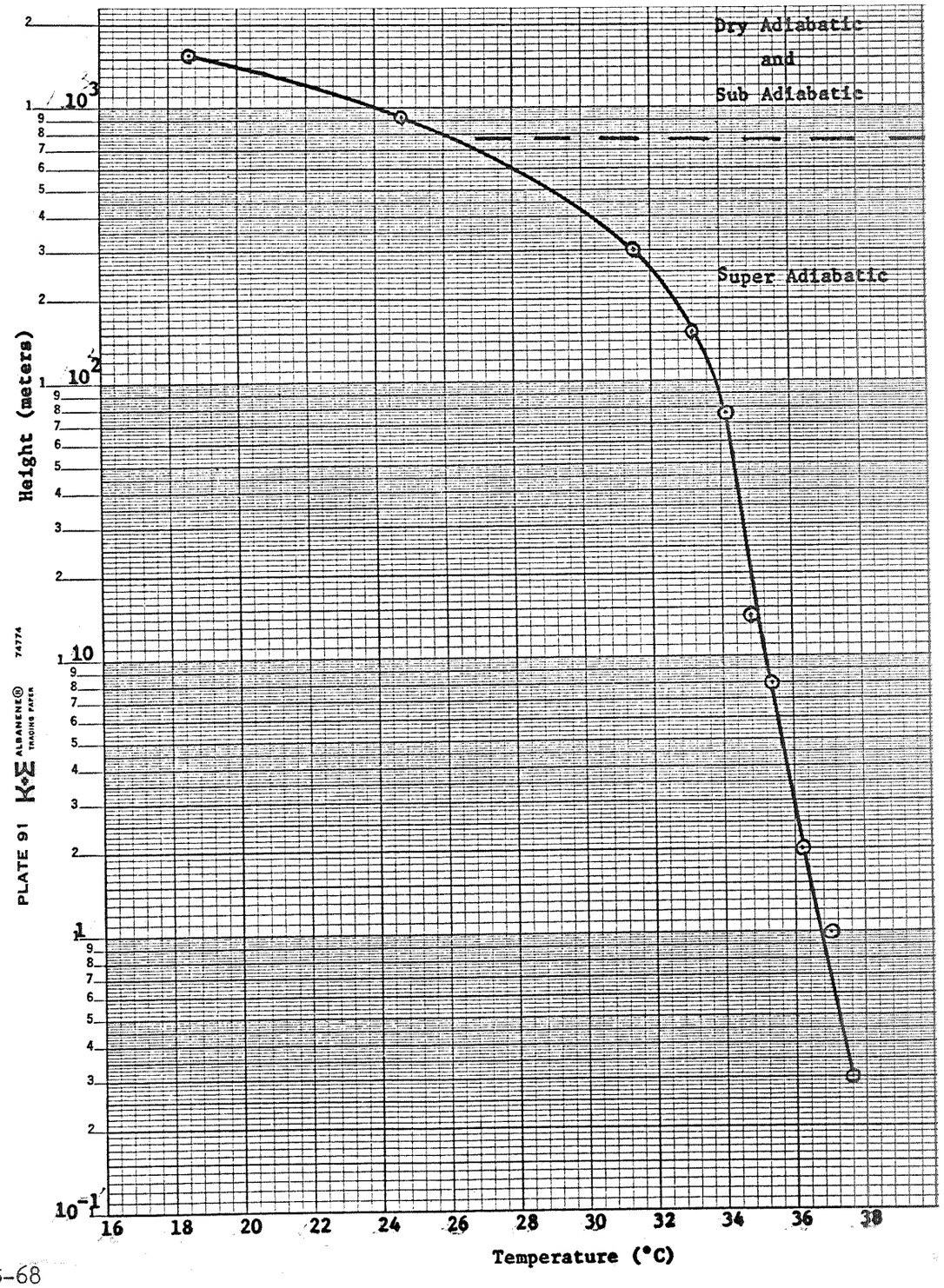
9-5-68

1430 PDT



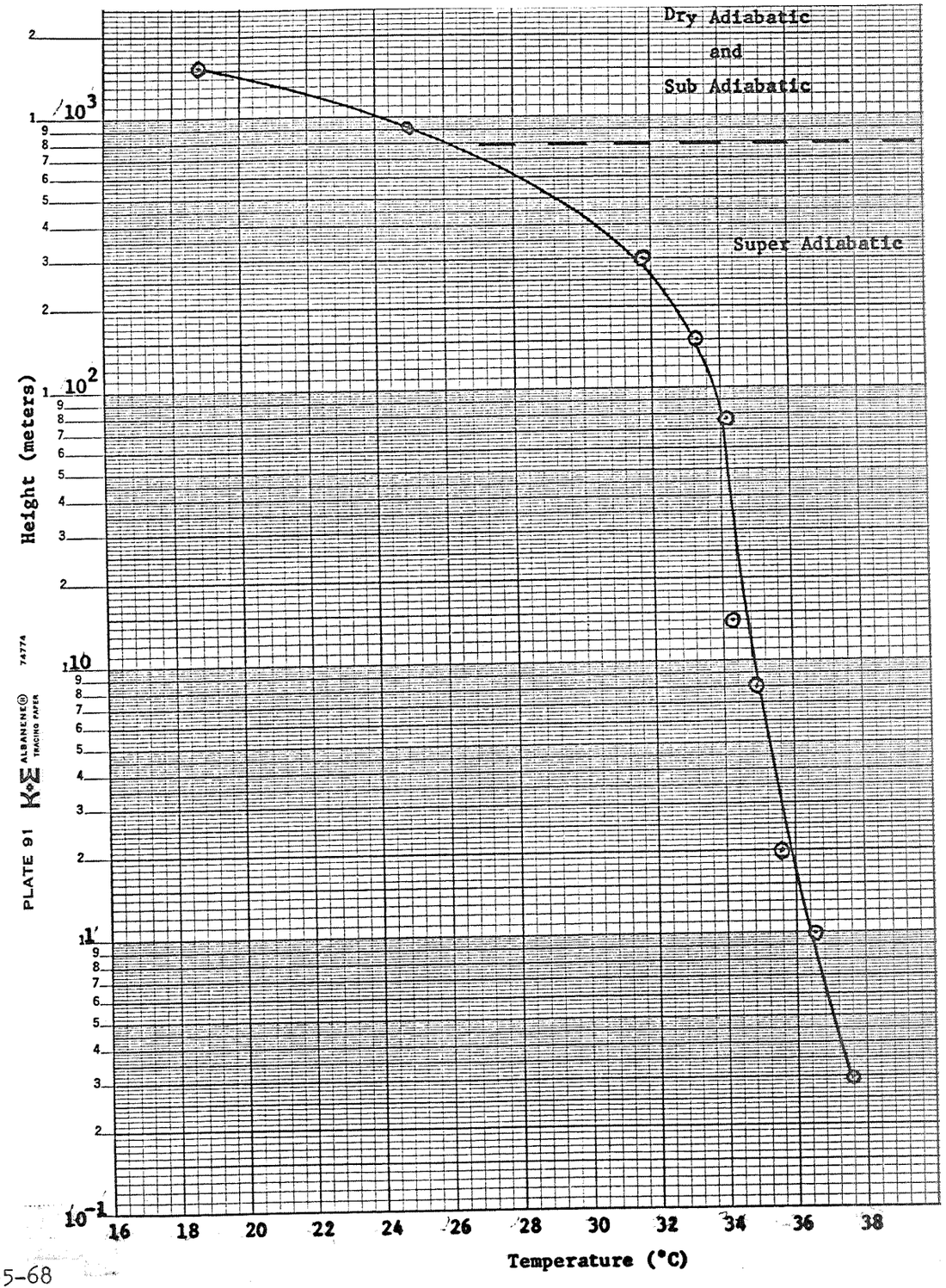
9-5-68

1445 PDT



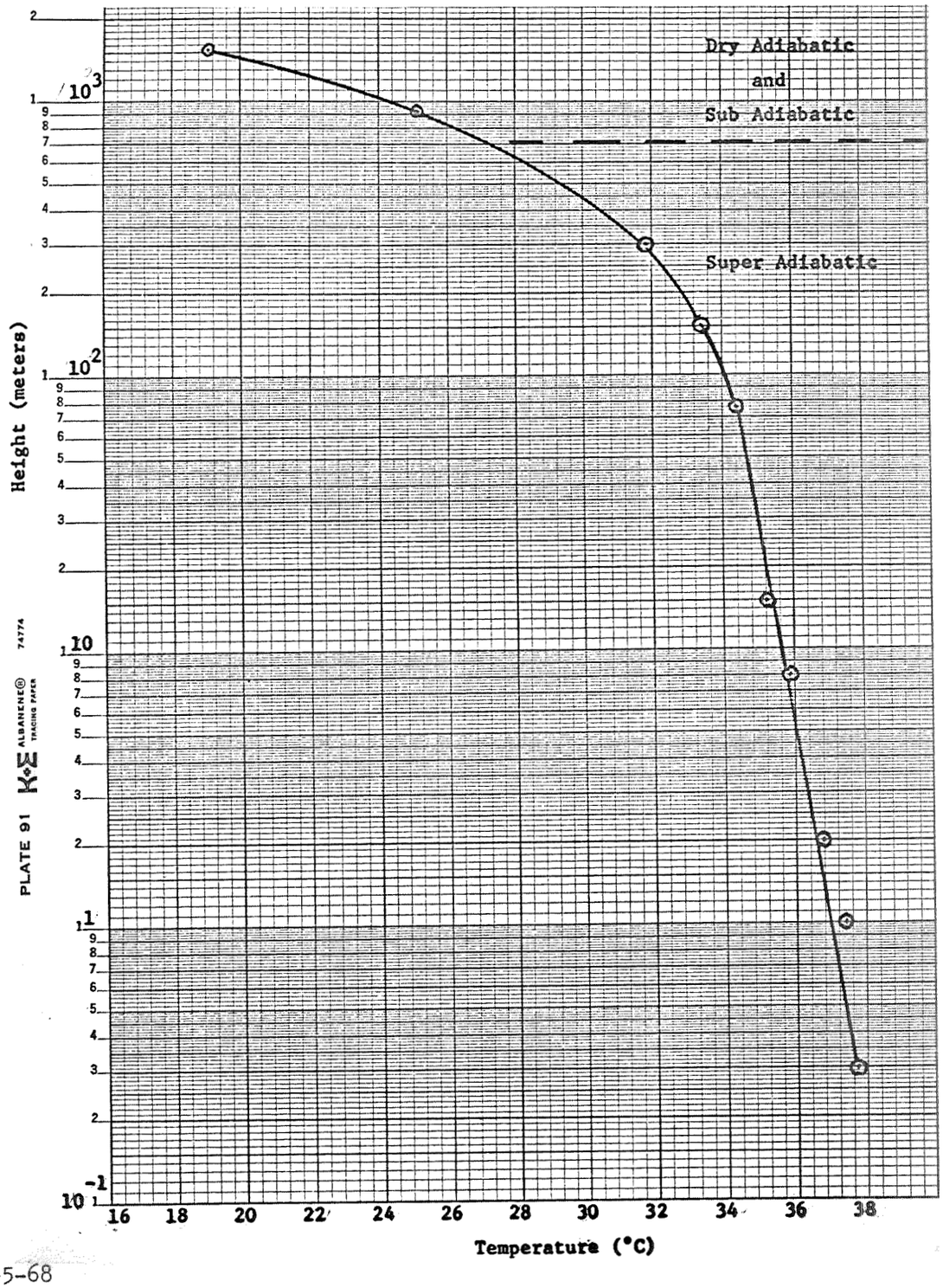
9-5-68

1500 PDT



9-5-68

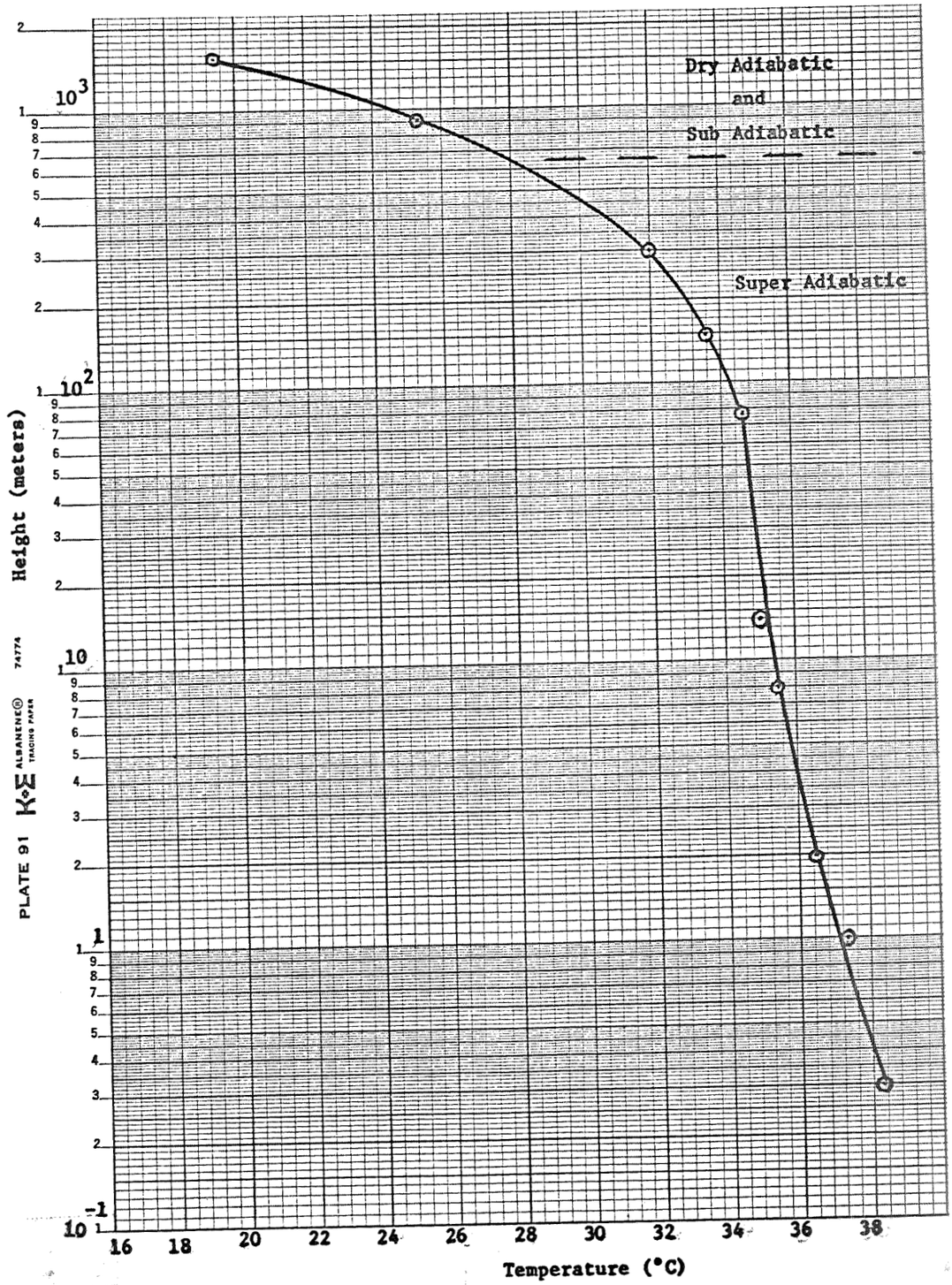
1515 PDT



9-5-68

1530 PDT

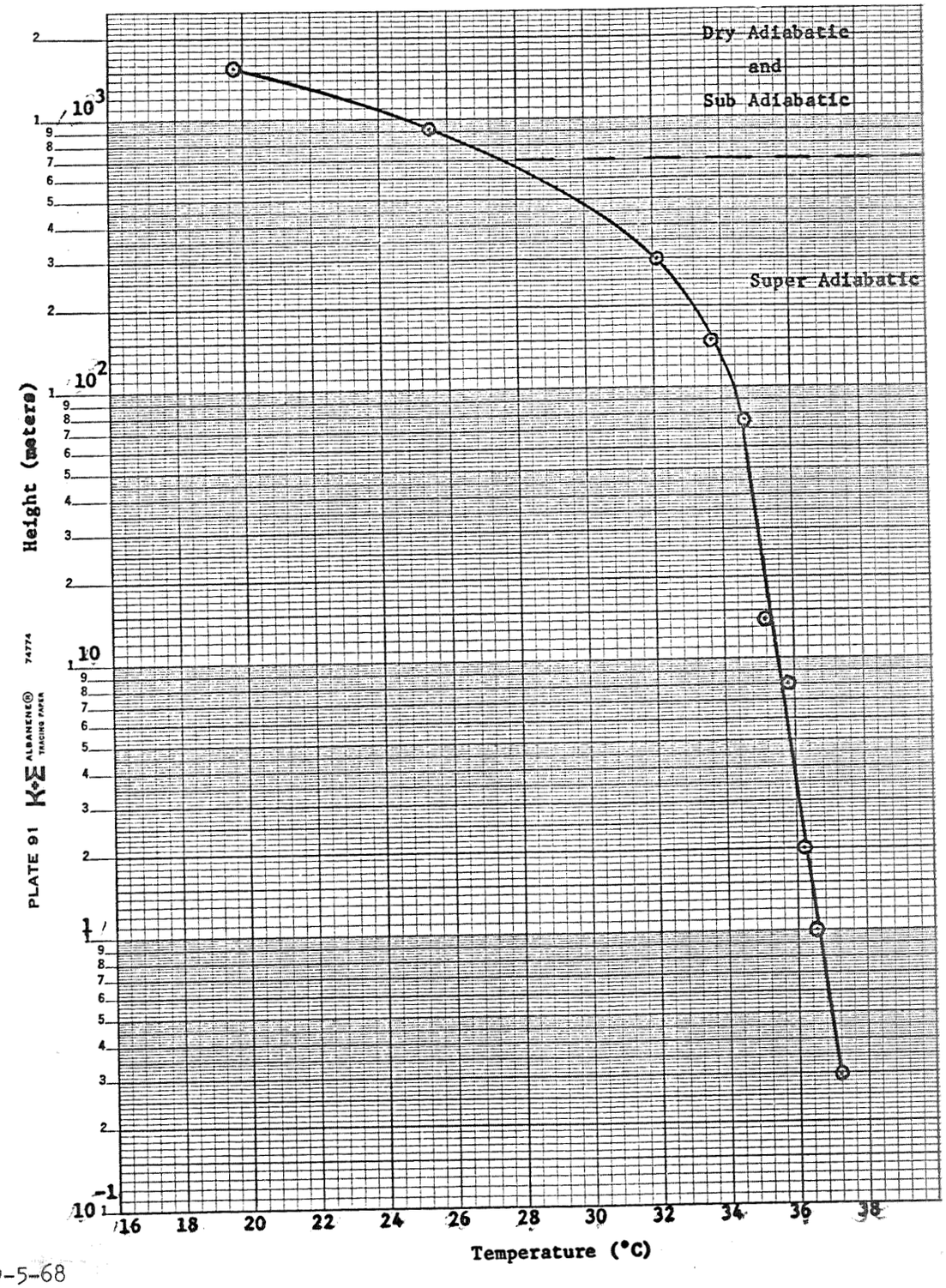
FORM 30-692-6 (8-68)



9-5-68

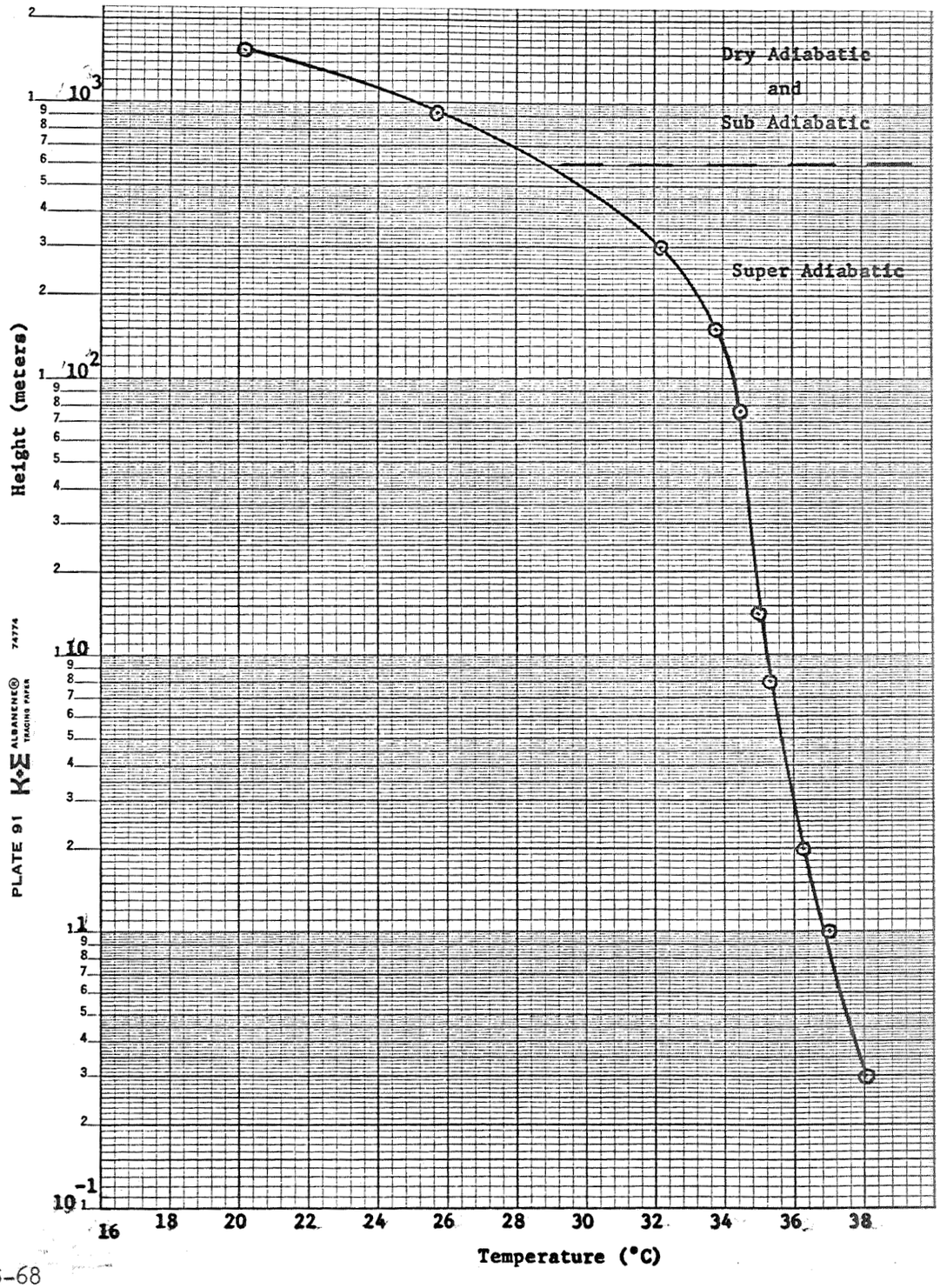
1545 PDT

FORM 30-692-6 (8-68)



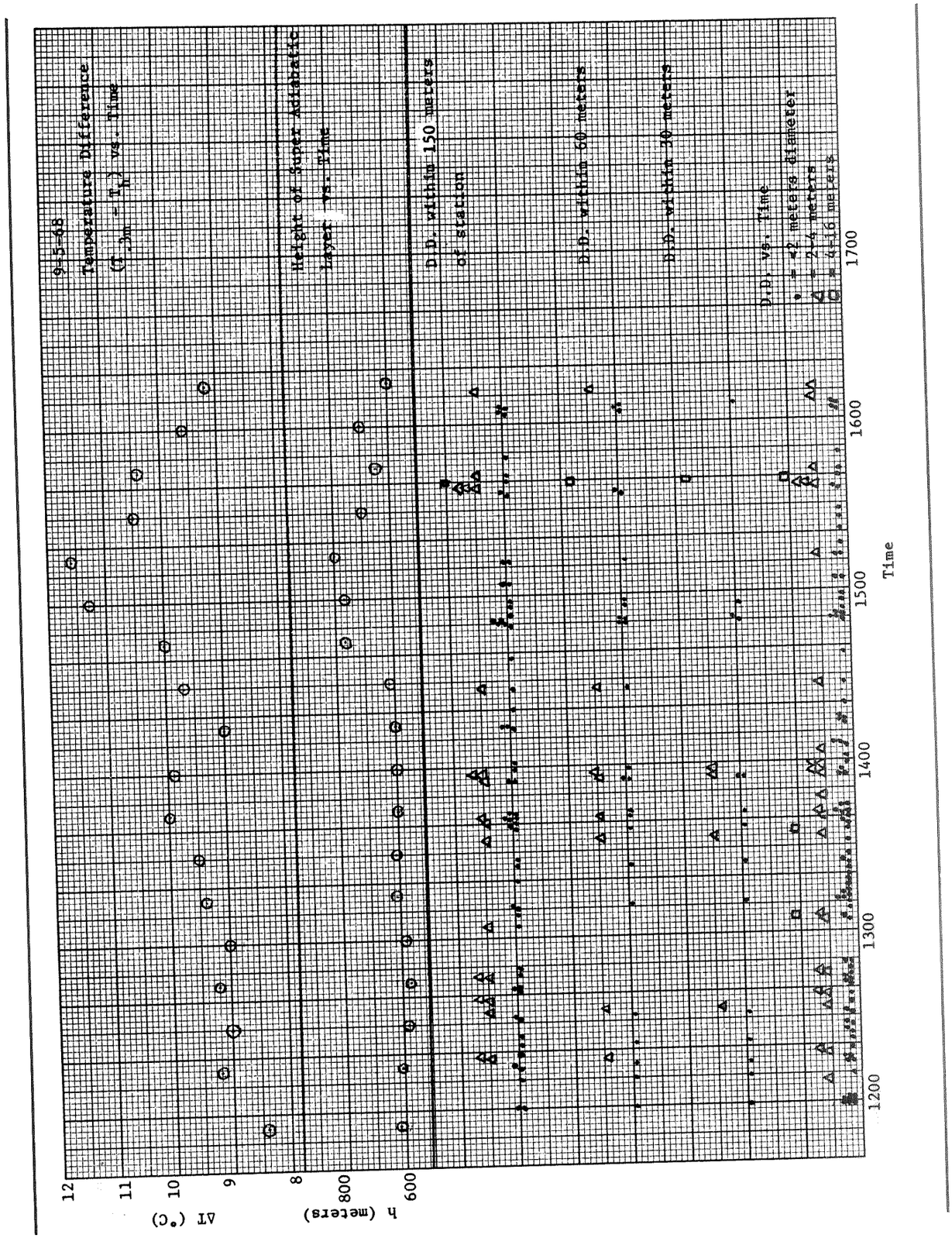
9-5-68

1600 PDT

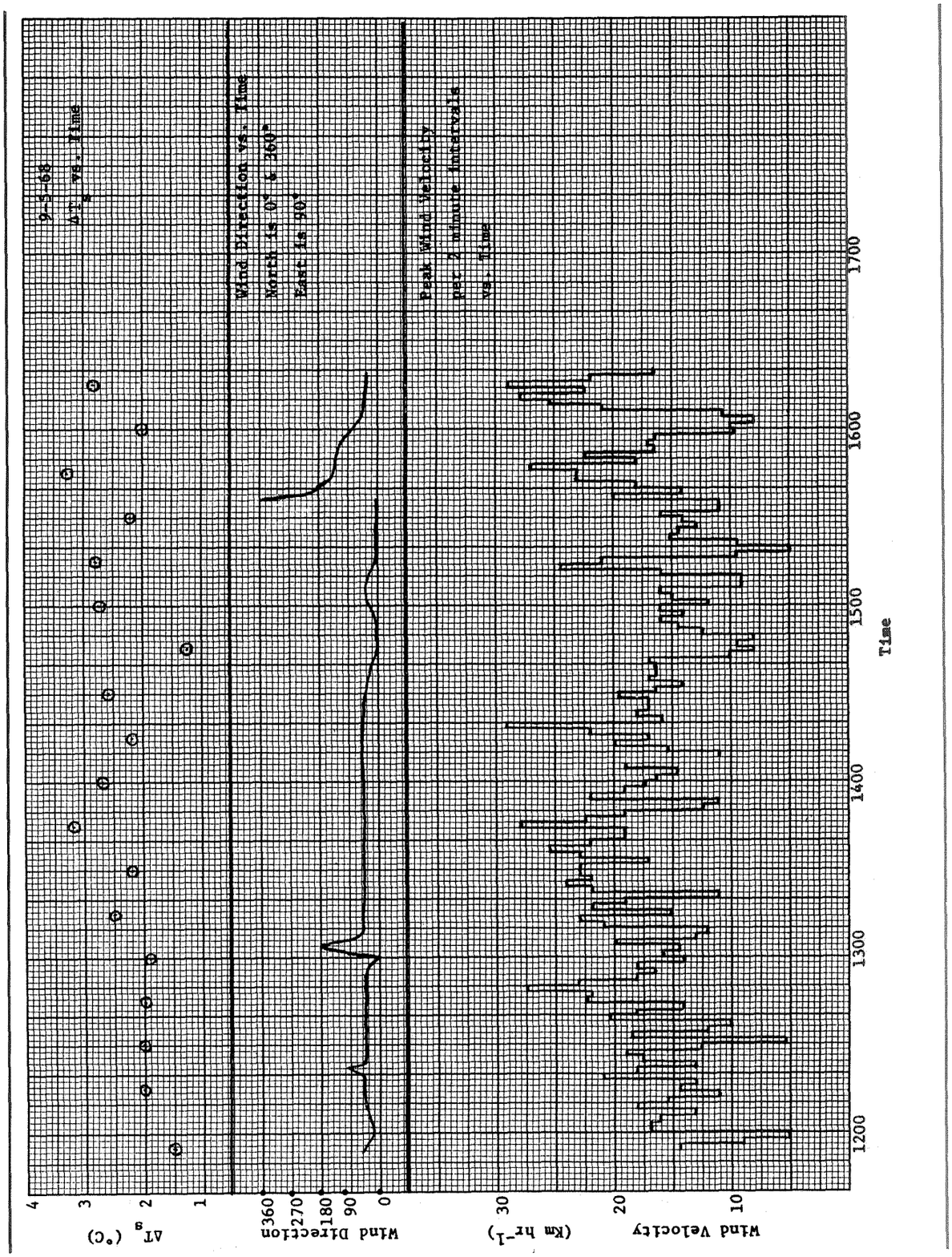


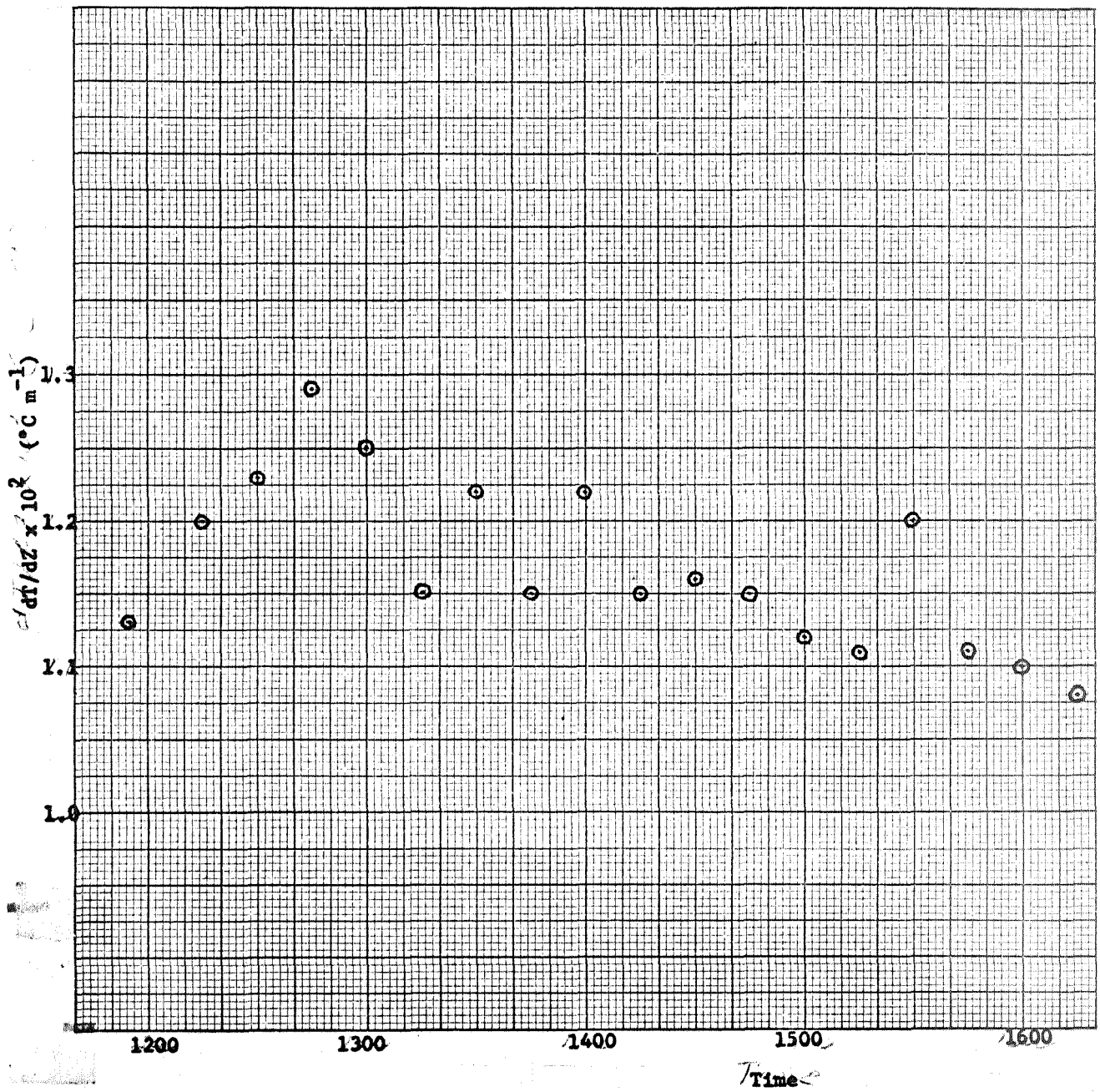
9-5-68

1615 PDT


9-5-68
Temperature Difference
$(T_3 - T_h)$ vs. Time
Height of Super Adiabatic
Layer vs. Time
D.D. within 150 meters
of station
D.D. within 60 meters
D.D. within 30 meters
D.D. vs. Time
• = <2 meters diameter
Δ = 2-4 meters
□ = 4-16 meters
ΔT (°C)
h (meters)
Time
12
11
10
9
8
800
600
1200
1300
1400
1500
1600
1700

FORM 30-692-9 (8-68)



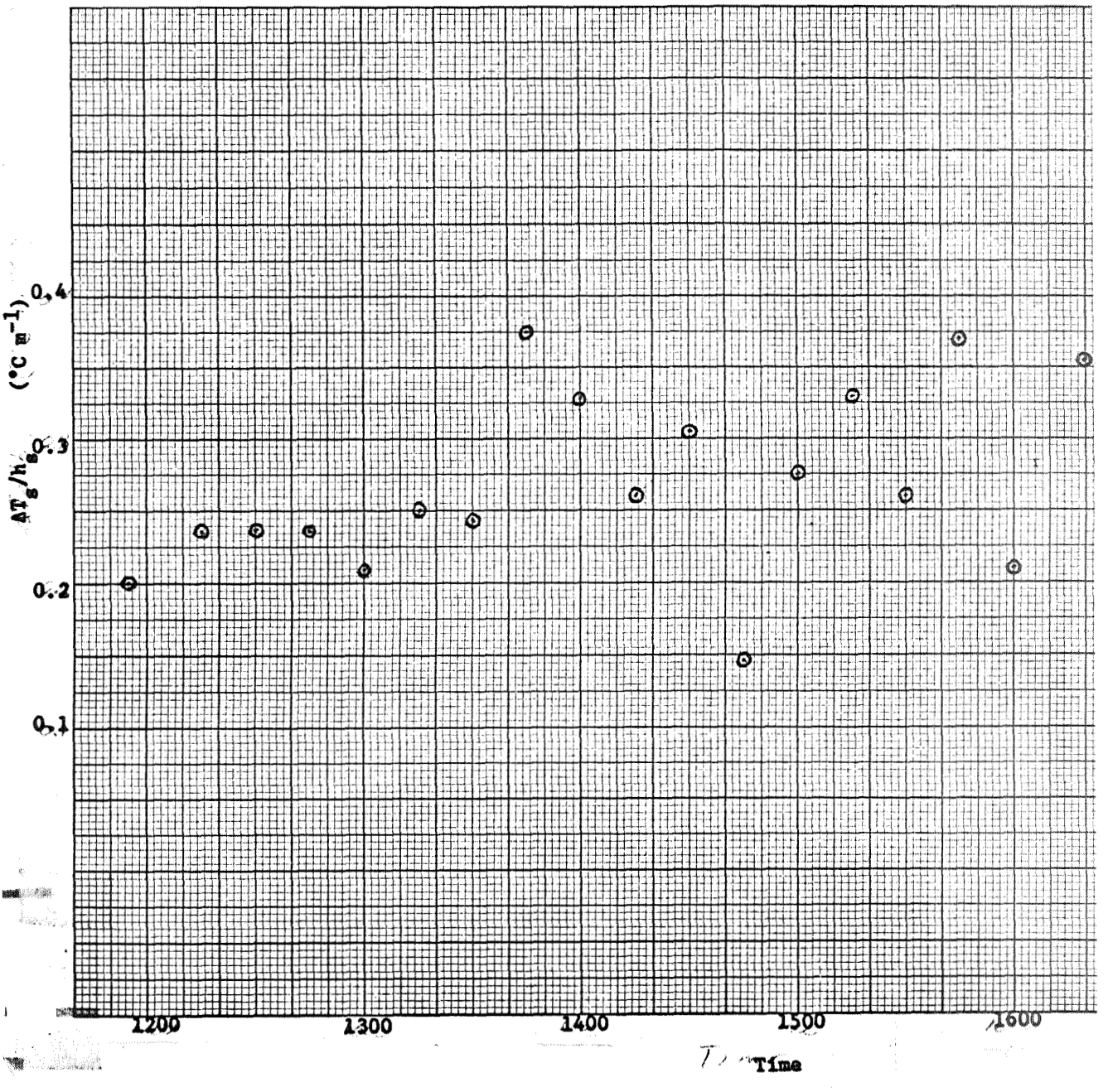


9-5-68

Lapse Rate (dT/dZ)

vs. Time

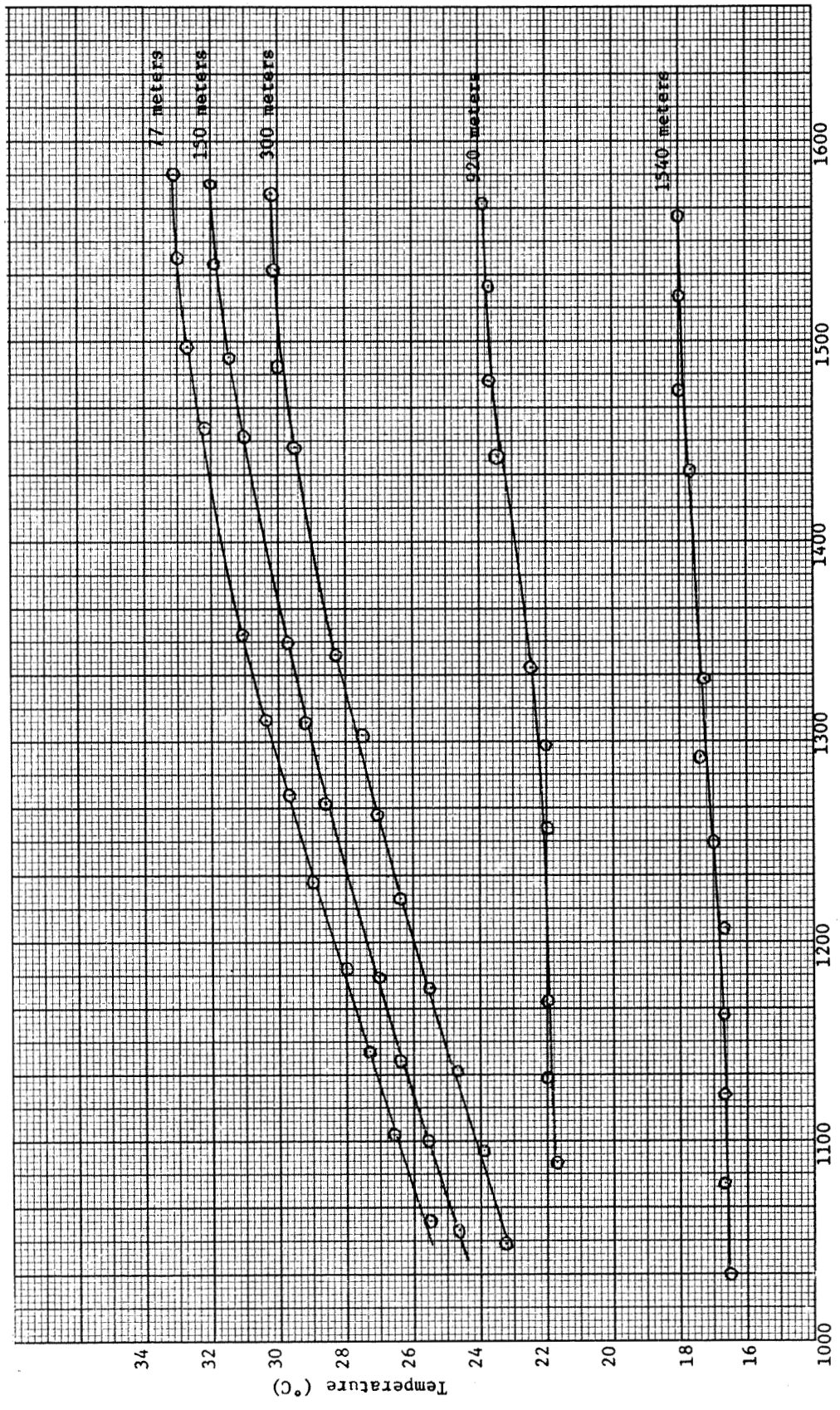
RM 30-692-6 (8-68)



9-5-68

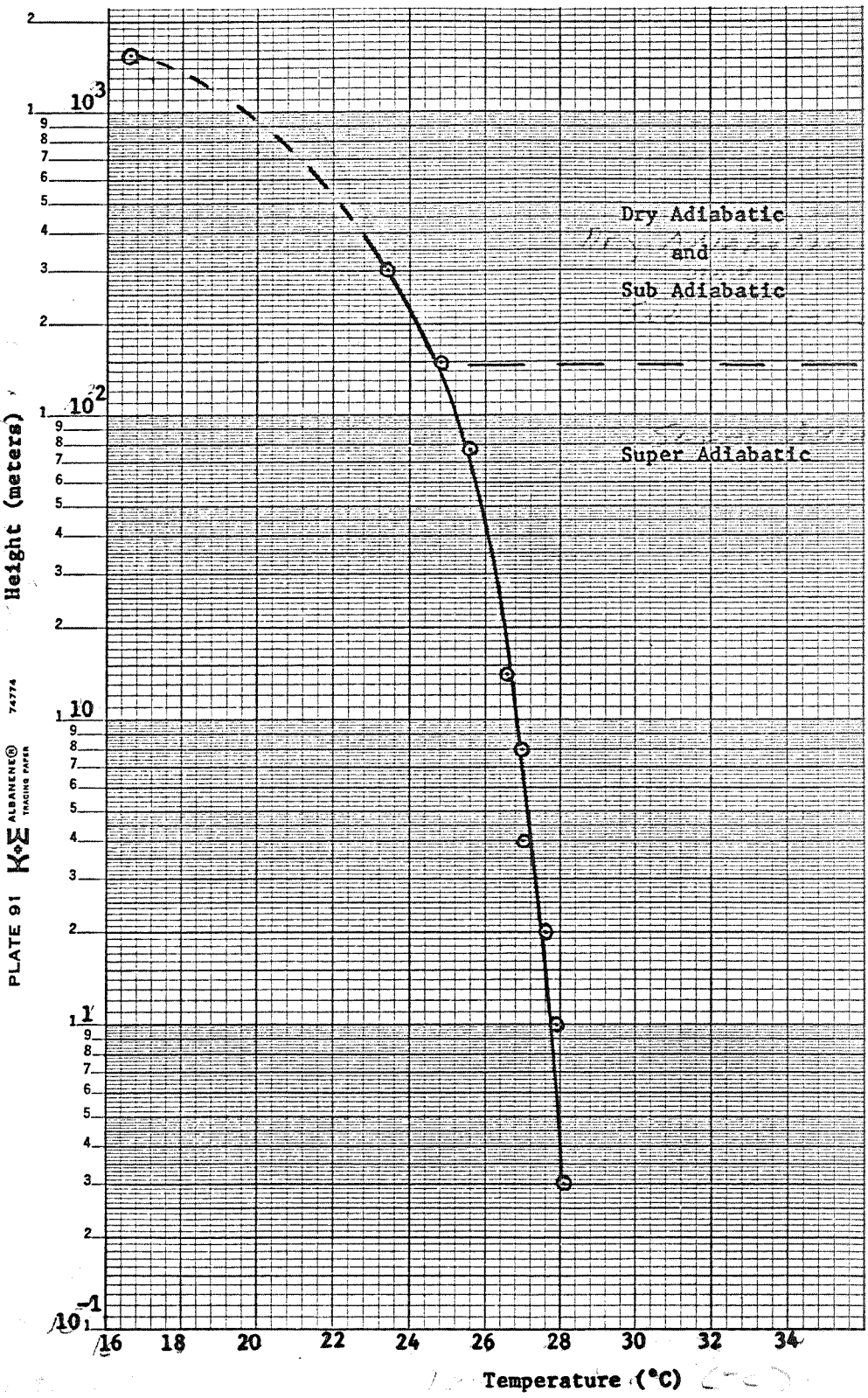
$\Delta T_s/h_s$ vs. Time

DATA FOR 9-12-68



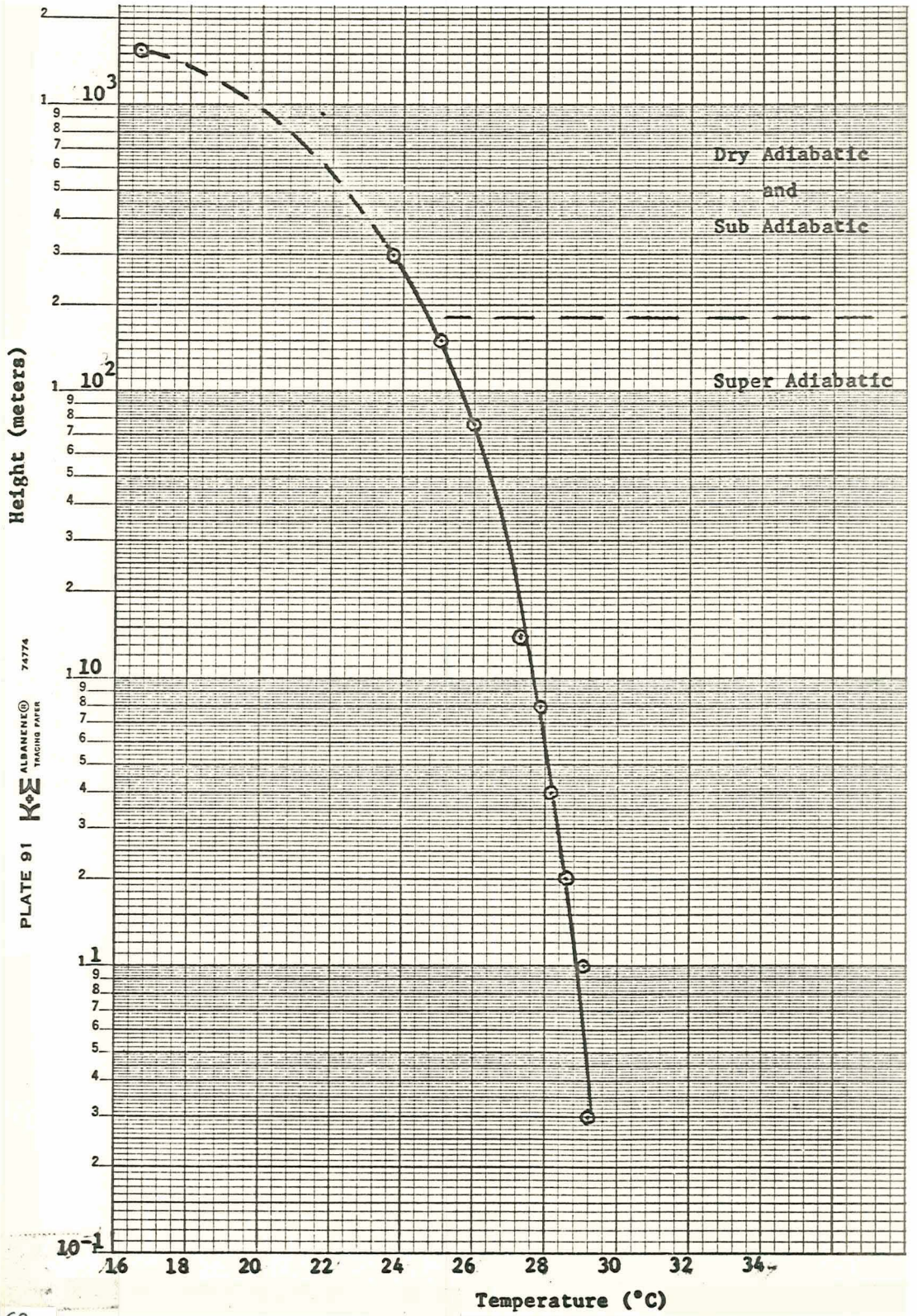
9-12-68

Aircraft Soundings



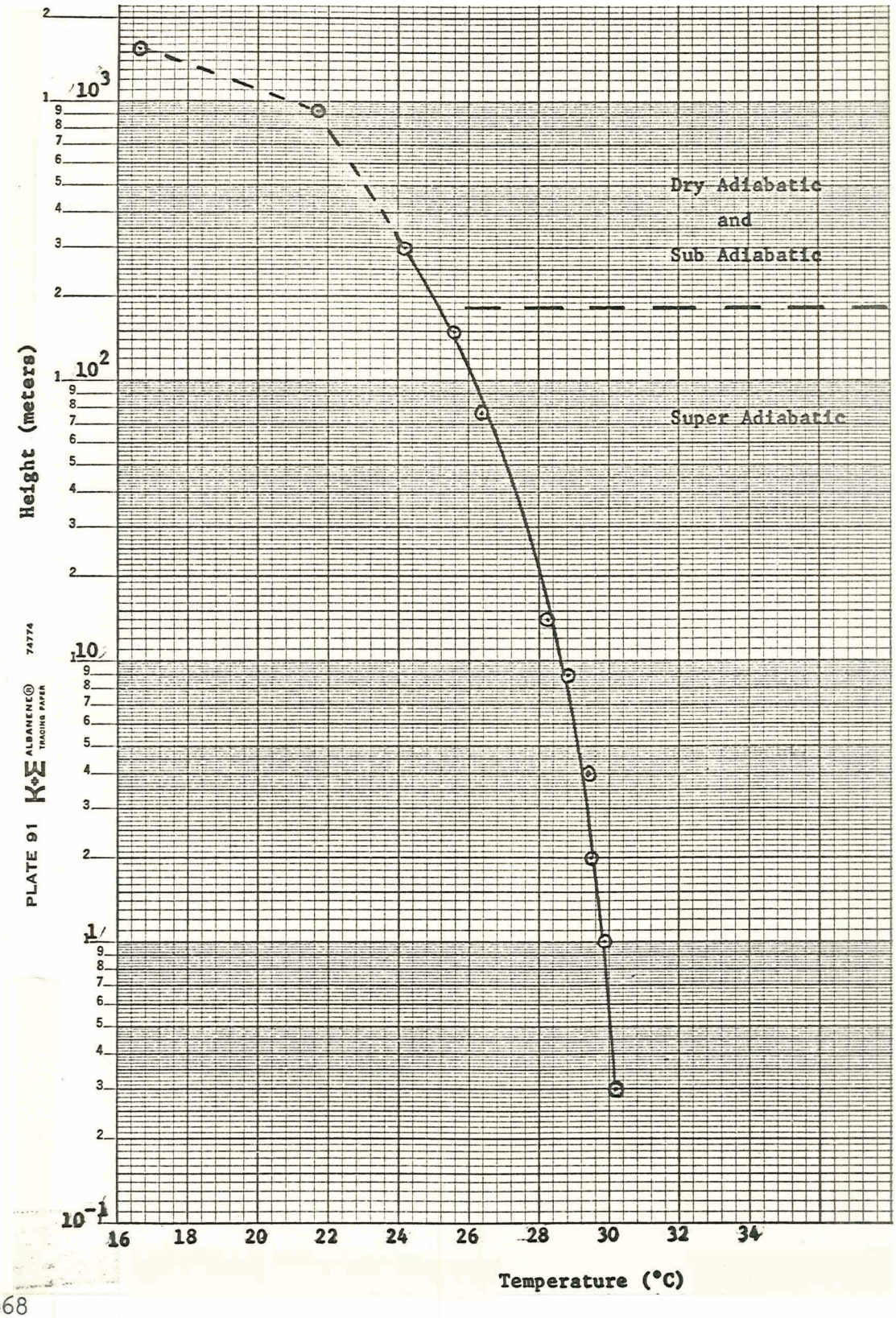
9-12-68

1035 PDT



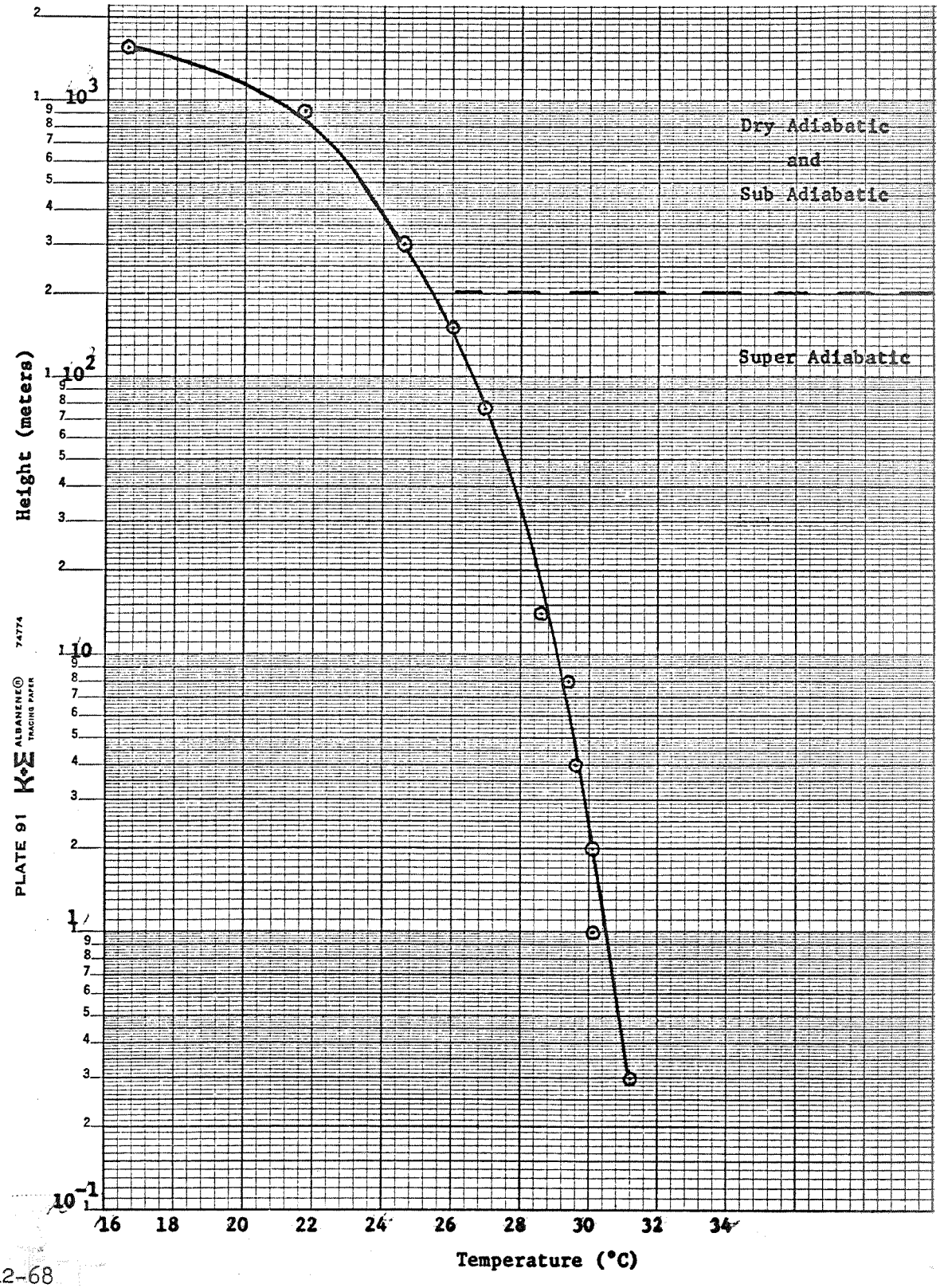
9-12-68

1045 PDT



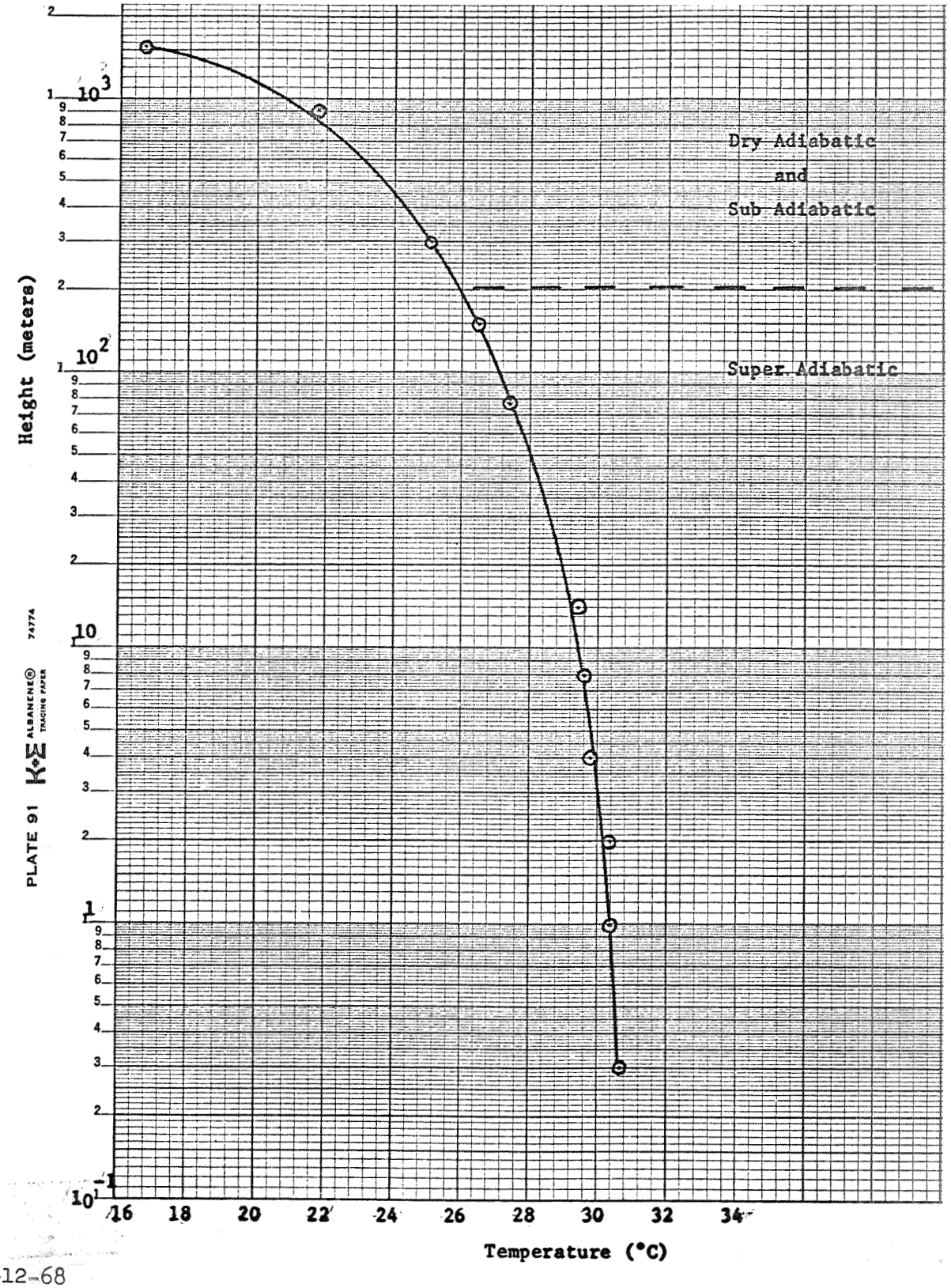
9-12-68

1100 PDT



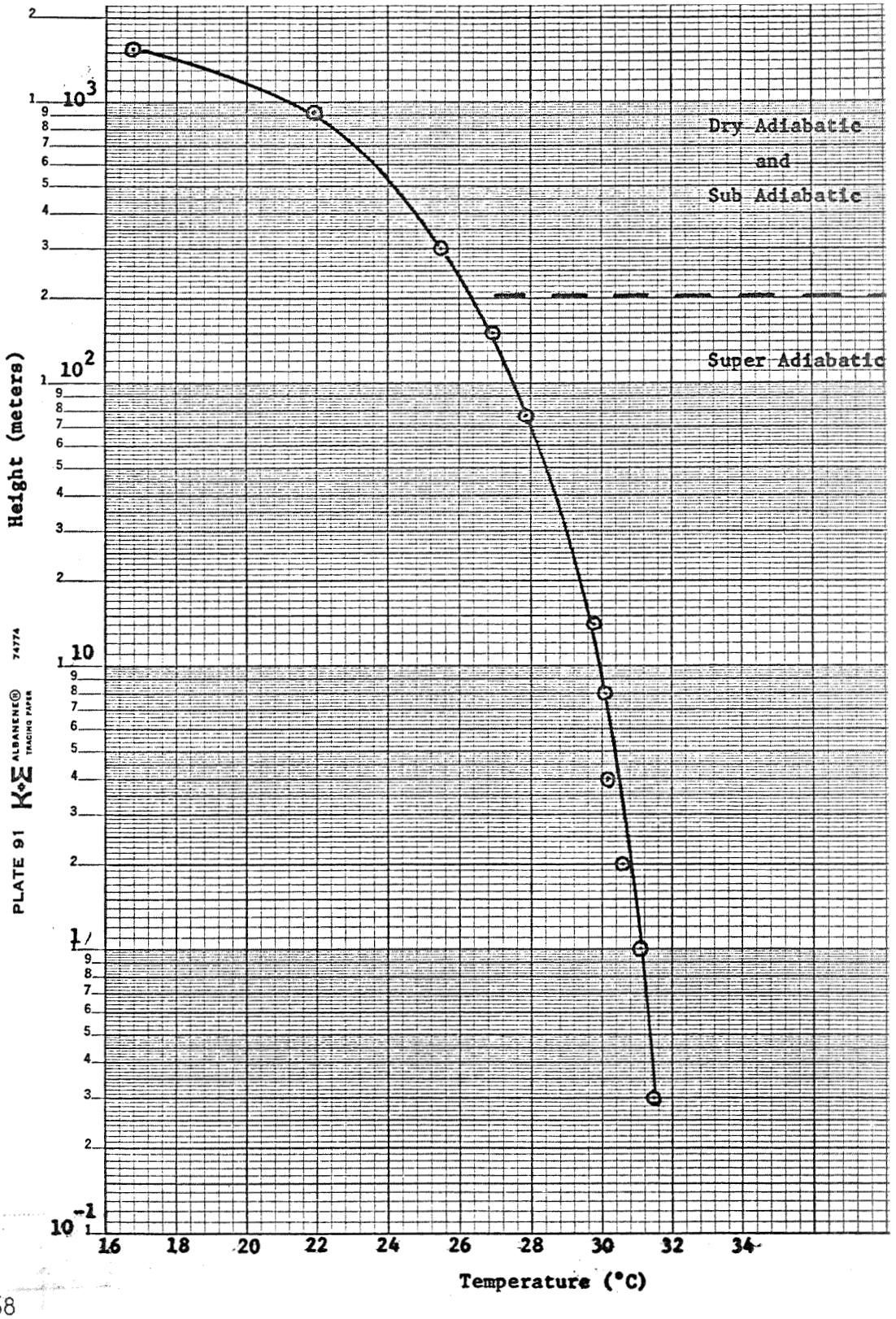
9-12-68

1115 PDT



9-12-68

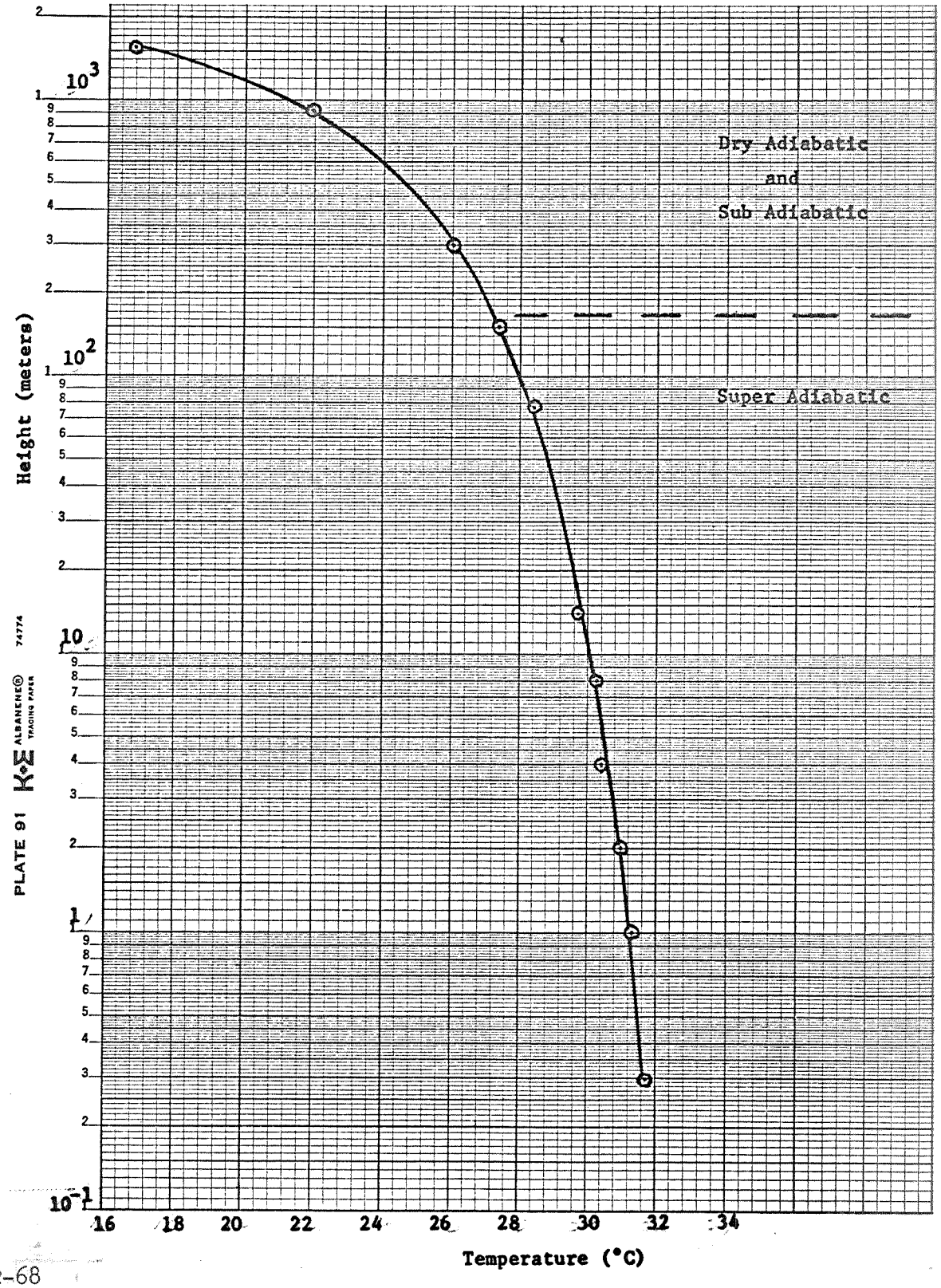
1130 PDT



8-12-68

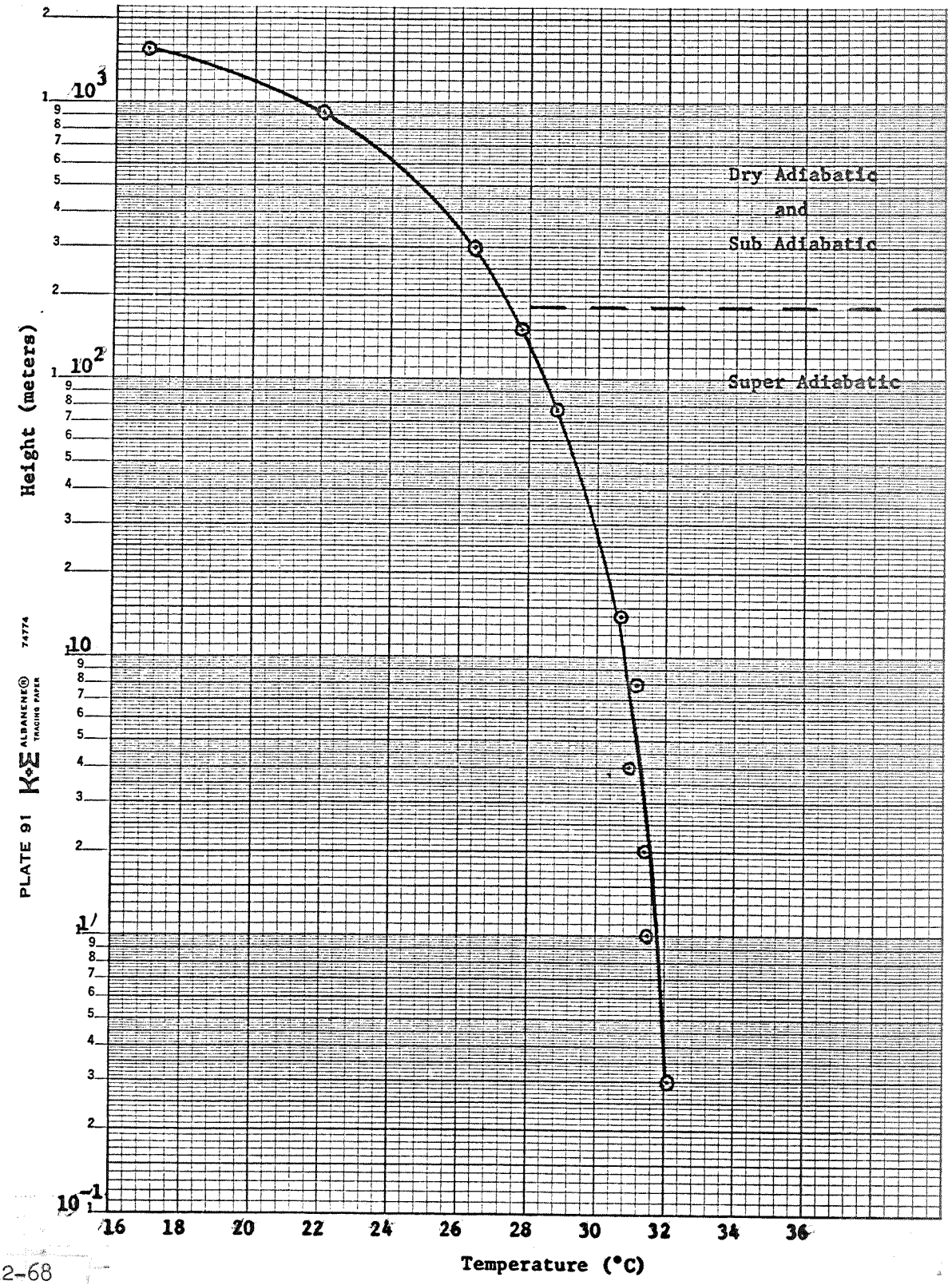
1145 PDT

M 30-692-6 (8-68)



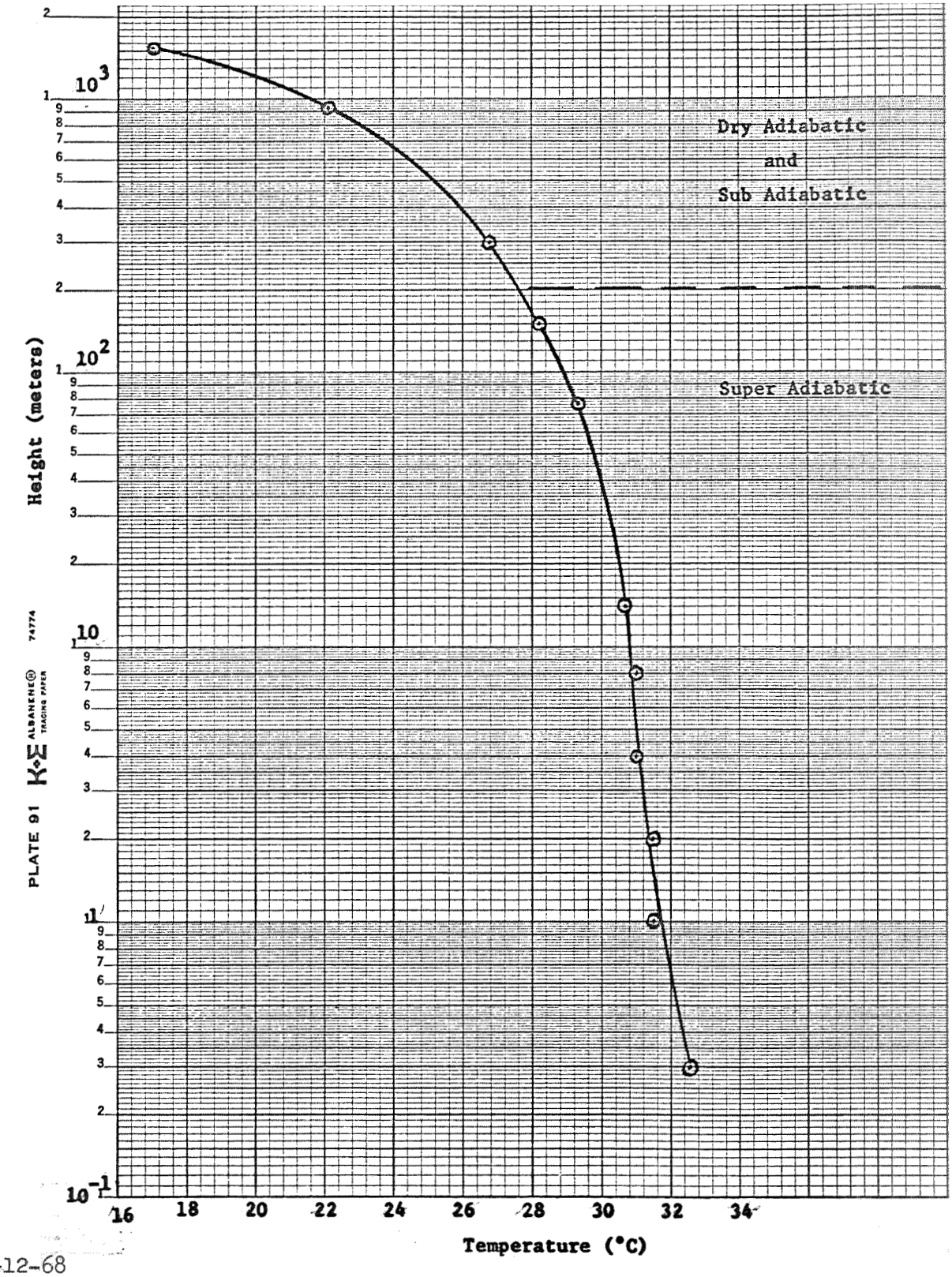
9-12-68

1200 PDT



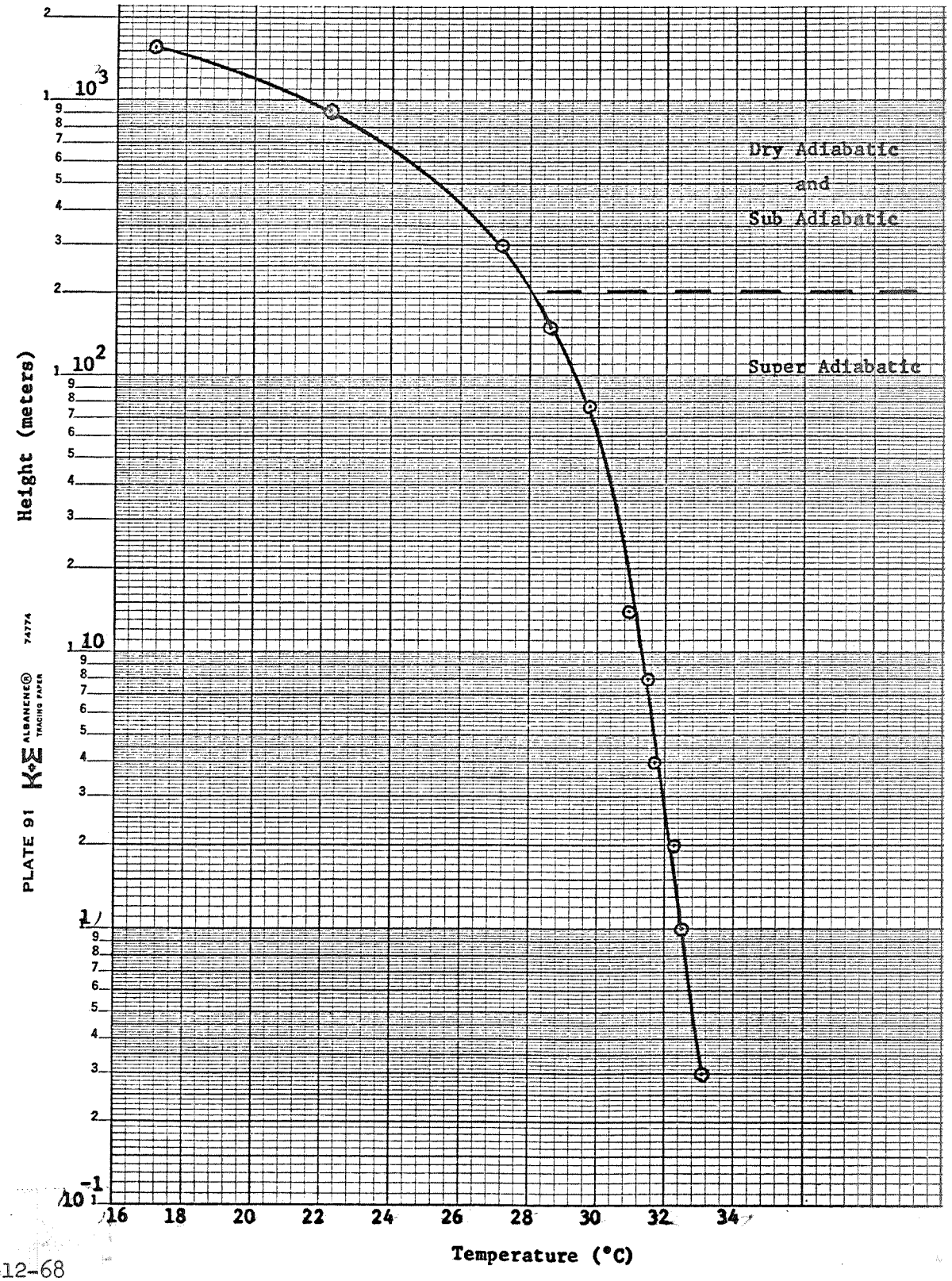
9-12-68

1215 PDT



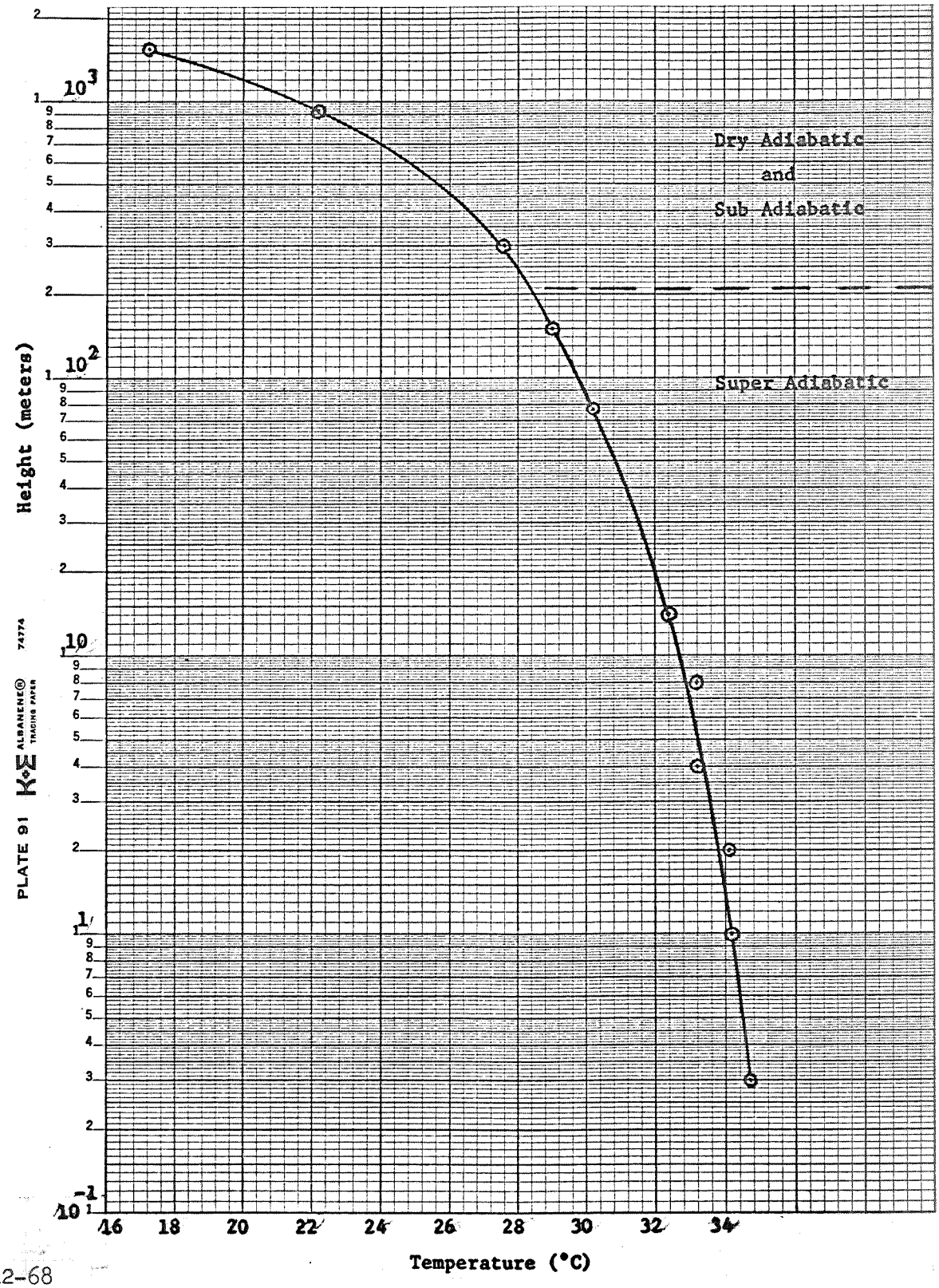
9-12-68

1230 PDT



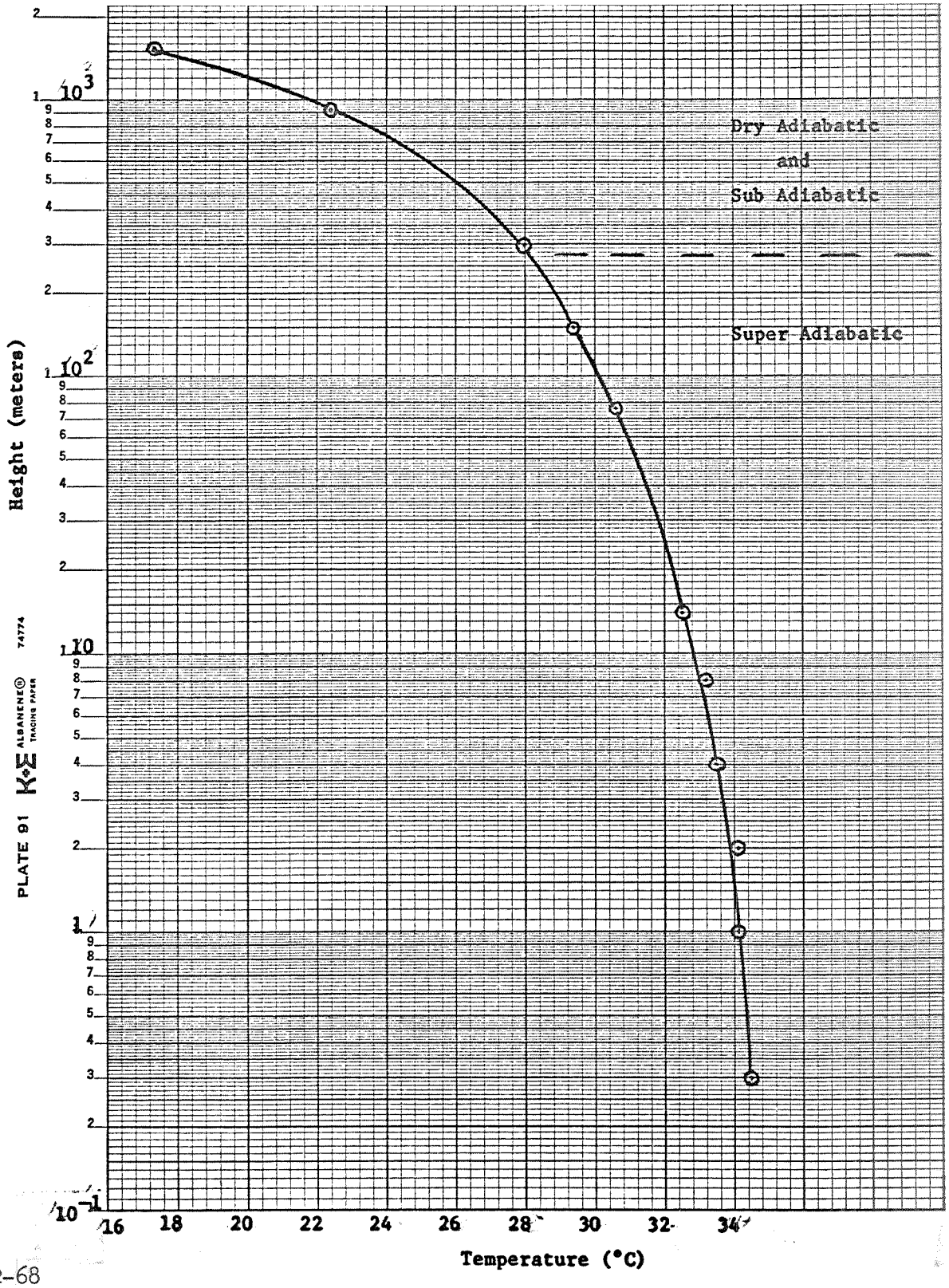
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1245 PDT



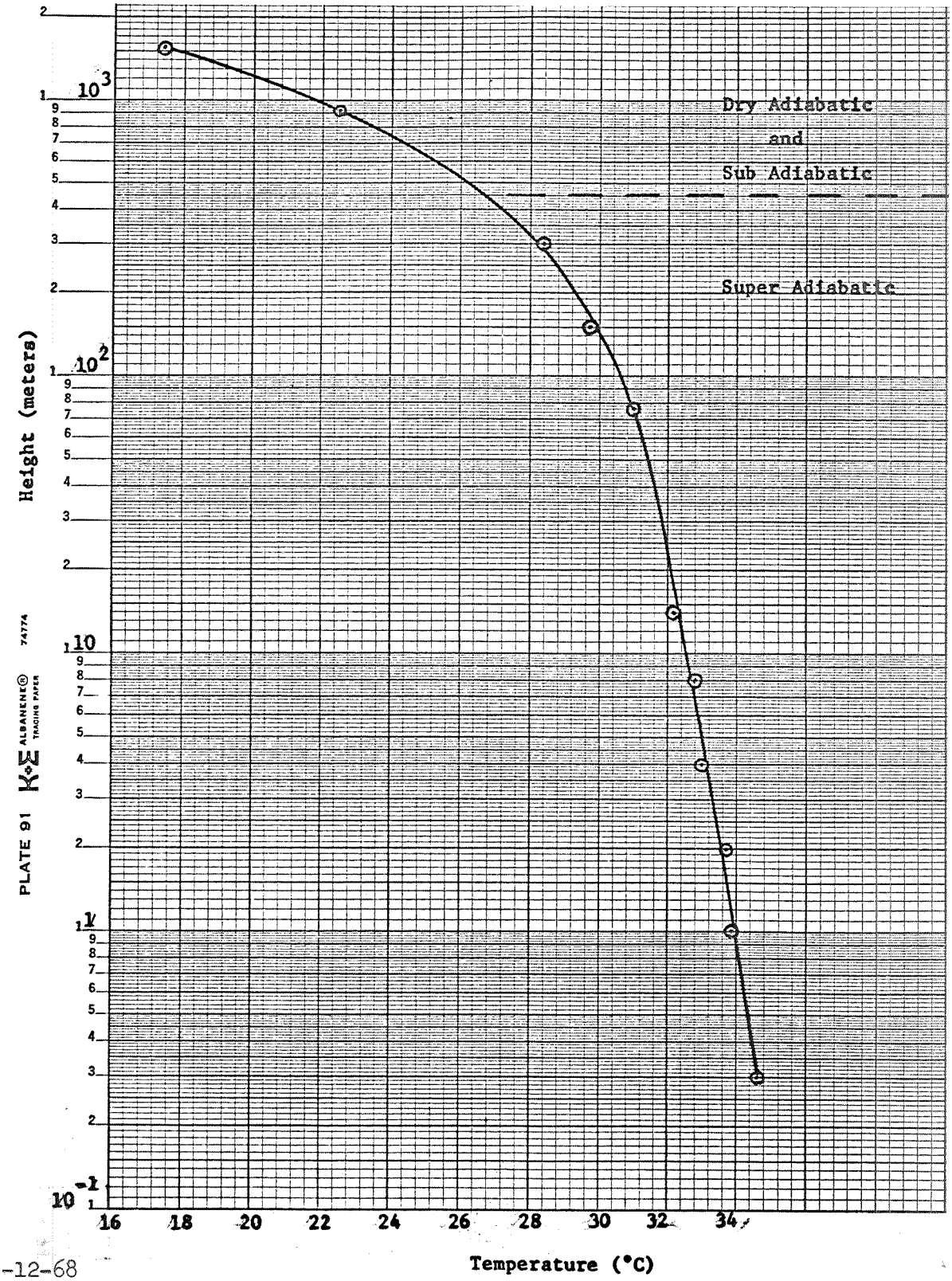
9-12-68

1303 PDT



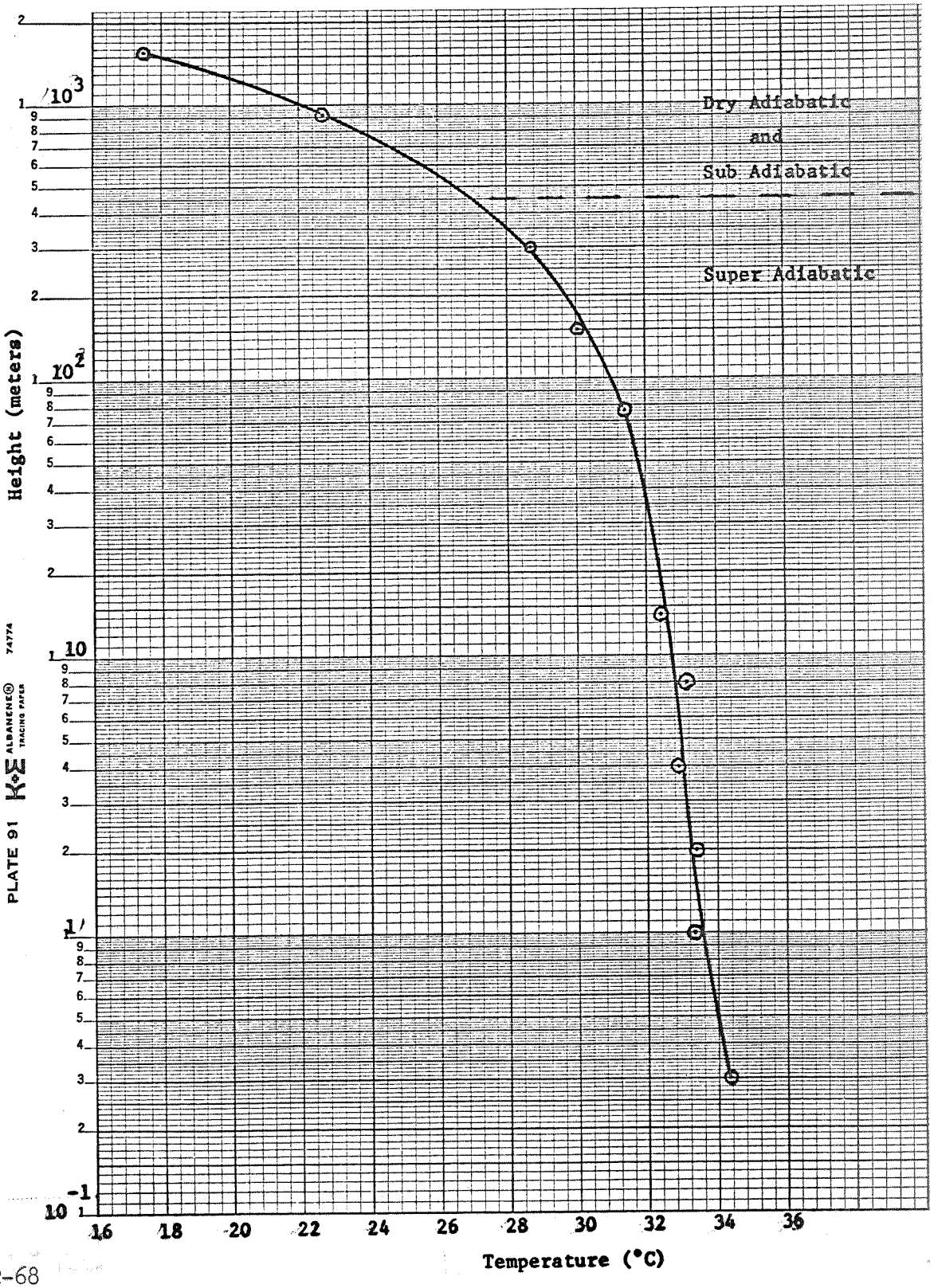
9-12-68

1317 PDT



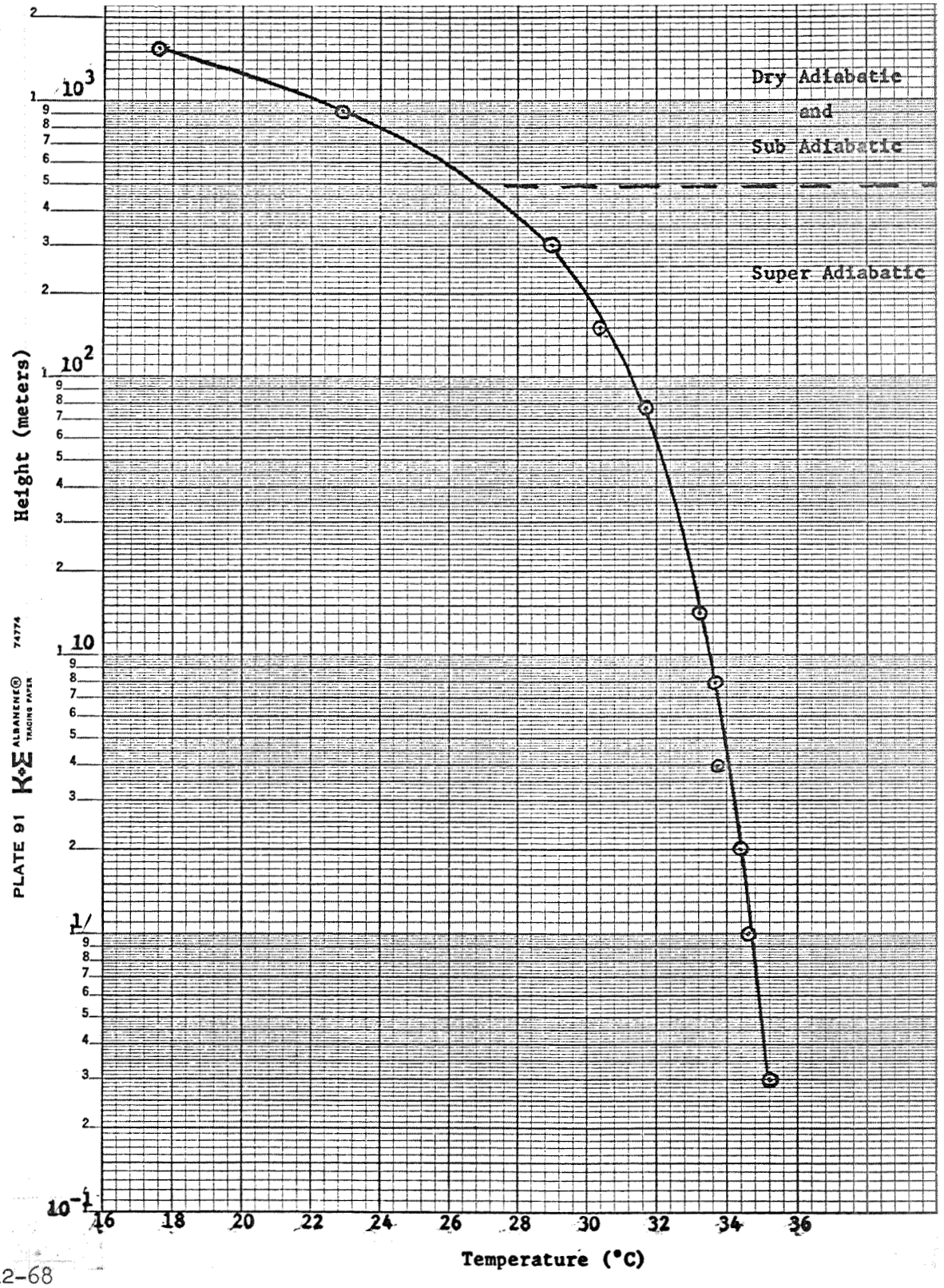
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1330 PDT



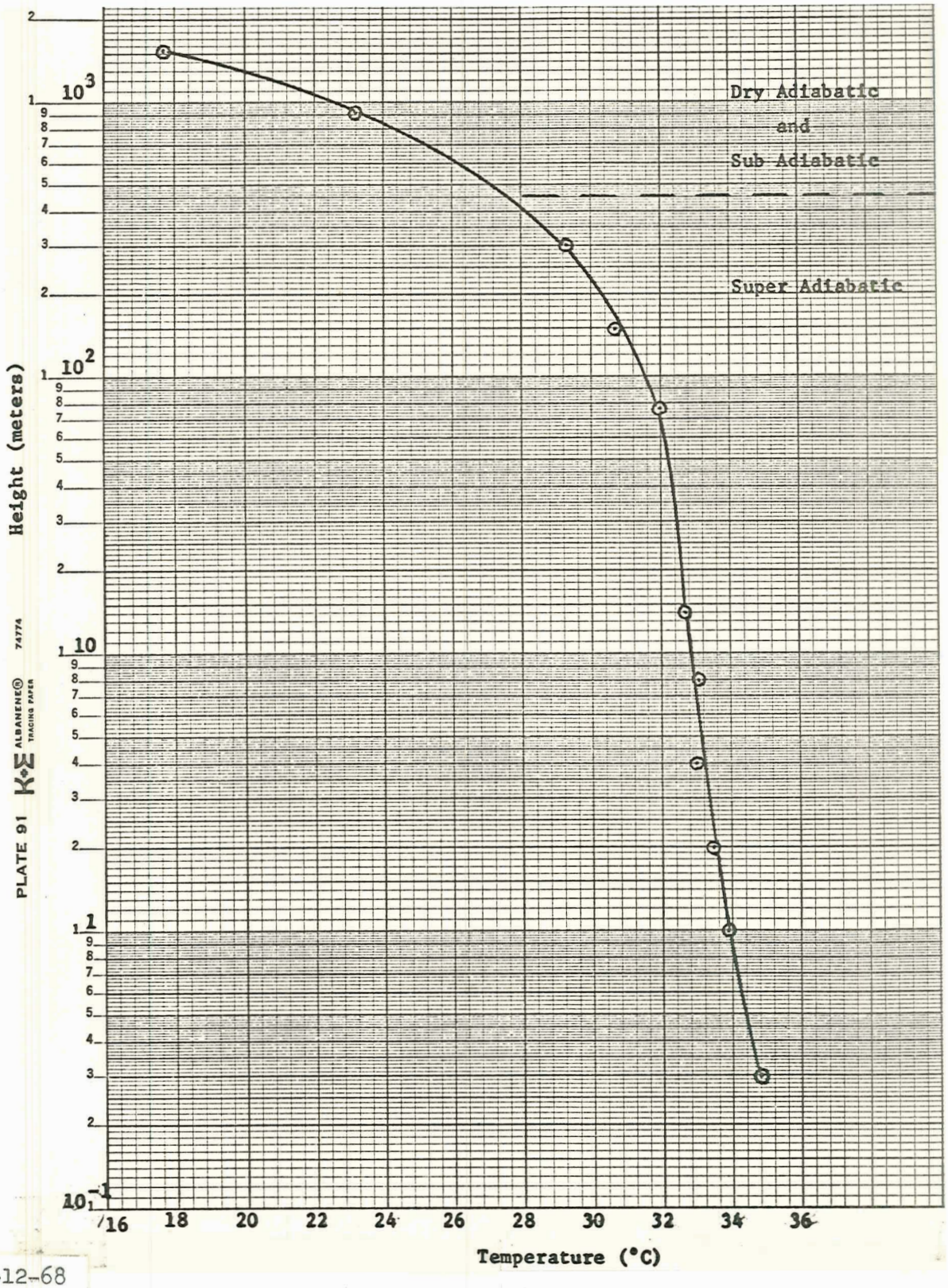
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1345 PDT



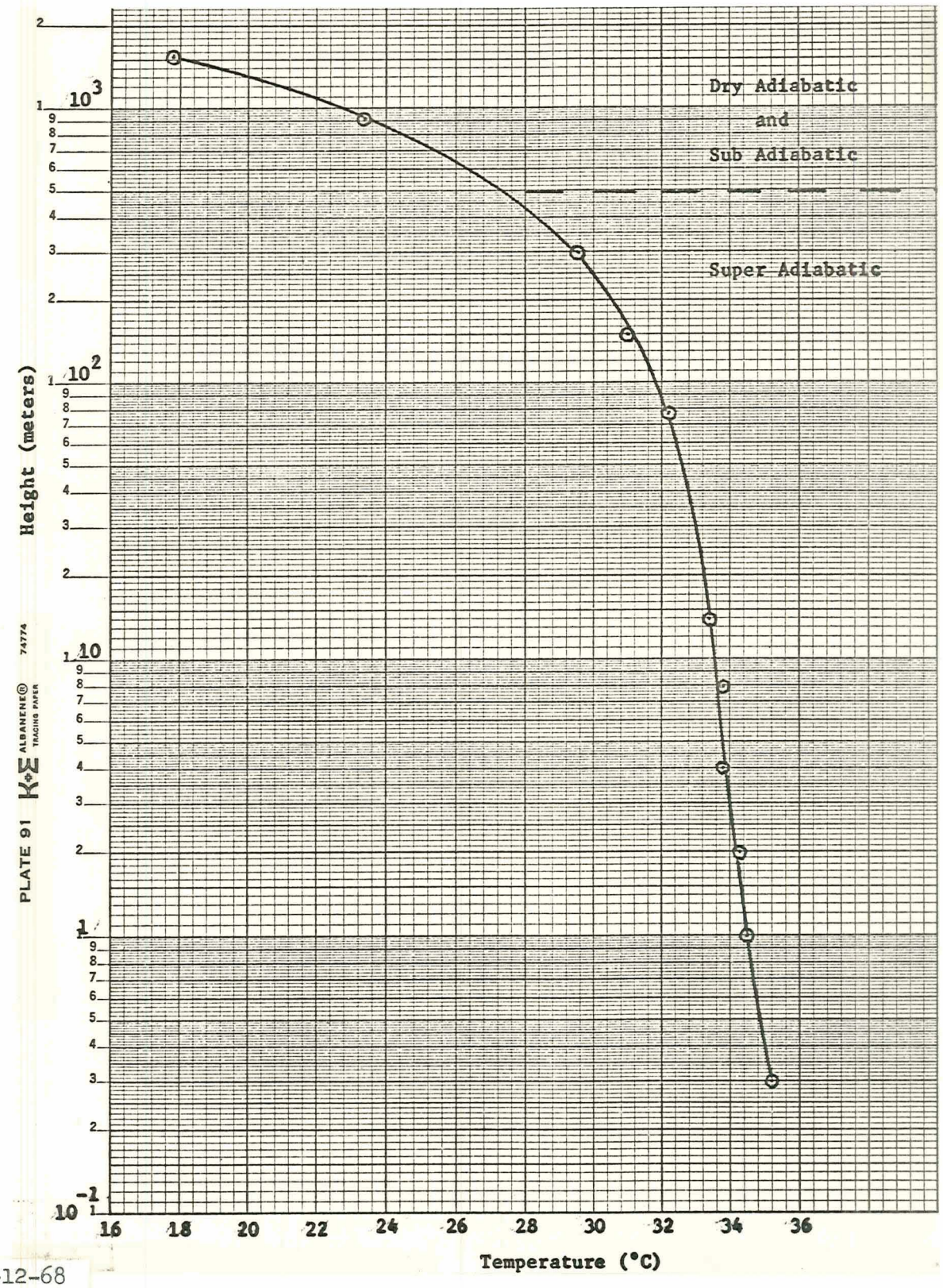
9-12-68

1400 PDT



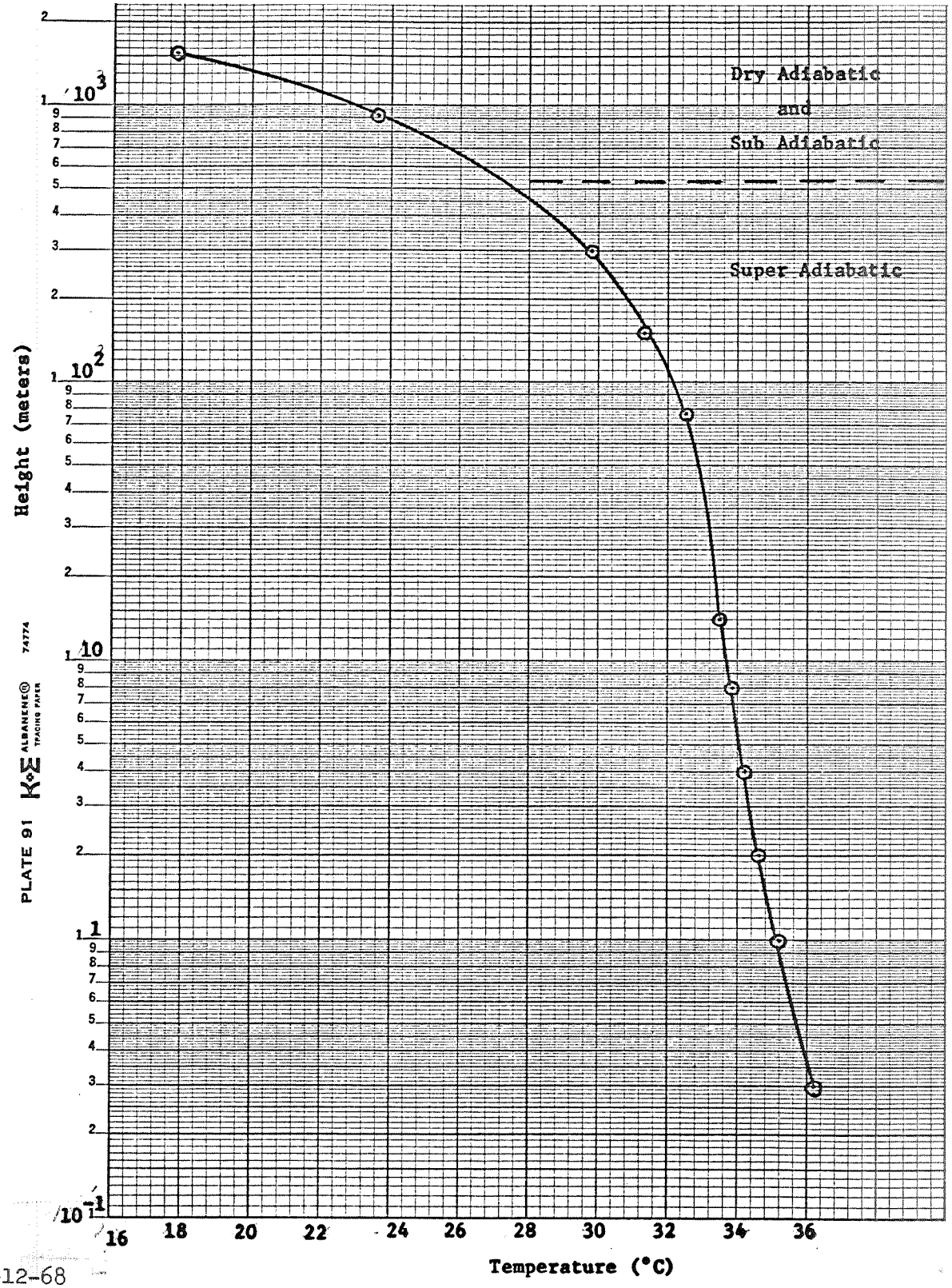
9-12-68

1415 PDT



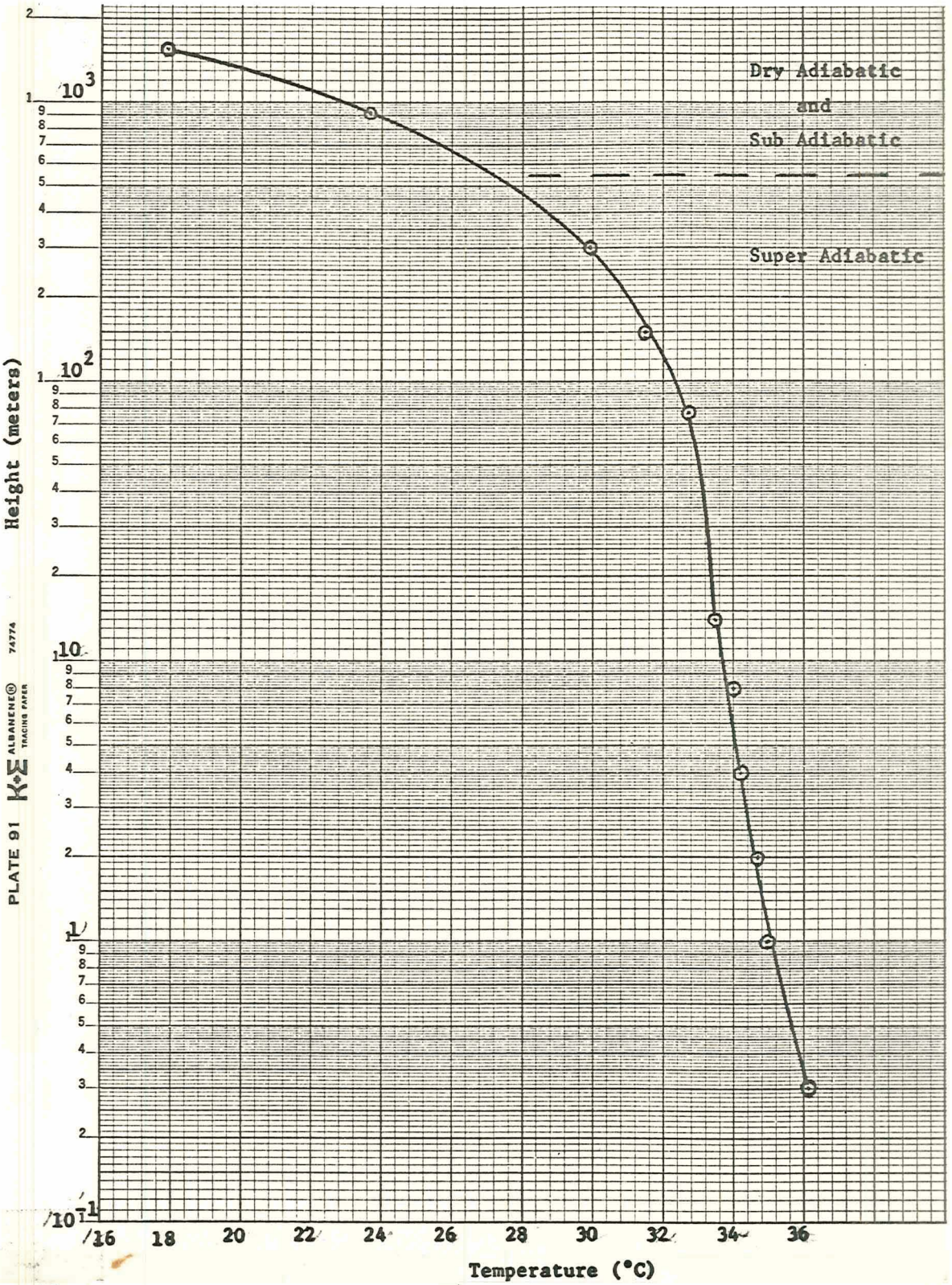
9-12-68

1430 PDT



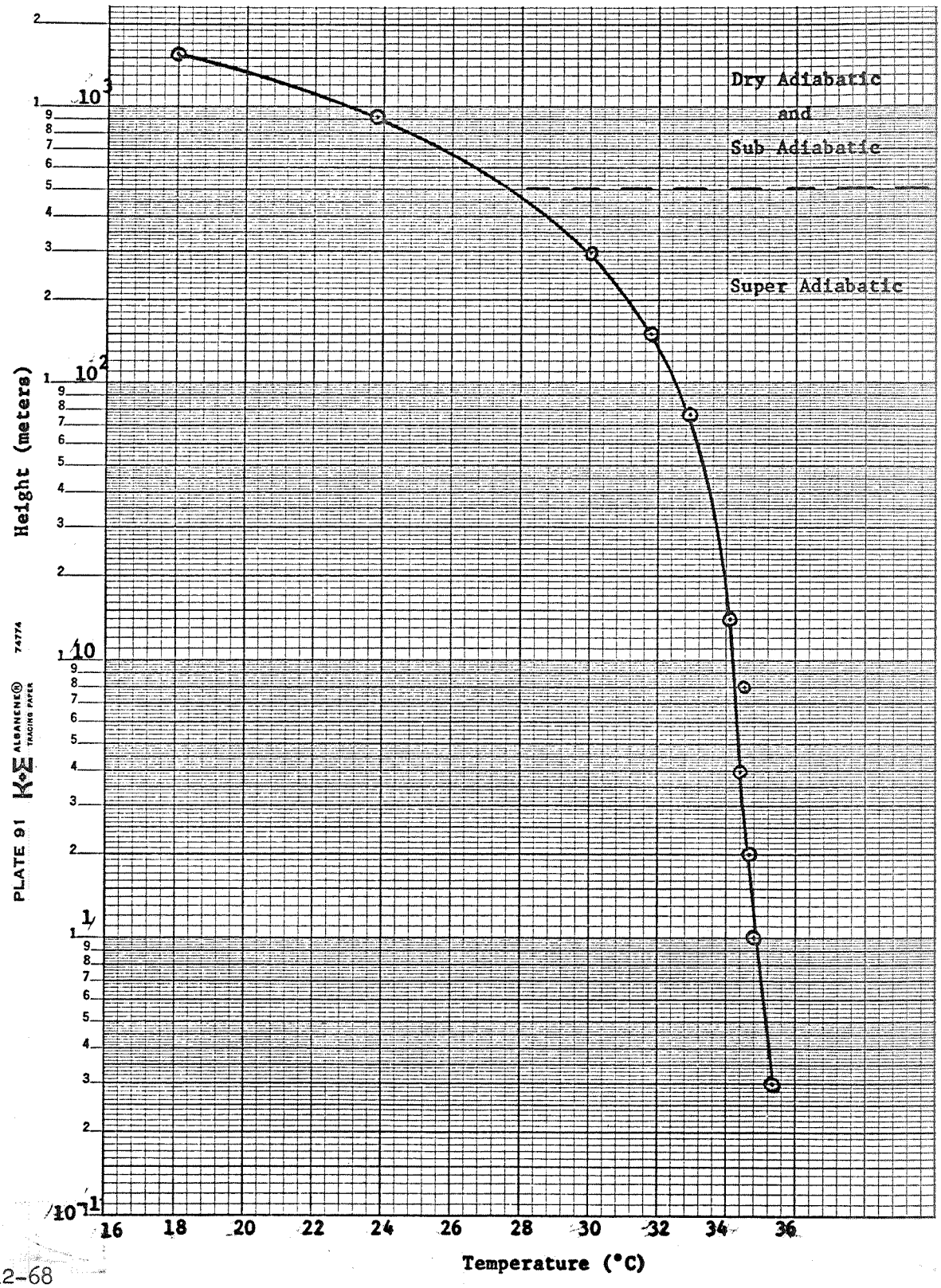
9-12-68

1448 PDT



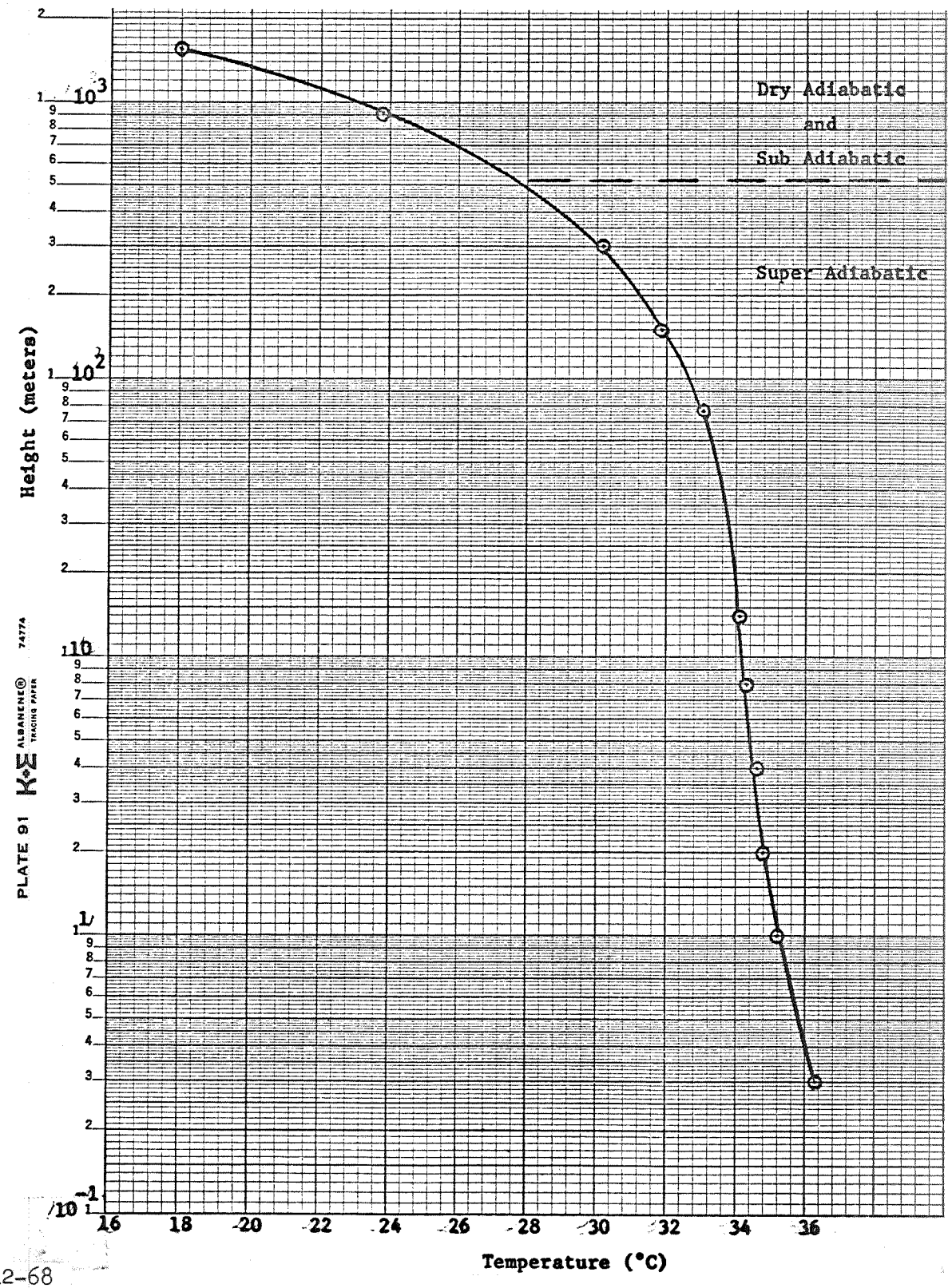
9-12-68

1502 PDT



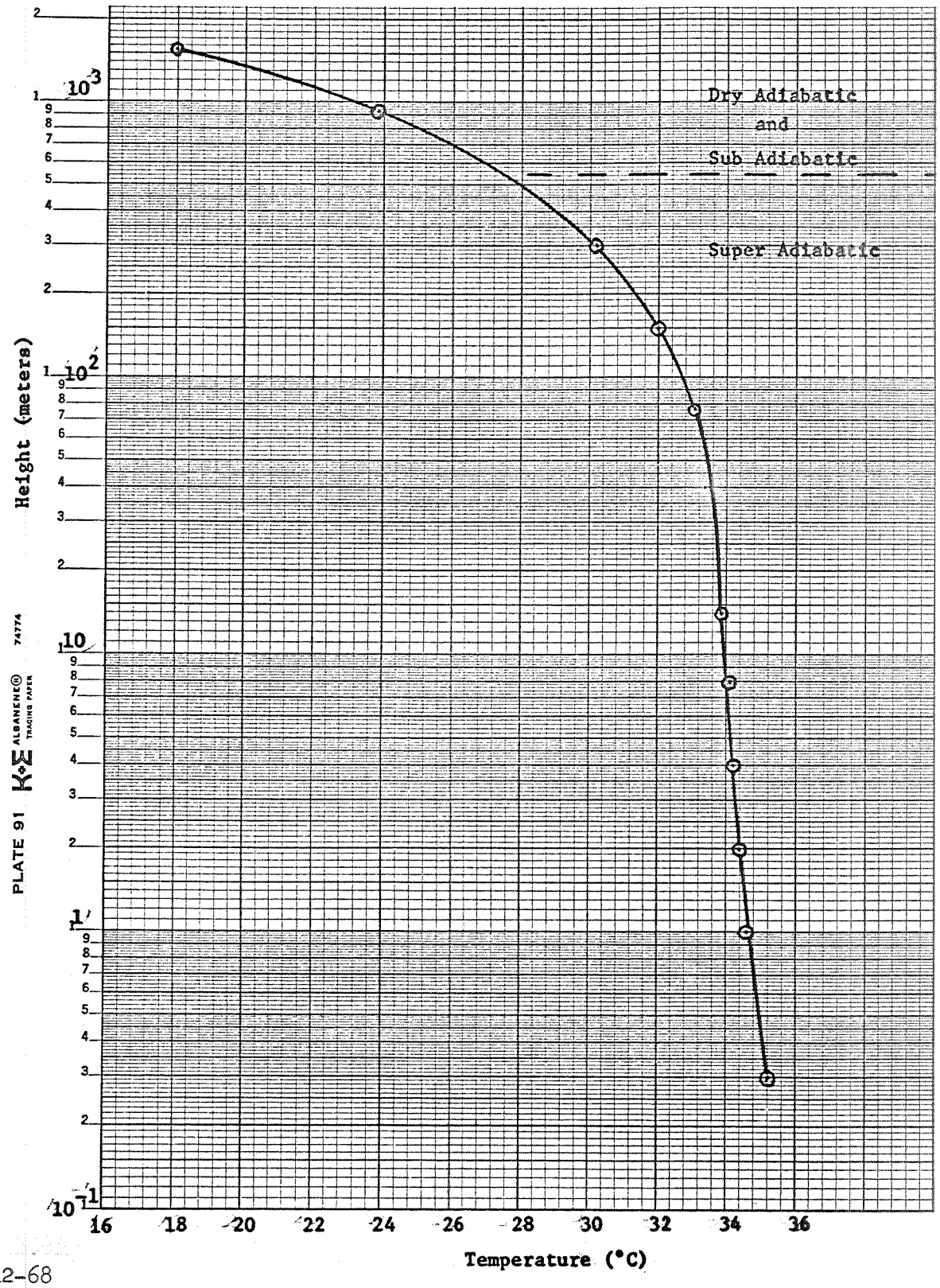
9-12-68

1515 PDT



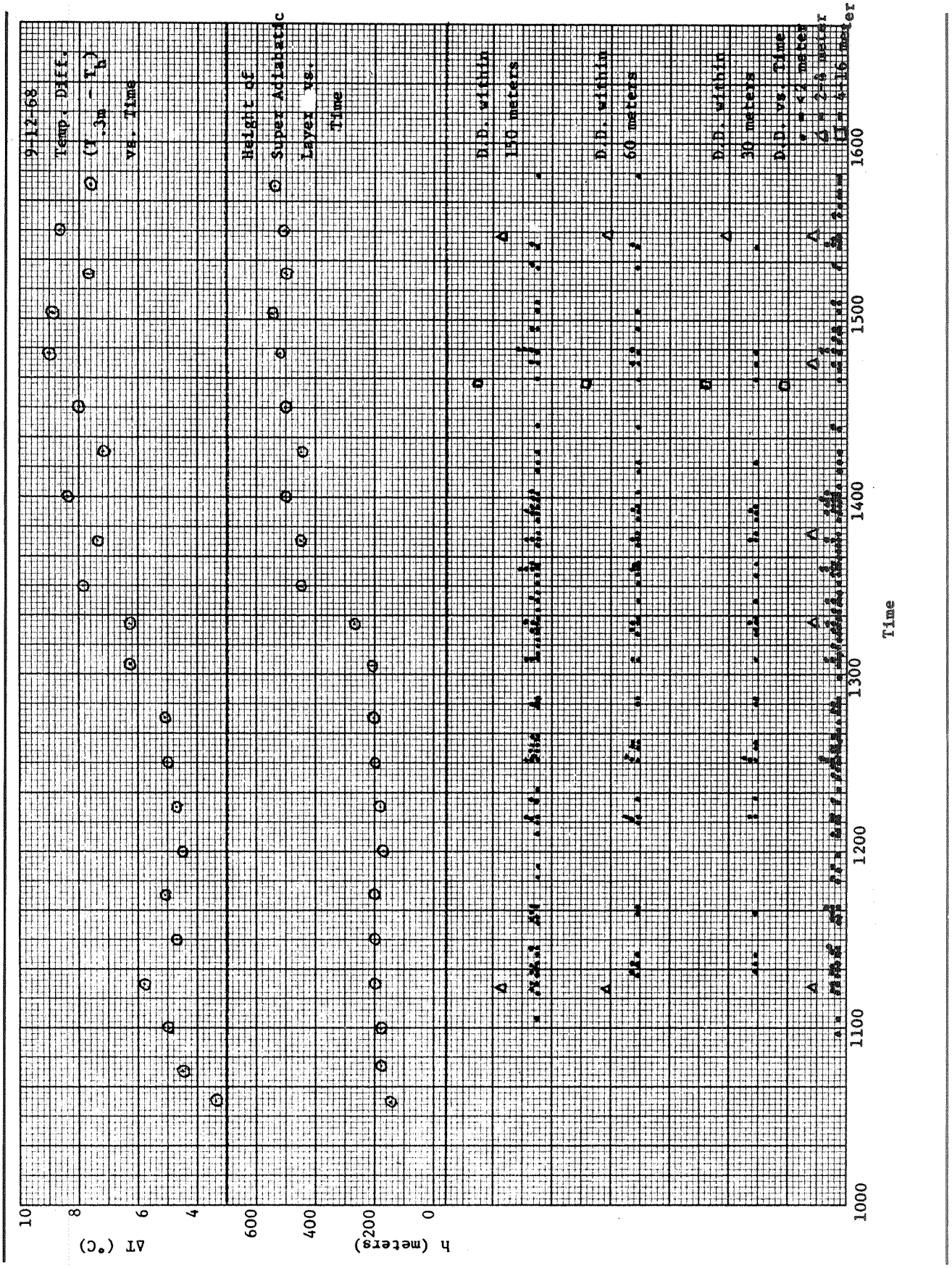
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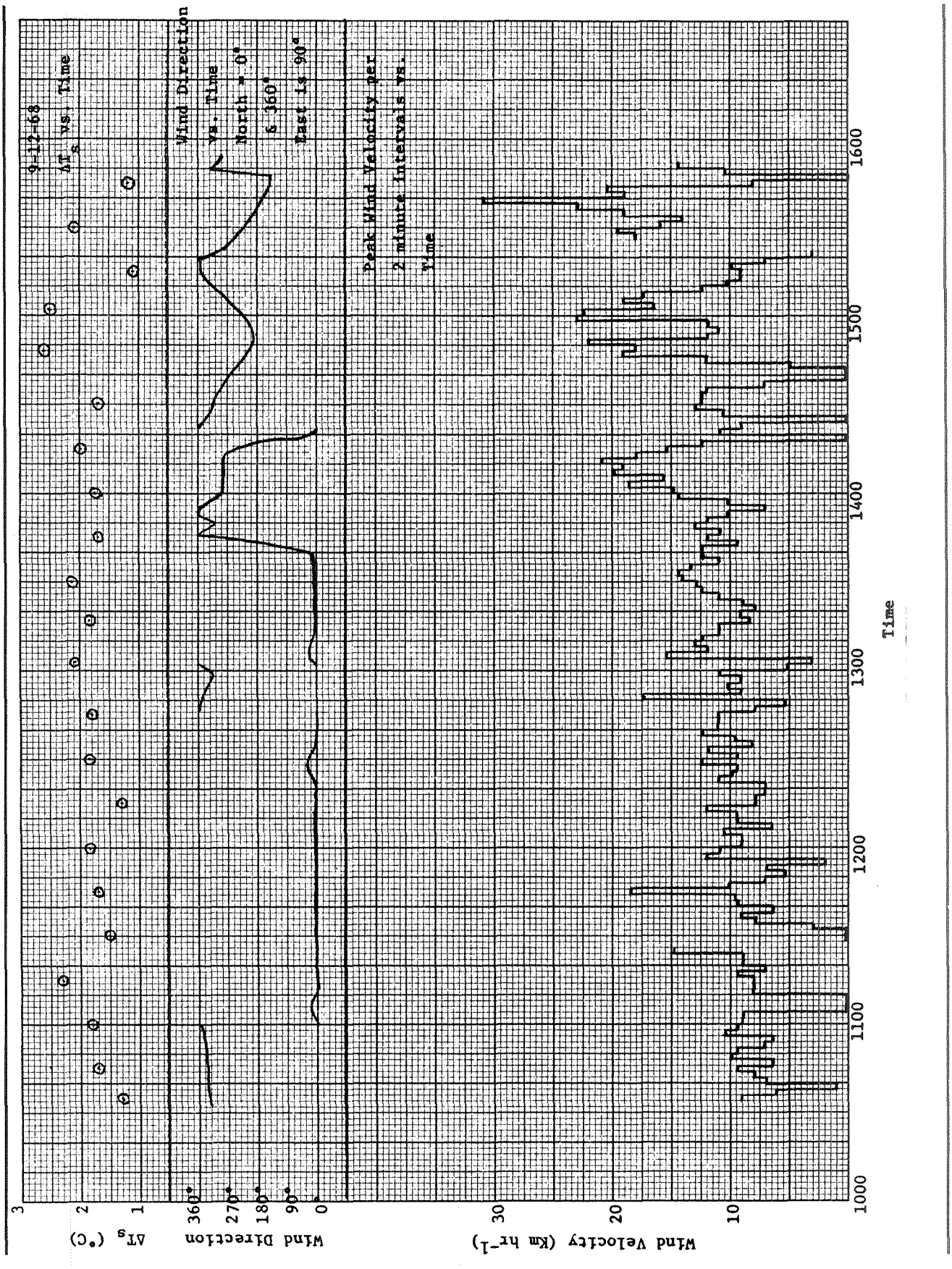
1530 PDT

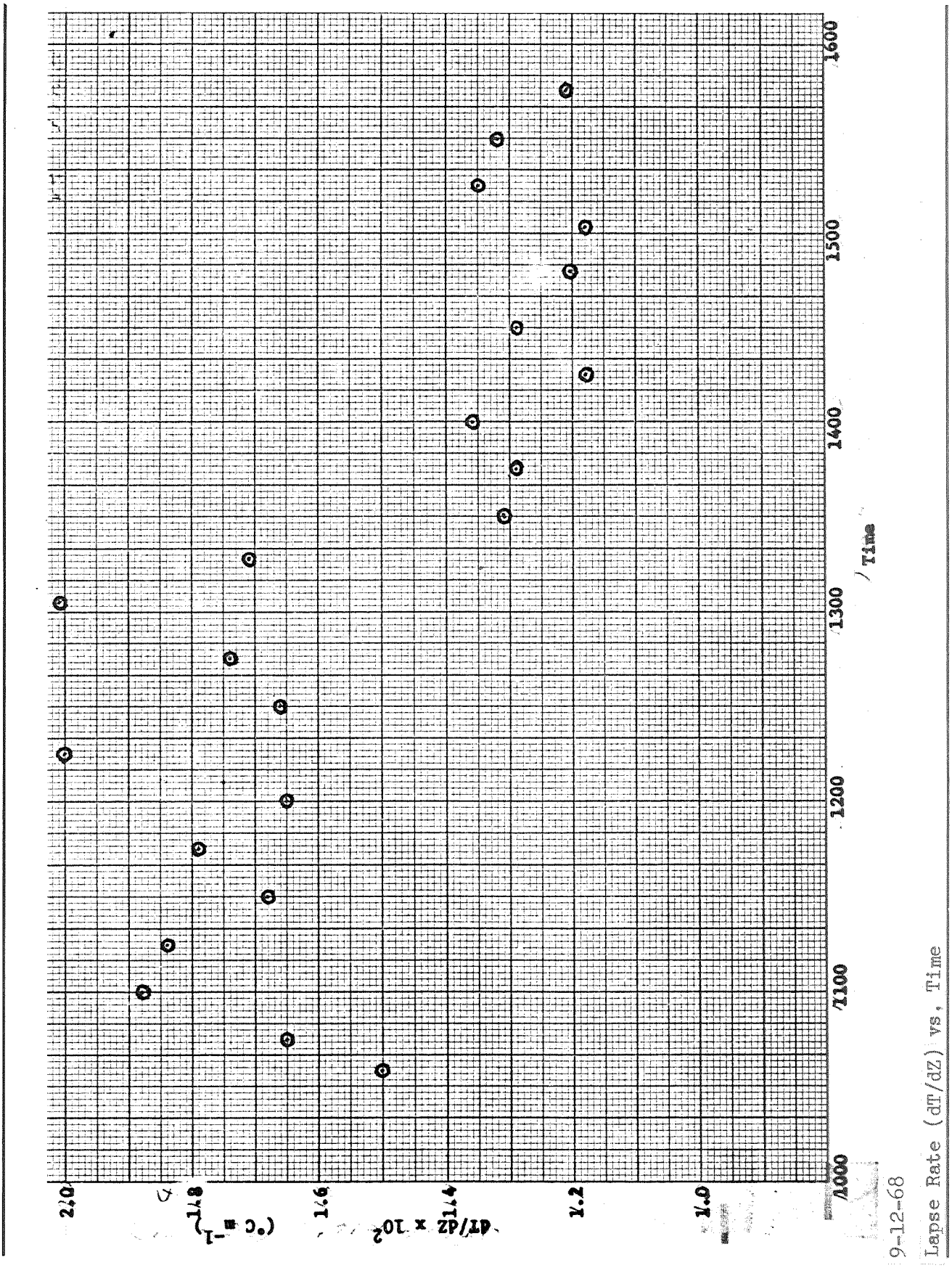


9-12-68

1545 PDT


9-12-68
Temp. Diff.
(T 3m - T b)
vs. Time
Height of
Super Adiabatic
Layer vs.
Time
B.B. within
150 meters
B.B. within
60 meters
D.D. within
30 meters
D.D. vs. Time
Δ = 2-8 meter
• = 4-16 meter
ΔT (°C)
h (meters)
Time
10
8
6
4
600
400
200
0
1000
1100
1200
1300
1400
1500
1600

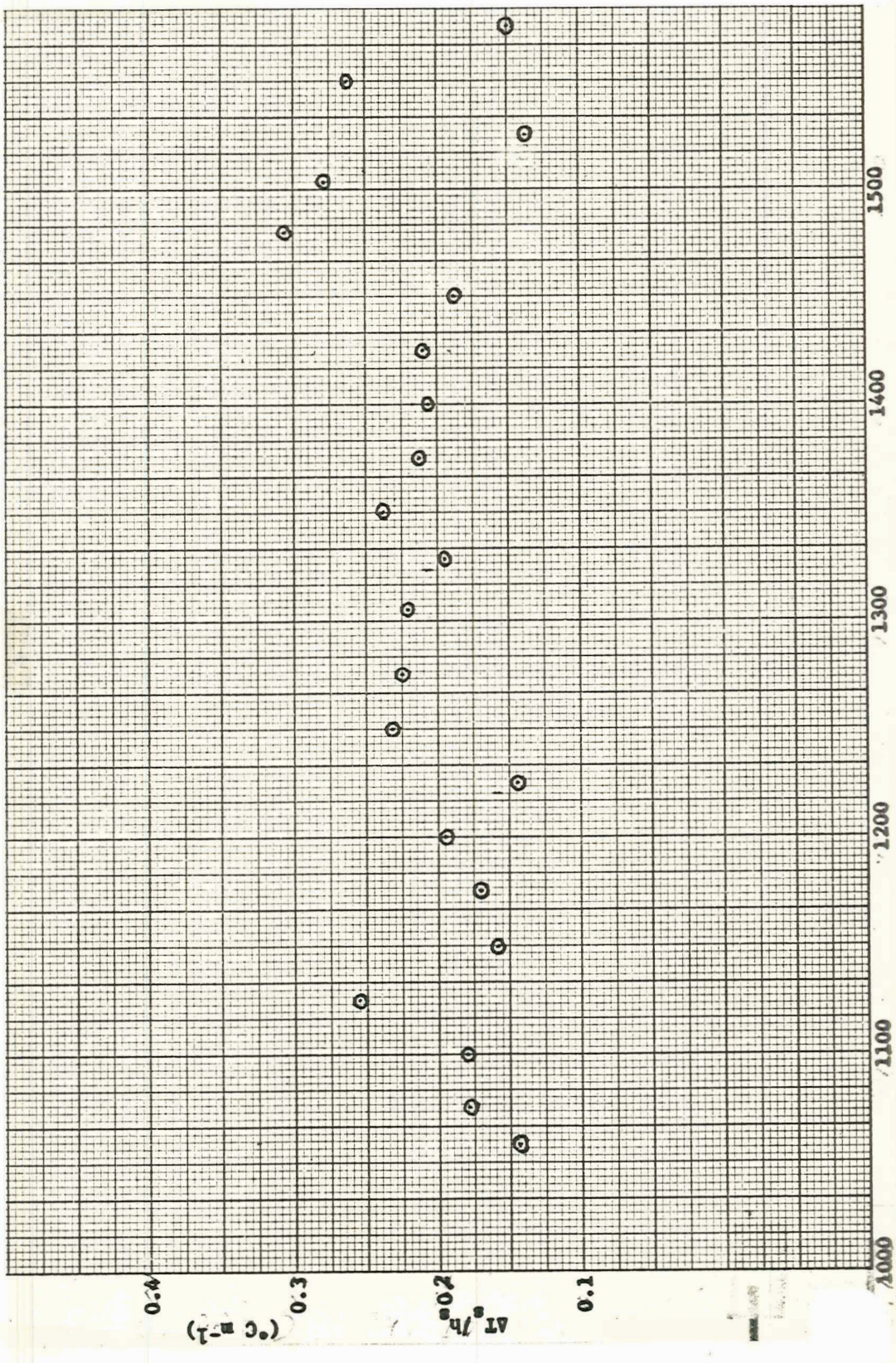

9-12-68
ΔT_s vs. Time
Wind Direction
vs. Time
North = 0°
& 360°
East is 90°
Peak Wind Velocity per
2 minute intervals vs.
Time
ΔT_s (°C)
Wind Direction
Wind Velocity (Km hr^{-1})
Time



9-12-68

Lapse Rate (dT/dZ) vs. Time

1 30-692-9 (8-68)



9-12-68

$\Delta T_s/h_s$ vs. Time