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Technical Report No. 82

(PART 2 - FIGURES)

SACLANT ASW
RESEARCH CENTRE

Study of the Oceanography of the Upper Layer in the N.E. Atlantic:

LOG OF DATA — PHASE A

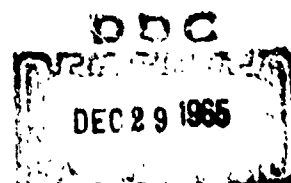
by

A. Dahme

1 NOVEMBER 1965

NATO

VIALE SAN BARTOLOMEO 92
LA SPEZIA ITALY



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TECHNICAL REPORT NO. 52

SACLANT ASW RESEARCH CENTRE
Viale San Bartolomeo 92
La Spezia, Italy

STUDY OF THE OCEANOGRAPHY OF THE UPPER LAYER IN THE
N. E. ATLANTIC

MILOC 64 DATA - PHASE A

By

A. Dahme

1 November 1965

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MILOC 64

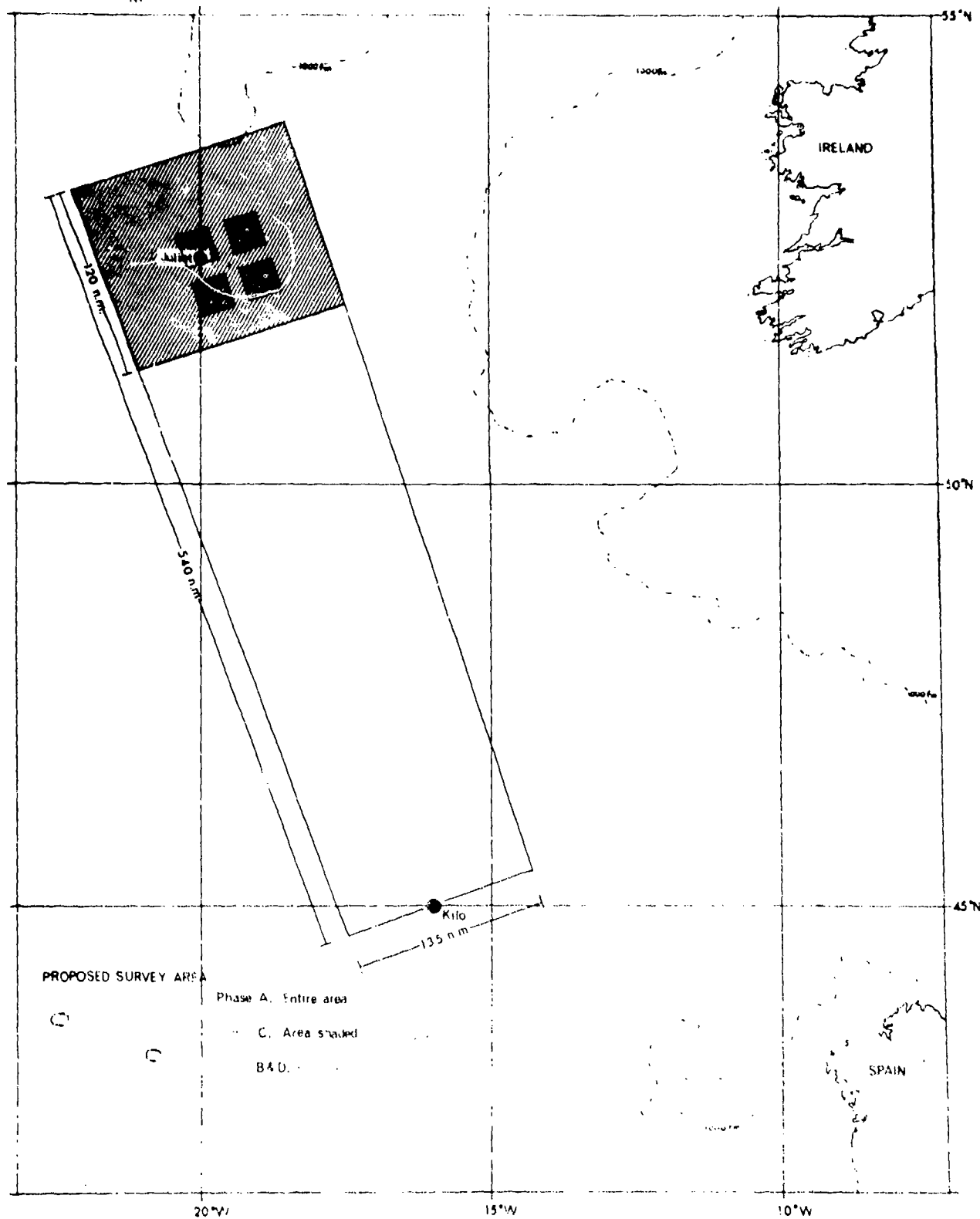


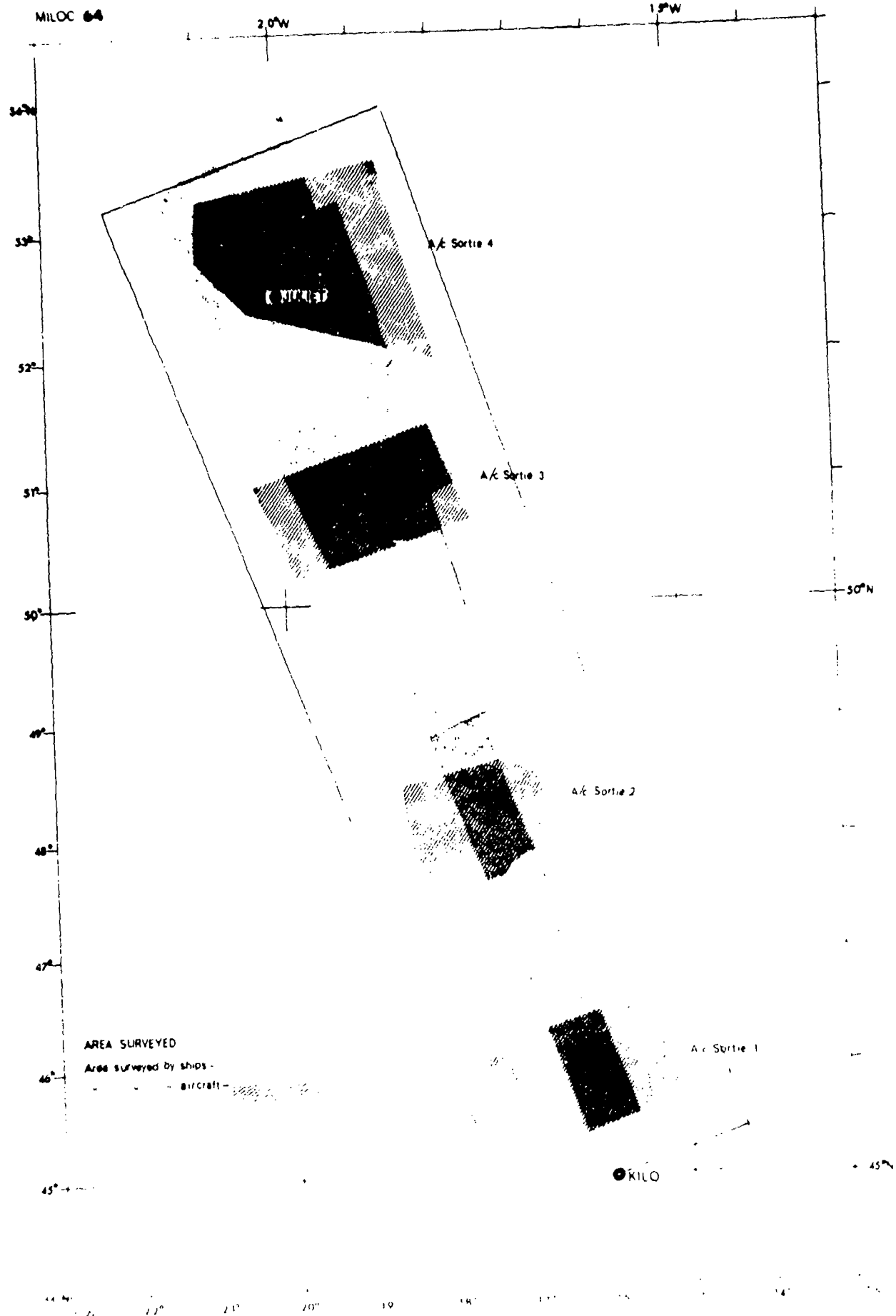
FIG. 0.1

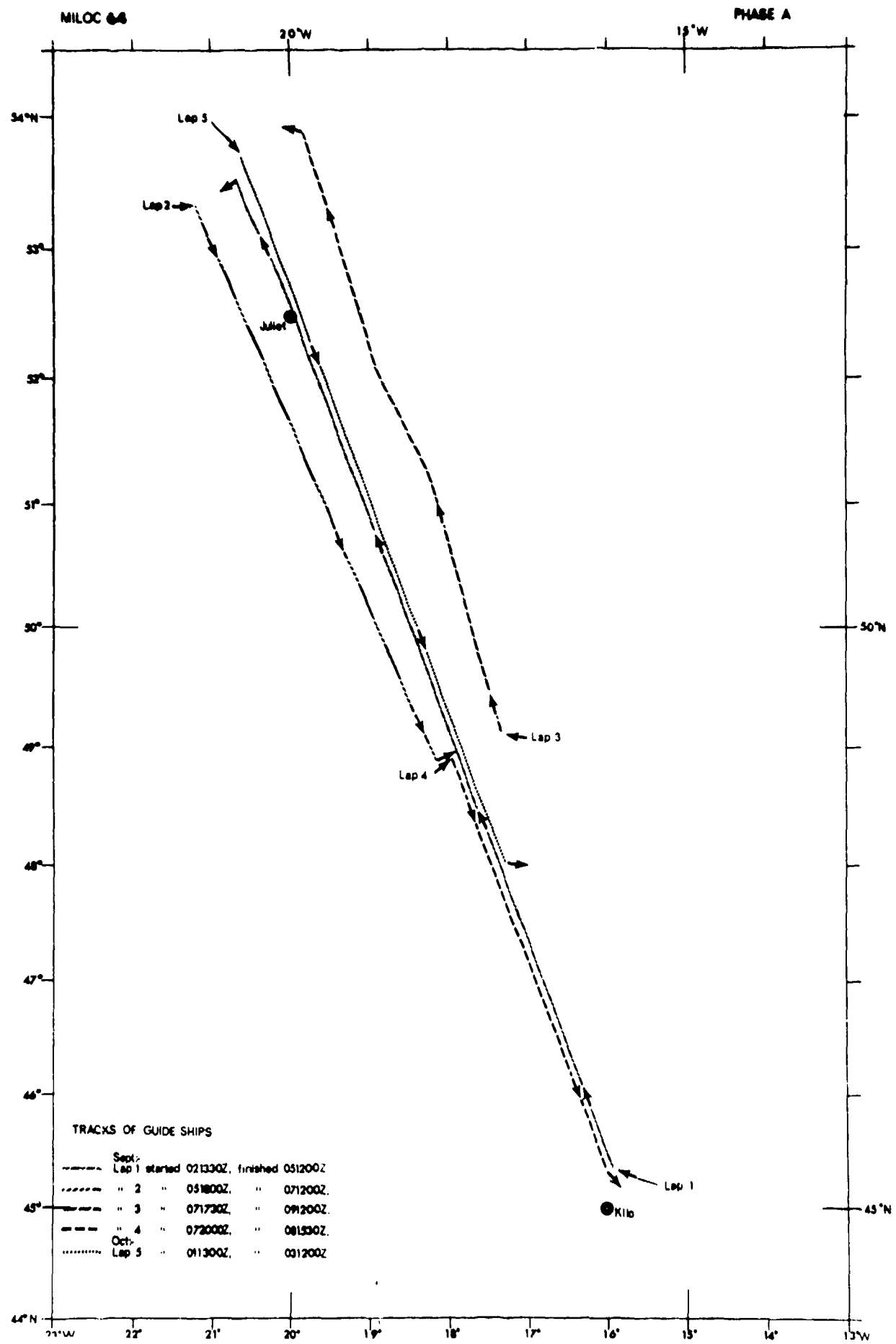
PHASE A.

MILOC 64

2.0W

15W





MILOC 64

Phase A, lap 1

João de Lisboa

Sea Surface Temperature

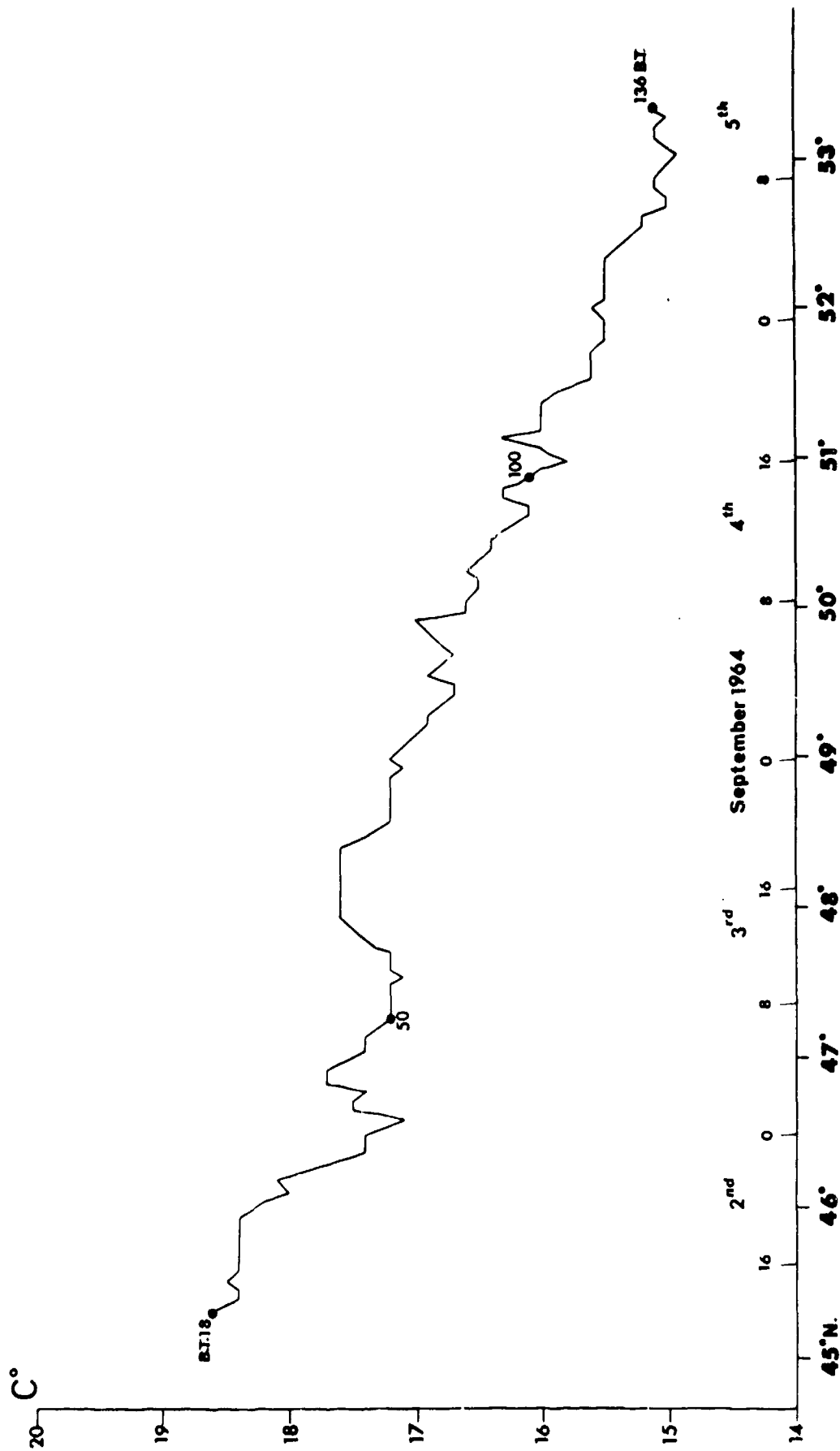


FIG. 2.1

MILOC 64

Phase A, lap 1

H.M.S. Dalrymple

Sea Surface Temperature

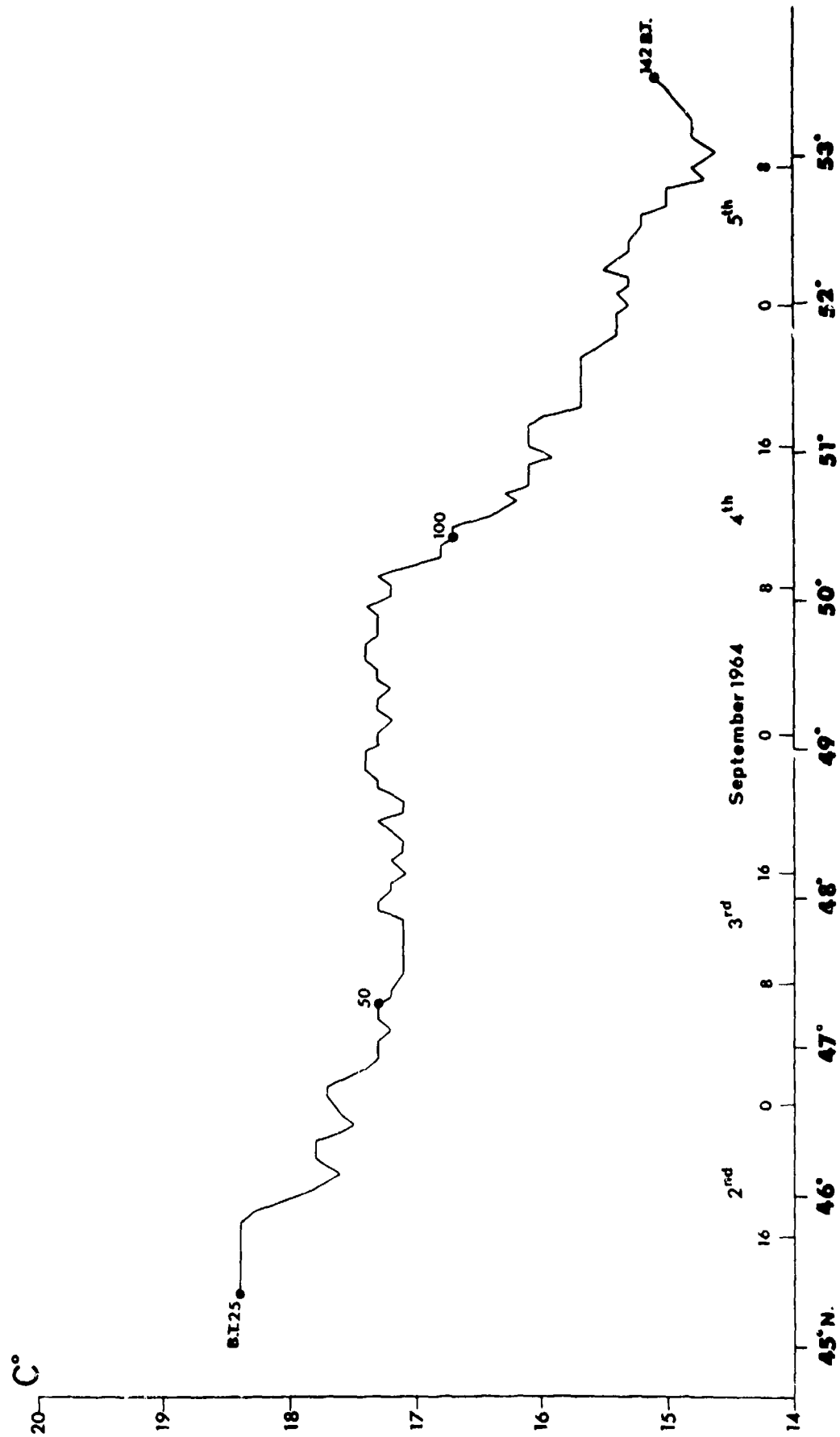


FIG. 2.2

MILOC 64

Phase A, lap 1

Maria Paolina G.

Sea Surface Temperature

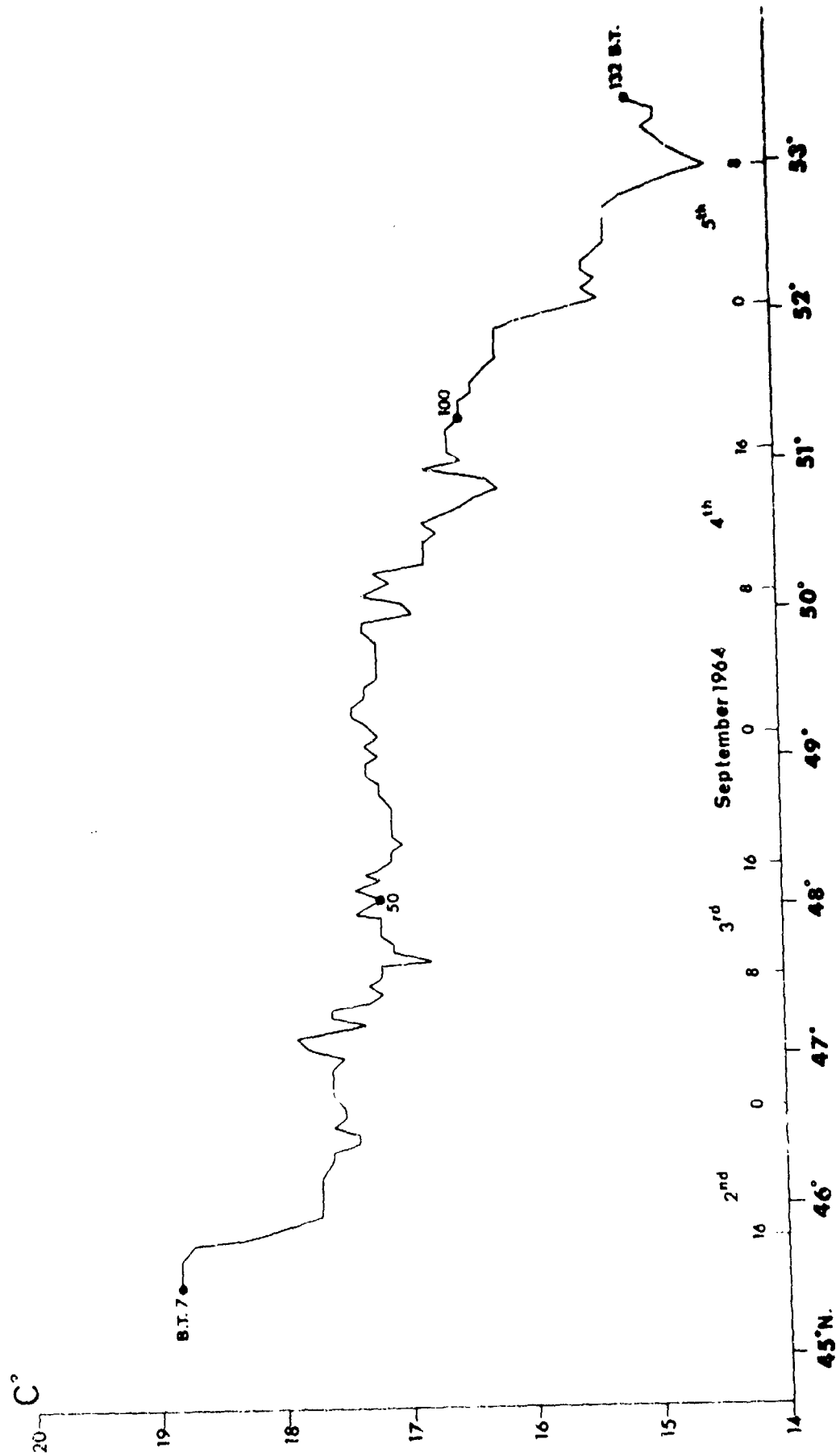


FIG. 2.3

MILOC 64

Phase A, lap 2

Sea Surface Temperature

João de Lisboa

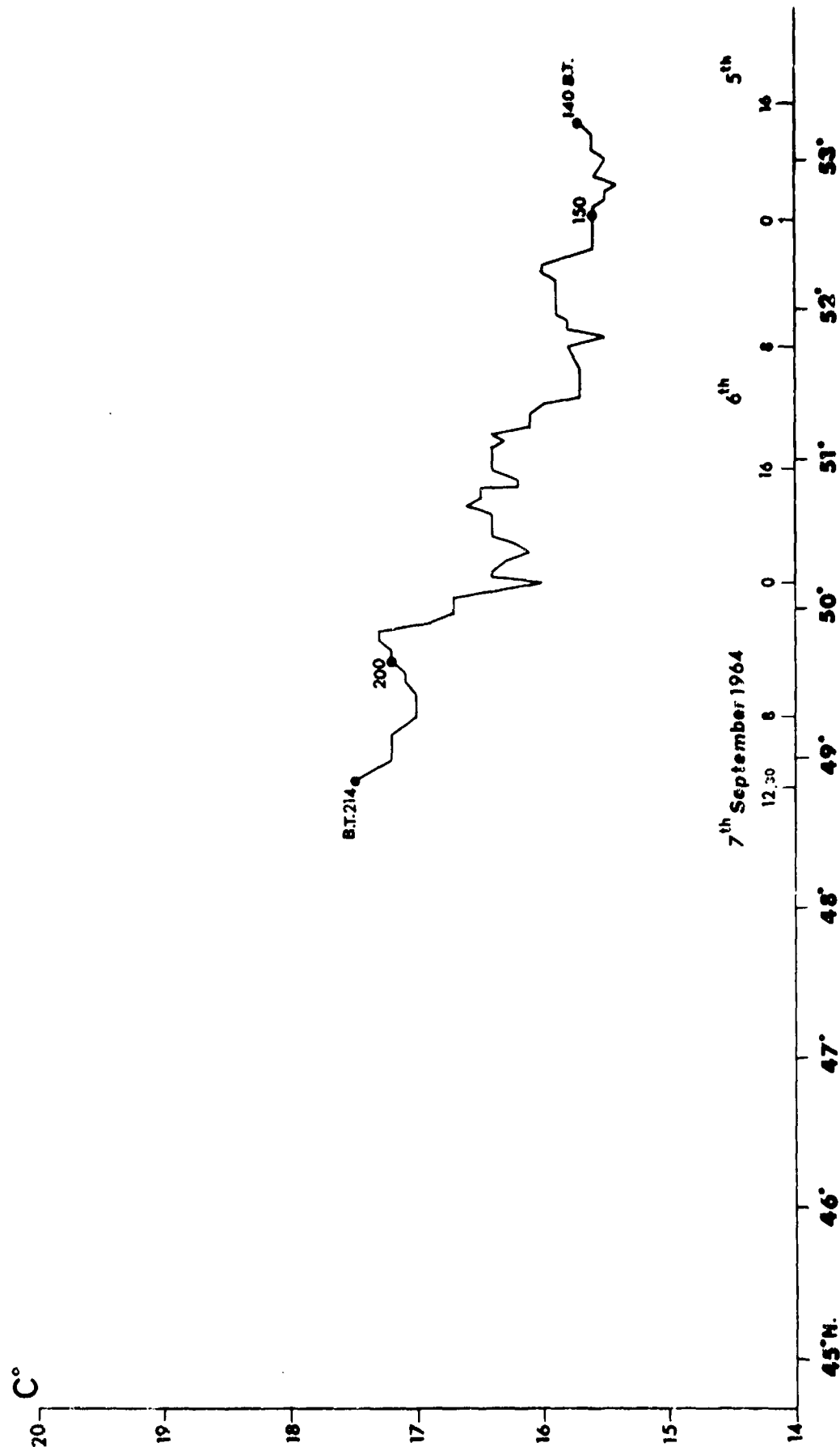


FIG. 2.4

MILOC 64

Phase A, lap 2

H.M.S. Dalrymple

Sea Surface Temperature

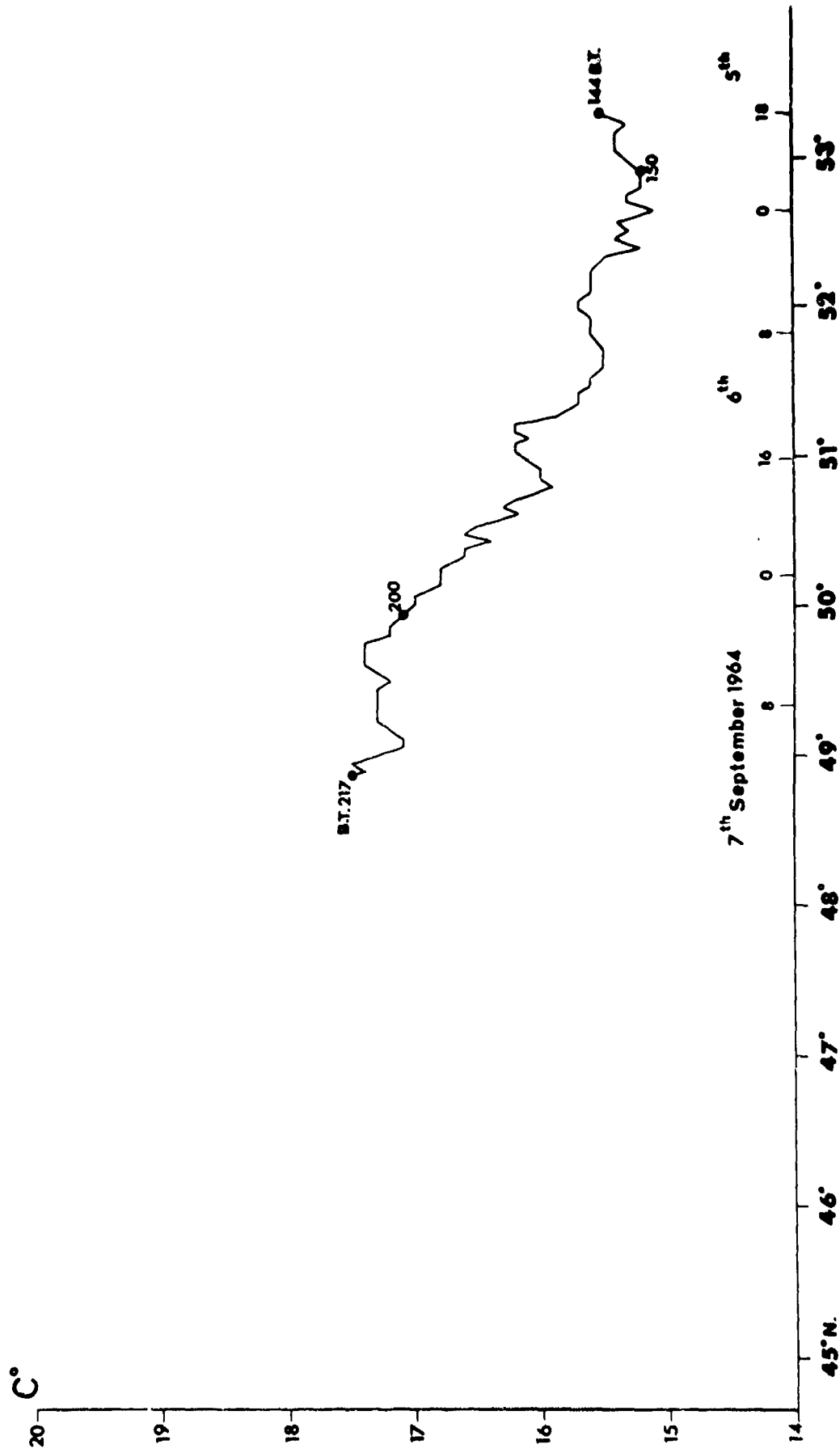


FIG. 2.5

MILOC 64

Phase A, lap 2

Maria Padina G.

Sea Surface Temperature

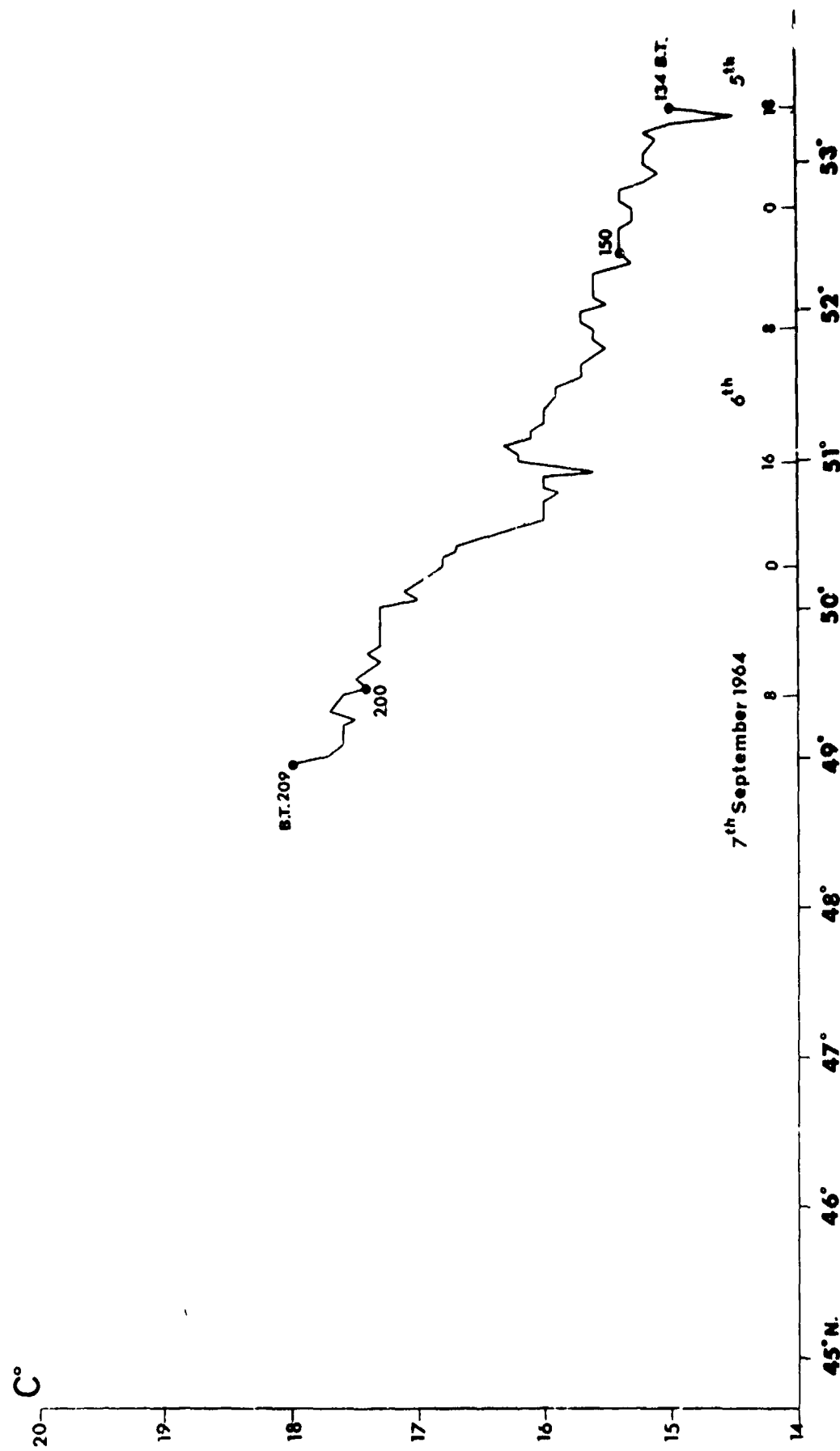


FIG. 2.6

MILOC 64

Phase A, lap 3

Maria Paolina G.

Sea Surface Temperature

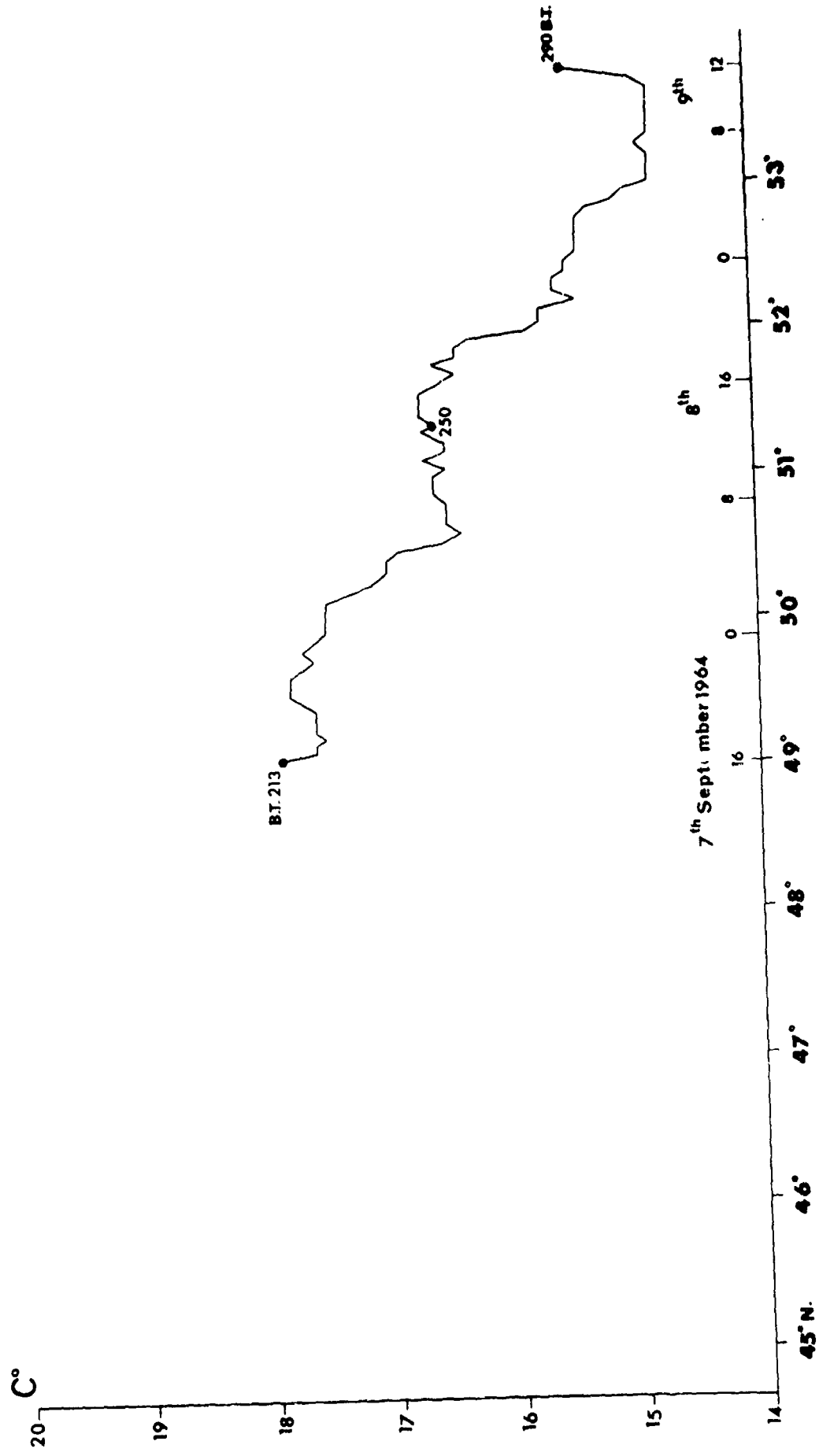


FIG. 2.7

MILOC 64

Phase A, lap 3

H.M.S. Dalrymple

Sea Surface Temperature

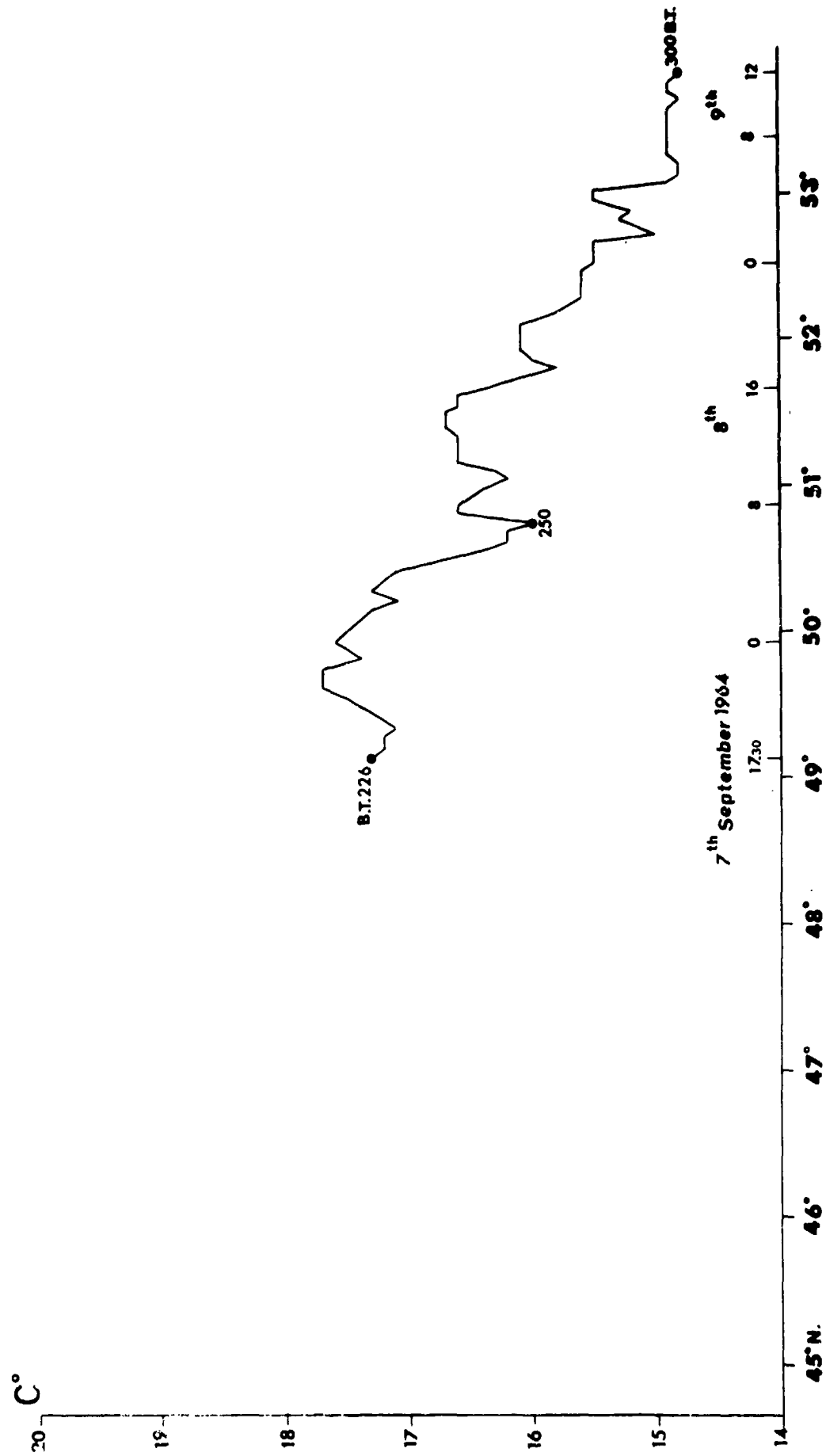


FIG. 2.8

MILOC 64

Phase A, lap 3
Sea Surface Temperature

H.U. Sverdrup

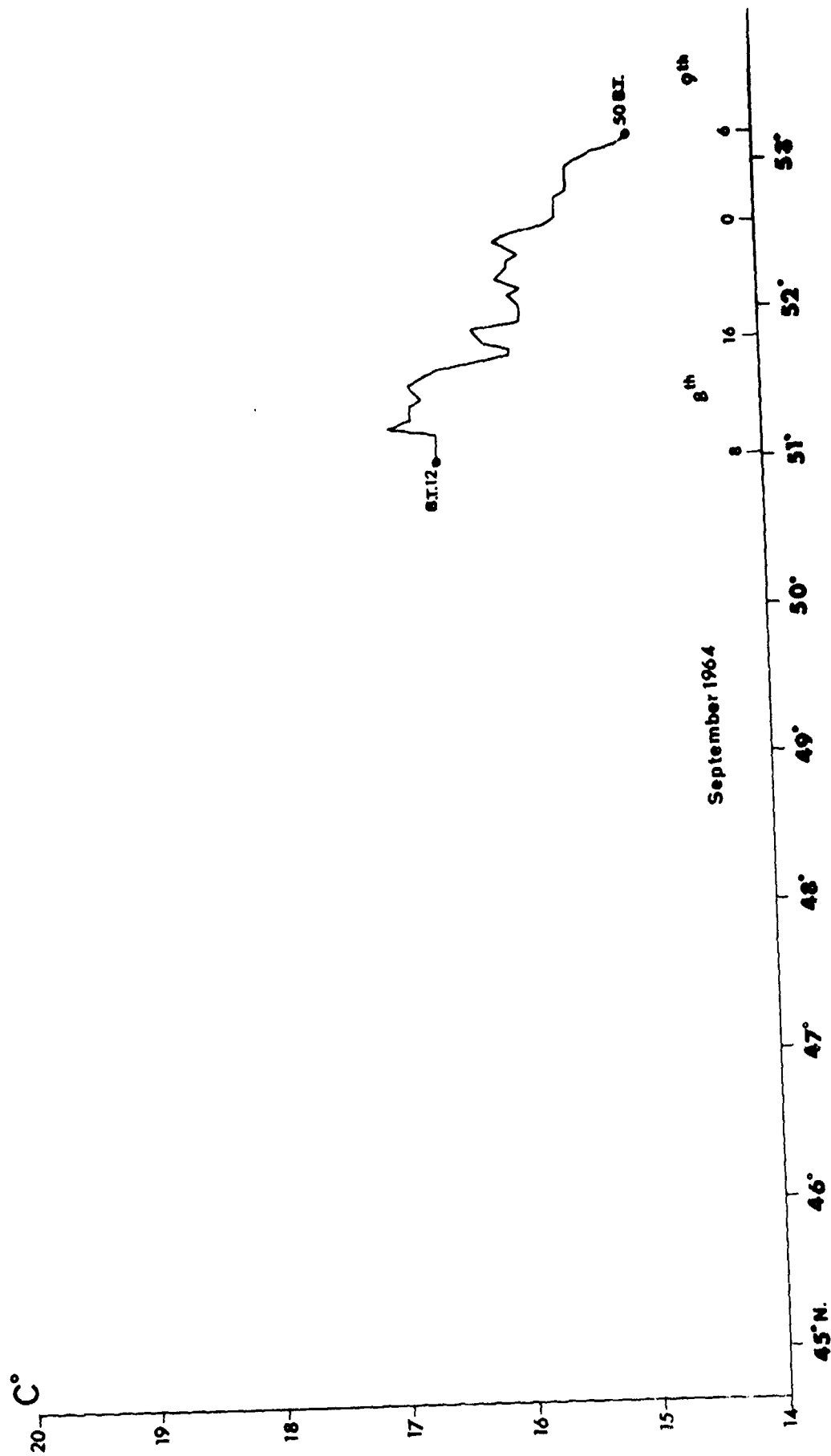


FIG. 2.9

MILOC 64

Phase A, lap 4

João de Lisboa

Sea Surface Temperature

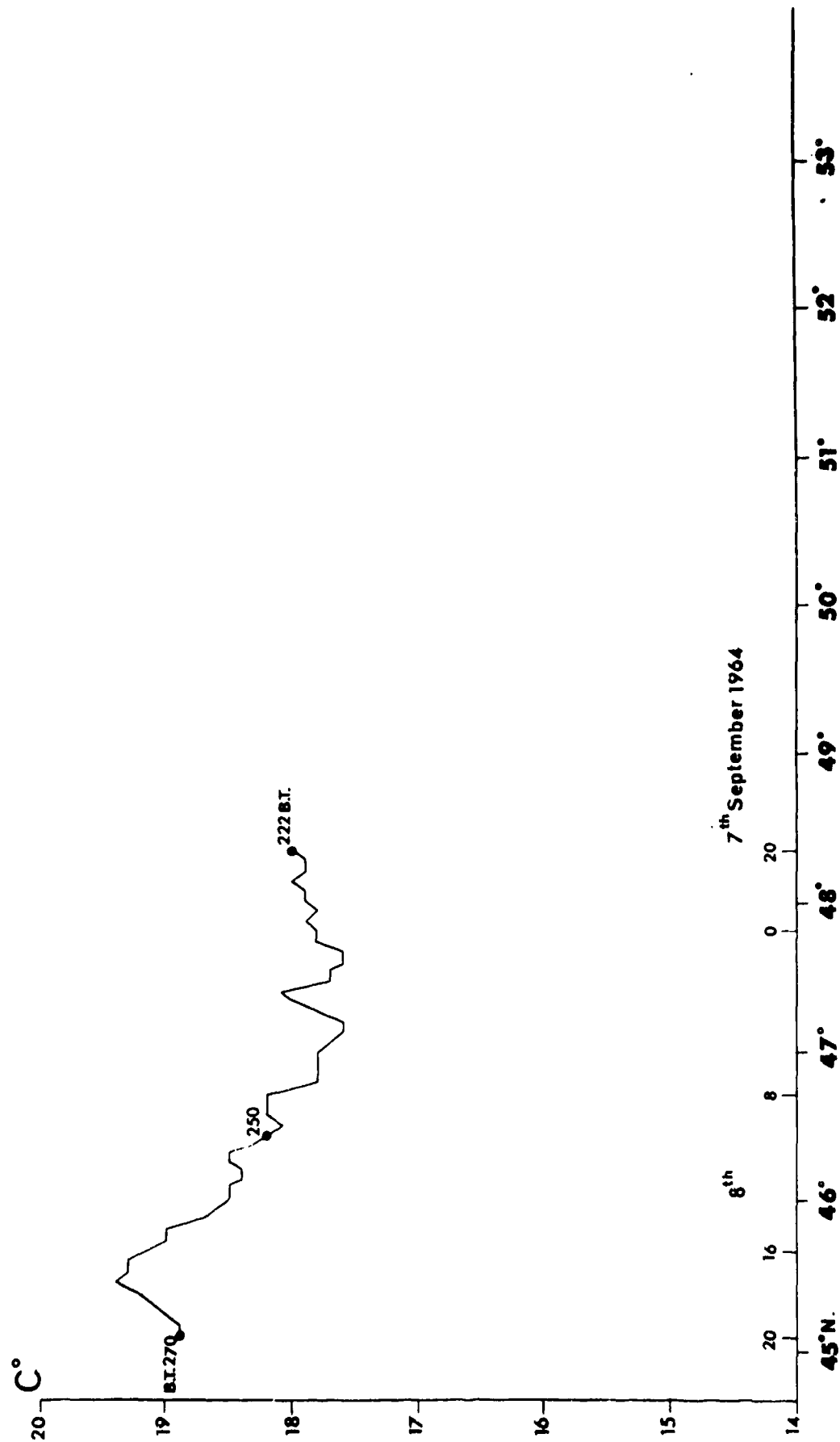


FIG. 2.10

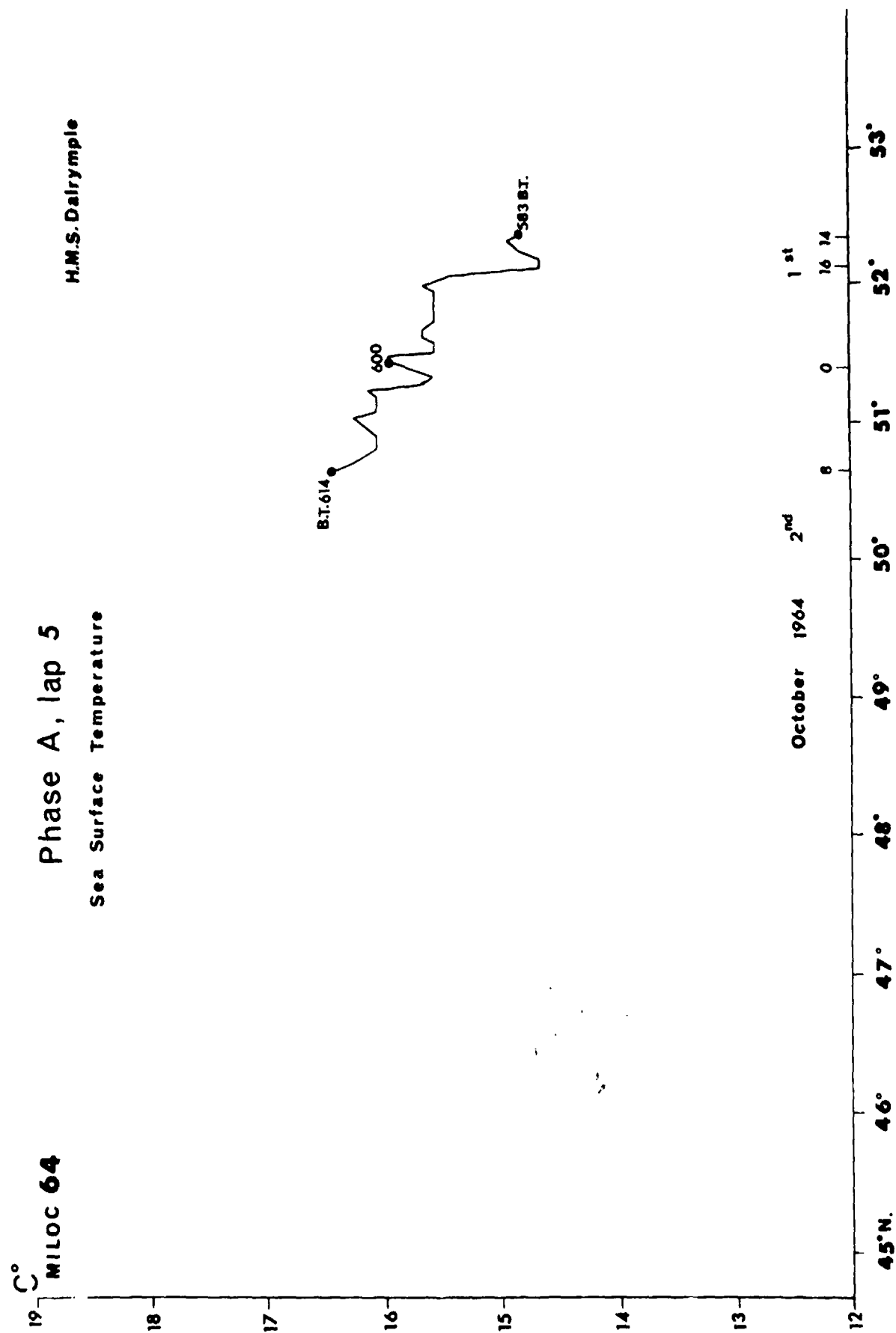


FIG. 2.11

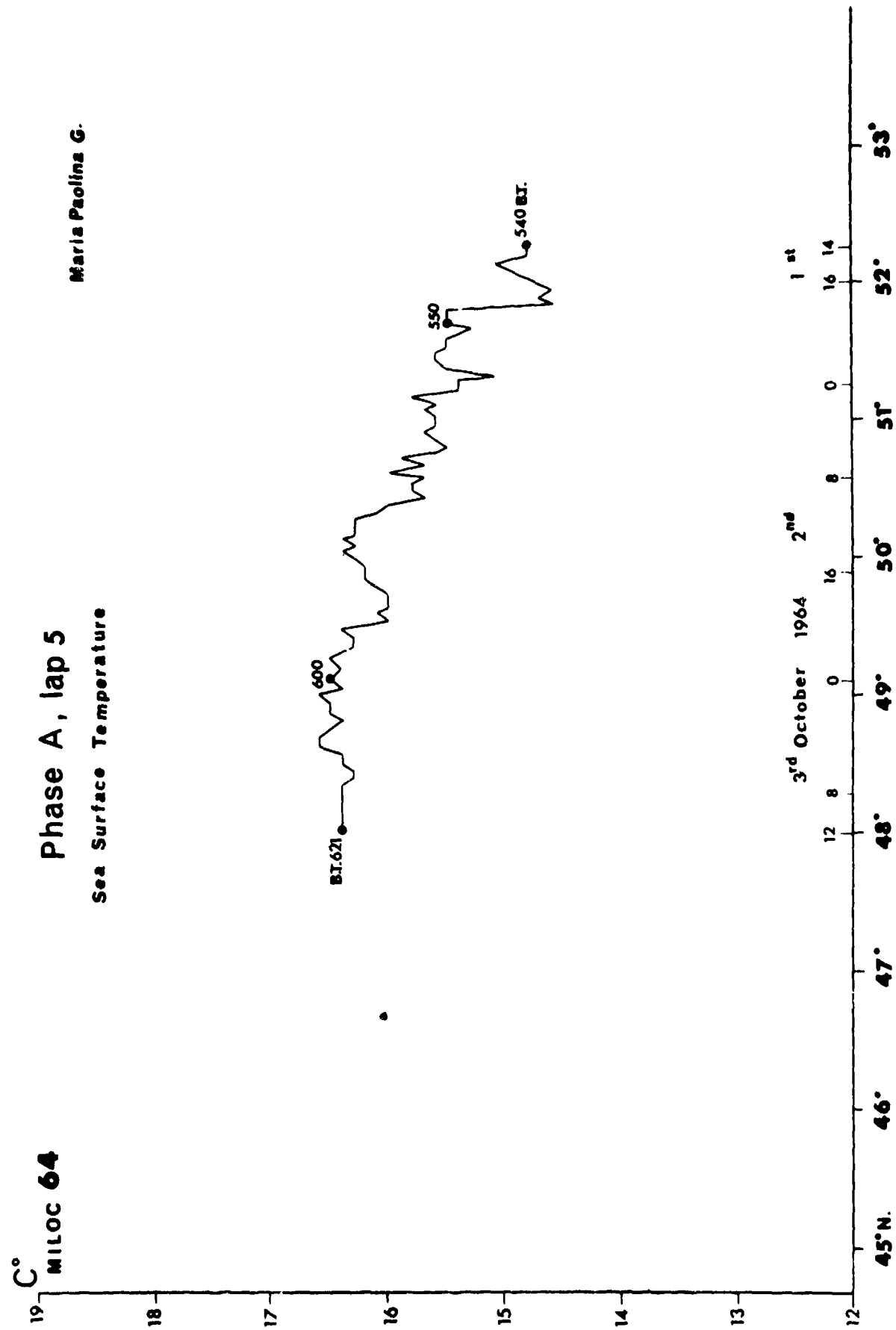


FIG. 2.12

MILOC 64

Phase A, lap 1

H.M.S. Dalrymple

DIFFERENCE: INJECTION TEMPERATURE MINUS S.S.T.
(Injection Temperature extracted from Thermograph Trace)

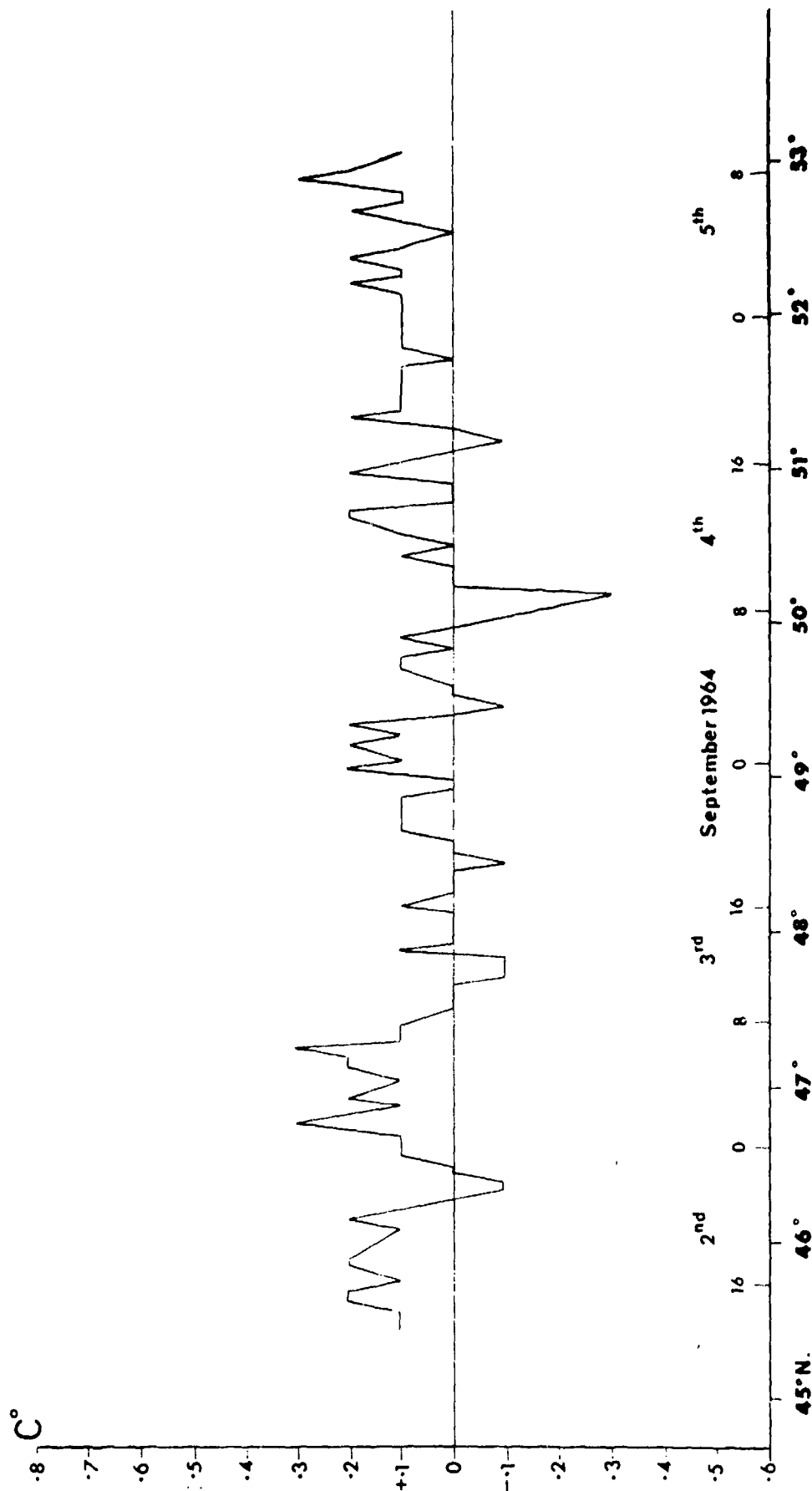


FIG. 2.13

MILOC 64

Phase A, lap 2

H.M.S. Dairymple

DIFFERENCE: INJECTION TEMPERATURE MINUS S.S.T.
(Injection Temperature extracted from Thermograph Trace)

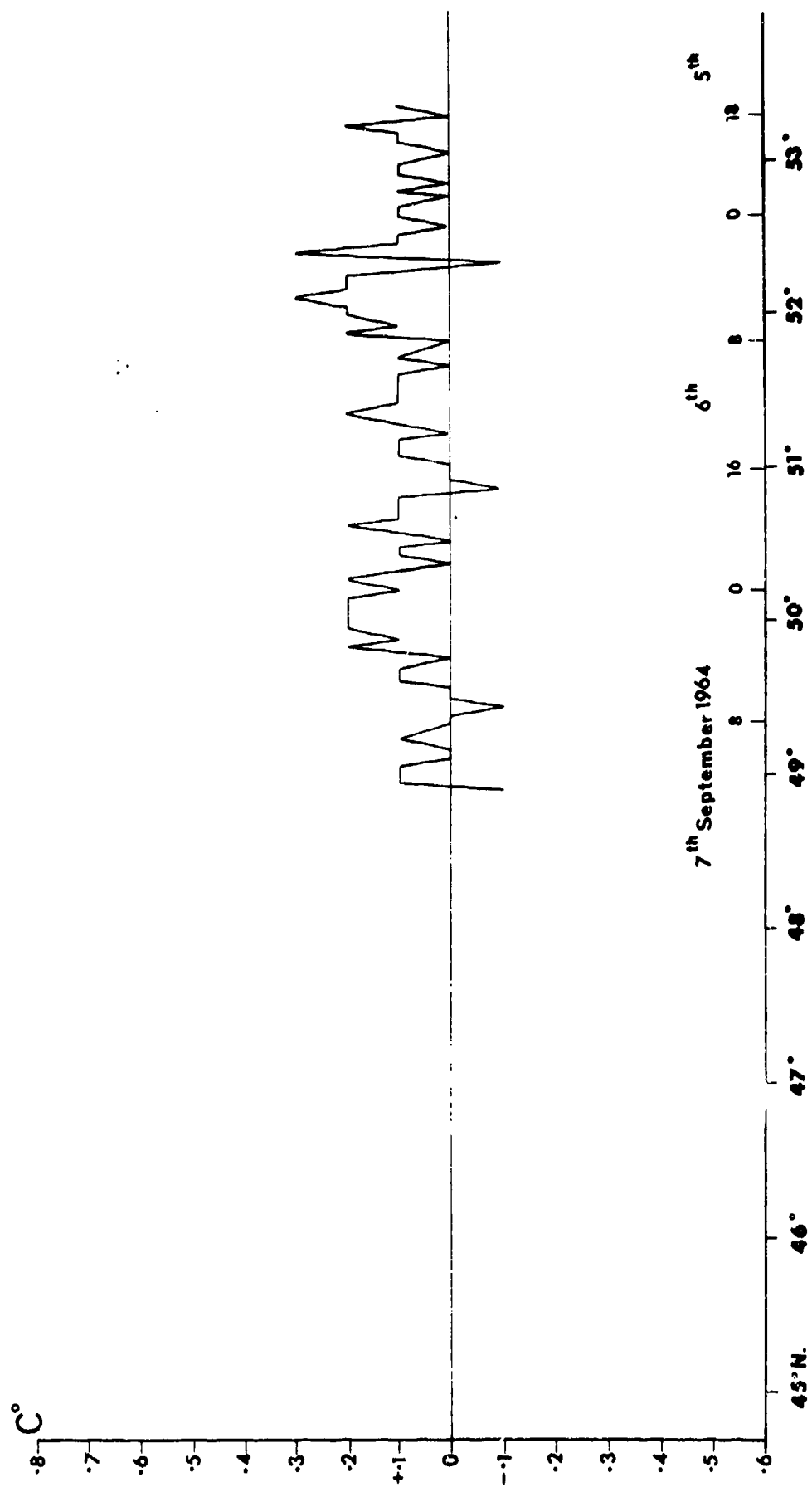


FIG. 2.14

MILOC 64

Phase A, lap 3

H.M.S. Dalrymple

DIFFERENCE: INJECTION TEMPERATURE MINUS S.S.T.
(Injection Temperature extracted from Thermograph Trace)

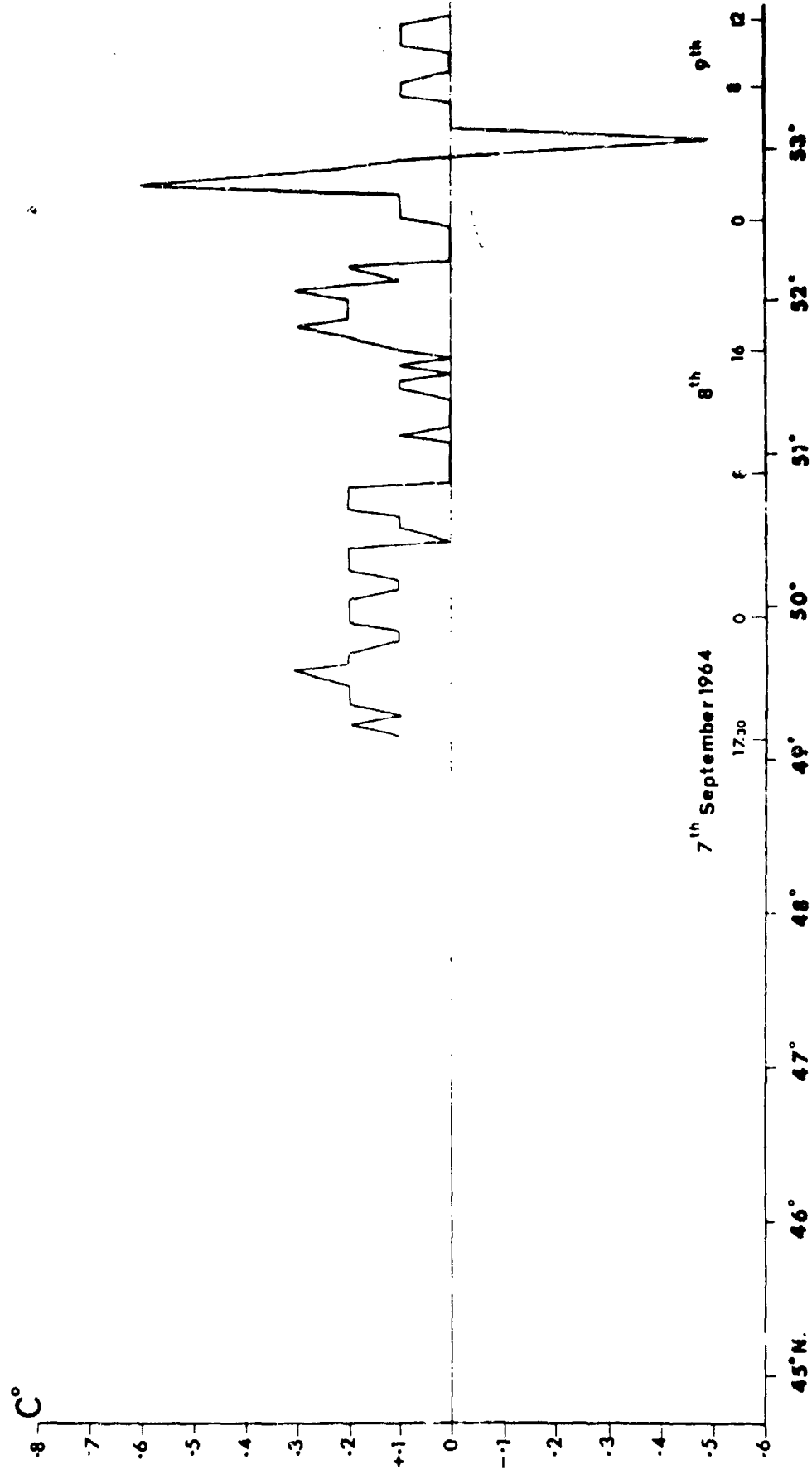


FIG. 2.15

MILOC 64

Phase A, lap 5

H.M.S. Dairymple

DIFFERENCE: INJECTION TEMPERATURE MINUS S.S.T.
(Injection Temperature extracted from Thermograph Trace)

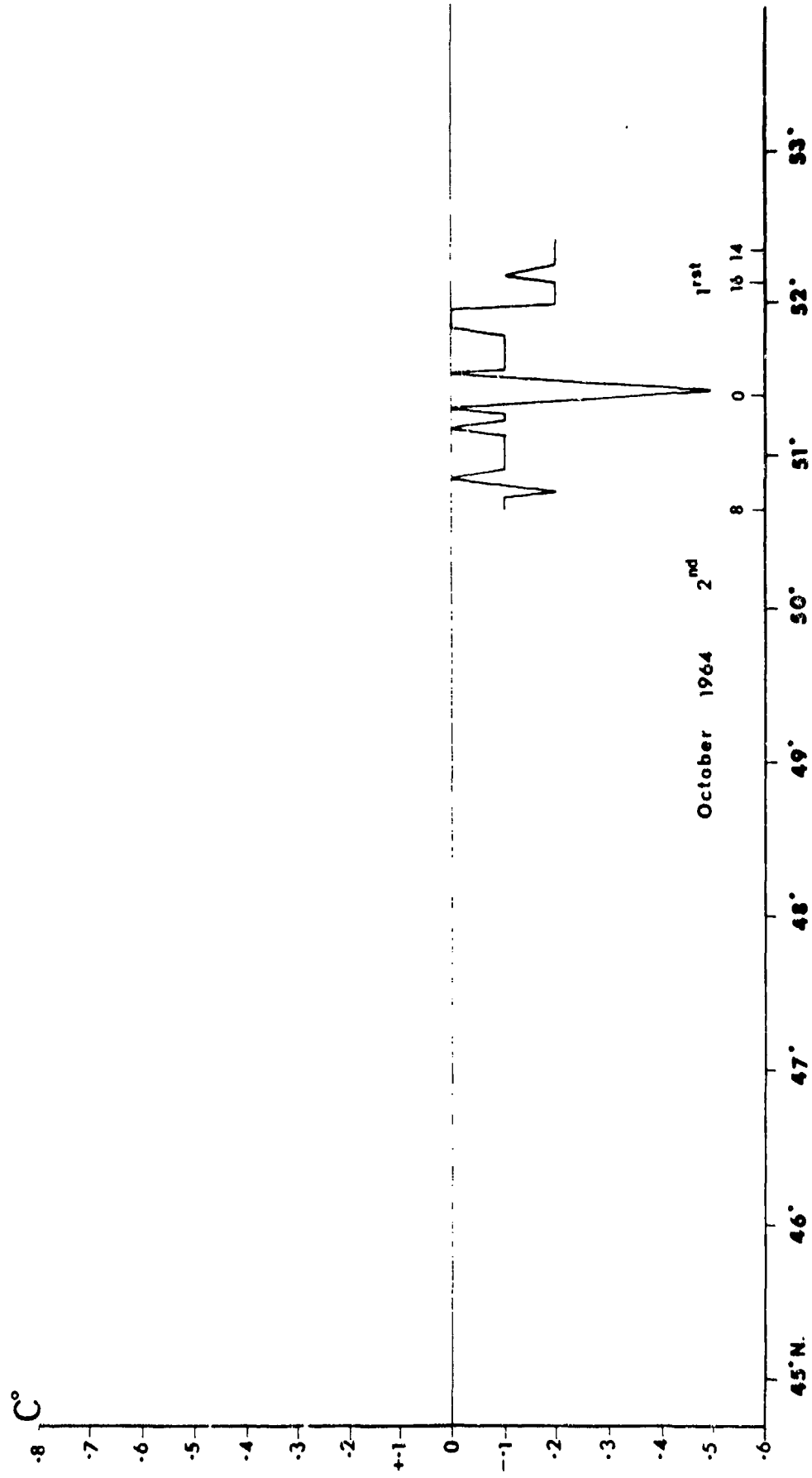


FIG. 2.16

MILO: 64

Phase A, lap 1

João de Lisboa

DIFFERENCE: INJECTION TEMPERATURE MINUS S.S.T.

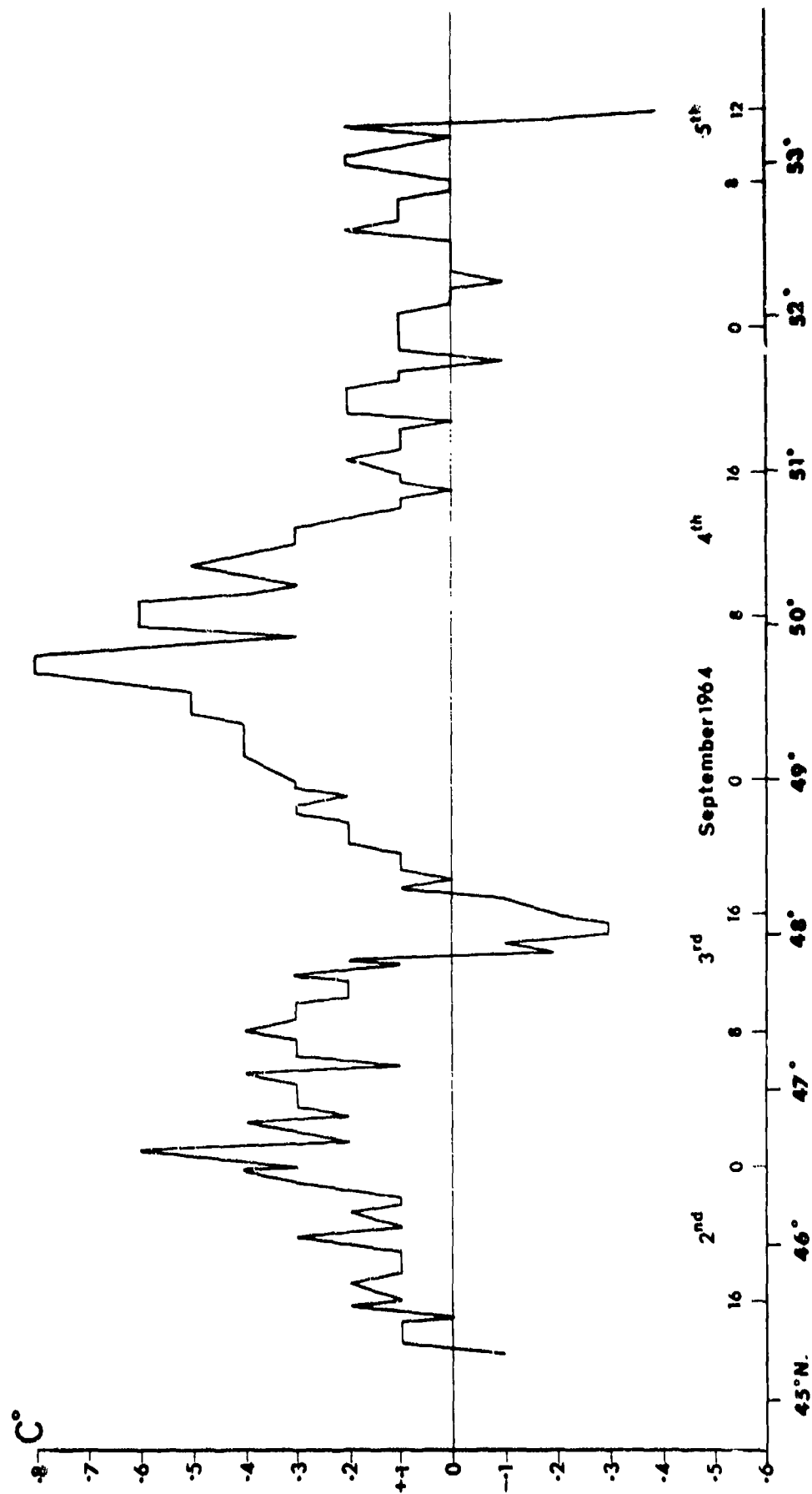
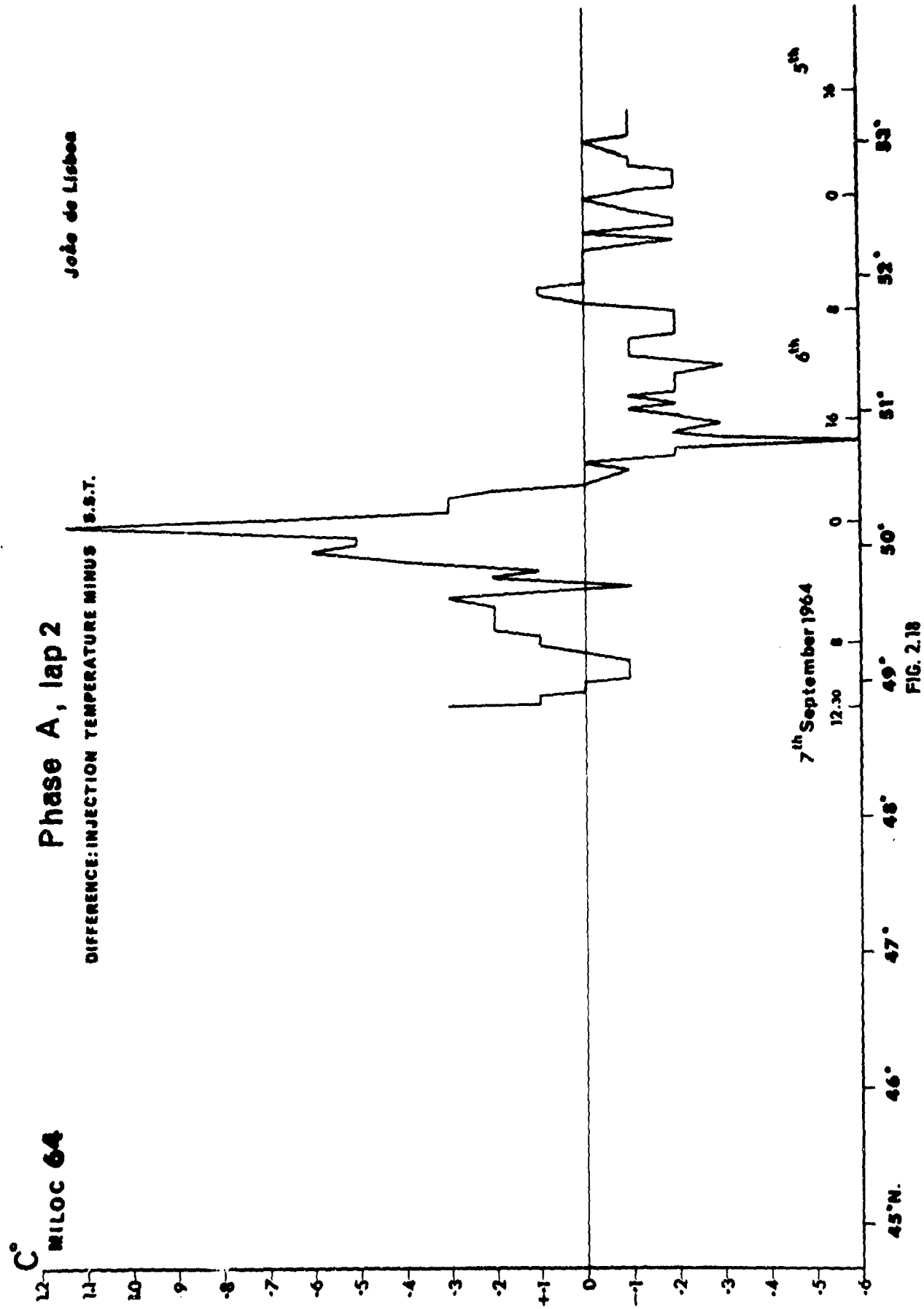


FIG. 2.17



MILOC 64

Phase A, lap 4

João de Lisboa

DIFFERENCE: INJECTION TEMPERATURE MINUS S.S.T.

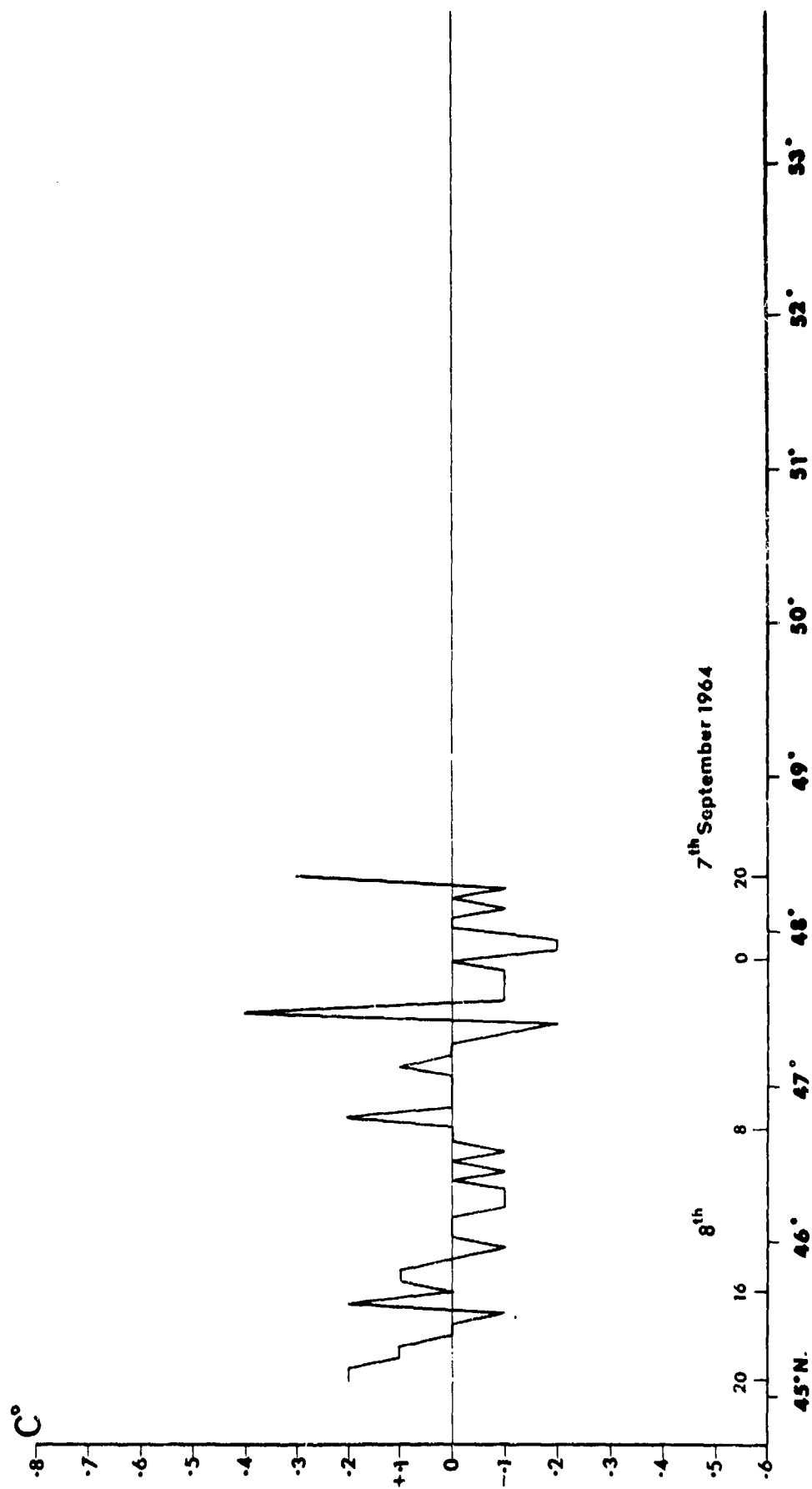


FIG. 2.19

MILOC 64

Phase A, lap 3

H.U. Sverdrup

DIFFERENCE: INJECTION TEMPERATURE MINUS S.S.T.
(Injection Temperature extracted from Thermograph Trace)

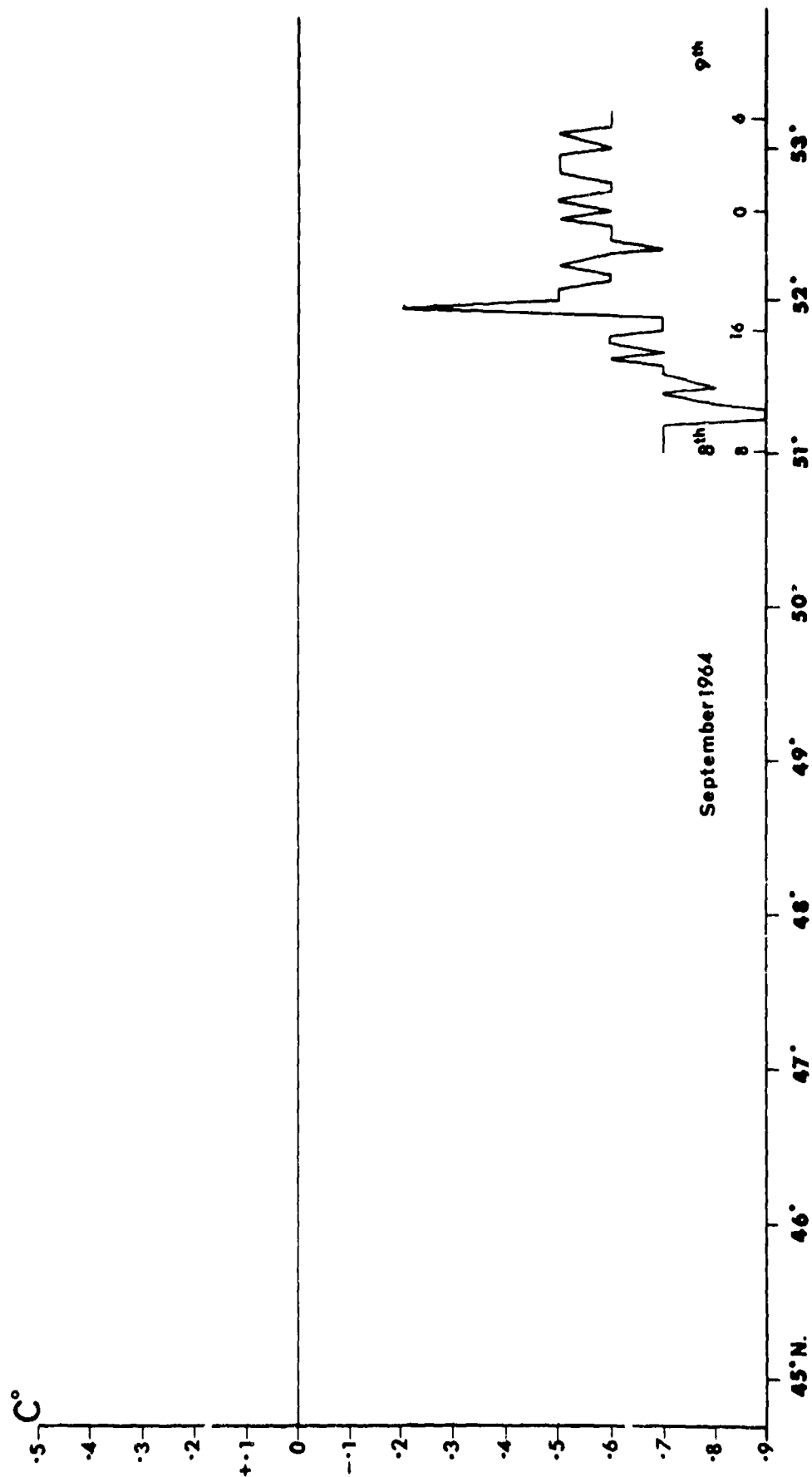


FIG. 2.20

Milloc 64

phase A, lap 1

2nd September 1964

SEA SURFACE TEMPERATURE
(ART and Bucket Comparisons)

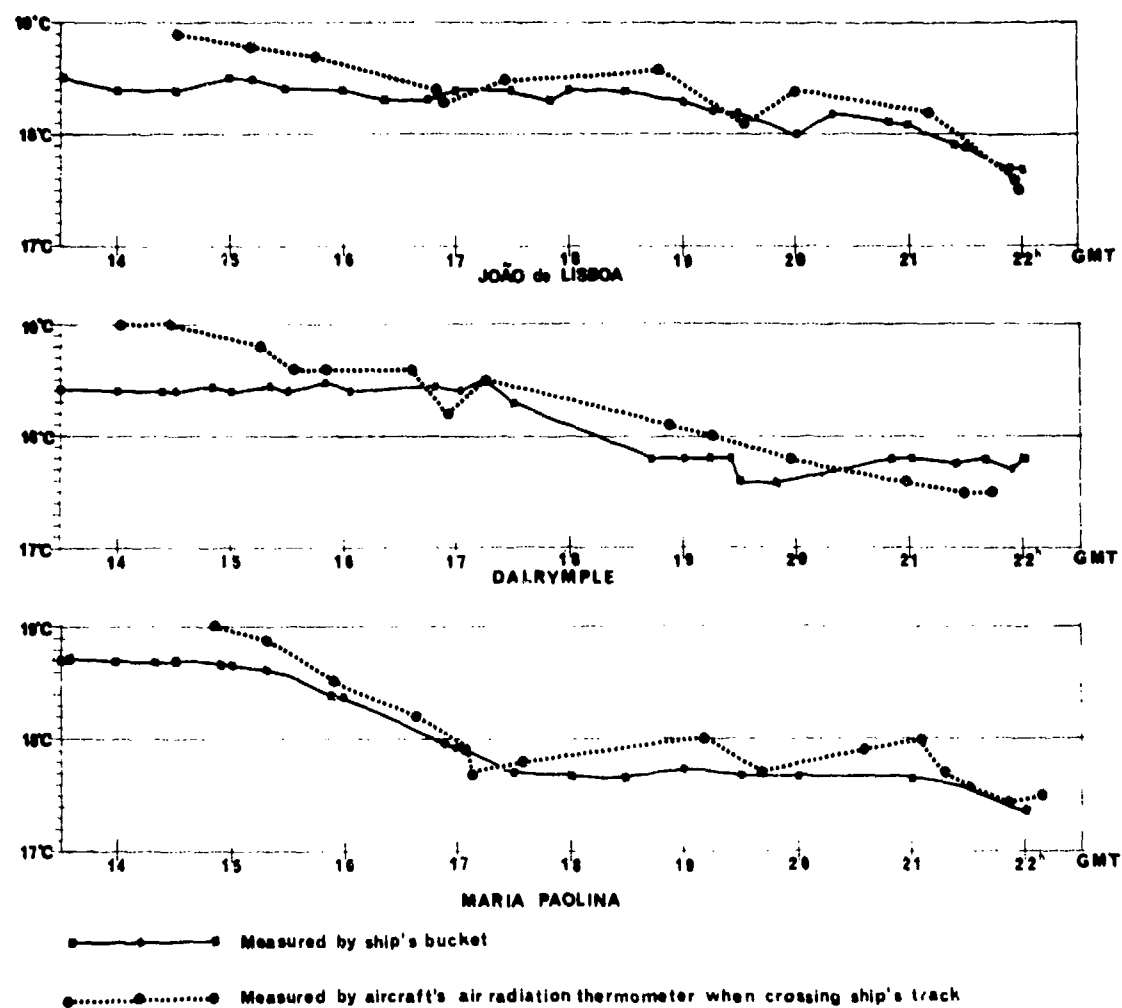


FIG. 2.21

Milloc 64

phase A, lap 1

3rd September 1964

SEA SURFACE TEMPERATURE
(ART and Bucket Comparisons)

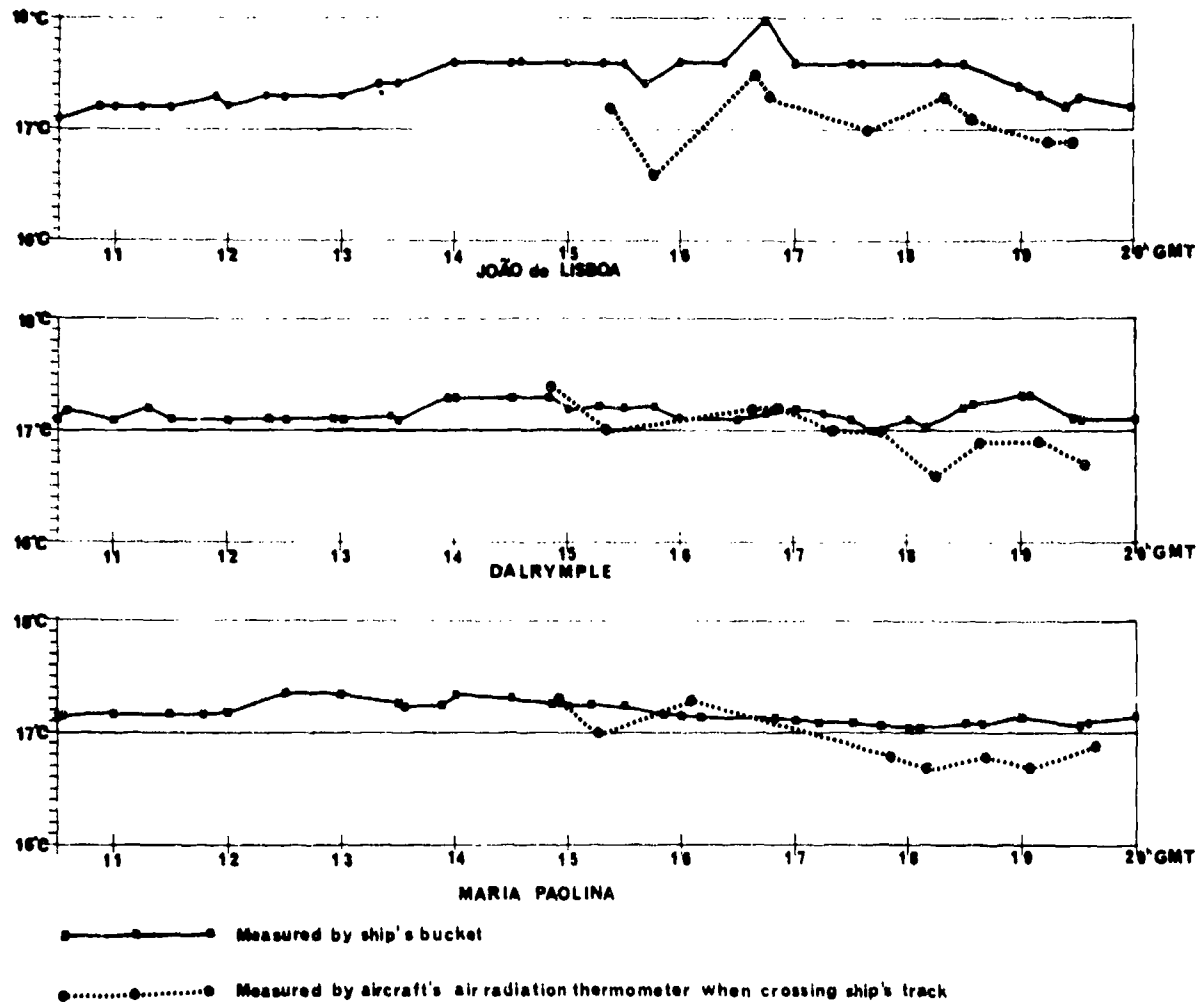


FIG. 2.22

Milloc 64

phase A, lap 1

4th September 1964

SEA SURFACE TEMPERATURE
(ART and Bucket Comparisons)

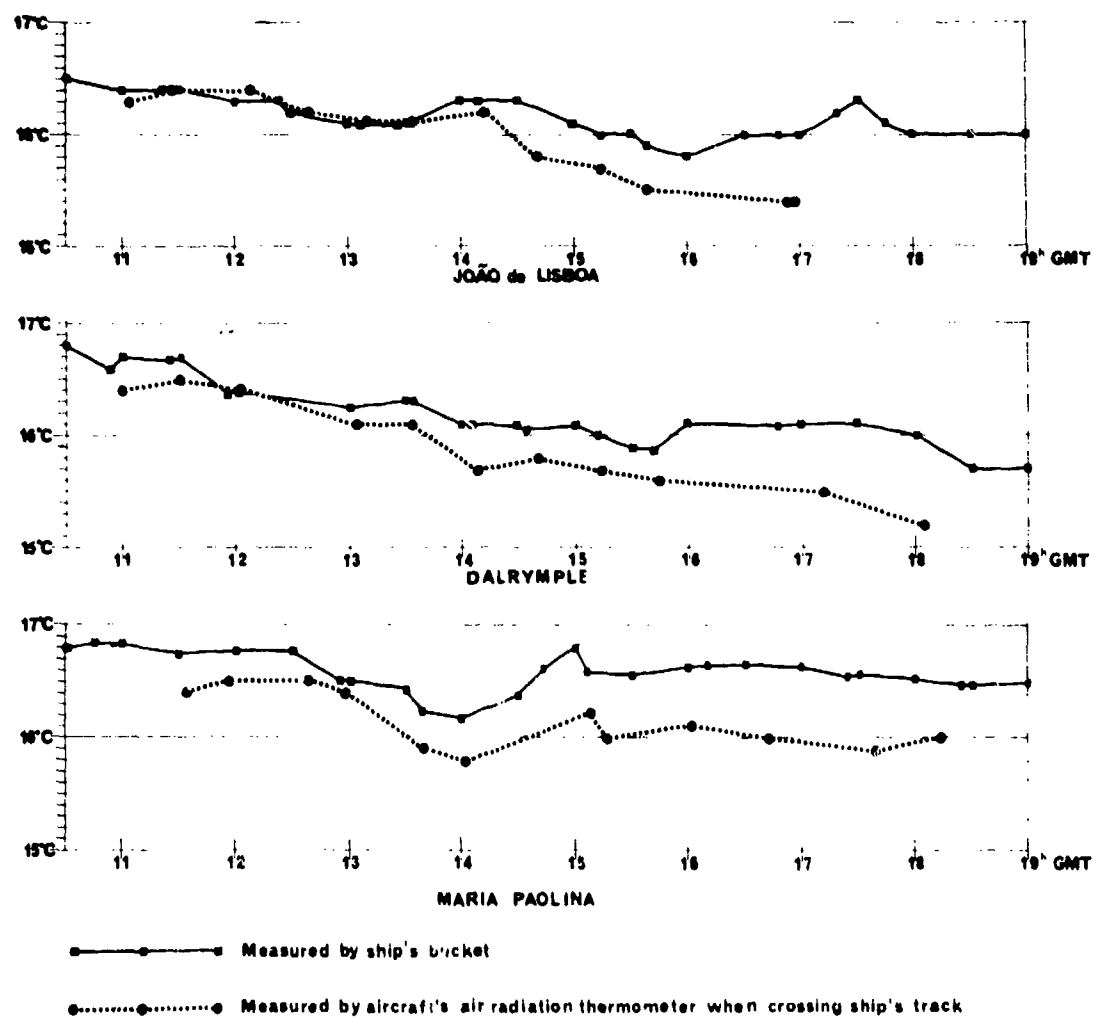


FIG. 2.23

MILOC 64

CLASSIFICATION OF BT TRACES

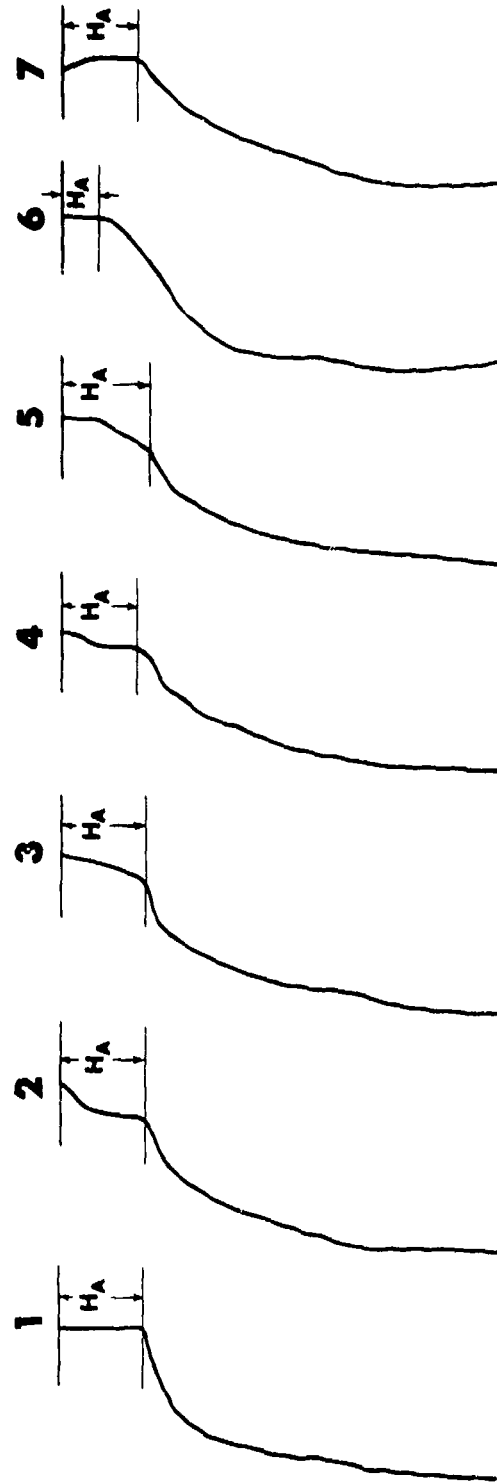


FIG. 3.1

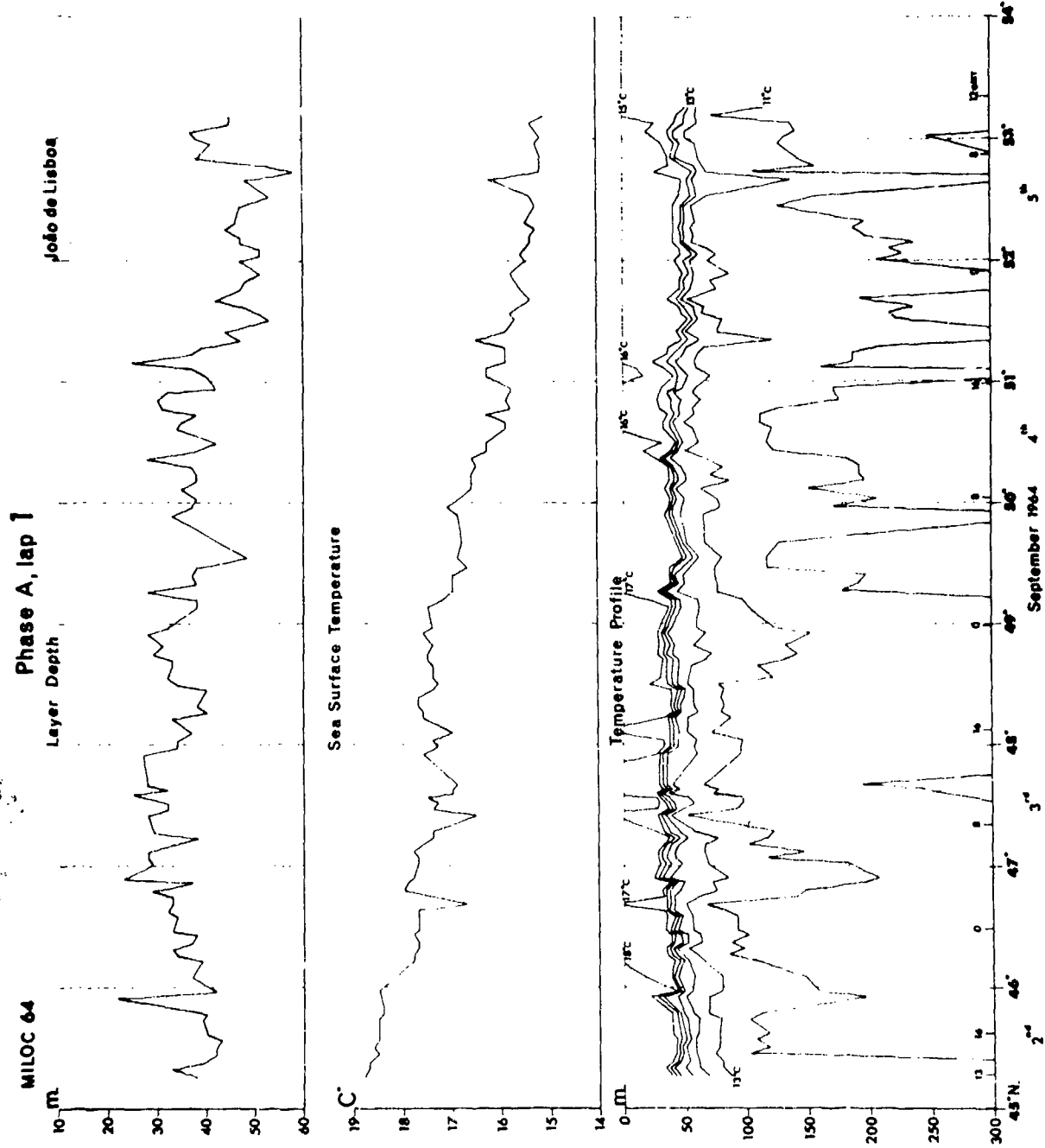


FIG. 3.2

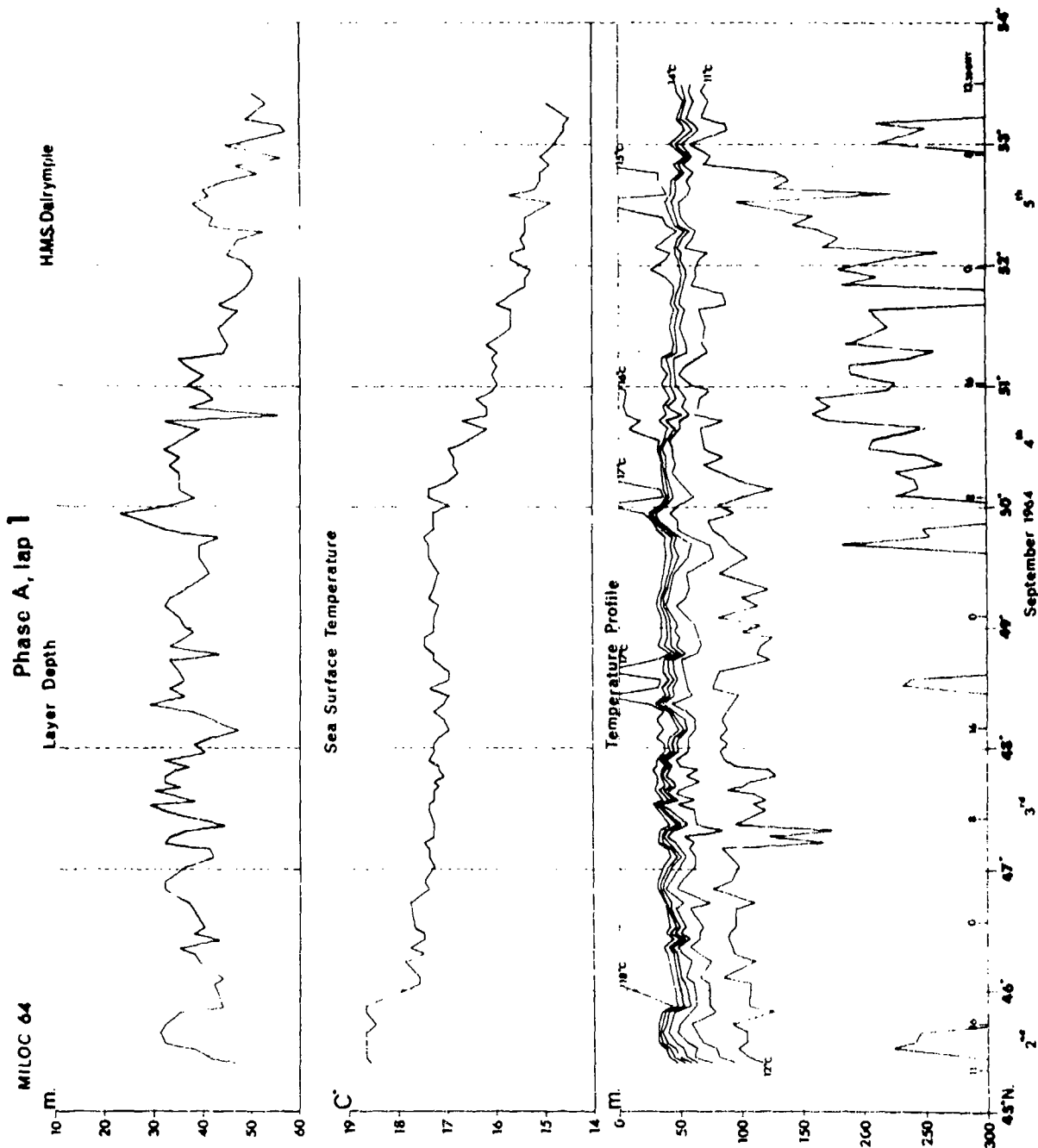


FIG. 3.3

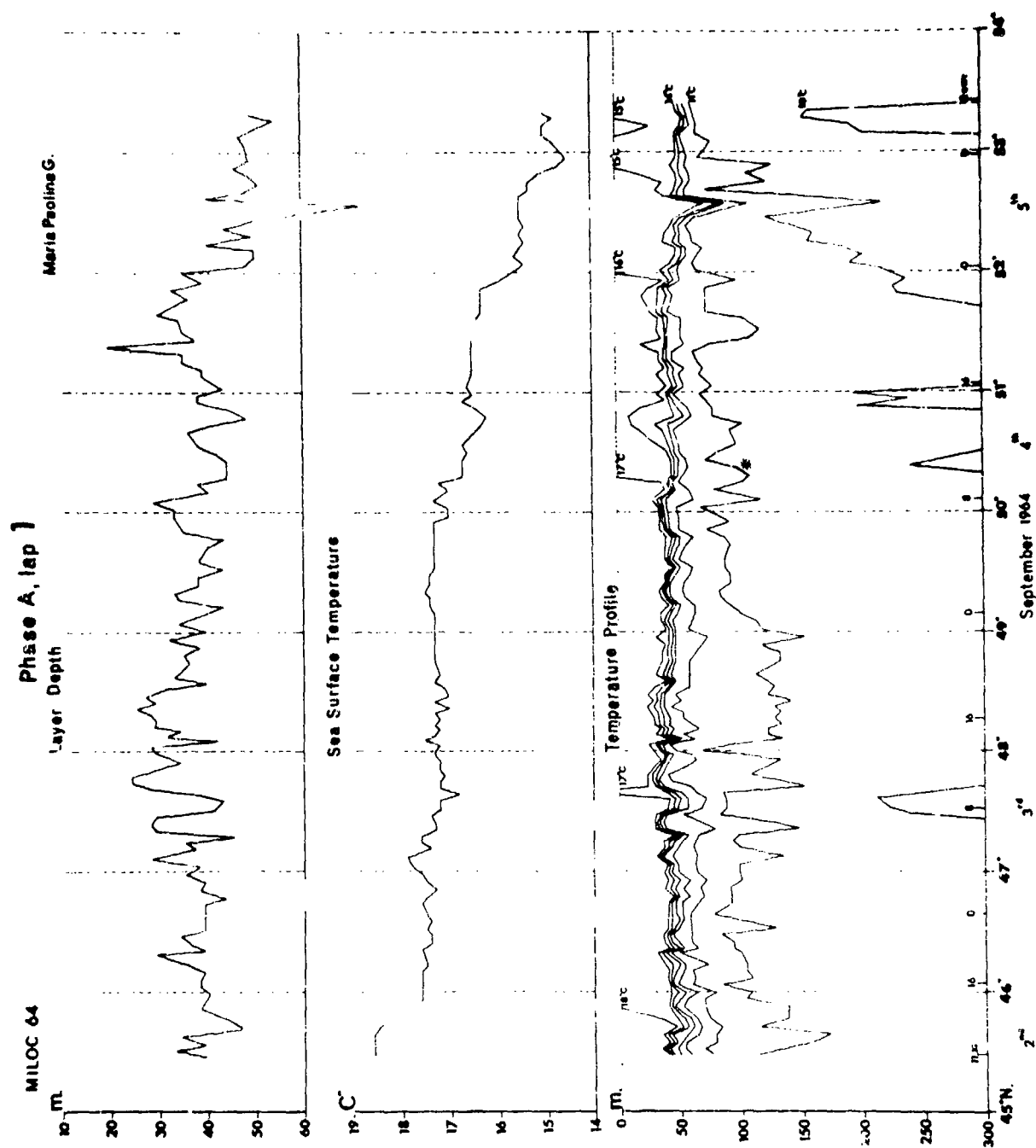


FIG. 3.4

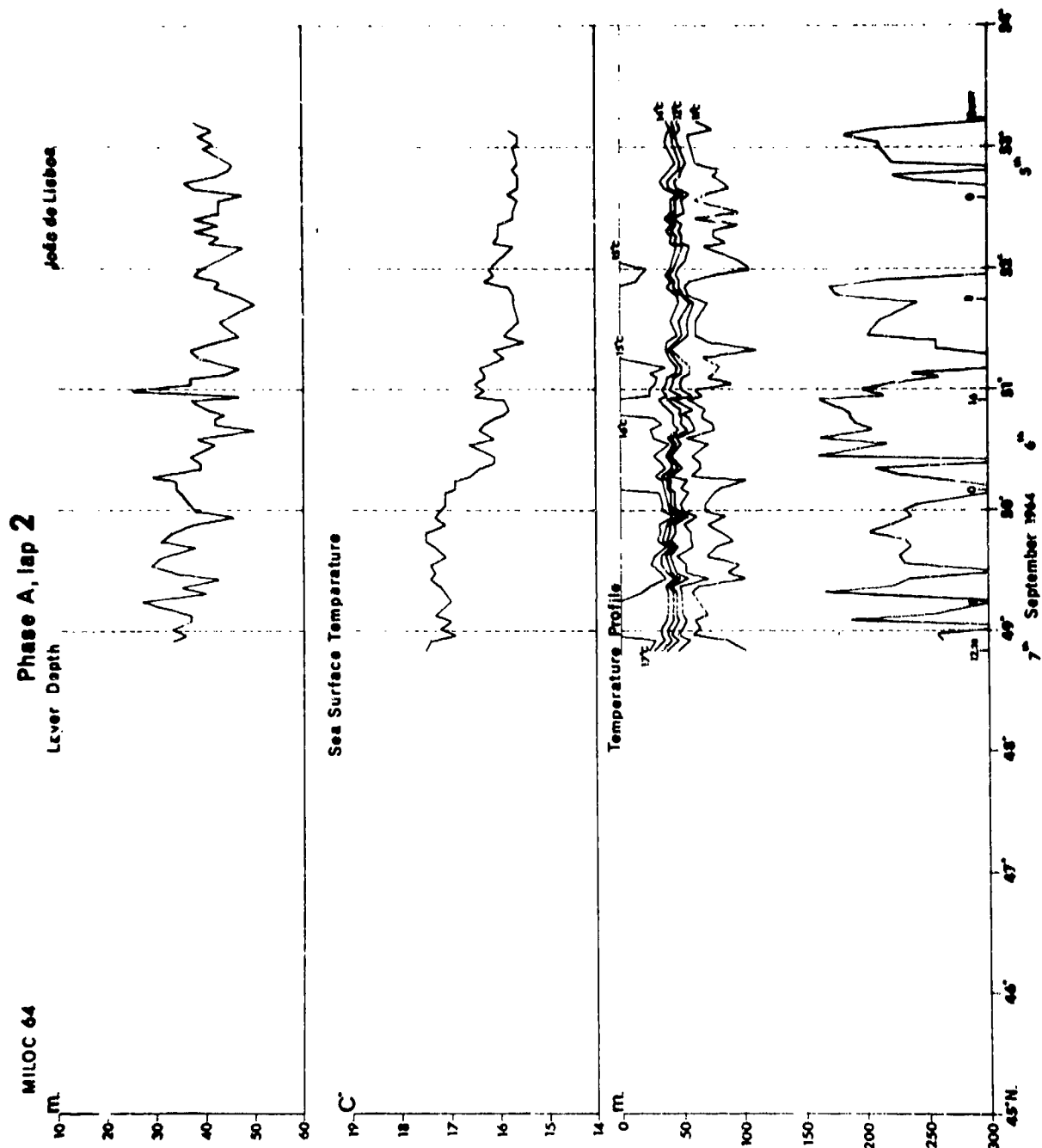


FIG. 3.5

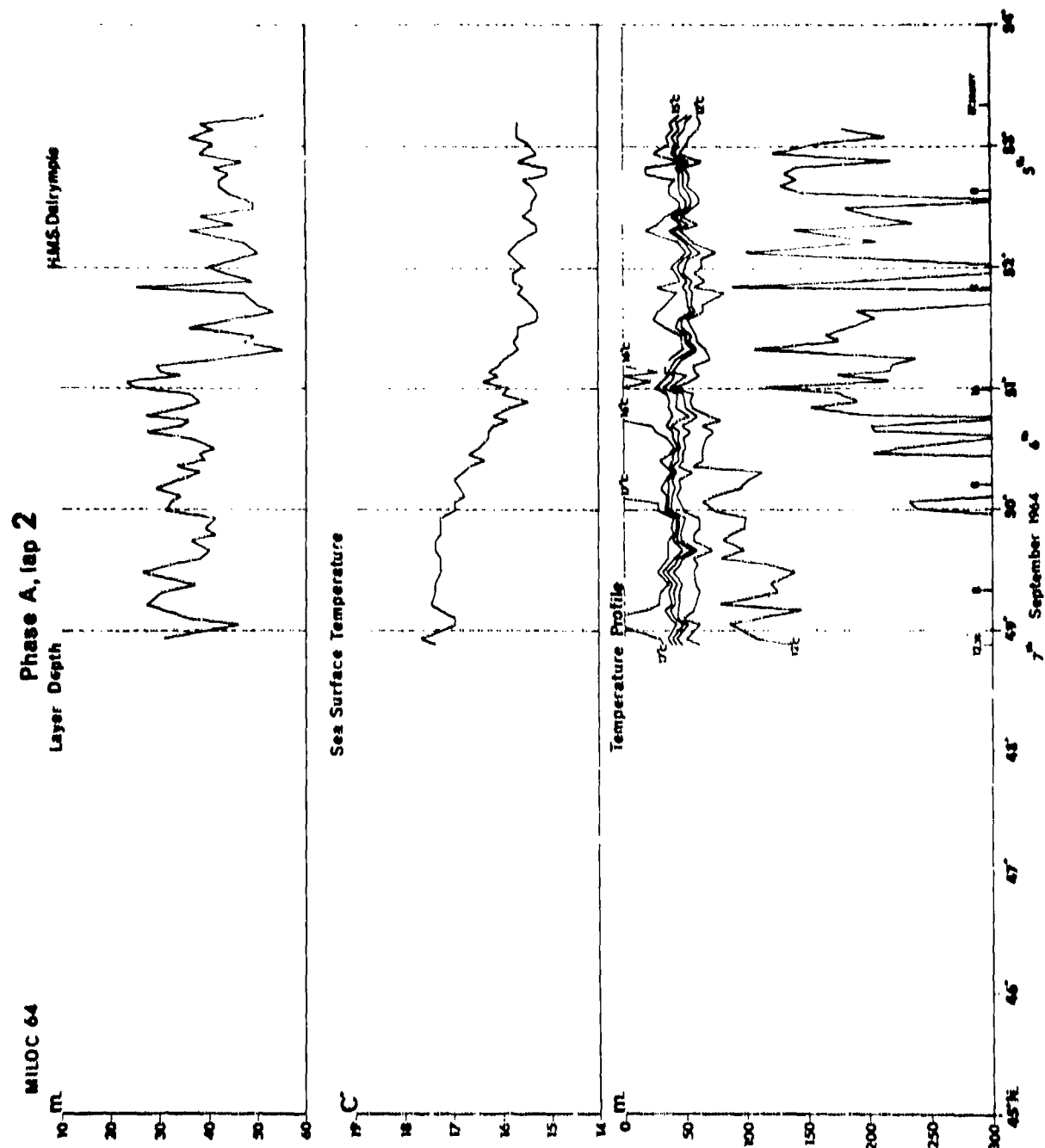


FIG. 3.6

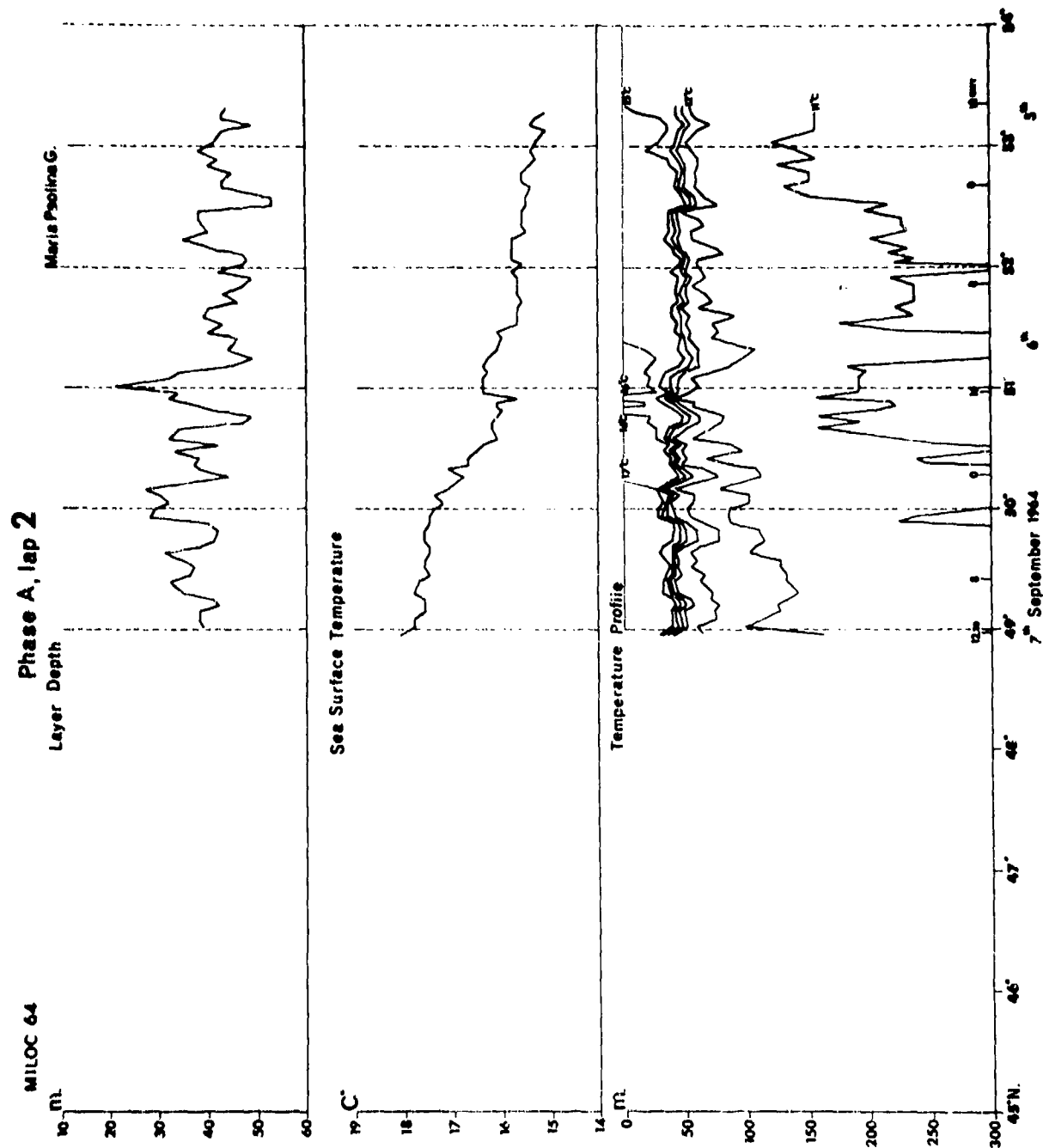


FIG. 3.7

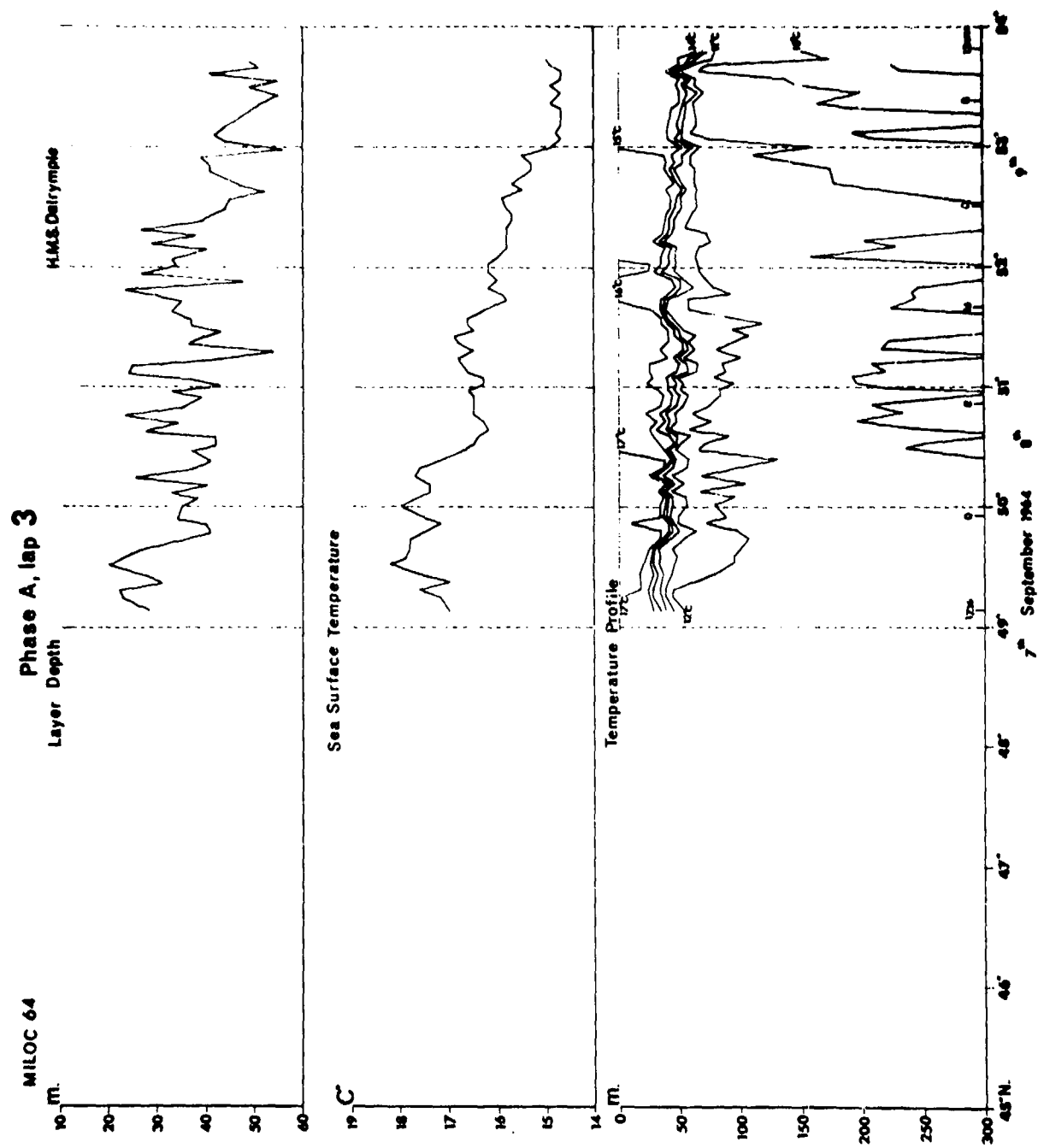


FIG. 3.8

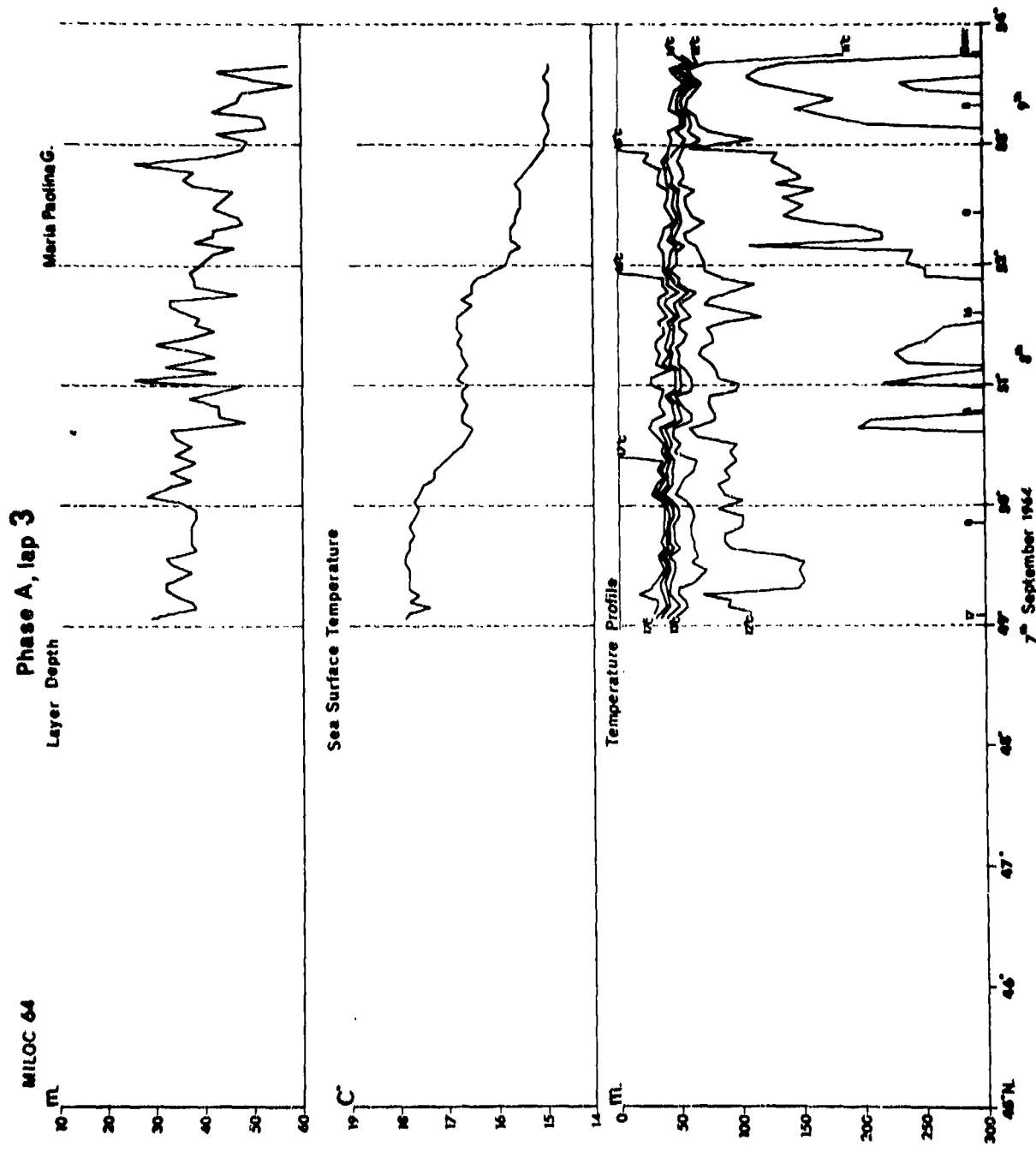


FIG. 3.9

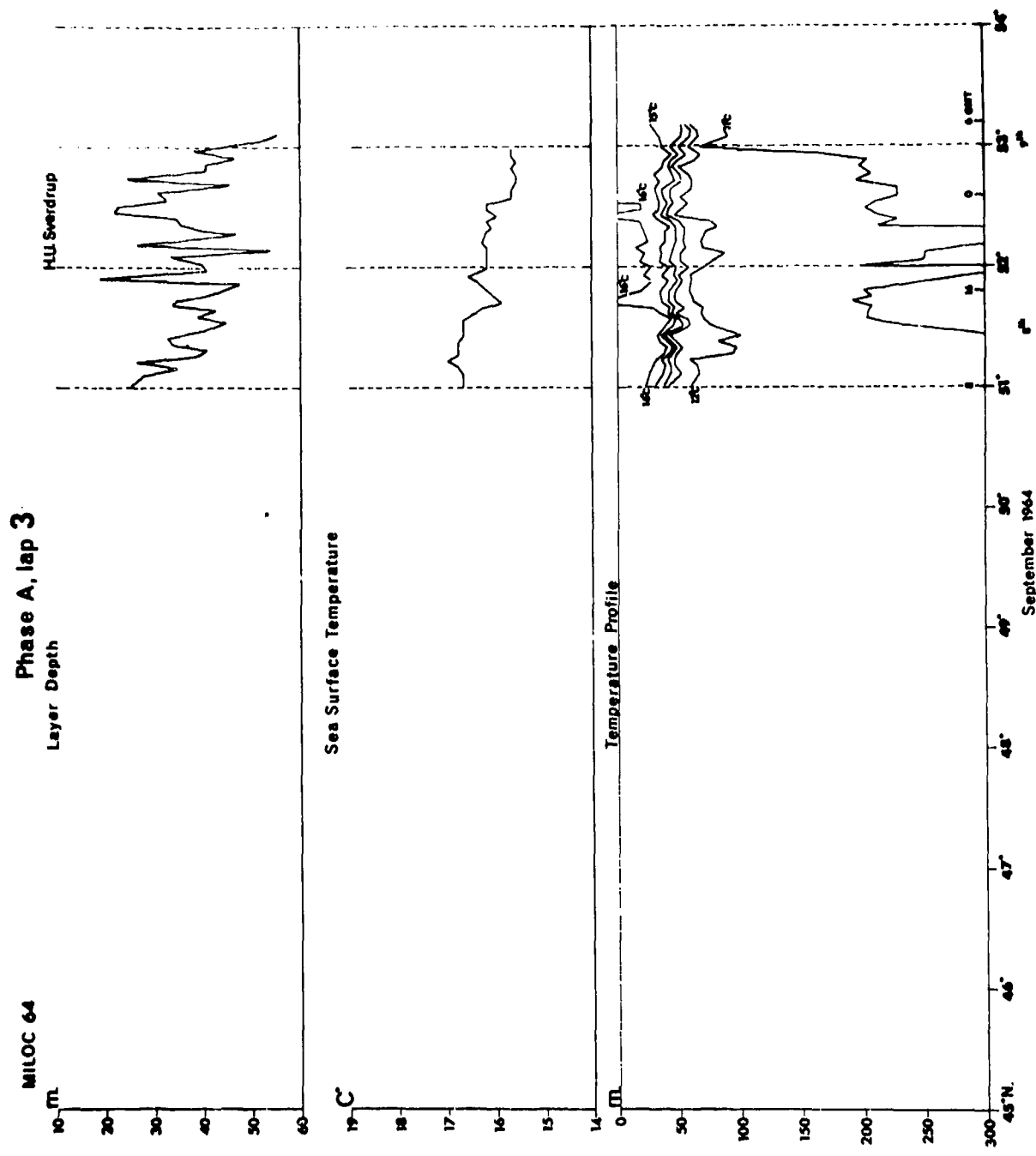


FIG. 3.10

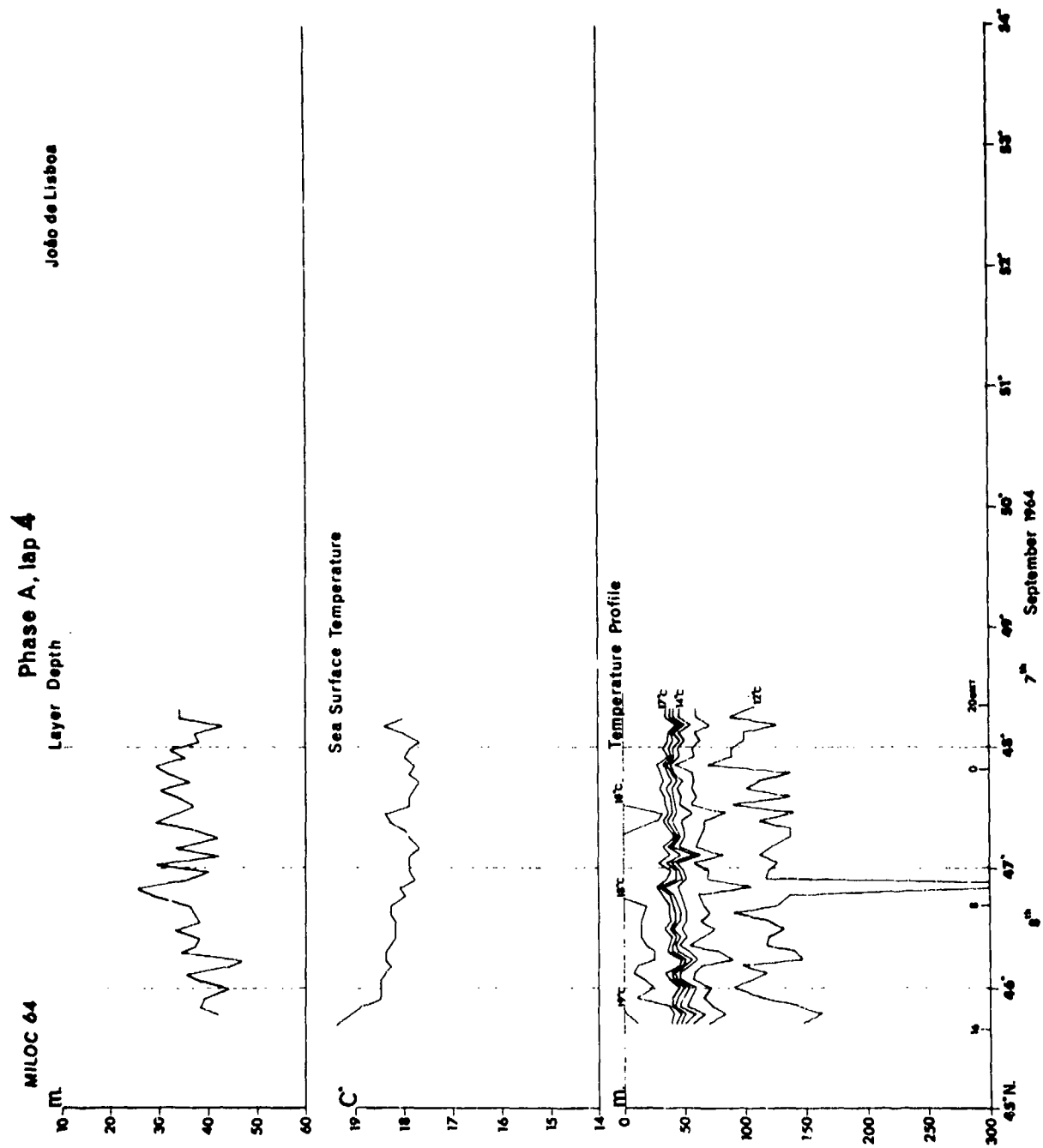


FIG. 3.11

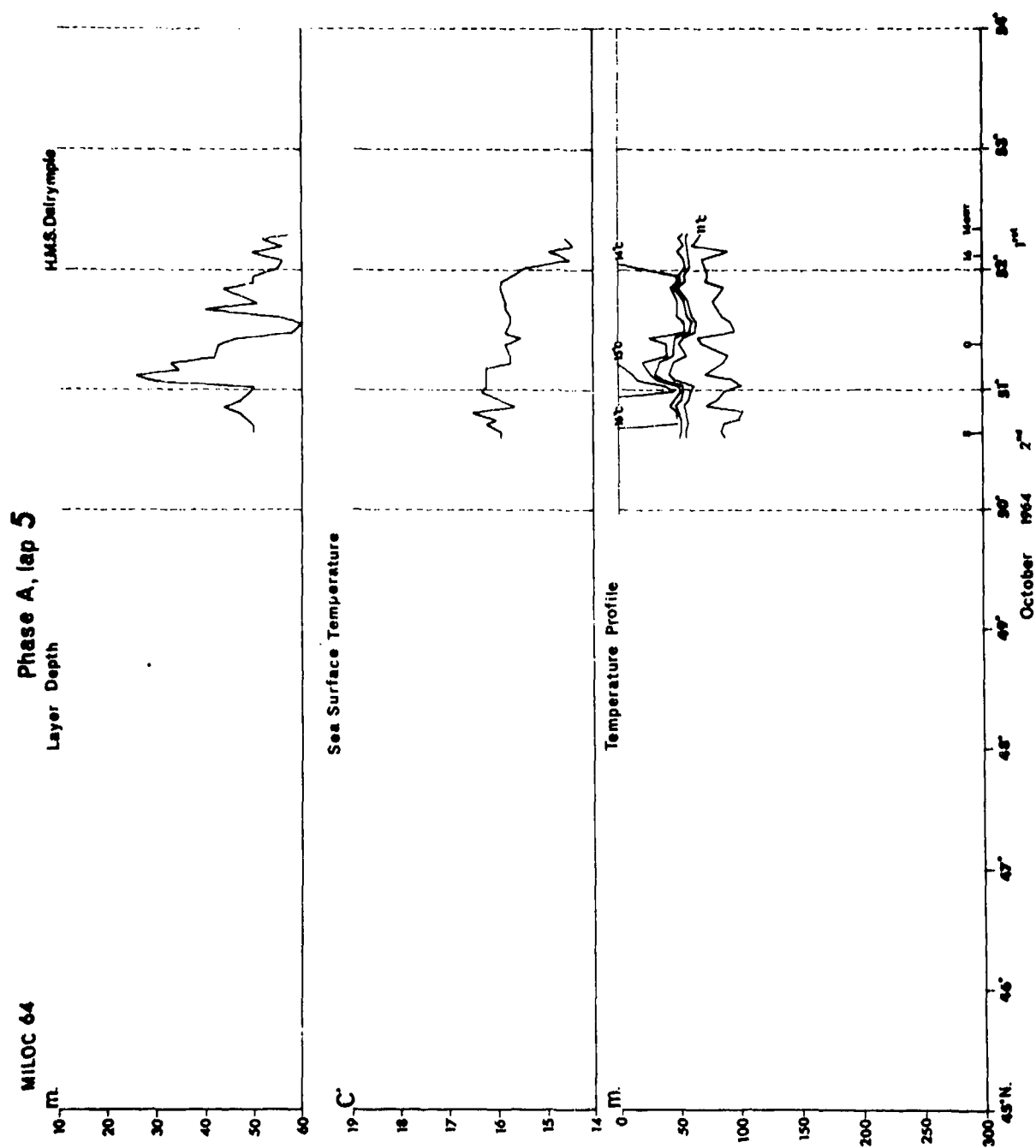


FIG. 3.12

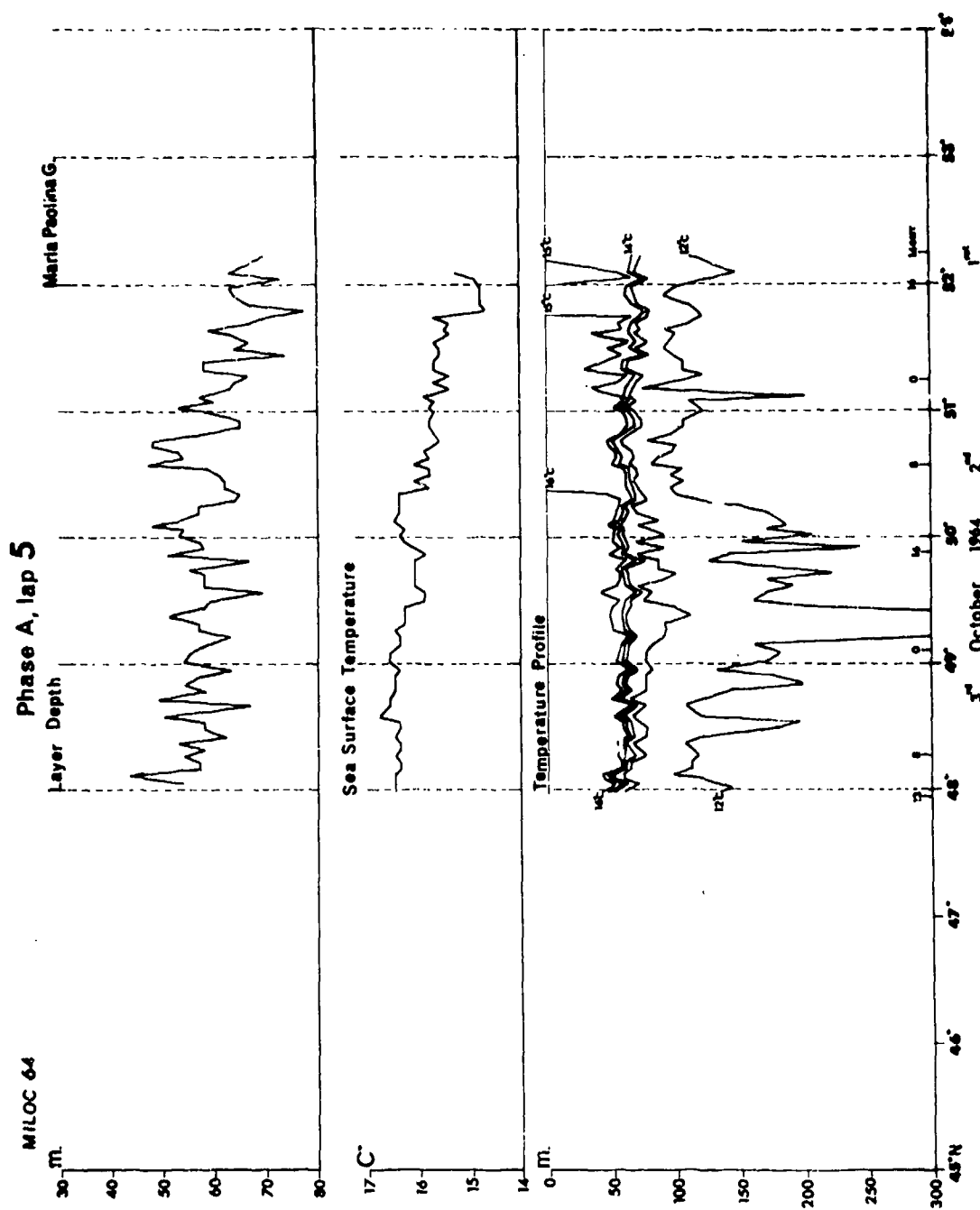


FIG. 3.13

MILOC 64

Phase A, lap 1
LAYER DEPTH AND SEA SURFACE TEMPERATURE
MEASURED SIMULTANEOUSLY ALONG SHIPS TRACKS

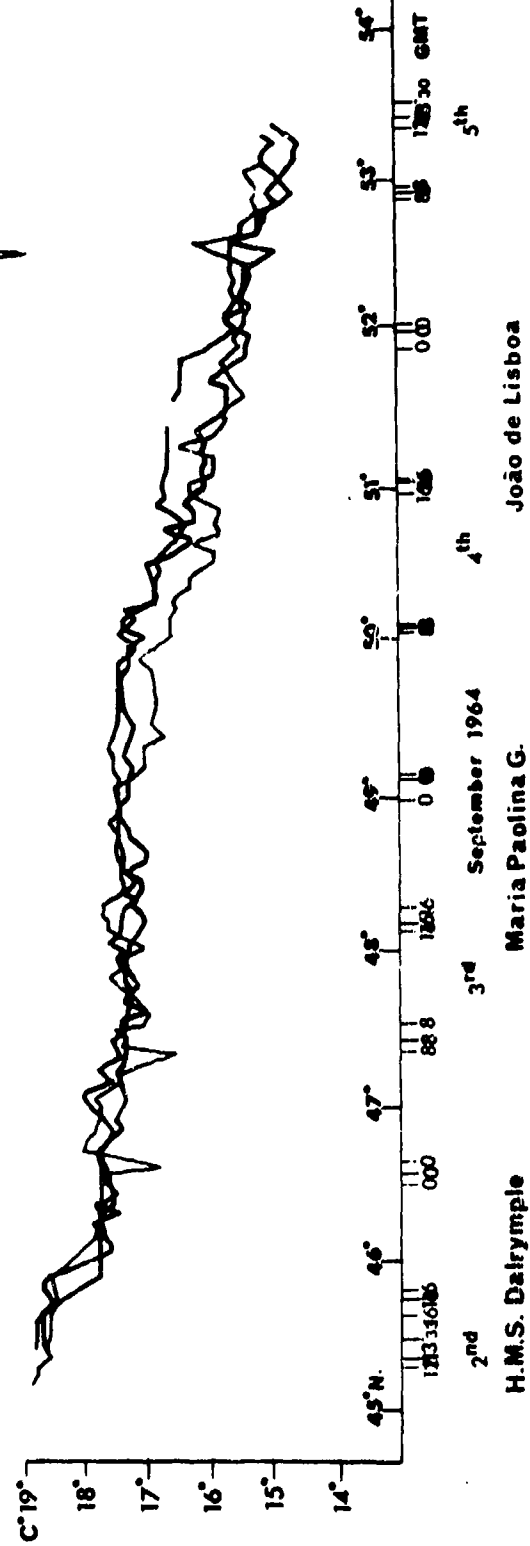
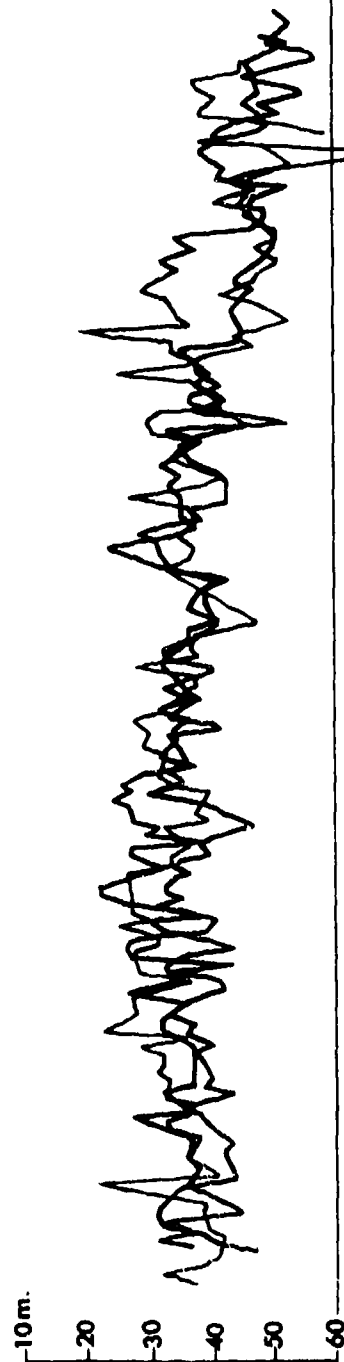


FIG. 3.14

MILOC 64

Phase A, lap 2
LAYER DEPTH AND SEA SURFACE TEMPERATURE
MEASURED SIMULTANEOUSLY ALONG SHIPS TRACKS

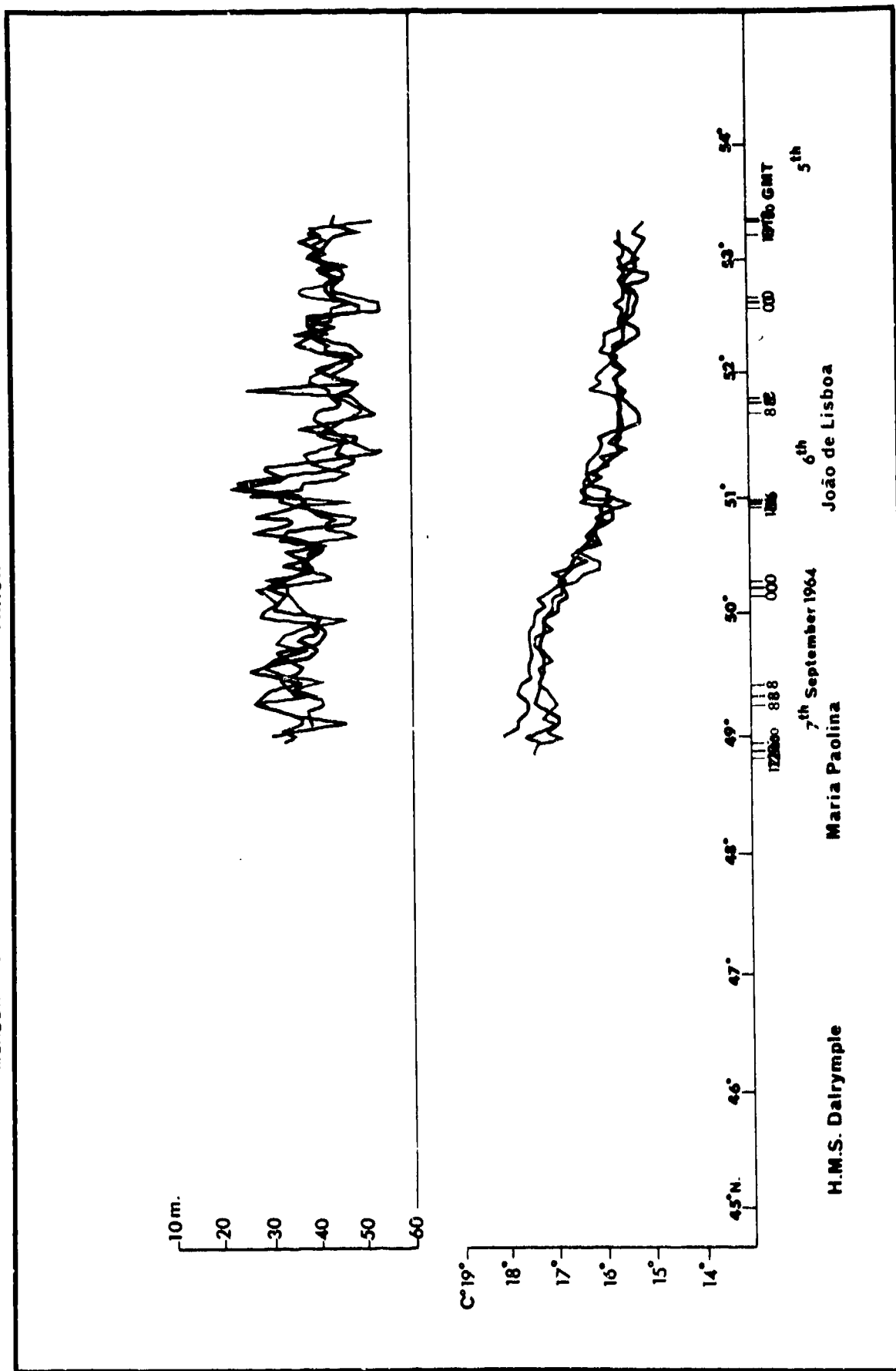


FIG. 3.15

Phase A, lap 3
 LAYER DEPTH AND SEA SURFACE TEMPERATURE
 MEASURED SIMULTANEOUSLY ALONG SHIPS TRACKS

MILOC 64

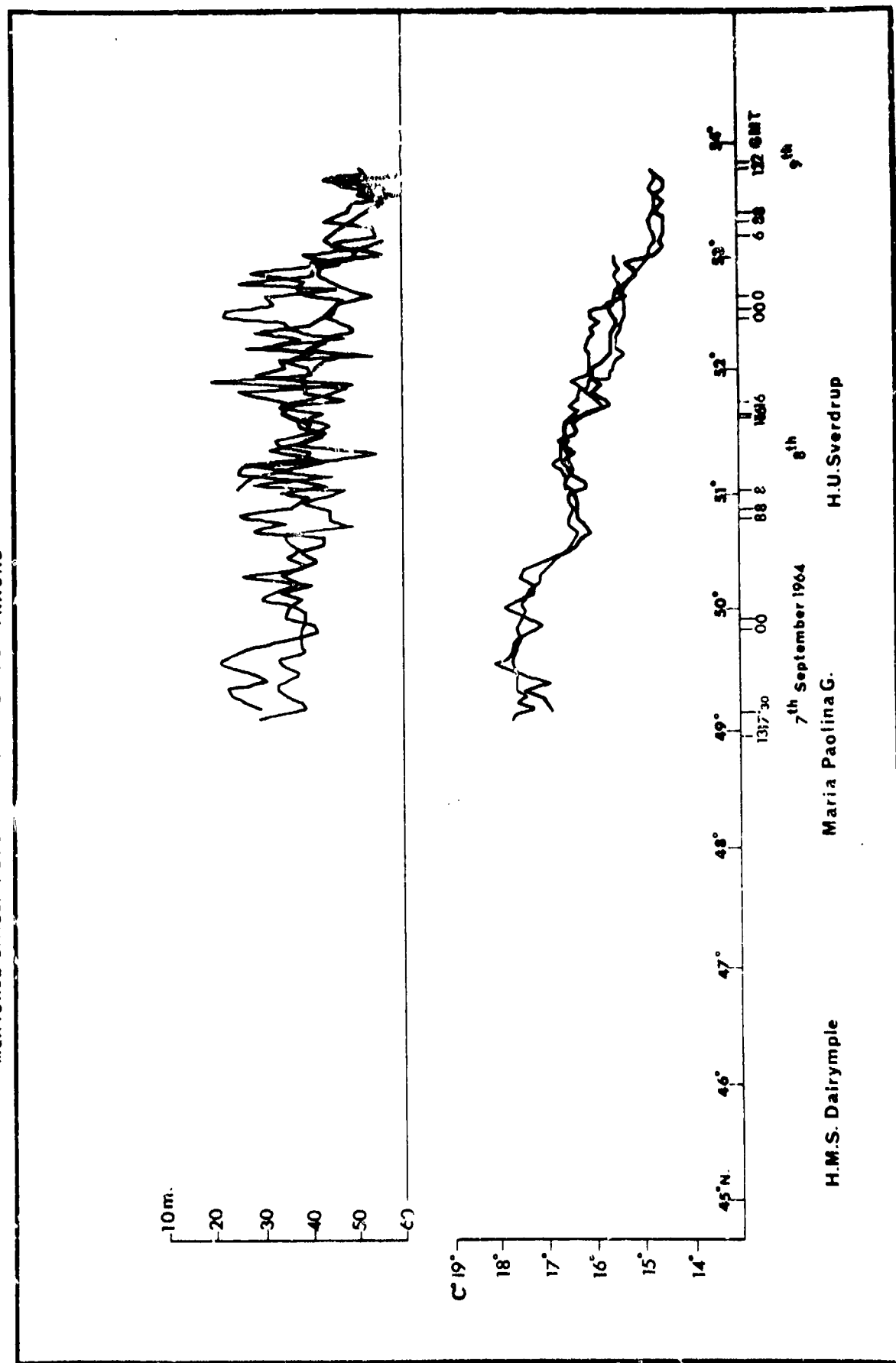
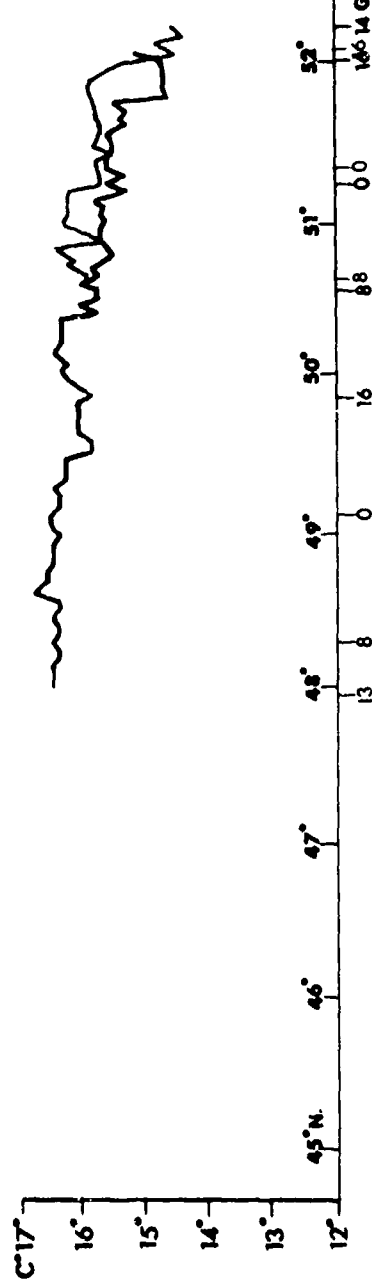
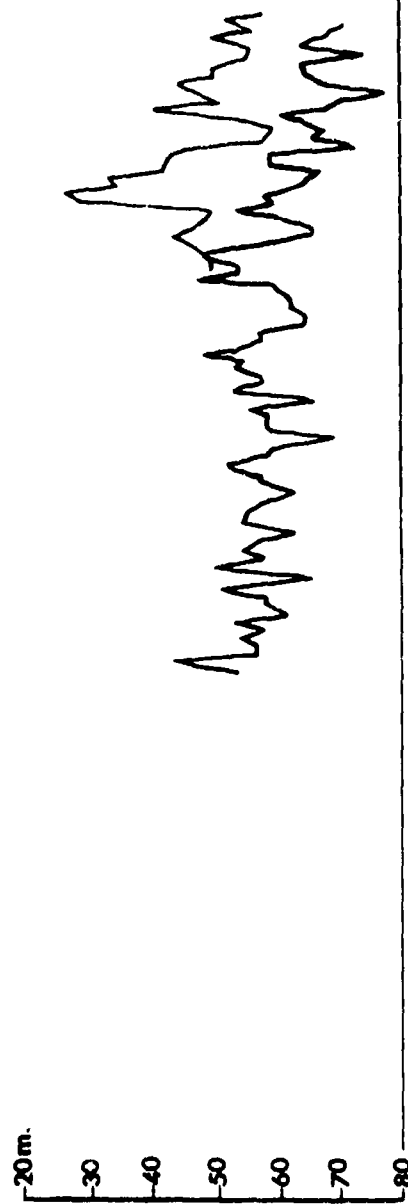


FIG. 3.16

MILOC 64

Phase A, lap 5
 LAYER DEPTH AND SURFACE TEMPERATURE
 MEASURED SIMULTANEOUSLY ALONG SHIPS TRACKS



1st October 1964

2nd

3rd H.M.S. Dalrymple

Maria Paolina G.

FIG. 3.17

MILOC 64 Phase A, lap 1
COMPARISON BETWEEN LAYER DEPTH AND SEA SURFACE TEMPERATURE

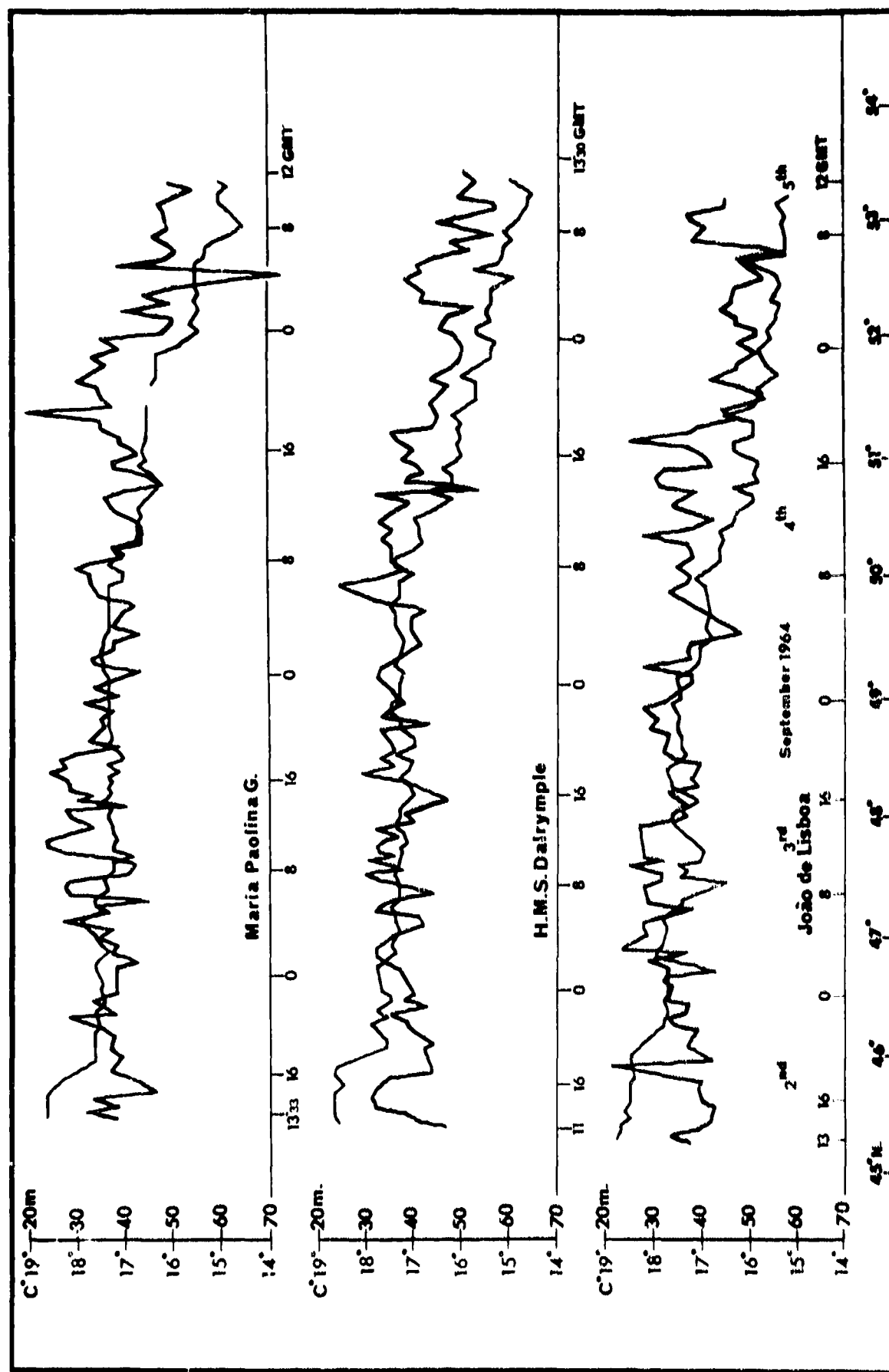


FIG. 3.18

MILOC 64

Phase A, lap 2

COMPARISON BETWEEN LAYER DEPTH AND SEA SURFACE TEMPERATURE

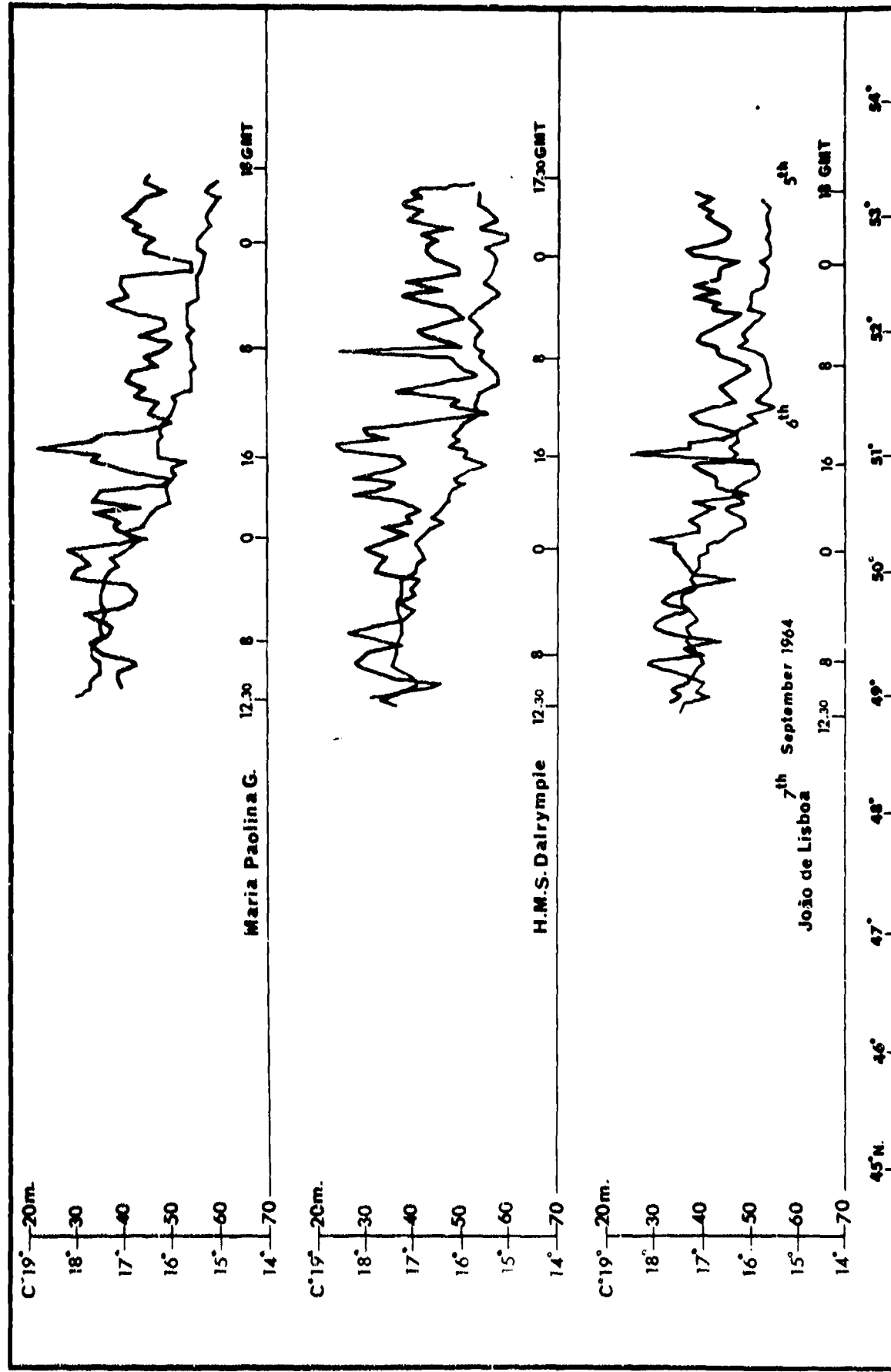


FIG. 3.19

MILOC 64 Phase A, lap 3
COMPARISON BETWEEN LAYER DEPTH AND SEA SURFACE TEMPERATURE

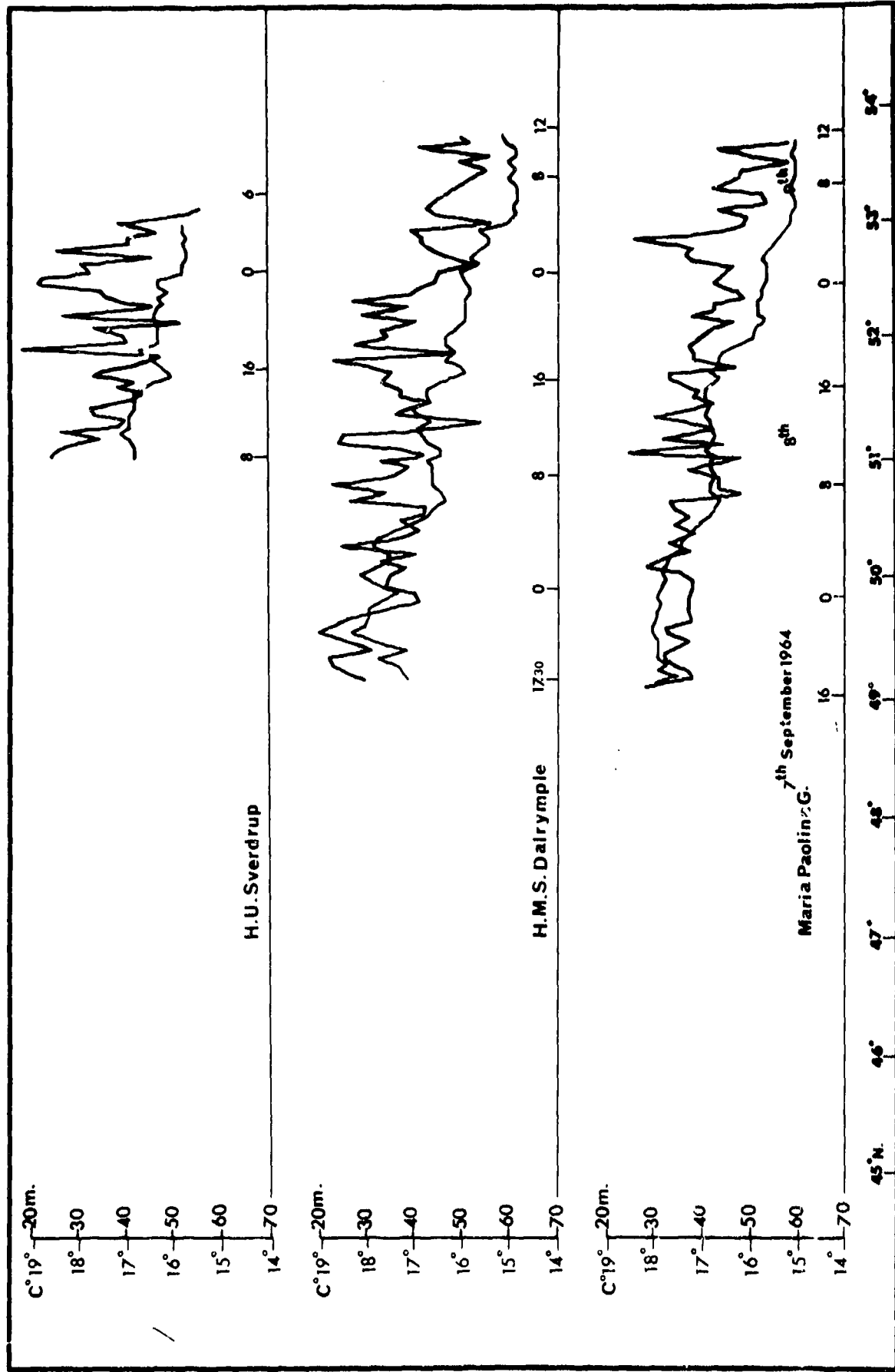


FIG. 3.20

MILOC 64

Phase A, laps 4,5

COMPARISON BETWEEN LAYER DEPTH AND SEA SURFACE TEMPERATURE

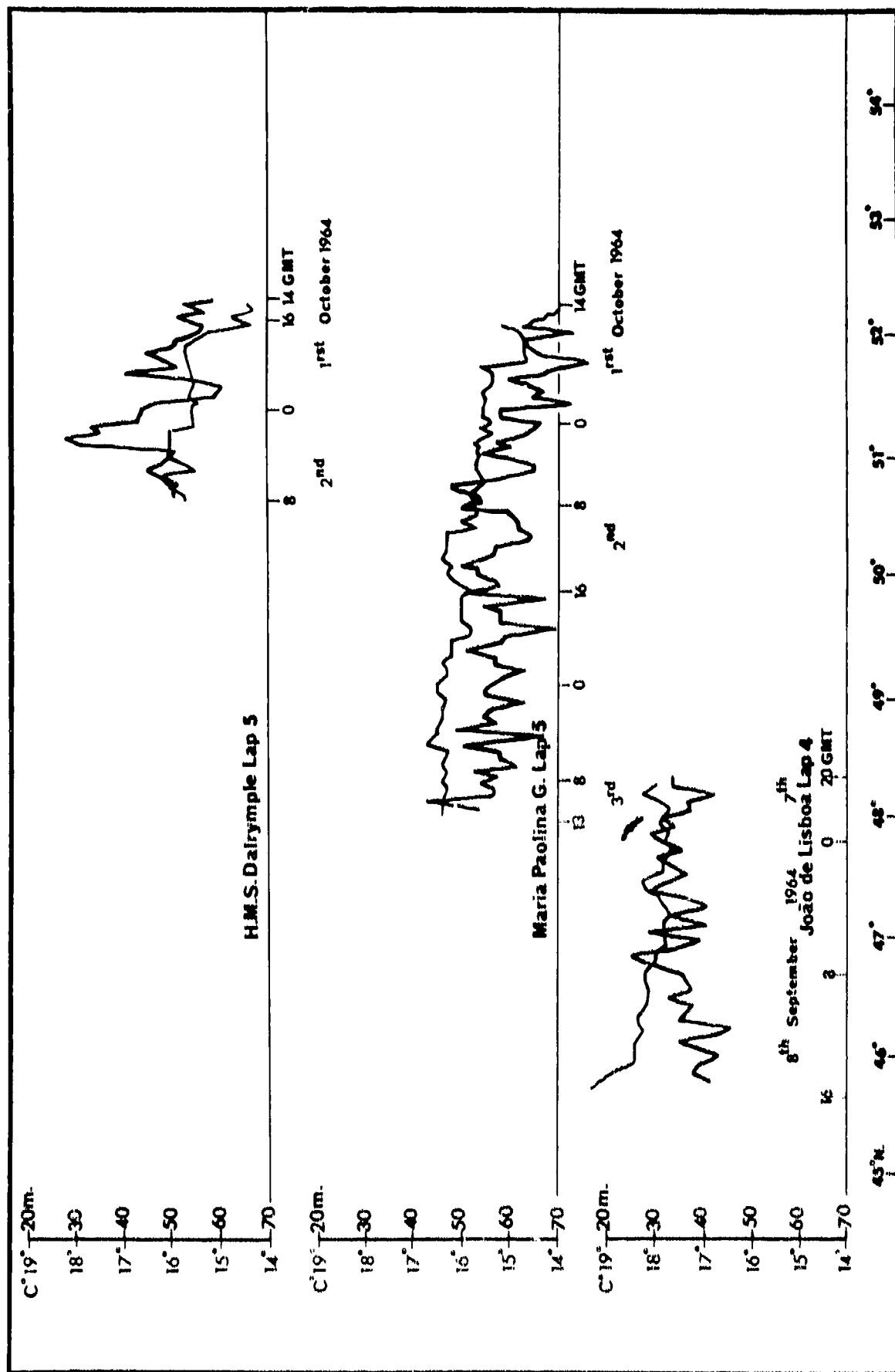


FIG. 3.21

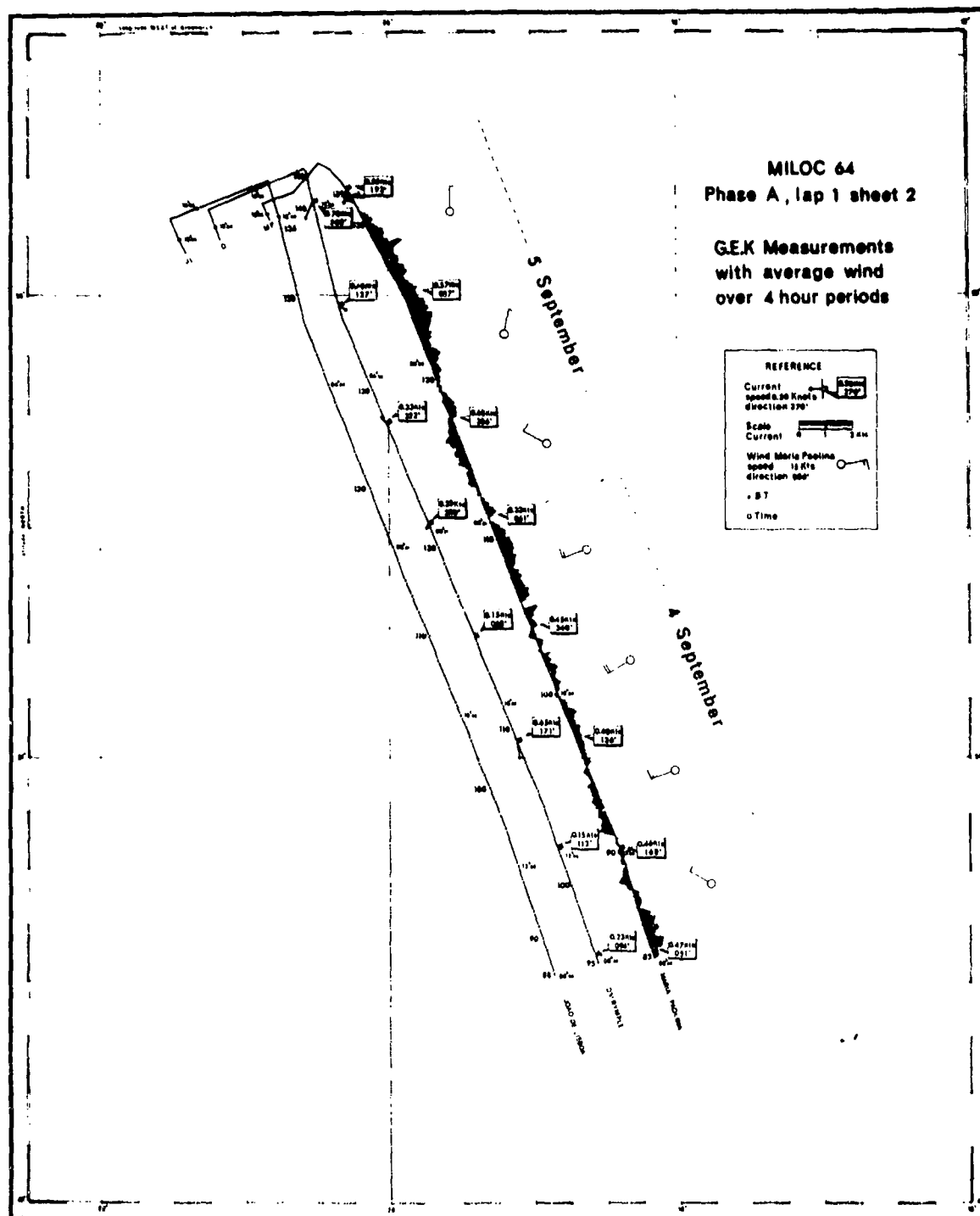


FIG. 4.2

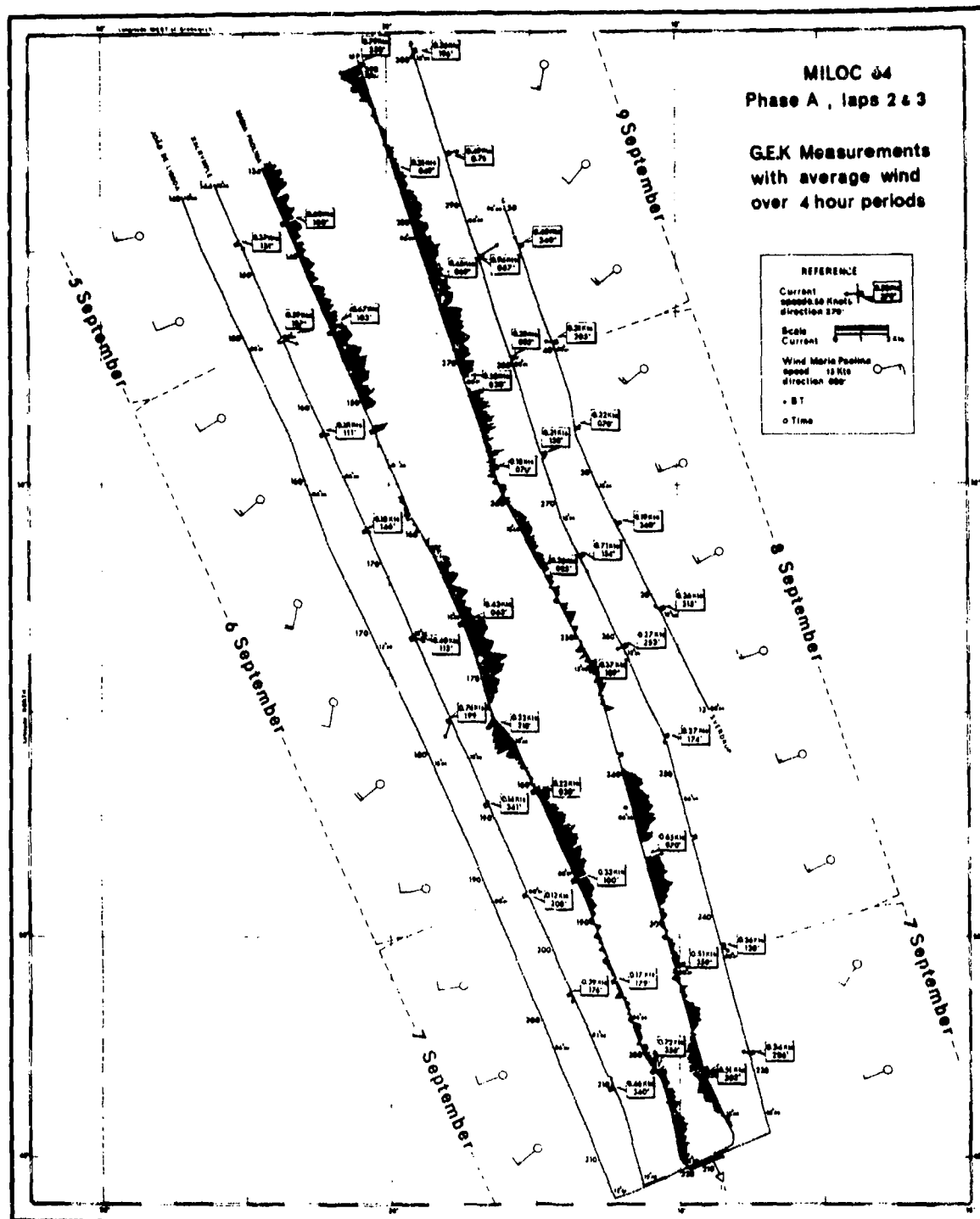


FIG. 4.3

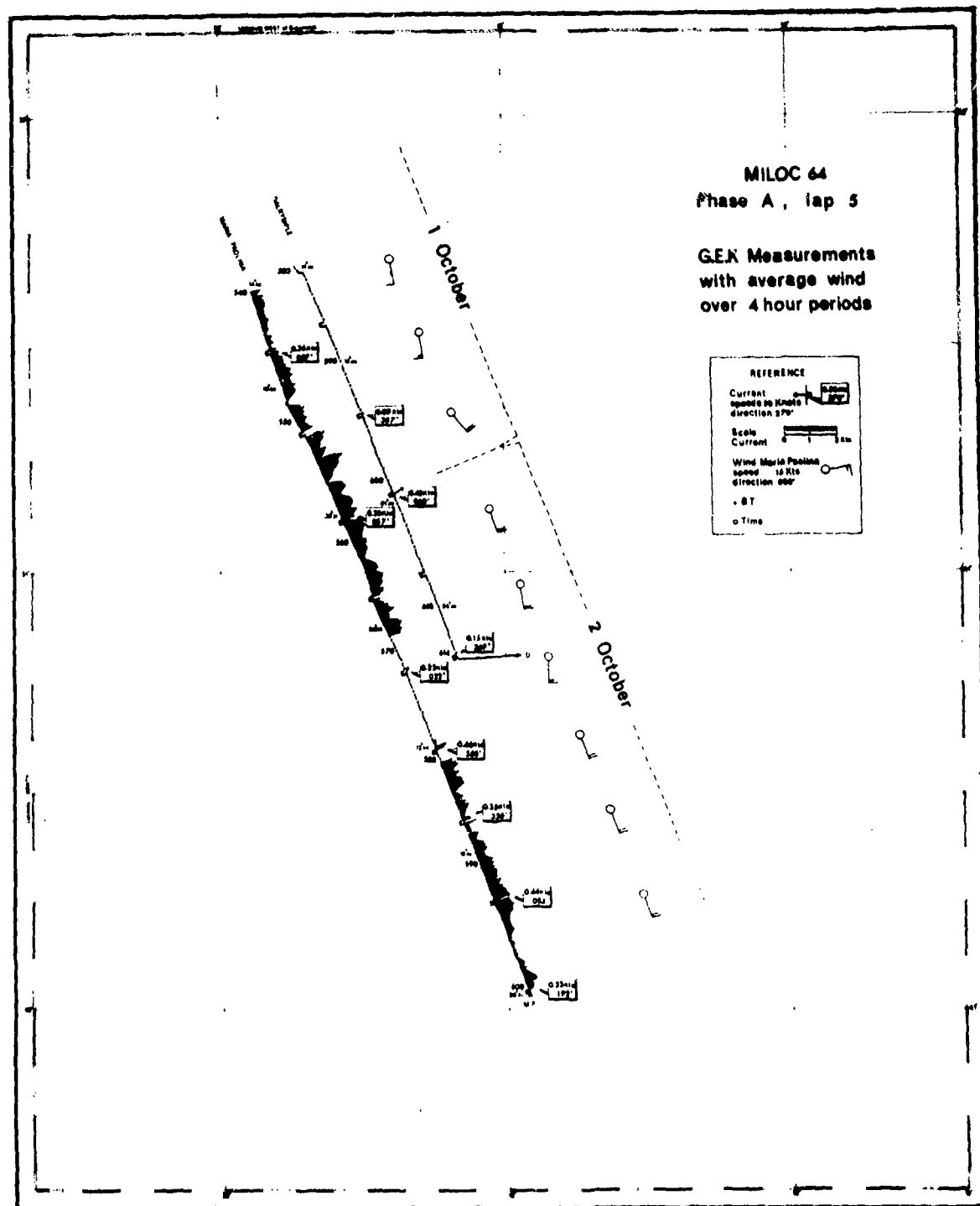


FIG. 4.4

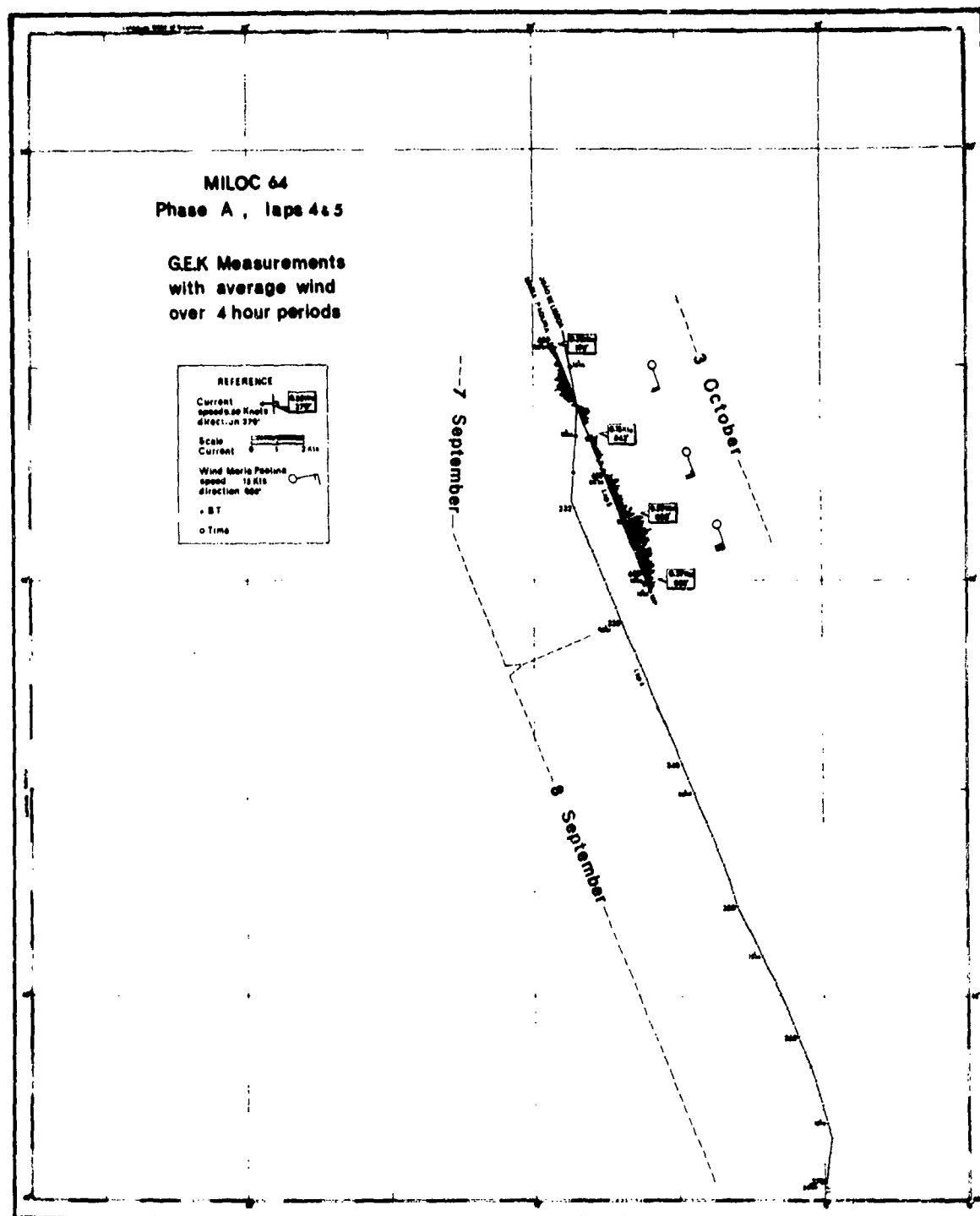


FIG. 4.5

MILOC 64

Phase A, lap 1

João De Lisboa

Wind Speed and Direction

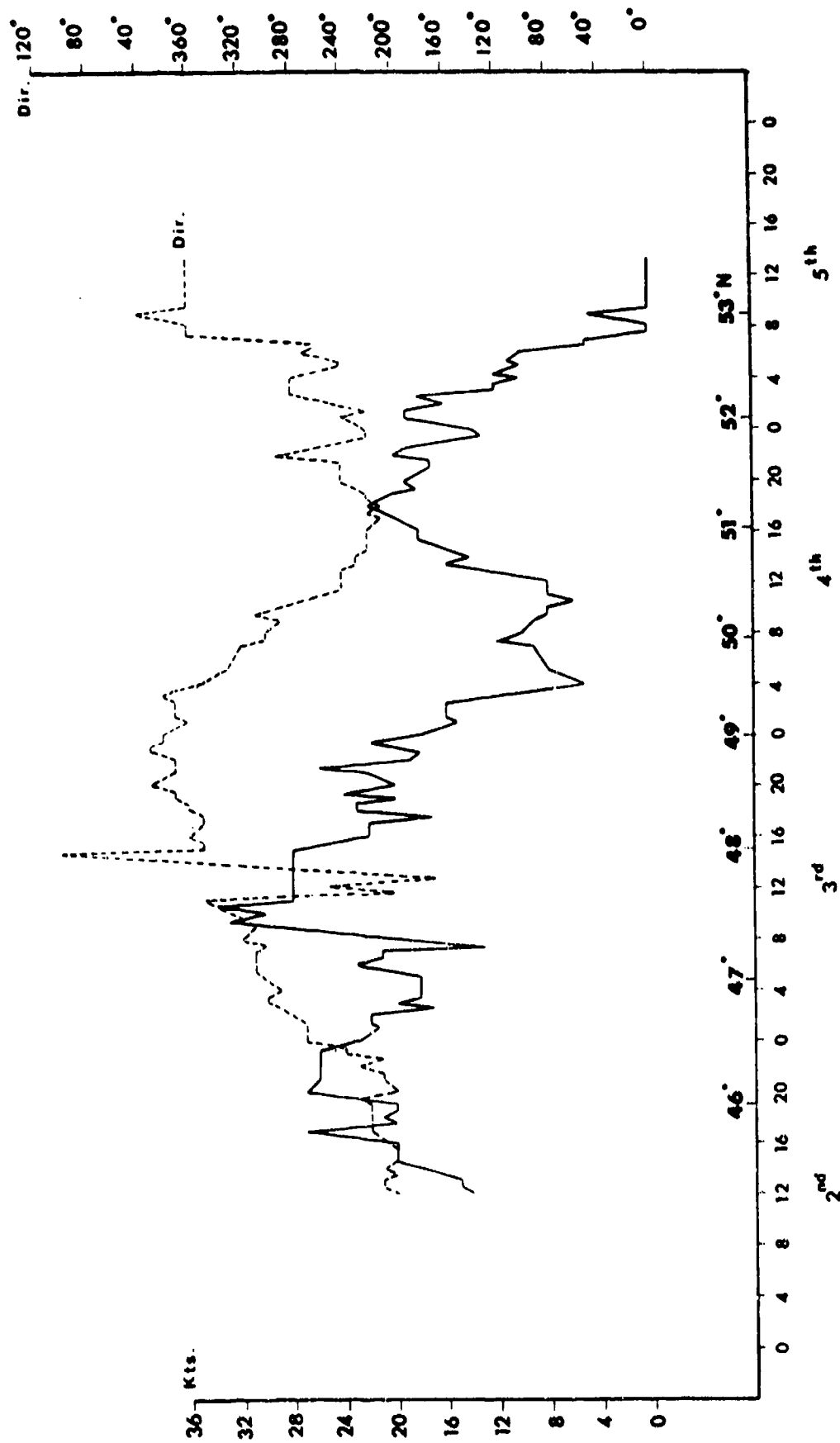


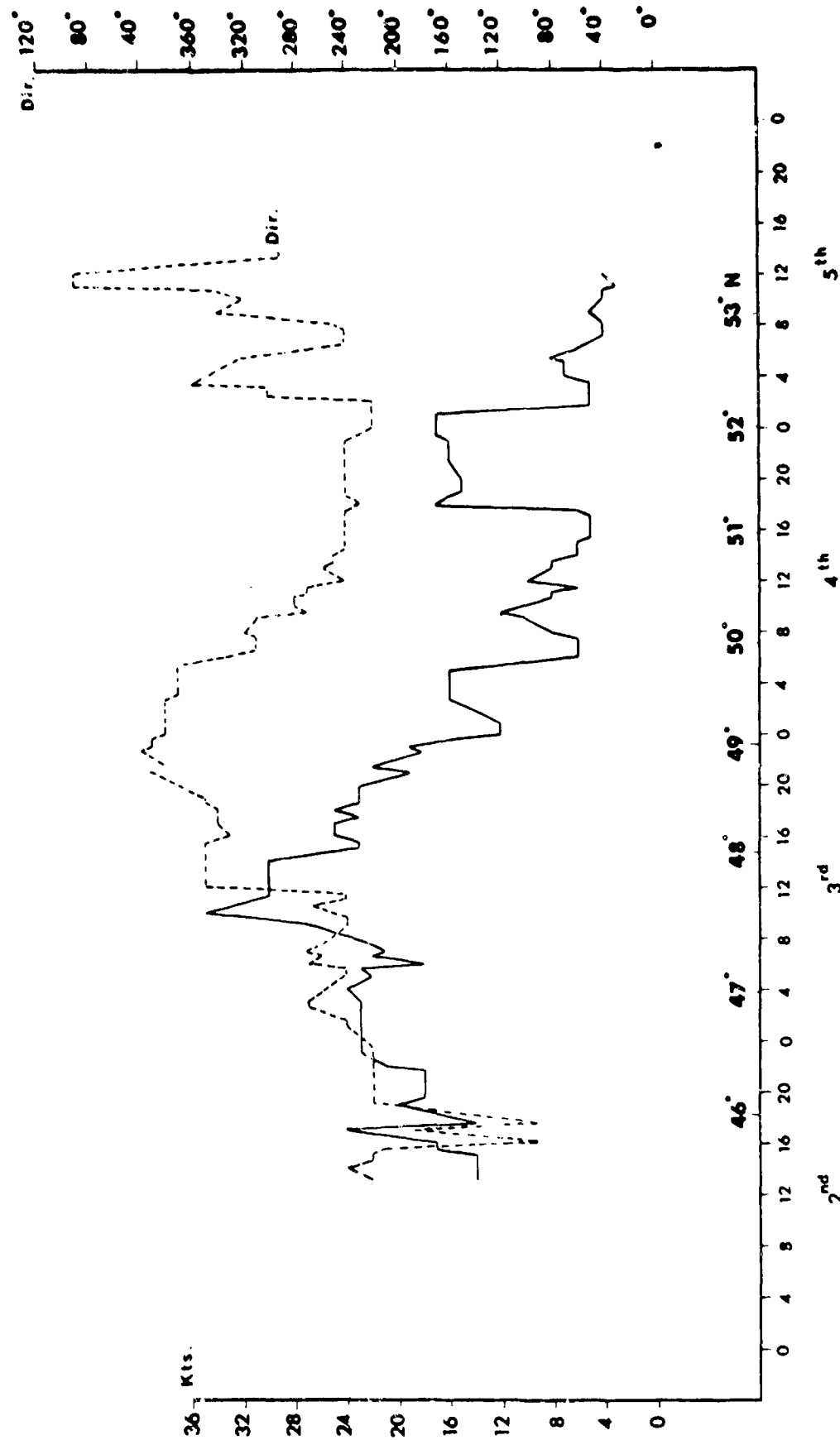
FIG. 5.1

MILOC 64

Phase A, lap 1

H.M.S. Dairymple

Wind Speed and Direction



September 1964

FIG. 5.2

9 100. 010

MILOC 64 **Phase A, lap 1** **Maria Paolina G.**
Wind Speed and Direction

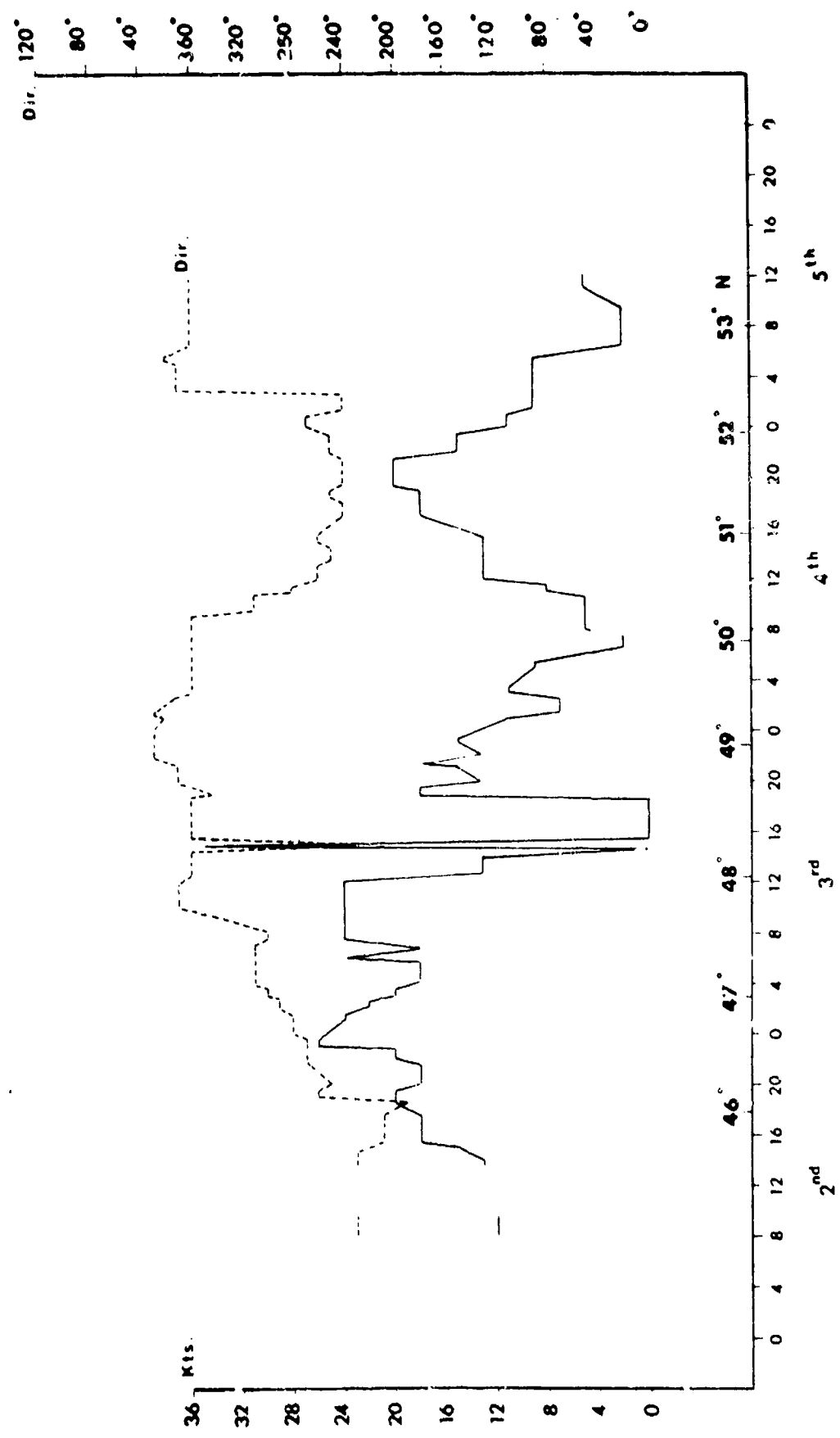


FIG. 5.3

MILOC 64

Phase A, lap 2

João De Lisboa

Wind Speed and Direction

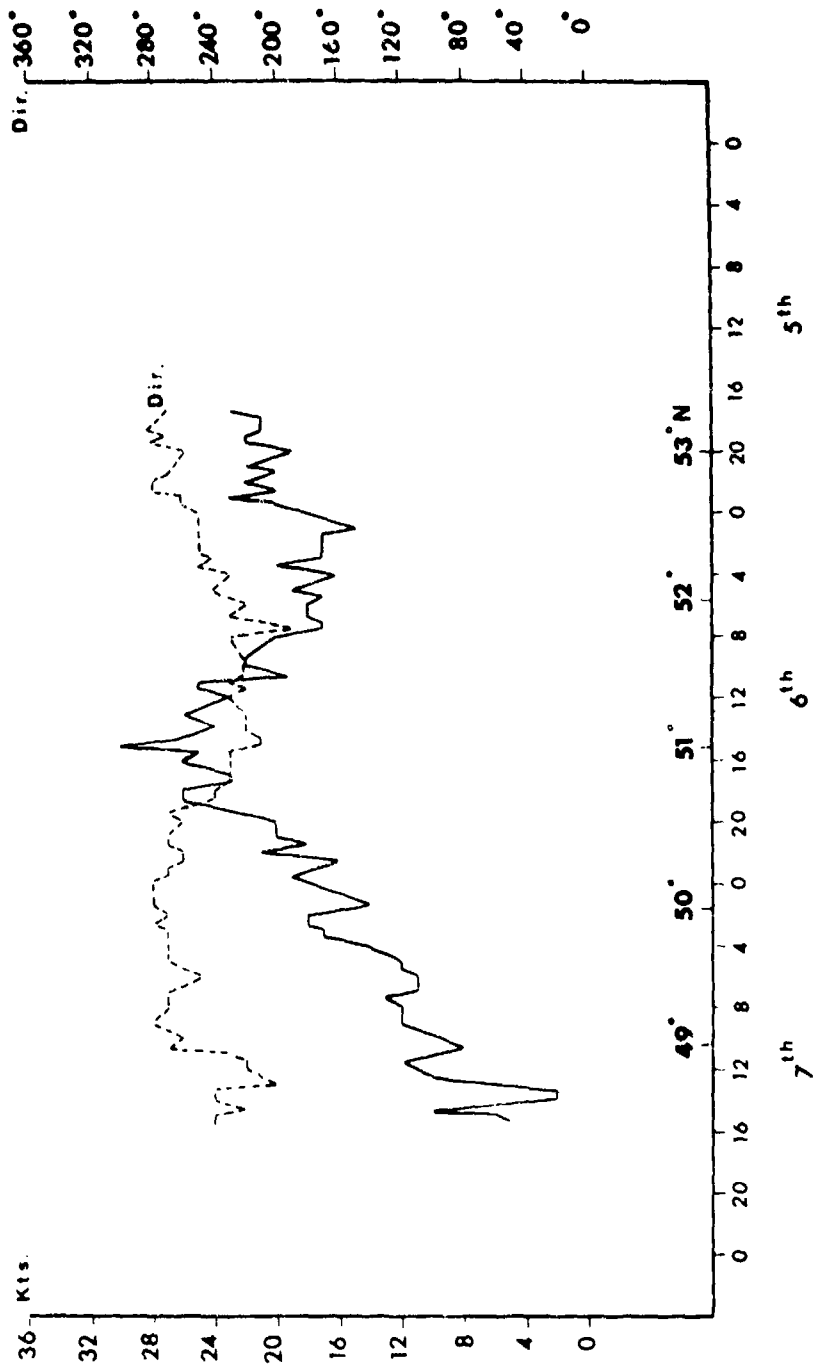


FIG. 5.4

H.M.S. Ostrymple

Phase A, lap 2

Wind Speed and Direction

MILOC 6th

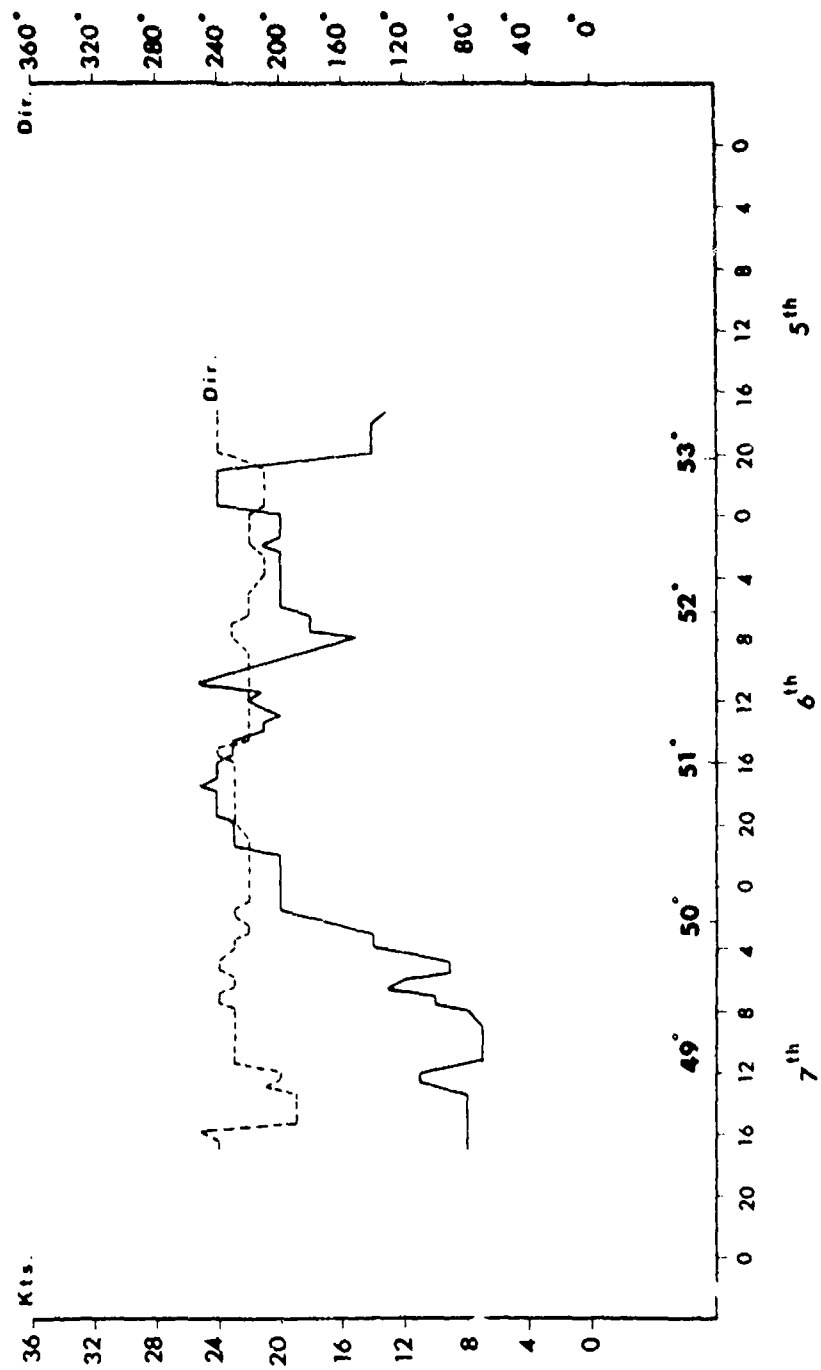


FIG. 5.5

Maria Paolina G.

Phase A, lap 2

Wind Speed and Direction

MILOC 64

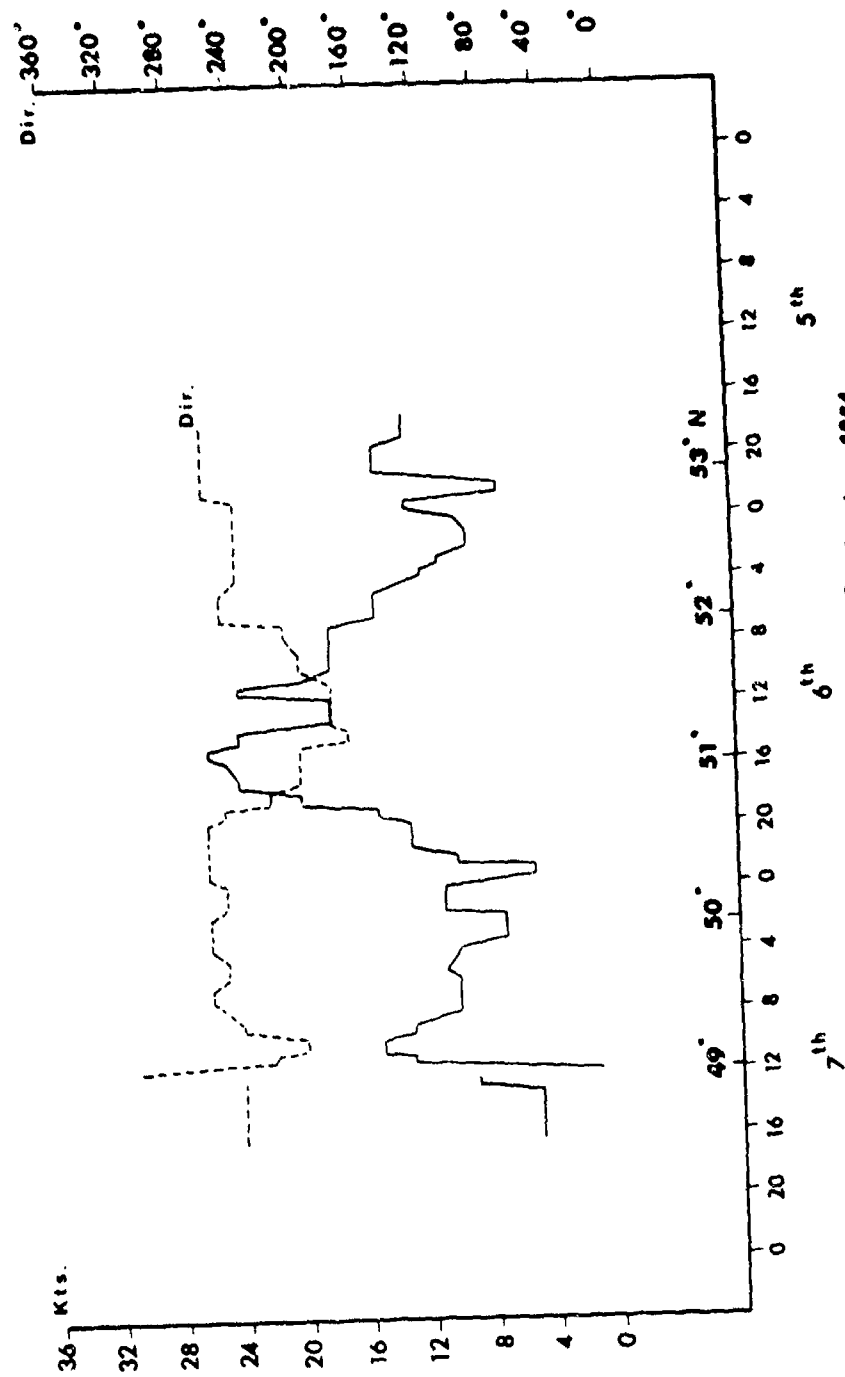


FIG. 5.6

FIG. 5.6

MILOC 64
Phase A, lap 3
Wind Speed and Direction
H.M.S. Dalrymple

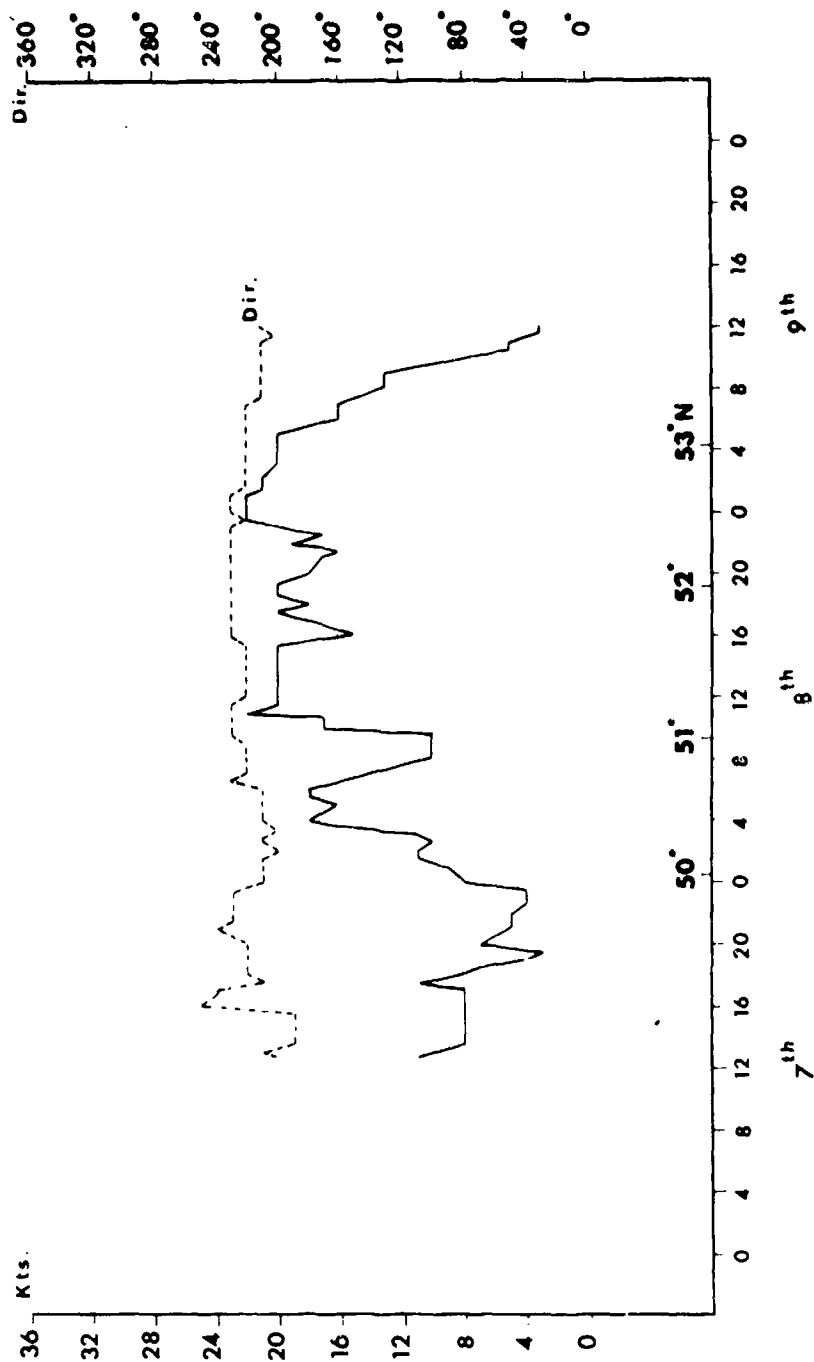


FIG. 5.7

MILOC 64

Phase A, lap 3

Maria Paolina G.

Wind Speed and Direction

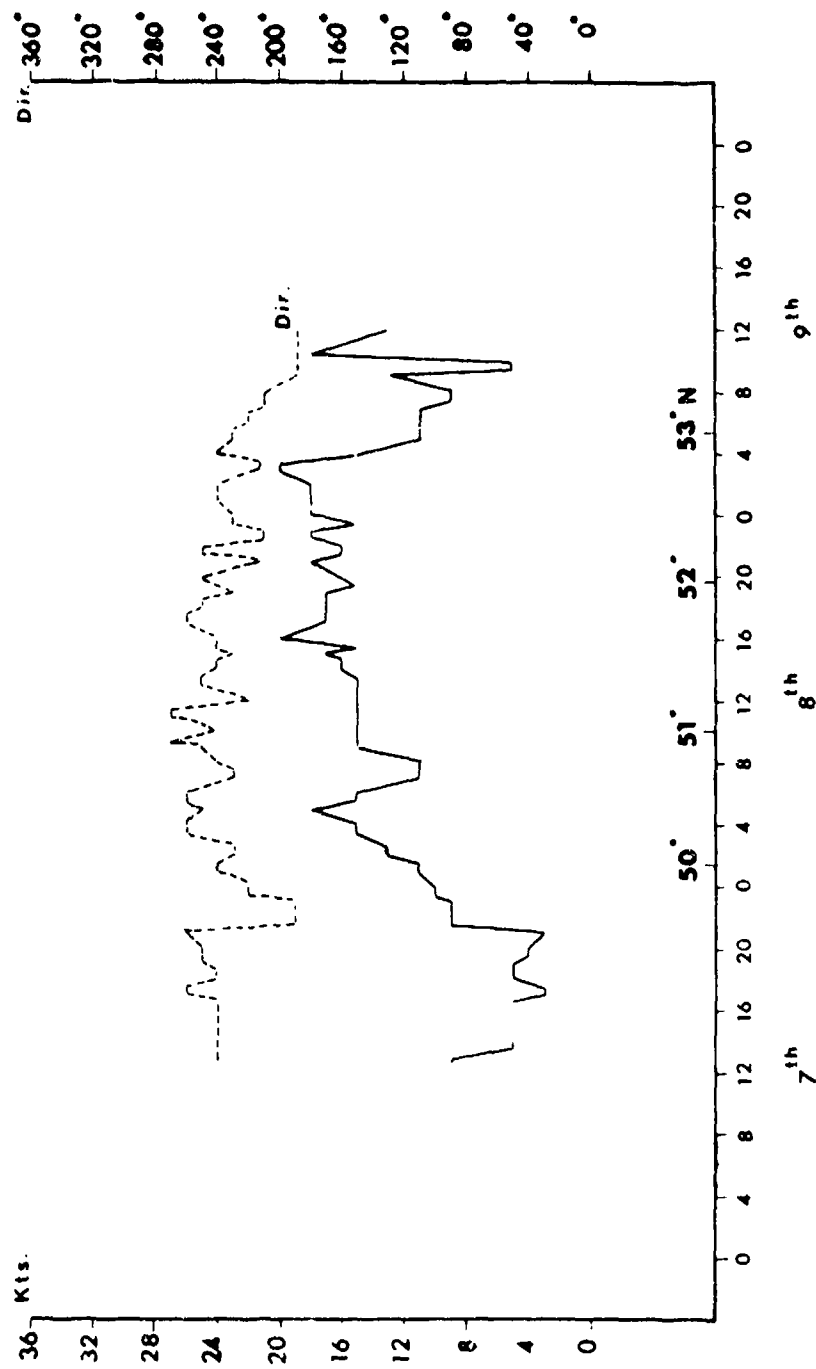


FIG. 5.8

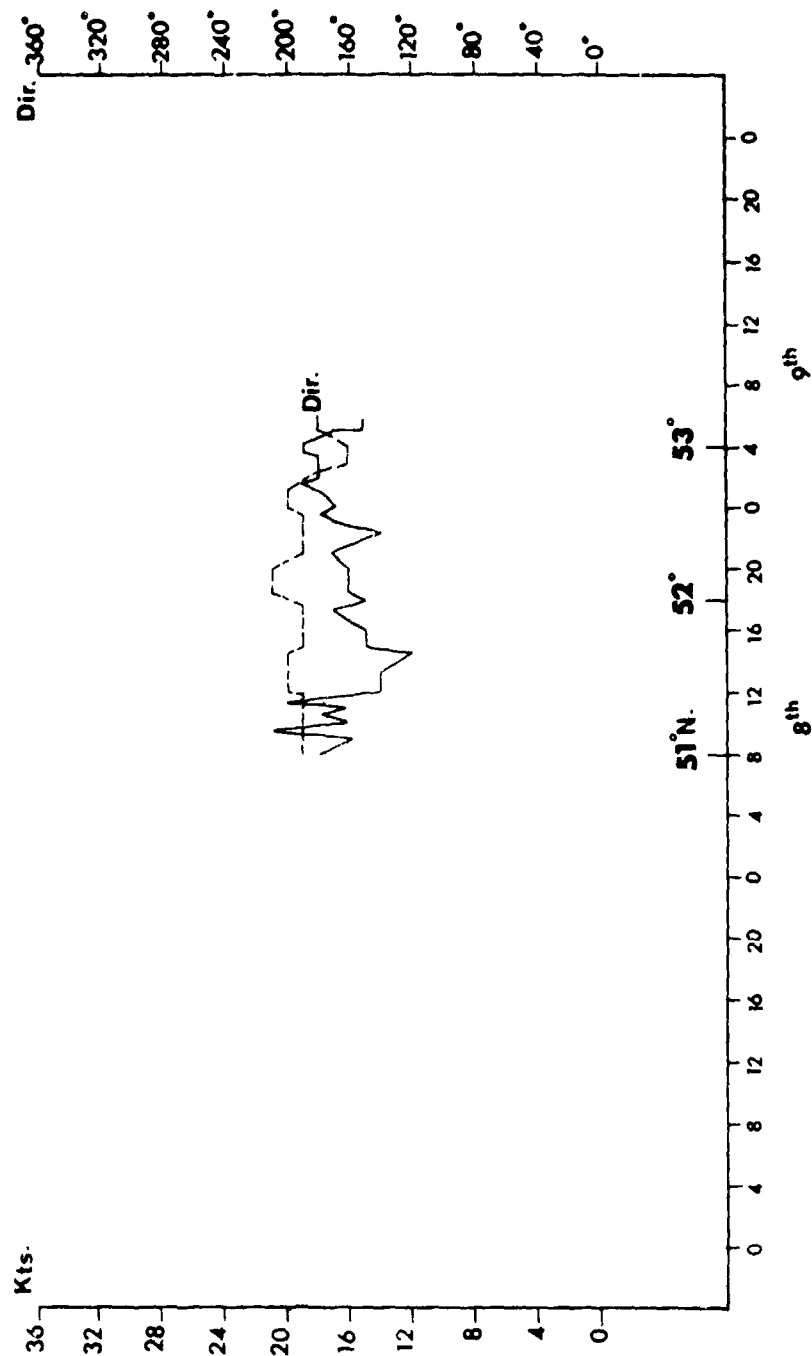
Maria Paolina G.

September 1964

FIG. 5

FIG. 5.8

MILOC 64 **Phase A, lap 3** **H.U. Sverdrup**
 Wind Speed and Direction



September 1964

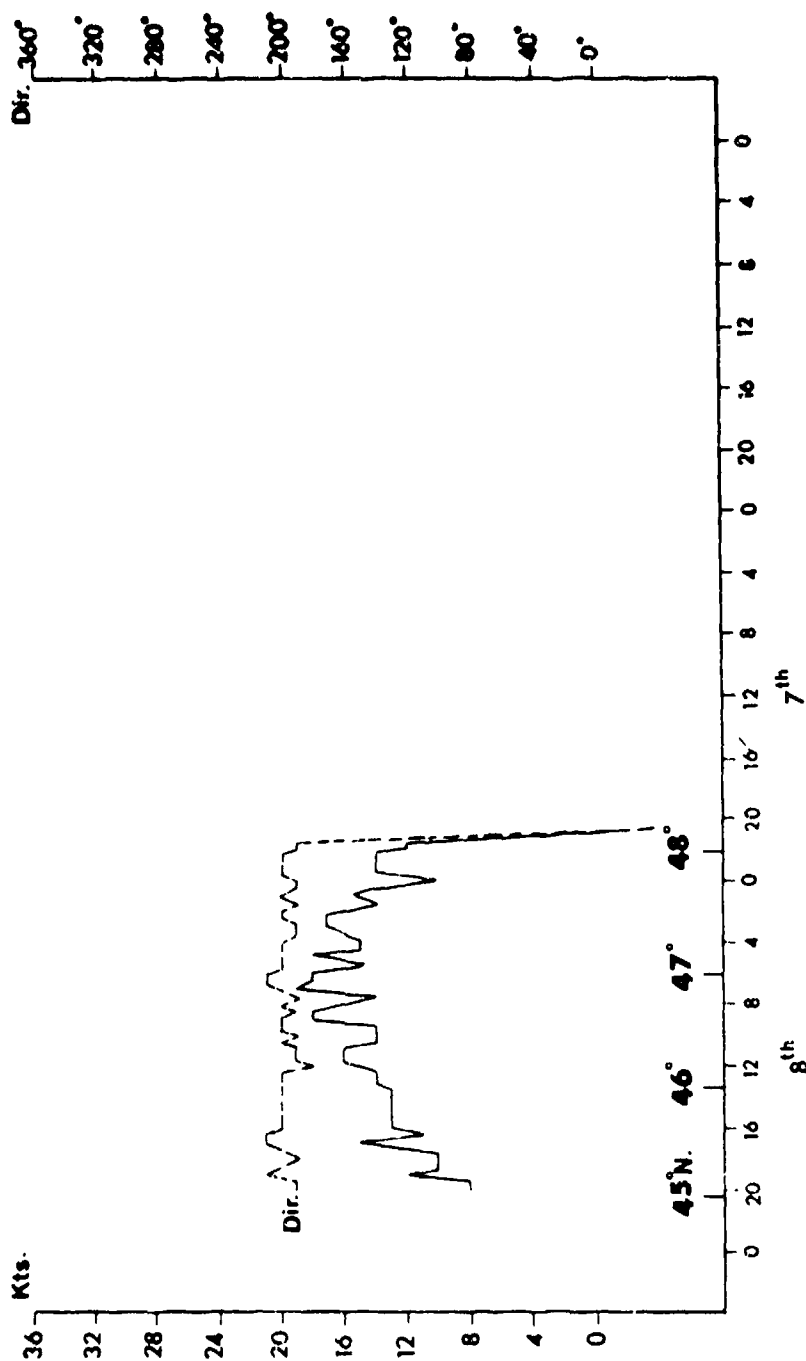
FIG. 5.8a

João de Lisboa

Phase A, lap 4

Wind Speed and Direction

MILOC 64



September 1964

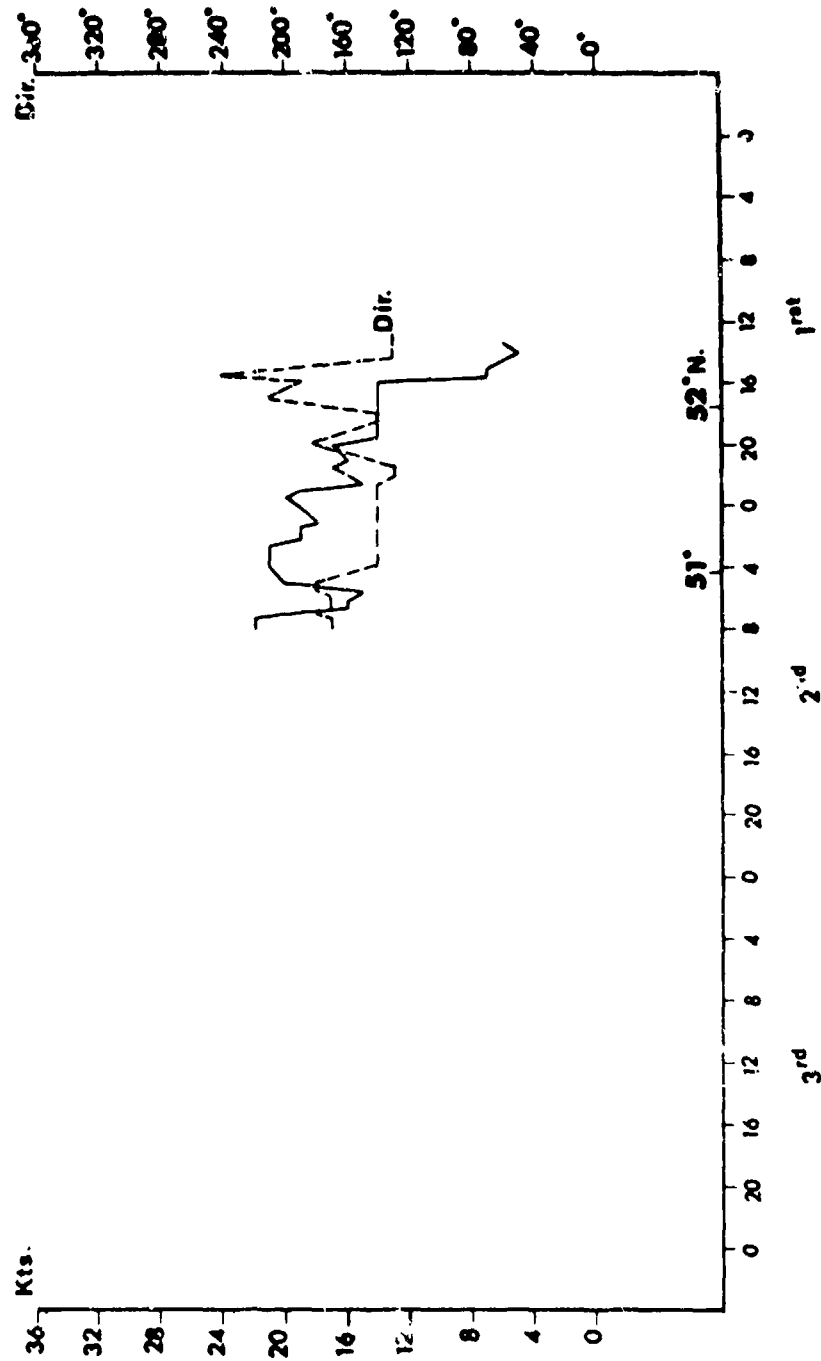
FIG. 5.8b

MILOC 64

Phase A, lap 5

HMS. Dalrymple

Wind Speed and Direction



October 1964

FIG. 5.9

FIG. 5.9

MILOC 64 **Phase A, lap 5** **Maria Paolina G.**
Wind Speed and Direction

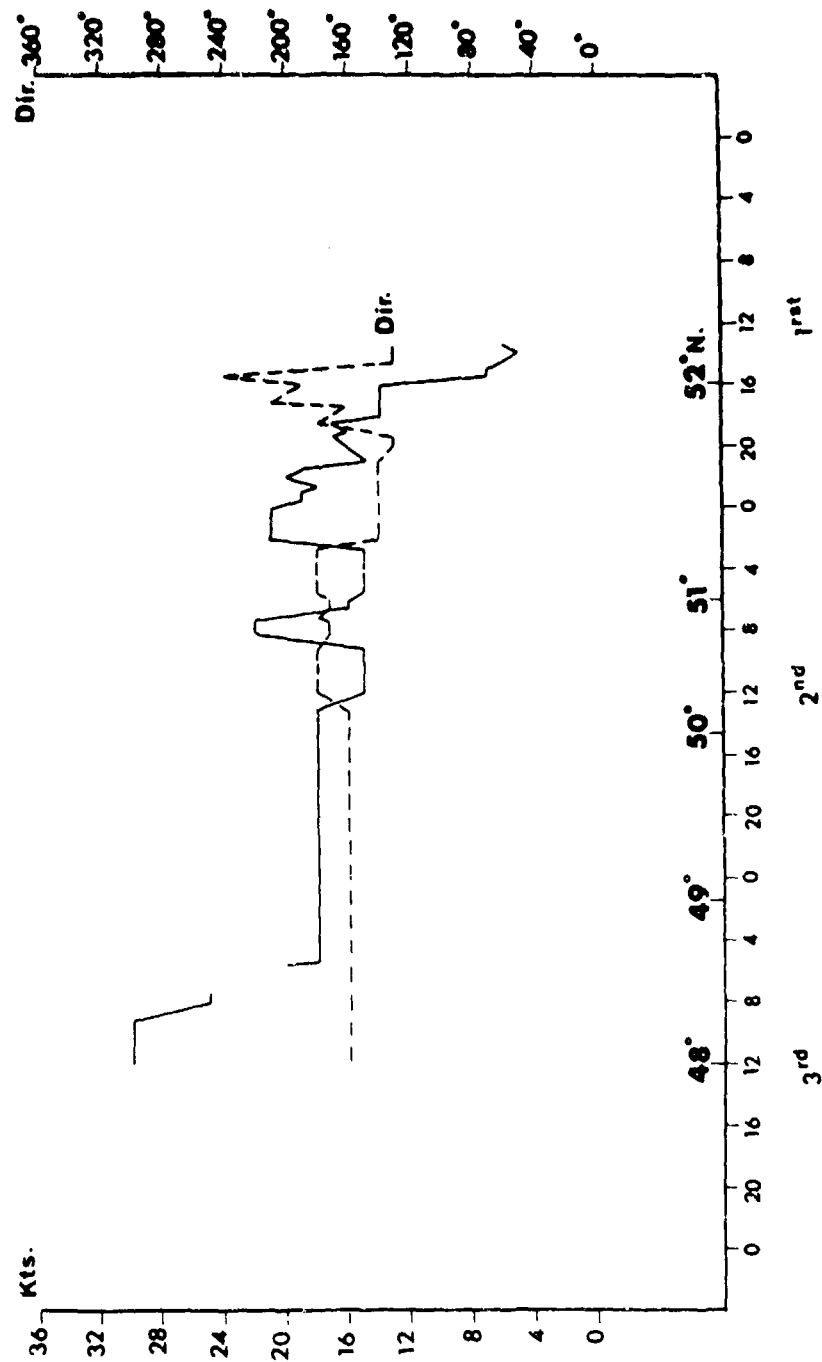


FIG. 5.10

MILOC 64

Phase A, lap 1

João de Lisboa

Air Temperature

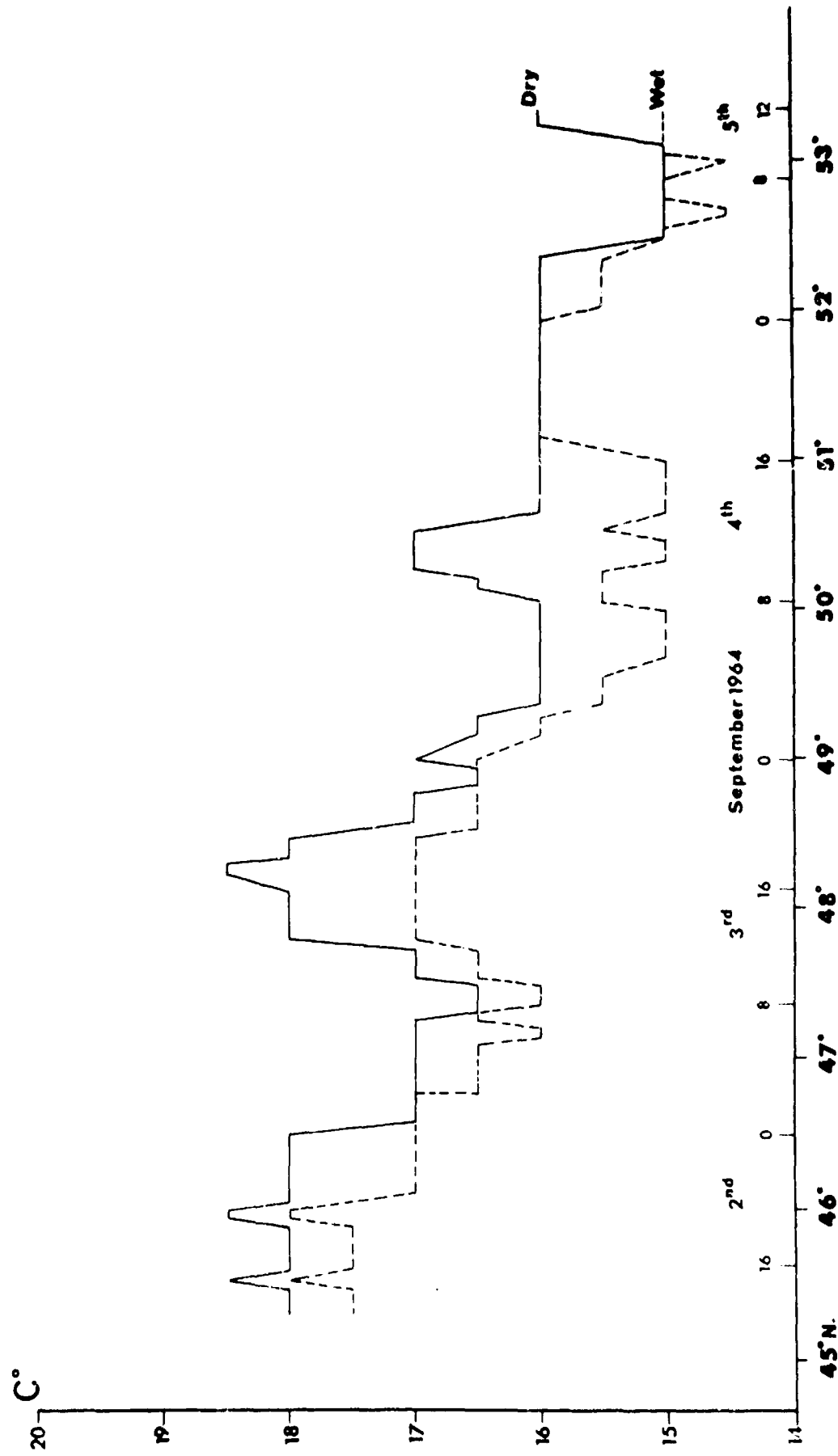


FIG. 5.11

MILOC 64

Phase A, lap 1

Air Temperature

H.M.S. Dalrymple

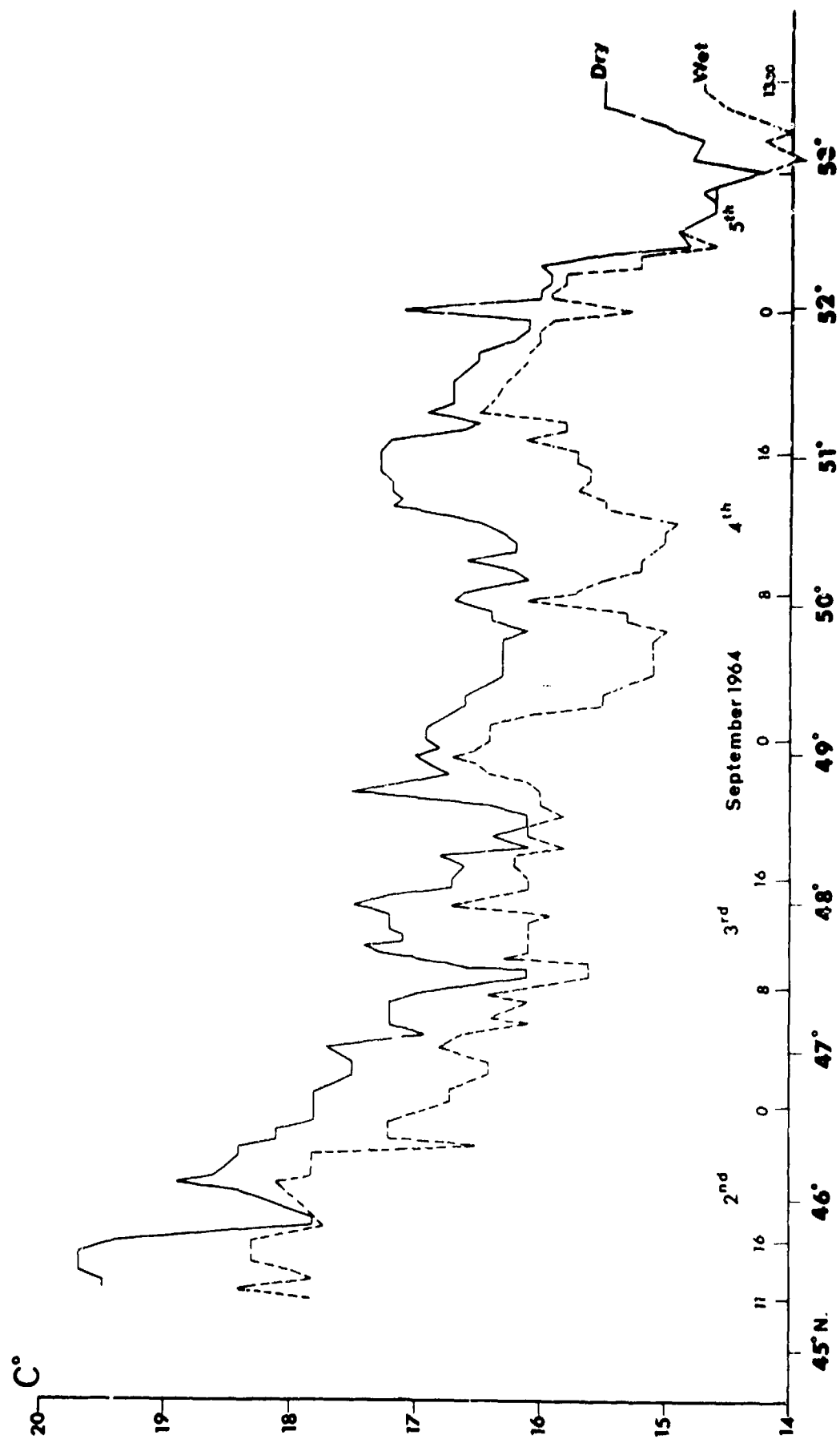


FIG. 5.12

MILOC 64

Phase A, lap 1

Air Temperature

Maria Paolina G.

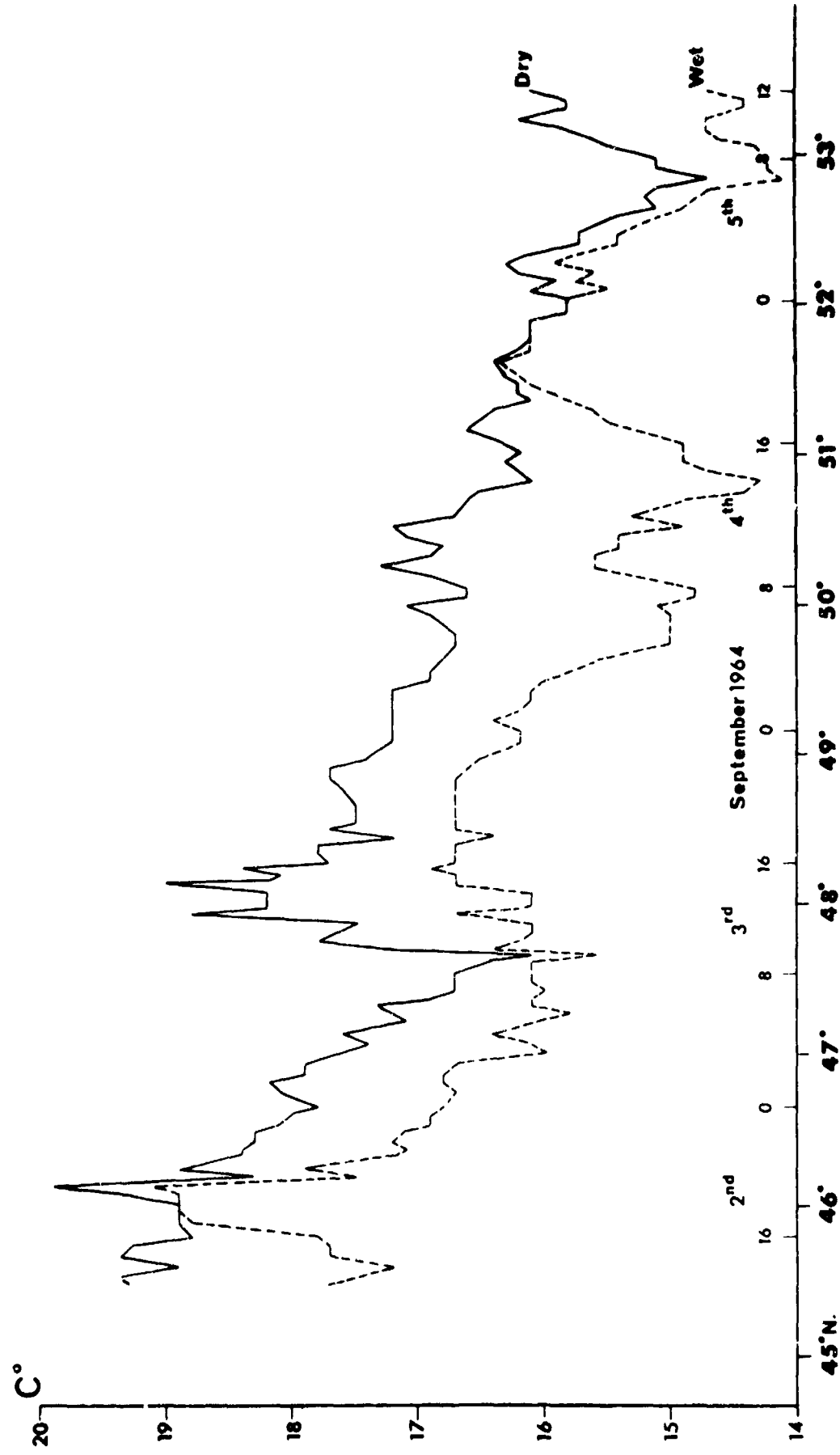


FIG. 5.13

MILOC 64

Phase A, lap 2

João de Lisboa

Air Temperature

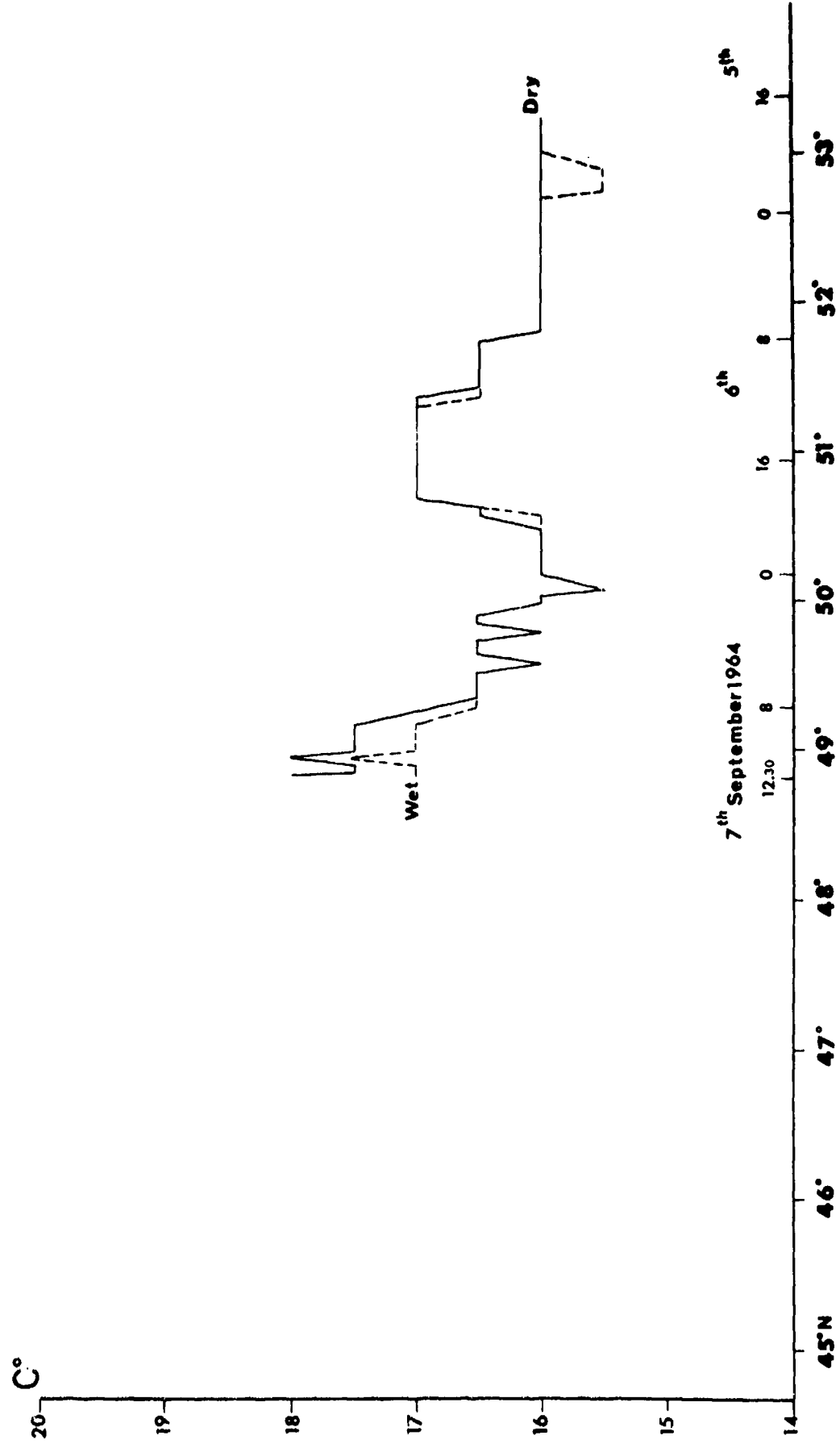


FIG. 5.14

MILOC 64

Phase A, lap 2

H.M.S. Dalrymple

Air Temperature

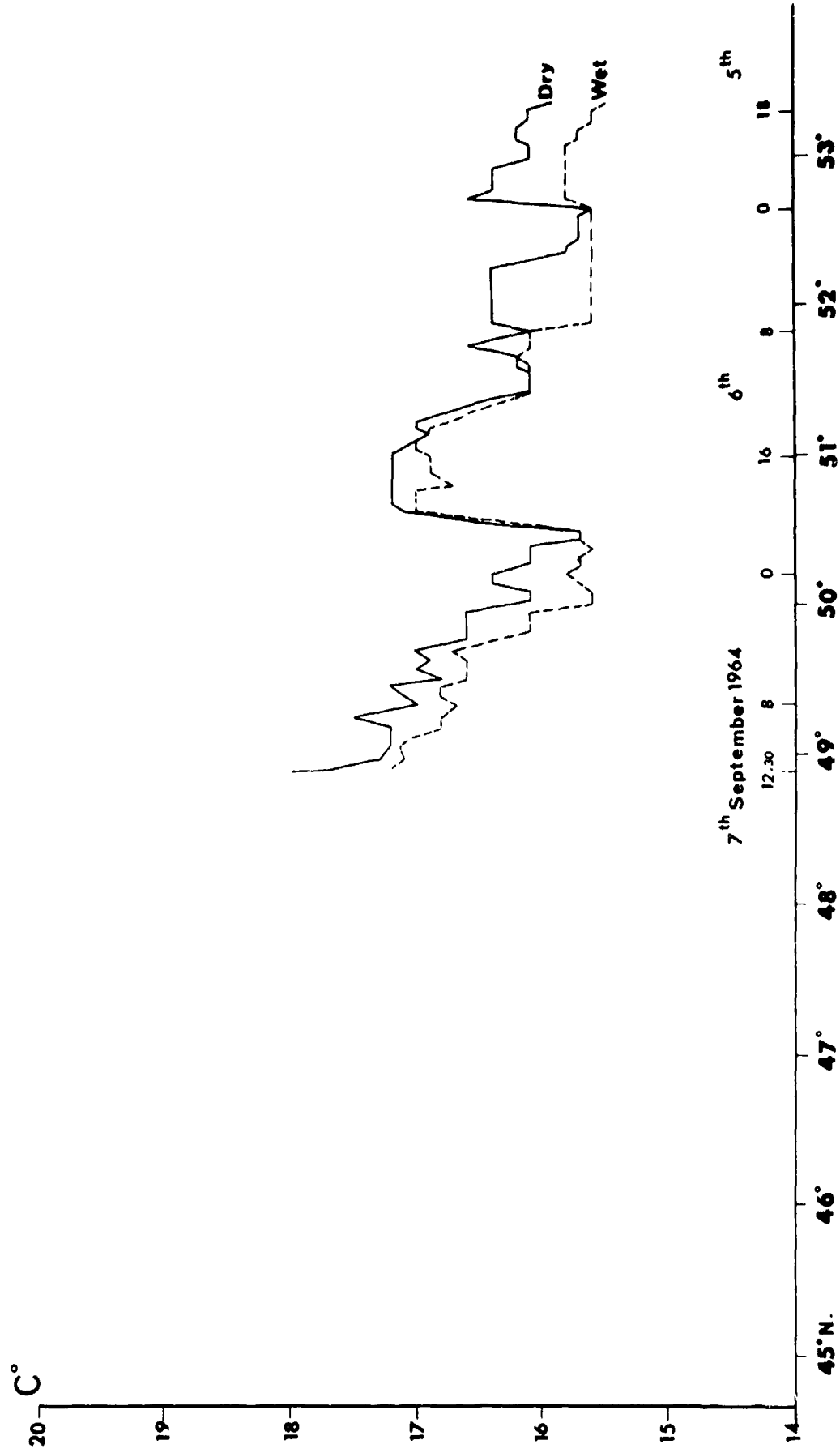


FIG. 5.15

MILOC 64

Phase A, lap 2

Maria Paolina G.

Air Temperature

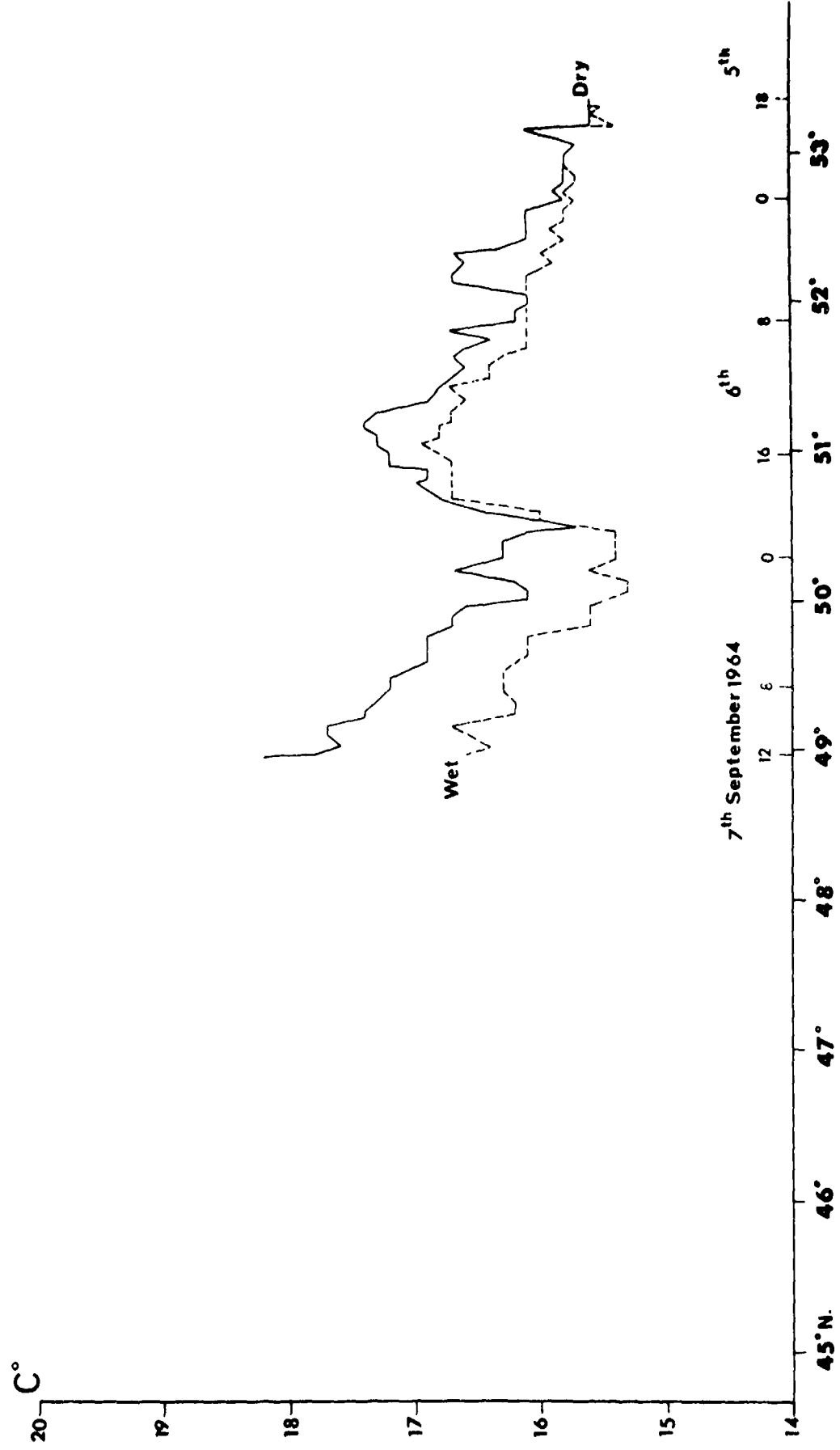


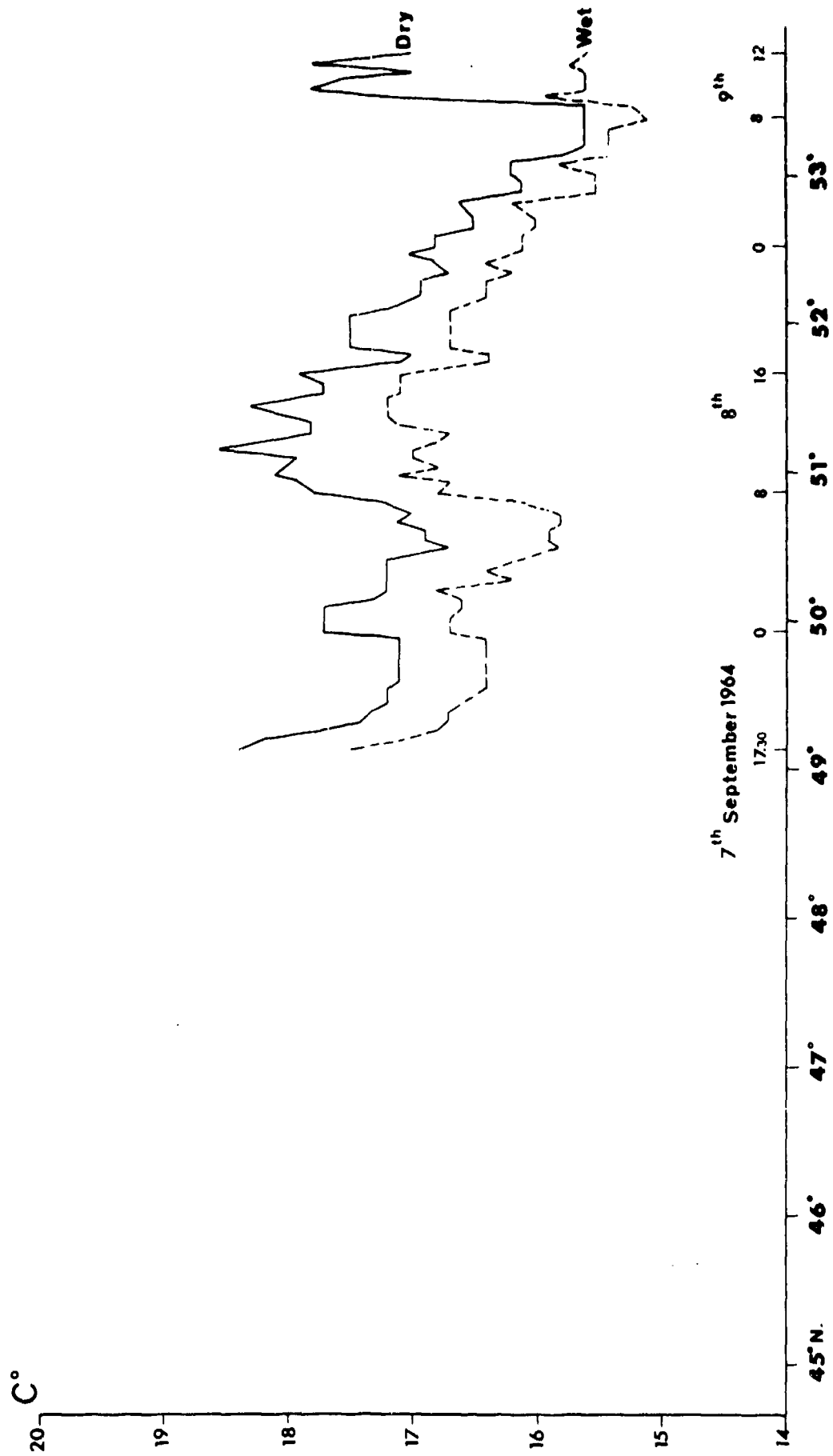
FIG. 5.16

MILOC 64

Phase A, lap 3

H.M.S. Dalrymple

Air Temperature



MILOC 64

MILOC 64

Phase A, lap 3
Air Temperature

Maria Paolina G.

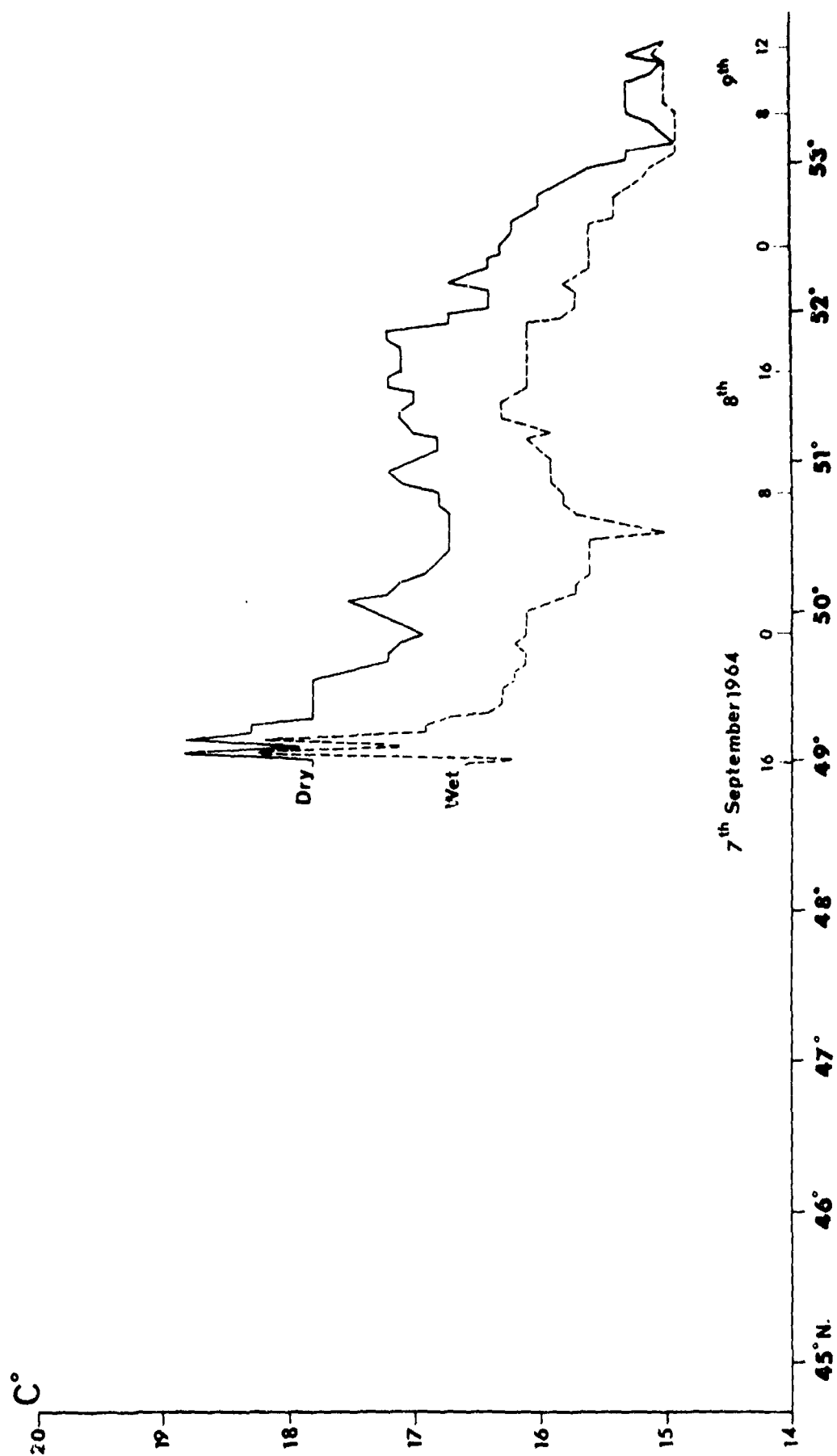


FIG. 5 18

FIG. 5.18

MILOC 64
Phase A, lap 3
Air Temperature
H.U.Sverdrup

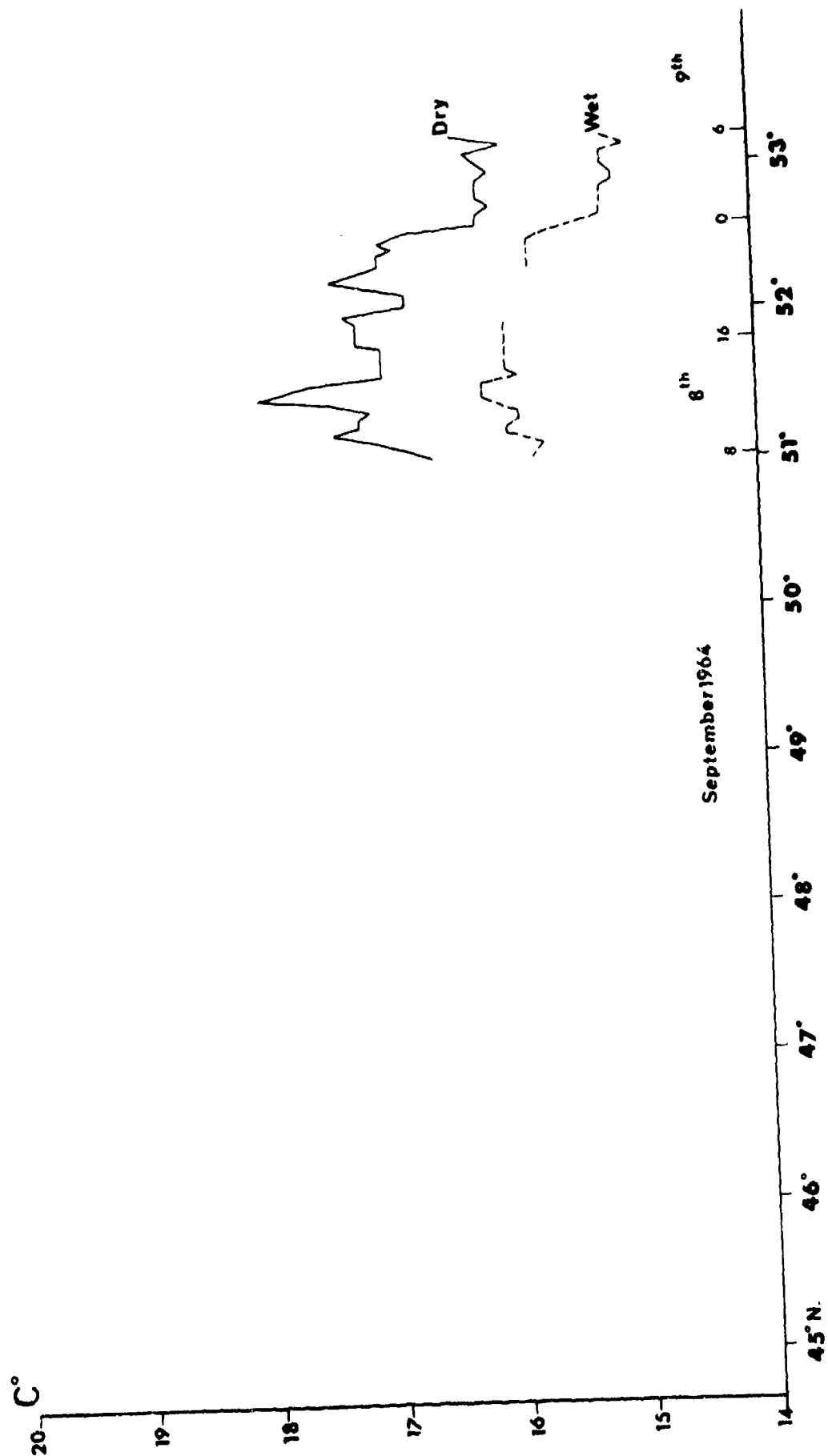


FIG. 5.19

MILOC 64

Phase A, lap 4

Joao de Lisboa

Air Temperature

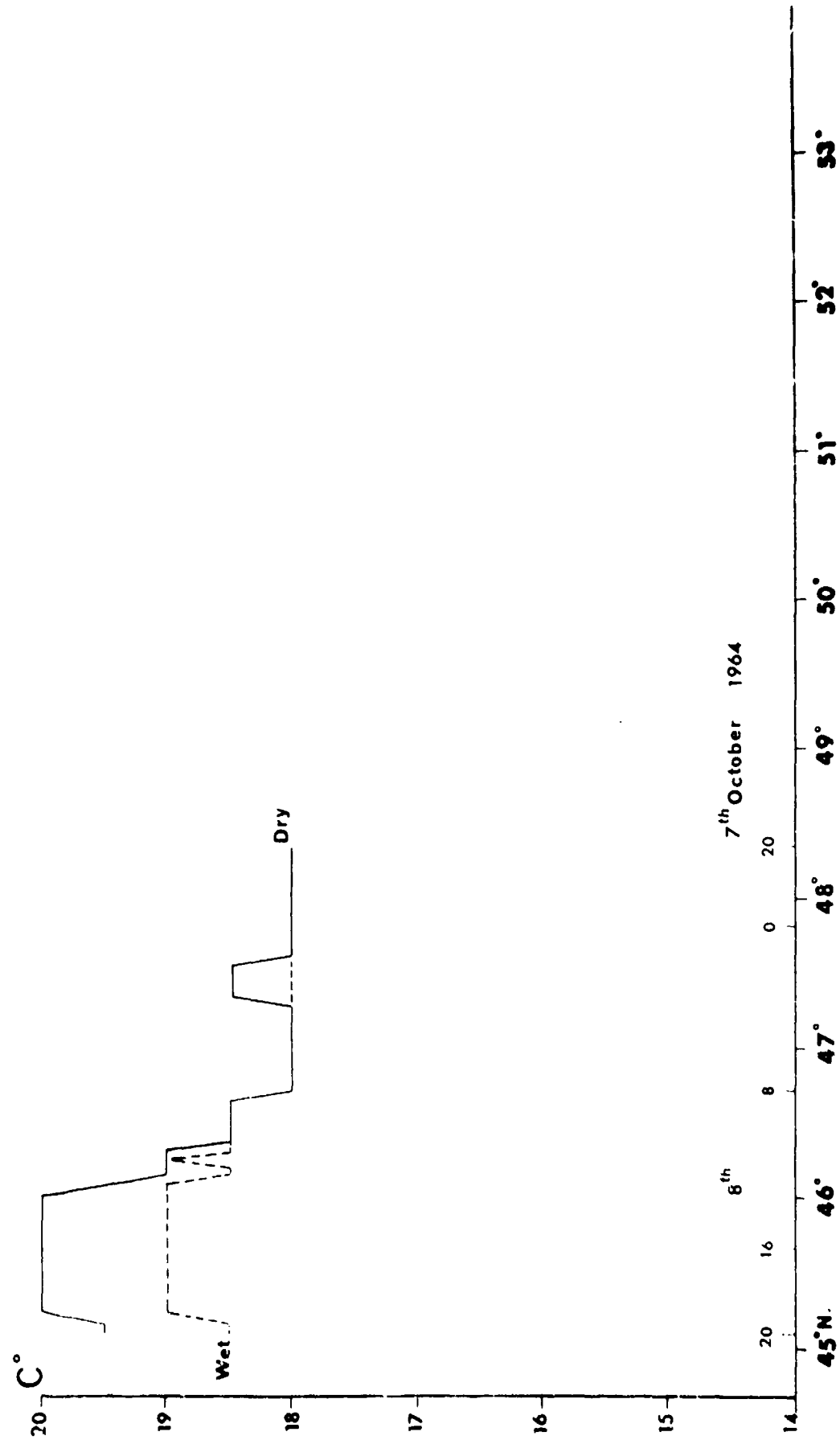


FIG. 5.20

19
C°
MILOC 64

Phase A, lap 5

Air Temperature

H.M.S. Dalrymple

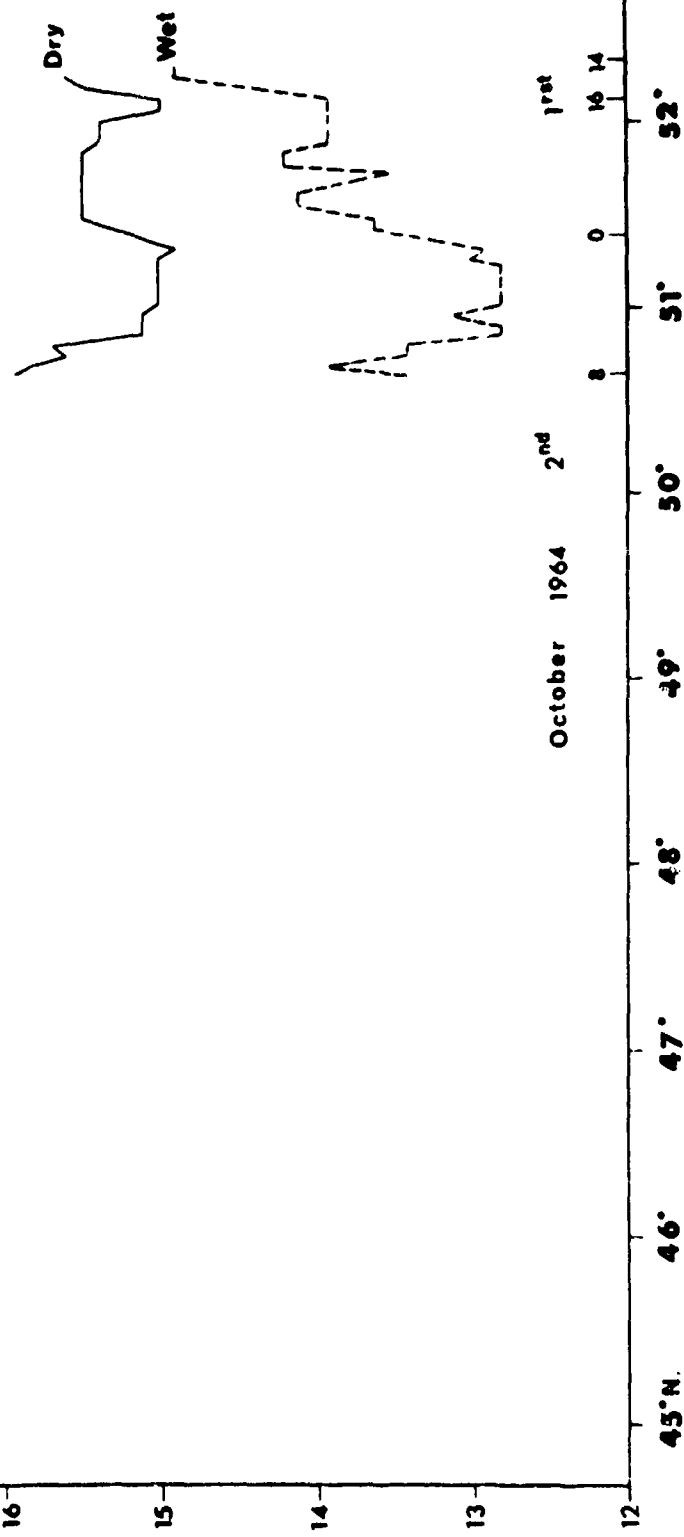


FIG. 5.21

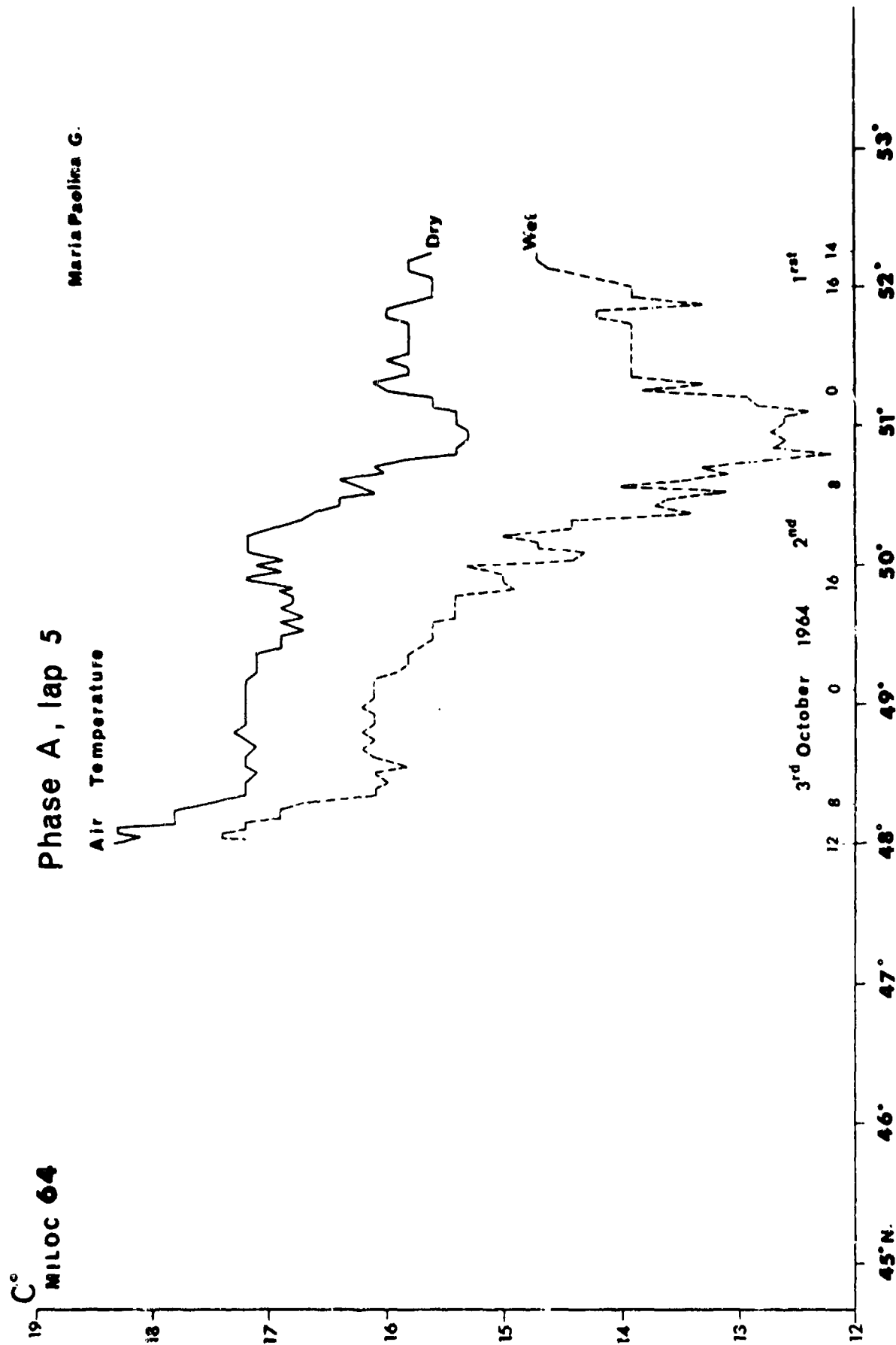


FIG. 5.22

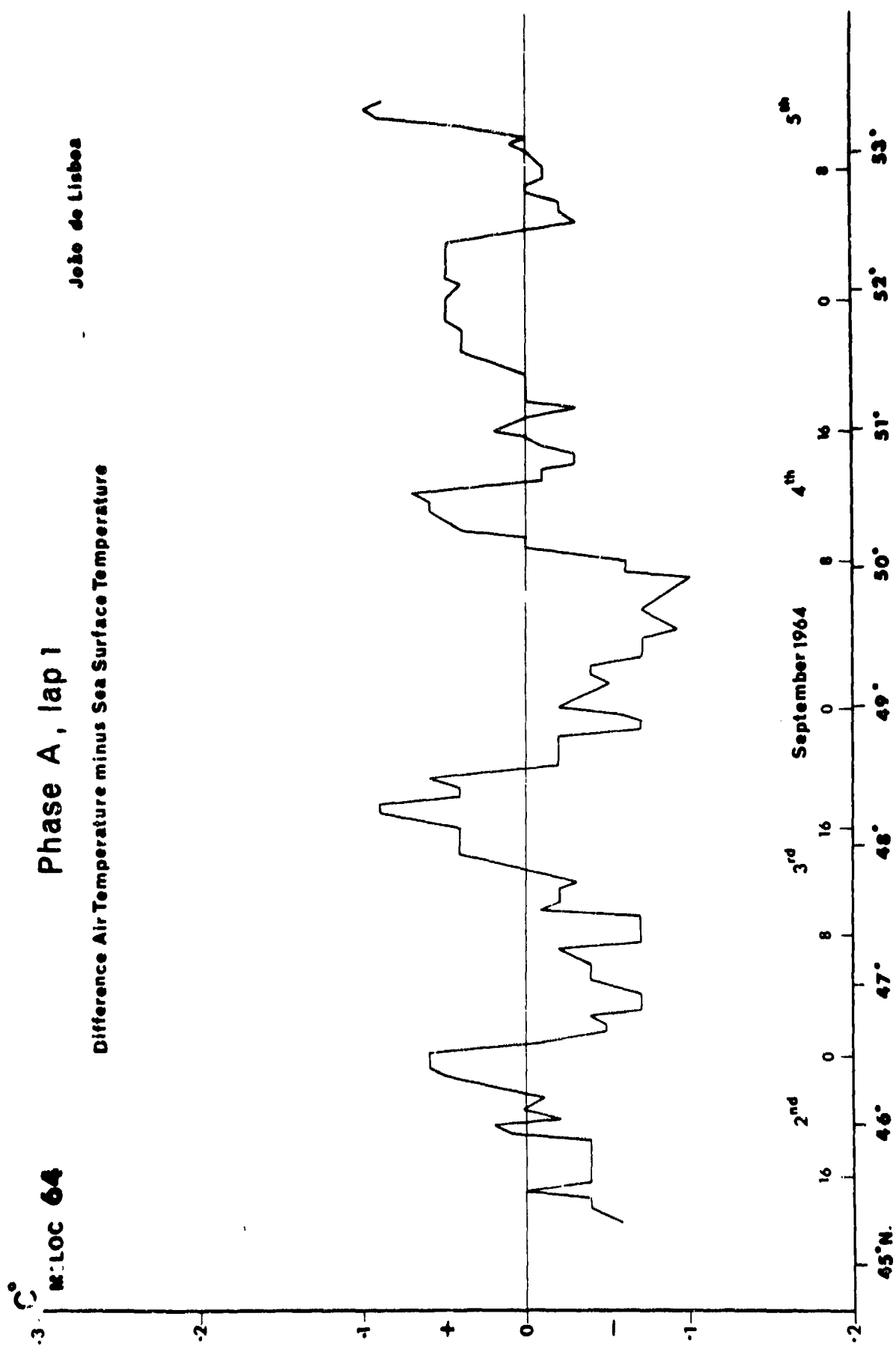


FIG. 5.23

NATO RESTRICTED

3
2
1
0
-1
-2
C° MILOC 64

Phase A, lap 1

Difference Air Temperature minus Sea Surface Temperature

H.M.S. Dalrymple

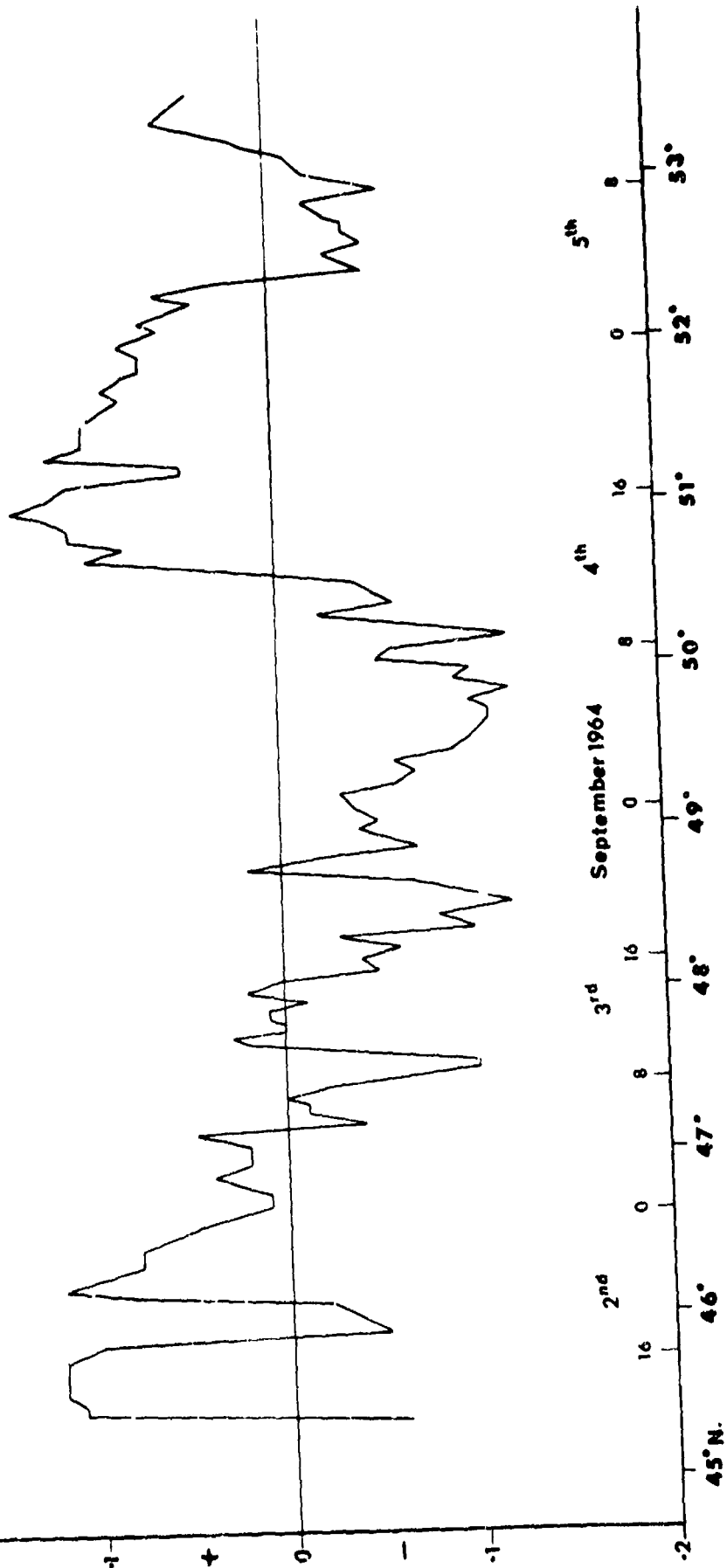


FIG. 5.24

NAFO RESTRICTED

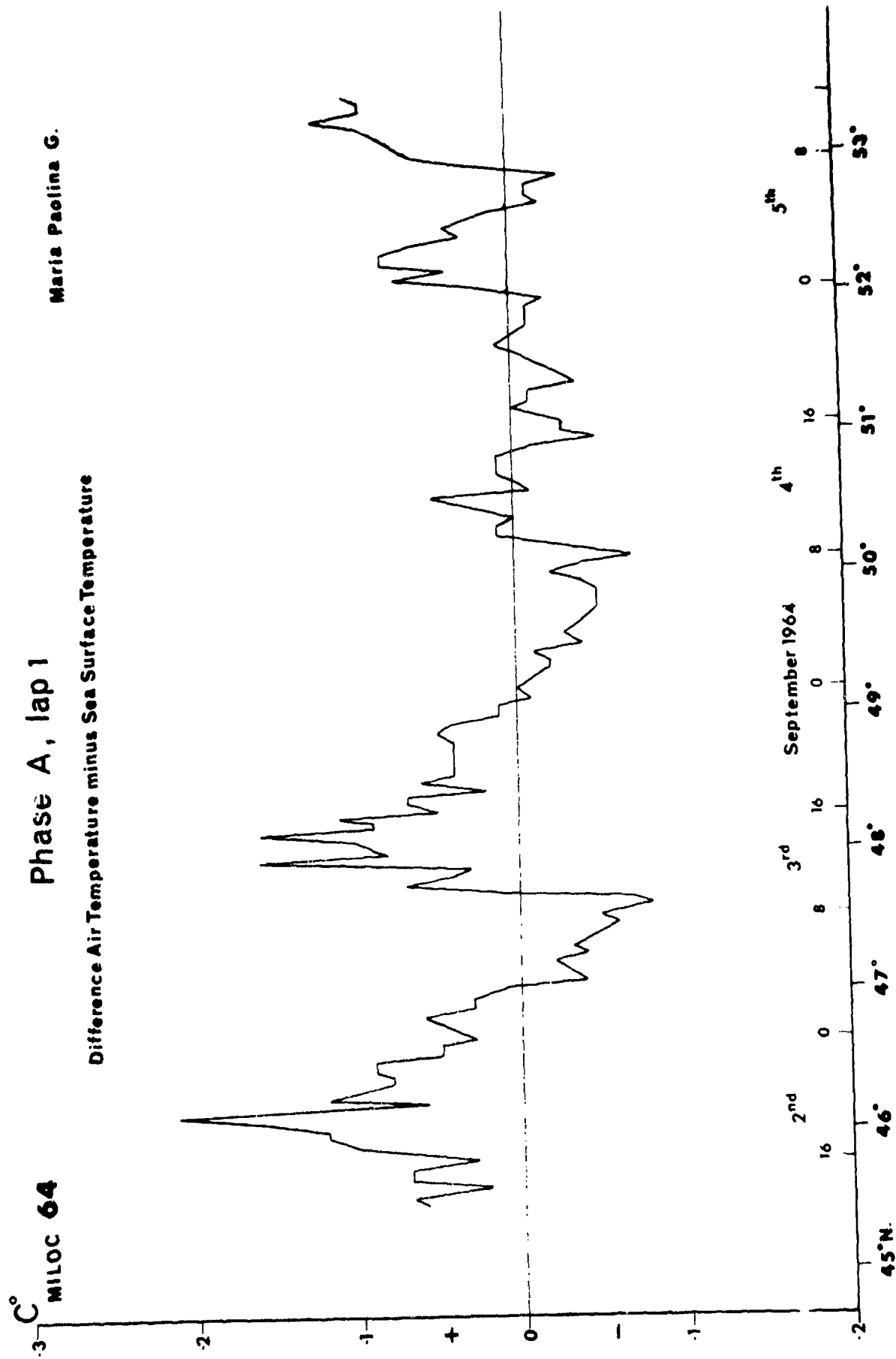


FIG. 5.25

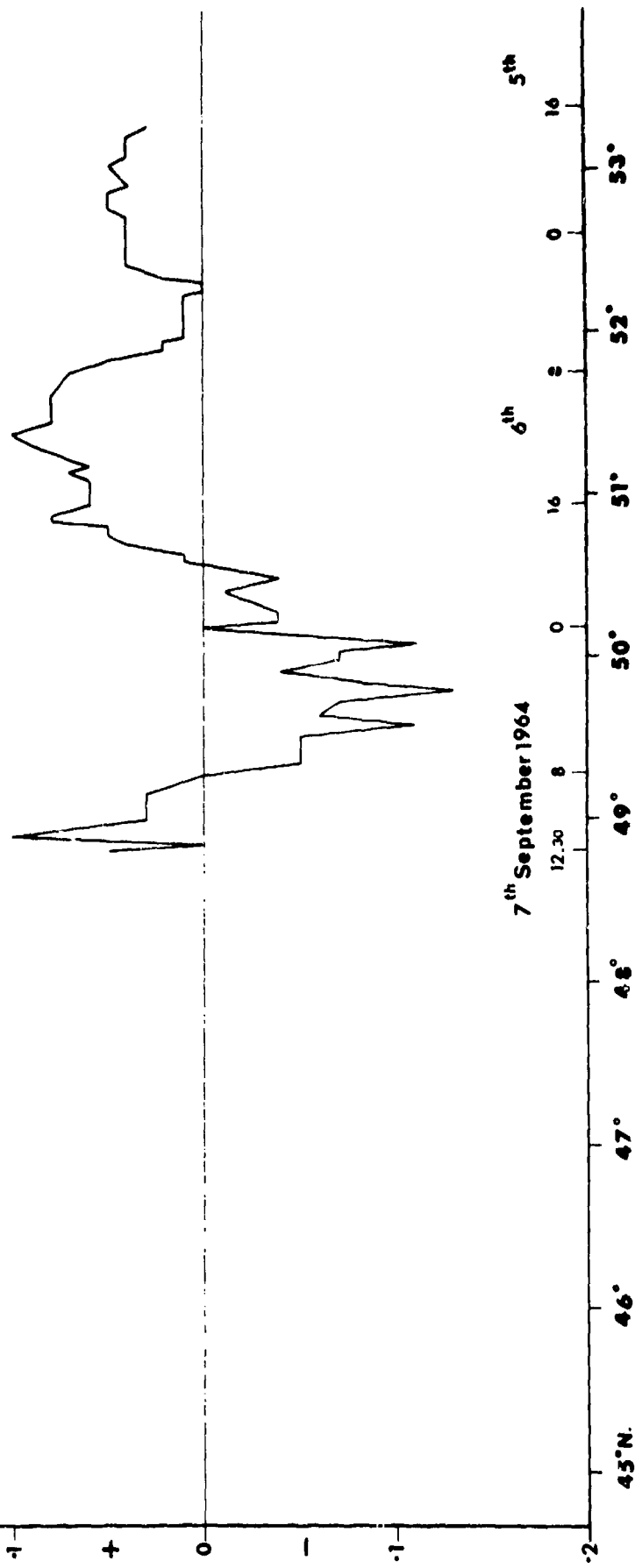
RESTRICTED

C°
MILOC 64

Phase A, lap 2

João de Lisboa

Difference Air Temperature minus Sea Surface Temperature



7th September 1964

12.30

5th

16

0

52°

2

51°

16

0

50°

8

49°

48°

47°

46°

43°N

FIG. 5.26

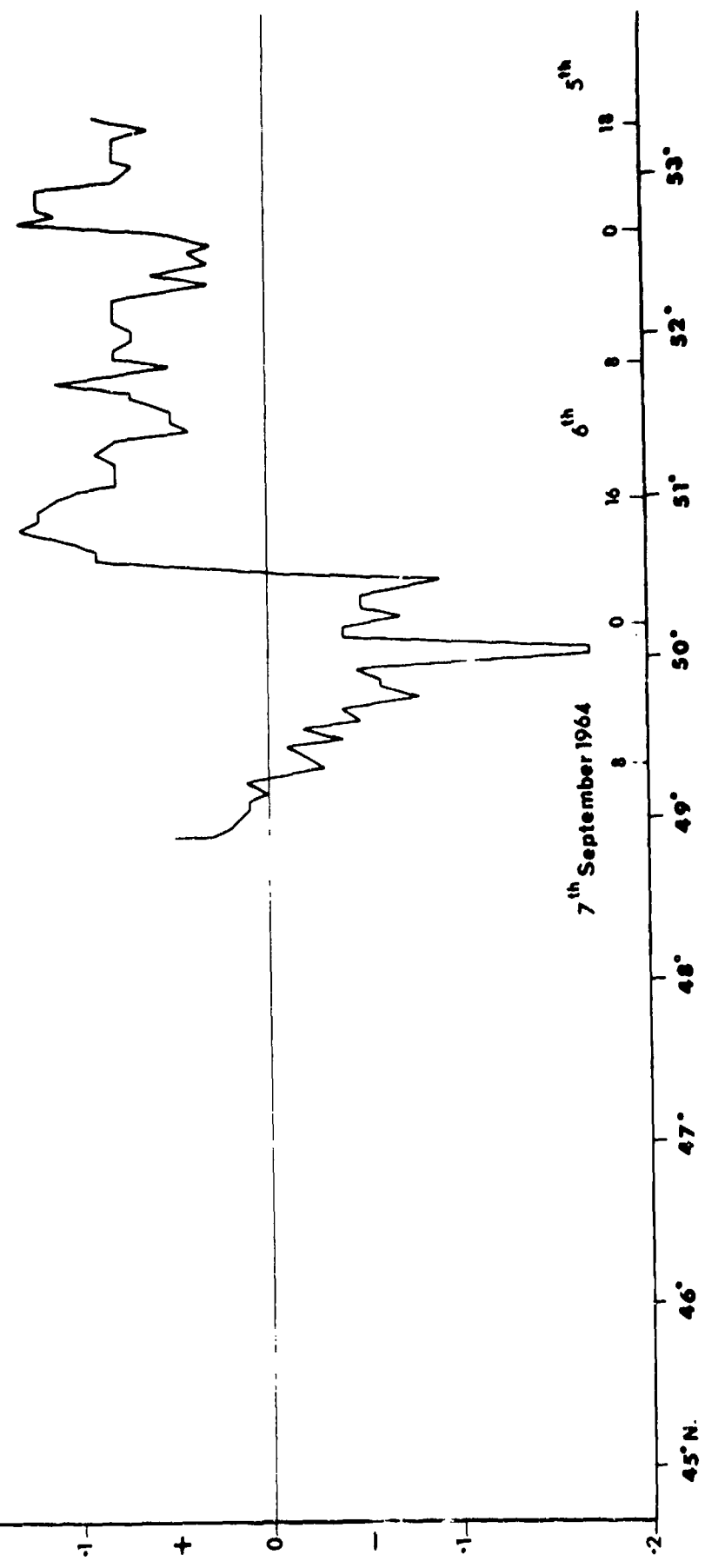
C° MILOC 64

Phase A, lap 2

H.M.S. Dalrymple

Difference Air Temperature minus Sea Surface Temperature

NATO RESTRICTED



C°
MILOC 64

Phase A, lap 2

Maria Paolina G.

Difference Air Temperature minus Sea Surface Temperature

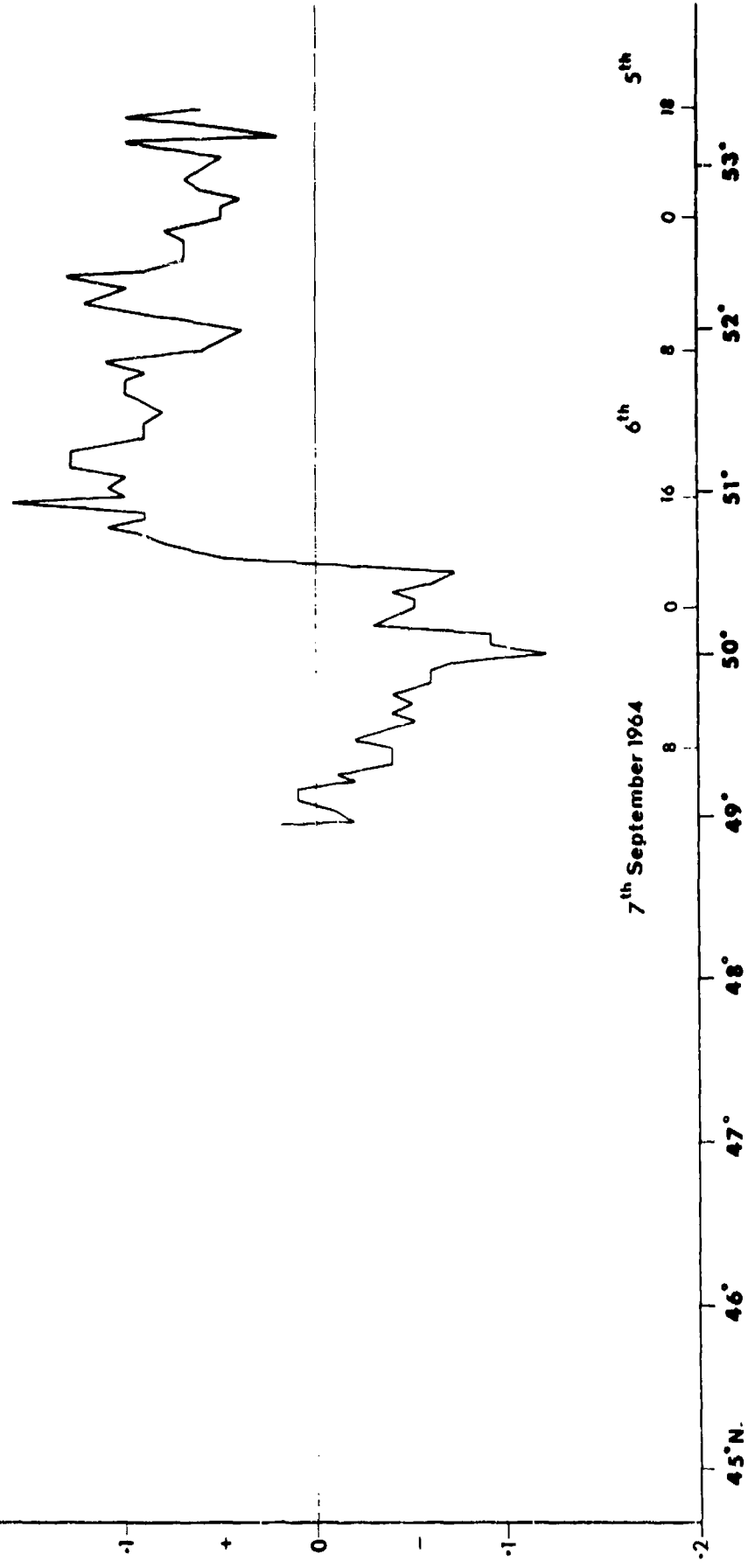


FIG. 5.28

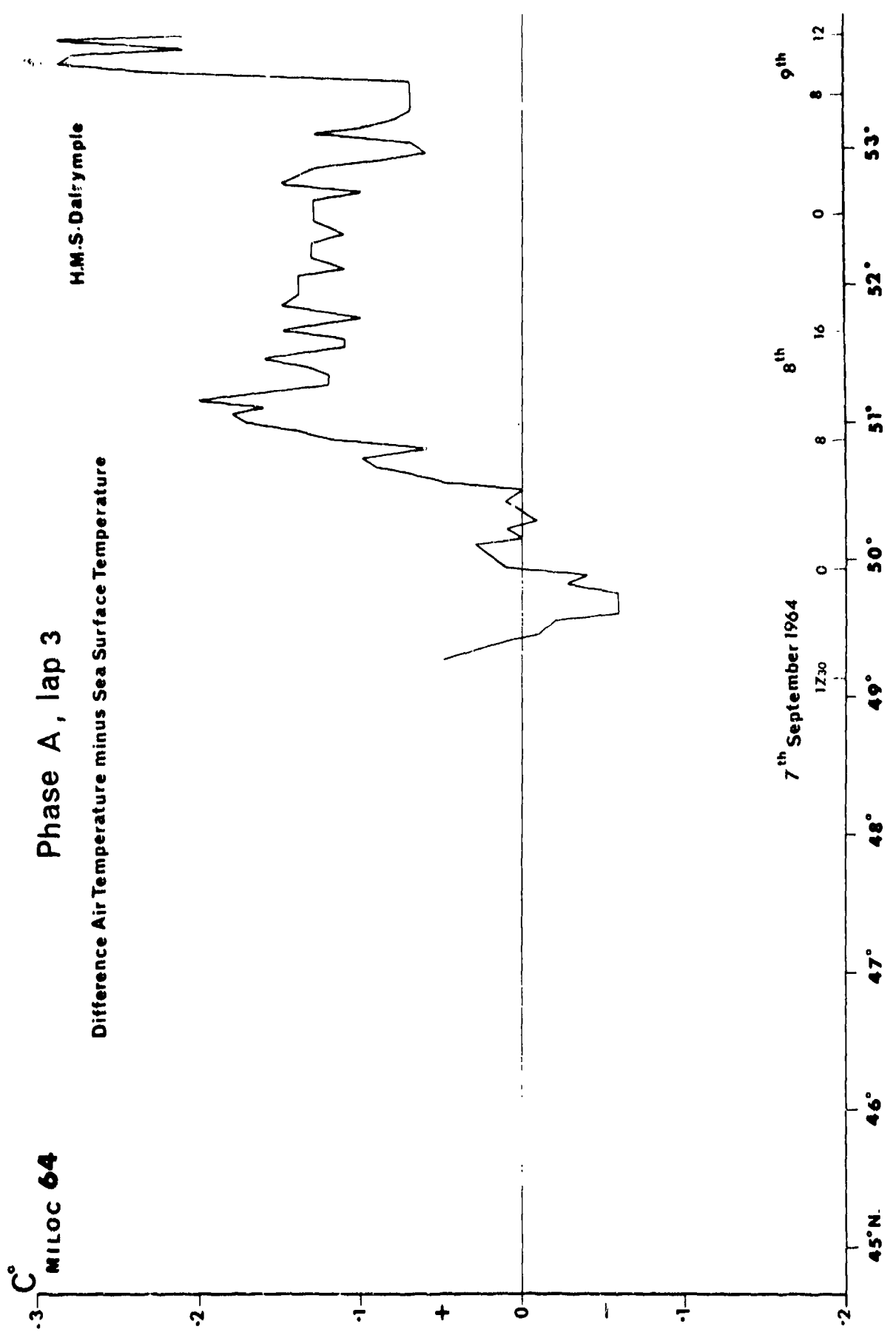
MILOC 64

C°

Phase A, lap 3

Difference Air Temperature minus Sea Surface Temperature

H.M.S. Dalrymple



1000 PM

MILOC 64
C°

Phase A, lap 3

Maria Paolina G.

Difference Air Temperature minus Sea Surface Temperature

NATO RESTRICTED

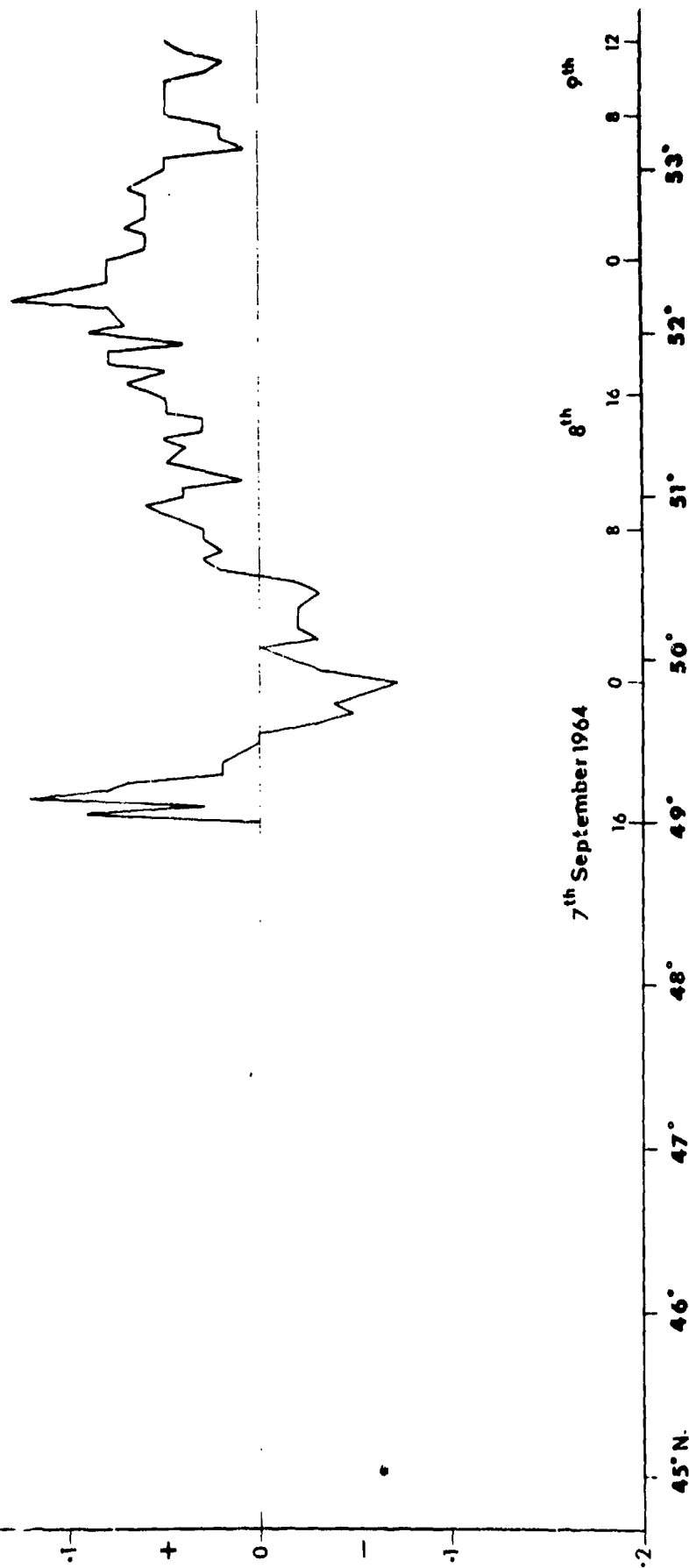


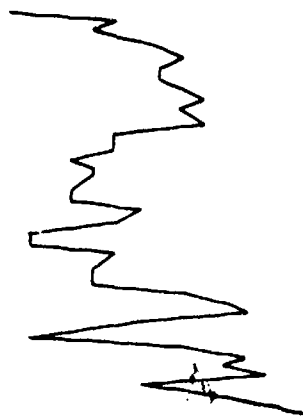
FIG. 5.30

°C
MILOC 64

Phase A, lap 3

H.U. Sverdrup

Difference Air Temperature minus Sea Surface Temperature

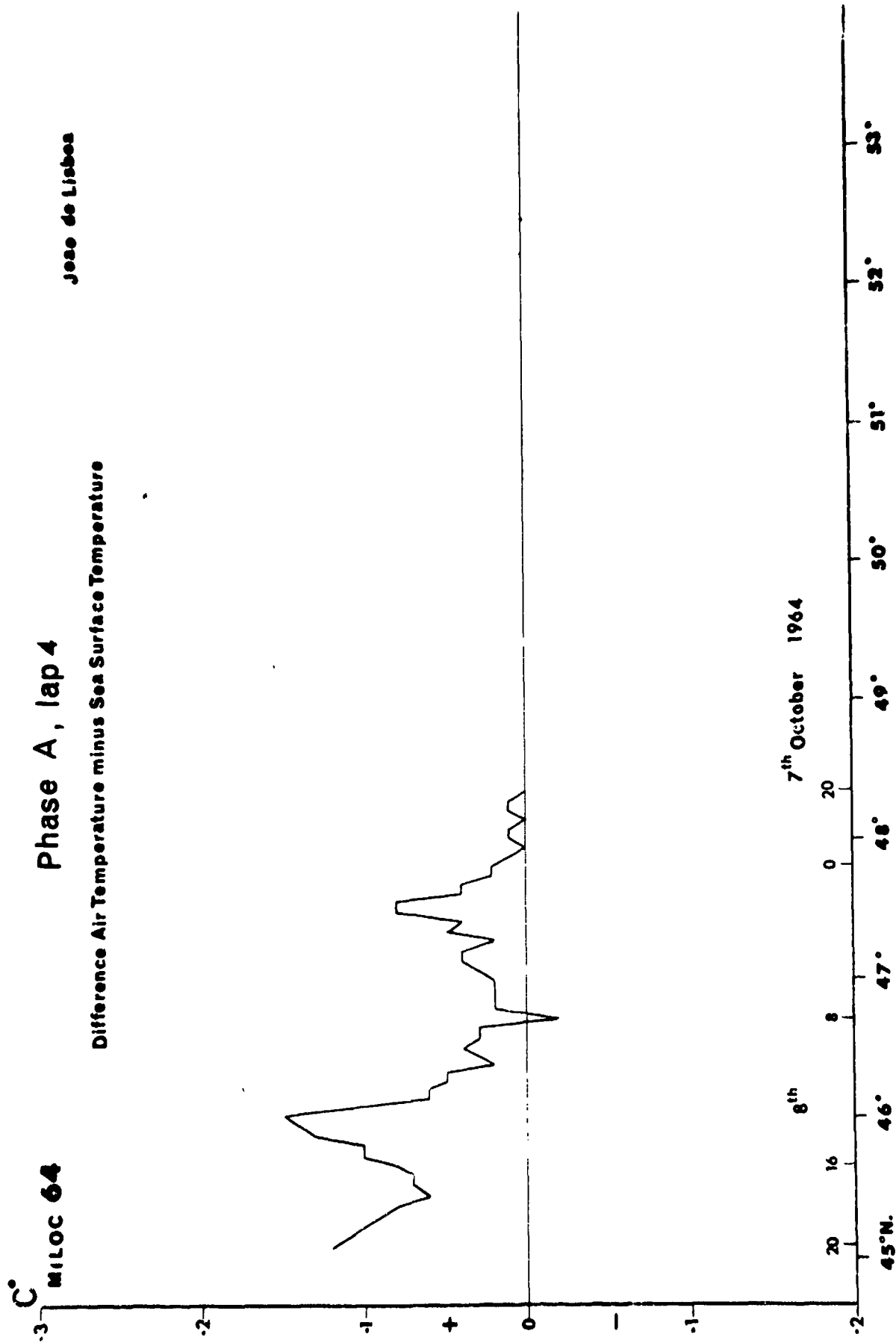


September 1964

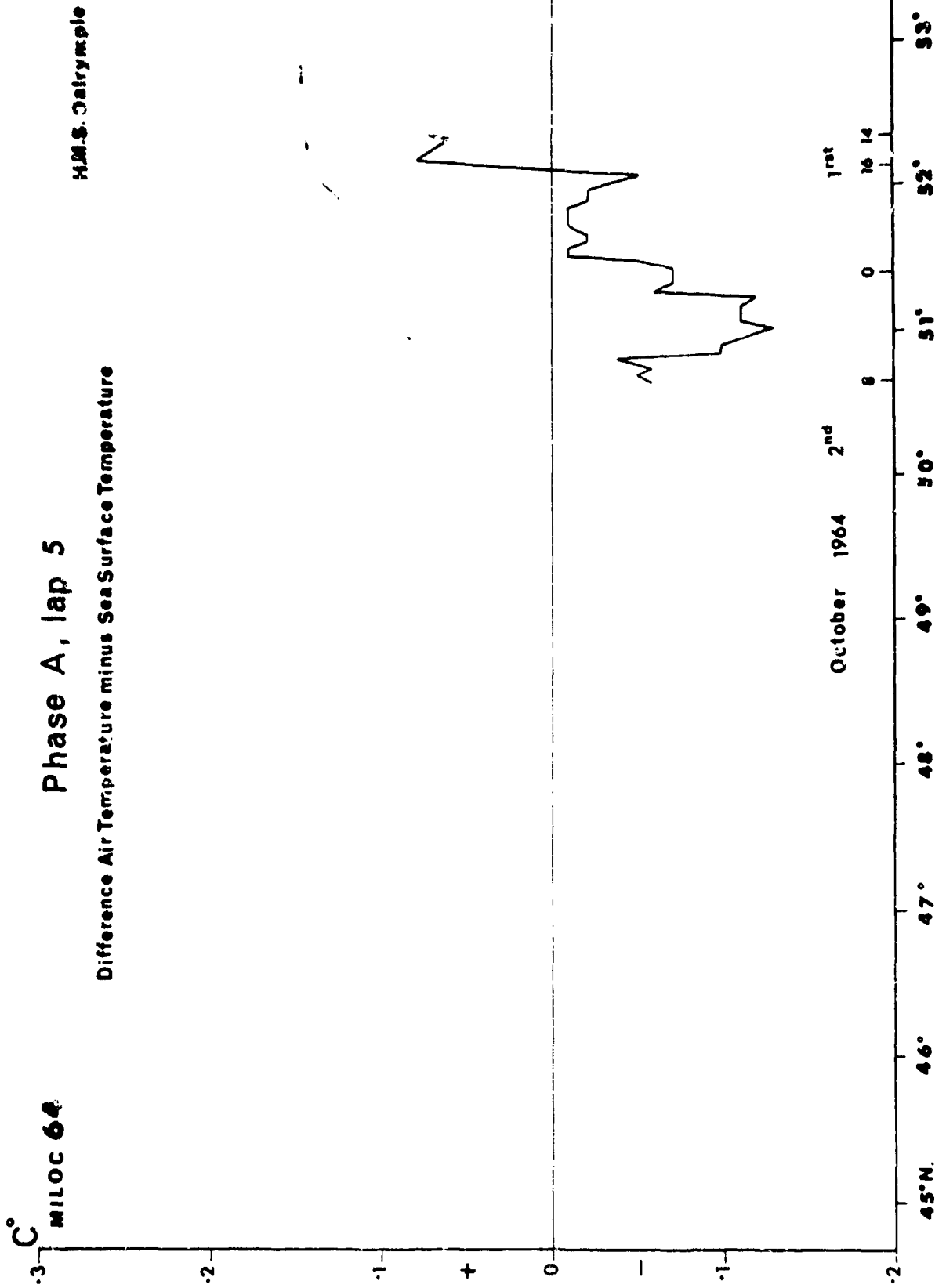
9th

45°N. 46° 47° 48° 49° 50° 51° 52° 53°

NATO RESTRICTED



MILOC 64



NATO RESTRICTED

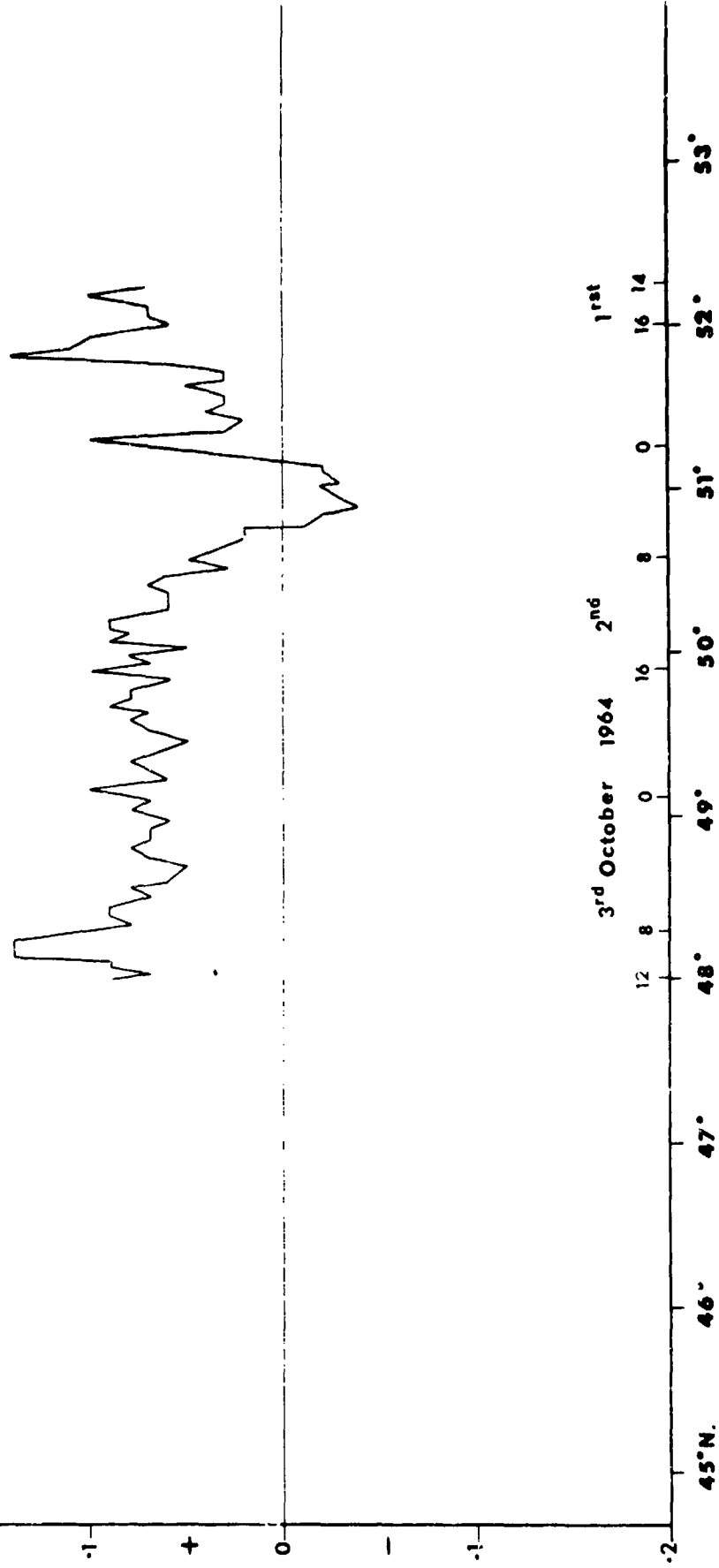
NATO RESTRICTED

°C
MILOC 64

Phase A, lap 5

Difference Air Temperature minus Sea Surface Temperature

Maria Paolina G.



MILOC 64

512 739

NATO RESTRICTED

MILOC 64

Phase A, lap 1

João de Lisboa

Evaporation

4 m.m.

3

2

+1

0

-1

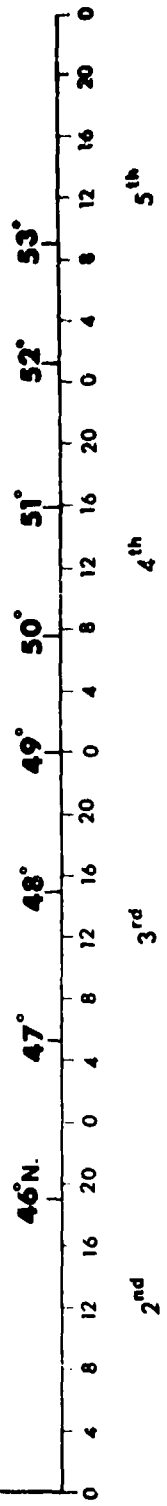


FIG. 5.35

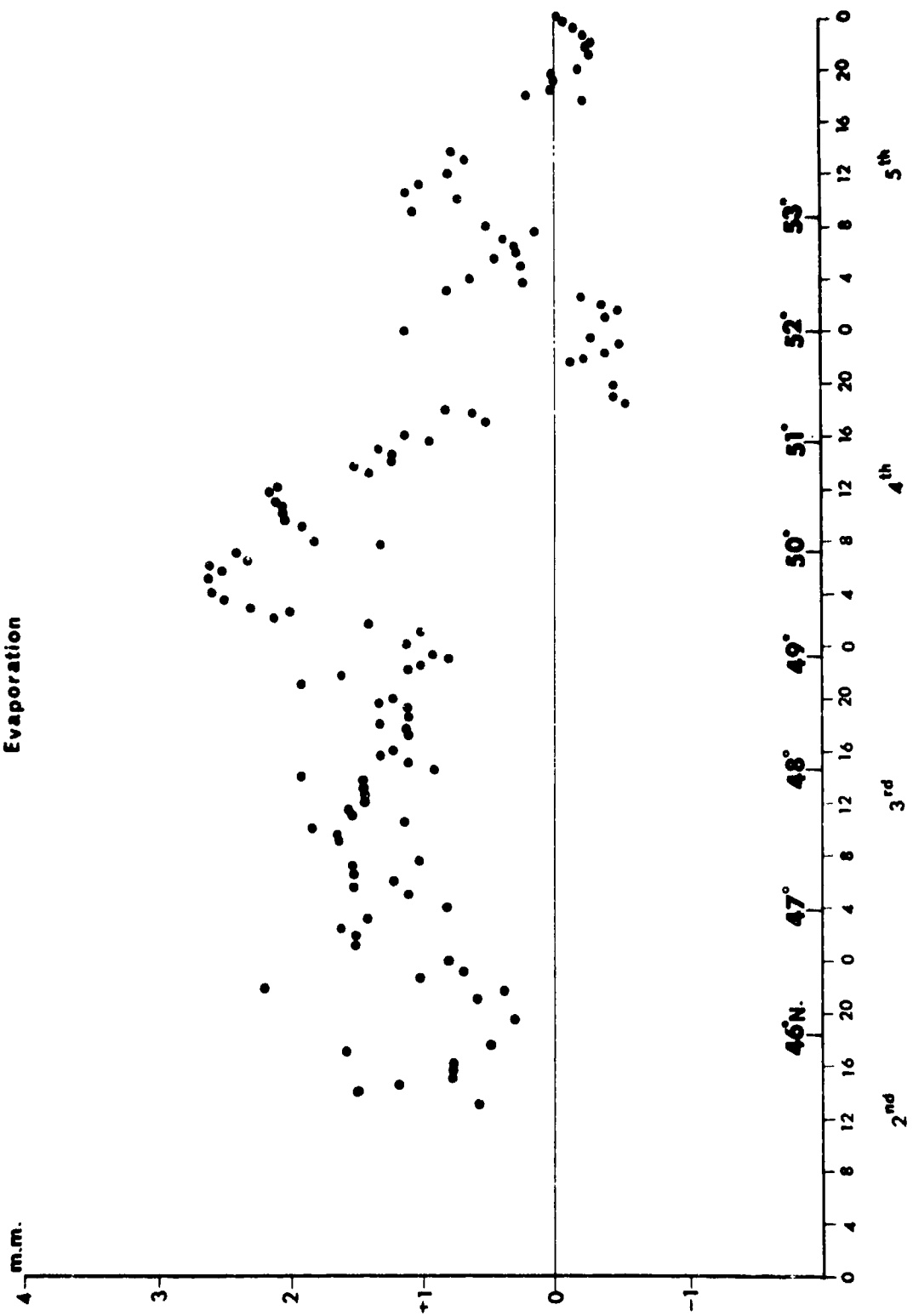
NATO RESTRICTED

MILOC 64

Phase A, lap 1

H.M.S. Dairymple

Evaporation



NATO RESTRICTED

MILOC 64

Phase A, lap 1

Maria Paolina G.

Evaporation

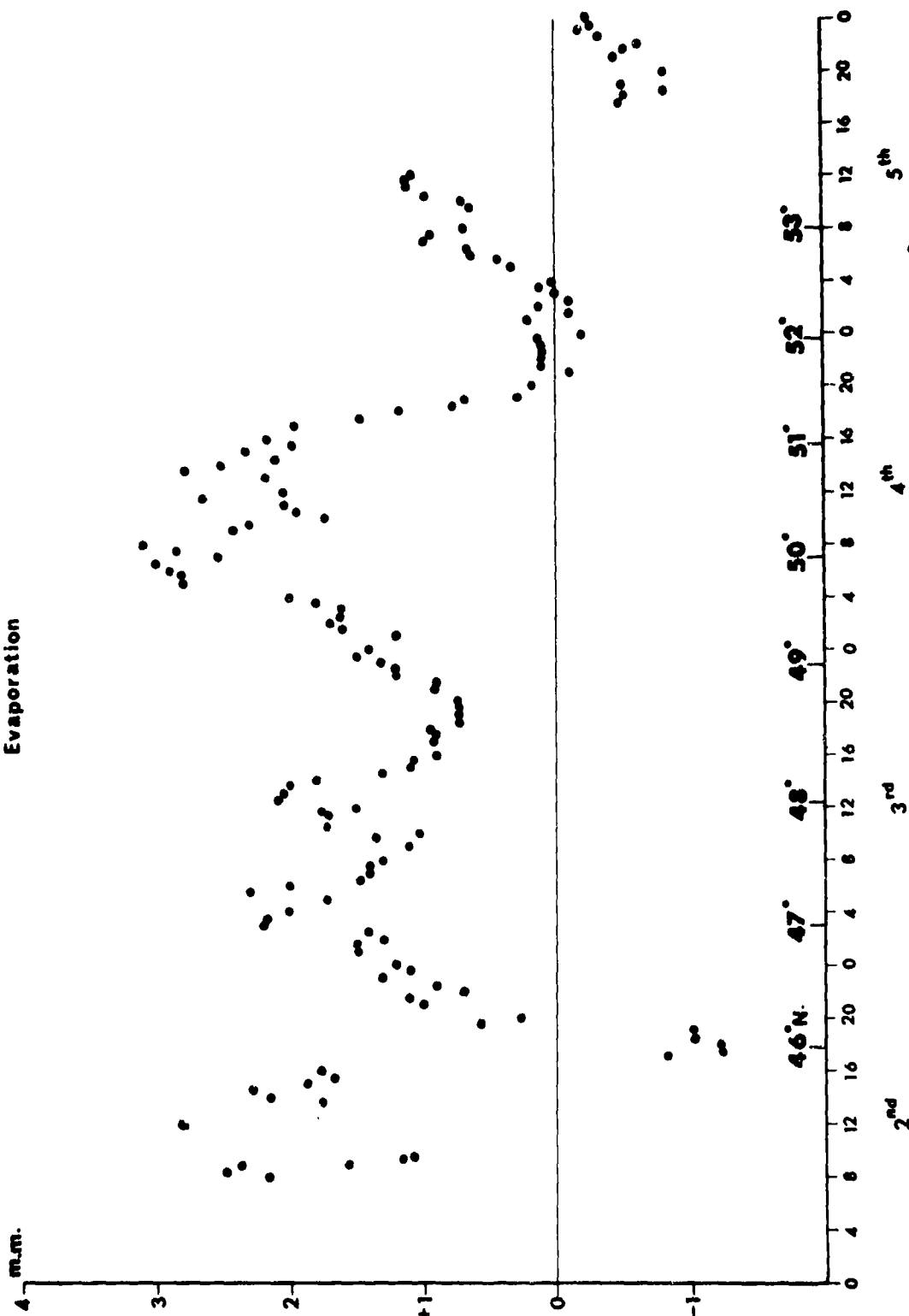


FIG. 2.97

PLATE 5.38

NATO RESTRICTED

MILOC 64

Phase A, lap 2

João de Lisboa

Evaporation

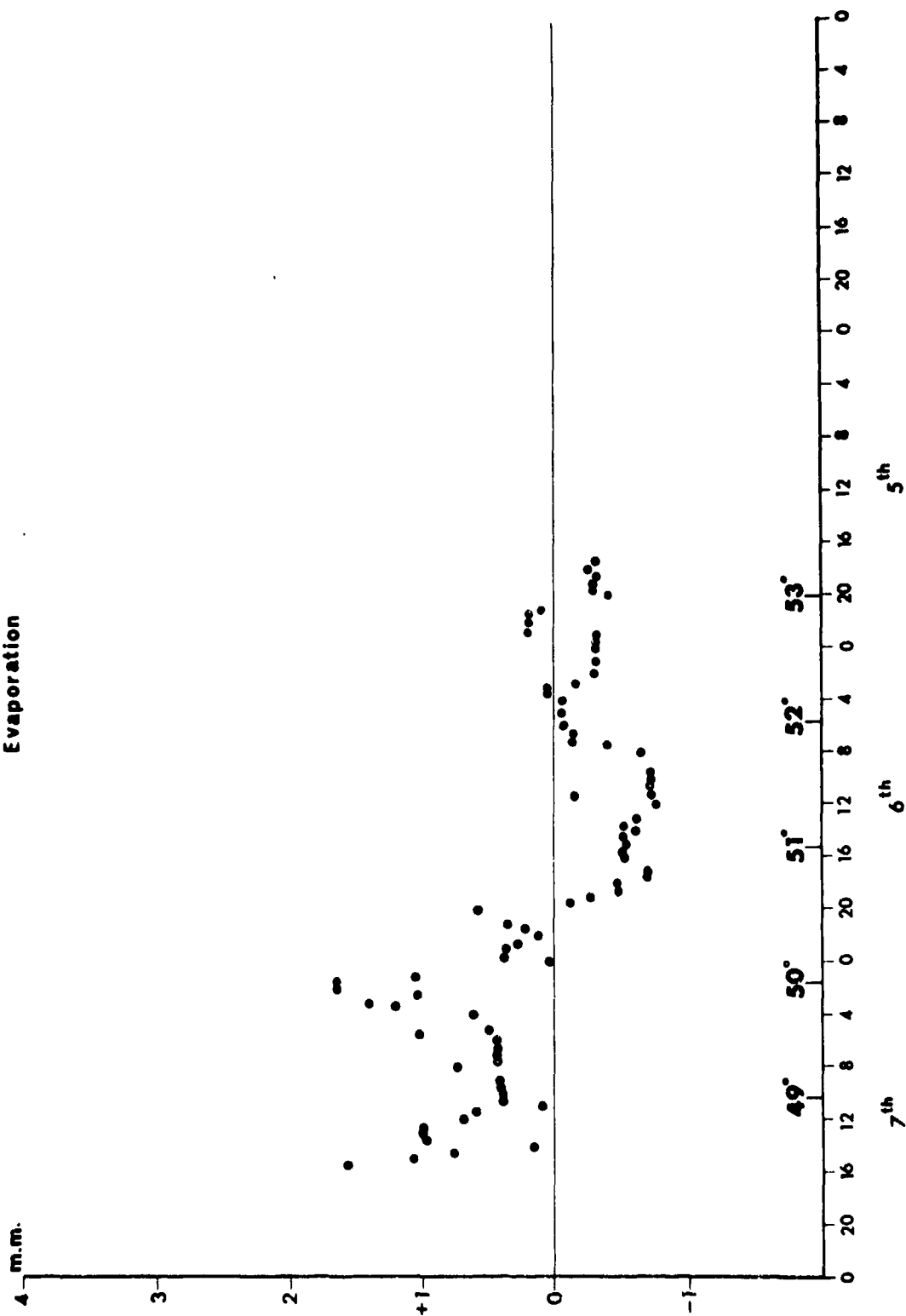


FIG 5.38

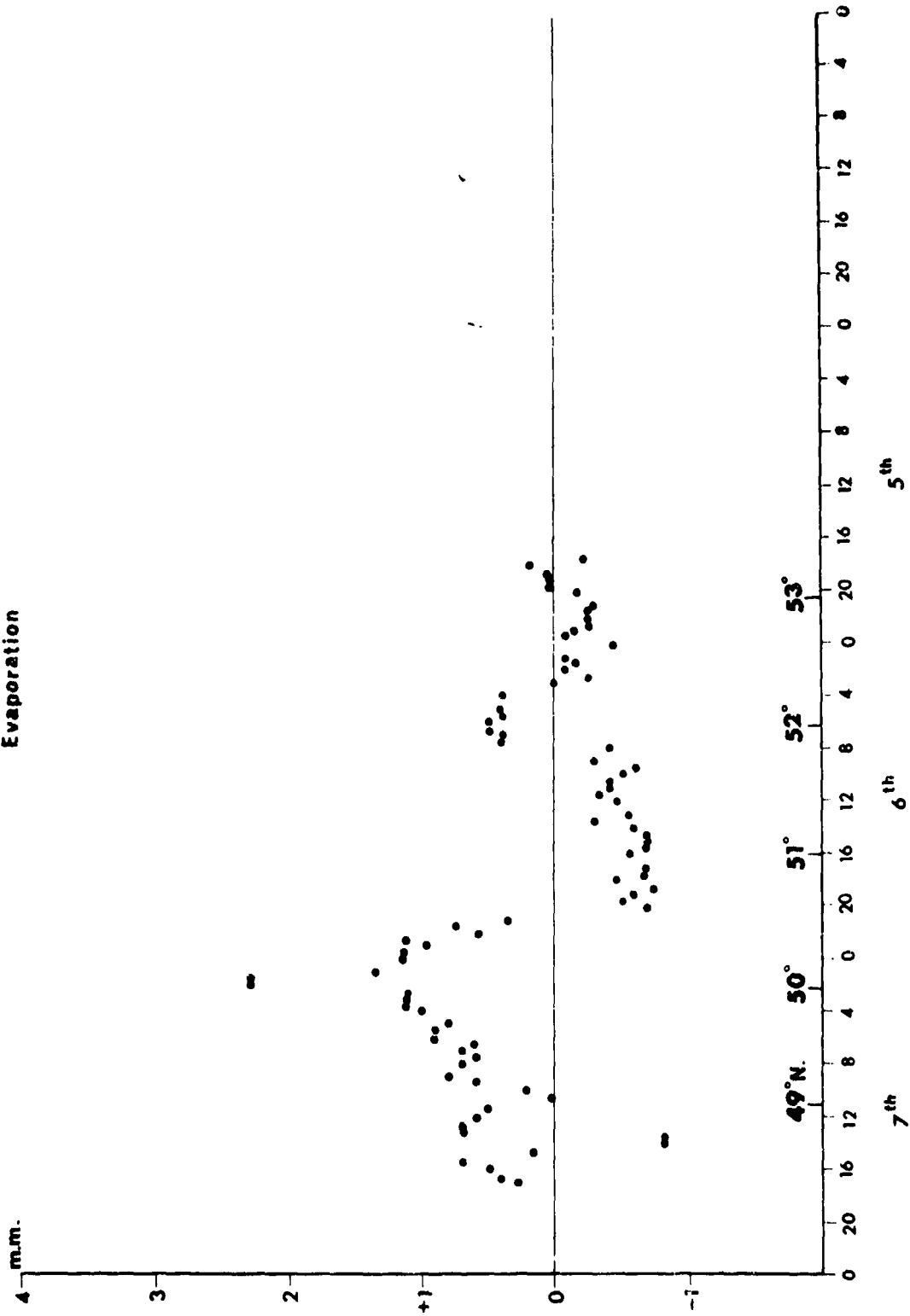
NATO RESTRICTED

MILOC 64

Phase A, lap 2

H.M.S. Dalrymple

Evaporation



September 1964

FIG. 5.39

NATO RESTRICTED

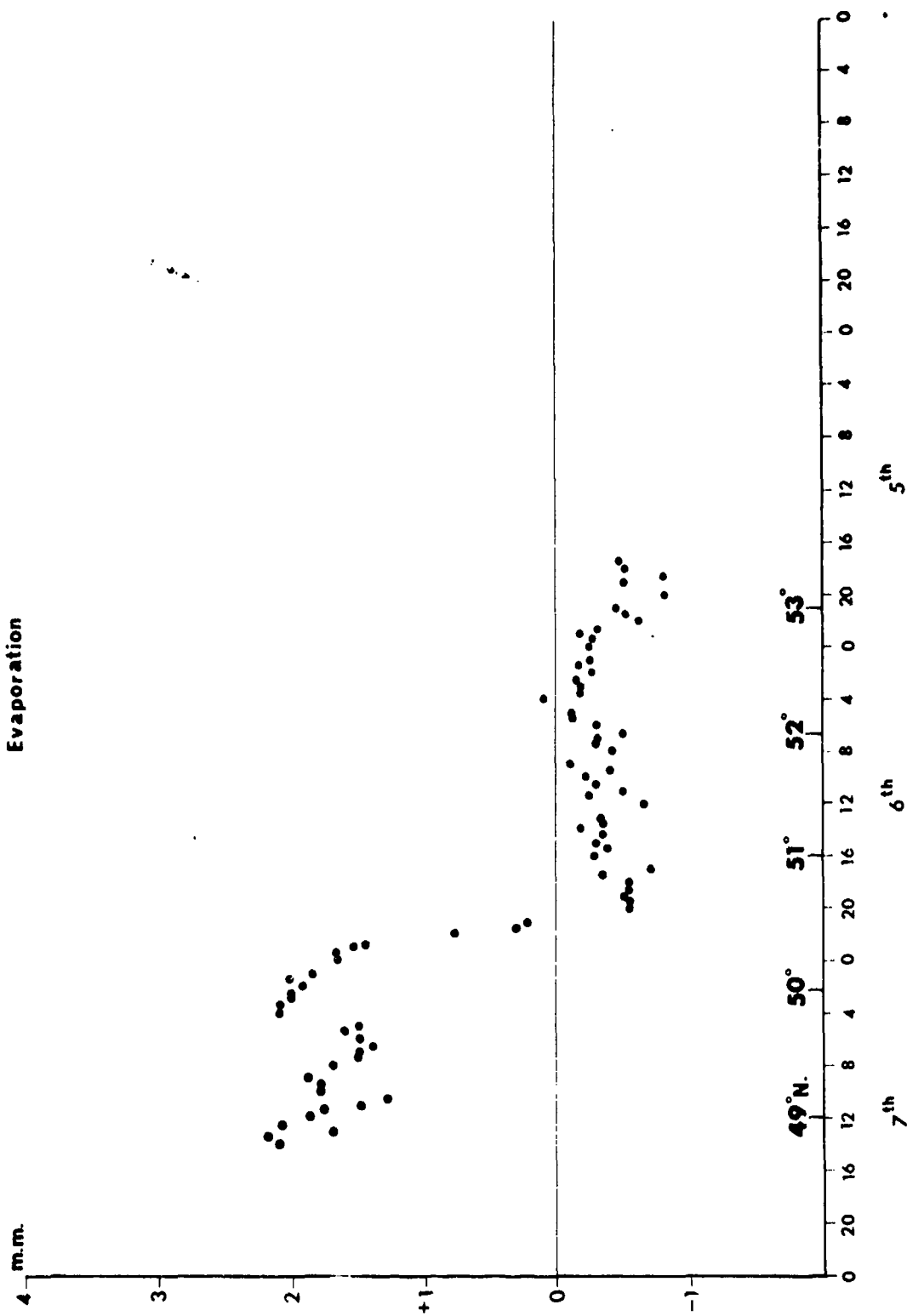
MILOC 64

Phase A, lap 2

Maria Paolina G.

Evaporation

4 m.m.



NATO RESTRICTED

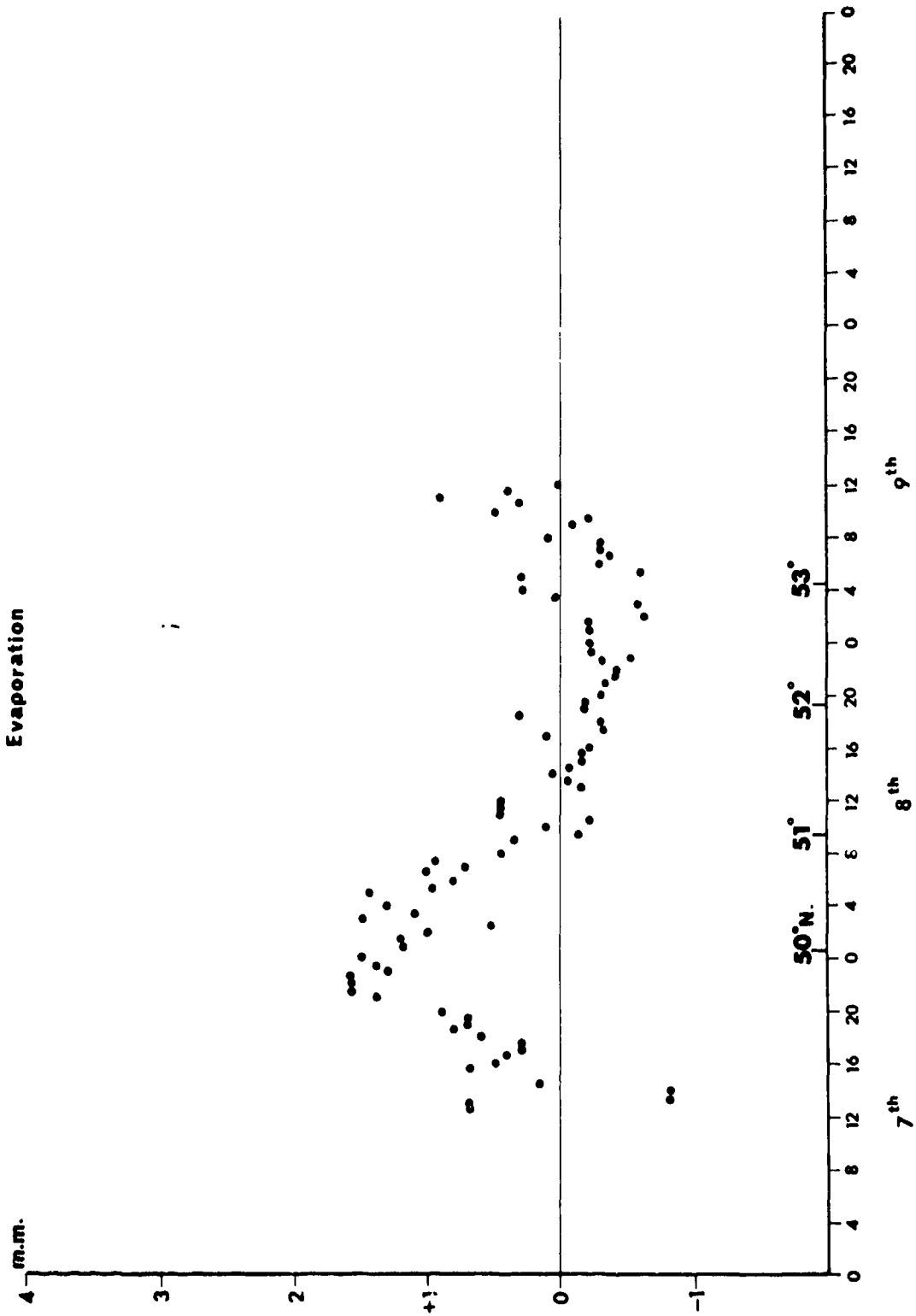
MILOC 64

Phase A, lap 3

H.M.S. Dairymple

Evaporation

4 m.m.



September 1964

FIG. 5.41

FIG 5.41

NATO RESTRICTED

MILOC 64

Phase A, lap 3

Maria Paolina G.

Evaporation

4 m.m.

3

2

+1

0

-1

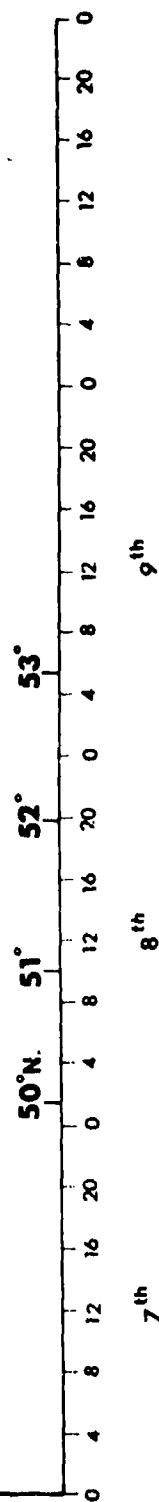


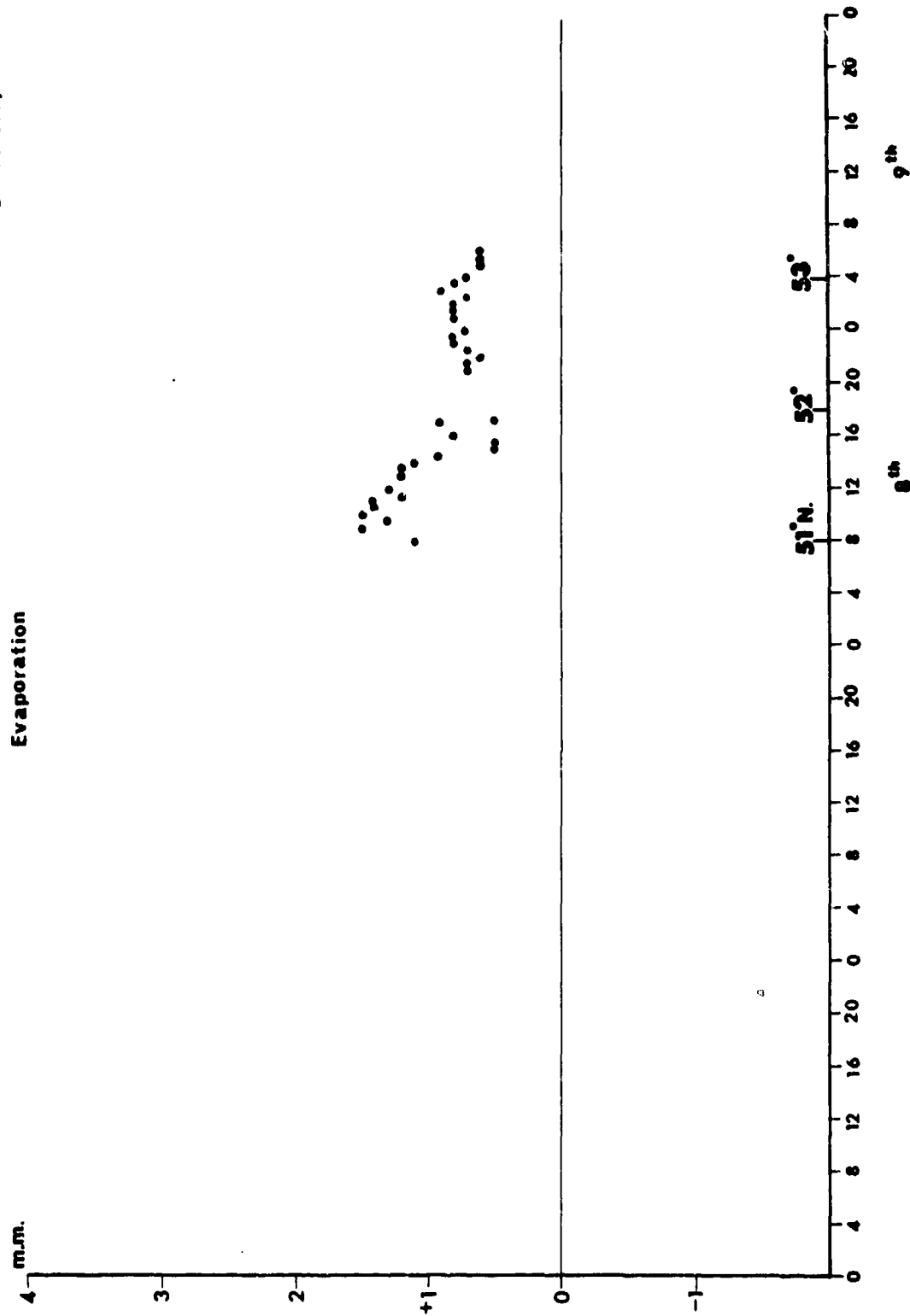
FIG 5.42

NATO RESTRICTED

MILOC 64 Phase A, lap 3 H.U. Sverdrup

Evaporation

4 m.m.



51°N. 52° 53°

9th

8th

September 1964

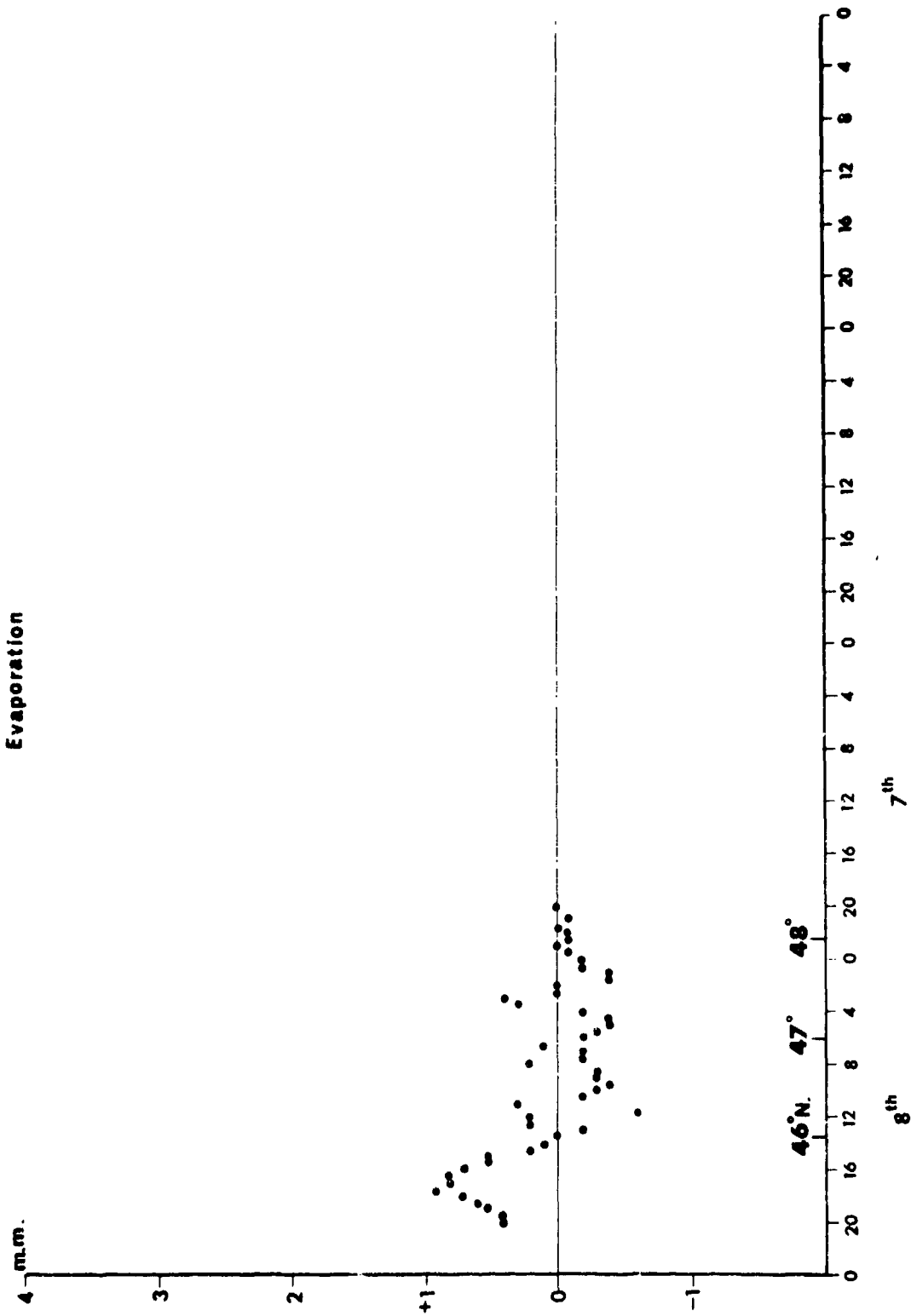
NATO RESTRICTED

MILOC 64

Phase A, lap 4

João de Lisboa

Evaporation



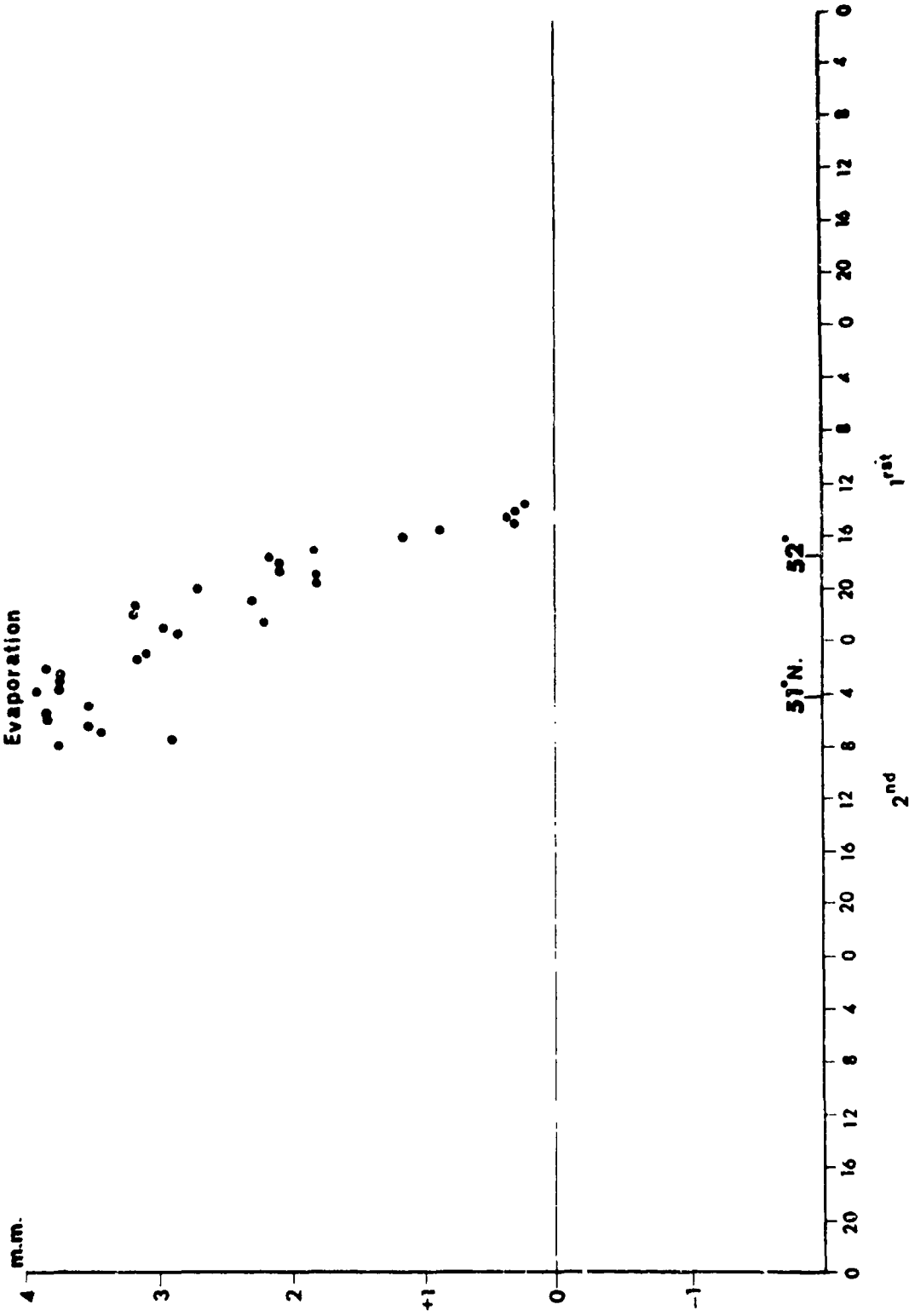
NATO RESTRICTED

MILOC 64

Phase A, lap 5

H.M.S. Dairymaid

Evaporation



NATO RESTRICTED

MILOC 64

Phase A, lap 5

Maria Paolina G.

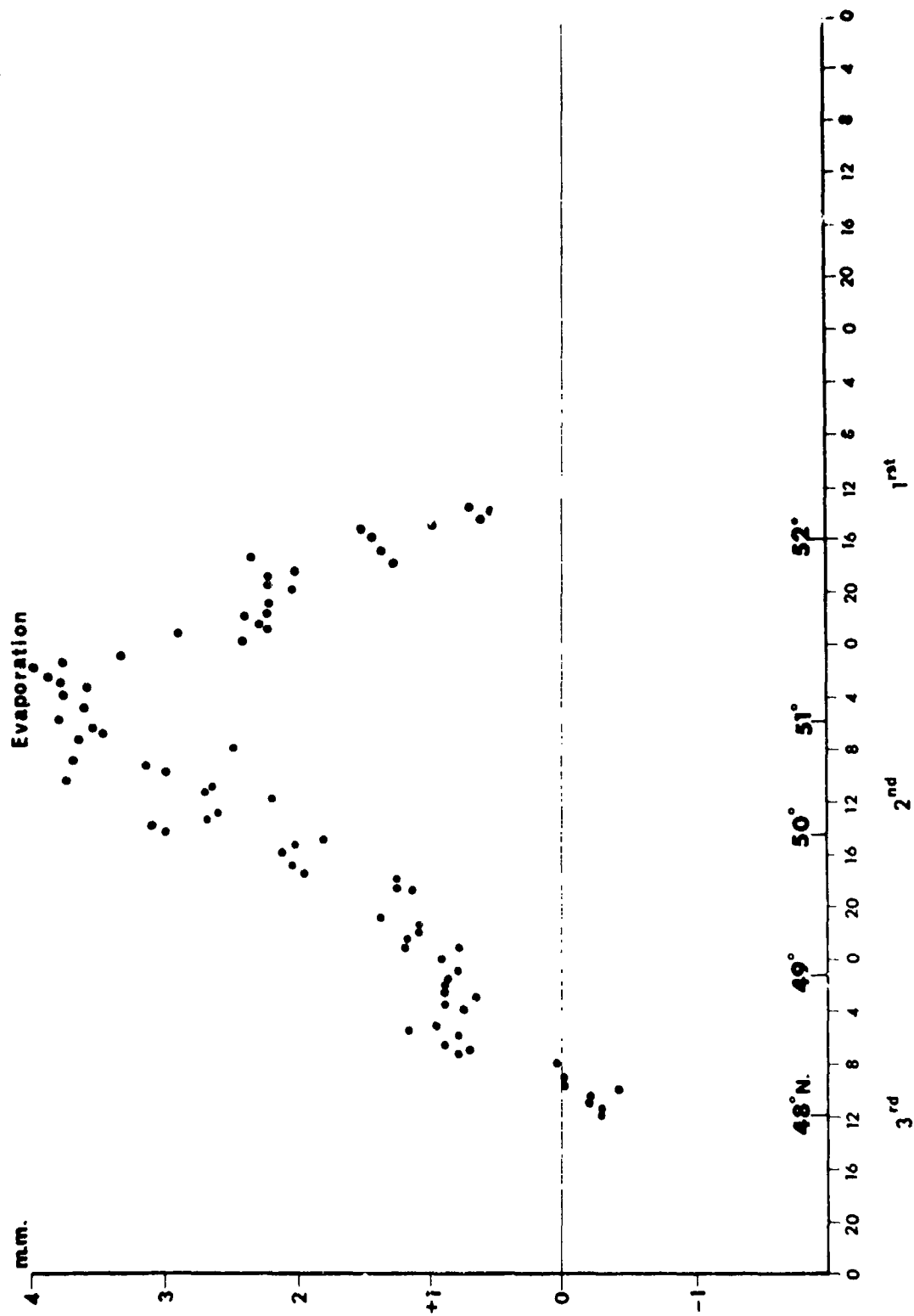


FIG. 5.46

NATO RESTRICTED

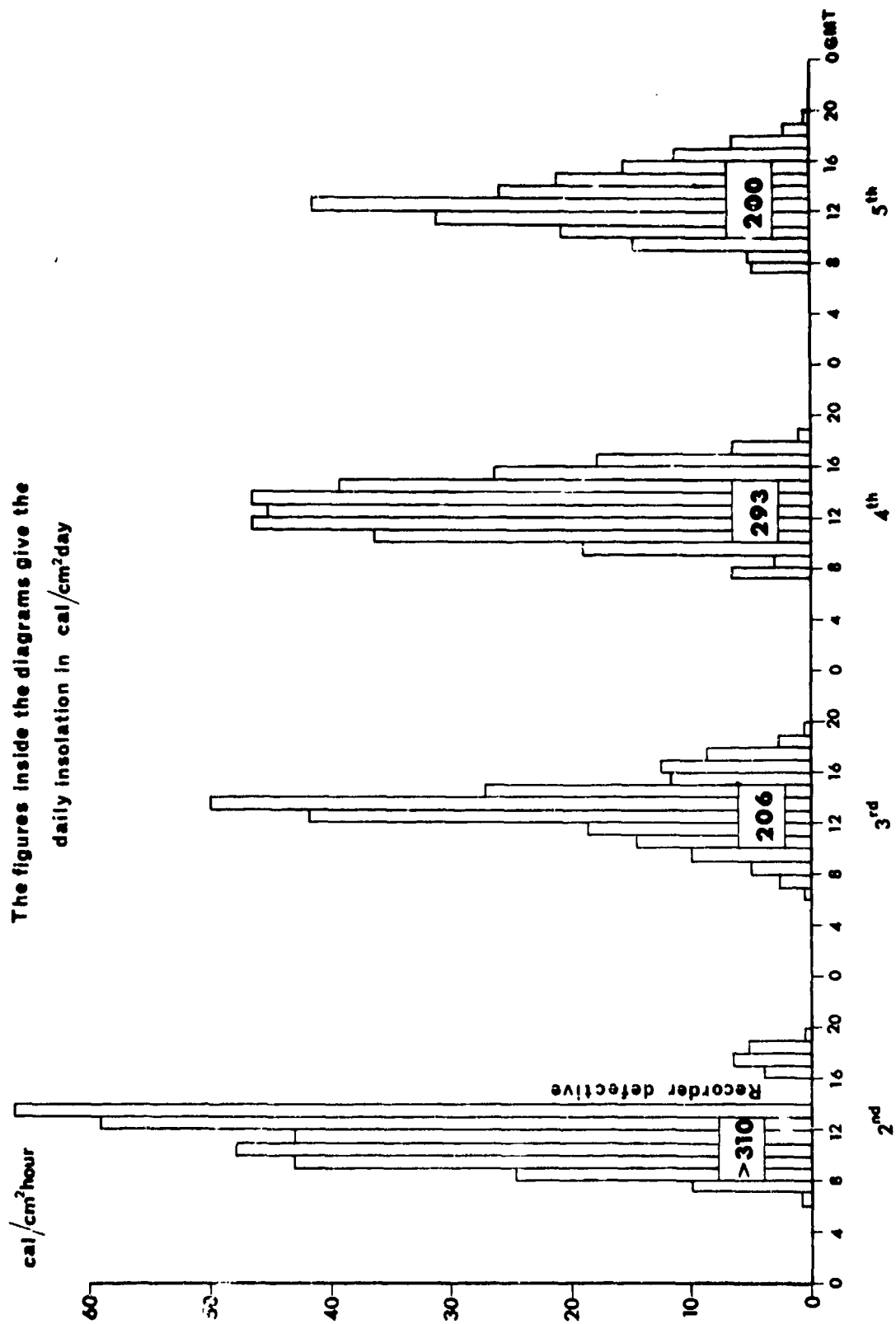
MILOC 64

Phase A, lap 1

H.M.S. Delrymple

Solar Radiation

The figures inside the diagrams give the
daily insolation in cal/cm²day



MILOC 64

NATO RESTRICTED

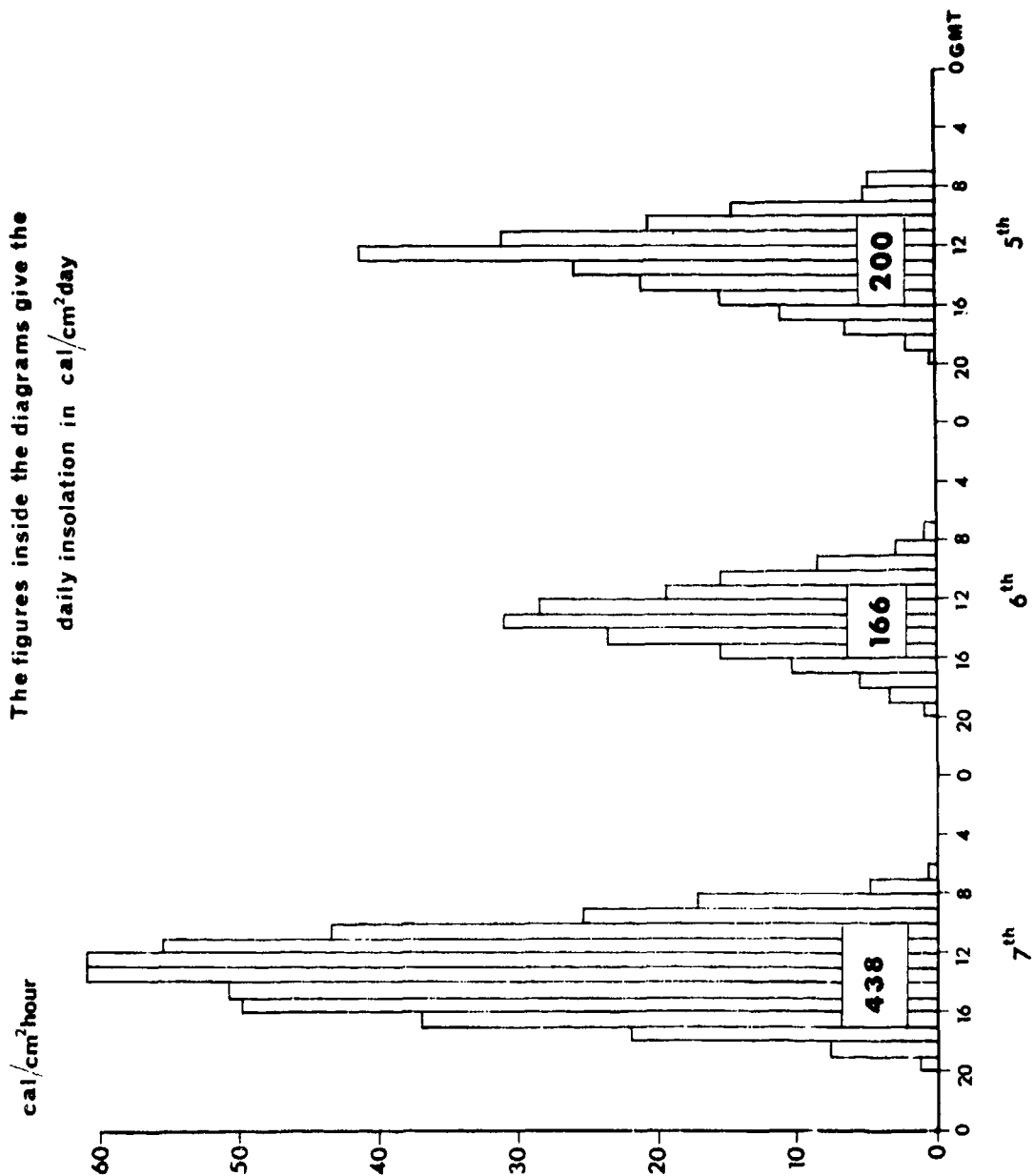
MILOC 64

Phase A, lap 2

H.M.S Dalrymple

Solar Radiation

The figures inside the diagrams give the
daily insolation in cal/cm²day



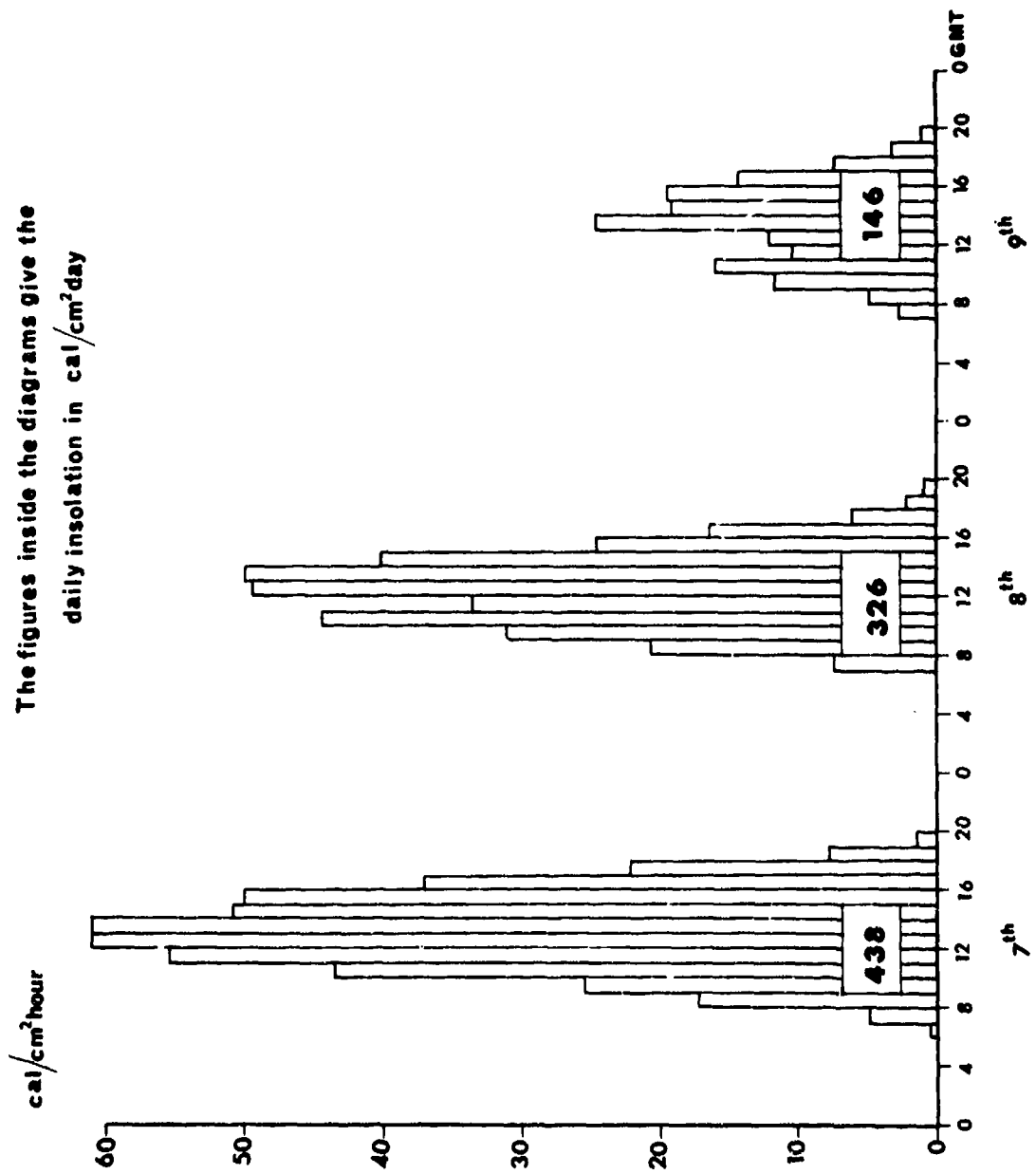
MILOC 64

Phase A, lap 3

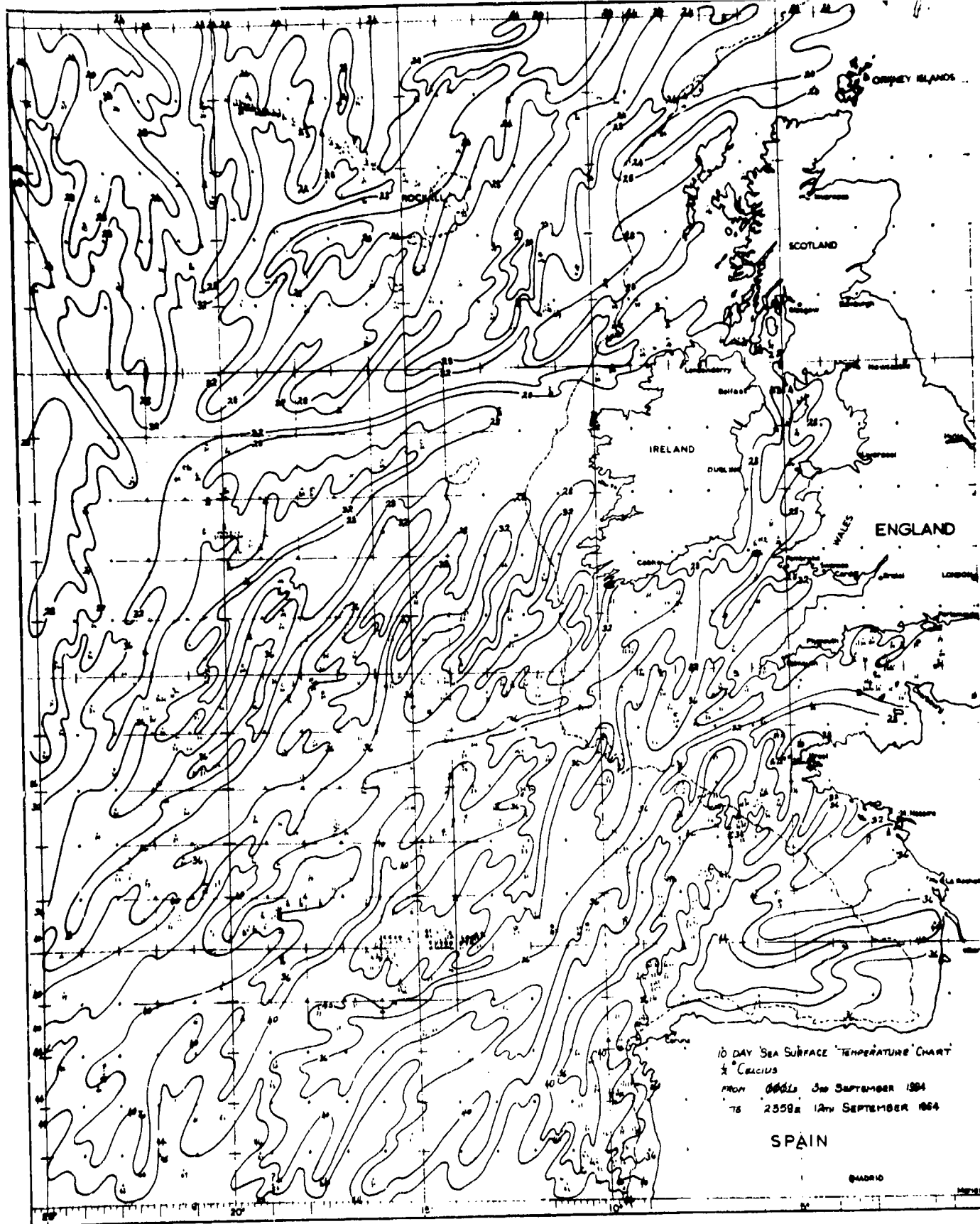
H.M.S. Dalrymple

Solar Radiation

The figures inside the diagrams give the
daily insolation in cal/cm²day



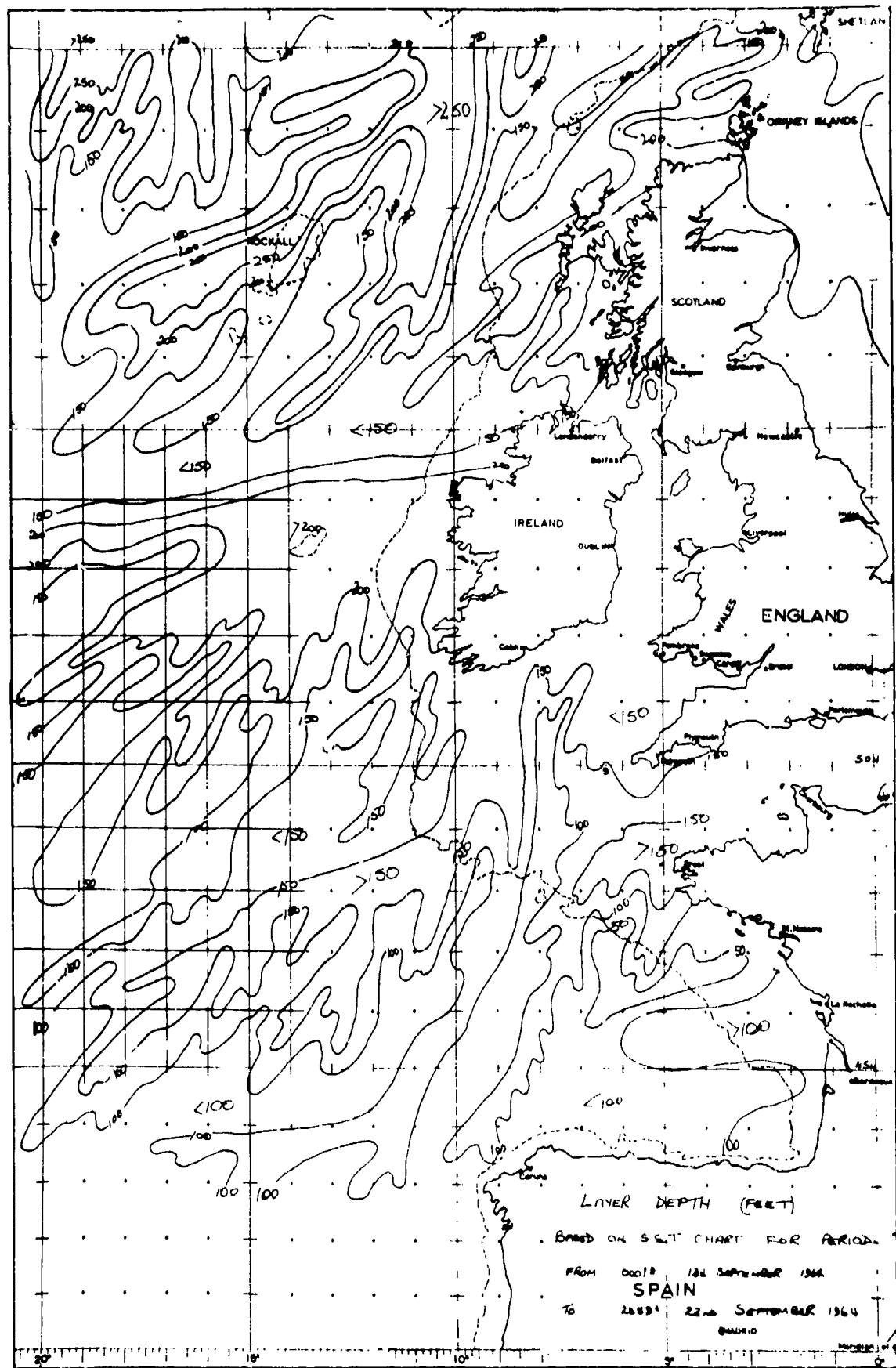
September 1964



ASWEPS MOD (NAVY) U.K

FIG. 6.1

NOT TO RESTRICTED

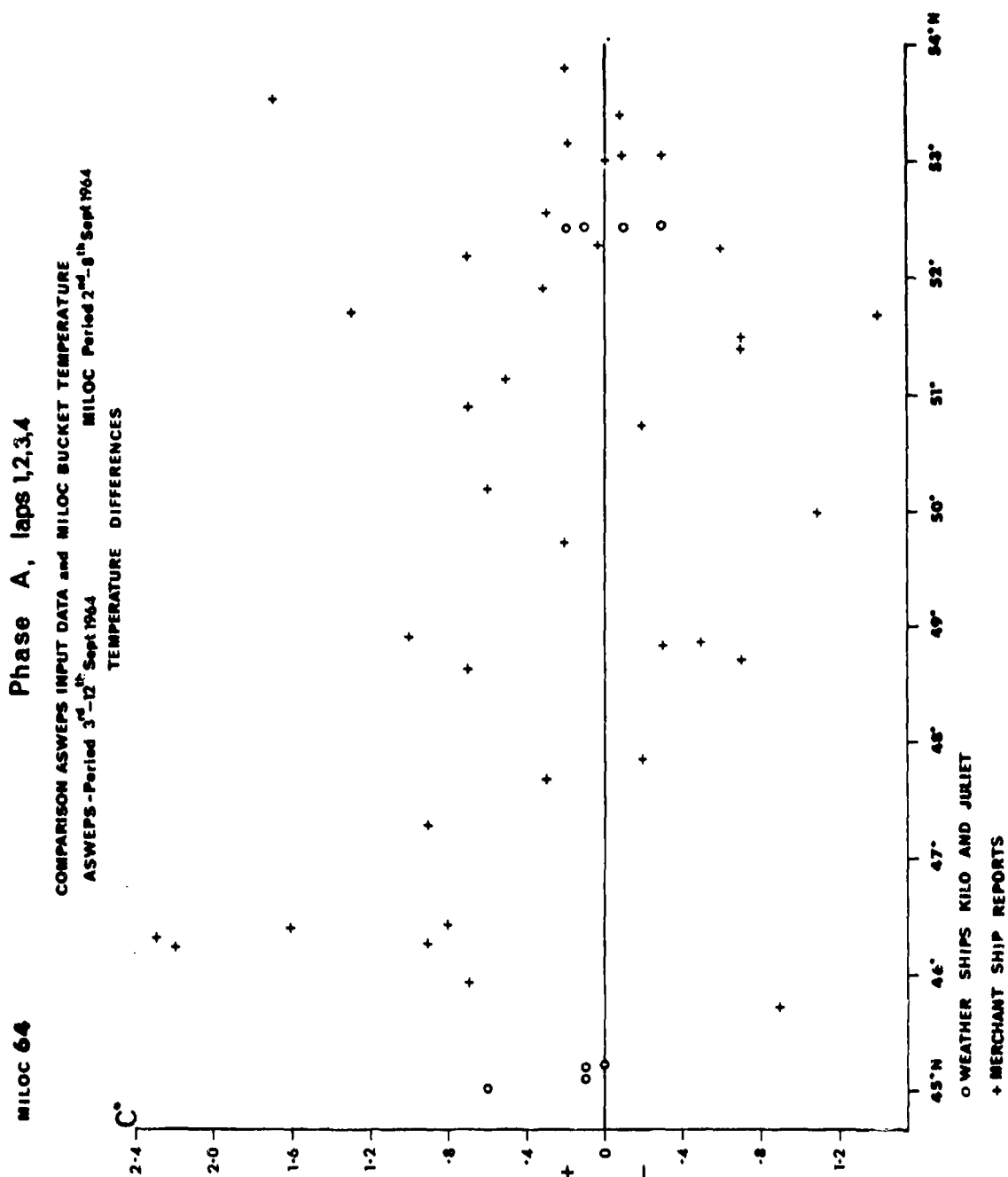


ASWEPS MOD (NAVY) U.K.

FIG. 6.2

NATO RESTRICTED

NATO RESTRICTED



NATO RESTRICTED

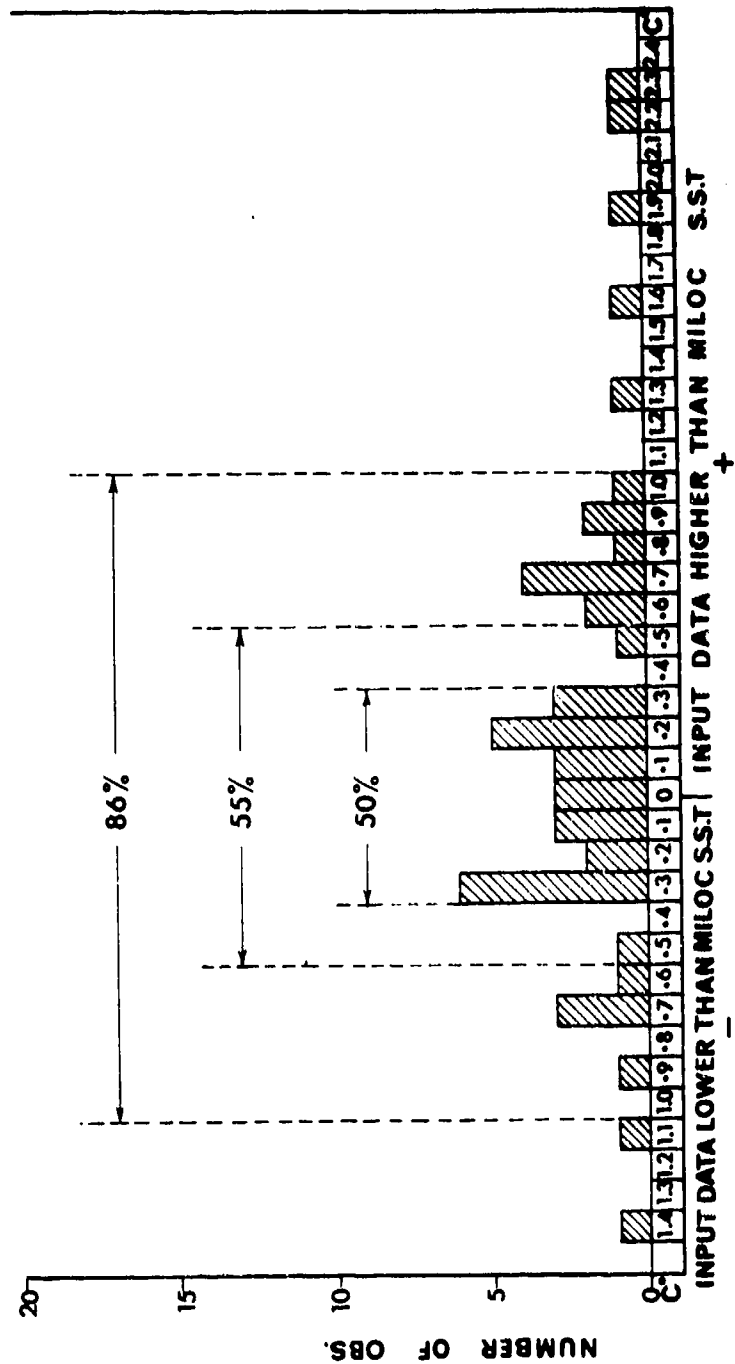
MILOC 64

Phase A, laps 1,2,3,4

COMPARISON ASWEPS INPUT DATA and MILOC BUCKET TEMPERATURE
Asweps Period 3rd-12th Sept 1964 Miloc Period 2nd-8th Sept 1964

DISTRIBUTION OF TEMP. DIFFERENCES

TOTAL OBSERVATIONS: 49



UNCLASSIFIED

UNCLASSIFIED

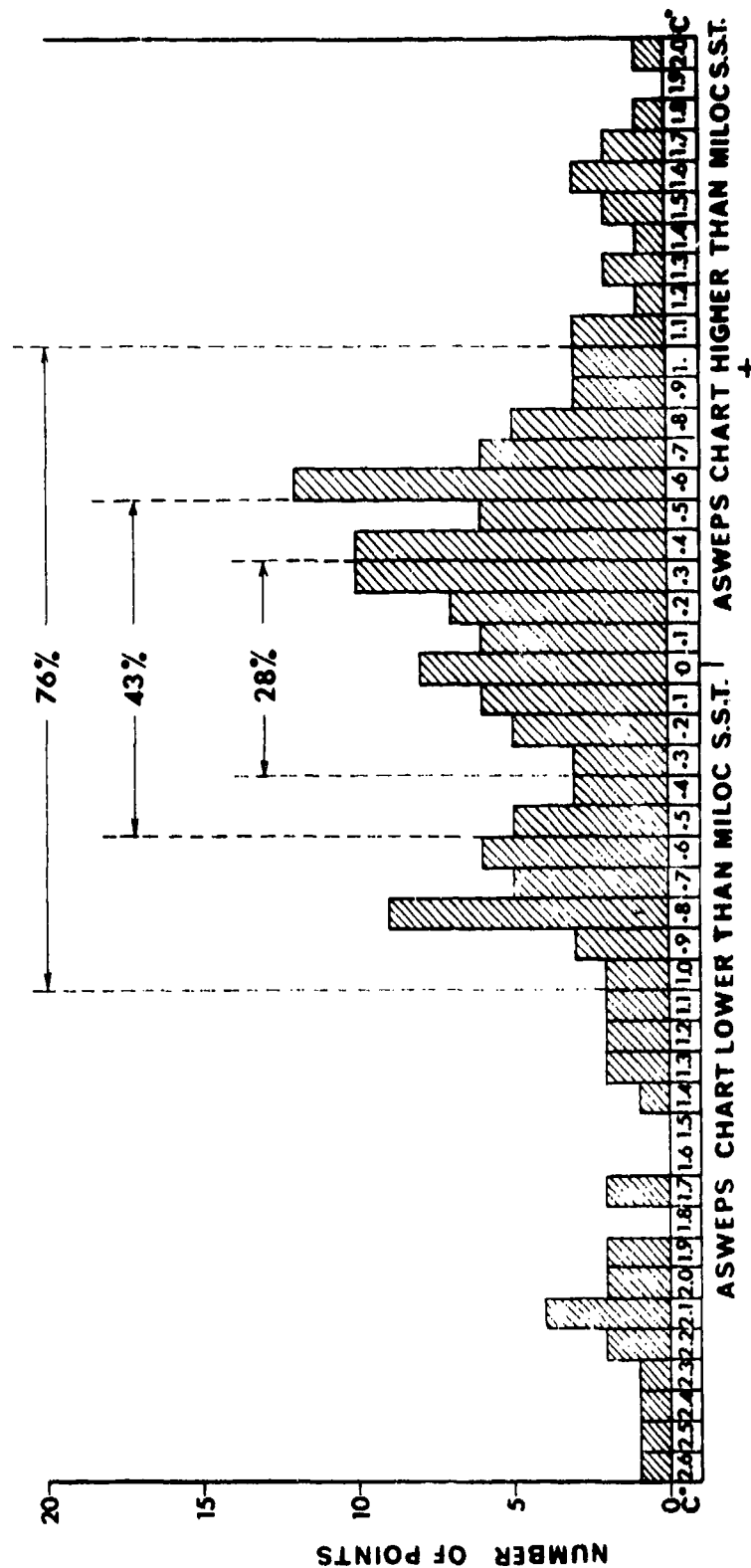
MILOC 64

Phase A, laps 1,2,3,4

COMPARISON ASWEPS ANALYSIS OF INPUT DATA and MILOC BUCKET TEMPERATURE
Asweps Period 3rd - 12th Sept 1964 Miloc Period 2nd - 8th Sept 1964

DISTRIBUTION OF TEMP. DIFFERENCES

TOTAL NUMBER OF POINTS: 162



UNCLASSIFIED

FIG 12

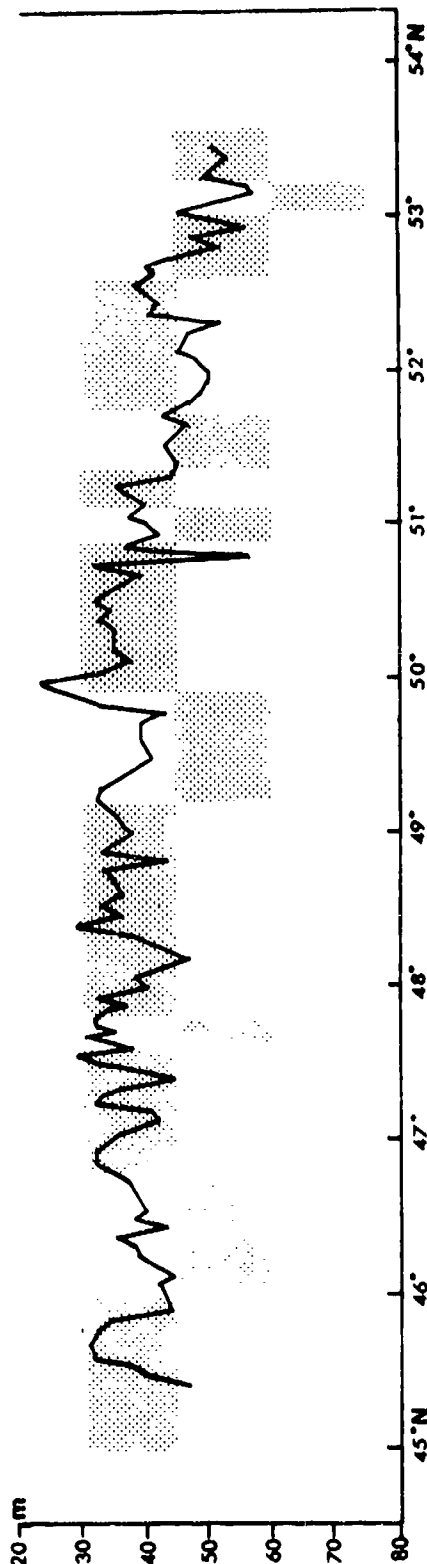
MILOC 64 Phase A, laps 1,2,3, H.M.S. Dalrymple.

COMPARISON ASWEP S ANALYSIS with ACTUAL LAYER DEPTH

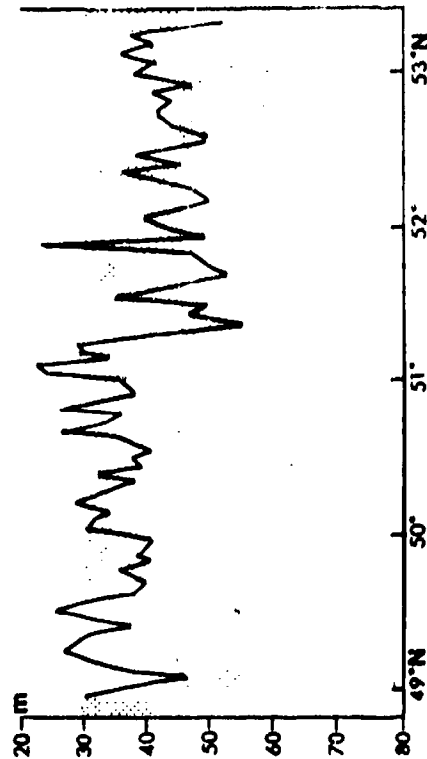
ASWEP S - Period 13th - 22nd Sept 1964

MILOC Period 2nd - 8th Sept 1964

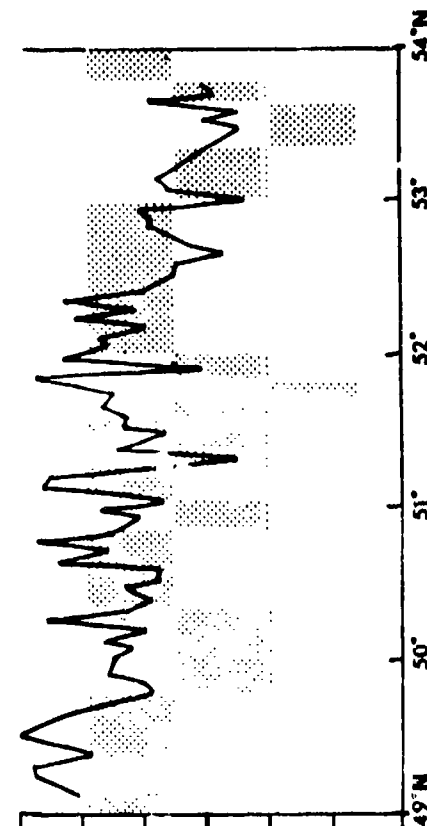
LAP 1



LAP 2



LAP 3



— Actual Layer Depth.

ASWEP S analysis of 1 min. depth

UNCLASSIFIED

UNCLASSIFIED

MILOC 64 **Phase A, laps 1,2,3,4**
COMPARISON OF ASWEPS LAYER DEPTH ANALYSIS WITH MILOC LAYER DEPTHS
Asweps Period 13th - 22nd Sept 1964 Miloc Period 2nd - 9th Sept 1964

TOTAL NUMBER OF POINTS: 94

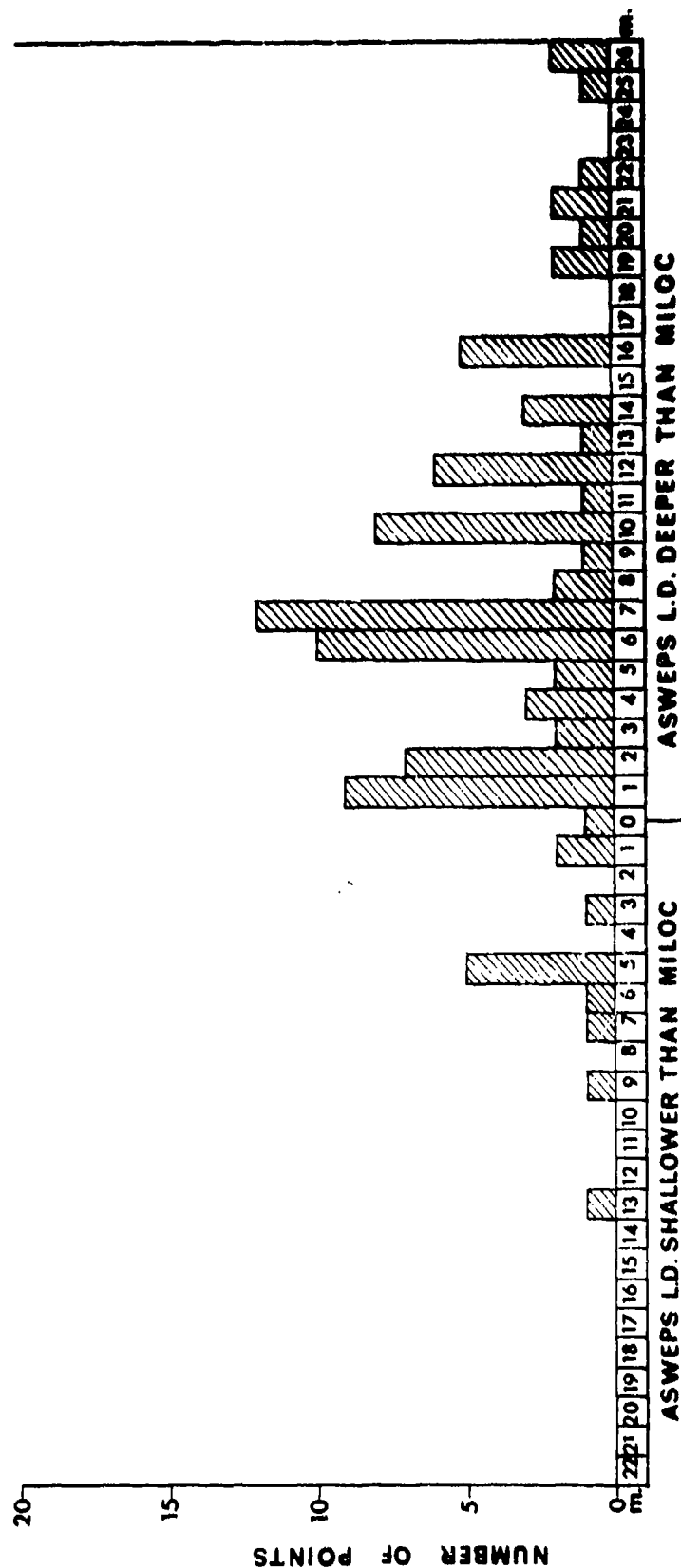


FIG 17

UNCLASSIFIED