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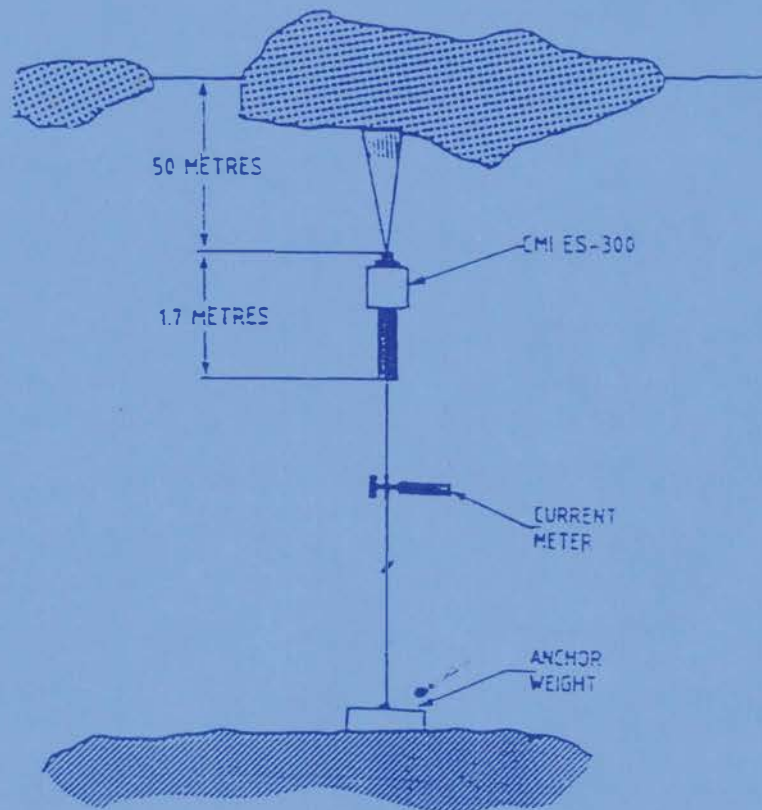
NR.51 - OSLO 1989

TORGNY VINJE and TORSTEIN BERGE:

UPWARD LOOKING SONAR RECORDINGS

at 75°N - 12°W from 22 June 1987 to 20 June 1988

DATA REPORT





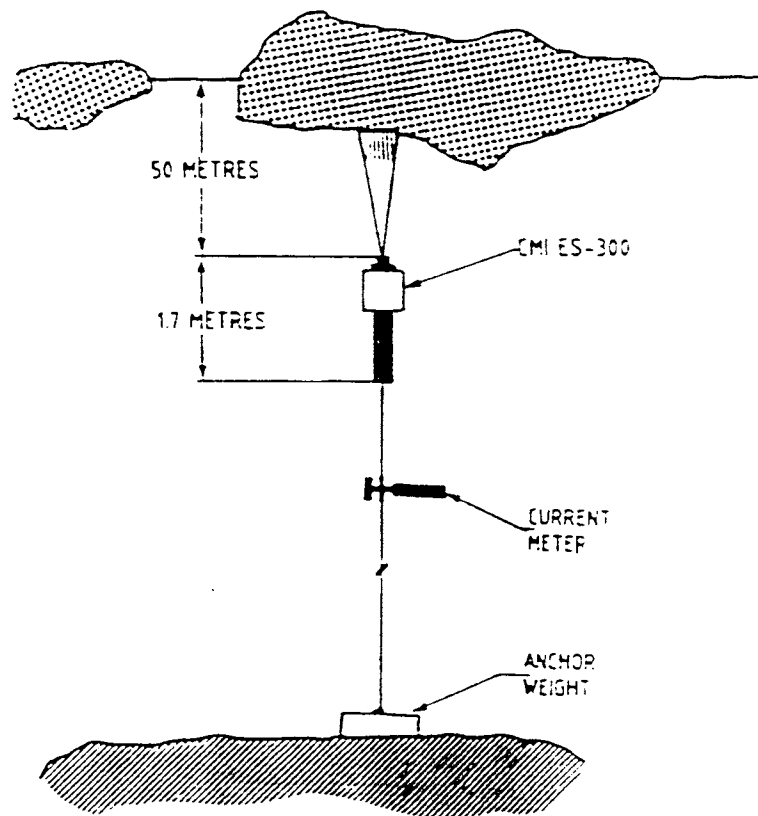
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INTRODUCTION

To get a good estimate of the thickness distribution of drift ice at a given location it is necessary with relatively frequent observations from in situ instruments. Moored upward looking sonars (ULS) seem in this respect to represent an interesting tool.

The first deployments were made in the Fram Strait in 1986 and in the Barents Sea in 1987, both unsuccessful due to battery failures. In addition two other instruments deployed in the Barents Sea were lost, probably due to trawling activities. This miserable start was, however, somewhat compensated by a successful retrieval of the first one year long recording from the Greenland Sea in June 1988, which will be reported on below.

INSTRUMENT

The upward looking sonar (ES-300-II) was manufactured by Chr Michelsens Institute (CMI), Bergen. The instrument specification and mooring configuration are given in Table 1 and on the front page.

Table 1

Technical specifications of CMI ES-300-II.

Operational depth.....	20-70 m
Sonar beam width.....	5.0 deg
Operational acoustic frequency.....	300 kHz
Resolution.....	~0.1 m
Pressure transducer range.....	20-70 m
Resolution.....	0.02 m
Tilt (XY) resolution.....	1 deg
Data recording interval.....	4 min
Data recorder.....	Sea Data Model 610
Storing capacity (300 ft cassette).....	~550 days
Total length of instrument.....	1.70 m
Diameter of float.....	0.55 m
Diameter of cylinder.....	0.16 m
Weight in air, without float.....	58 kg
Total weight in air w./float.....	79 kg
Net buoyancy in sea water.....	~55 kg

RECORDING SPECIFICATIONS

Sonic transit time.

The distance from the sonar head to the underside of the ice is based on four sonar shots of which the two most equal transit times are stored. As one series of observation is performed every 4 minutes this corresponds to about 130 000 pairs of ice draft observations per year. The average of the two stored transit times (S_1 and S_2) is used as basis for the calculation of the ice draft. The mean one-way transit time S (s) is given by the formula:

$$1) \quad S = ((1/4)(S_1 + S_2)(0.0000512) + 0.00004) \text{ s}$$

provided by the manufacturer.

Observations where the first stored transit time exceeds 0.05 s and where the difference between the two stored transit times exceeds 0.001 s have been deleted. A transit time difference of 0.001 s corresponds to a draft difference of about 1.4 m. In addition, we have deleted observations where the average transit time indicates reflection from objects more than 1 m above the water surface (here denoted as negative draft larger than 1 m). The latter filtering excludes abnormal recordings (possibly due to scattering of the return signal) but includes negative recordings which may be expected due to wave effects in the ice margin. With an ULS depth of 50 m the sonar beam, having an aperture of 5 degrees, will have a circular footprint with a diameter of 4-5 m and is thus capable of detecting the water surface in fairly narrow leads. This indicates that wave effects - not being detected by the pressure transducer - may be reflected in the sonar signal. It is seen that the majority of the negative drafts is generally less than 0.5 m (ANNEX A).

The ULS may during ice free conditions operate as a wave detector. See registrations from the periods 18-21 September 1987 and 15-20 February 1988 reproduced in ANNEX A.

The speed of sound in water is determined from the equation given by Kinsler and Frey in "Fundamentals of Acoustics". An error of one degree C in the water temperature yields a corresponding ice draft error of 0.33 m. As we have no registration of temperature in the actual water column we have applied a sound velocity of 1442 m s⁻¹ corresponding to a water temperature of -1.0⁰ C and a salinity of 33 per mille at the average depth of 25 m. A one per mille error in the salinity corresponds to an error in the ice draft of 0.12 m. (These parameters will be adjusted later when oceanographic recordings become available.)

A control of the accuracy of the calculated ice draft is provided by the registrations collected during conditions with open, calm water above the sonar during summer conditions. See recordings for the last and first part of June 1987 and 1988, respectively, in ANNEX A. These registrations suggest an average accuracy in the order of 10 cm.

Instrument depth variations.

The maximum variation of the instrument depth during the period (365 days) was close to 30 m. This variation is in all probability due to a

variable drag on the 1200 m long mooring line caused by changing current velocities. Smaller depth variations, probably caused by the tides, are clearly seen in the recordings (Fig. 1).

The range of the pressure transducer was exceeded on a number of occasions when the sonar was forced down to depths below 70 m. For practical reasons it is also difficult to determine the accurate level of operation in advance during deep see deployments. To secure a continuous operation of the ULS it is therefore important to have a pressure transducer with a sufficiently wide range.

The pressure is given in numerical units varying between 0 and 4095 (0-70 m). Recordings above 4095 have been deleted. The pressure (P) is given in pascal by

$$2) \quad P = ((Po) (195.494) - 4369.6) \text{ pa}$$

where Po is the observed numerical unit. A Digiquartz 8060 D.S. has been used as reference for the calibration of the pressure transducer.

The tilt.

The tilt is recorded in degrees directly within the range of 0-45°. The vertical orientation of the instrument turned out to be very stable with deviations mainly below 3 degrees. This was to some extent unexpected, but indicates that the instruments buoyancy balance is influenced to a small extent by the inclination of the 1200 m long mooring line.

A tilt of e.g. 10 deg. corresponds to a correction of 0.8 m while the majority of the tilts, which are less than 3 deg., corresponds to a correction of 0.07m. The tilting effect is corrected for in the calculations of the draft (using the cosine). Observations indicating a tilt above 20° have been deleted.

DEPLOYMENT AND RETRIEVAL

The ULS was deployed at a nominal depth of 45 m. It was attached to the top of a current meter mooring of E. Fahrbach, Alfred-Wegener Institute for Polar and Marine Research (AWI). The instrument was deployed from R/V Polarstern at 75°03.4'N and 12°09.2W on 22 June 1987 at 0930 UT and retrieved from the same ship on 20 June 1988 at 1800 UT.

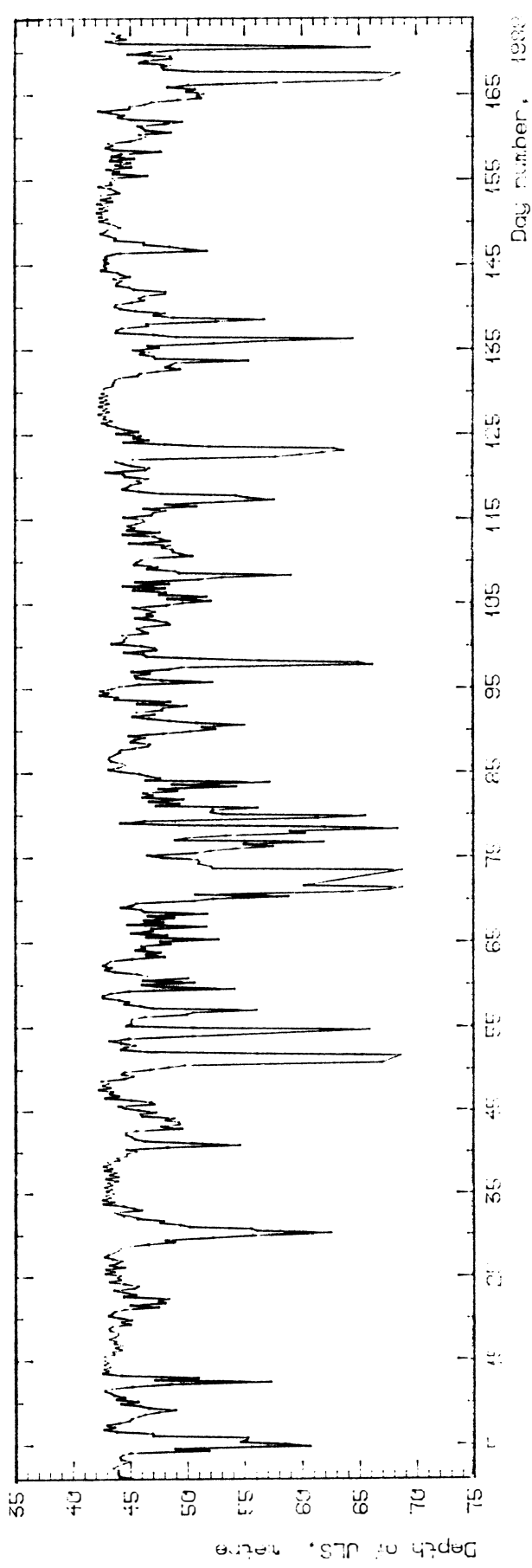
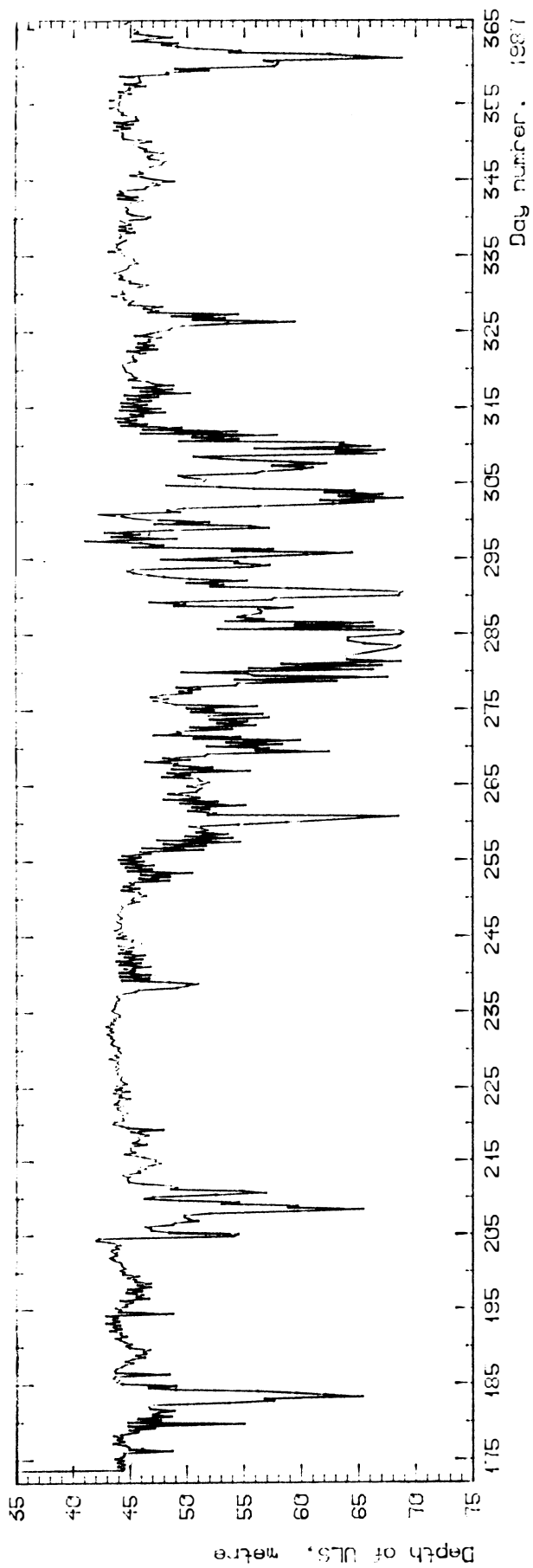


Fig. 1
 Selection of 6 hours interval recordings of the depth of the ULS as observed by the pressure transducer.

ICE DRAFT DISTRIBUTIONS

The ice draft (D) was calculated from the relationship

$$3) \quad D = (D_p - D_s - 0.13) \text{ m}$$

where D_p is the depth calculated from the pressure, D_s is the distance from the sonar head to the underside of the ice as calculated from the sonar transit times, and 0.13 is the distance between the sonar head and the pressure transducer in the ULS housing. D_p is calculated from the formula

$$D_p = (P - A) / (\rho g)$$

where P is the recorded pressure estimated from Eq.2), A is the atmospheric pressure read from weather maps, ρ is the density of the water = 1026 kg m^{-3} for a 33 per mille salinity content, and g is the gravity constant 9.829 m s^{-2} . D_s is calculated from the formula

$$D_s = S V \cos(\tau)$$

where S is the mean one-way sonar transit time to the underside of the ice calculated from Eq. 1), V is the speed of sound ($=1442 \text{ m s}^{-1}$), and τ is the observed tilt.

Recordings (ANNEX A)

Lines have been drawn between the consecutive draft observations which are indicated by a bend in the continuous curve. This is clearly illustrated in the first two high resolution graphs in the annex. A broken line indicates that three or more consecutive readings have been rejected. The following graphs show the calculated draft observations for consecutive 15 day periods. The time resolution is here too small for an indication of all the single observations. The graphs reveal, however, the general impression of a fairly monotonous recording during the year, indicating a more or less continuous flow of ice with a highly variable draft. Some statistics and the number of rejected data are given in tables in ANNEX B.

The recordings indicate only a few periods with marked wave effects in the marginal ice zone, e.g., 18-21 September 1987 and 15-20 February 1988. An exceptionally thick ice feature seems to have passed the ULS site on 24-25 July 1987.

Tables (ANNEX B)

The tables give the frequency distribution of the various ice draft intervals observed together with some statistics. The restrictions for the filtering applied to the various sensor values result in some overlapping, the total number of rejected observations does therefore not always correspond with the sum of the individual rejections.

In addition to the filtering applied to the recordings (ANNEX A) we have here omitted negative drafts above 0.2 m. Draft observations between -0.2 and 0.0 m have also been given the value 0.0 m.

The 15 day mean ice drafts vary between 1.36 and 3.93 m with an annual average of 2.38 m. There is no systematic seasonal variation.

Note that the calculated average floe size and its standard deviation are given in minutes. It is defined as the period elapsed between two consecutive recordings of ice thicknesses less than 0.5 m. Applying the observed average drift velocity of $0.17 \text{ m s}^{-1} = 10 \text{ m min}^{-1}$ (Vinje and Finnekåsa 1986: Norsk Polarinstitutt Skrifter Nr 186), we estimate the average floe size to vary between 200 m and 3200 m, with the largest sizes during the colder season as should be expected.

VOLUME TRANSPORTS

Assuming the density of water and ice to be 1025 and 920 kg m^{-3} , respectively, we get an annual average ice thickness of $((1025/920) \times 2.38 =) 2.65 \text{ m}$, corresponding to about 70% of the average ice thickness of 4 m as observed in the Fram Strait. (See e.g. ref. above).

Assuming the width of the East Greenland Current to be 220 km at 75° N and applying the observed annual drift speed of 0.17 m s^{-1} , we obtain a preliminary annual ice volume transport past this latitude of about 3000 km^3 for the year-long period in question. This amounts to about 70% of the estimated average ice transport across the 80th parallel in the Fram Strait (see ref. above).

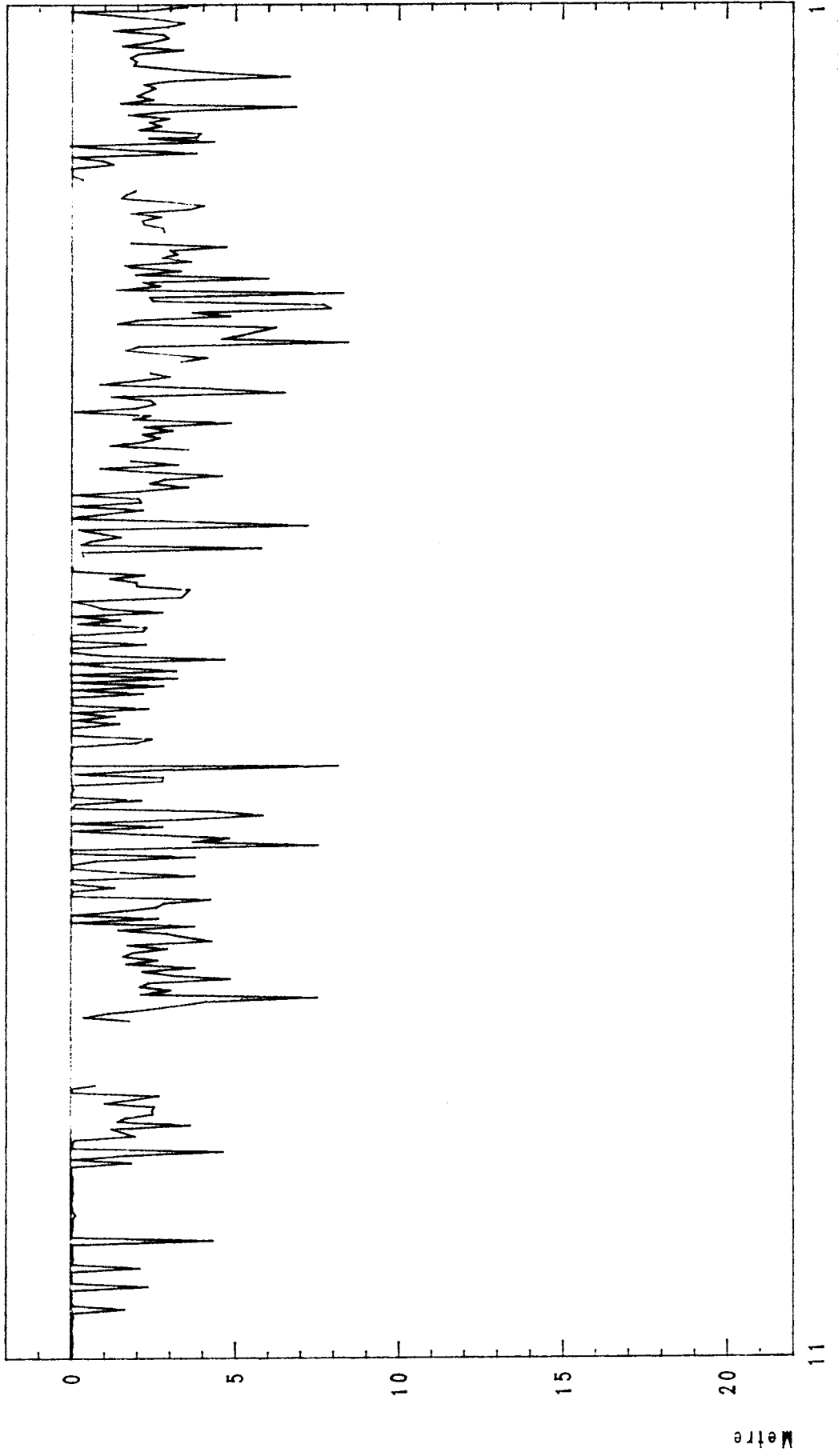
ACKNOWLEDGEMENTS

We are very grateful to the cruise leader Jens Meincke, University of Hamburg, and to Clark Darnell, NOAA, for their help during deployment and retrieval. Thanks are also extended to Eberhard Farhrbach for allowing us to use his current meter mooring for this experiment.

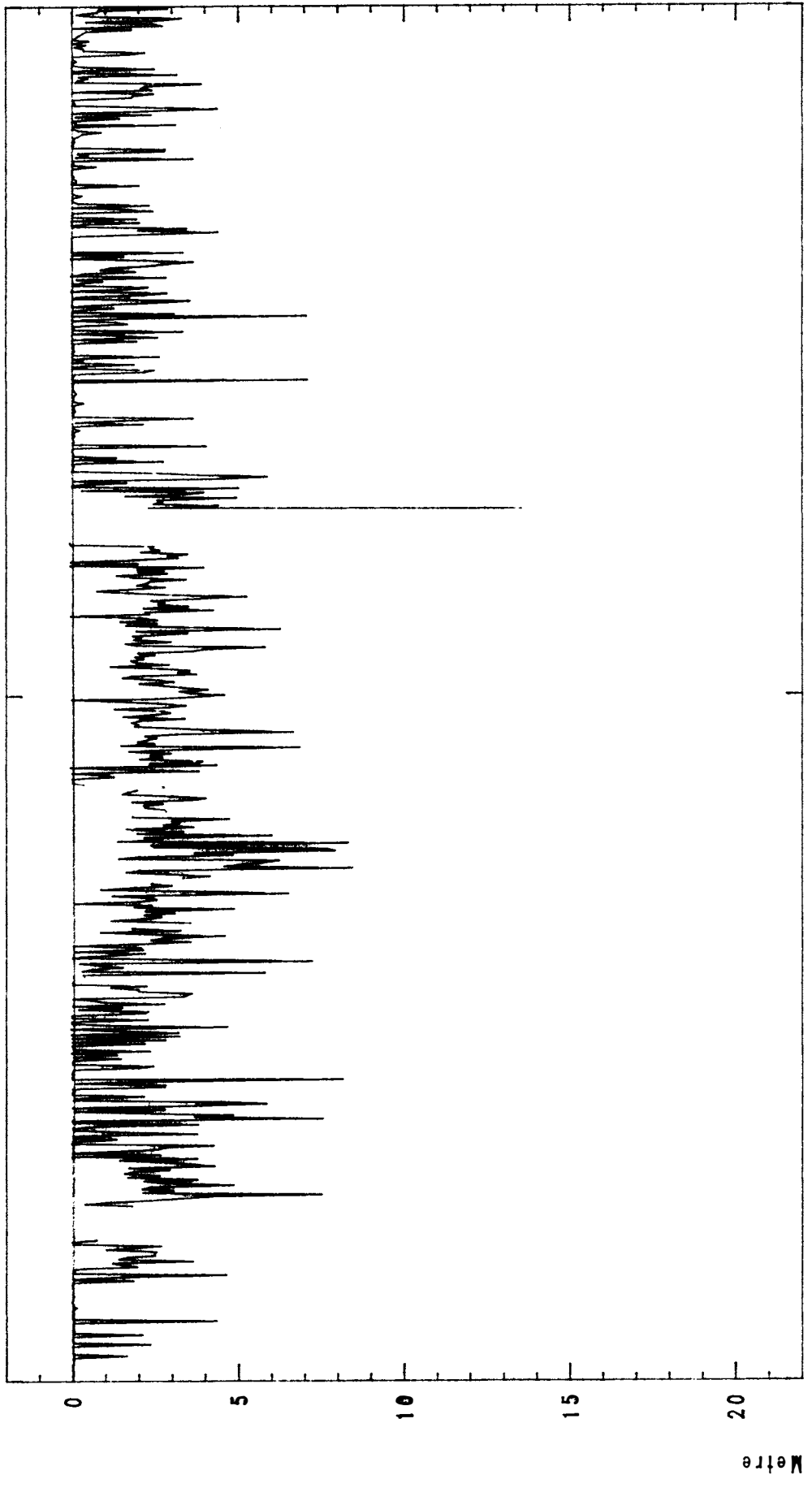
ANNEX A

Ice draft observations

Ice Draft Recordings (75N 12W)



Ice Draft Recordings (75N 12W)



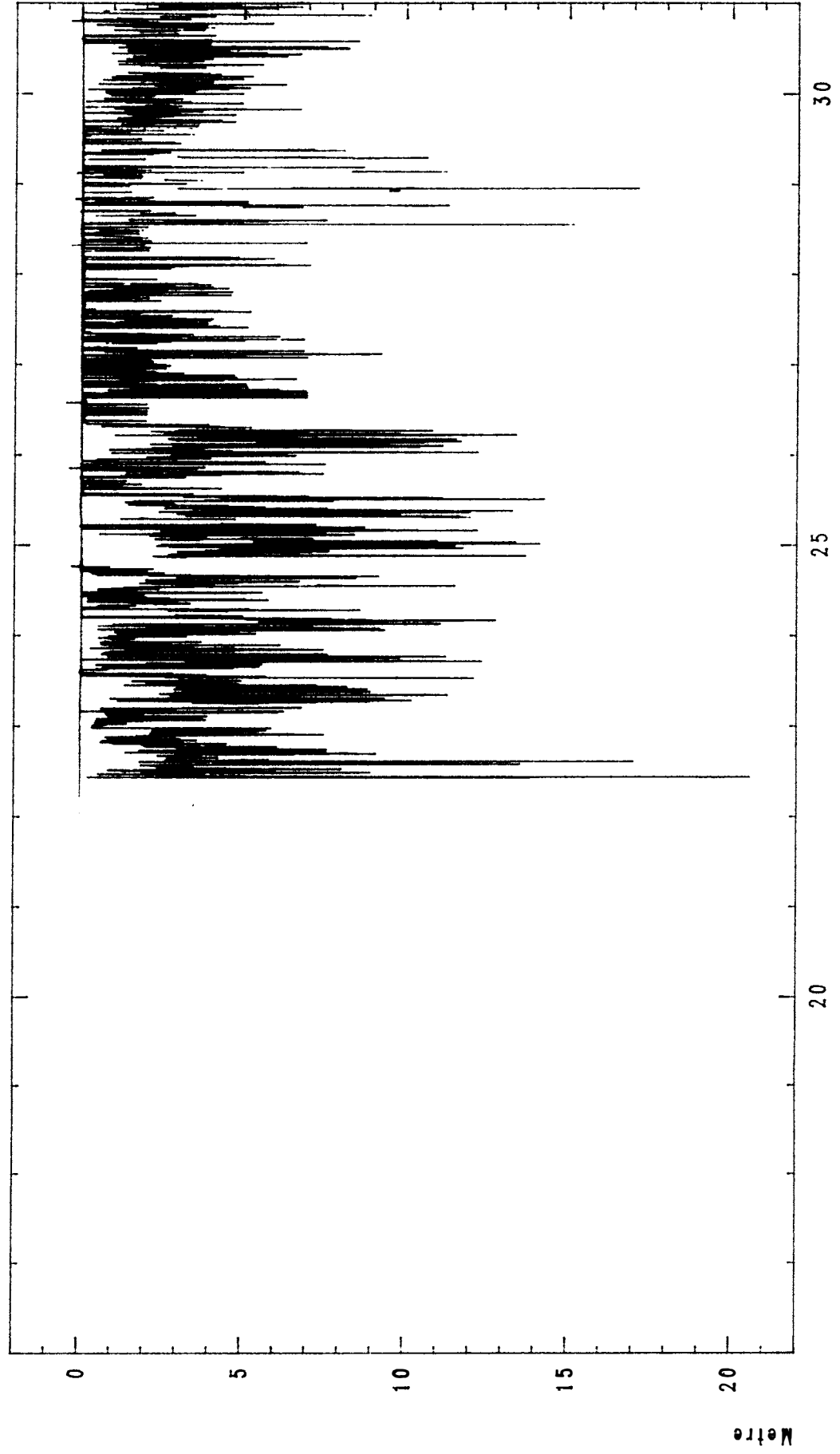
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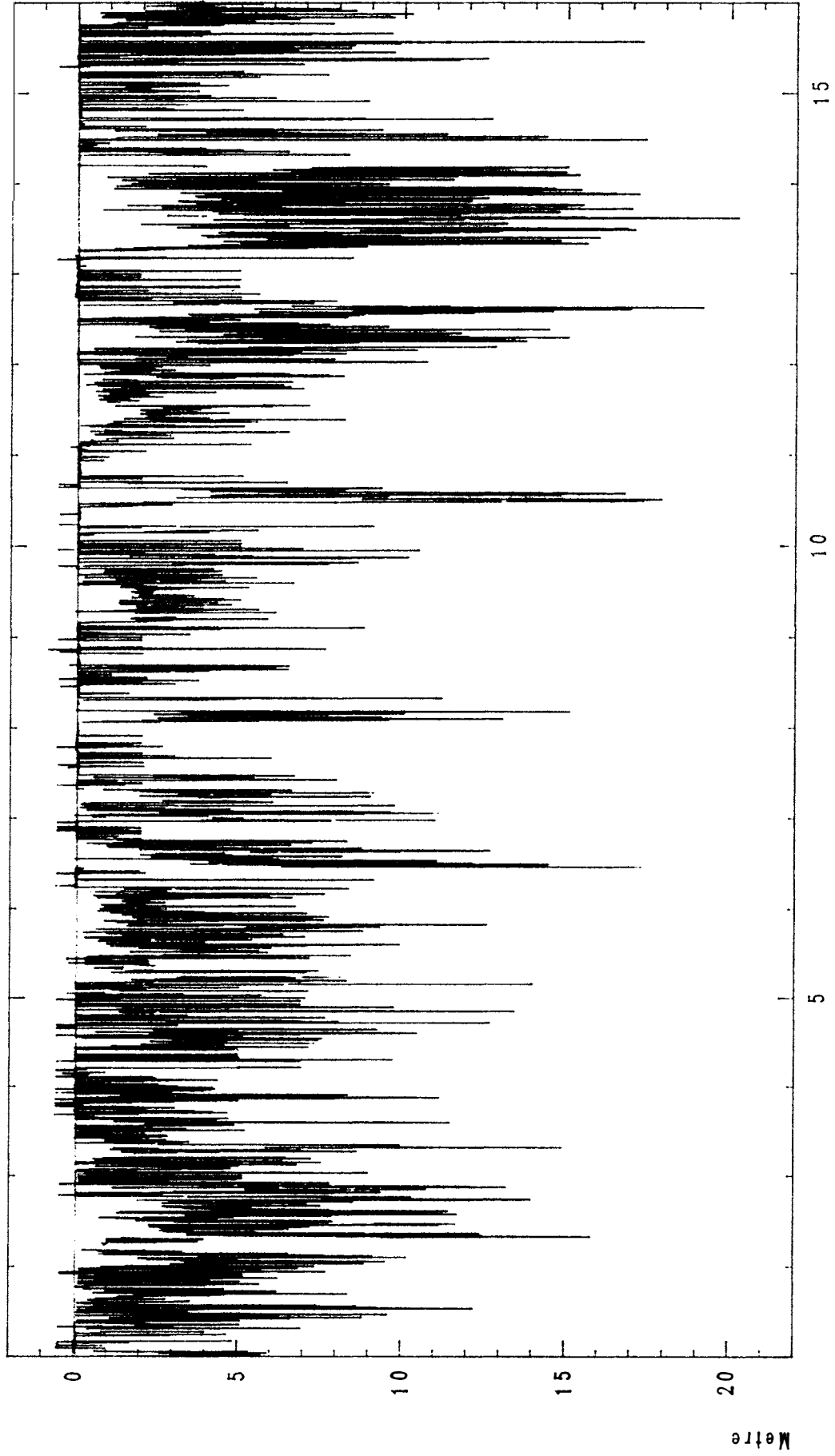
SEP-87

Ice Draft Recordings (75N 12W)



JUN-87

Ice Draft Recordings (75N 12W)



15

JUL-87

10

5

Metre

20

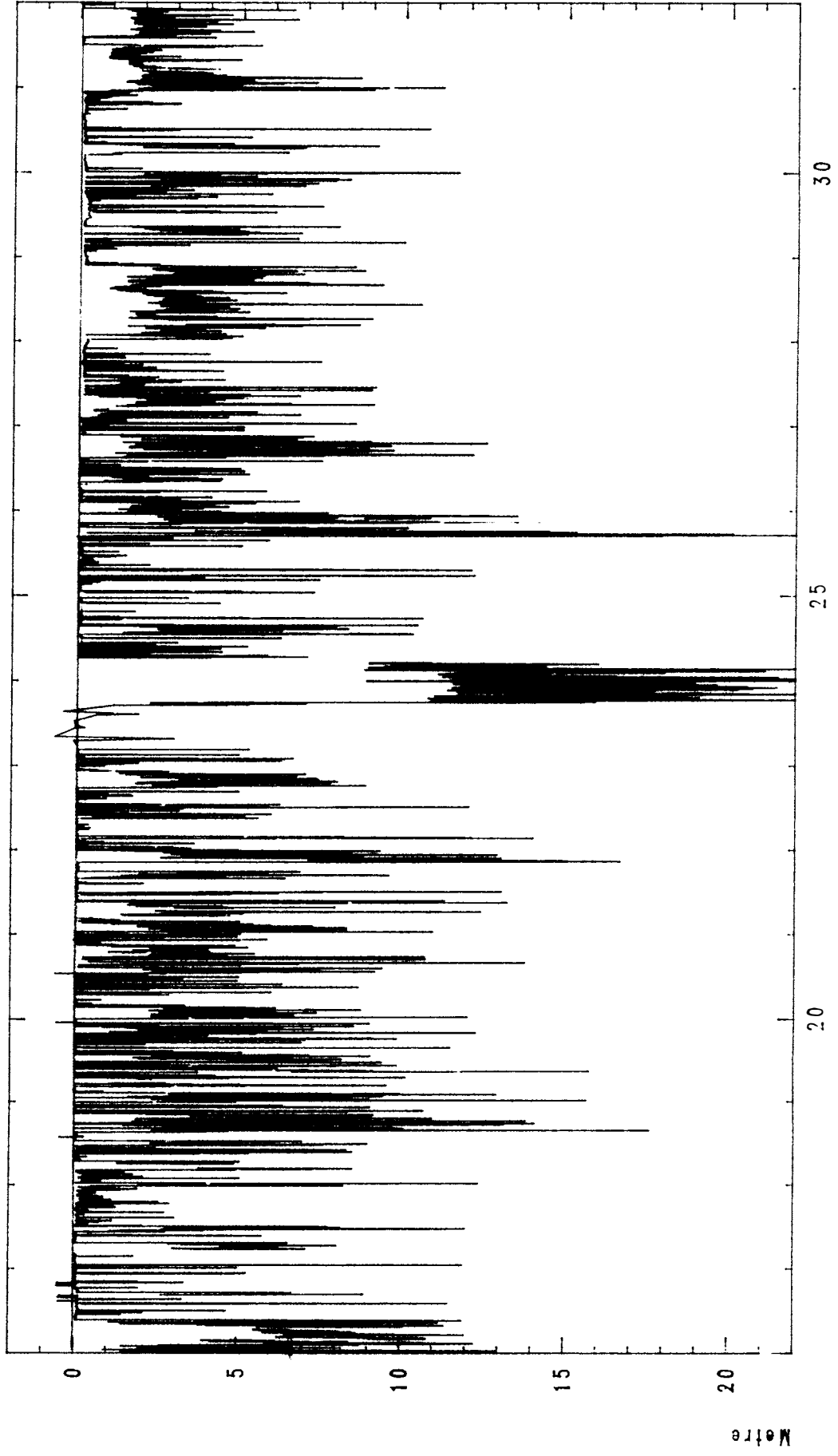
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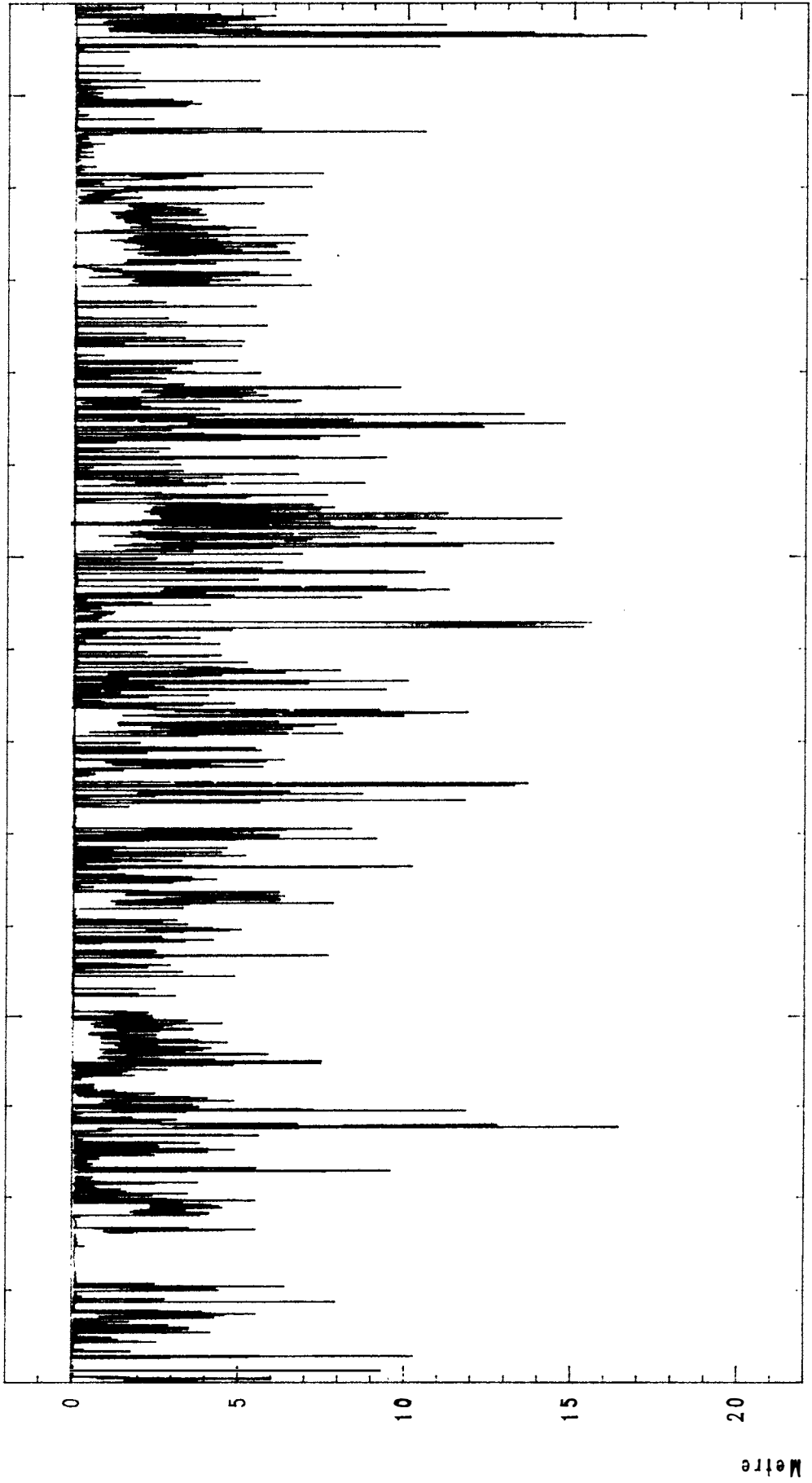
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0

Ice Draft Recordings (75N 12W)



Ice Draft Recordings (75N 12W)



15

AUG-87

10

5

Metre

20

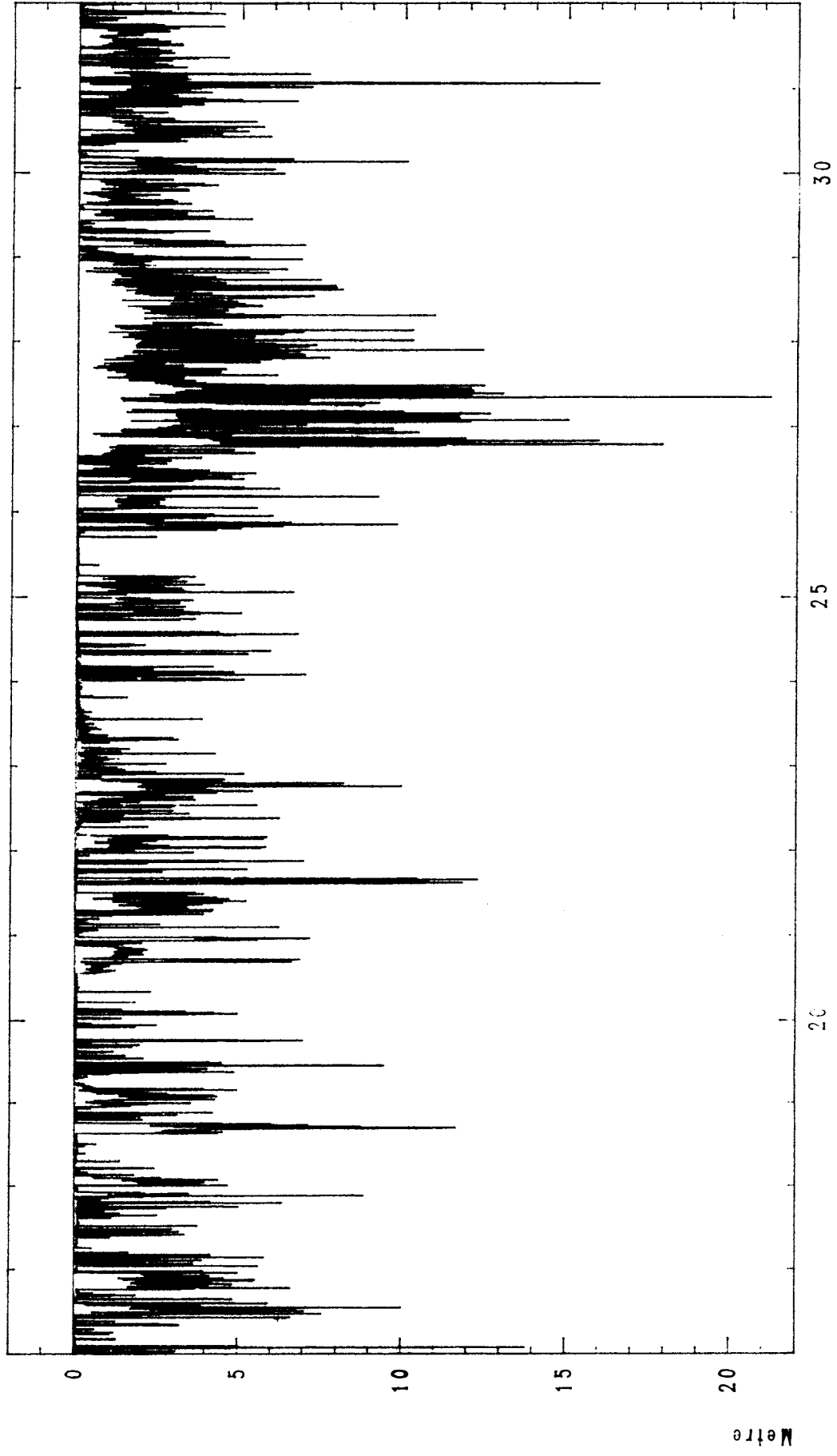
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10

5

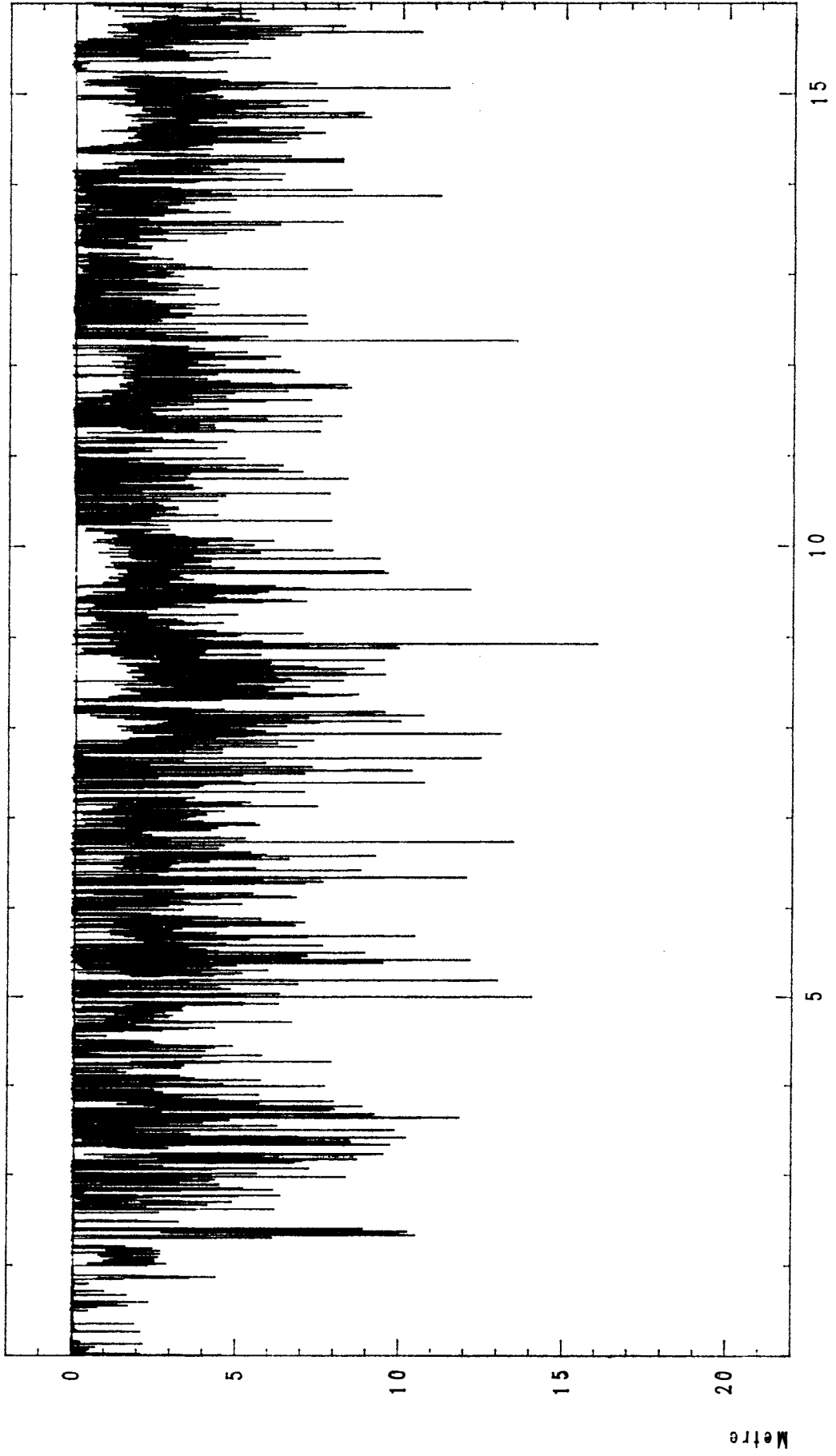
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Ice Draft Recordings (75N 12W)



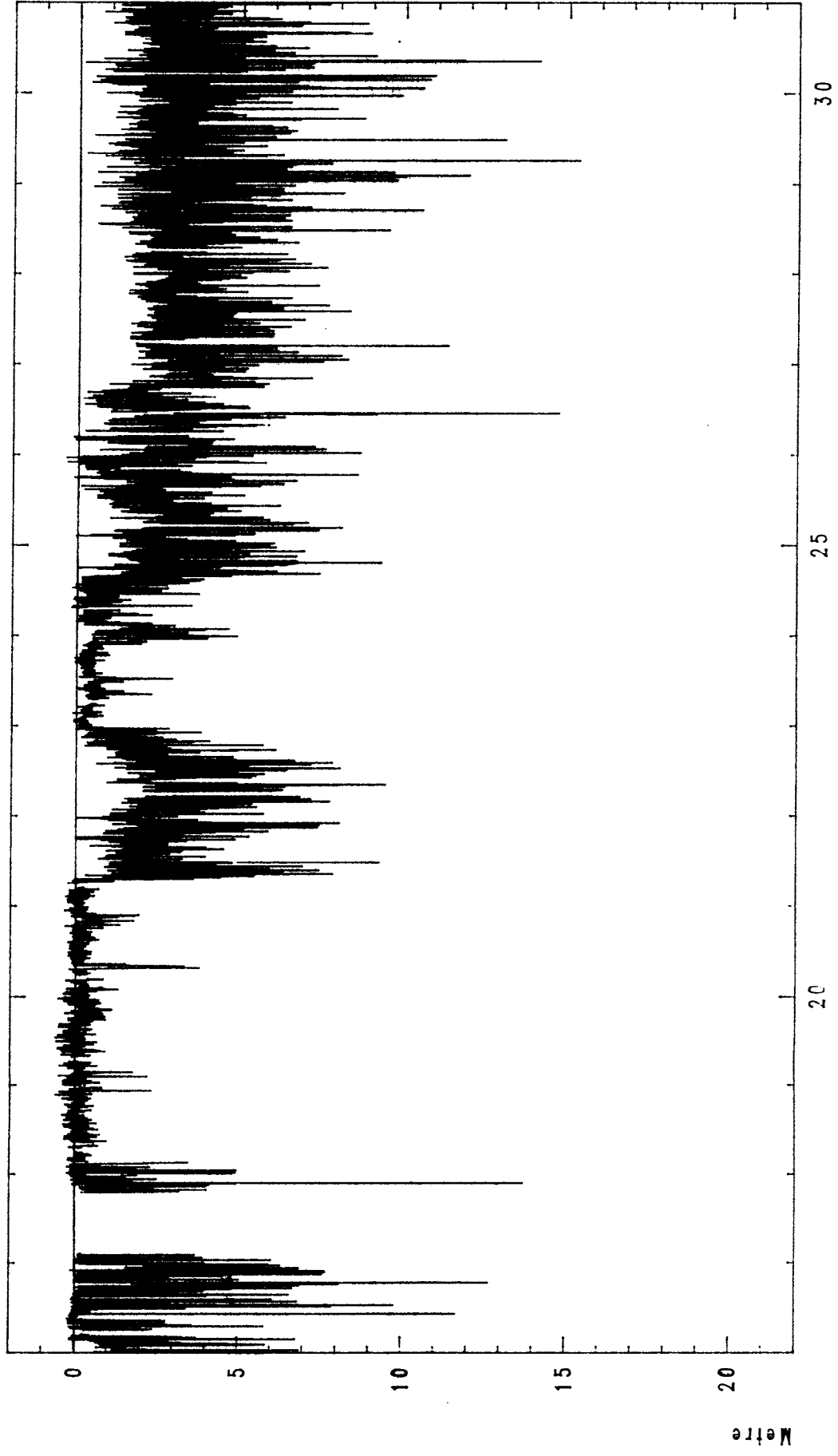
AUG-87

Ice Draft Recordings (75N 12W)



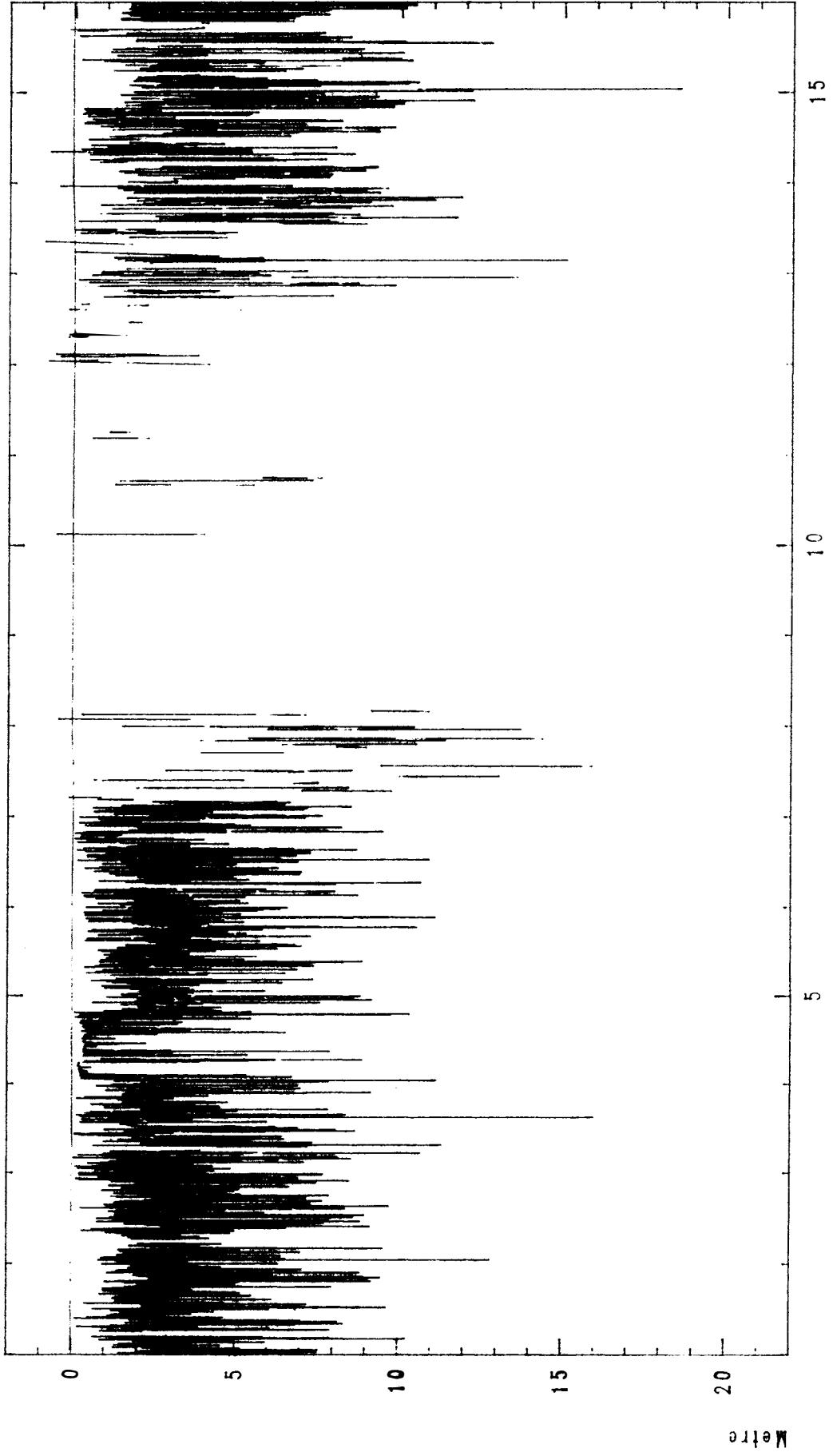
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SEP-87

Ice Draft Recordings (75N 12W)



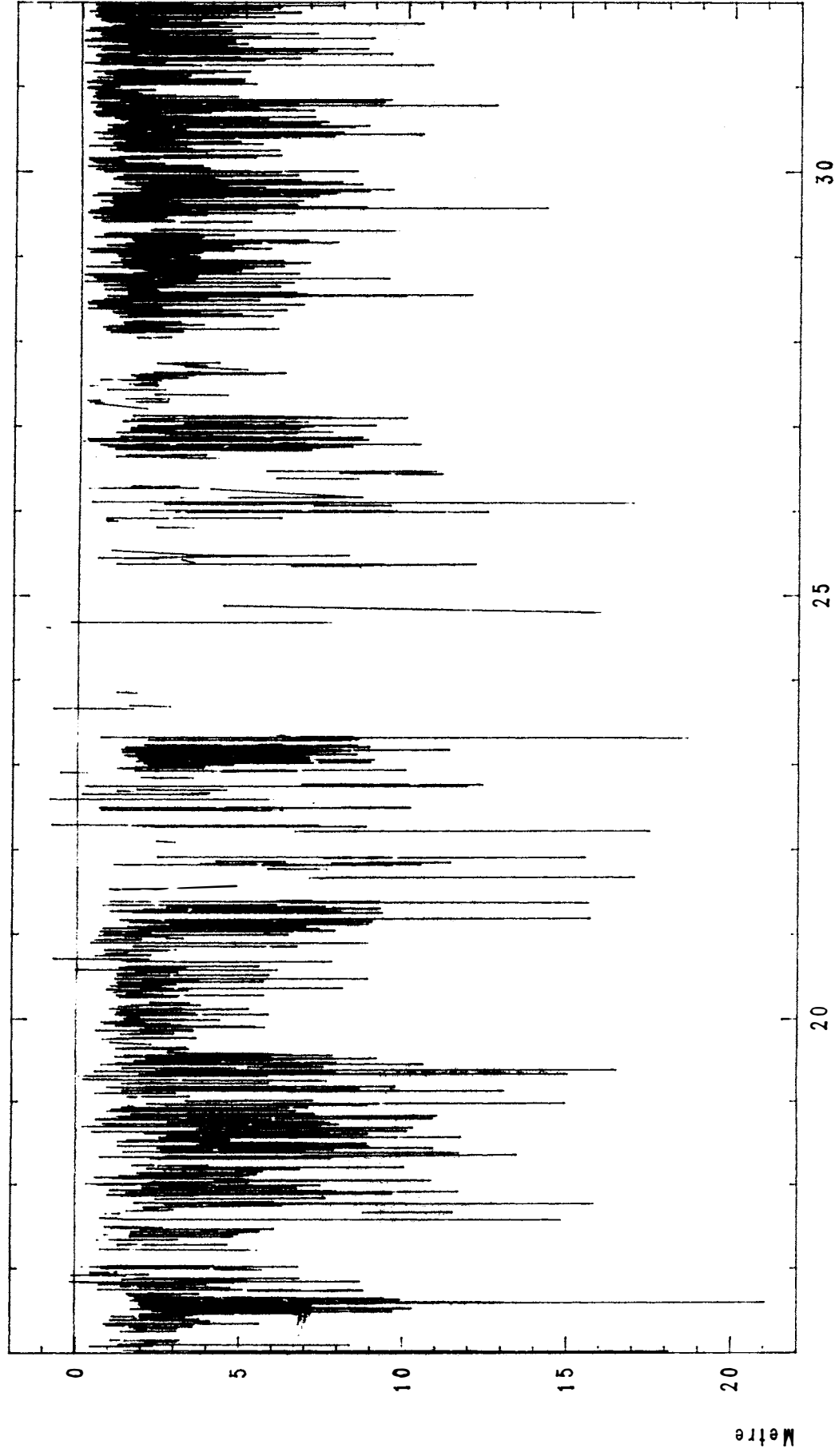
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SEP-87

Ice Draft Recordings (75N 12W)



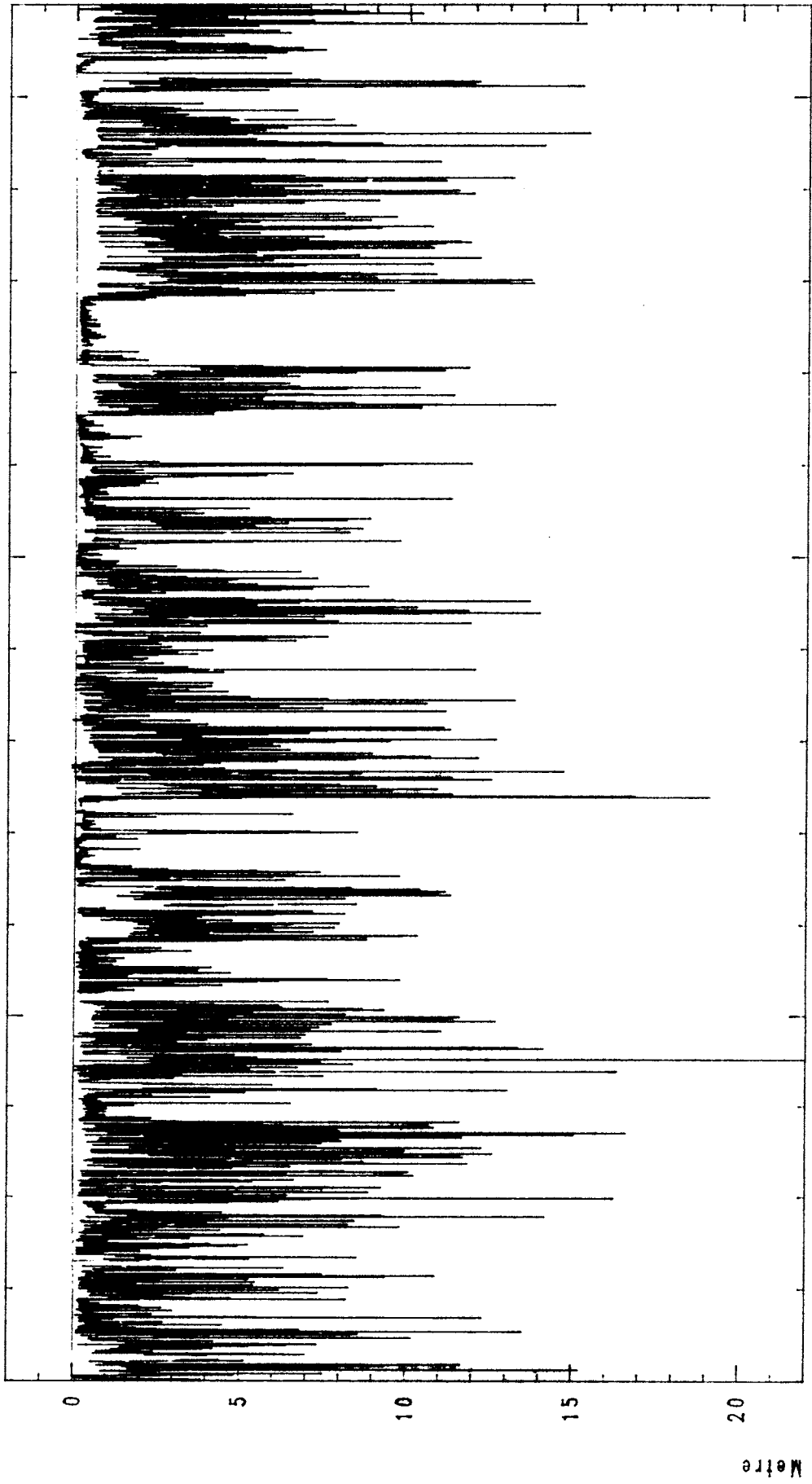
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OCT-87

Ice Draft Recordings (75N 12W)



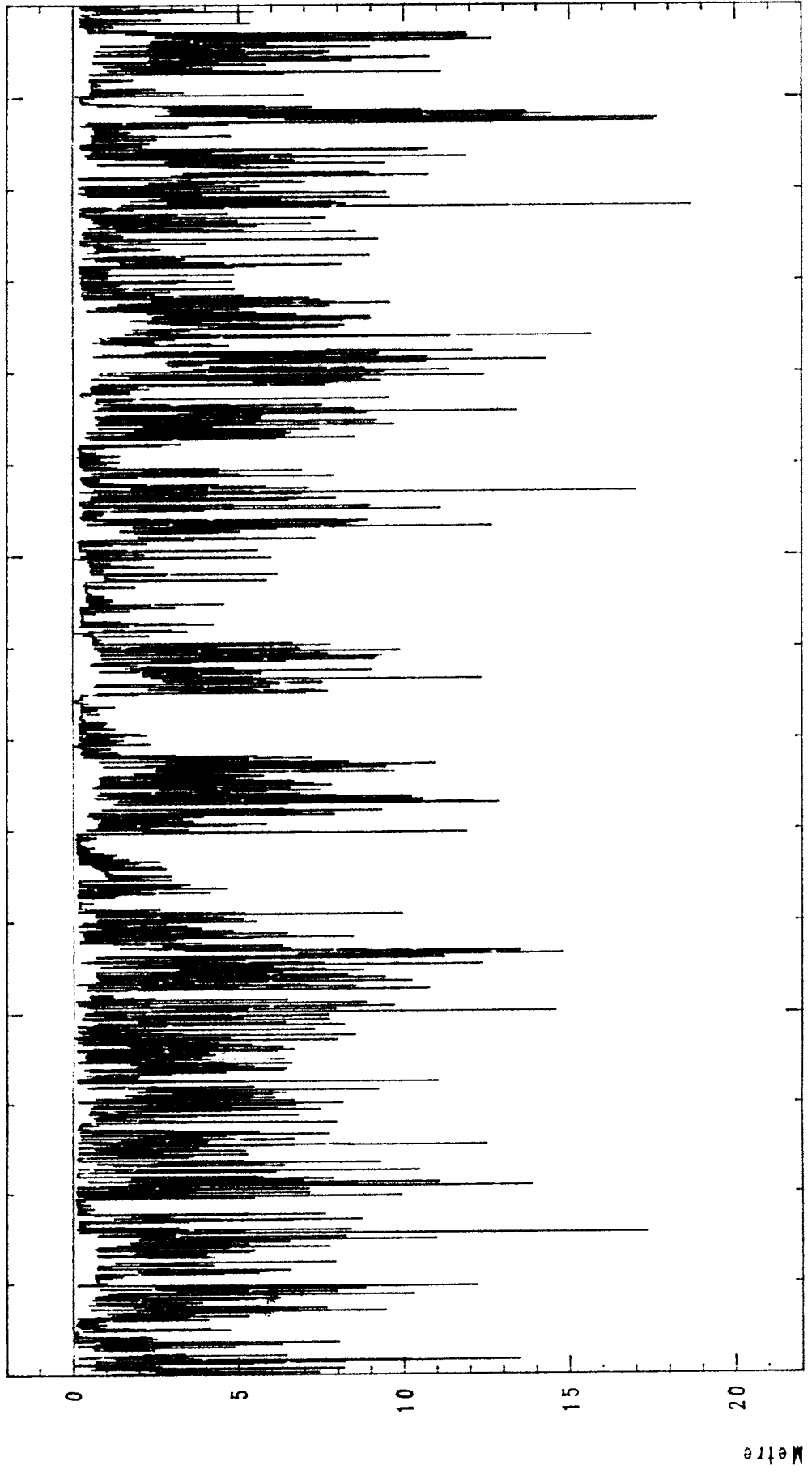
OCT-87

Ice Draft Recordings (75N 12W)



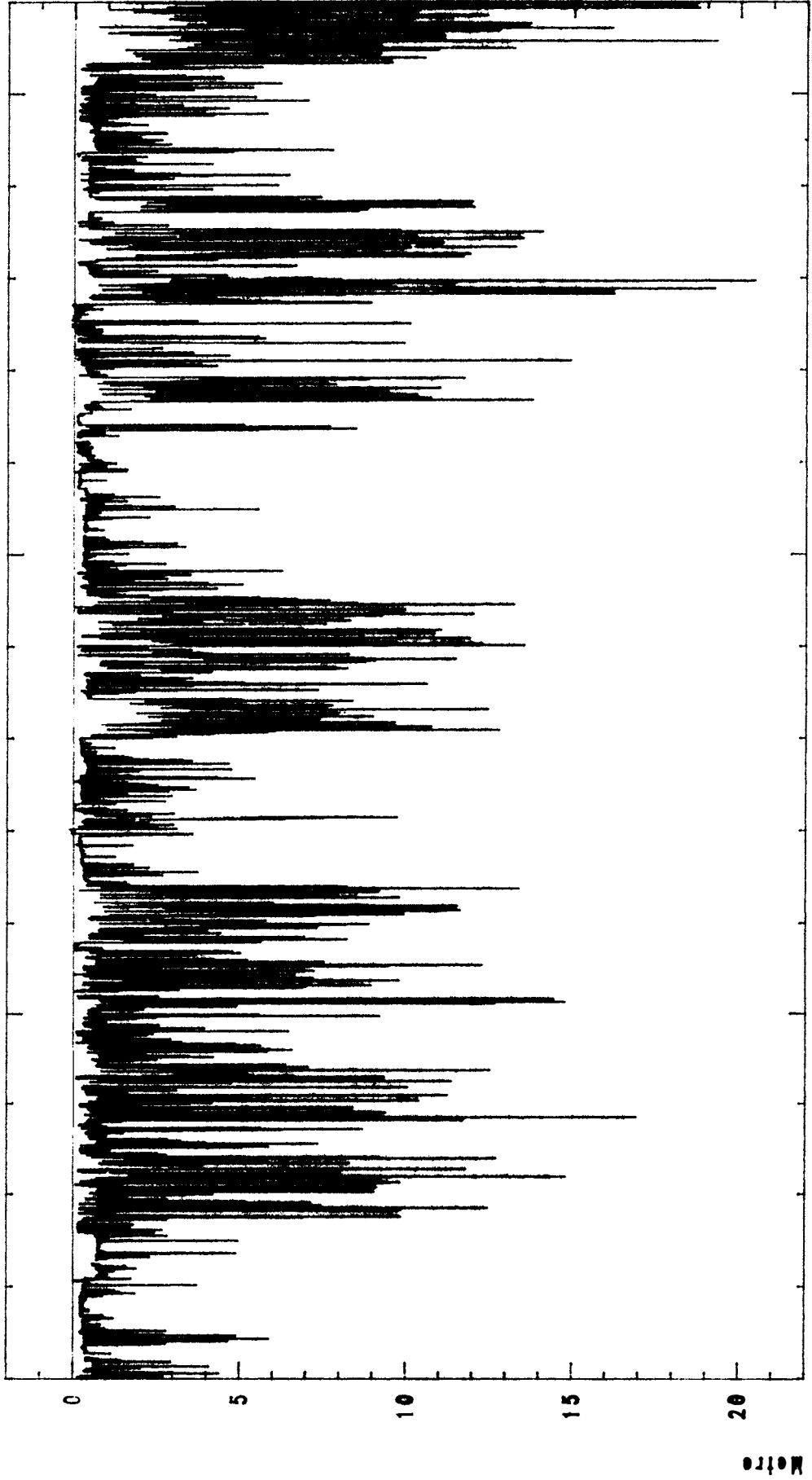
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NOV-87

Ice Draft Recordings (75N 12W)



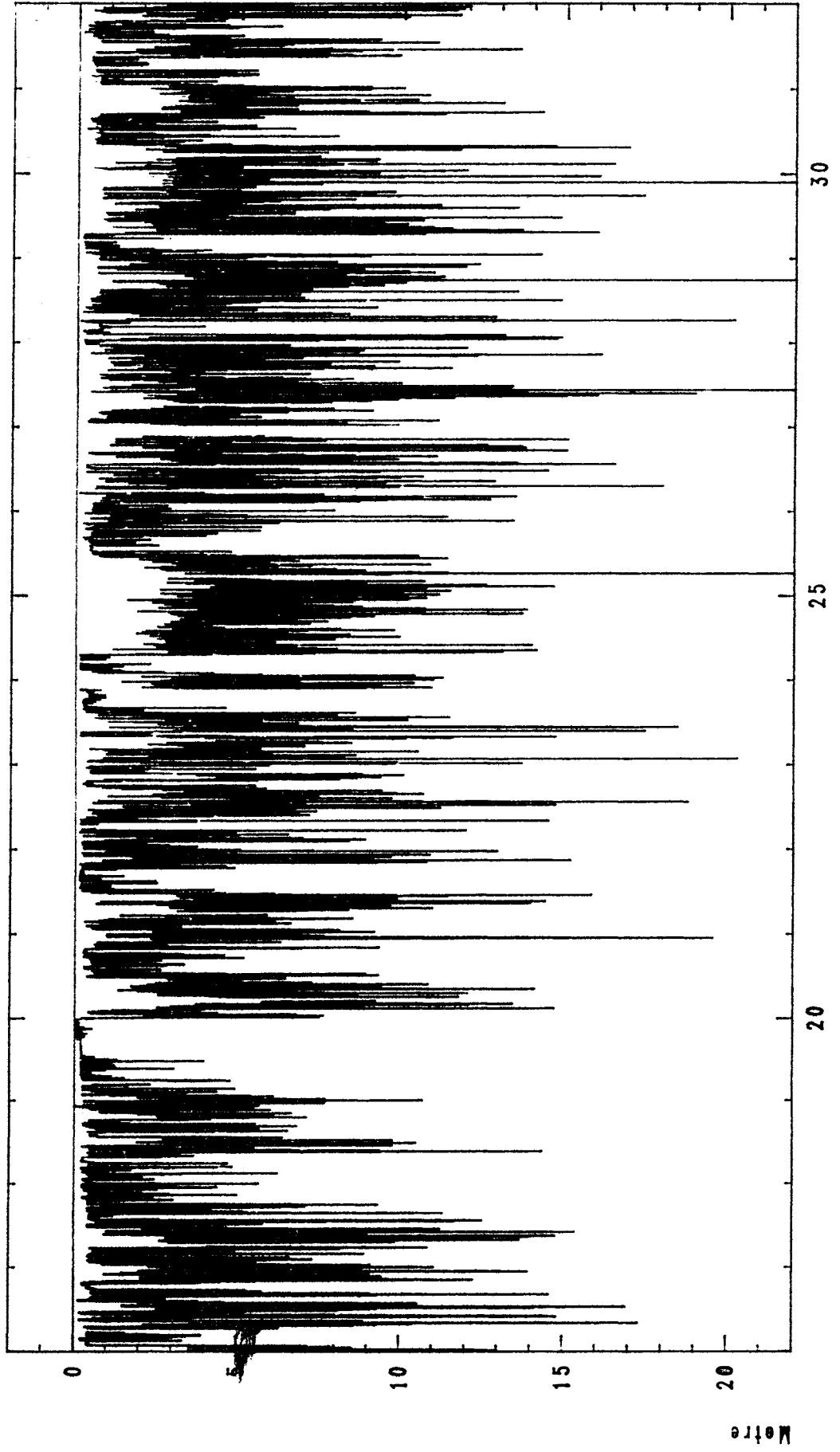
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NOV-87

Ice Draft Recordings (75N 12W)



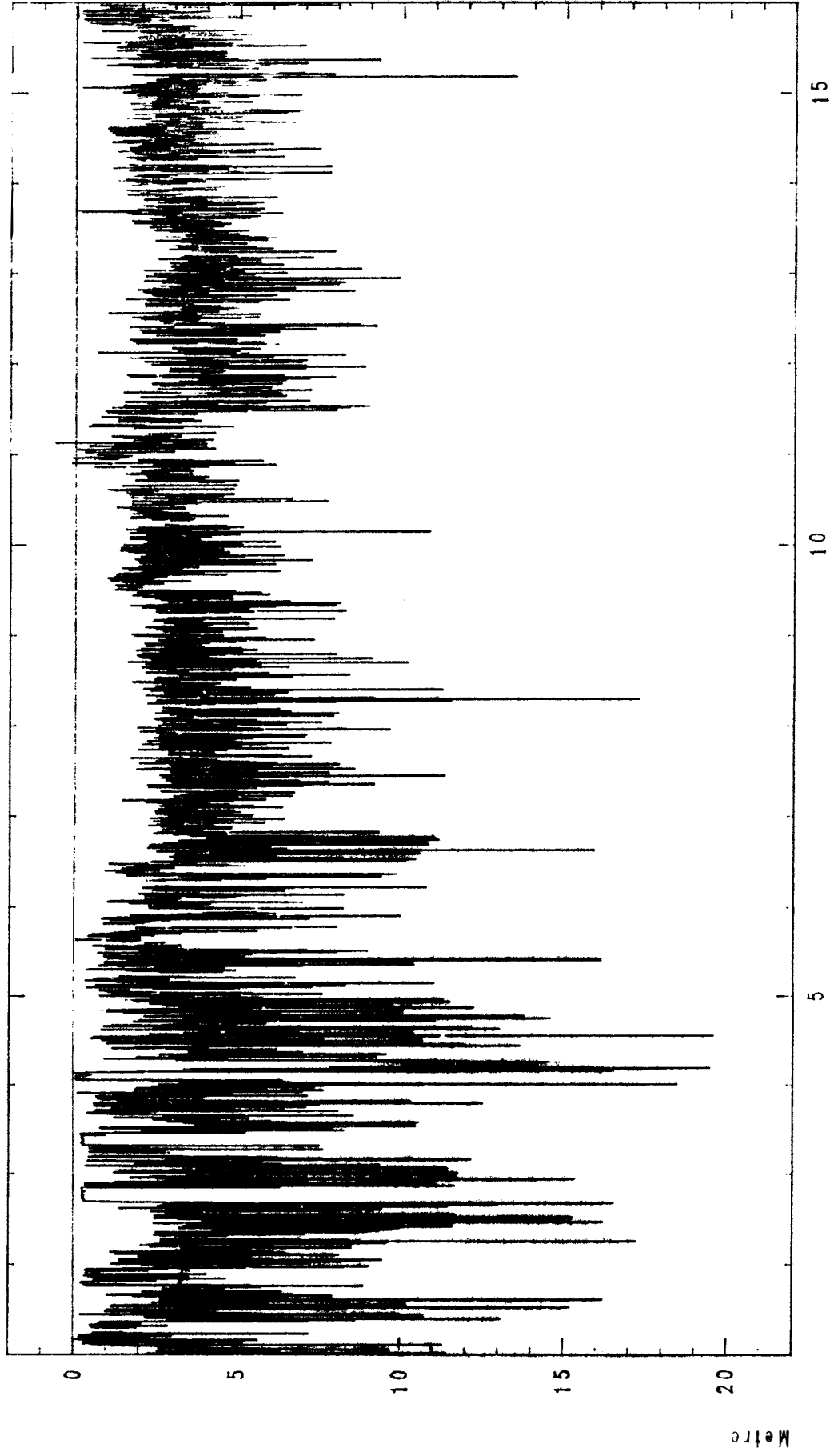
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DEC-87

Ice Draft Recordings (75N 12W)



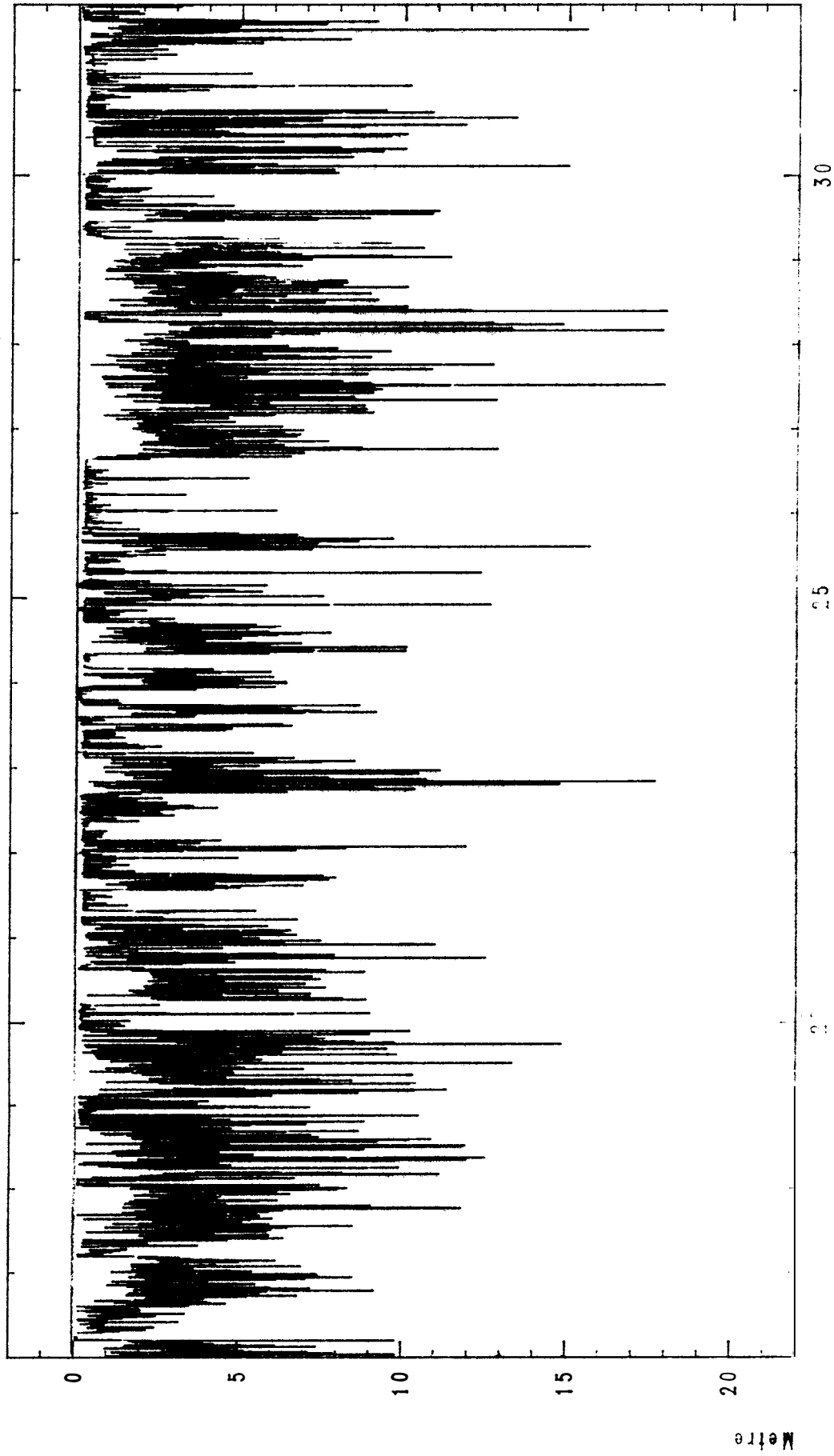
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Ice Draft Recordings (75N 12W)

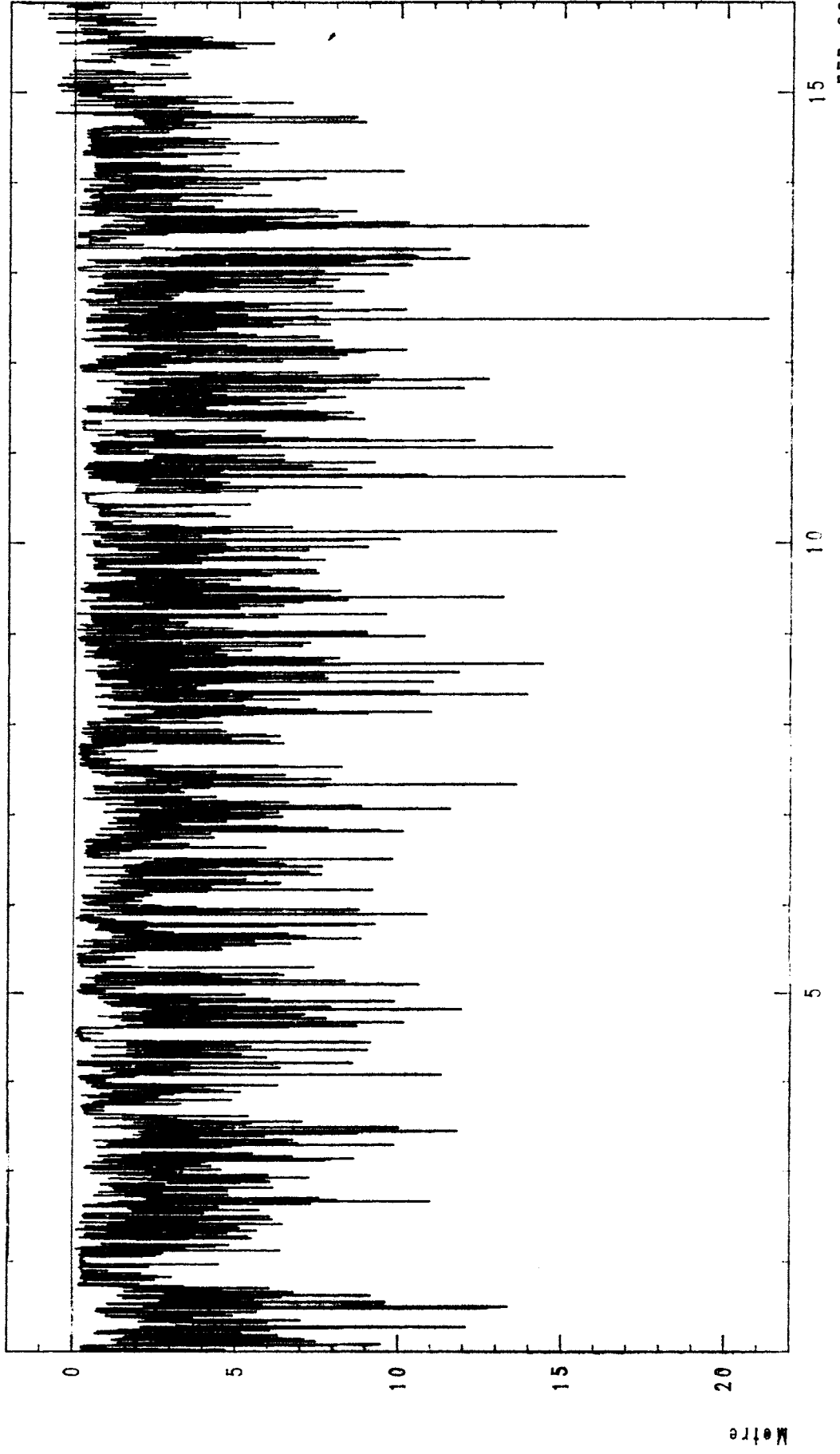


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JAN-88

Ice Draft Recordings (75N 12W)

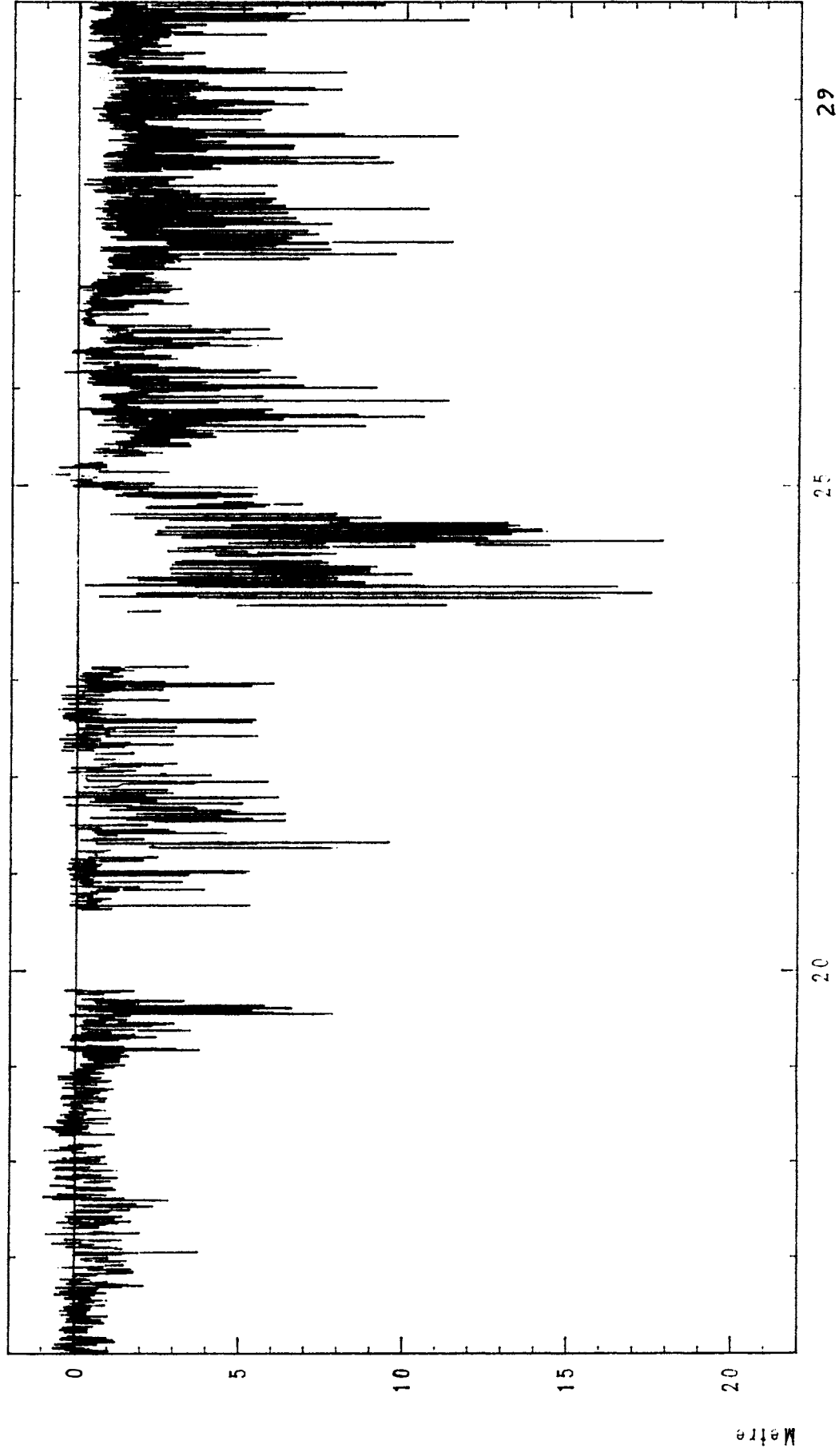


Ice Draft Recordings (75N 12W)

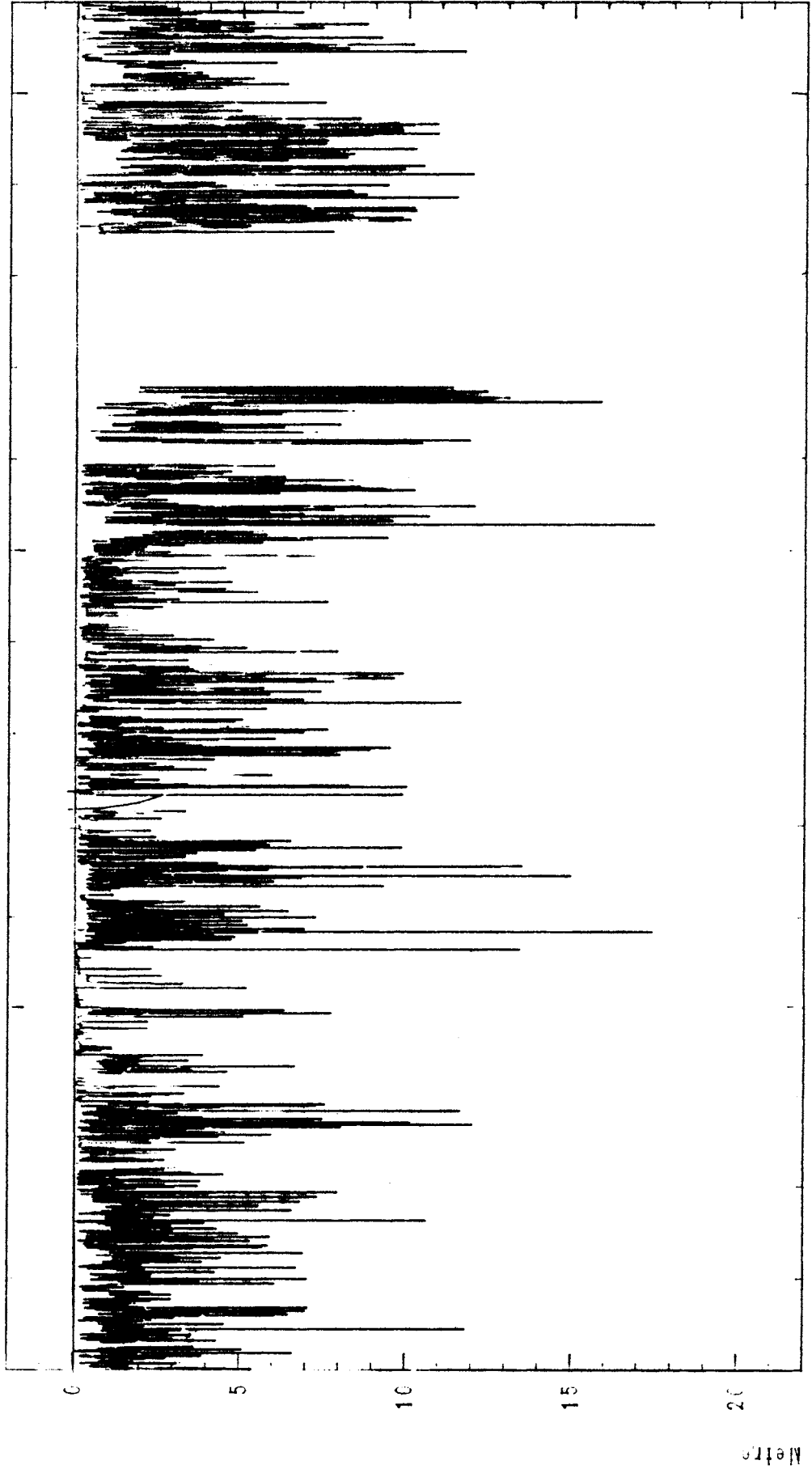


FEB-88

Ice Draft Recordings (75N 12W)

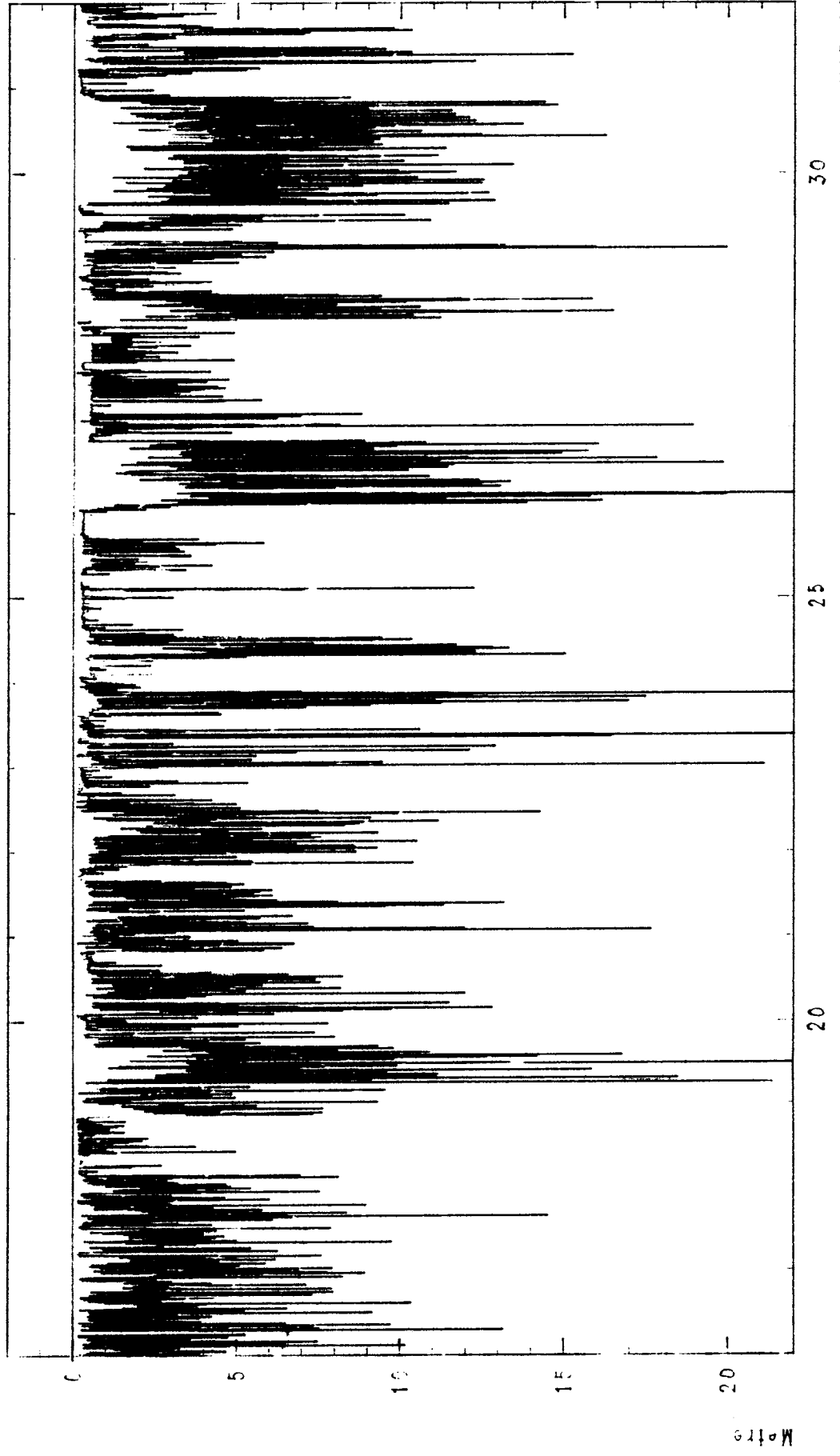


Ice Draft Recordings (75N 12W)

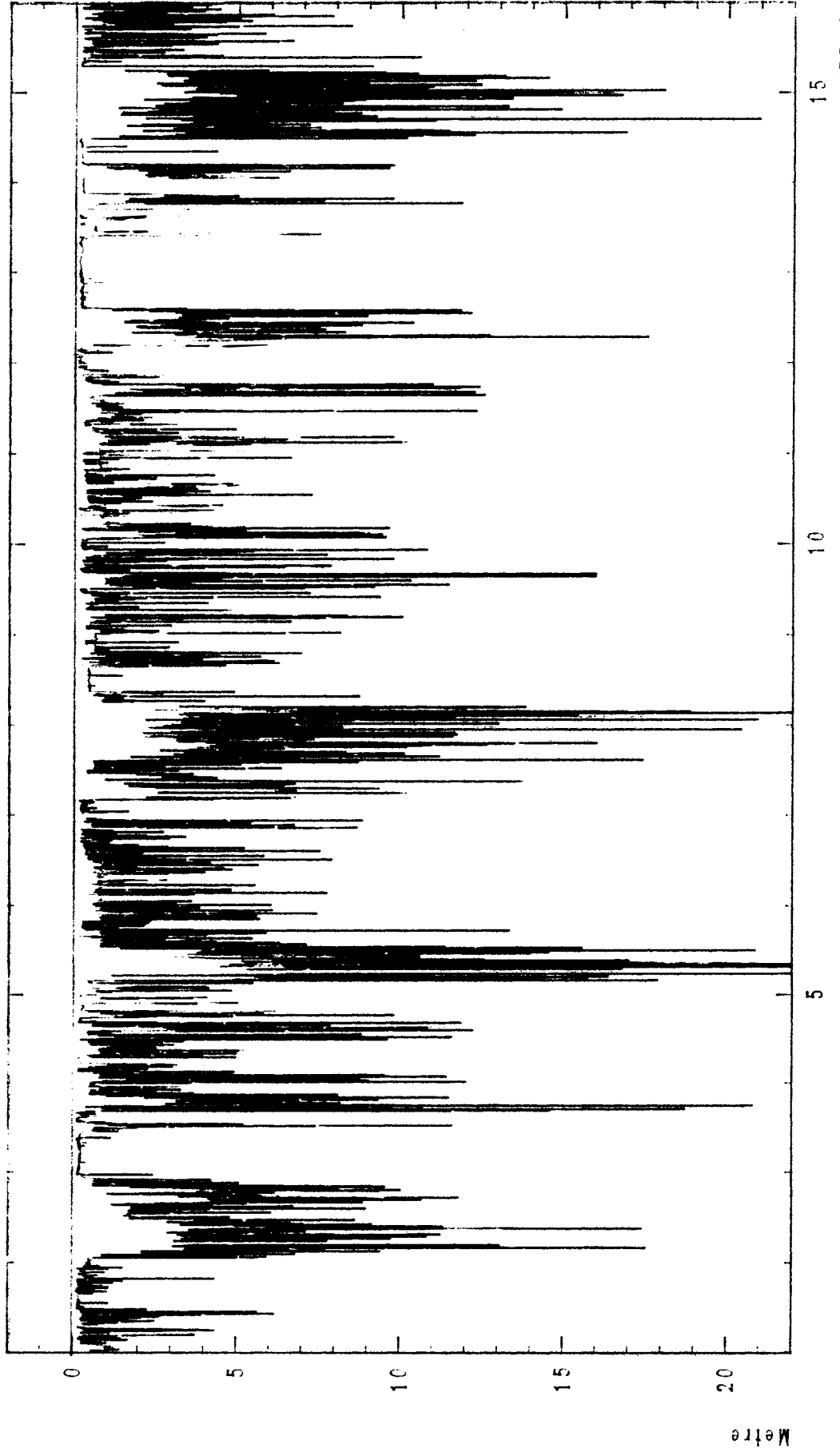


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MAR--68

Ice Draft Recordings (75N 12W)

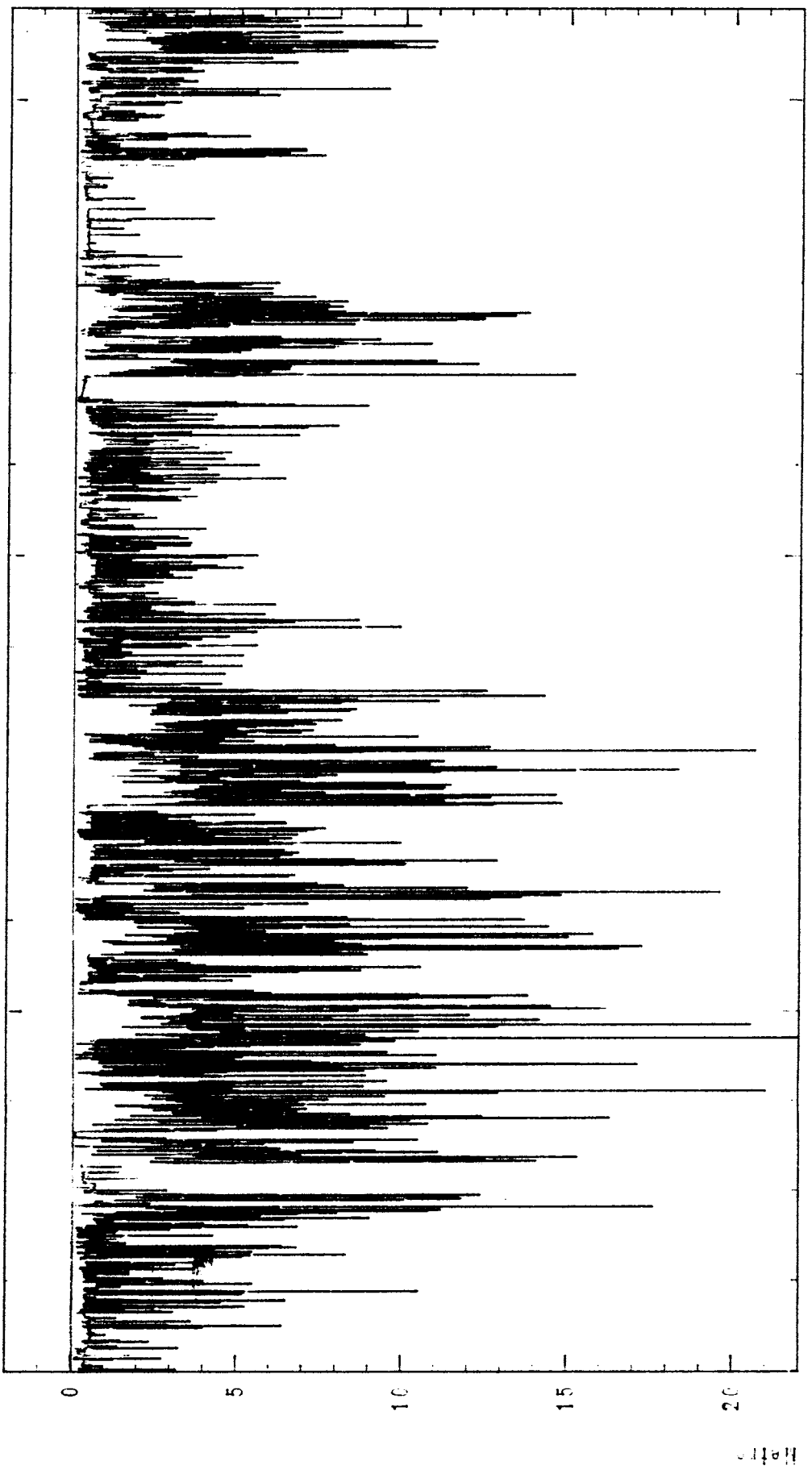


Ice Draft Recordings (75N 12W)

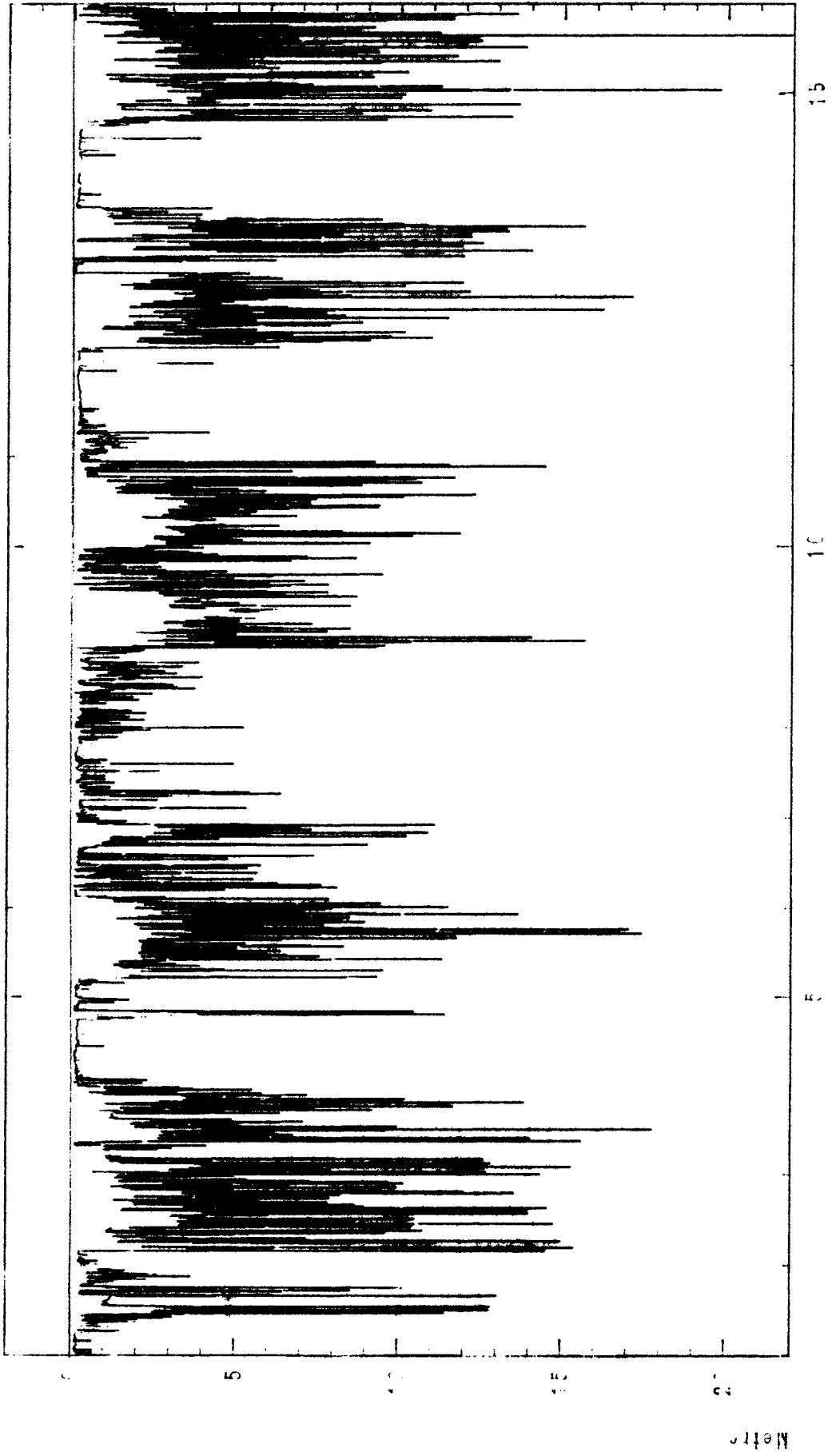


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APR-88

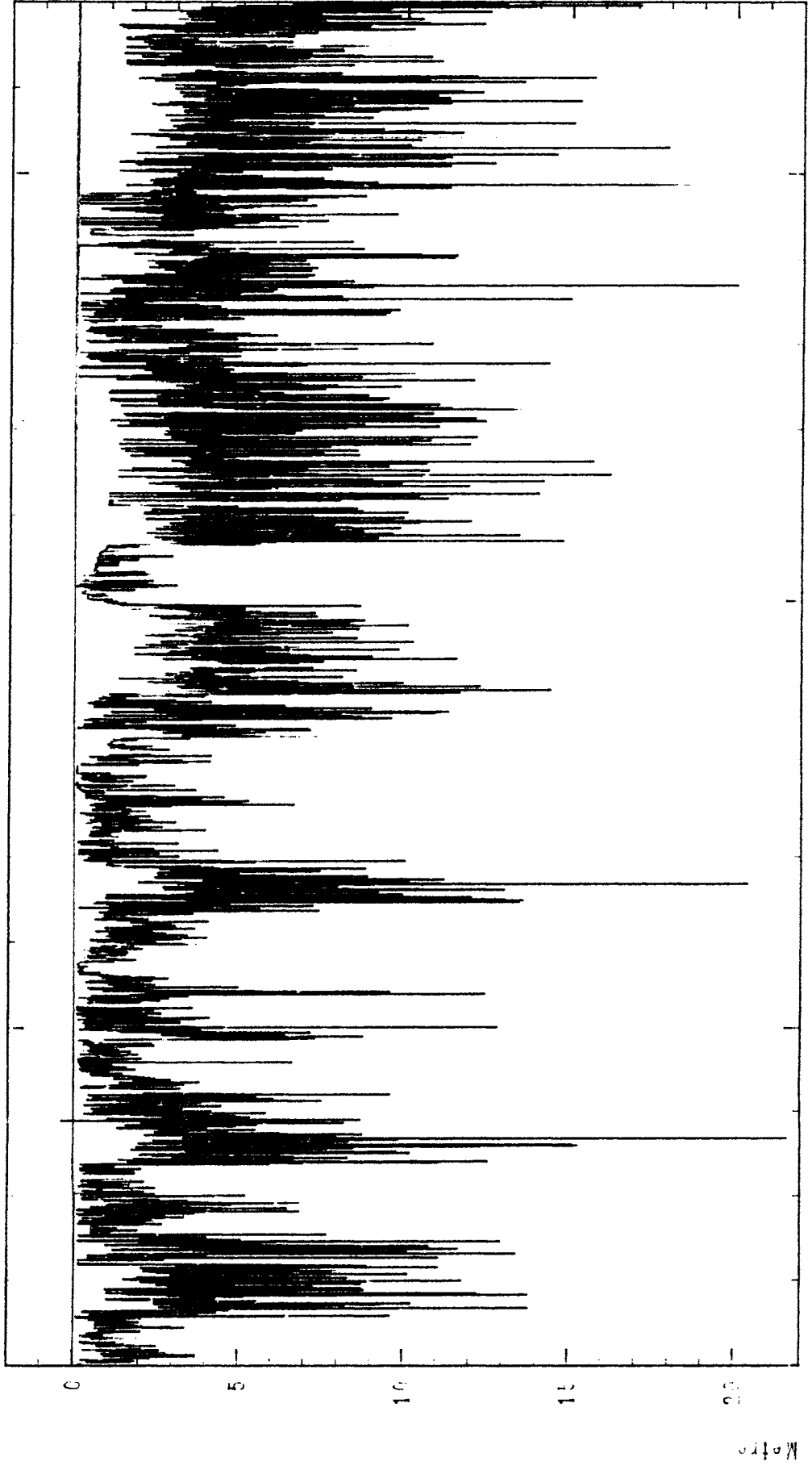
Ice Draft Recordings (75N 12W)



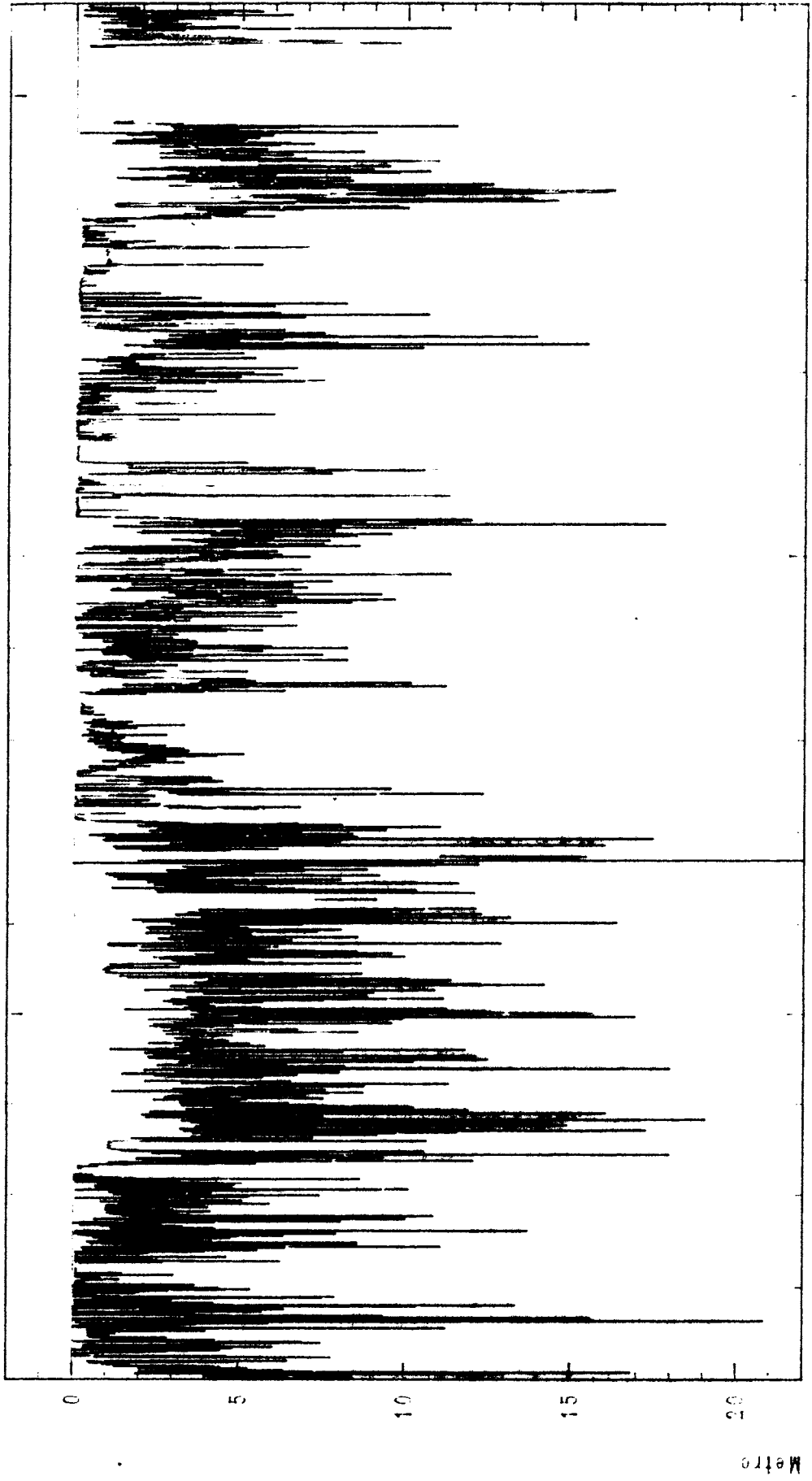
Ice Draft Recordings (75N 12W)



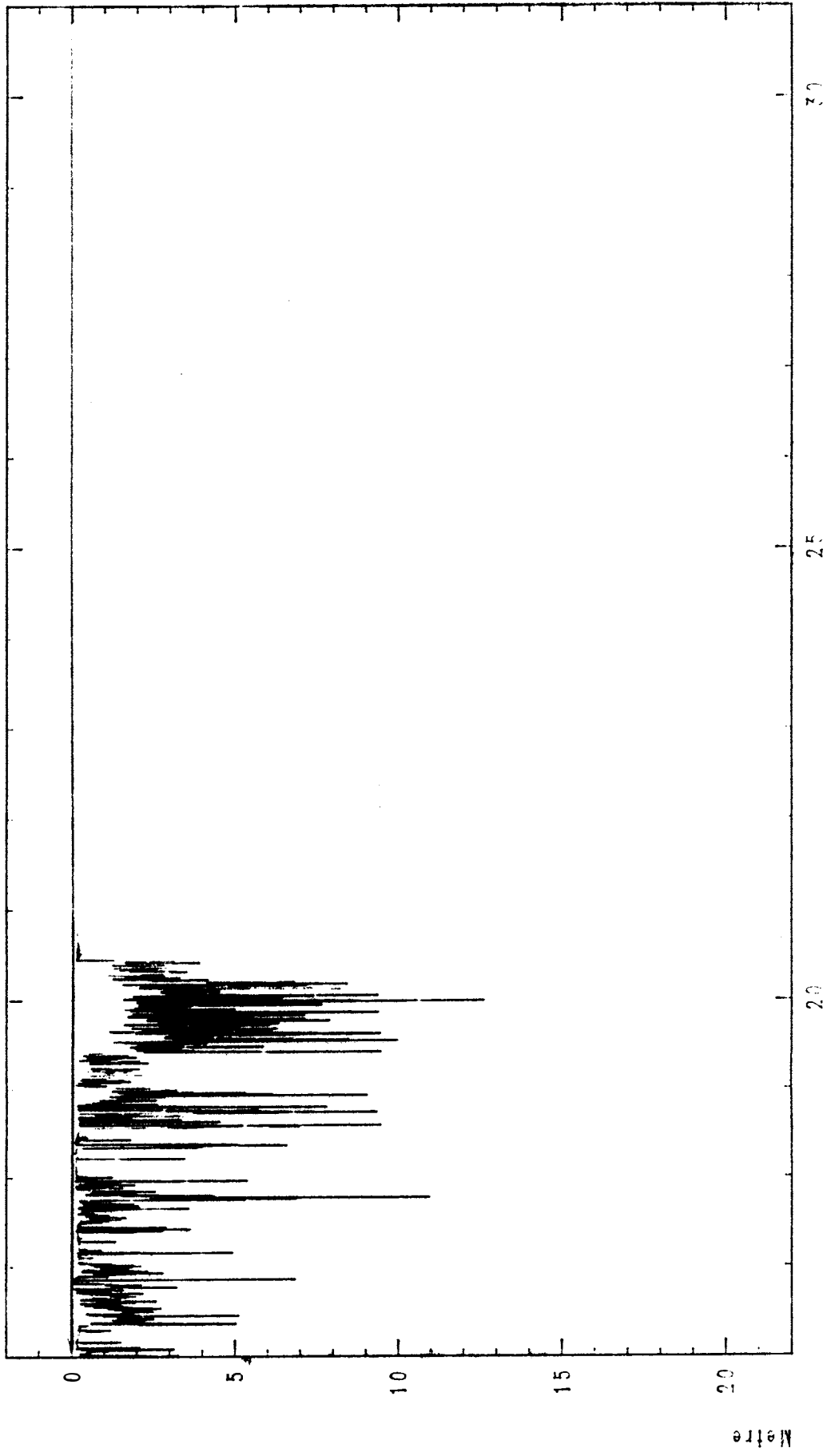
Ice Draft Recordings (75N 12W)



Ice Draft Recordings (75N 12W)



Ice Draft Recordings (75N 12W)



JUN-88

ANNEX B

Tabulated ice draft observations and statistics

Period
Day number 174 - 188
Date 24 Jun - 07 Jul

Year: 1987

	No. of obs.	Mean	Std
Total	4303	2.67	2.83
Draft <2m	2207	.62	.66
Draft >2m	2096	4.83	2.63
Floe size (mins) :	343	44.97	95.31

Distribution (0.2m)	Number	Per cent
.0 - .2 :	1118	25.982
.2 - .4 :	97	2.254
.4 - .6 :	102	2.370
.6 - .8 :	106	2.463
.8 - 1.0 :	133	3.091
1.0 - 1.2 :	108	2.510
1.2 - 1.4 :	93	2.161
1.4 - 1.6 :	163	3.788
1.6 - 1.8 :	128	2.975
1.8 - 2.0 :	159	3.695
2.0 - 2.2 :	174	4.044
2.2 - 2.4 :	114	2.649
2.4 - 2.6 :	87	2.022
2.6 - 2.8 :	112	2.603
2.8 - 3.0 :	120	2.789
3.0 - 3.2 :	94	2.185
3.2 - 3.4 :	98	2.277
3.4 - 3.6 :	82	1.906
3.6 - 3.8 :	83	1.929
3.8 - 4.0 :	80	1.859
4.0 - 4.2 :	66	1.534
4.2 - 4.4 :	46	1.069
4.4 - 4.6 :	56	1.301
4.6 - 4.8 :	65	1.511
4.8 - 5.0 :	55	1.278

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	1556	36.161
1.0 - 2.0 :	651	15.129
2.0 - 3.0 :	607	14.106
3.0 - 4.0 :	437	10.156
4.0 - 5.0 :	288	6.693
5.0 - 6.0 :	228	5.299
6.0 - 7.0 :	156	3.625
7.0 - 8.0 :	115	2.673
8.0 - 9.0 :	88	2.045
9.0 - 10.0 :	68	1.580
10.0 - 11.0 :	25	.581
11.0 - 12.0 :	38	.883
12.0 - 13.0 :	23	.535
13.0 - 14.0 :	9	.209
14.0 - 15.0 :	7	.163
15.0 - 16.0 :	3	.070
16.0 - 17.0 :	0	.000
17.0 - 18.0 :	2	.046
18.0 - 19.0 :	1	.023
19.0 - 20.0 :	1	.023

No. of obs rejected ..	1057
Draft <-0.2m	215
Unacceptable time	814
Unacceptable tilt	52
Unacceptable pressure:	0
Short-record	0
Obs. lacking	40

Period
 Day number 189 - 203
 Date 08 Jul - 22 Jul

Year: 1987

	No. of obs.	Mean	Std
Total	4931	2.58	3.43
Draft <2m	2881	.35	.57
Draft >2m	2050	5.72	3.31
Floe size (mins) :	331	35.36	97.58

Distribution (0.2m)	Number	Per cent
.0 - .2 :	2071	42.000
.2 - .4 :	128	2.596
.4 - .6 :	84	1.704
.6 - .8 :	84	1.704
.8 - 1.0 :	66	1.338
1.0 - 1.2 :	59	1.197
1.2 - 1.4 :	85	1.724
1.4 - 1.6 :	82	1.663
1.6 - 1.8 :	91	1.845
1.8 - 2.0 :	131	2.657
2.0 - 2.2 :	103	2.089
2.2 - 2.4 :	88	1.785
2.4 - 2.6 :	91	1.845
2.6 - 2.8 :	98	1.987
2.8 - 3.0 :	86	1.744
3.0 - 3.2 :	85	1.724
3.2 - 3.4 :	74	1.501
3.4 - 3.6 :	54	1.095
3.6 - 3.8 :	60	1.217
3.8 - 4.0 :	55	1.115
4.0 - 4.2 :	64	1.298
4.2 - 4.4 :	53	1.075
4.4 - 4.6 :	43	.872
4.6 - 4.8 :	49	.994
4.8 - 5.0 :	60	1.217

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2433	49.341
1.0 - 2.0 :	448	9.085
2.0 - 3.0 :	466	9.450
3.0 - 4.0 :	328	6.652
4.0 - 5.0 :	269	5.455
5.0 - 6.0 :	232	4.705
6.0 - 7.0 :	196	3.975
7.0 - 8.0 :	134	2.718
8.0 - 9.0 :	117	2.373
9.0 - 10.0 :	77	1.562
10.0 - 11.0 :	57	1.156
11.0 - 12.0 :	49	.994
12.0 - 13.0 :	39	.791
13.0 - 14.0 :	22	.446
14.0 - 15.0 :	22	.446
15.0 - 16.0 :	16	.324
16.0 - 17.0 :	11	.223
17.0 - 18.0 :	8	.162
18.0 - 19.0 :	3	.061
19.0 - 20.0 :	1	.020
20.0 - 21.0 :	3	.061

No. of obs rejected ..	467
Draft <-0.2m	91
Unacceptable time	365
Unacceptable tilt	14
Unacceptable pressure:	0
Short-record	0
Obs. lacking	2

Period
Day number 204 - 218
Date 23 Jul - 06 Aug

Year: 1987

	No. of obs.	Mean	Std
Total	5162	1.94	3.32
Draft <2m	3574	.42	.58
Draft >2m	1588	5.35	4.26
Floe size (mins) :	304	34.77	107.21

Distribution (0.2m)	Number	Per cent
.0 - .2 :	2359	45.699
.2 - .4 :	253	4.901
.4 - .6 :	94	1.821
.6 - .8 :	82	1.589
.8 - 1.0 :	126	2.441
1.0 - 1.2 :	86	1.666
1.2 - 1.4 :	114	2.208
1.4 - 1.6 :	162	3.138
1.6 - 1.8 :	150	2.906
1.8 - 2.0 :	148	2.867
2.0 - 2.2 :	116	2.247
2.2 - 2.4 :	114	2.208
2.4 - 2.6 :	110	2.131
2.6 - 2.8 :	122	2.363
2.8 - 3.0 :	93	1.802
3.0 - 3.2 :	72	1.395
3.2 - 3.4 :	77	1.492
3.4 - 3.6 :	60	1.162
3.6 - 3.8 :	56	1.085
3.8 - 4.0 :	50	.969
4.0 - 4.2 :	60	1.162
4.2 - 4.4 :	54	1.046
4.4 - 4.6 :	42	.814
4.6 - 4.8 :	27	.523
4.8 - 5.0 :	33	.639

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2914	56.451
1.0 - 2.0 :	660	12.786
2.0 - 3.0 :	555	10.752
3.0 - 4.0 :	315	6.102
4.0 - 5.0 :	216	4.184
5.0 - 6.0 :	113	2.189
6.0 - 7.0 :	71	1.375
7.0 - 8.0 :	46	.891
8.0 - 9.0 :	41	.794
9.0 - 10.0 :	27	.523
10.0 - 11.0 :	21	.407
11.0 - 12.0 :	32	.620
12.0 - 13.0 :	29	.562
13.0 - 14.0 :	15	.291
14.0 - 15.0 :	21	.407
15.0 - 16.0 :	22	.426
16.0 - 17.0 :	17	.329
17.0 - 18.0 :	9	.174
18.0 - 19.0 :	7	.136
19.0 - 20.0 :	10	.194
20.0 - 21.0 :	7	.136
21.0 - 22.0 :	3	.058
22.0 - 23.0 :	1	.019
23.0 - 24.0 :	2	.039
24.0 - 25.0 :	2	.039
25.0 - 26.0 :	2	.039
26.0 - 27.0 :	2	.039
27.0 - 28.0 :	2	.039

No. of obs rejected ..	236
Draft <-0.2m	163
Unacceptable time	71
Unacceptable tilt	3
Unacceptable pressure:	0
Short-record	0
Obs. lacking	2

Period
Day number 219 - 233
Date 07 Aug - 21 Aug

Year: 1987

	No. of obs.	Mean	Std
Total	5355	1.36	2.16
Draft <2m	3889	.30	.52
Draft >2m	1466	4.17	2.34
Floe size (mins) :	351	25.45	58.95

Distribution (0.2m)	Number	Per cent
.0 - .2 :	2917	54.472
.2 - .4 :	157	2.932
.4 - .6 :	113	2.110
.6 - .8 :	114	2.129
.8 - 1.0 :	92	1.718
1.0 - 1.2 :	83	1.550
1.2 - 1.4 :	103	1.923
1.4 - 1.6 :	89	1.662
1.6 - 1.8 :	105	1.961
1.8 - 2.0 :	116	2.166
2.0 - 2.2 :	131	2.446
2.2 - 2.4 :	122	2.278
2.4 - 2.6 :	127	2.372
2.6 - 2.8 :	95	1.774
2.8 - 3.0 :	88	1.643
3.0 - 3.2 :	91	1.699
3.2 - 3.4 :	76	1.419
3.4 - 3.6 :	62	1.158
3.6 - 3.8 :	63	1.176
3.8 - 4.0 :	64	1.195
4.0 - 4.2 :	61	1.139
4.2 - 4.4 :	54	1.008
4.4 - 4.6 :	32	.598
4.6 - 4.8 :	27	.504
4.8 - 5.0 :	36	.672

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	3393	63.361
1.0 - 2.0 :	496	9.262
2.0 - 3.0 :	563	10.514
3.0 - 4.0 :	356	6.648
4.0 - 5.0 :	210	3.922
5.0 - 6.0 :	105	1.961
6.0 - 7.0 :	84	1.569
7.0 - 8.0 :	40	.747
8.0 - 9.0 :	27	.504
9.0 - 10.0 :	22	.411
10.0 - 11.0 :	22	.411
11.0 - 12.0 :	12	.224
12.0 - 13.0 :	8	.149
13.0 - 14.0 :	7	.131
14.0 - 15.0 :	4	.075
15.0 - 16.0 :	4	.075
16.0 - 17.0 :	1	.019
17.0 - 18.0 :	1	.019

No. of obs rejected ..	44
Draft <-0.2m	1
Unacceptable time ...:	42
Unacceptable tilt ...:	1
Unacceptable pressure:	0
Short-record	0
Obs. lacking	1

Period
Day number 234 - 248
Date 22 Aug - 05 Sep

Year: 1987

	No. of obs.	Mean	Std
Total	5361	1.73	2.15
Draft <2m	3494	.54	.67
Draft >2m	1867	3.95	2.19
Floe size (mins) :	407	30.78	93.99

Distribution (0.2m)	Number	Per cent
.0 - .2 :	2010	37.493
.2 - .4 :	168	3.134
.4 - .6 :	132	2.462
.6 - .8 :	85	1.586
.8 - 1.0 :	131	2.444
1.0 - 1.2 :	136	2.537
1.2 - 1.4 :	176	3.283
1.4 - 1.6 :	203	3.787
1.6 - 1.8 :	221	4.122
1.8 - 2.0 :	232	4.328
2.0 - 2.2 :	177	3.302
2.2 - 2.4 :	194	3.619
2.4 - 2.6 :	153	2.854
2.6 - 2.8 :	153	2.854
2.8 - 3.0 :	136	2.537
3.0 - 3.2 :	125	2.332
3.2 - 3.4 :	104	1.940
3.4 - 3.6 :	72	1.343
3.6 - 3.8 :	76	1.418
3.8 - 4.0 :	58	1.082
4.0 - 4.2 :	63	1.175
4.2 - 4.4 :	56	1.045
4.4 - 4.6 :	54	1.007
4.6 - 4.8 :	33	.616
4.8 - 5.0 :	39	.727

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2526	47.118
1.0 - 2.0 :	968	18.056
2.0 - 3.0 :	813	15.165
3.0 - 4.0 :	435	8.114
4.0 - 5.0 :	245	4.570
5.0 - 6.0 :	133	2.481
6.0 - 7.0 :	80	1.492
7.0 - 8.0 :	48	.895
8.0 - 9.0 :	32	.597
9.0 - 10.0 :	25	.466
10.0 - 11.0 :	19	.354
11.0 - 12.0 :	13	.242
12.0 - 13.0 :	10	.187
13.0 - 14.0 :	4	.075
14.0 - 15.0 :	4	.075
15.0 - 16.0 :	4	.075
16.0 - 17.0 :	0	.000
17.0 - 18.0 :	1	.019
18.0 - 19.0 :	0	.000
19.0 - 20.0 :	0	.000
20.0 - 21.0 :	0	.000
21.0 - 22.0 :	1	.019

No. of obs rejected ..	38
Draft <-0.2m	0
Unacceptable time	38
Unacceptable tilt	0
Unacceptable pressure:	0
Short-record	0
Obs. lacking	1

Period
 Day number 249 - 263
 Date 06 Sep - 20 Sep

Year: 1987

	No. of obs.	Mean	Std
Total	5005	1.68	1.93
Draft <2m	3135	.50	.63
Draft >2m	1870	3.66	1.74
Floe size (mins) :	571	20.11	61.51

Distribution (0.2m)	Number	Per cent
.0 - .2 :	1584	31.648
.2 - .4 :	437	8.731
.4 - .6 :	210	4.196
.6 - .8 :	115	2.298
.8 - 1.0 :	85	1.698
1.0 - 1.2 :	101	2.018
1.2 - 1.4 :	101	2.018
1.4 - 1.6 :	141	2.817
1.6 - 1.8 :	170	3.397
1.8 - 2.0 :	191	3.816
2.0 - 2.2 :	203	4.056
2.2 - 2.4 :	211	4.216
2.4 - 2.6 :	145	2.897
2.6 - 2.8 :	161	3.217
2.8 - 3.0 :	156	3.117
3.0 - 3.2 :	118	2.358
3.2 - 3.4 :	104	2.078
3.4 - 3.6 :	87	1.738
3.6 - 3.8 :	84	1.678
3.8 - 4.0 :	61	1.219
4.0 - 4.2 :	69	1.379
4.2 - 4.4 :	56	1.119
4.4 - 4.6 :	48	.959
4.6 - 4.8 :	40	.799
4.8 - 5.0 :	35	.699

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2431	48.571
1.0 - 2.0 :	704	14.066
2.0 - 3.0 :	876	17.502
3.0 - 4.0 :	454	9.071
4.0 - 5.0 :	248	4.955
5.0 - 6.0 :	117	2.338
6.0 - 7.0 :	71	1.419
7.0 - 8.0 :	46	.919
8.0 - 9.0 :	22	.440
9.0 - 10.0 :	16	.320
10.0 - 11.0 :	6	.120
11.0 - 12.0 :	4	.080
12.0 - 13.0 :	5	.100
13.0 - 14.0 :	4	.080
14.0 - 15.0 :	0	.000
15.0 - 16.0 :	0	.000
16.0 - 17.0 :	1	.020

No. of obs rejected ..	395
Draft <-0.2m	110
Unacceptable time	245
Unacceptable tilt	0
Unacceptable pressure:	242
Short-record	0
Obs. lacking	0

Period
Day number 264 - 278
Date 21 Sep - 05 Oct

Year: 1987

	No. of obs.	Mean	Std
Total	5319	2.67	1.91
Draft <2m	2027	.98	.64
Draft >2m	3292	3.72	1.67
Floe size (mins) :	237	78.61	268.88

Distribution (0.2m)	Number	Per cent
.0 - .2 :	208	3.911
.2 - .4 :	361	6.787
.4 - .6 :	211	3.967
.6 - .8 :	149	2.801
.8 - 1.0 :	123	2.312
1.0 - 1.2 :	127	2.388
1.2 - 1.4 :	150	2.820
1.4 - 1.6 :	205	3.854
1.6 - 1.8 :	224	4.211
1.8 - 2.0 :	269	5.057
2.0 - 2.2 :	343	6.449
2.2 - 2.4 :	293	5.509
2.4 - 2.6 :	277	5.208
2.6 - 2.8 :	273	5.133
2.8 - 3.0 :	275	5.170
3.0 - 3.2 :	195	3.666
3.2 - 3.4 :	183	3.440
3.4 - 3.6 :	142	2.670
3.6 - 3.8 :	151	2.839
3.8 - 4.0 :	131	2.463
4.0 - 4.2 :	128	2.406
4.2 - 4.4 :	102	1.918
4.4 - 4.6 :	83	1.560
4.6 - 4.8 :	85	1.598
4.8 - 5.0 :	59	1.109

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	1052	19.778
1.0 - 2.0 :	975	18.331
2.0 - 3.0 :	1461	27.468
3.0 - 4.0 :	802	15.078
4.0 - 5.0 :	457	8.592
5.0 - 6.0 :	259	4.869
6.0 - 7.0 :	142	2.670
7.0 - 8.0 :	82	1.542
8.0 - 9.0 :	41	.771
9.0 - 10.0 :	23	.432
10.0 - 11.0 :	10	.188
11.0 - 12.0 :	8	.150
12.0 - 13.0 :	1	.019
13.0 - 14.0 :	1	.019
14.0 - 15.0 :	3	.056
15.0 - 16.0 :	2	.038

No. of obs rejected ..	81
Draft <-0.2m	8
Unacceptable time ...	73
Unacceptable tilt ...	0
Unacceptable pressure:	0
Short-record	0
Obs. lacking	0

Period
Day number 279 - 293
Date 06 Oct - 20 Oct

Year: 1987

	No. of obs.	Mean	Std
Total	2530	3.93	3.10
Draft <2m	843	1.19	.54
Draft >2m	1687	5.30	2.94
Floe size (mins) :	94	215.06	398.55

Distribution (0.2m)	Number	Per cent
.0 - .2 :	45	1.779
.2 - .4 :	43	1.700
.4 - .6 :	59	2.332
.6 - .8 :	70	2.767
.8 - 1.0 :	75	2.964
1.0 - 1.2 :	82	3.241
1.2 - 1.4 :	115	4.545
1.4 - 1.6 :	112	4.427
1.6 - 1.8 :	120	4.743
1.8 - 2.0 :	122	4.822
2.0 - 2.2 :	105	4.150
2.2 - 2.4 :	104	4.111
2.4 - 2.6 :	99	3.913
2.6 - 2.8 :	83	3.281
2.8 - 3.0 :	58	2.292
3.0 - 3.2 :	65	2.569
3.2 - 3.4 :	56	2.213
3.4 - 3.6 :	48	1.897
3.6 - 3.8 :	59	2.332
3.8 - 4.0 :	44	1.739
4.0 - 4.2 :	43	1.700
4.2 - 4.4 :	35	1.383
4.4 - 4.6 :	35	1.383
4.6 - 4.8 :	31	1.225
4.8 - 5.0 :	37	1.462

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	292	11.542
1.0 - 2.0 :	551	21.779
2.0 - 3.0 :	449	17.747
3.0 - 4.0 :	272	10.751
4.0 - 5.0 :	181	7.154
5.0 - 6.0 :	193	7.628
6.0 - 7.0 :	190	7.510
7.0 - 8.0 :	146	5.771
8.0 - 9.0 :	84	3.320
9.0 - 10.0 :	65	2.569
10.0 - 11.0 :	39	1.542
11.0 - 12.0 :	17	.672
12.0 - 13.0 :	10	.395
13.0 - 14.0 :	9	.356
14.0 - 15.0 :	11	.435
15.0 - 16.0 :	12	.474
16.0 - 17.0 :	3	.119
17.0 - 18.0 :	1	.040
18.0 - 19.0 :	3	.119
19.0 - 20.0 :	0	.000
20.0 - 21.0 :	0	.000
21.0 - 22.0 :	1	.040
22.0 - 23.0 :	0	.000
23.0 - 24.0 :	0	.000
24.0 - 25.0 :	0	.000
25.0 - 26.0 :	0	.000
26.0 - 27.0 :	0	.000
27.0 - 28.0 :	1	.040

No. of obs rejected ..	2413
Draft <-0.2m	273
Unacceptable time	1817
Unacceptable tilt	101
Unacceptable pressure:	780
Short-record	1
Obs. lacking	457

Period
Day number 294 - 308
Date 21 Oct - 04 Nov

Year: 1987

	No. of obs.	Mean	Std
Total	3458	2.81	2.69
Draft <2m	1714	.99	.56
Draft >2m	1744	4.61	2.74
Floe size (mins) :	246	79.77	242.67

Distribution (0.2m)	Number	Per cent
.0 - .2 :	95	2.747
.2 - .4 :	224	6.478
.4 - .6 :	231	6.680
.6 - .8 :	210	6.073
.8 - 1.0 :	151	4.367
1.0 - 1.2 :	150	4.338
1.2 - 1.4 :	154	4.453
1.4 - 1.6 :	185	5.350
1.6 - 1.8 :	141	4.078
1.8 - 2.0 :	173	5.003
2.0 - 2.2 :	172	4.974
2.2 - 2.4 :	156	4.511
2.4 - 2.6 :	112	3.239
2.6 - 2.8 :	111	3.210
2.8 - 3.0 :	93	2.689
3.0 - 3.2 :	85	2.458
3.2 - 3.4 :	70	2.024
3.4 - 3.6 :	72	2.082
3.6 - 3.8 :	56	1.619
3.8 - 4.0 :	46	1.330
4.0 - 4.2 :	44	1.272
4.2 - 4.4 :	43	1.243
4.4 - 4.6 :	37	1.070
4.6 - 4.8 :	41	1.186
4.8 - 5.0 :	41	1.186

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	911	26.345
1.0 - 2.0 :	803	23.222
2.0 - 3.0 :	644	18.623
3.0 - 4.0 :	329	9.514
4.0 - 5.0 :	206	5.957
5.0 - 6.0 :	121	3.499
6.0 - 7.0 :	152	4.396
7.0 - 8.0 :	107	3.094
8.0 - 9.0 :	65	1.880
9.0 - 10.0 :	43	1.243
10.0 - 11.0 :	22	.636
11.0 - 12.0 :	15	.434
12.0 - 13.0 :	11	.318
13.0 - 14.0 :	4	.116
14.0 - 15.0 :	5	.145
15.0 - 16.0 :	9	.260
16.0 - 17.0 :	4	.116
17.0 - 18.0 :	4	.116
18.0 - 19.0 :	1	.029
19.0 - 20.0 :	0	.000
20.0 - 21.0 :	0	.000
21.0 - 22.0 :	1	.029
22.0 - 23.0 :	0	.000
23.0 - 24.0 :	1	.029

No. of obs rejected ..	1075
Draft <-0.2m	372
Unacceptable time ...	642
Unacceptable tilt ...	16
Unacceptable pressure:	52
Short-record	4
Obs. lacking	867

Period
 Day number 309 - 323
 Date 05 Nov - 19 Nov

Year: 1987

	No. of obs.	Mean	Std
Total	5337	2.19	2.49
Draft <2m	3125	.58	.51
Draft >2m	2212	4.47	2.41
Floe size (mins) :	373	39.92	135.12

Distribution (0.2m)	Number	Per cent
.0 - .2 :	811	15.196
.2 - .4 :	767	14.371
.4 - .6 :	362	6.783
.6 - .8 :	461	8.638
.8 - 1.0 :	146	2.736
1.0 - 1.2 :	142	2.661
1.2 - 1.4 :	106	1.986
1.4 - 1.6 :	91	1.705
1.6 - 1.8 :	111	2.080
1.8 - 2.0 :	128	2.398
2.0 - 2.2 :	141	2.642
2.2 - 2.4 :	174	3.260
2.4 - 2.6 :	150	2.811
2.6 - 2.8 :	157	2.942
2.8 - 3.0 :	124	2.323
3.0 - 3.2 :	104	1.949
3.2 - 3.4 :	92	1.724
3.4 - 3.6 :	112	2.099
3.6 - 3.8 :	89	1.668
3.8 - 4.0 :	87	1.630
4.0 - 4.2 :	87	1.630
4.2 - 4.4 :	53	.993
4.4 - 4.6 :	69	1.293
4.6 - 4.8 :	47	.881
4.8 - 5.0 :	50	.937

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2547	47.723
1.0 - 2.0 :	578	10.830
2.0 - 3.0 :	746	13.978
3.0 - 4.0 :	484	9.069
4.0 - 5.0 :	306	5.734
5.0 - 6.0 :	224	4.197
6.0 - 7.0 :	157	2.942
7.0 - 8.0 :	103	1.930
8.0 - 9.0 :	71	1.330
9.0 - 10.0 :	30	.562
10.0 - 11.0 :	31	.581
11.0 - 12.0 :	29	.543
12.0 - 13.0 :	9	.169
13.0 - 14.0 :	9	.169
14.0 - 15.0 :	5	.094
15.0 - 16.0 :	3	.056
16.0 - 17.0 :	2	.037
17.0 - 18.0 :	1	.019
18.0 - 19.0 :	0	.000
19.0 - 20.0 :	1	.019
20.0 - 21.0 :	1	.019

No. of obs rejected ..	63
Draft <-0.2m	0
Unacceptable time ...	36
Unacceptable tilt ...	0
Unacceptable pressure:	27
Short-record	0
Obs. lacking	0

Period
Day number 324 - 338
Date 20 Nov - 04 Dec

Year: 1987

	No. of obs.	Mean	Std
Total	5356	2.19	2.60
Draft <2m	3384	.65	.43
Draft >2m	1972	4.83	2.64
Floe size (mins) :	369	42.29	120.78

Distribution (0.2m)	Number	Per cent
.0 - .2 :	213	3.977
.2 - .4 :	1006	18.783
.4 - .6 :	604	11.277
.6 - .8 :	614	11.464
.8 - 1.0 :	359	6.703
1.0 - 1.2 :	185	3.454
1.2 - 1.4 :	109	2.035
1.4 - 1.6 :	103	1.923
1.6 - 1.8 :	103	1.923
1.8 - 2.0 :	88	1.643
2.0 - 2.2 :	87	1.624
2.2 - 2.4 :	111	2.072
2.4 - 2.6 :	102	1.904
2.6 - 2.8 :	111	2.072
2.8 - 3.0 :	116	2.166
3.0 - 3.2 :	106	1.979
3.2 - 3.4 :	125	2.334
3.4 - 3.6 :	87	1.624
3.6 - 3.8 :	78	1.456
3.8 - 4.0 :	78	1.456
4.0 - 4.2 :	60	1.120
4.2 - 4.4 :	58	1.083
4.4 - 4.6 :	61	1.139
4.6 - 4.8 :	56	1.046
4.8 - 5.0 :	59	1.102

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2796	52.203
1.0 - 2.0 :	588	10.978
2.0 - 3.0 :	527	9.839
3.0 - 4.0 :	474	8.850
4.0 - 5.0 :	294	5.489
5.0 - 6.0 :	202	3.771
6.0 - 7.0 :	125	2.334
7.0 - 8.0 :	118	2.203
8.0 - 9.0 :	68	1.270
9.0 - 10.0 :	57	1.064
10.0 - 11.0 :	38	.709
11.0 - 12.0 :	25	.467
12.0 - 13.0 :	19	.355
13.0 - 14.0 :	6	.112
14.0 - 15.0 :	6	.112
15.0 - 16.0 :	4	.075
16.0 - 17.0 :	3	.056
17.0 - 18.0 :	3	.056
18.0 - 19.0 :	2	.037
19.0 - 20.0 :	0	.000
20.0 - 21.0 :	1	.019

No. of obs rejected ..	43
Draft <-0.2m	2
Unacceptable time	41
Unacceptable tilt	0
Unacceptable pressure:	0
Short-record	0
Obs. lacking	1

Period
Day number 339 - 353
Date 05 Dec - 19 Dec

Year: 1987

	No. of obs.	Mean	Std
Total	5358	2.21	2.81
Draft <2m	3447	.53	.43
Draft >2m	1911	5.24	2.73
Floe size (mins) :	441	29.42	83.08

Distribution (0.2m)	Number	Per cent
.0 - .2 :	588	10.974
.2 - .4 :	952	17.768
.4 - .6 :	928	17.320
.6 - .8 :	362	6.756
.8 - 1.0 :	195	3.639
1.0 - 1.2 :	96	1.792
1.2 - 1.4 :	83	1.549
1.4 - 1.6 :	75	1.400
1.6 - 1.8 :	89	1.661
1.8 - 2.0 :	79	1.474
2.0 - 2.2 :	70	1.306
2.2 - 2.4 :	75	1.400
2.4 - 2.6 :	71	1.325
2.6 - 2.8 :	78	1.456
2.8 - 3.0 :	84	1.568
3.0 - 3.2 :	88	1.642
3.2 - 3.4 :	75	1.400
3.4 - 3.6 :	89	1.661
3.6 - 3.8 :	81	1.512
3.8 - 4.0 :	69	1.288
4.0 - 4.2 :	77	1.437
4.2 - 4.4 :	82	1.530
4.4 - 4.6 :	59	1.101
4.6 - 4.8 :	50	.933
4.8 - 5.0 :	49	.915

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	3025	56.458
1.0 - 2.0 :	422	7.876
2.0 - 3.0 :	378	7.055
3.0 - 4.0 :	402	7.503
4.0 - 5.0 :	317	5.916
5.0 - 6.0 :	233	4.349
6.0 - 7.0 :	184	3.434
7.0 - 8.0 :	119	2.221
8.0 - 9.0 :	93	1.736
9.0 - 10.0 :	62	1.157
10.0 - 11.0 :	36	.672
11.0 - 12.0 :	28	.523
12.0 - 13.0 :	21	.392
13.0 - 14.0 :	16	.299
14.0 - 15.0 :	11	.205
15.0 - 16.0 :	2	.037
16.0 - 17.0 :	3	.056
17.0 - 18.0 :	1	.019
18.0 - 19.0 :	2	.037
19.0 - 20.0 :	2	.037
20.0 - 21.0 :	1	.019

No. of obs rejected ..	42
Draft <-0.2m	0
Unacceptable time	42
Unacceptable tilt	0
Unacceptable pressure:	0
Short-record	0
Obs. lacking	0

Period
 Day number 354 - 003
 Date 20 Dec - 03 Jan

Year: 1988

	No. of obs.	Mean	Std
Total	5277	3.68	3.26
Draft <2m	1924	.71	.46
Draft >2m	3353	5.38	2.94
Floe size (mins) :	227	49.78	501.64

Distribution (0.2m)	Number	Per cent
.0 - .2 :	141	2.672
.2 - .4 :	417	7.902
.4 - .6 :	418	7.921
.6 - .8 :	329	6.235
.8 - 1.0 :	168	3.184
1.0 - 1.2 :	150	2.843
1.2 - 1.4 :	87	1.649
1.4 - 1.6 :	75	1.421
1.6 - 1.8 :	62	1.175
1.8 - 2.0 :	77	1.459
2.0 - 2.2 :	92	1.743
2.2 - 2.4 :	95	1.800
2.4 - 2.6 :	123	2.331
2.6 - 2.8 :	124	2.350
2.8 - 3.0 :	154	2.918
3.0 - 3.2 :	183	3.468
3.2 - 3.4 :	174	3.297
3.4 - 3.6 :	157	2.975
3.6 - 3.8 :	159	3.013
3.8 - 4.0 :	141	2.672
4.0 - 4.2 :	122	2.312
4.2 - 4.4 :	109	2.066
4.4 - 4.6 :	94	1.781
4.6 - 4.8 :	103	1.952
4.8 - 5.0 :	97	1.838

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	1473	27.914
1.0 - 2.0 :	451	8.547
2.0 - 3.0 :	588	11.143
3.0 - 4.0 :	814	15.425
4.0 - 5.0 :	525	9.949
5.0 - 6.0 :	373	7.068
6.0 - 7.0 :	298	5.647
7.0 - 8.0 :	236	4.472
8.0 - 9.0 :	150	2.843
9.0 - 10.0 :	116	2.198
10.0 - 11.0 :	72	1.364
11.0 - 12.0 :	57	1.080
12.0 - 13.0 :	26	.493
13.0 - 14.0 :	32	.606
14.0 - 15.0 :	21	.398
15.0 - 16.0 :	17	.322
16.0 - 17.0 :	10	.190
17.0 - 18.0 :	6	.114
18.0 - 19.0 :	4	.076
19.0 - 20.0 :	2	.038
20.0 - 21.0 :	2	.038
21.0 - 22.0 :	0	.000
22.0 - 23.0 :	2	.038
23.0 - 24.0 :	2	.038

No. of obs rejected ..	123
Draft <-0.2m	0
Unacceptable time	73
Unacceptable tilt	0
Unacceptable pressure:	52
Short-record	0
Obs. lacking	0

Period
 Day number 004 - 018
 Date 04 Jan - 18 Jan
 Year: 1988

	No. of obs.	Mean	Std
Total	5316	3.42	2.08
Draft <2m	1101	1.19	.60
Draft >2m	4215	4.00	1.93
Floe size (mins) :	100	208.11	767.03

Distribution (0.2m)	Number	Per cent
.0 - .2 :	97	1.825
.2 - .4 :	79	1.486
.4 - .6 :	61	1.147
.6 - .8 :	67	1.260
.8 - 1.0 :	87	1.637
1.0 - 1.2 :	113	2.126
1.2 - 1.4 :	87	1.637
1.4 - 1.6 :	125	2.351
1.6 - 1.8 :	179	3.367
1.8 - 2.0 :	206	3.875
2.0 - 2.2 :	261	4.910
2.2 - 2.4 :	267	5.023
2.4 - 2.6 :	300	5.643
2.6 - 2.8 :	295	5.549
2.8 - 3.0 :	326	6.132
3.0 - 3.2 :	301	5.662
3.2 - 3.4 :	272	5.117
3.4 - 3.6 :	266	5.004
3.6 - 3.8 :	209	3.932
3.8 - 4.0 :	185	3.480
4.0 - 4.2 :	172	3.236
4.2 - 4.4 :	155	2.916
4.4 - 4.6 :	126	2.370
4.6 - 4.8 :	141	2.652
4.8 - 5.0 :	99	1.862

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	391	7.355
1.0 - 2.0 :	710	13.356
2.0 - 3.0 :	1449	27.257
3.0 - 4.0 :	1233	23.194
4.0 - 5.0 :	693	13.036
5.0 - 6.0 :	361	6.791
6.0 - 7.0 :	195	3.668
7.0 - 8.0 :	105	1.975
8.0 - 9.0 :	54	1.016
9.0 - 10.0 :	46	.865
10.0 - 11.0 :	24	.451
11.0 - 12.0 :	24	.451
12.0 - 13.0 :	9	.169
13.0 - 14.0 :	5	.094
14.0 - 15.0 :	5	.094
15.0 - 16.0 :	2	.038
16.0 - 17.0 :	5	.094
17.0 - 18.0 :	2	.038
18.0 - 19.0 :	1	.019
19.0 - 20.0 :	2	.038

No. of obs rejected ..	84
Draft <-0.2m	5
Unacceptable time	79
Unacceptable tilt	0
Unacceptable pressure:	0
Short-record	0
Obs. lacking	0

Period
 Day number 019 - 033
 Date 19 Jan - 02 Feb

Year: 1988

	No. of obs.	Mean	Std
Total	5359	2.32	2.36
Draft <2m	2845	.61	.51
Draft >2m	2514	4.25	2.12
Floe size (mins) :	356	38.35	138.68

Distribution (0.2m)	Number	Per cent
.0 - .2 :	248	4.628
.2 - .4 :	1323	24.687
.4 - .6 :	339	6.326
.6 - .8 :	183	3.415
.8 - 1.0 :	165	3.079
1.0 - 1.2 :	130	2.426
1.2 - 1.4 :	106	1.978
1.4 - 1.6 :	120	2.239
1.6 - 1.8 :	110	2.053
1.8 - 2.0 :	121	2.258
2.0 - 2.2 :	123	2.295
2.2 - 2.4 :	166	3.098
2.4 - 2.6 :	148	2.762
2.6 - 2.8 :	190	3.545
2.8 - 3.0 :	172	3.210
3.0 - 3.2 :	157	2.930
3.2 - 3.4 :	155	2.892
3.4 - 3.6 :	140	2.612
3.6 - 3.8 :	115	2.146
3.8 - 4.0 :	105	1.959
4.0 - 4.2 :	103	1.922
4.2 - 4.4 :	83	1.549
4.4 - 4.6 :	91	1.698
4.6 - 4.8 :	79	1.474
4.8 - 5.0 :	58	1.082

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2258	42.135
1.0 - 2.0 :	587	10.954
2.0 - 3.0 :	799	14.909
3.0 - 4.0 :	672	12.540
4.0 - 5.0 :	414	7.725
5.0 - 6.0 :	234	4.366
6.0 - 7.0 :	159	2.967
7.0 - 8.0 :	89	1.661
8.0 - 9.0 :	47	.877
9.0 - 10.0 :	35	.653
10.0 - 11.0 :	26	.485
11.0 - 12.0 :	10	.187
12.0 - 13.0 :	11	.205
13.0 - 14.0 :	5	.093
14.0 - 15.0 :	5	.093
15.0 - 16.0 :	3	.056
16.0 - 17.0 :	1	.019
17.0 - 18.0 :	4	.075

No. of obs rejected ..	41
Draft <-0.2m	0
Unacceptable time ...:	41
Unacceptable tilt ...:	0
Unacceptable pressure:	0
Short-record	0
Obs. lacking	0

Period
 Day number 034 - 048
 Date 03 Feb - 17 Feb

Year: 1988

	No. of obs.	Mean	Std
Total	5200	2.27	2.21
Draft <2m	2890	.81	.54
Draft >2m	2310	4.10	2.15
Floe size (mins) :	400	44.16	102.03

Distribution (0.2m)	Number	Per cent
.0 - .2 :	332	6.385
.2 - .4 :	450	8.654
.4 - .6 :	440	8.462
.6 - .8 :	448	8.615
.8 - 1.0 :	273	5.250
1.0 - 1.2 :	215	4.135
1.2 - 1.4 :	208	4.000
1.4 - 1.6 :	188	3.615
1.6 - 1.8 :	177	3.404
1.8 - 2.0 :	159	3.058
2.0 - 2.2 :	176	3.385
2.2 - 2.4 :	193	3.712
2.4 - 2.6 :	164	3.154
2.6 - 2.8 :	164	3.154
2.8 - 3.0 :	161	3.096
3.0 - 3.2 :	137	2.635
3.2 - 3.4 :	145	2.788
3.4 - 3.6 :	102	1.962
3.6 - 3.8 :	86	1.654
3.8 - 4.0 :	107	2.058
4.0 - 4.2 :	87	1.673
4.2 - 4.4 :	85	1.635
4.4 - 4.6 :	65	1.250
4.6 - 4.8 :	53	1.019
4.8 - 5.0 :	60	1.154

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	1943	37.365
1.0 - 2.0 :	947	18.212
2.0 - 3.0 :	858	16.500
3.0 - 4.0 :	577	11.096
4.0 - 5.0 :	350	6.731
5.0 - 6.0 :	199	3.827
6.0 - 7.0 :	114	2.192
7.0 - 8.0 :	77	1.481
8.0 - 9.0 :	52	1.000
9.0 - 10.0 :	33	.635
10.0 - 11.0 :	22	.423
11.0 - 12.0 :	8	.154
12.0 - 13.0 :	3	.058
13.0 - 14.0 :	7	.135
14.0 - 15.0 :	3	.058
15.0 - 16.0 :	2	.038
16.0 - 17.0 :	2	.038
17.0 - 18.0 :	0	.000
18.0 - 19.0 :	0	.000
19.0 - 20.0 :	0	.000
20.0 - 21.0 :	0	.000
21.0 - 22.0 :	2	.038
22.0 - 23.0 :	0	.000
23.0 - 24.0 :	1	.019

No. of obs rejected ..	198
Draft <-0.2m	124
Unacceptable time	74
Unacceptable tilt	0
Unacceptable pressure:	0
Short-record	0
Obs. lacking	2

Period
Day number 049 - 063
Date 18 Feb - 04 Mar

Year: 1988

	No. of obs.	Mean	Std
Total	4398	2.00	2.38
Draft <2m	3041	.86	.55
Draft >2m	1357	4.55	2.87
Floe size (mins) :	464	34.65	108.06

Distribution (0.2m)	Number	Per cent
.0 - .2 :	432	9.823
.2 - .4 :	361	8.208
.4 - .6 :	339	7.708
.6 - .8 :	333	7.572
.8 - 1.0 :	356	8.095
1.0 - 1.2 :	315	7.162
1.2 - 1.4 :	294	6.685
1.4 - 1.6 :	239	5.434
1.6 - 1.8 :	195	4.434
1.8 - 2.0 :	177	4.025
2.0 - 2.2 :	124	2.819
2.2 - 2.4 :	129	2.933
2.4 - 2.6 :	105	2.387
2.6 - 2.8 :	98	2.228
2.8 - 3.0 :	75	1.705
3.0 - 3.2 :	58	1.319
3.2 - 3.4 :	64	1.455
3.4 - 3.6 :	52	1.182
3.6 - 3.8 :	48	1.091
3.8 - 4.0 :	46	1.046
4.0 - 4.2 :	19	.432
4.2 - 4.4 :	36	.819
4.4 - 4.6 :	29	.659
4.6 - 4.8 :	30	.682
4.8 - 5.0 :	24	.546

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	1821	41.405
1.0 - 2.0 :	1220	27.740
2.0 - 3.0 :	531	12.074
3.0 - 4.0 :	268	6.094
4.0 - 5.0 :	138	3.138
5.0 - 6.0 :	127	2.888
6.0 - 7.0 :	84	1.910
7.0 - 8.0 :	66	1.501
8.0 - 9.0 :	40	.910
9.0 - 10.0 :	21	.477
10.0 - 11.0 :	27	.614
11.0 - 12.0 :	16	.364
12.0 - 13.0 :	9	.205
13.0 - 14.0 :	9	.205
14.0 - 15.0 :	5	.114
15.0 - 16.0 :	4	.091
16.0 - 17.0 :	3	.068
17.0 - 18.0 :	6	.136
18.0 - 19.0 :	0	.000
19.0 - 20.0 :	0	.000
20.0 - 21.0 :	2	.045
21.0 - 22.0 :	0	.000
22.0 - 23.0 :	0	.000
23.0 - 24.0 :	0	.000
24.0 - 25.0 :	0	.000
25.0 - 26.0 :	1	.023

No. of obs rejected ..	1002
Draft <-0.2m	163
Unacceptable time ...	695
Unacceptable tilt ...	28
Unacceptable pressure:	465
Short-record	0
Obs. lacking	0

Period
Day number 064 - 078
Date 05 Mar - 19 Mar

Year: 1988

	No. of obs.	Mean	Std
Total	4521	2.03	2.30
Draft <2m	2821	.66	.56
Draft >2m	1700	4.31	2.29
Floe size (mins) :	381	33.76	79.93

Distribution (0.2m)	Number	Per cent
.0 - .2 :	730	16.147
.2 - .4 :	535	11.834
.4 - .6 :	442	9.777
.6 - .8 :	222	4.910
.8 - 1.0 :	171	3.782
1.0 - 1.2 :	148	3.274
1.2 - 1.4 :	137	3.030
1.4 - 1.6 :	155	3.428
1.6 - 1.8 :	139	3.075
1.8 - 2.0 :	142	3.141
2.0 - 2.2 :	125	2.765
2.2 - 2.4 :	134	2.964
2.4 - 2.6 :	94	2.079
2.6 - 2.8 :	120	2.654
2.8 - 3.0 :	109	2.411
3.0 - 3.2 :	106	2.345
3.2 - 3.4 :	89	1.969
3.4 - 3.6 :	82	1.814
3.6 - 3.8 :	75	1.659
3.8 - 4.0 :	72	1.593
4.0 - 4.2 :	57	1.261
4.2 - 4.4 :	63	1.393
4.4 - 4.6 :	53	1.172
4.6 - 4.8 :	40	.885
4.8 - 5.0 :	37	.818

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2100	46.450
1.0 - 2.0 :	721	15.948
2.0 - 3.0 :	582	12.873
3.0 - 4.0 :	424	9.378
4.0 - 5.0 :	250	5.530
5.0 - 6.0 :	152	3.362
6.0 - 7.0 :	89	1.969
7.0 - 8.0 :	68	1.504
8.0 - 9.0 :	46	1.017
9.0 - 10.0 :	30	.664
10.0 - 11.0 :	25	.553
11.0 - 12.0 :	13	.288
12.0 - 13.0 :	6	.133
13.0 - 14.0 :	7	.155
14.0 - 15.0 :	3	.066
15.0 - 16.0 :	3	.066
16.0 - 17.0 :	0	.000
17.0 - 18.0 :	2	.044

No. of obs rejected ..	825
Draft <-0.2m	43
Unacceptable time ...:	620
Unacceptable tilt ...:	7
Unacceptable pressure:	635
Short-record	0
Obs. lacking	54

Period
Day number 079 - 093
Date 20 Mar - 03 Apr

Year: 1988

	No. of obs.	Mean	Std
Total	5317	2.68	3.15
Draft <2m	3075	.64	.45
Draft >2m	2242	5.47	3.12
Floe size (mins) :	301	53.54	165.49

Distribution (0.2m)	Number	Per cent
.0 - .2 :	253	4.758
.2 - .4 :	853	16.043
.4 - .6 :	816	15.347
.6 - .8 :	389	7.316
.8 - 1.0 :	173	3.254
1.0 - 1.2 :	152	2.859
1.2 - 1.4 :	141	2.652
1.4 - 1.6 :	107	2.012
1.6 - 1.8 :	108	2.031
1.8 - 2.0 :	83	1.561
2.0 - 2.2 :	77	1.448
2.2 - 2.4 :	77	1.448
2.4 - 2.6 :	70	1.317
2.6 - 2.8 :	76	1.429
2.8 - 3.0 :	84	1.580
3.0 - 3.2 :	79	1.486
3.2 - 3.4 :	100	1.881
3.4 - 3.6 :	98	1.843
3.6 - 3.8 :	104	1.956
3.8 - 4.0 :	123	2.313
4.0 - 4.2 :	107	2.012
4.2 - 4.4 :	92	1.730
4.4 - 4.6 :	71	1.335
4.6 - 4.8 :	73	1.373
4.8 - 5.0 :	65	1.222

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2484	46.718
1.0 - 2.0 :	591	11.115
2.0 - 3.0 :	384	7.222
3.0 - 4.0 :	504	9.479
4.0 - 5.0 :	408	7.674
5.0 - 6.0 :	267	5.022
6.0 - 7.0 :	171	3.216
7.0 - 8.0 :	134	2.520
8.0 - 9.0 :	99	1.862
9.0 - 10.0 :	89	1.674
10.0 - 11.0 :	44	.828
11.0 - 12.0 :	40	.752
12.0 - 13.0 :	32	.602
13.0 - 14.0 :	19	.357
14.0 - 15.0 :	13	.244
15.0 - 16.0 :	8	.150
16.0 - 17.0 :	11	.207
17.0 - 18.0 :	5	.094
18.0 - 19.0 :	3	.056
19.0 - 20.0 :	3	.056
20.0 - 21.0 :	0	.000
21.0 - 22.0 :	2	.038
22.0 - 23.0 :	1	.019
23.0 - 24.0 :	2	.038
24.0 - 25.0 :	2	.038
25.0 - 26.0 :	0	.000
26.0 - 27.0 :	1	.019

No. of obs rejected ..	82
Draft <-0.2m	0
Unacceptable time	69
Unacceptable tilt	1
Unacceptable pressure:	12
Short-record	0
Obs. lacking	1

Period
Day number 094 - 108
Date 04 Apr - 18 Apr

Year: 1988

	No. of obs.	Mean	Std
Total	5321	2.30	3.10
Draft <2m	3491	.62	.44
Draft >2m	1830	5.51	3.44
Floe size (mins) :	328	44.54	125.41

Distribution (0.2m)	Number	Per cent
.0 - .2 :	563	10.581
.2 - .4 :	726	13.644
.4 - .6 :	730	13.719
.6 - .8 :	483	9.077
.8 - 1.0 :	420	7.893
1.0 - 1.2 :	166	3.120
1.2 - 1.4 :	125	2.349
1.4 - 1.6 :	95	1.785
1.6 - 1.8 :	98	1.842
1.8 - 2.0 :	85	1.597
2.0 - 2.2 :	78	1.466
2.2 - 2.4 :	77	1.447
2.4 - 2.6 :	69	1.297
2.6 - 2.8 :	76	1.428
2.8 - 3.0 :	67	1.259
3.0 - 3.2 :	57	1.071
3.2 - 3.4 :	82	1.541
3.4 - 3.6 :	85	1.597
3.6 - 3.8 :	85	1.597
3.8 - 4.0 :	95	1.785
4.0 - 4.2 :	76	1.428
4.2 - 4.4 :	57	1.071
4.4 - 4.6 :	54	1.015
4.6 - 4.8 :	52	.977
4.8 - 5.0 :	62	1.165

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2922	54.914
1.0 - 2.0 :	569	10.693
2.0 - 3.0 :	367	6.897
3.0 - 4.0 :	404	7.593
4.0 - 5.0 :	301	5.657
5.0 - 6.0 :	215	4.041
6.0 - 7.0 :	149	2.800
7.0 - 8.0 :	85	1.597
8.0 - 9.0 :	70	1.316
9.0 - 10.0 :	59	1.109
10.0 - 11.0 :	40	.752
11.0 - 12.0 :	41	.771
12.0 - 13.0 :	24	.451
13.0 - 14.0 :	15	.282
14.0 - 15.0 :	13	.244
15.0 - 16.0 :	7	.132
16.0 - 17.0 :	7	.132
17.0 - 18.0 :	9	.169
18.0 - 19.0 :	4	.075
19.0 - 20.0 :	2	.038
20.0 - 21.0 :	12	.226
21.0 - 22.0 :	1	.019
22.0 - 23.0 :	2	.038
23.0 - 24.0 :	0	.000
24.0 - 25.0 :	3	.056

No. of obs rejected ..	77
Draft <-0.2m	4
Unacceptable time ...	51
Unacceptable tilt ...	0
Unacceptable pressure:	23
Short-record	0
Obs. lacking	2

Period
Day number 109 - 123
Date 19 Apr - 03 May

Year: 1988

	No. of obs.	Mean	Std
Total	5343	2.48	2.85
Draft <2m	3159	.67	.46
Draft >2m	2184	5.11	2.81
Floe size (mins) :	368	38.43	98.89

Distribution (0.2m)	Number	Per cent
.0 - .2 :	296	5.540
.2 - .4 :	854	15.984
.4 - .6 :	660	12.353
.6 - .8 :	428	8.010
.8 - 1.0 :	256	4.791
1.0 - 1.2 :	185	3.462
1.2 - 1.4 :	159	2.976
1.4 - 1.6 :	116	2.171
1.6 - 1.8 :	100	1.872
1.8 - 2.0 :	105	1.965
2.0 - 2.2 :	88	1.647
2.2 - 2.4 :	82	1.535
2.4 - 2.6 :	92	1.722
2.6 - 2.8 :	85	1.591
2.8 - 3.0 :	74	1.385
3.0 - 3.2 :	104	1.946
3.2 - 3.4 :	84	1.572
3.4 - 3.6 :	117	2.190
3.6 - 3.8 :	129	2.414
3.8 - 4.0 :	130	2.433
4.0 - 4.2 :	90	1.684
4.2 - 4.4 :	88	1.647
4.4 - 4.6 :	80	1.497
4.6 - 4.8 :	56	1.048
4.8 - 5.0 :	73	1.366

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2494	46.678
1.0 - 2.0 :	665	12.446
2.0 - 3.0 :	421	7.879
3.0 - 4.0 :	564	10.556
4.0 - 5.0 :	387	7.243
5.0 - 6.0 :	251	4.698
6.0 - 7.0 :	160	2.995
7.0 - 8.0 :	119	2.227
8.0 - 9.0 :	86	1.610
9.0 - 10.0 :	38	.711
10.0 - 11.0 :	48	.898
11.0 - 12.0 :	34	.636
12.0 - 13.0 :	26	.487
13.0 - 14.0 :	14	.262
14.0 - 15.0 :	15	.281
15.0 - 16.0 :	9	.168
16.0 - 17.0 :	3	.056
17.0 - 18.0 :	2	.037
18.0 - 19.0 :	1	.019
19.0 - 20.0 :	1	.019
20.0 - 21.0 :	3	.056
21.0 - 22.0 :	1	.019
22.0 - 23.0 :	0	.000
23.0 - 24.0 :	0	.000
24.0 - 25.0 :	1	.019

No. of obs rejected ..	57
Draft <-0.2m	0
Unacceptable time ...	57
Unacceptable tilt ...	0
Unacceptable pressure:	0
Short-record	0
Obs. lacking	0

Period
 Day number 124 - 138
 Date 04 May - 18 May
 Year: 1988

	No. of obs.	Mean	Std
Total	5358	2.51	2.76
Draft <2m	2957	.60	.54
Draft >2m	2401	4.88	2.57
Floe size (mins) :	216	73.60	235.51

Distribution (0.2m)	Number	Per cent
.0 - .2 :	999	18.645
.2 - .4 :	630	11.758
.4 - .6 :	235	4.386
.6 - .8 :	192	3.583
.8 - 1.0 :	169	3.154
1.0 - 1.2 :	177	3.303
1.2 - 1.4 :	183	3.415
1.4 - 1.6 :	162	3.024
1.6 - 1.8 :	102	1.904
1.8 - 2.0 :	108	2.016
2.0 - 2.2 :	131	2.445
2.2 - 2.4 :	99	1.848
2.4 - 2.6 :	96	1.792
2.6 - 2.8 :	97	1.810
2.8 - 3.0 :	113	2.109
3.0 - 3.2 :	88	1.642
3.2 - 3.4 :	109	2.034
3.4 - 3.6 :	118	2.202
3.6 - 3.8 :	144	2.688
3.8 - 4.0 :	129	2.408
4.0 - 4.2 :	126	2.352
4.2 - 4.4 :	102	1.904
4.4 - 4.6 :	78	1.456
4.6 - 4.8 :	87	1.624
4.8 - 5.0 :	61	1.138

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	2225	41.527
1.0 - 2.0 :	732	13.662
2.0 - 3.0 :	536	10.004
3.0 - 4.0 :	588	10.974
4.0 - 5.0 :	454	8.473
5.0 - 6.0 :	266	4.965
6.0 - 7.0 :	162	3.024
7.0 - 8.0 :	128	2.389
8.0 - 9.0 :	84	1.568
9.0 - 10.0 :	48	.896
10.0 - 11.0 :	47	.877
11.0 - 12.0 :	31	.579
12.0 - 13.0 :	18	.336
13.0 - 14.0 :	17	.317
14.0 - 15.0 :	8	.149
15.0 - 16.0 :	5	.093
16.0 - 17.0 :	2	.037
17.0 - 18.0 :	5	.093
18.0 - 19.0 :	0	.000
19.0 - 20.0 :	1	.019
20.0 - 21.0 :	0	.000
21.0 - 22.0 :	1	.019

No. of obs rejected ..	42
Draft <-0.2m	0
Unacceptable time ...	42
Unacceptable tilt ...	0
Unacceptable pressure:	0
Short-record	0
Obs. lacking	0

Period
 Day number 139 - 153
 Date 19 May - 03 Jun

Year: 1988

	No. of obs.	Mean	Std
Total	5322	3.25	2.72
Draft <2m	2053	.86	.54
Draft >2m	3269	4.75	2.45
Floe size (mins) :	224	85.00	350.40

Distribution (0.2m)	Number	Per cent
.0 - .2 :	251	4.716
.2 - .4 :	242	4.547
.4 - .6 :	276	5.186
.6 - .8 :	266	4.998
.8 - 1.0 :	195	3.664
1.0 - 1.2 :	243	4.566
1.2 - 1.4 :	154	2.894
1.4 - 1.6 :	176	3.307
1.6 - 1.8 :	126	2.368
1.8 - 2.0 :	124	2.330
2.0 - 2.2 :	161	3.025
2.2 - 2.4 :	126	2.368
2.4 - 2.6 :	138	2.593
2.6 - 2.8 :	122	2.292
2.8 - 3.0 :	145	2.725
3.0 - 3.2 :	132	2.480
3.2 - 3.4 :	177	3.326
3.4 - 3.6 :	184	3.457
3.6 - 3.8 :	219	4.115
3.8 - 4.0 :	193	3.626
4.0 - 4.2 :	158	2.969
4.2 - 4.4 :	148	2.781
4.4 - 4.6 :	137	2.574
4.6 - 4.8 :	119	2.236
4.8 - 5.0 :	98	1.841

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	1230	23.112
1.0 - 2.0 :	823	15.464
2.0 - 3.0 :	692	13.003
3.0 - 4.0 :	905	17.005
4.0 - 5.0 :	660	12.401
5.0 - 6.0 :	332	6.238
6.0 - 7.0 :	221	4.153
7.0 - 8.0 :	130	2.443
8.0 - 9.0 :	111	2.086
9.0 - 10.0 :	69	1.297
10.0 - 11.0 :	50	.939
11.0 - 12.0 :	36	.676
12.0 - 13.0 :	24	.451
13.0 - 14.0 :	11	.207
14.0 - 15.0 :	7	.132
15.0 - 16.0 :	10	.188
16.0 - 17.0 :	2	.038
17.0 - 18.0 :	2	.038
18.0 - 19.0 :	2	.038
19.0 - 20.0 :	0	.000
20.0 - 21.0 :	4	.075
21.0 - 22.0 :	1	.019

No. of obs rejected ..	82
Draft <-0.2m	3
Unacceptable time	79
Unacceptable tilt	2
Unacceptable pressure:	0
Short-record	0
Obs. lacking	4

Period
Day number 154 - 168
Date 04 Jun - 18 Jun

Year: 1988

	No. of obs.	Mean	Std
Total	4903	2.86	2.92
Draft <2m	2410	.70	.59
Draft >2m	2493	4.95	2.74
Floe size (mins) :	243	68.58	273.63

Distribution (0.2m)	Number	Per cent
.0 - .2 :	766	15.623
.2 - .4 :	317	6.465
.4 - .6 :	193	3.936
.6 - .8 :	137	2.794
.8 - 1.0 :	217	4.426
1.0 - 1.2 :	219	4.467
1.2 - 1.4 :	157	3.202
1.4 - 1.6 :	153	3.121
1.6 - 1.8 :	130	2.651
1.8 - 2.0 :	121	2.468
2.0 - 2.2 :	98	1.999
2.2 - 2.4 :	116	2.366
2.4 - 2.6 :	125	2.549
2.6 - 2.8 :	91	1.856
2.8 - 3.0 :	109	2.223
3.0 - 3.2 :	97	1.978
3.2 - 3.4 :	144	2.937
3.4 - 3.6 :	124	2.529
3.6 - 3.8 :	131	2.672
3.8 - 4.0 :	118	2.407
4.0 - 4.2 :	117	2.386
4.2 - 4.4 :	113	2.305
4.4 - 4.6 :	89	1.815
4.6 - 4.8 :	82	1.672
4.8 - 5.0 :	72	1.468

Distribution (1.0m)	Number	Per cent
.0 - 1.0 :	1630	33.245
1.0 - 2.0 :	780	15.909
2.0 - 3.0 :	539	10.993
3.0 - 4.0 :	614	12.523
4.0 - 5.0 :	473	9.647
5.0 - 6.0 :	287	5.854
6.0 - 7.0 :	166	3.386
7.0 - 8.0 :	102	2.080
8.0 - 9.0 :	102	2.080
9.0 - 10.0 :	64	1.305
10.0 - 11.0 :	45	.918
11.0 - 12.0 :	29	.591
12.0 - 13.0 :	21	.428
13.0 - 14.0 :	13	.265
14.0 - 15.0 :	12	.245
15.0 - 16.0 :	11	.224
16.0 - 17.0 :	5	.102
17.0 - 18.0 :	7	.143
18.0 - 19.0 :	0	.000
19.0 - 20.0 :	1	.020
20.0 - 21.0 :	0	.000
21.0 - 22.0 :	0	.000
22.0 - 23.0 :	1	.020
23.0 - 24.0 :	0	.000
24.0 - 25.0 :	0	.000
25.0 - 26.0 :	0	.000
26.0 - 27.0 :	0	.000
27.0 - 28.0 :	0	.000
28.0 - 29.0 :	0	.000
29.0 - 30.0 :	0	.000
30.0 - 31.0 :	0	.000
31.0 - 32.0 :	0	.000
32.0 - 33.0 :	0	.000
33.0 - 34.0 :	0	.000
34.0 - 35.0 :	0	.000
35.0 - 36.0 :	0	.000
36.0 - 37.0 :	1	.020

No. of obs rejected ..	488
Draft <-0.2m	25
Unacceptable time ...	421
Unacceptable tilt ...	19
Unacceptable pressure:	287
Short-record	0
Obs. lacking	9

