

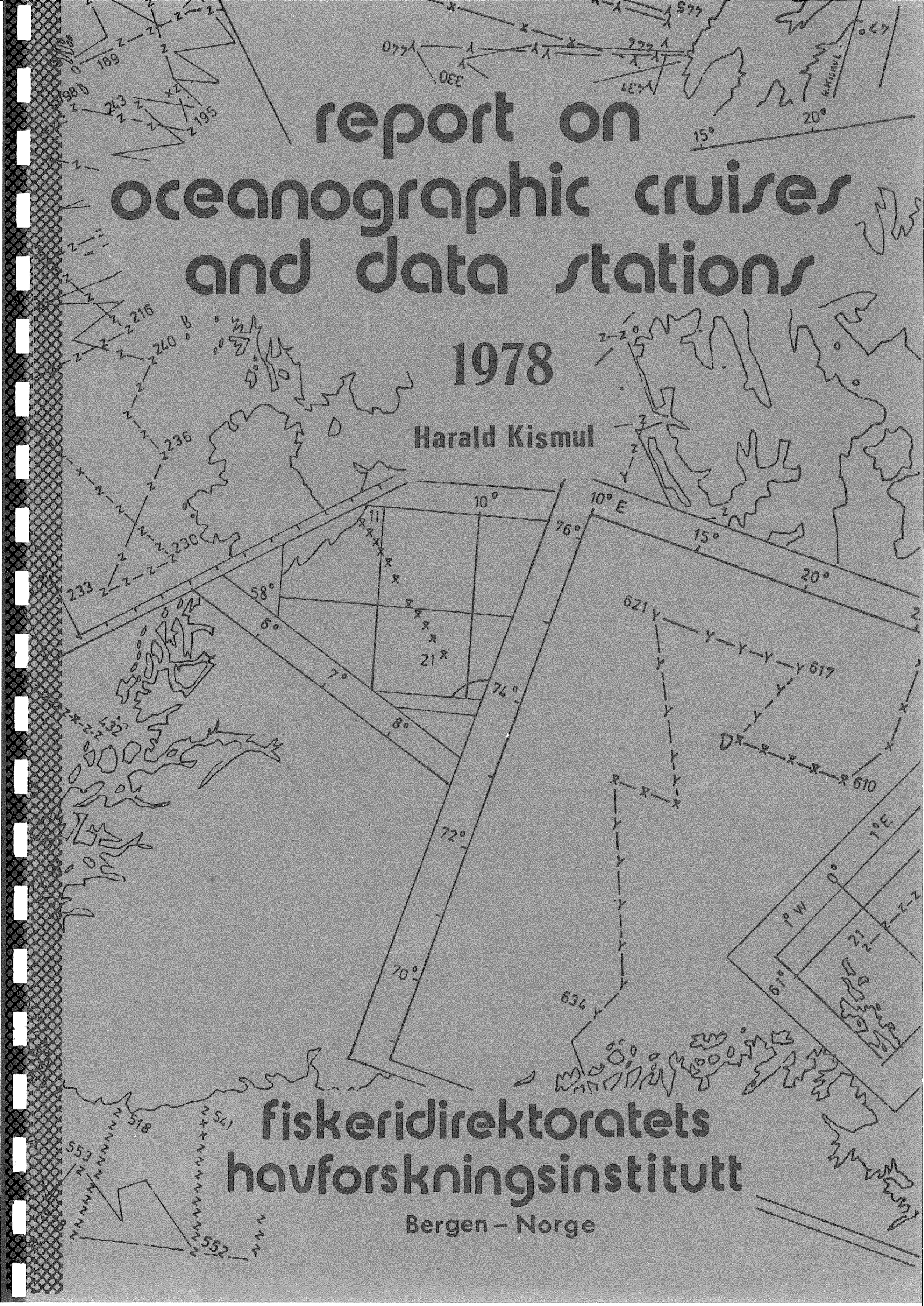
# report on oceanographic cruises and data stations

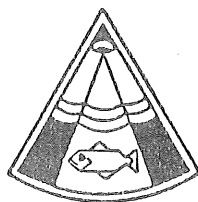
1978

Harald Kismul

fiskeridirektoratets  
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Bergen - Norge





# report on oceanographic cruises and data stations

1978

Harald Kismul

## Guidelines:

- X Classical oceanogr. stations
- Z Vertical profiles (STD/CTD)
- Y Bathythermograph (BT)
- △ Moored buoy station
- △ Pelagic Trawl station
- Bottom Trawl station
- ◇ Plankton station
- Clarke
- Taggings
- A Surface observations t°C S‰

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ICES Annual Report on Oceanographic Cruises and Data Stations.

Country: NORWAY

Year: 1978

Ship: "G.O. Sars"

Cruise and ship number.	Period of cruises	Number of Stations															Continual observations					Page of track chart					
		Classical oceanogr. stations	Vertical profiles (STD/CTD)	Bathythermograph (BT)	Moored Buoy	Oxygen	Nutrients	Oil Hydrocarbons	Petroleum residues	Metals	Primary org. prod.	Petroplank, pigment con.	Grab	Pelagic Trawl	Bottom Trawl	Pelagic eggs and larvae	Taggings	Zooplankton	Phytoplankton	Surface temperature	Transparency		Organic matter (extract.)	Part. matter (filtration)	NO <sub>2</sub> + NO <sub>3</sub> (auto-analyzer)	Echo sounding	Echo integration
1/15	8/1 - 27/1	80											20	2						x	x				x	x	5-6
2/15	30/1-18/2			95									25	21						x	x				x	x	7-8
3/15	20/2-12/3	9	78	1									12	9						x	x				x	x	9-10-11
4/15	29/3-15/4	31	45									9	12	4			81	81		x	x				x	x	12-13
5/15	17/4-10/5		63										12	17						x	x				x	x	14-15
6/15	18/6-13/7	127			4								62	3	61		61	61		x	x				x	x	16
7/15	23/7-11/8	113											61	42						x	x				x	x	17
8/15	17/8-10/9	27	89										125	2			12	12		x	x				x	x	18-19
9/15	14/9-11/10	69	76										50	4						x	x				x	x	20-21
10/15	16/10-14/11		101		5								2	33						x	x				x	x	22-23
11/15	20/11-15/12	136	59										21	11						x	x				x	x	24-25

ICES Annual Report on Oceanographic Cruises and Data Stations.

Country: NORWAY

Year: 1978

Ship: "Johan Hjort"

Cruise and ship number.	Period of cruises	Number of Stations															Continual observations					Page of track chart				
		Classical oceanogr. stations	Vertical profiles (STD/CTD)	Bathymograph (BT)	Moored Buoy	Oxygen	Nutrients	Oil Hydrocarbons	Petroleum residues	Metals	Primary org. prod.	Petroplank. pigment con.	Sediment samples	Pelagic Trawl	Bottom Trawl	Pelagic eggs and larvae	Taggings	Zooplankton	Phytoplankton	Surface temperature	Transparency		Organic matter (extract.)	Part. matter (filtration)	NO <sub>2</sub> + NO <sub>3</sub> (auto-analyzer)	Echo sounding
1/12	7/1 - 3/2	4	144				12						23	18					x	x				x	x	26
2/12	6/2 - 1/3		118				12							55			68	68	x	x				x	x	27-28-29
3/12	2/3 - 15/3		161		160			7	86	160			10		7		83	92	x	x				x	x	30
4/12	30/3-24/4	70	34				12								269				x	x				x	x	31-32-33-34
5/12	10/6-7/7		294										37		3		3	3	x	x				x	x	35-36
6/12	10/7-22/7		97										23	1	29		29	29	x	x				x	x	37
7/12	23/7-5/8		61										59	1	1		1	1	x	x				x	x	38
8/12	7/8 -20/8		71										32	1					x	x				x	x	39-40
9/12	20/8-10/9		106										106						x	x				x	x	41
10/12	16/9-27/9		59										31						x	x				x	x	42-43
11/12	29/9-2/10	3	18										6						x	x				x	x	44-45
12/12	19/10-1/11		39												108				x	x				x	x	46
13/12	5/11-30/11	50	158										38	1	16		16		x	x				x	x	47
14/12	1/12-12/12		18										6	2					x	x				x	x	48



ICES Annual Report on Oceanographic Cruises and Data Stations.

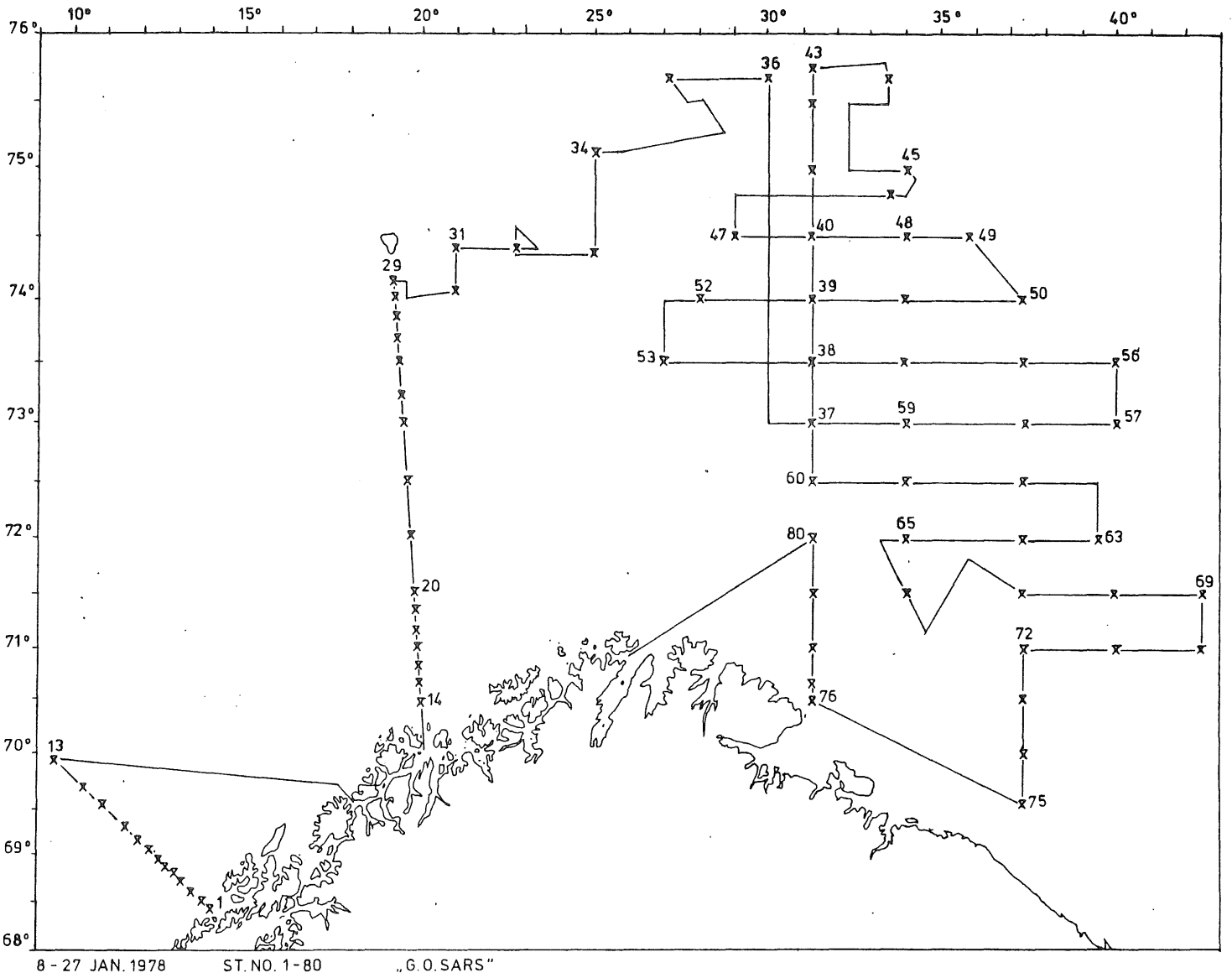
Country: NORWAY

Year: 1978

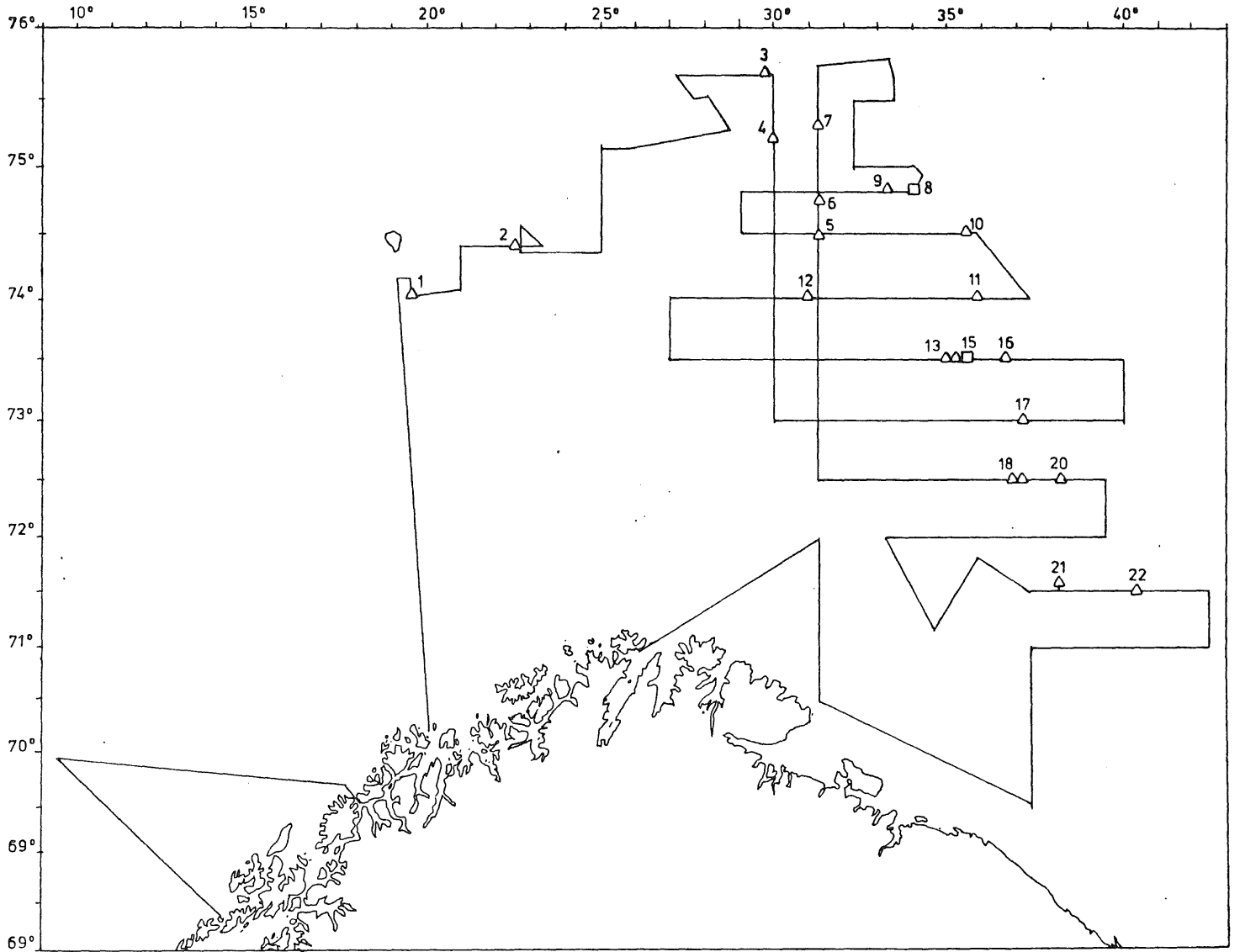
Ship: "Johan Ruud" "Peder Rønnestad" "Fridtjof Nansen" "Nansen" "Norvega"

Cruise and ship number.	Period of cruises	Number of Stations																	Continual observations					Page of track chart		
		Classical oceanogr. stations	Vertical profiles (STD/CTD)	Bathythermograph (BT)	Moored Buoy	Oxygen	Nutrients	Oil Hydrocarbons	Petroleum residues	Metals	Primary org. prod.	Petroplank. pigment con.	Sediment samples	Pelagic Trawl	Bottom Trawl	Pelagic eggs and larvae	Beachseine	Zooplankton	Phytoplankton	Surface temperature	Transparency	Organic matter (extract.)	Part. matter (filtration)		NO <sub>2</sub> + NO <sub>3</sub> (auto-analyzer)	Echo sounding
/8	1/4 - 26/4		429		8	x	x										429	429	x							49-50
/8	6/11 - 4/12	138				x							72						x							51-52-53-54
16	14/1-18/12	76				x													x				x			55
16	30/1-7/12	150																	x				x			56
16	31/1-6/12	33																	x				x			57
16	6/2 -10/11	142		35										16			167						x			58-59
16	11/9-29/9	34														22								x		60
14	16/1-4/10	64				64	64	18		64	64						64	64		64						61
	2/11-4/11	9				9	9			9	9							9		9						61
20	29/5-29/6			86									19											x		62-63
	29/9-4/10	27											6	2										x		64

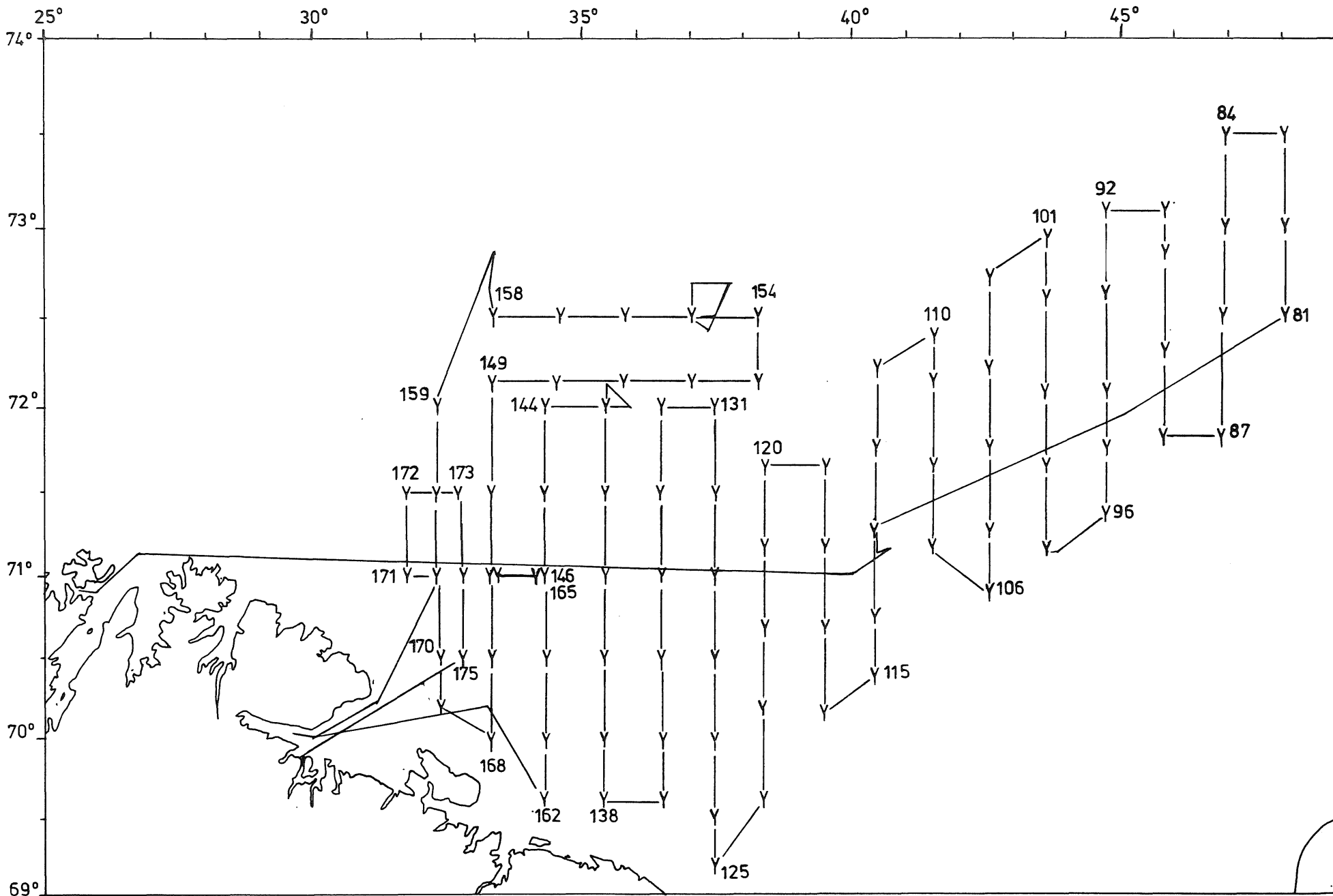








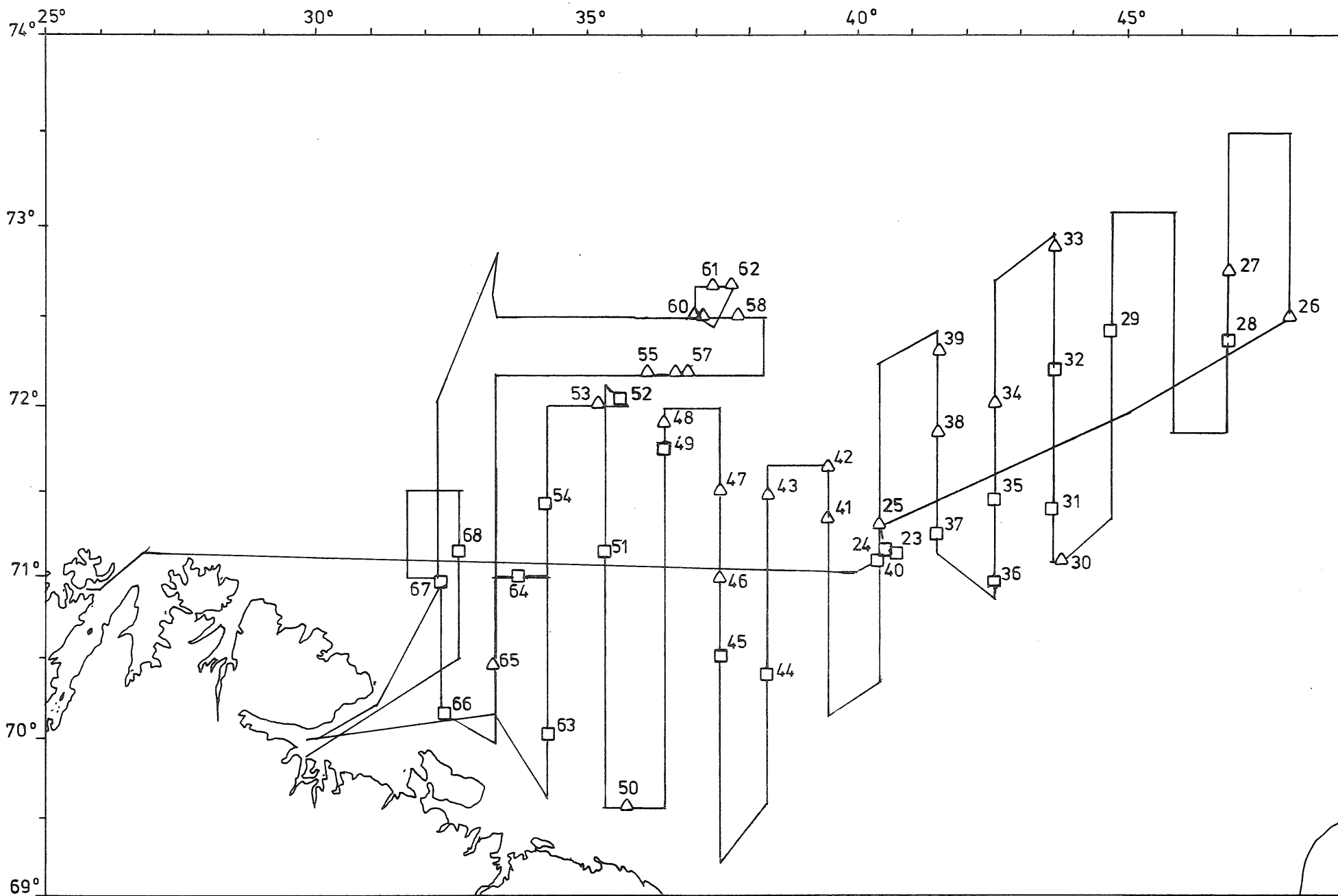
8-27 JAN. 1978 TRAWL ST. 1-22 "G.O. SARS"



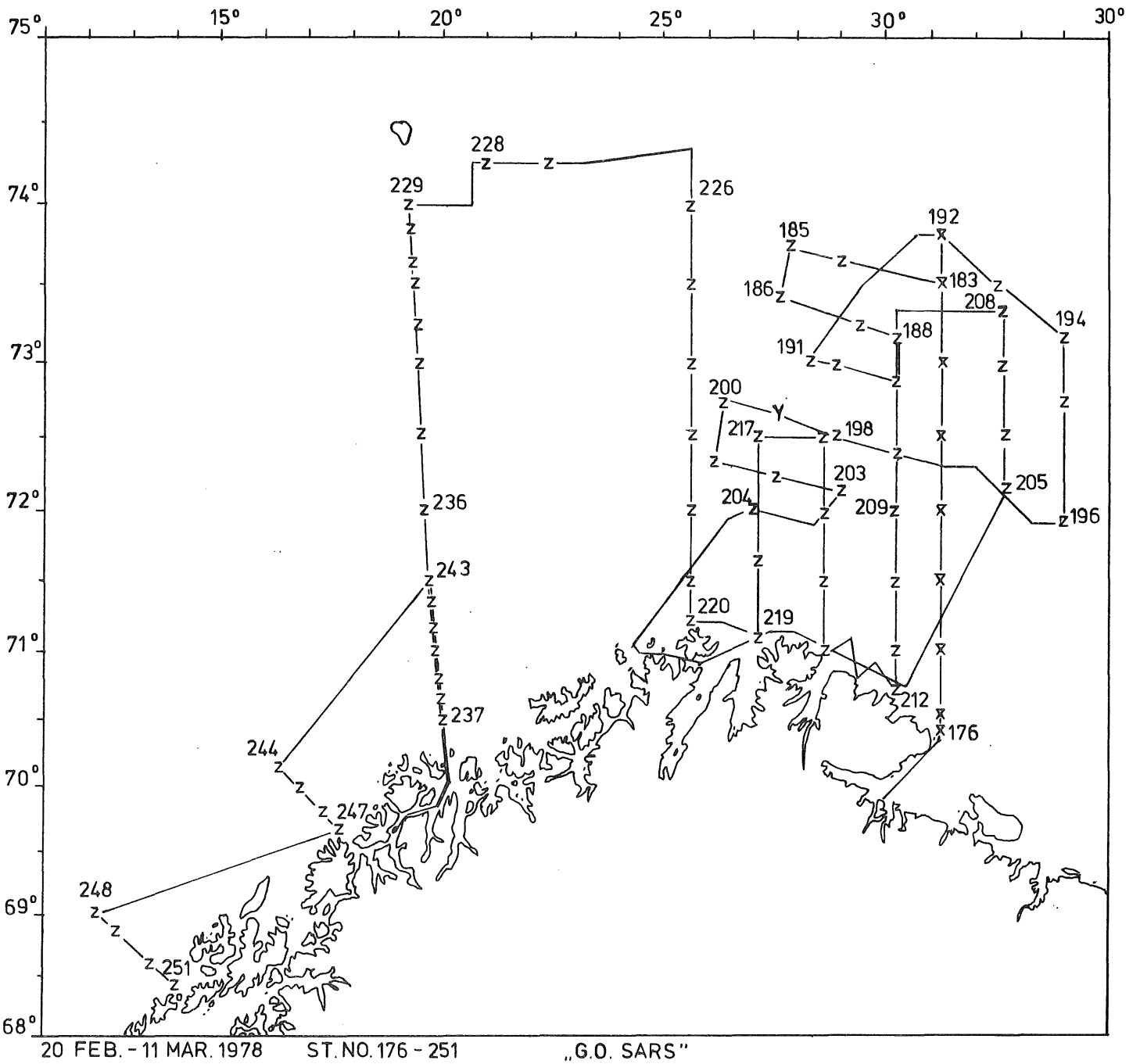
30 JAN. - 18 FEB. 1978

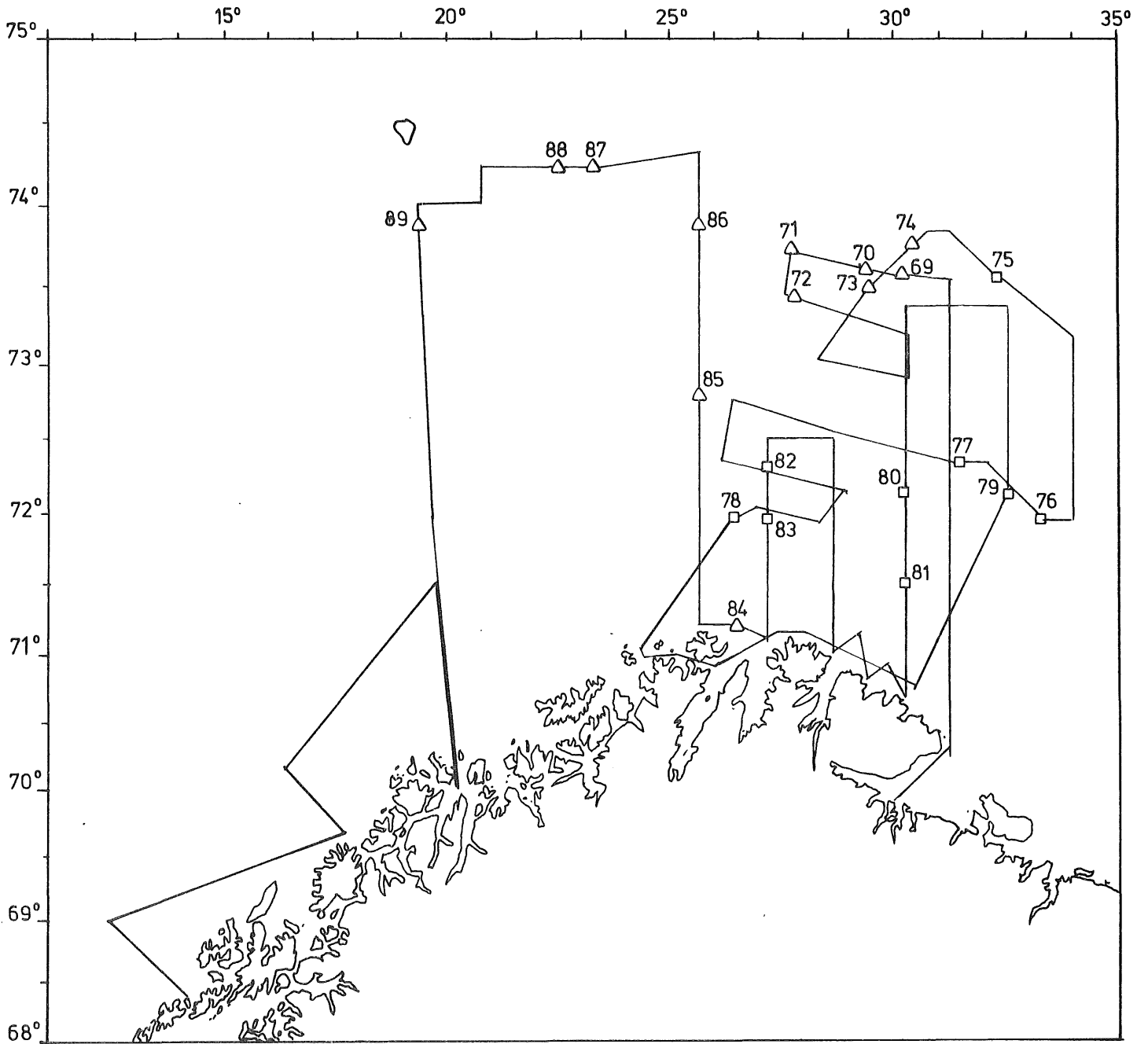
ST. NO. 81-175

„G.O. SARS“

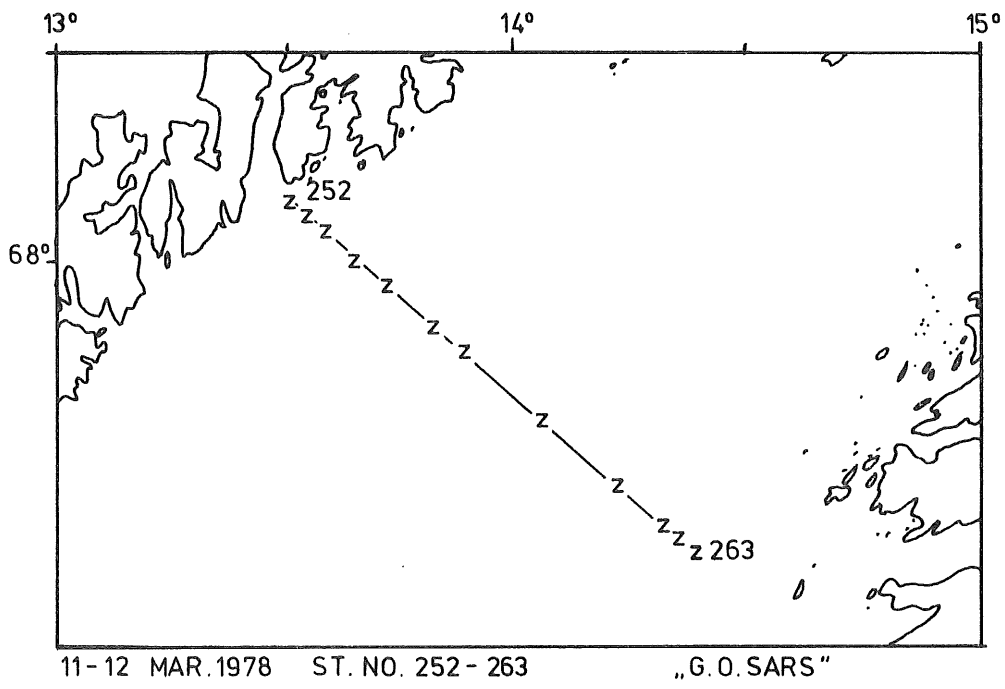


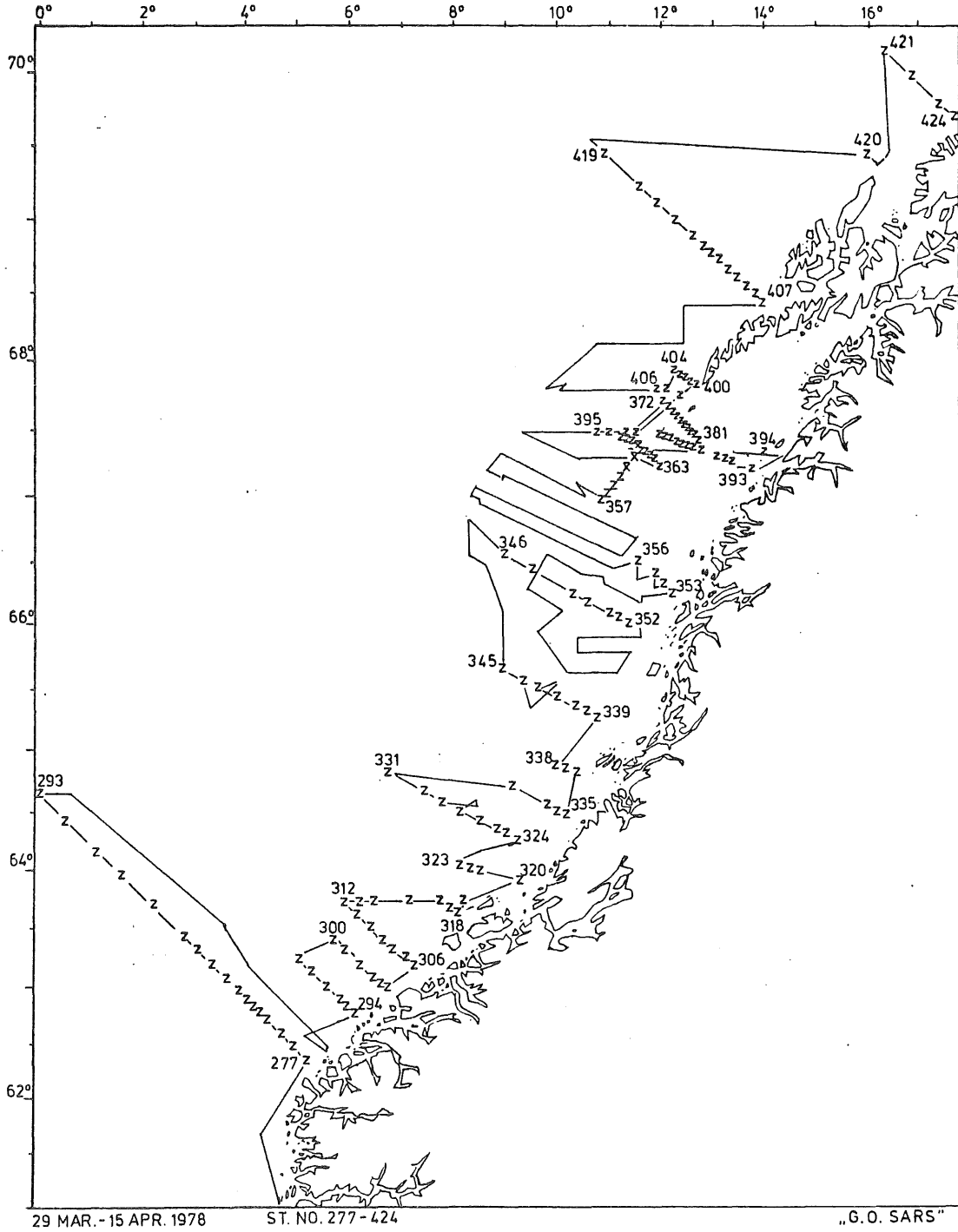
30 JAN. - 18 FEB. 1978 TRAWL ST. 23-68 "G. O. SARS"



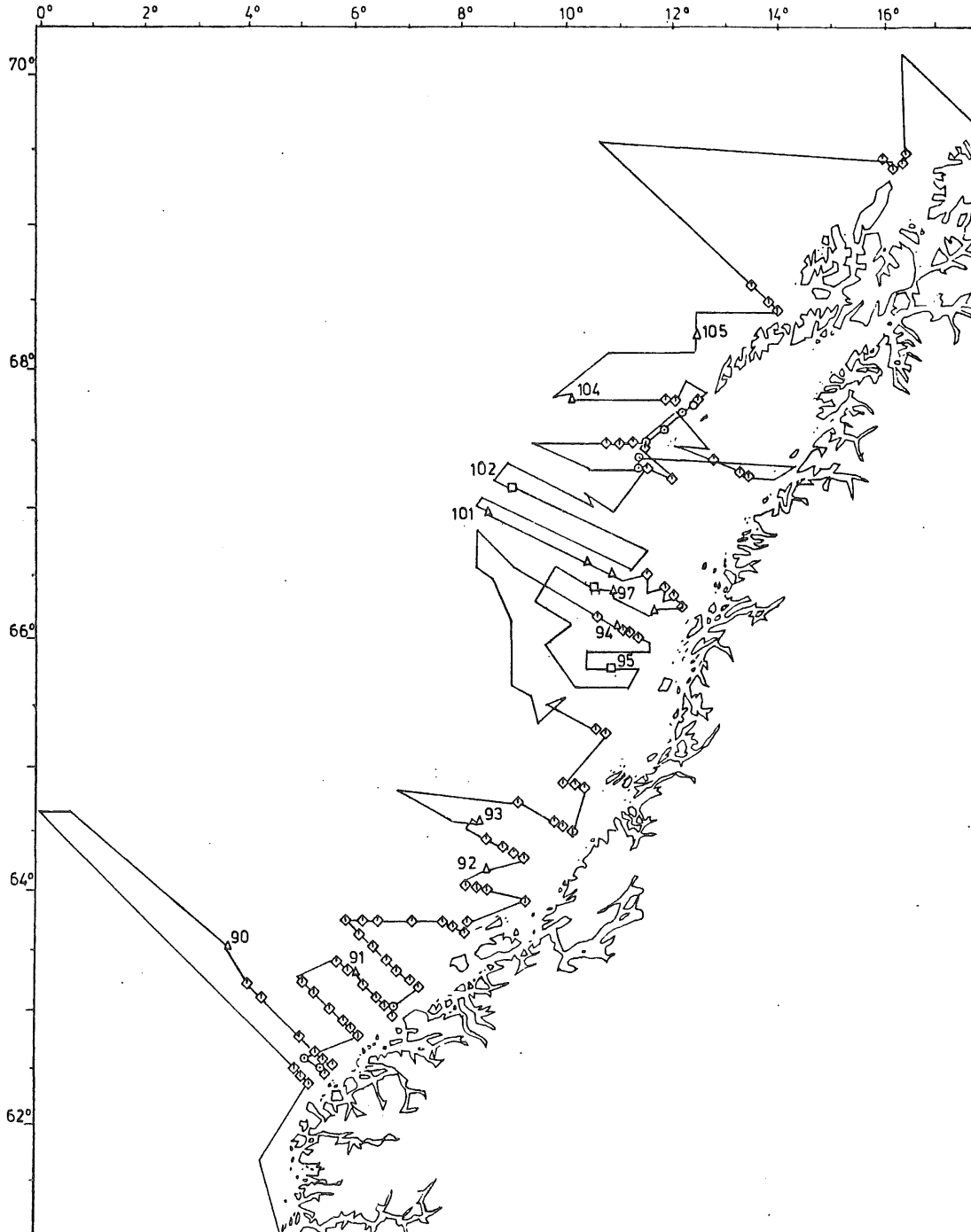


20 FEB. - 11 MAR. 1978 TRAWL ST. 69-89 „G.O. SARS“

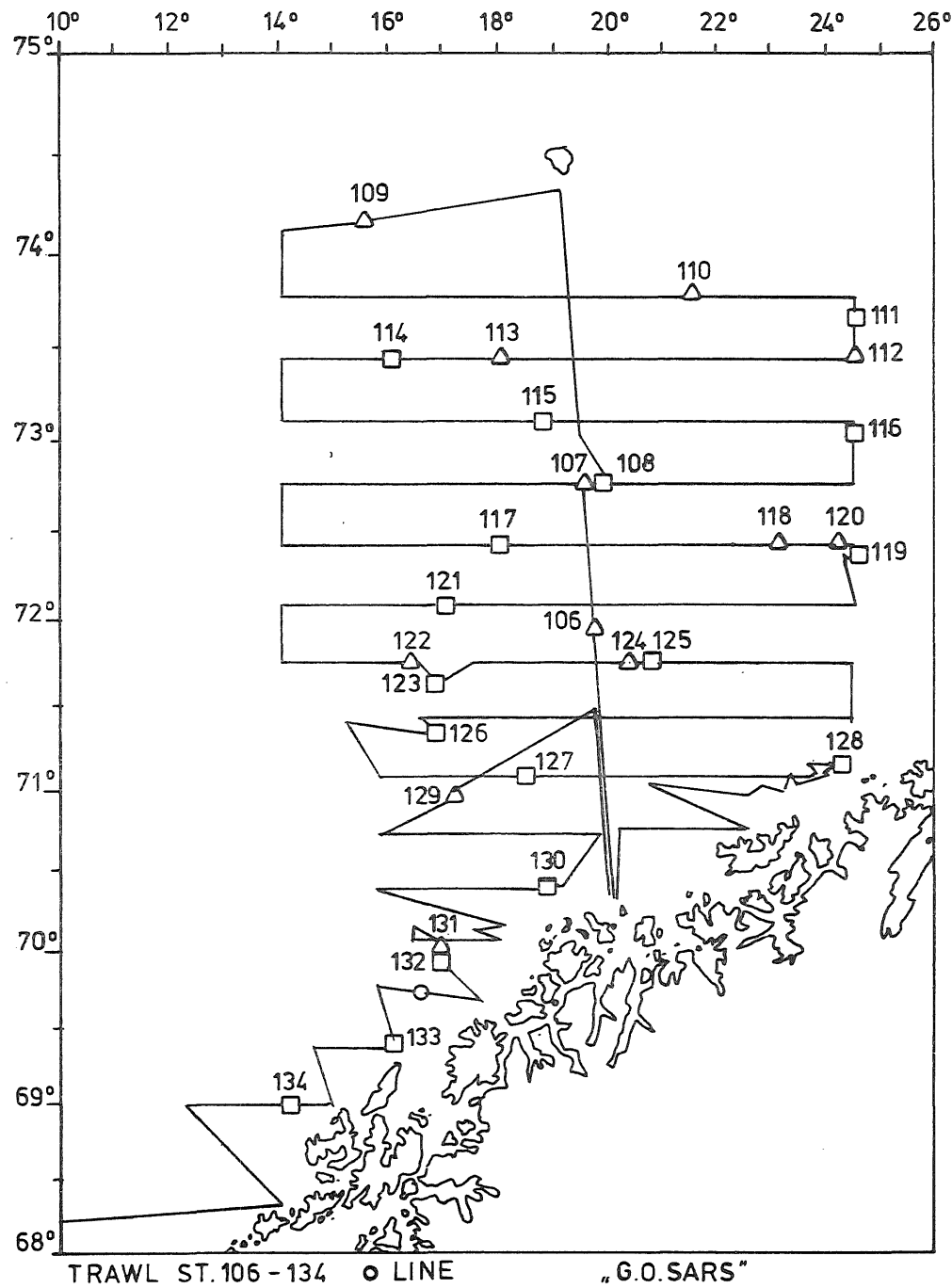
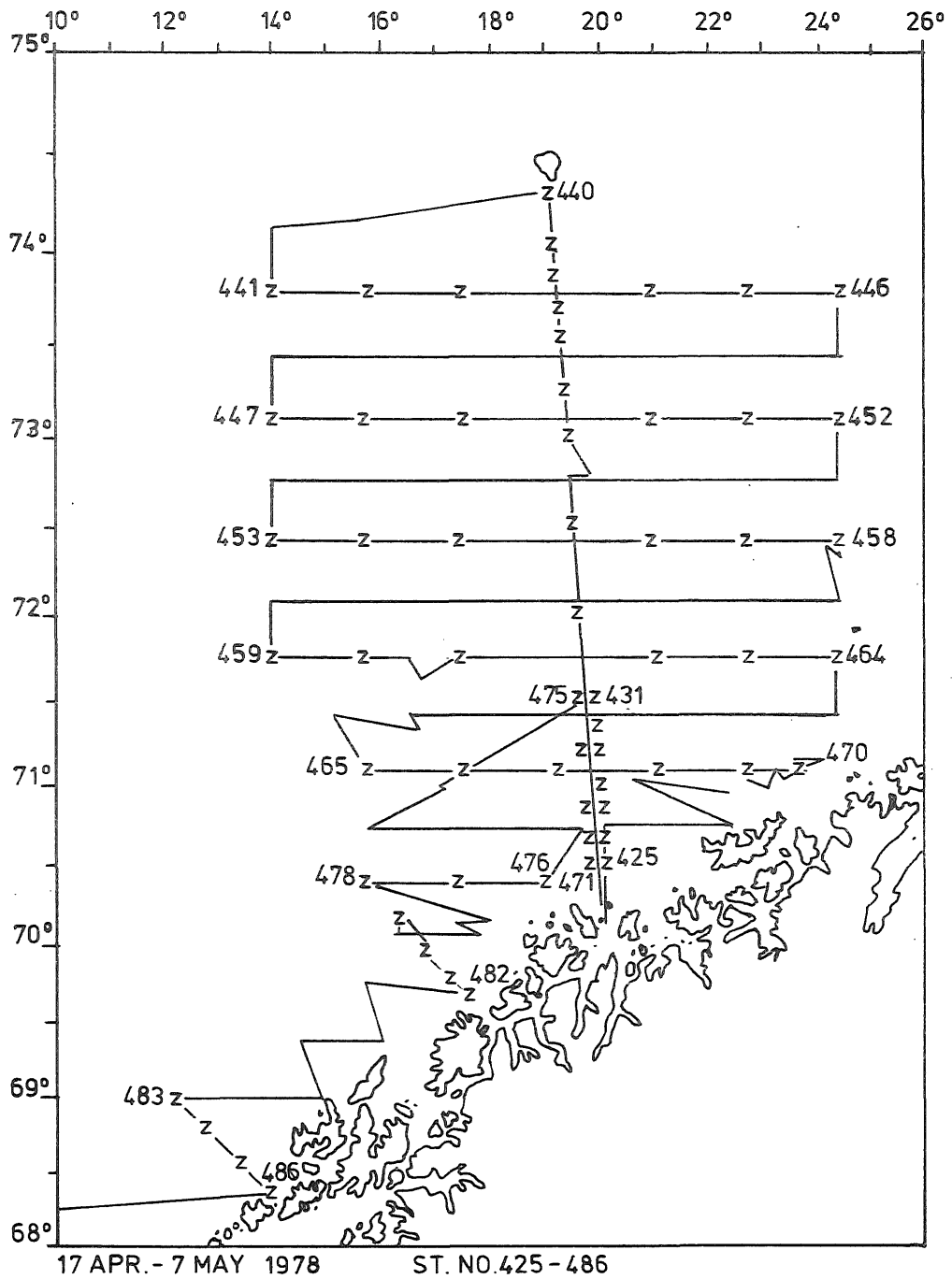


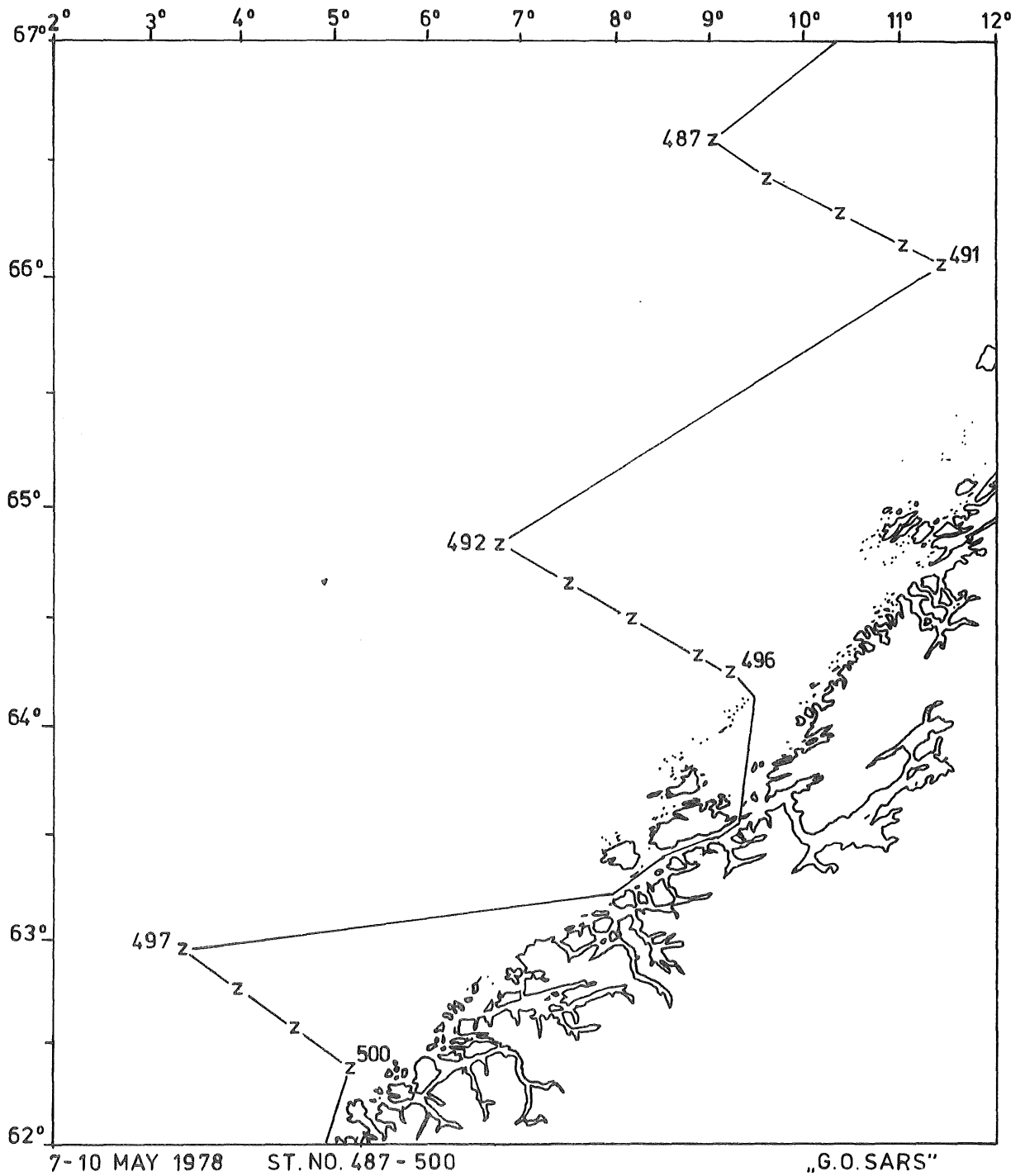


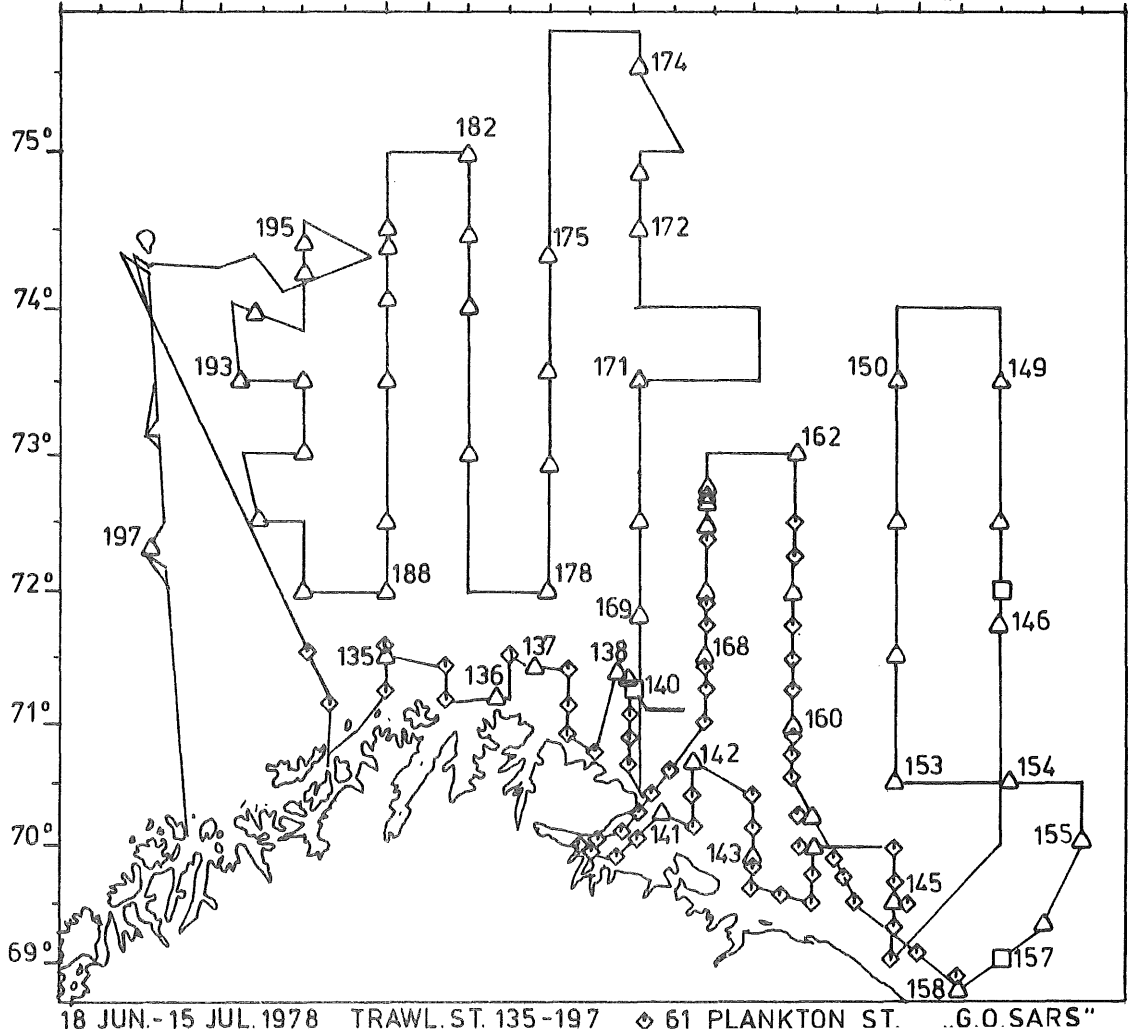
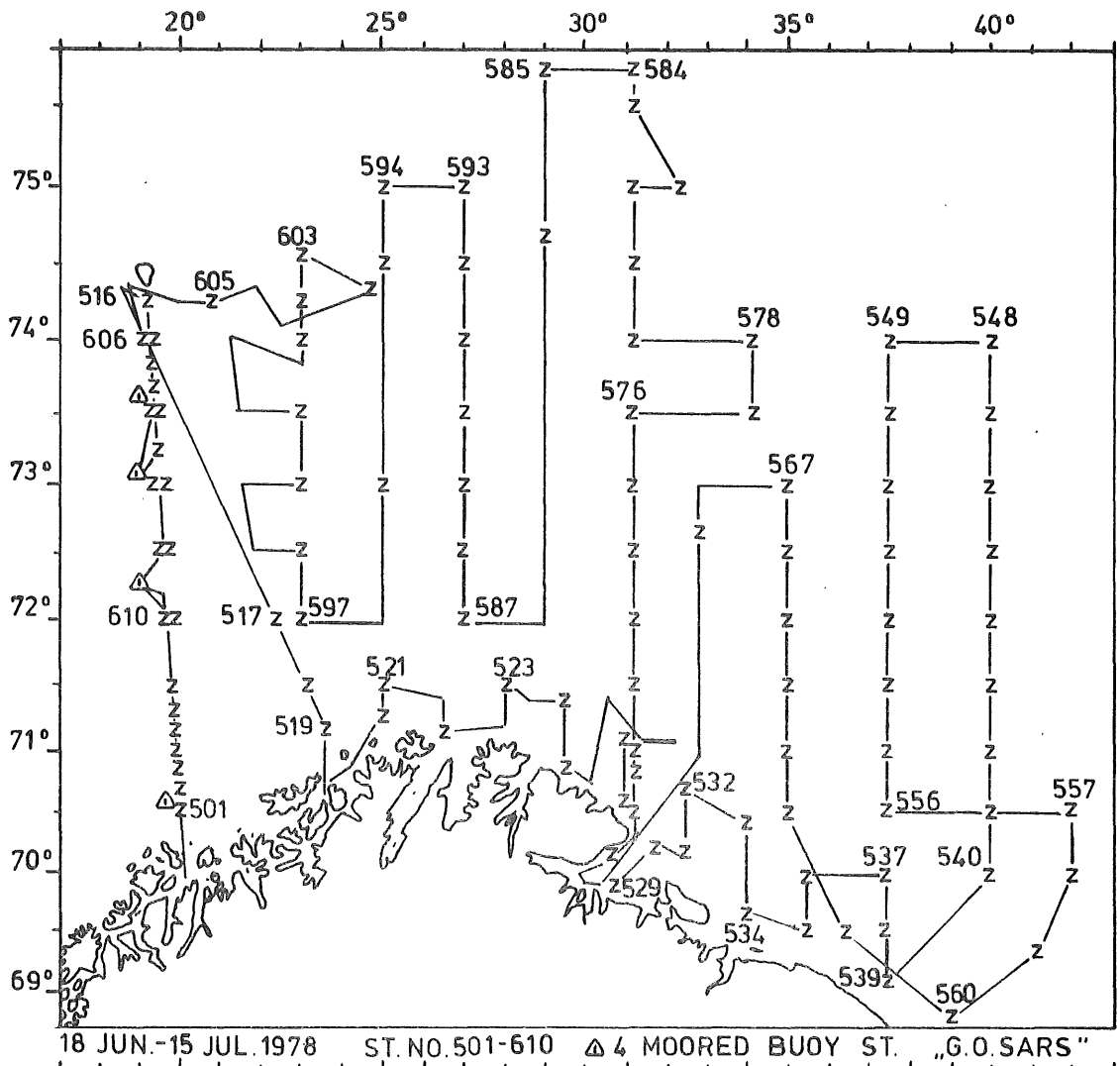


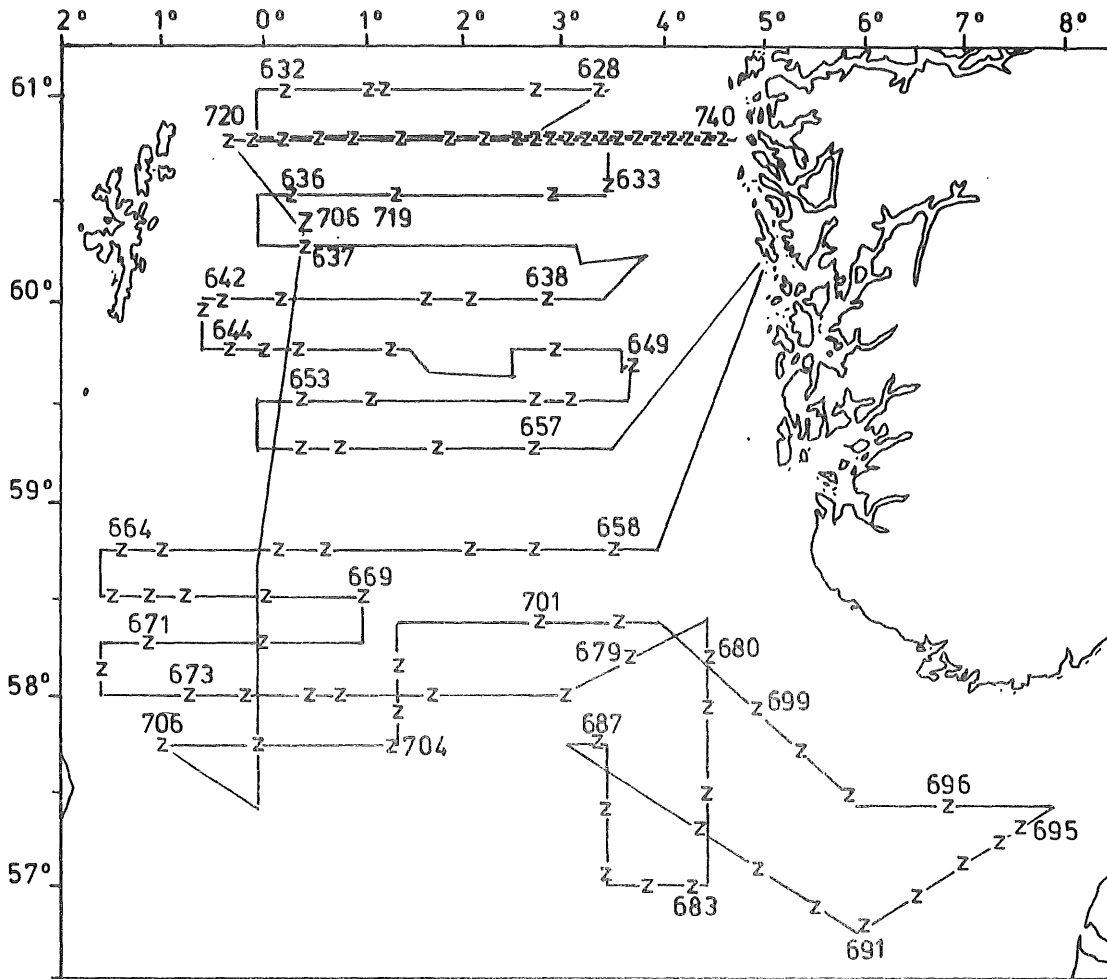


29 MAR. - 15 APR. 1978 TRAWL ST. 90-105 ◊ 81 PLANKTON ST. ○ 9 GRAB "G.O. SARS"

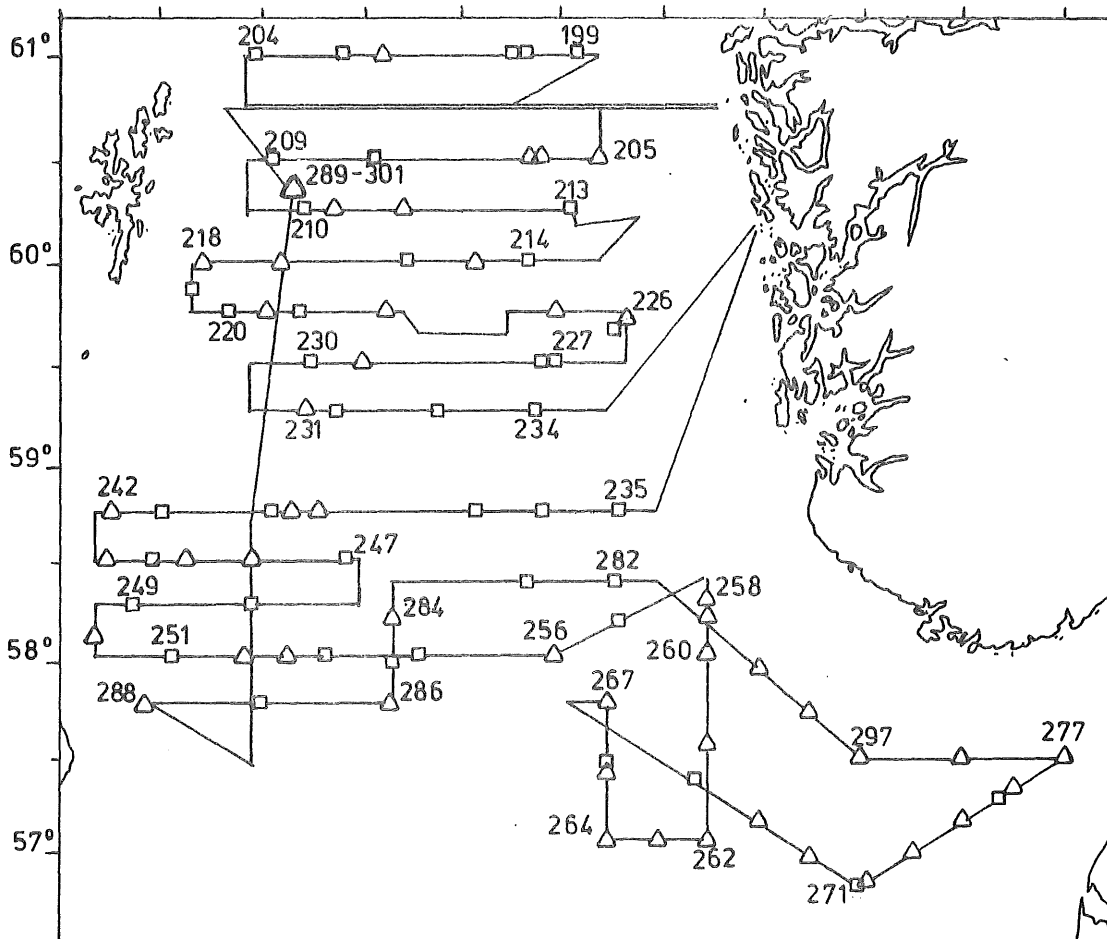




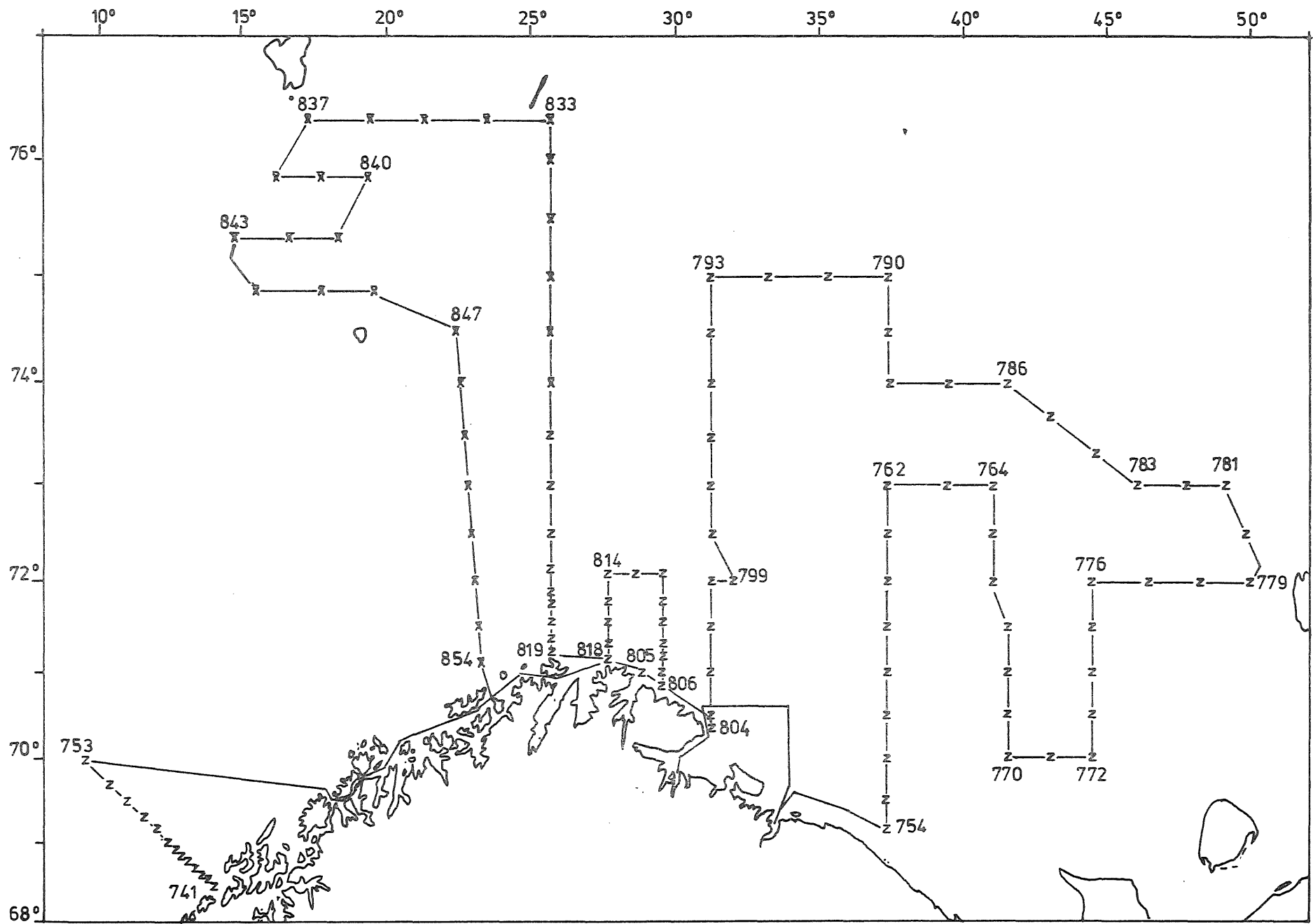




23 JUL. - 11 AUG. 1978 ST.NO. 628 - 740 „G.O.SARS”

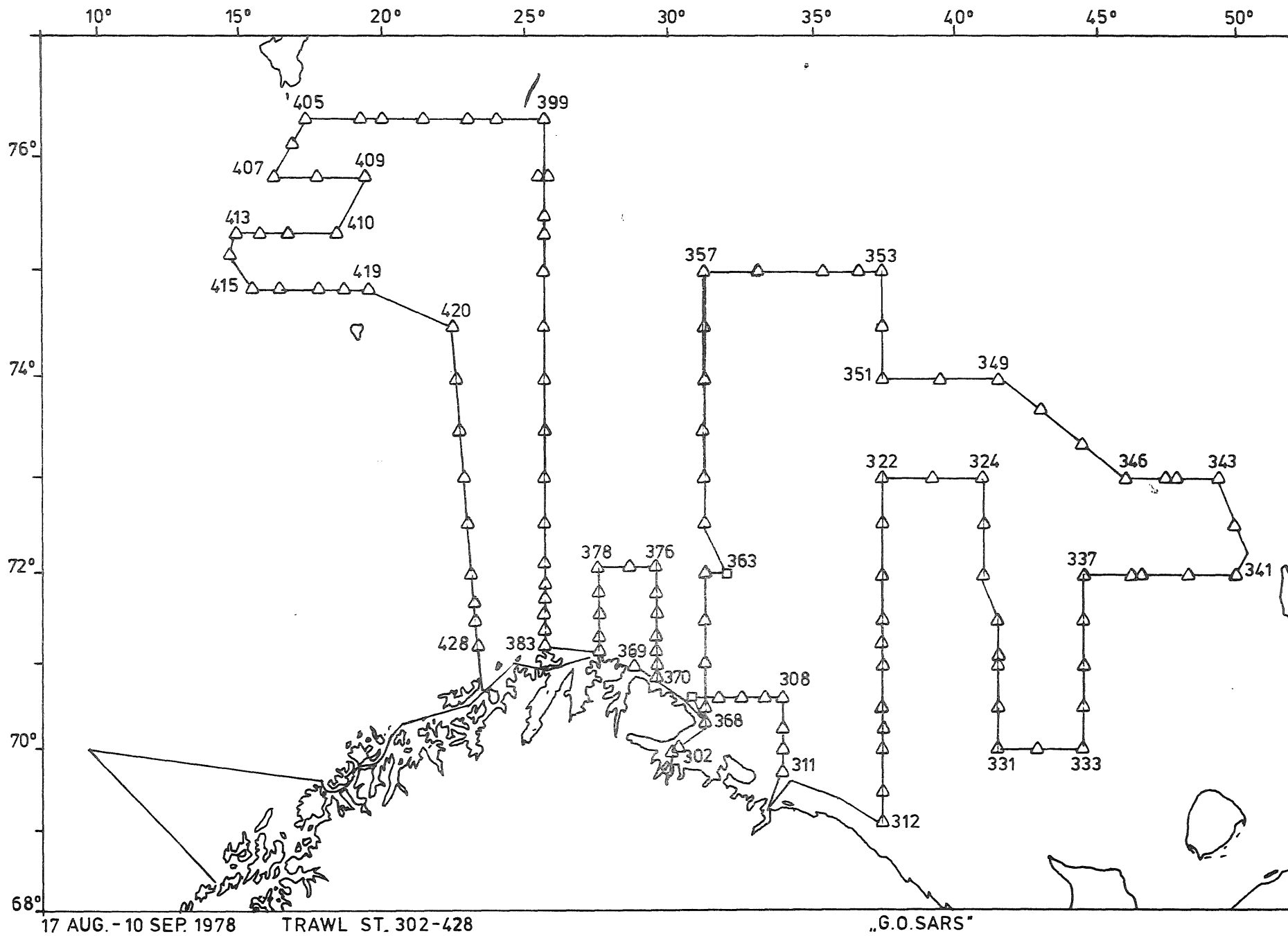


23 JUL. - 11 AUG. 1978 TRAWL ST. 199-301 „G.O.SARS”

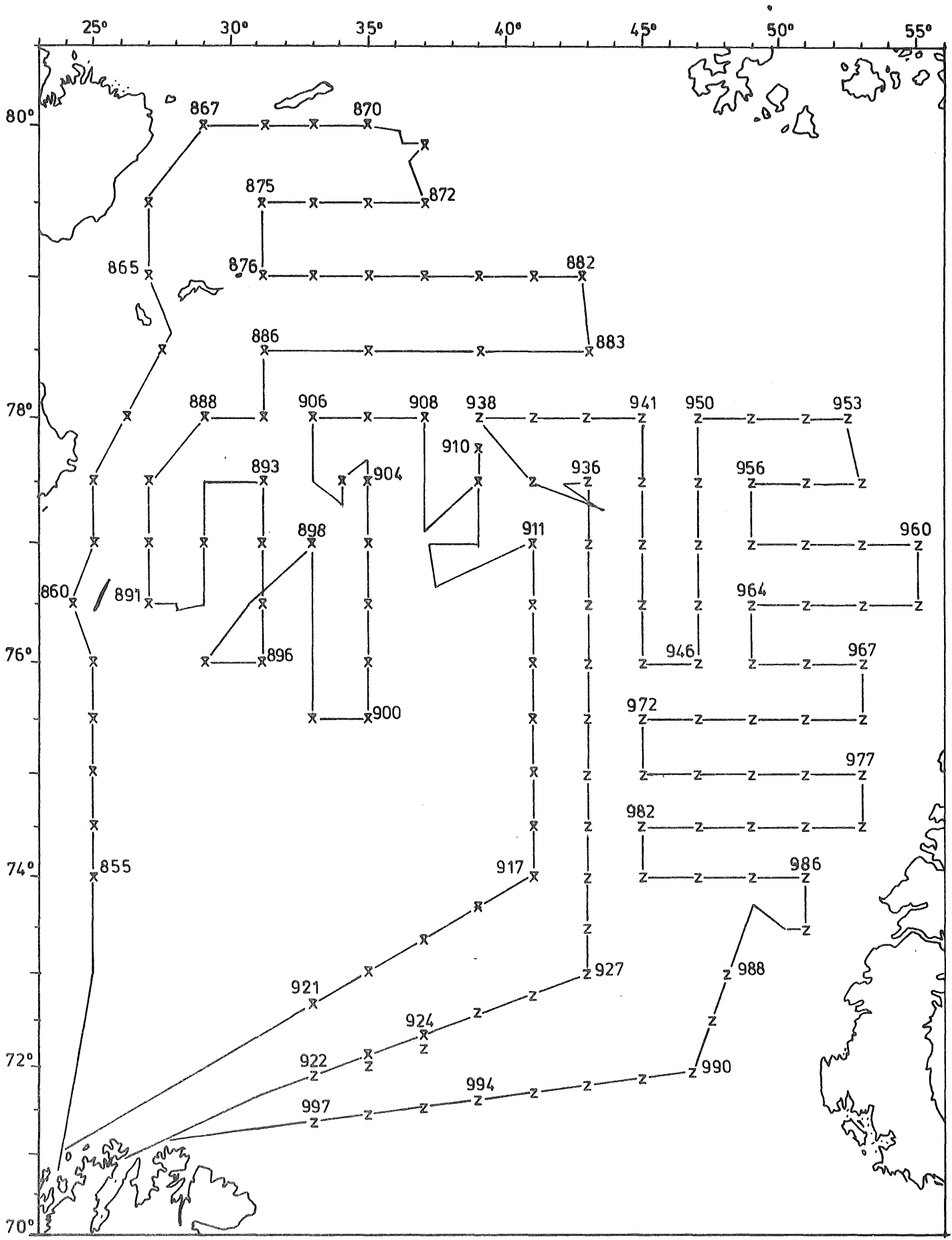


17 AUG. - 10 SEP. 1978 ST. NO. 741 - 854

„G.O.SARS“



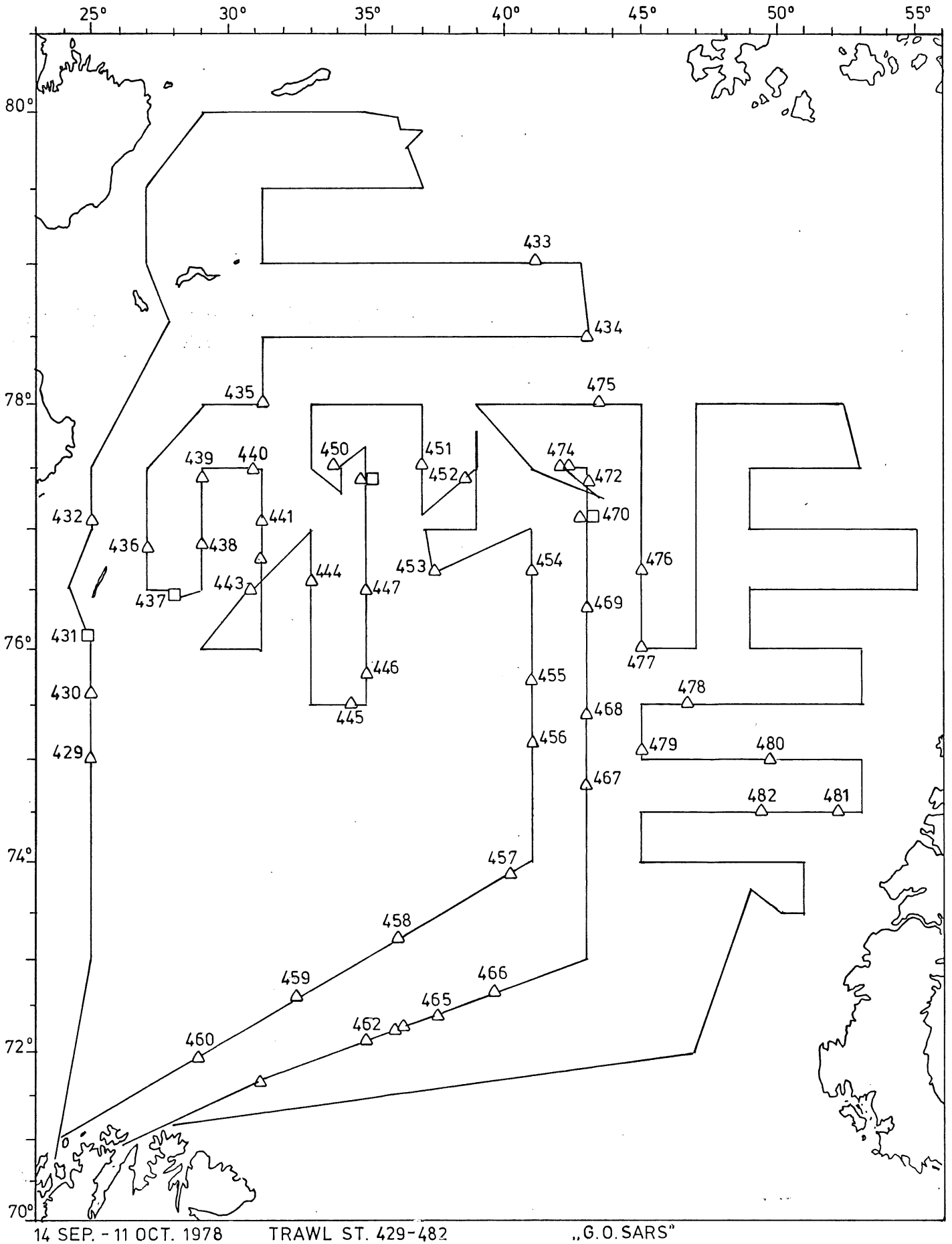


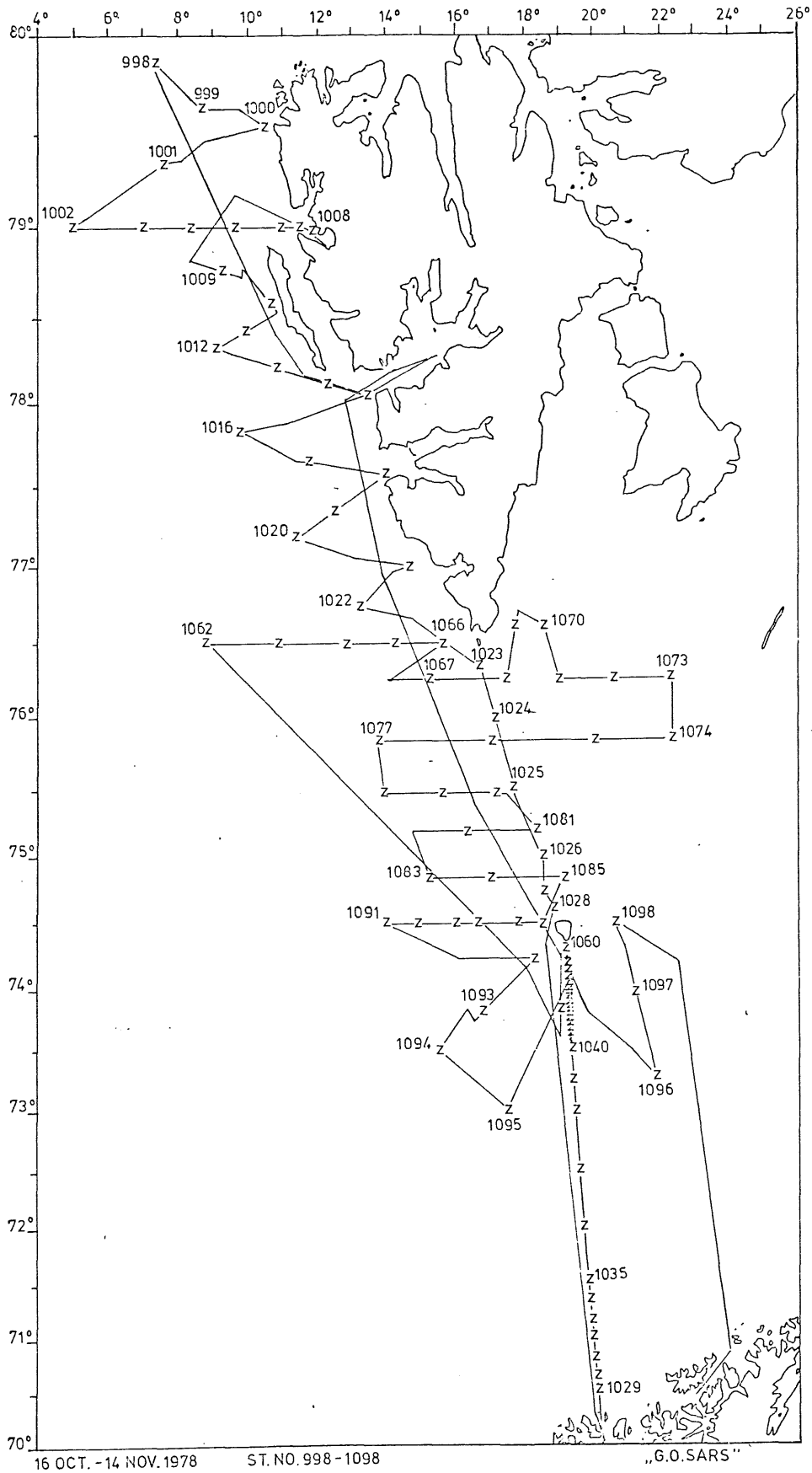


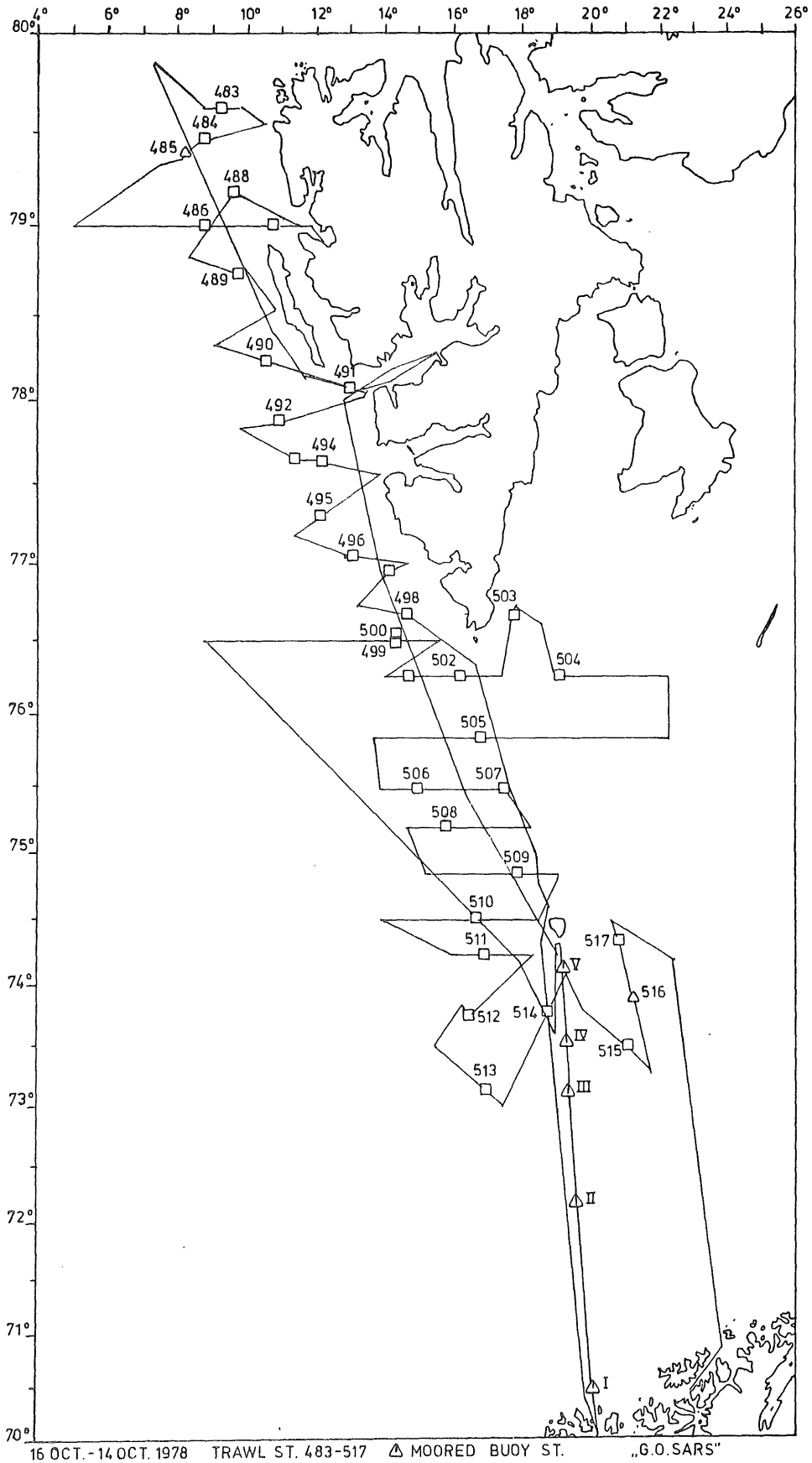
14 SEP - 11 OCT. 1978

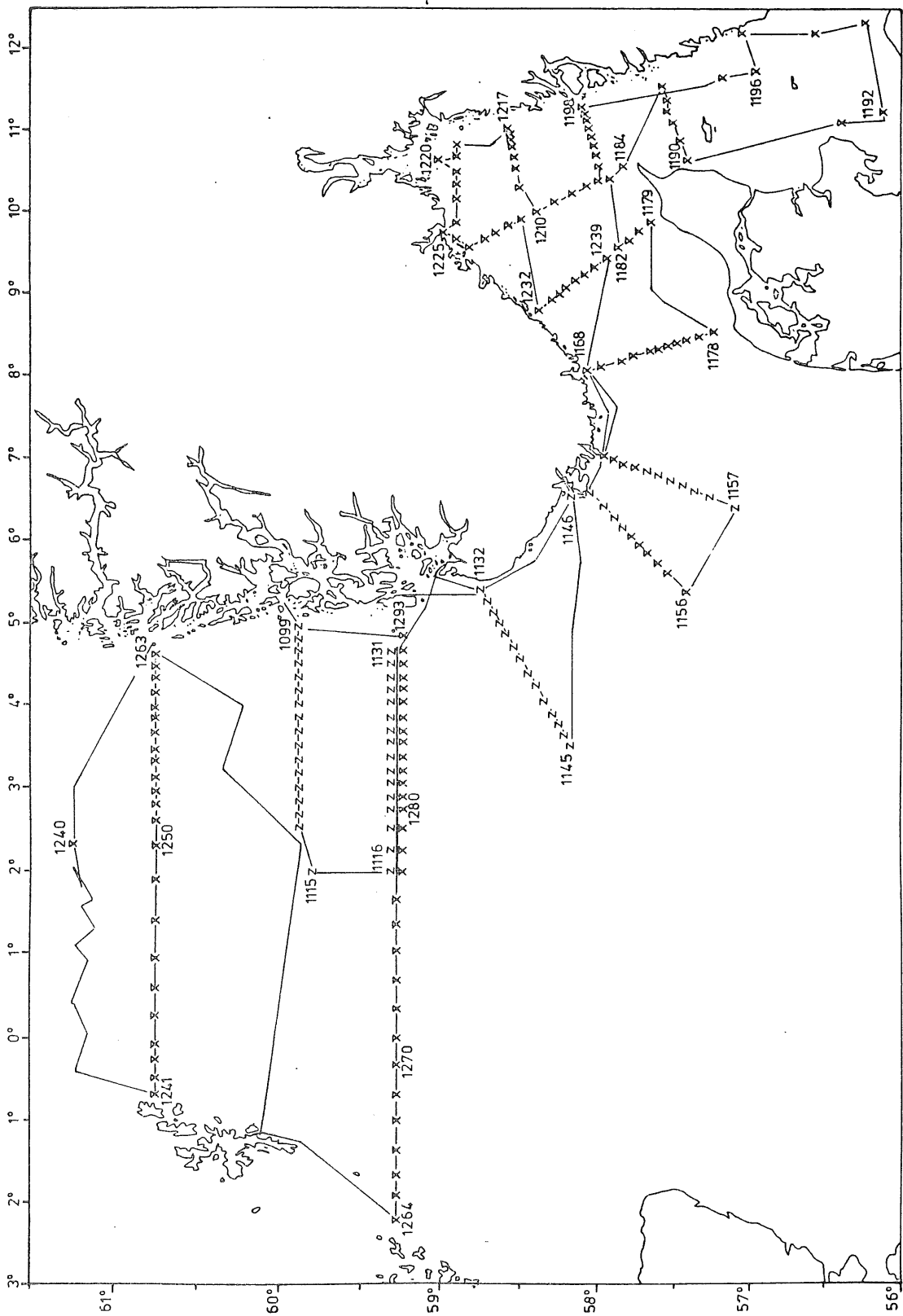
ST.NO. 855 - 997

„G.O.SARS“



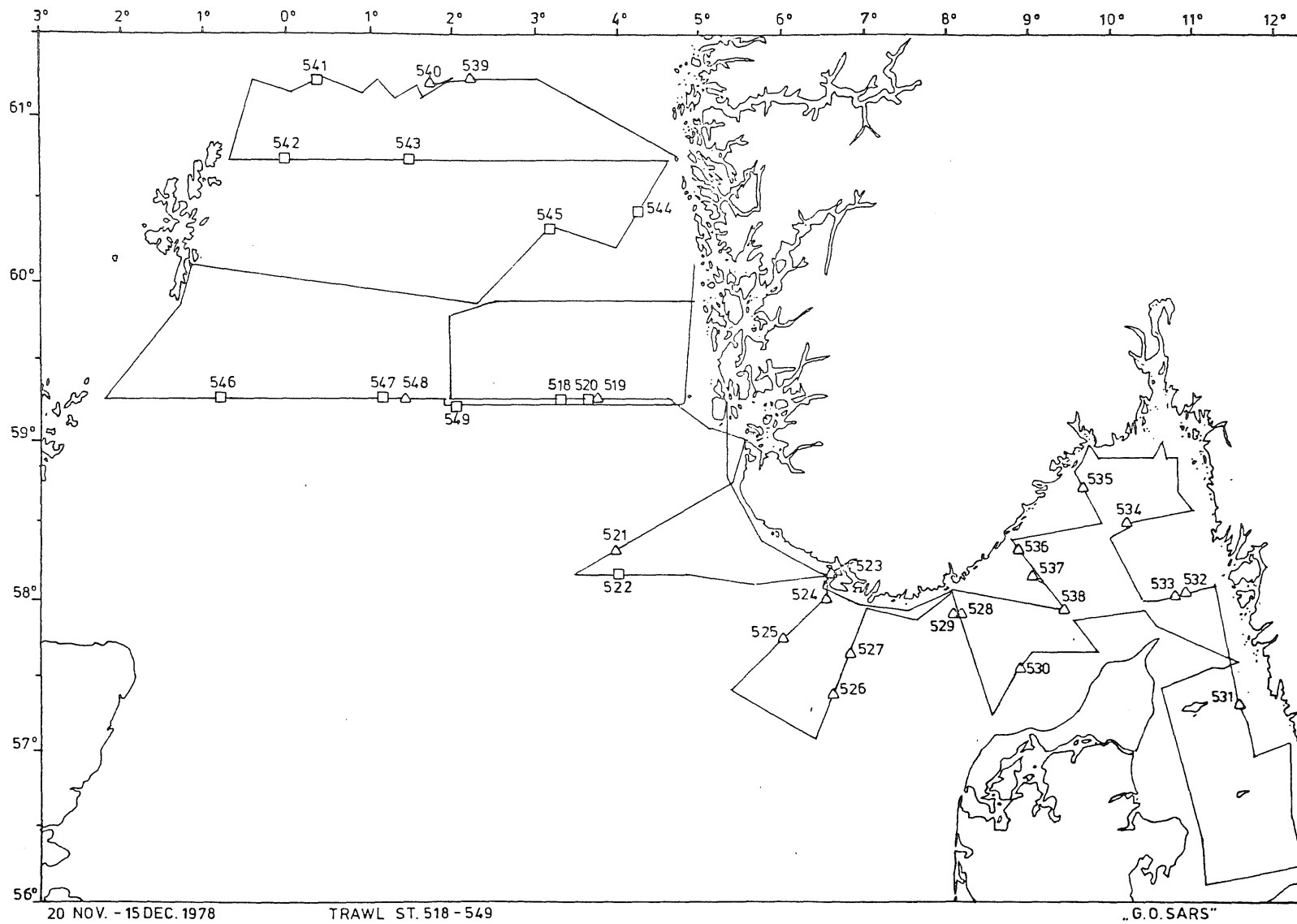


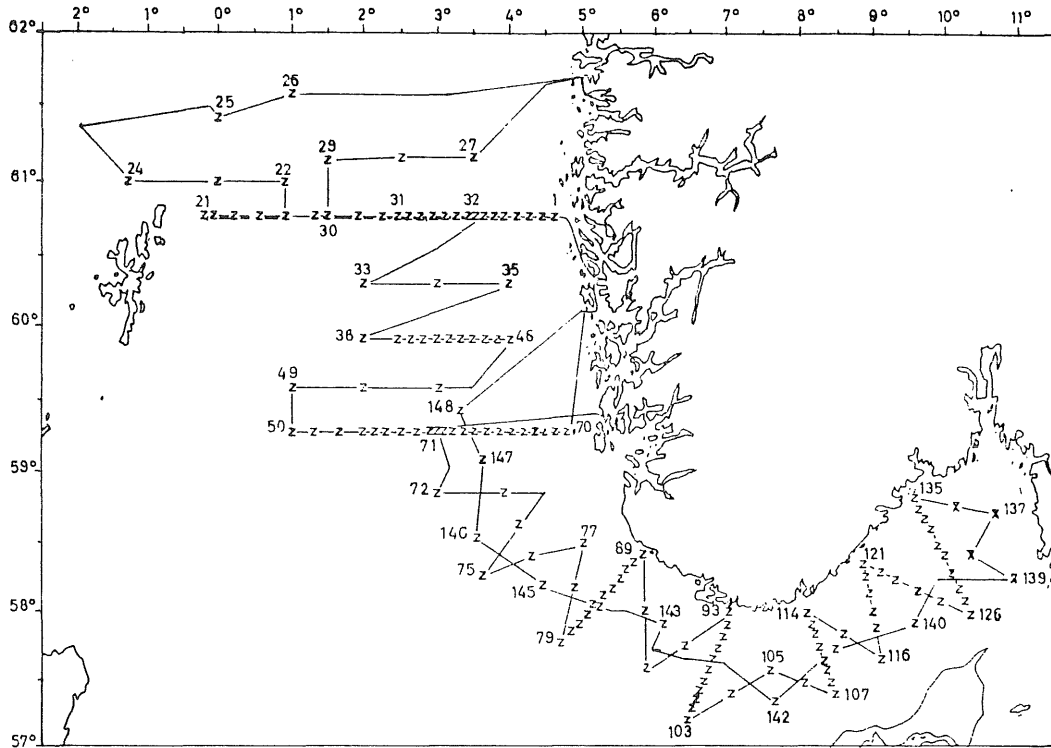




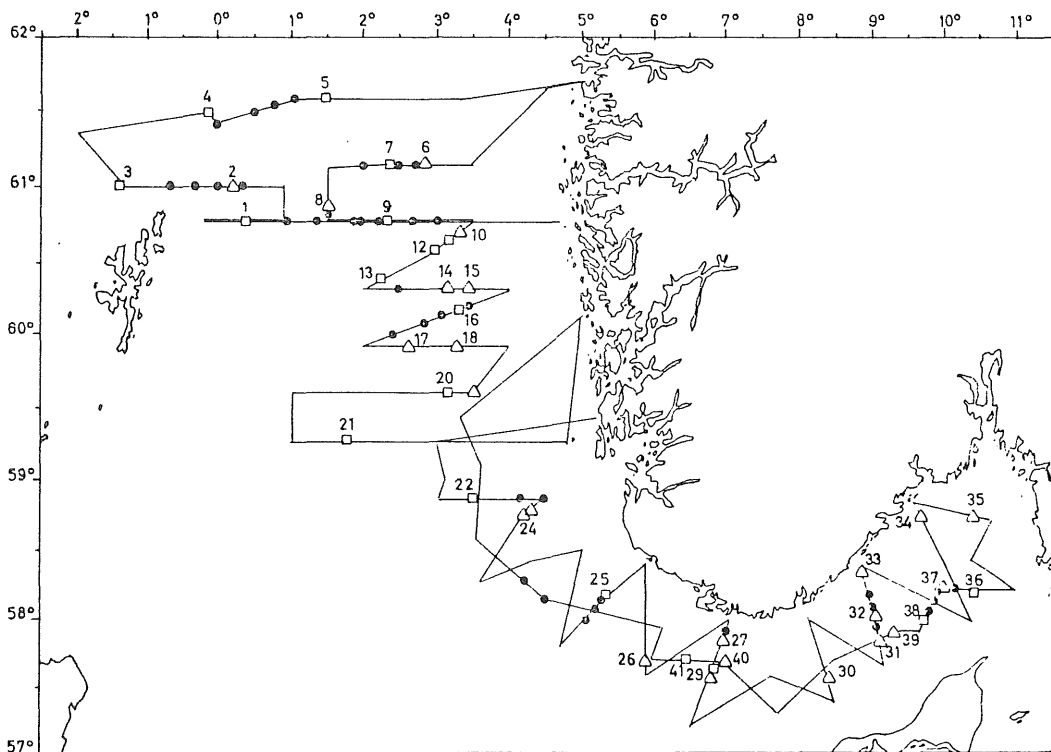
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"G.O. SARS"



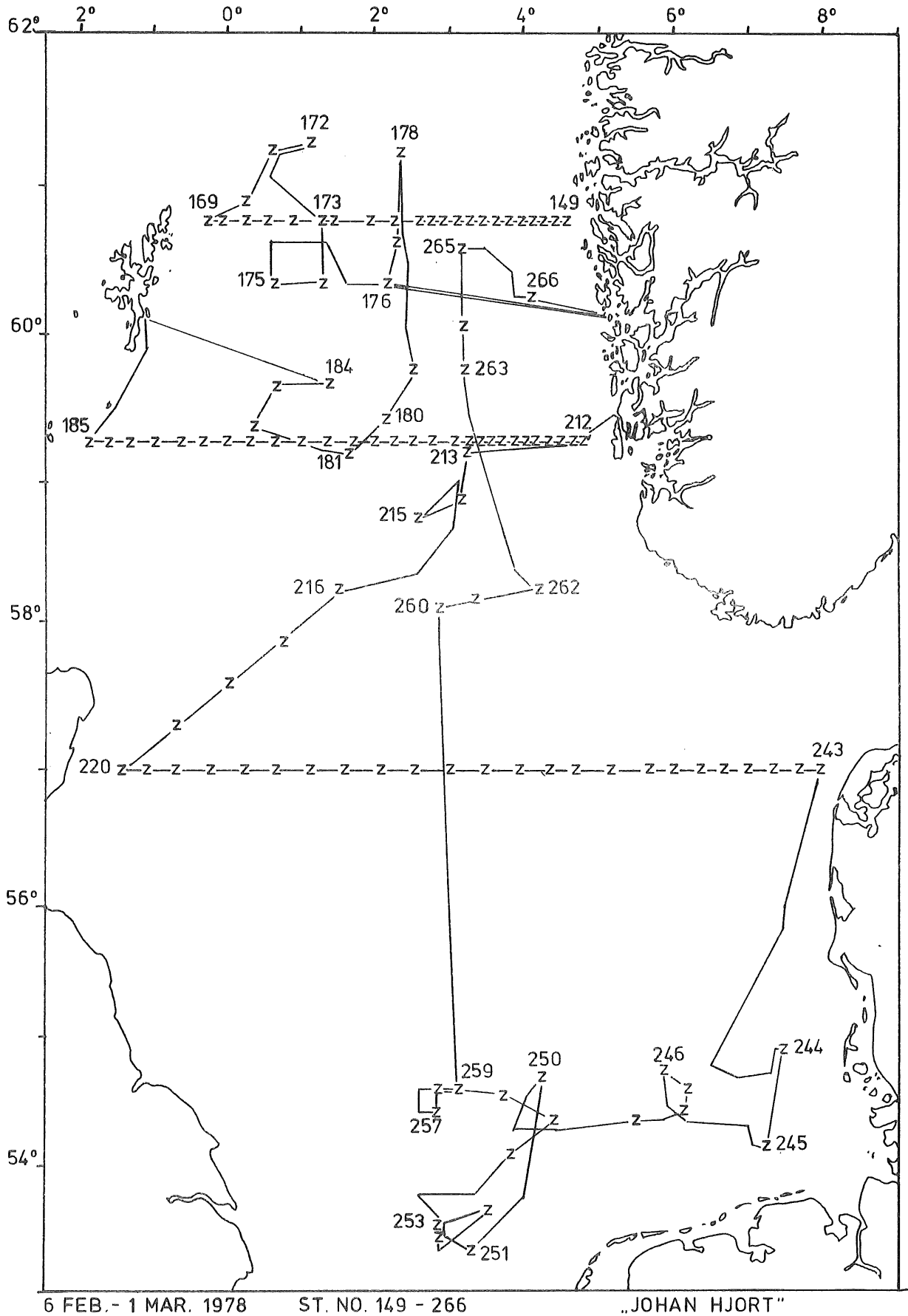


7 JAN. - 3 FEB. 1978 ST. NO. 1-148



7 JAN. - 3 FEB. 1978 TRAWL ST. 1-41 39 JIG ST.

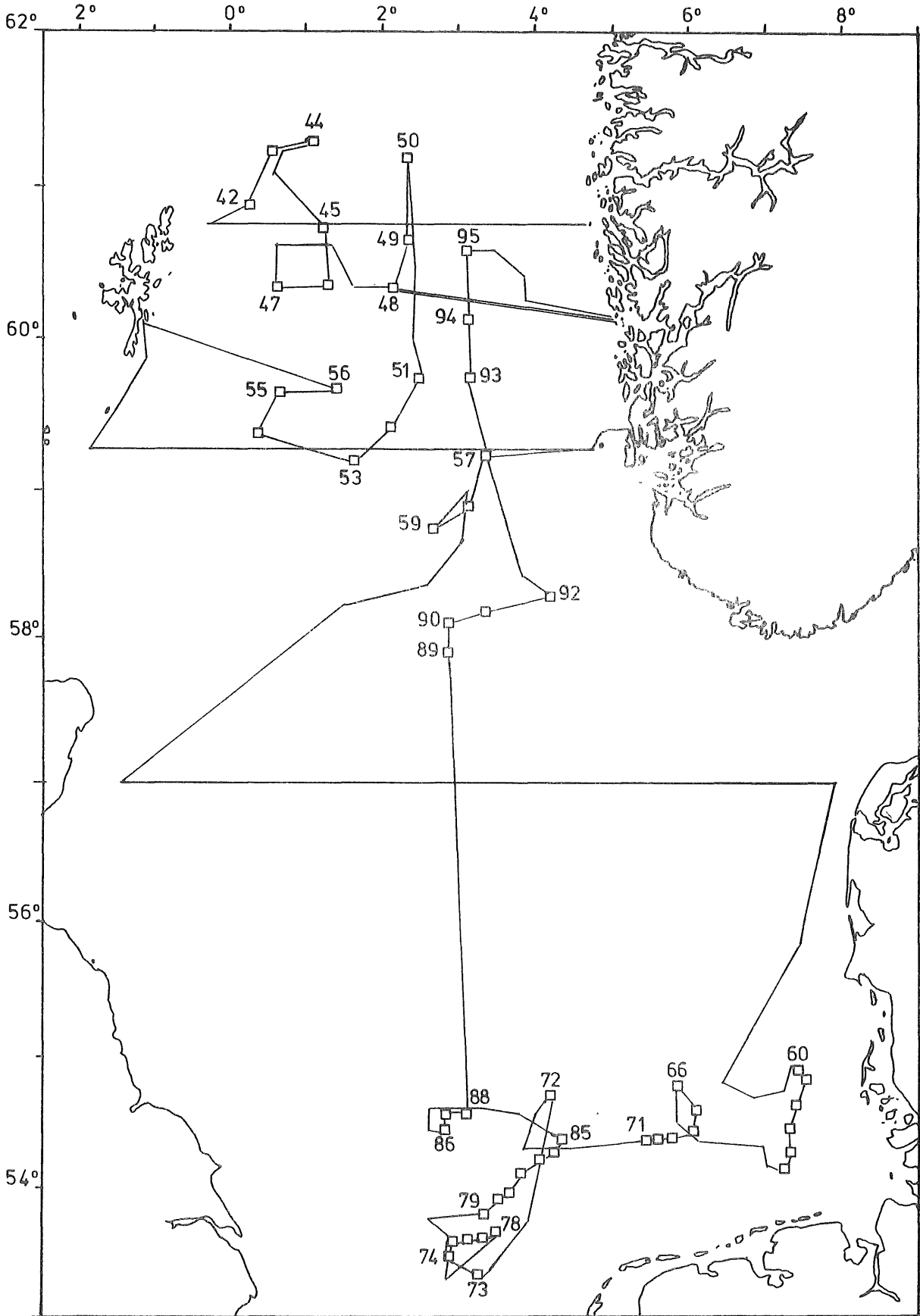




6 FEB. - 1 MAR. 1978

ST. NO. 149 - 266

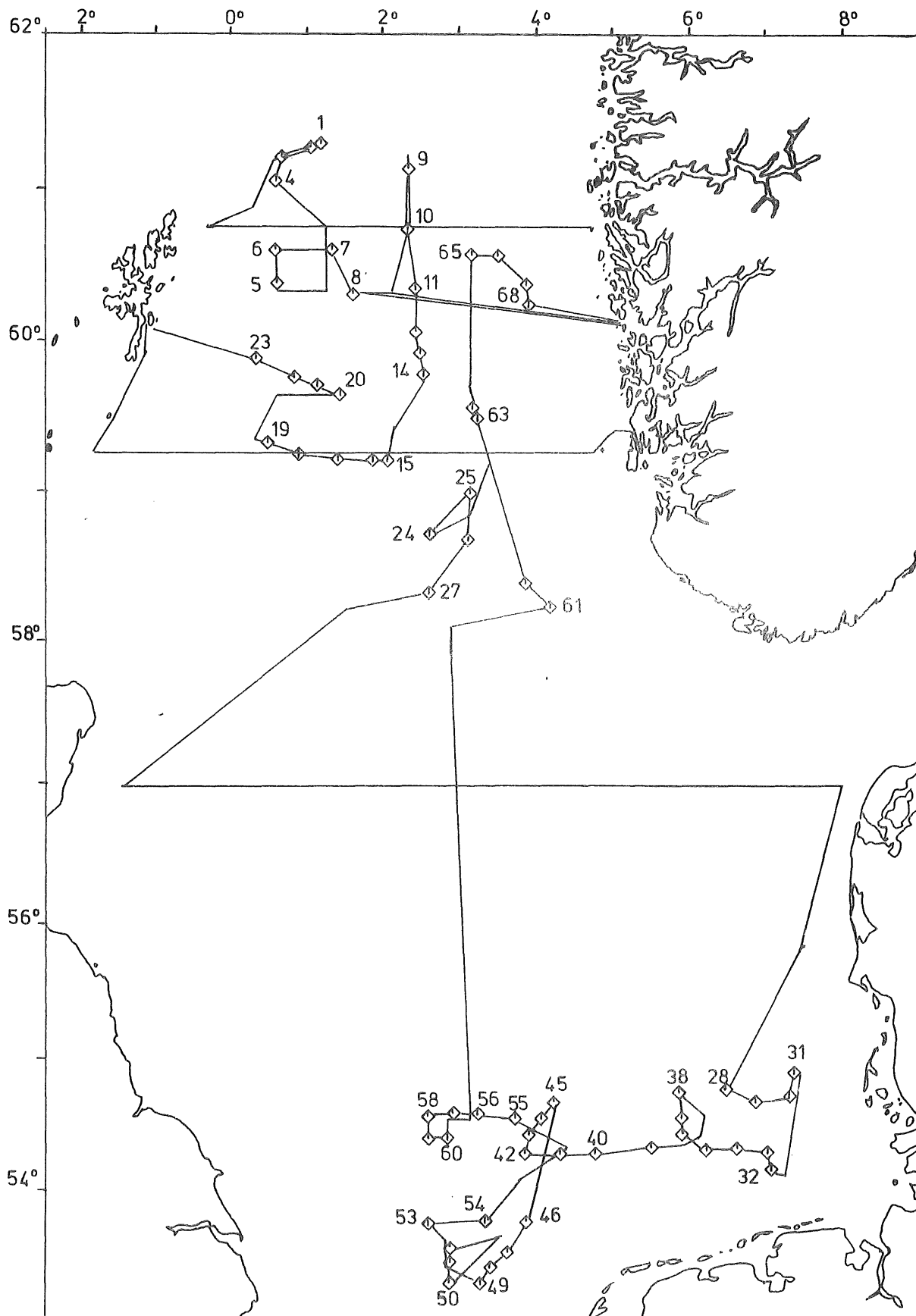
„JOHAN HJORT“



6 FEB. - 1 MAR. 1978

TRAWL ST. 42-95

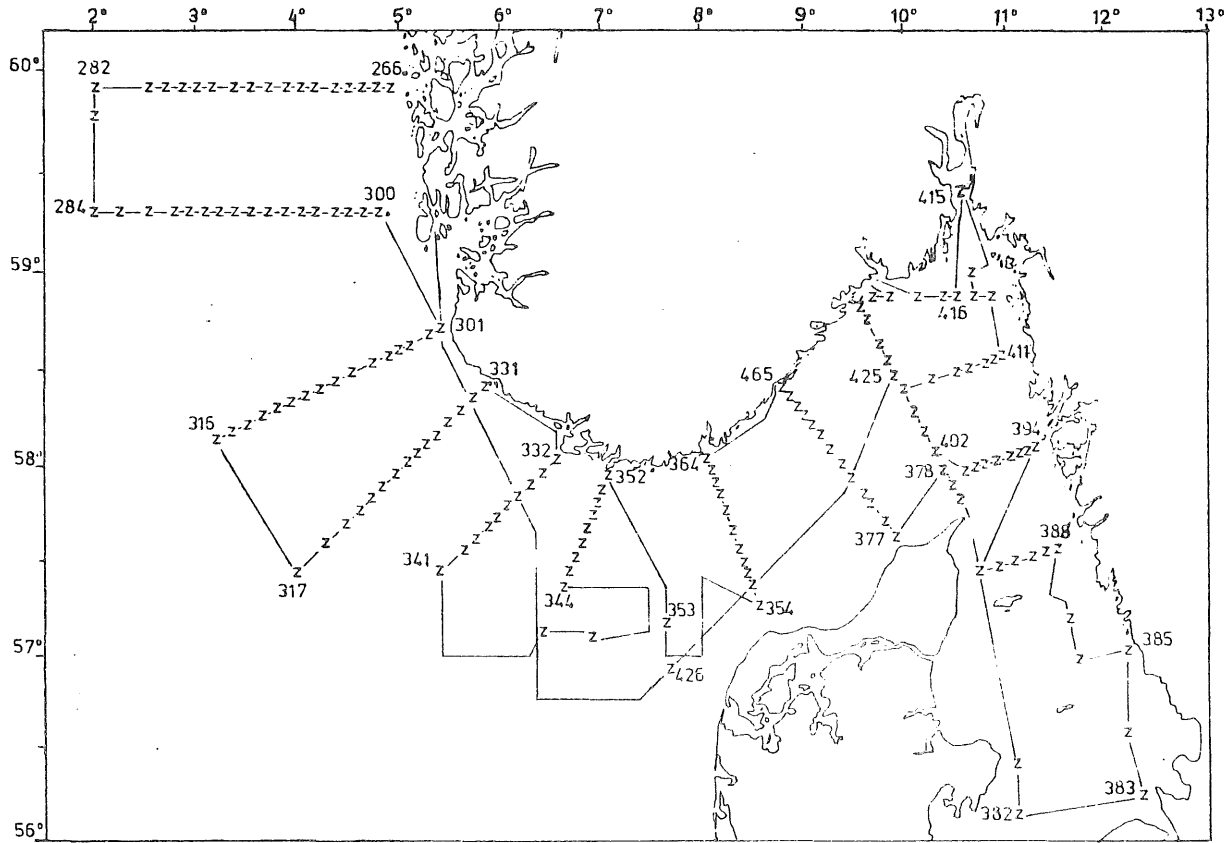
„JOHAN HJORT“



6 FEB. - 1 MAR. 1978

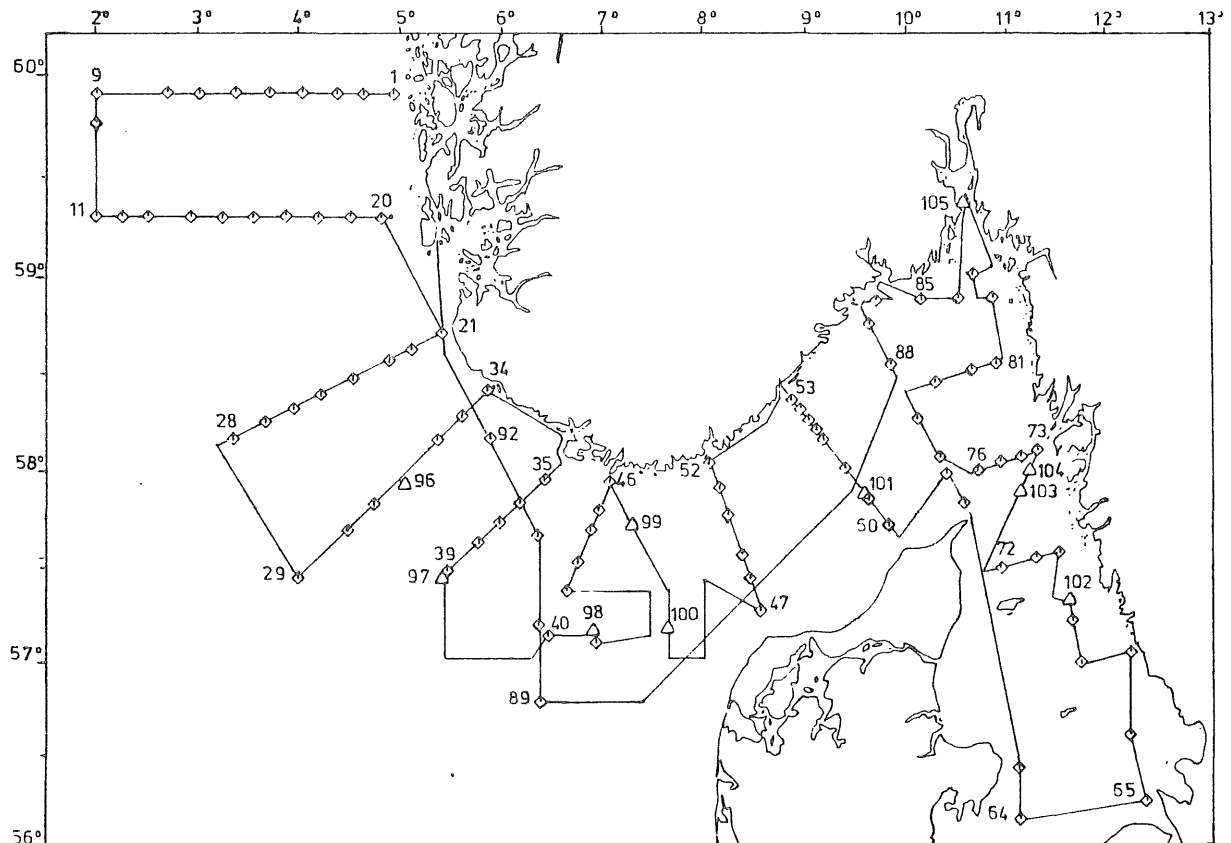
PLANKTON ST. 1-68

„JOHAN HJORT“



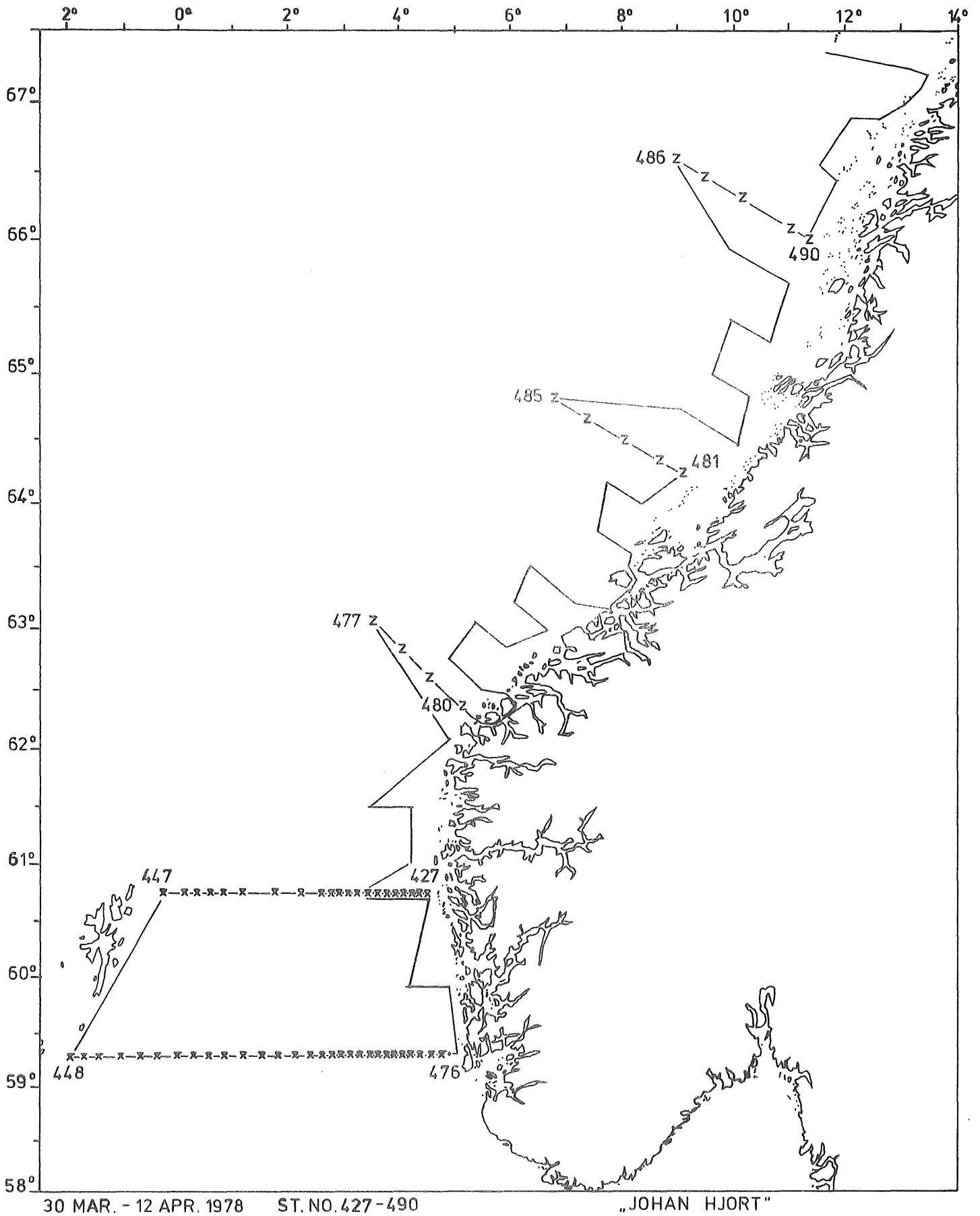
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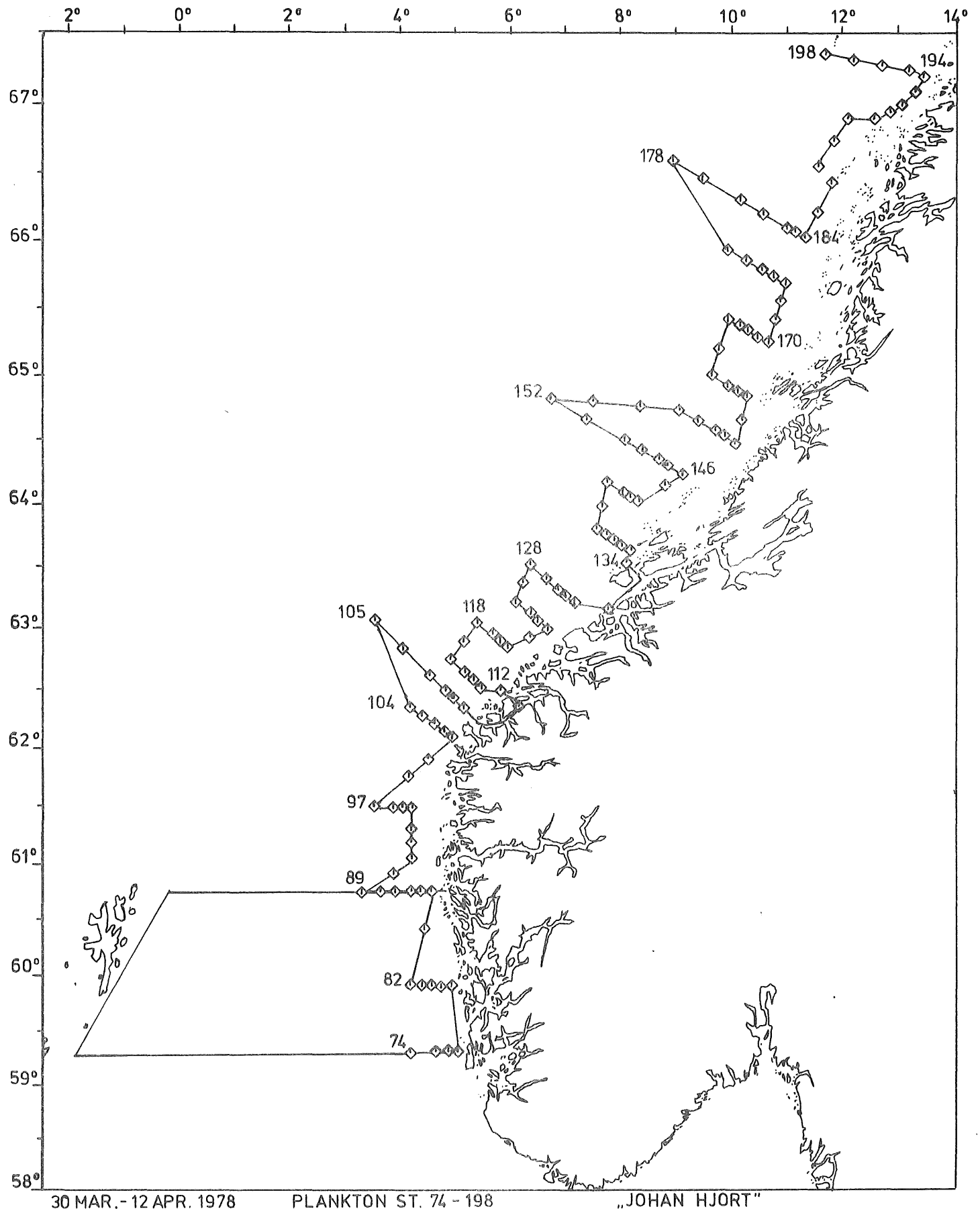
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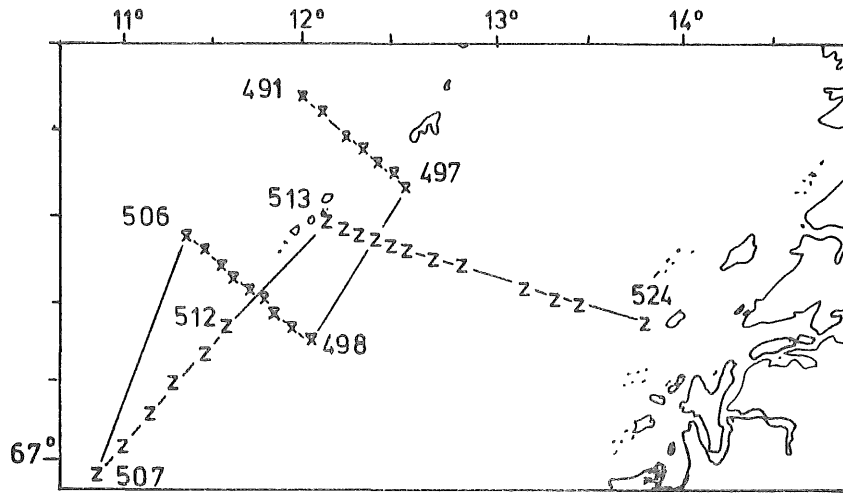


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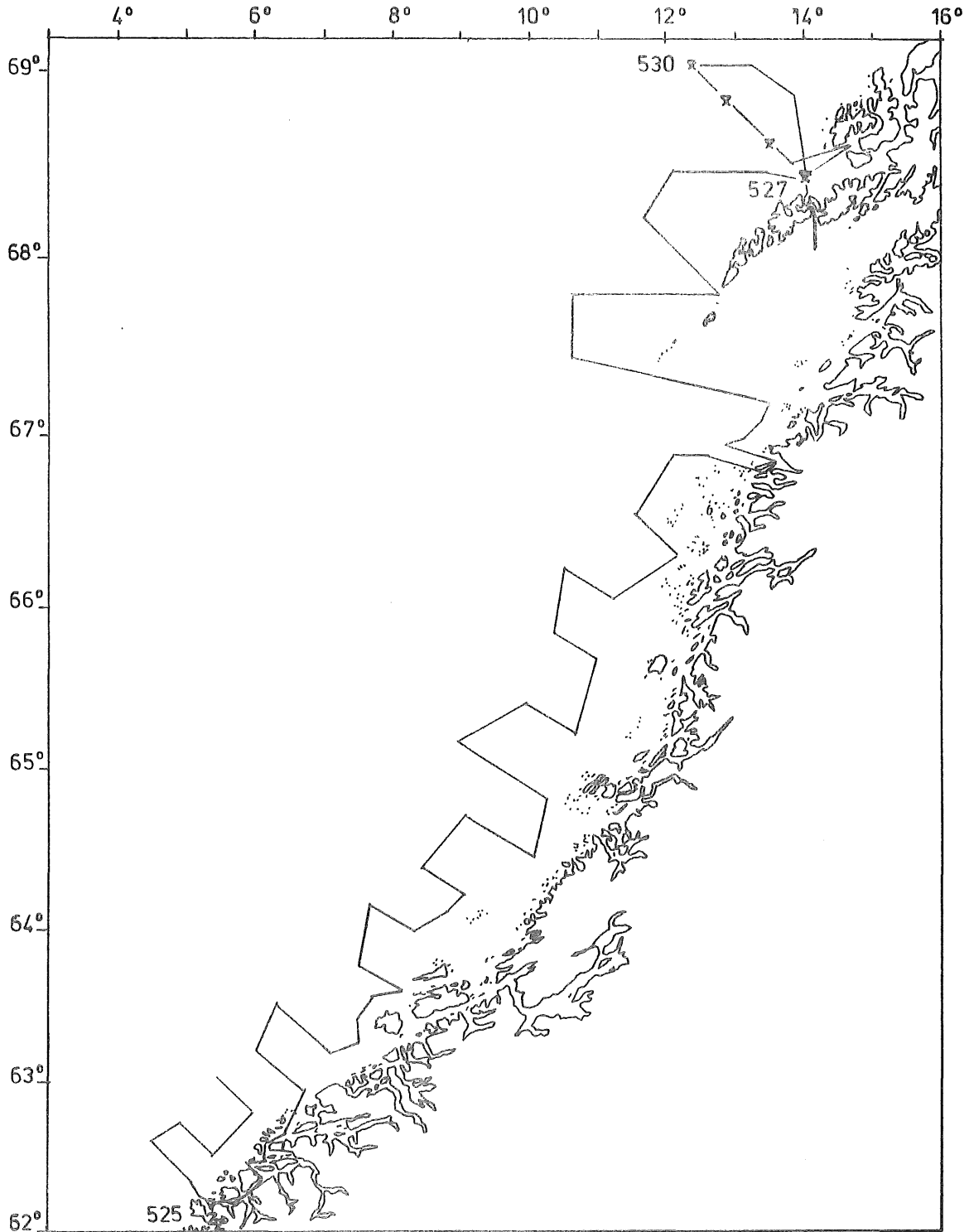
„JOHAN HJORT“





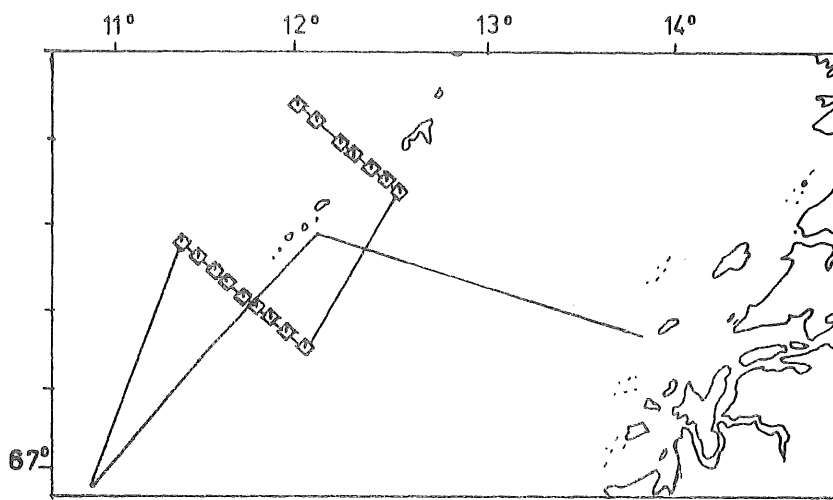


13-14 APR. 1978 ST.NO. 491-524

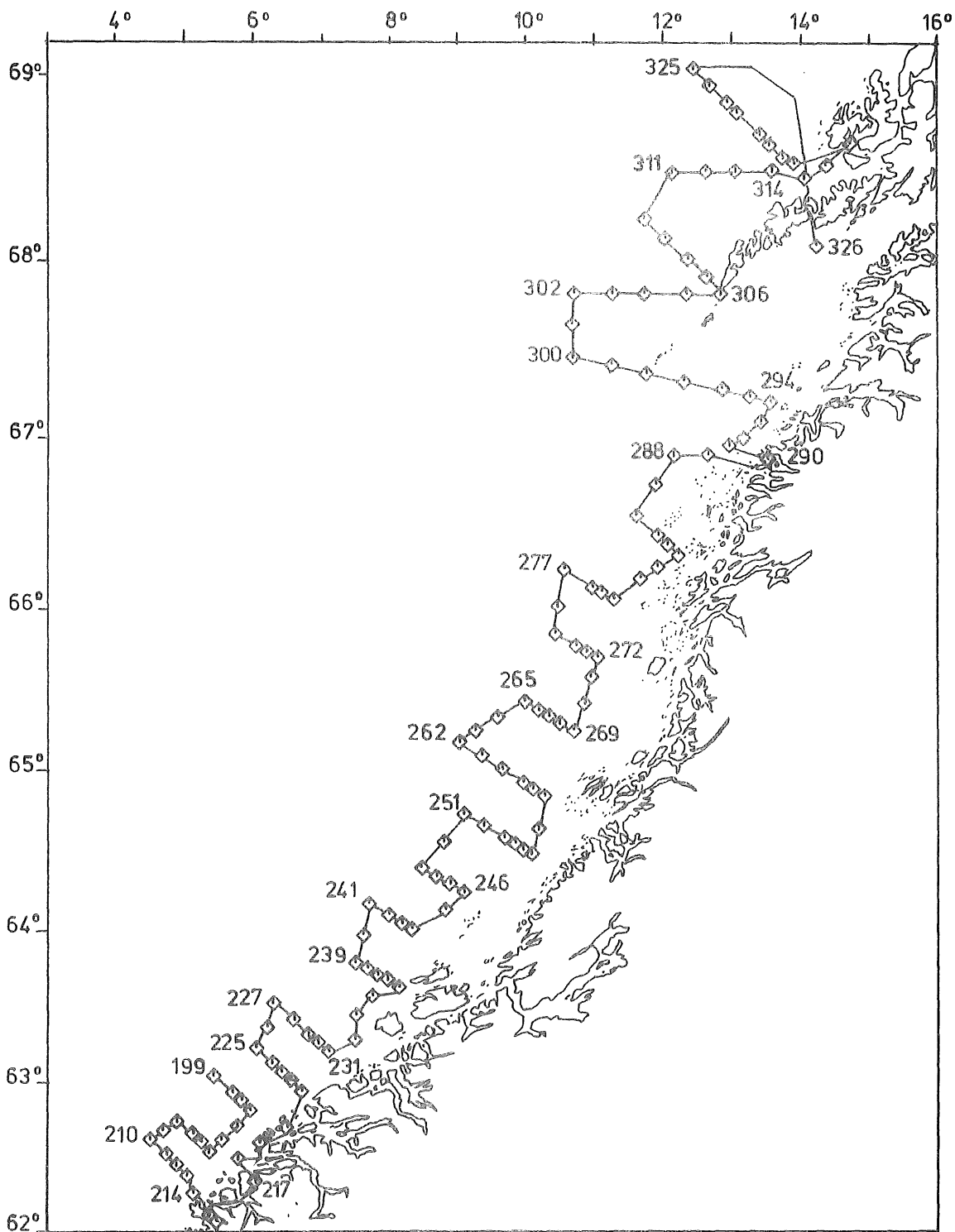


16-24 APR. 1978 ST.NO. 525-530 „JOHAN HJORT“



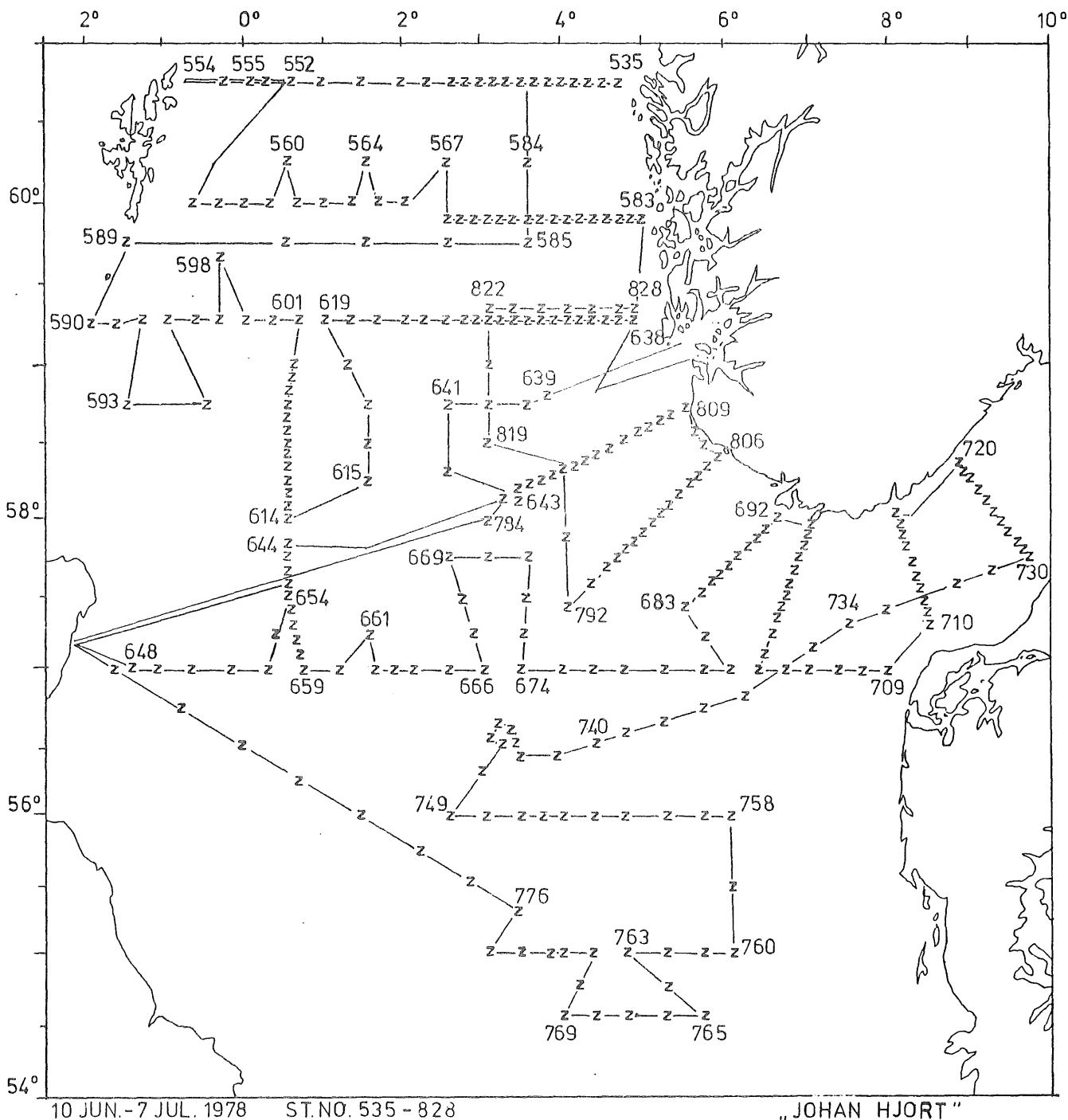


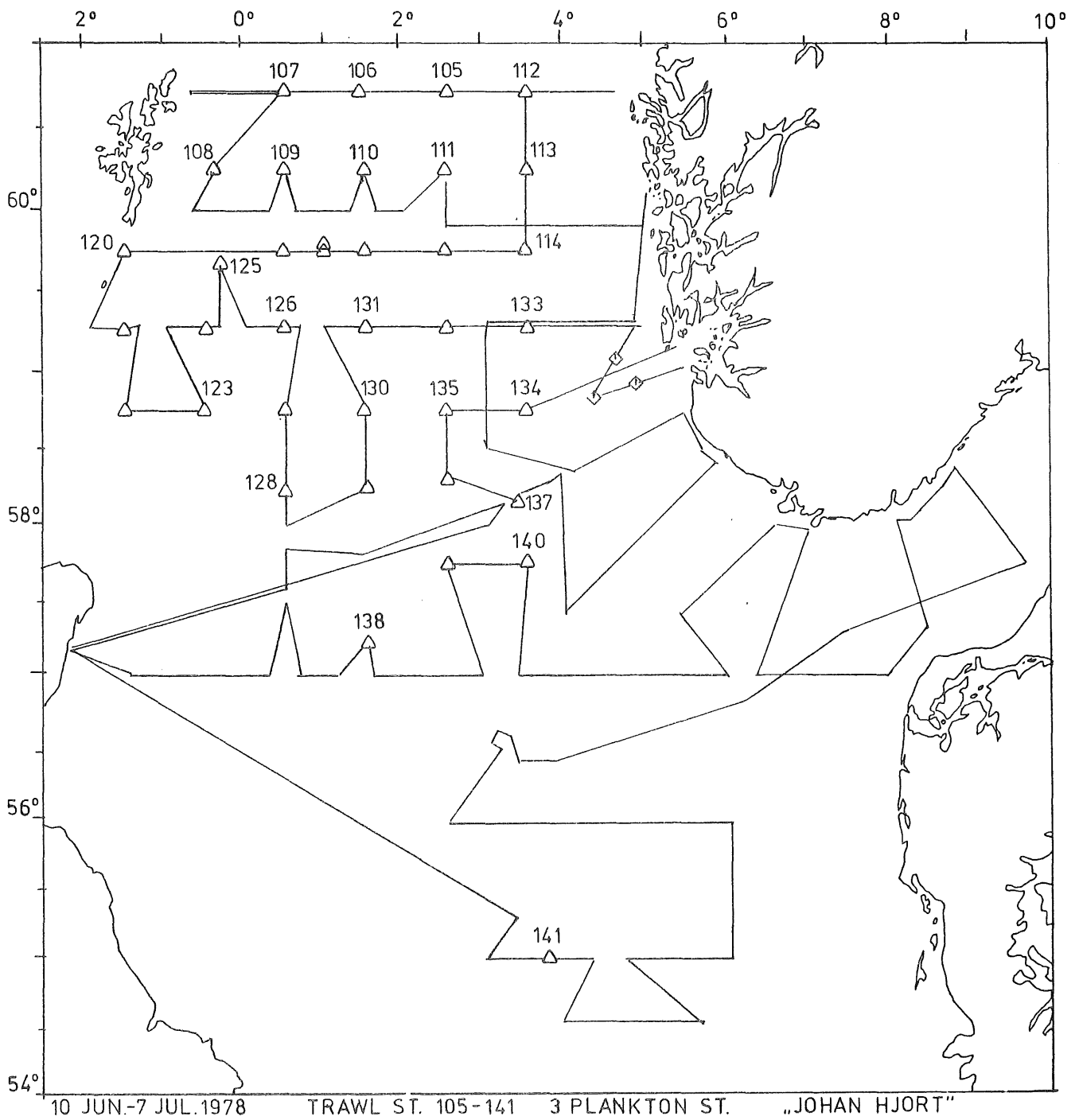
13 - 14 APR. 1978 16 PLANKTON ST.

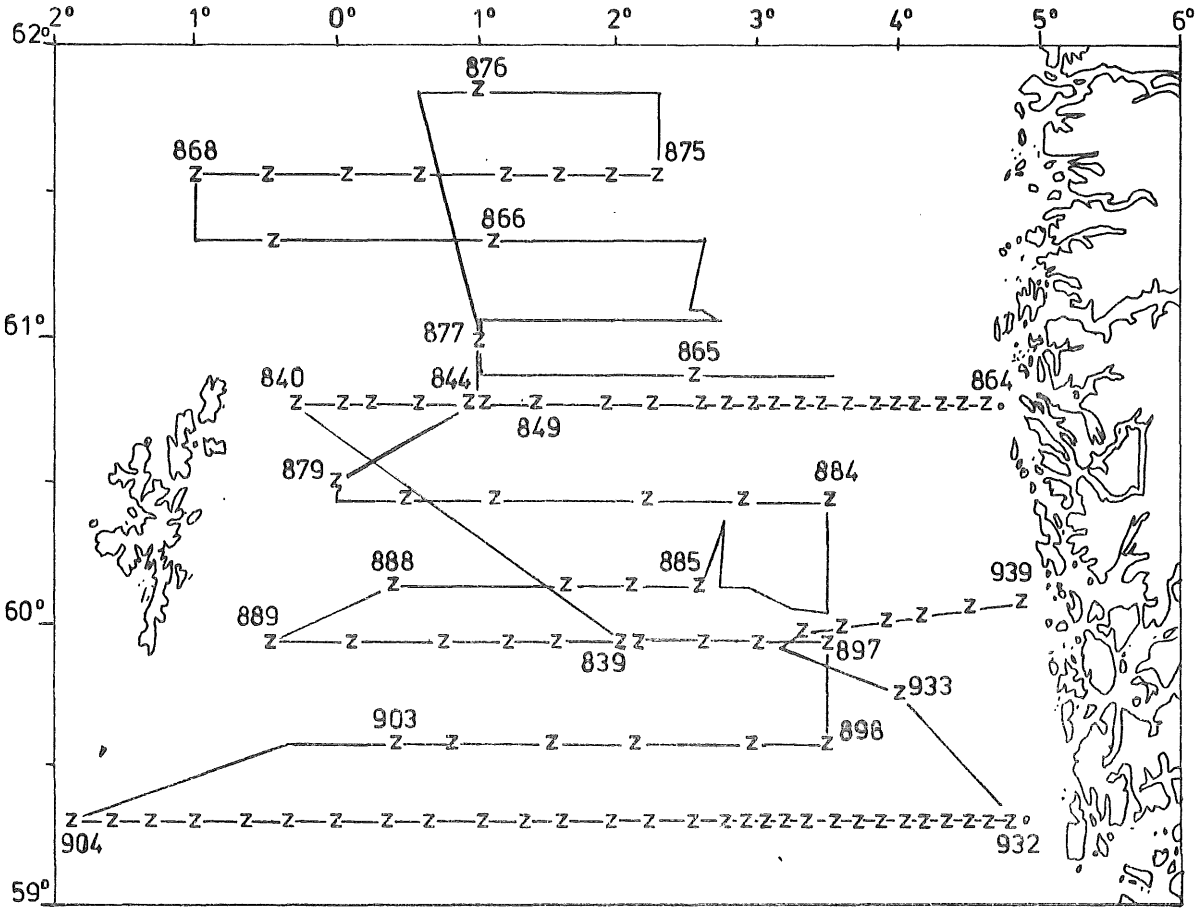


16 - 24 APR. 1978 PLANKTON ST. 199 - 326

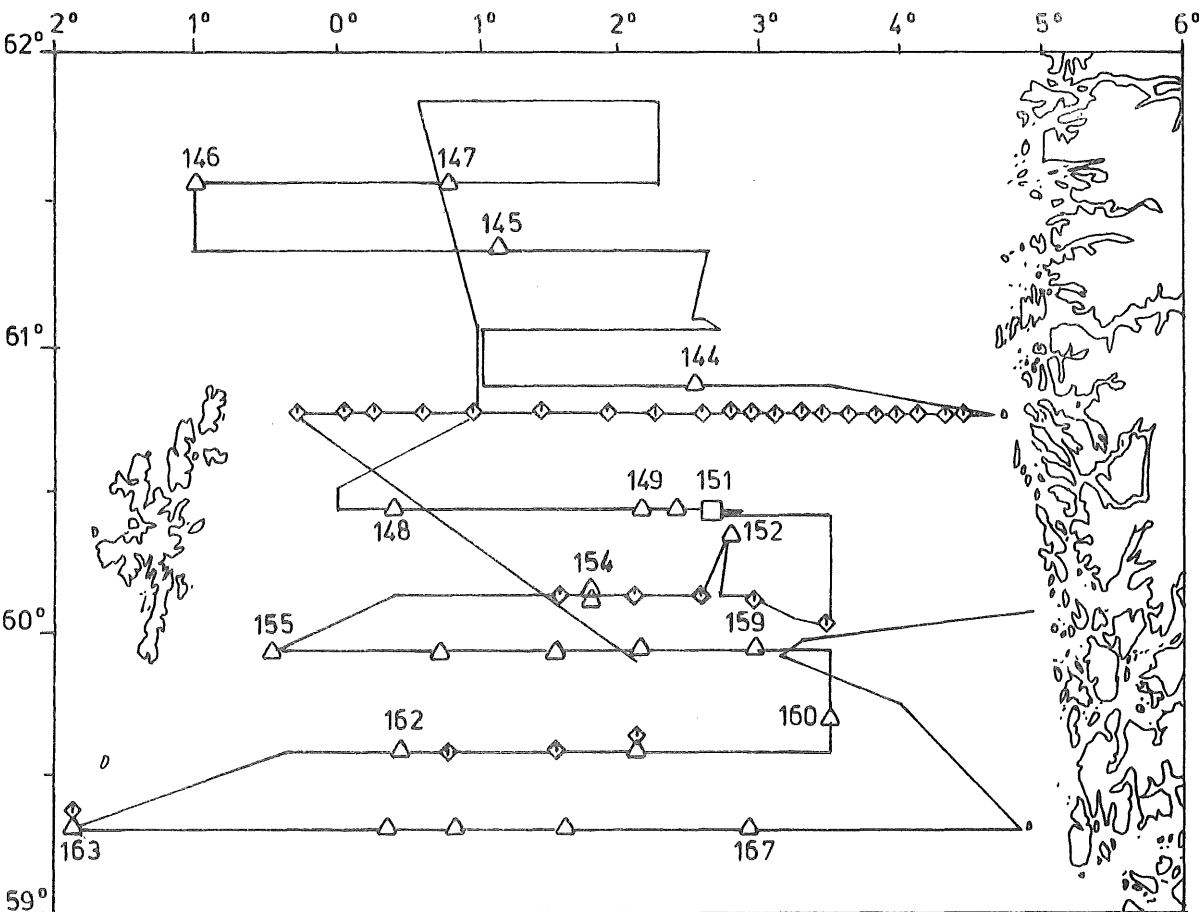
„JOHAN HJORT“



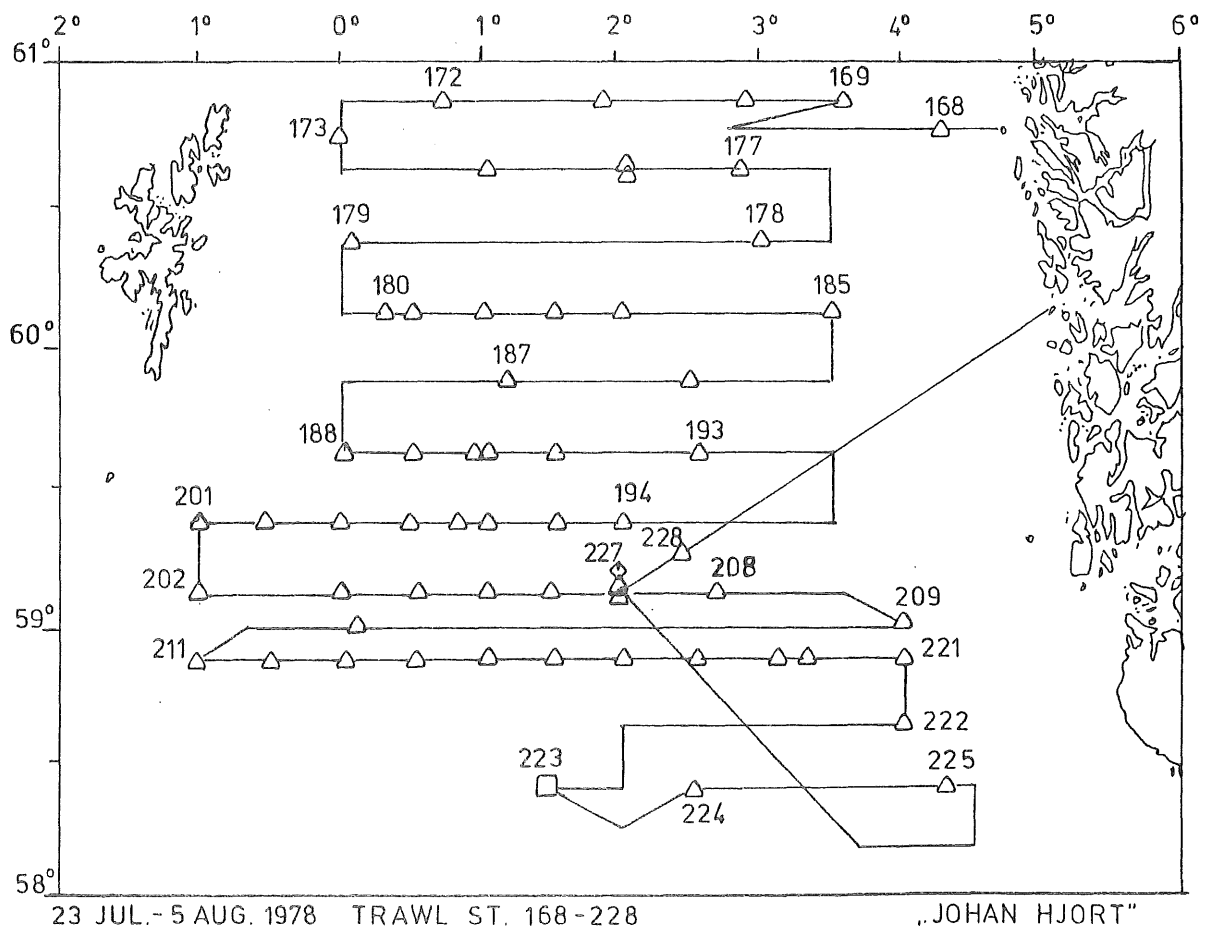
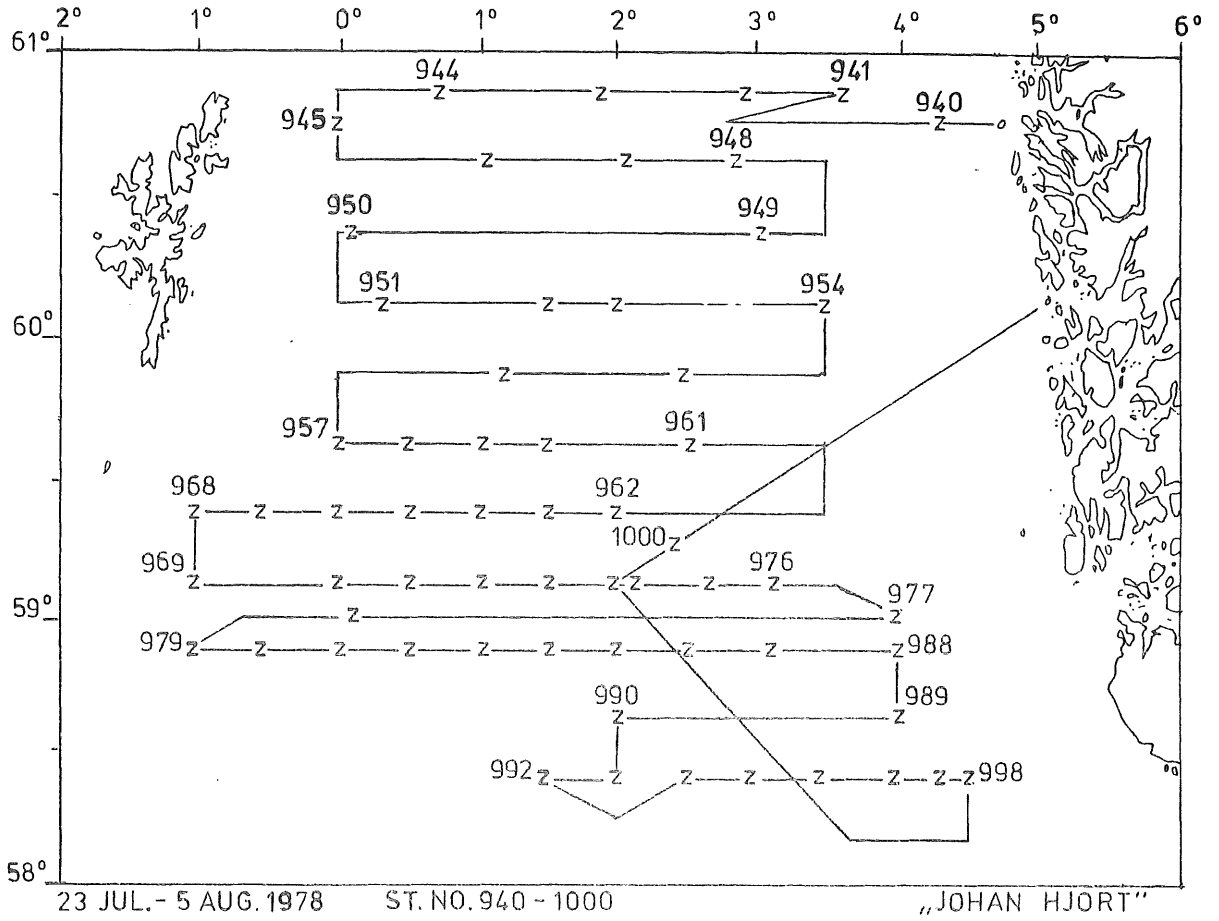


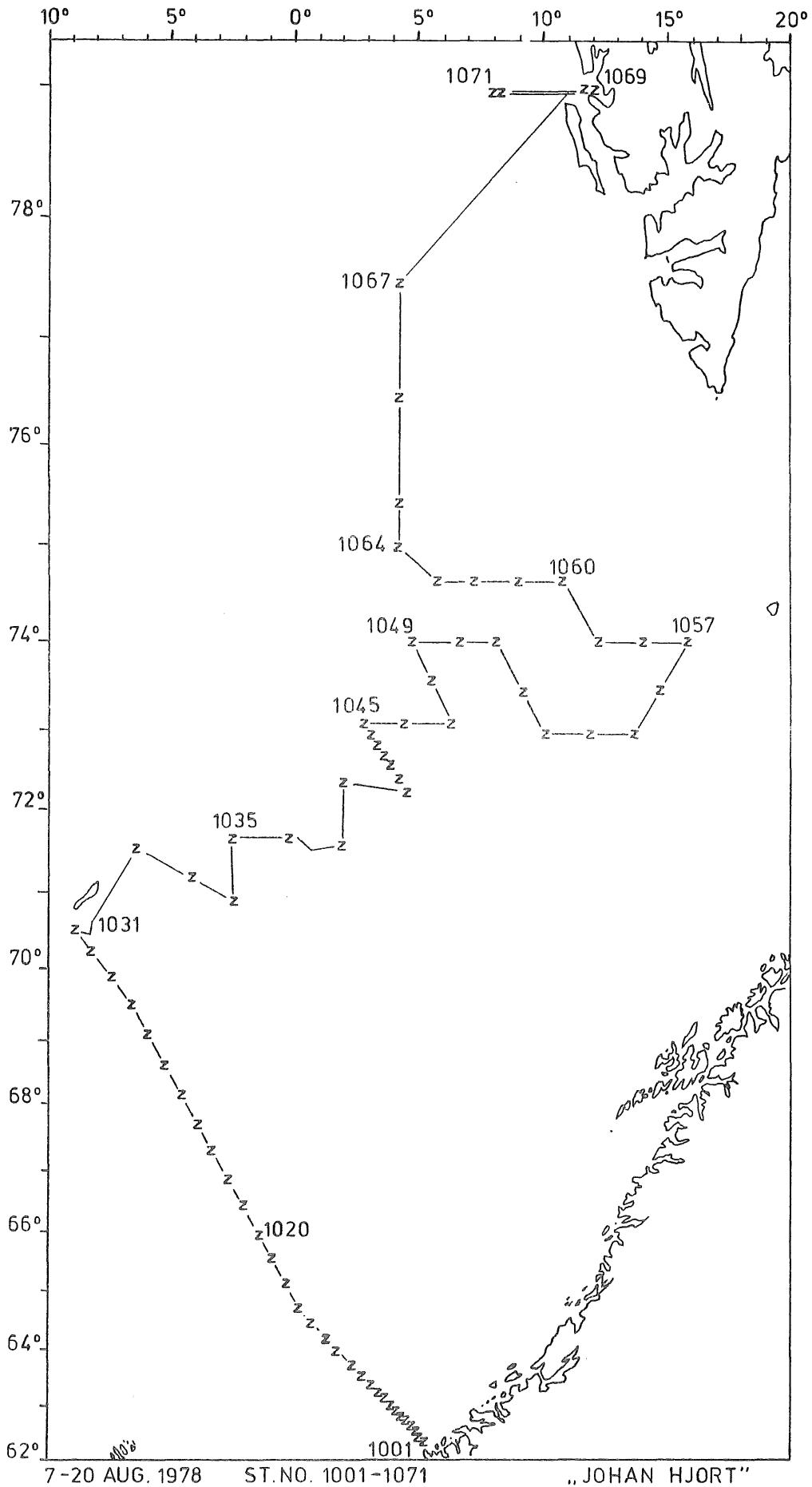


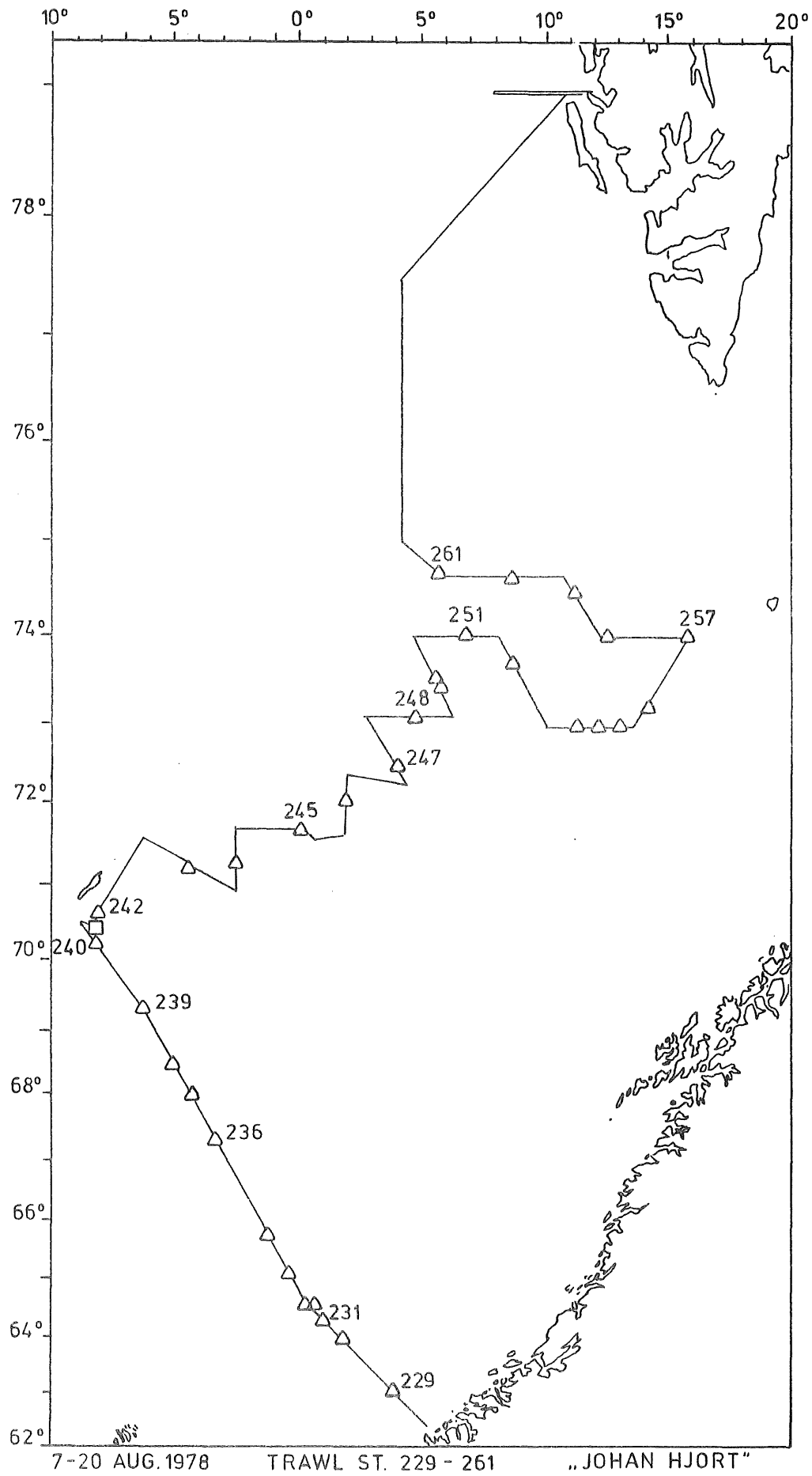
10-22 JUL. 1978 ST. NO. 839 - 939 SHORT OF ST. 845-848 „JOHAN HJORT”

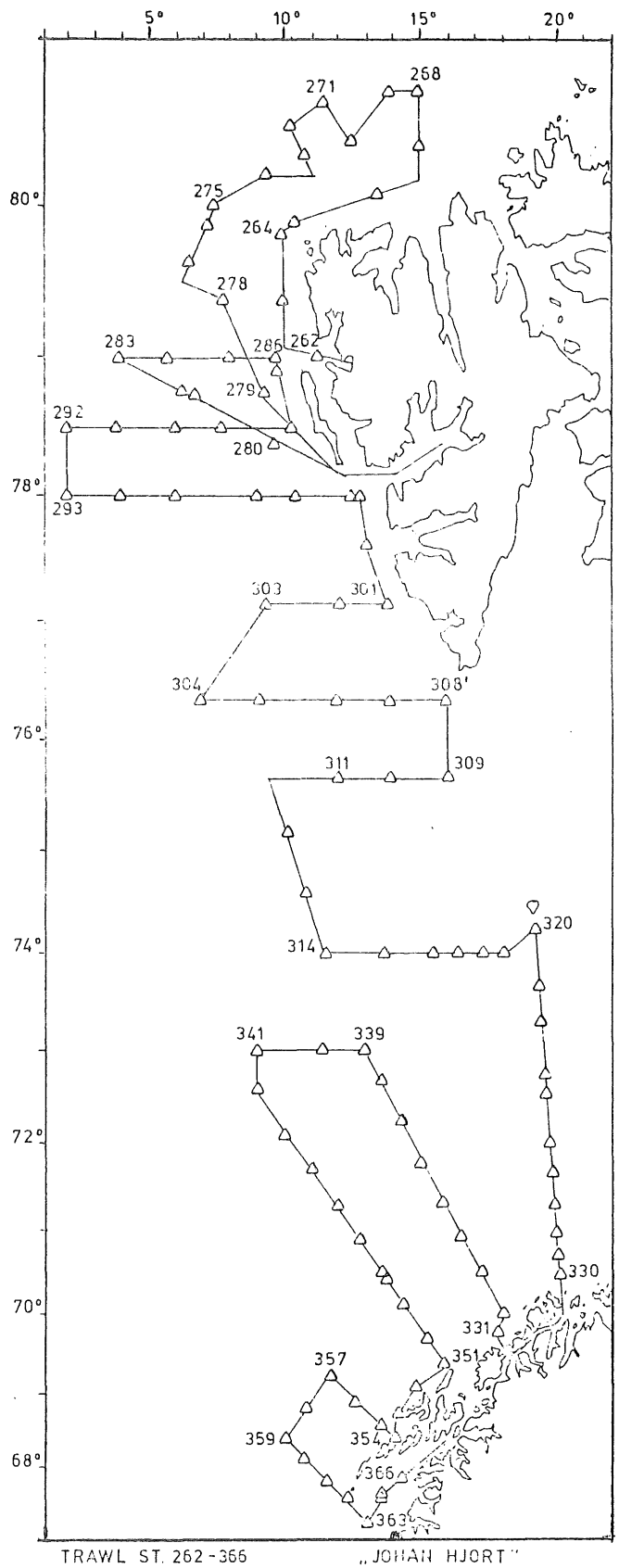
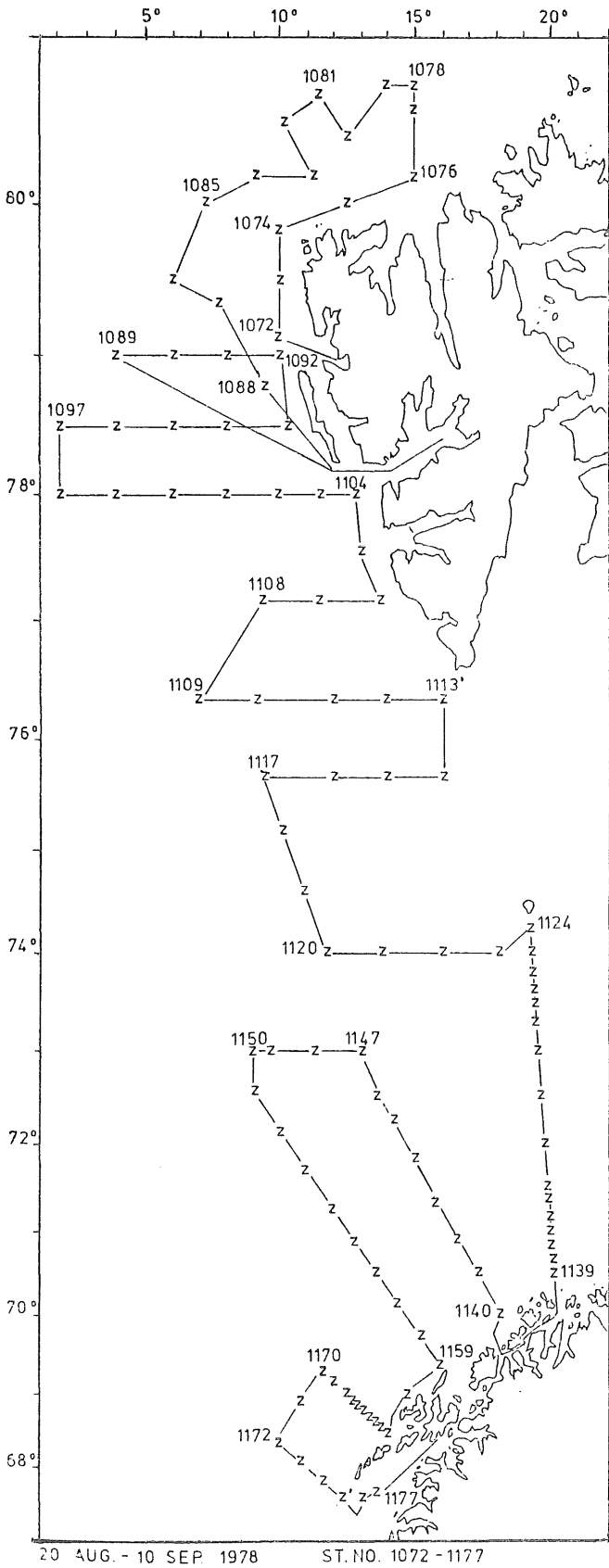


10 22 JUL. 1978 TRAWL ST. 144-167 29 PLANKTON ST. „JOHAN HJORT”

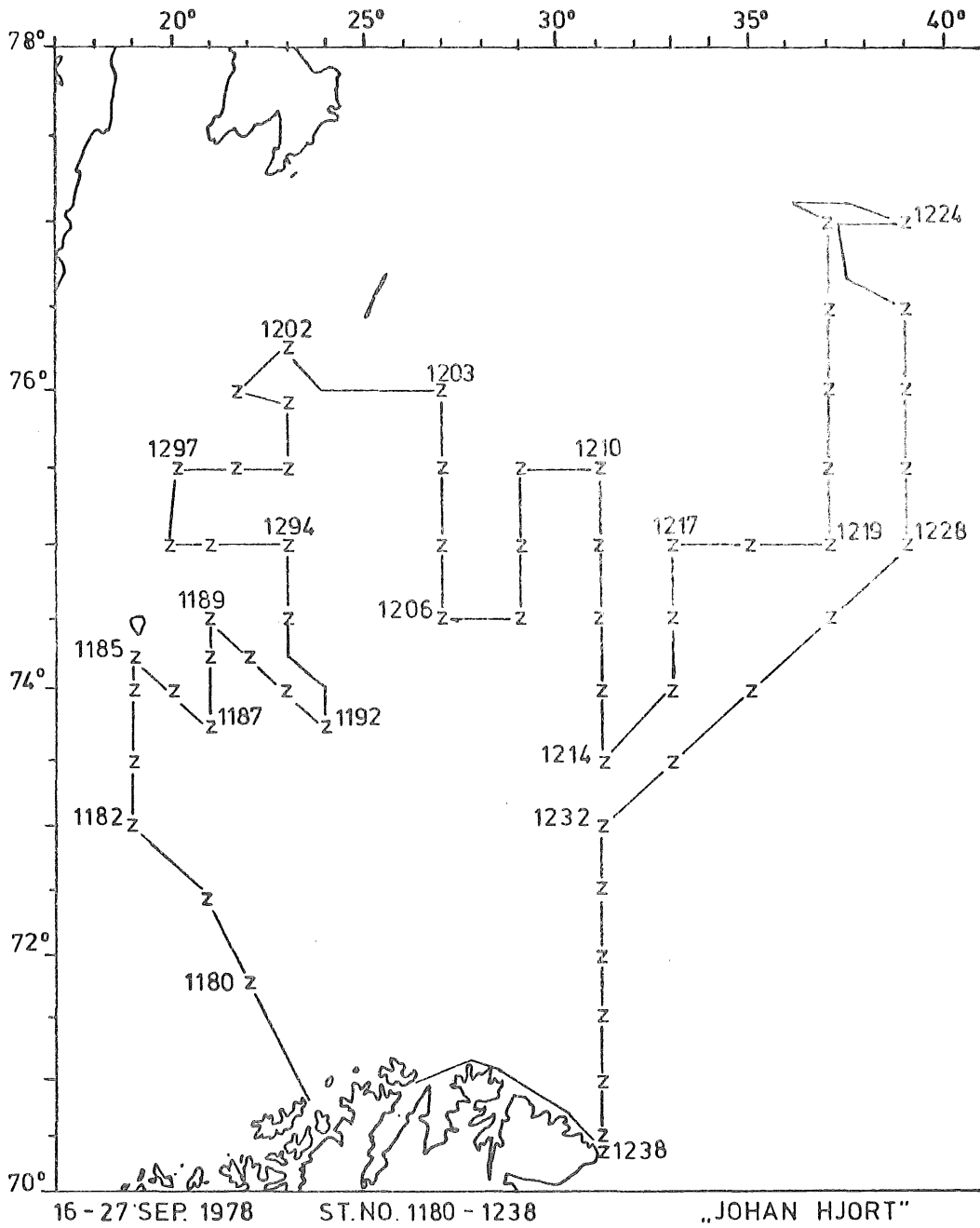


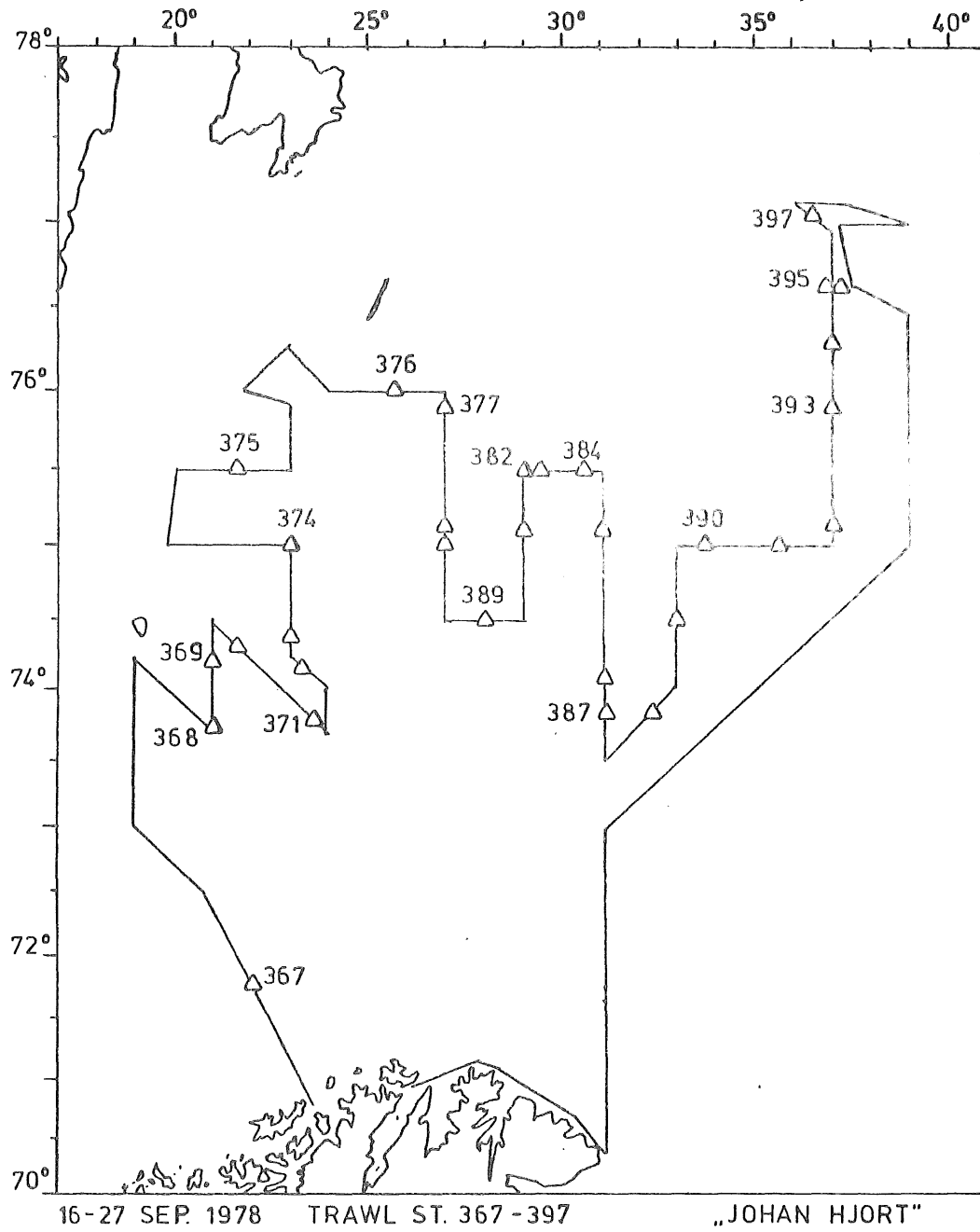


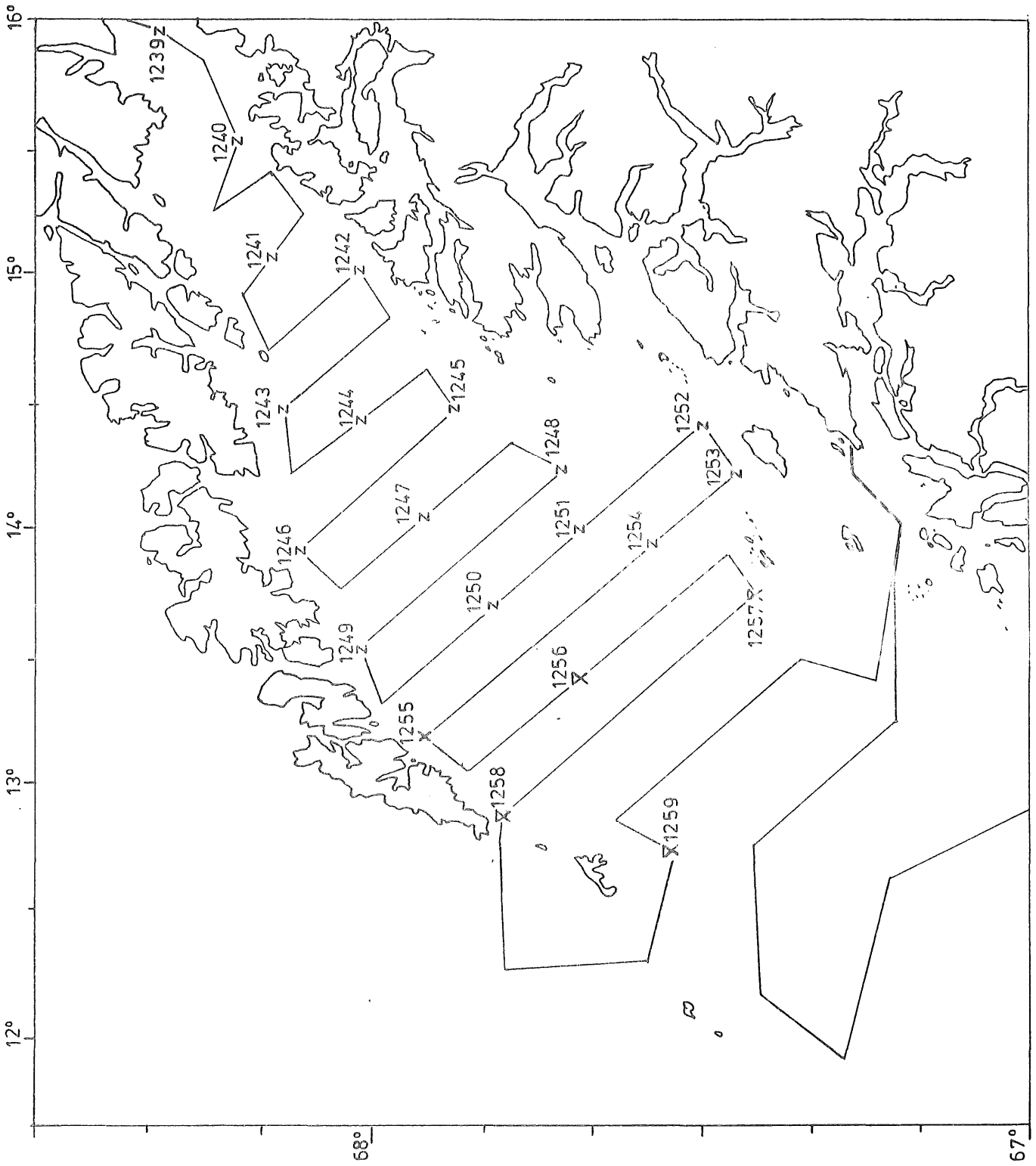






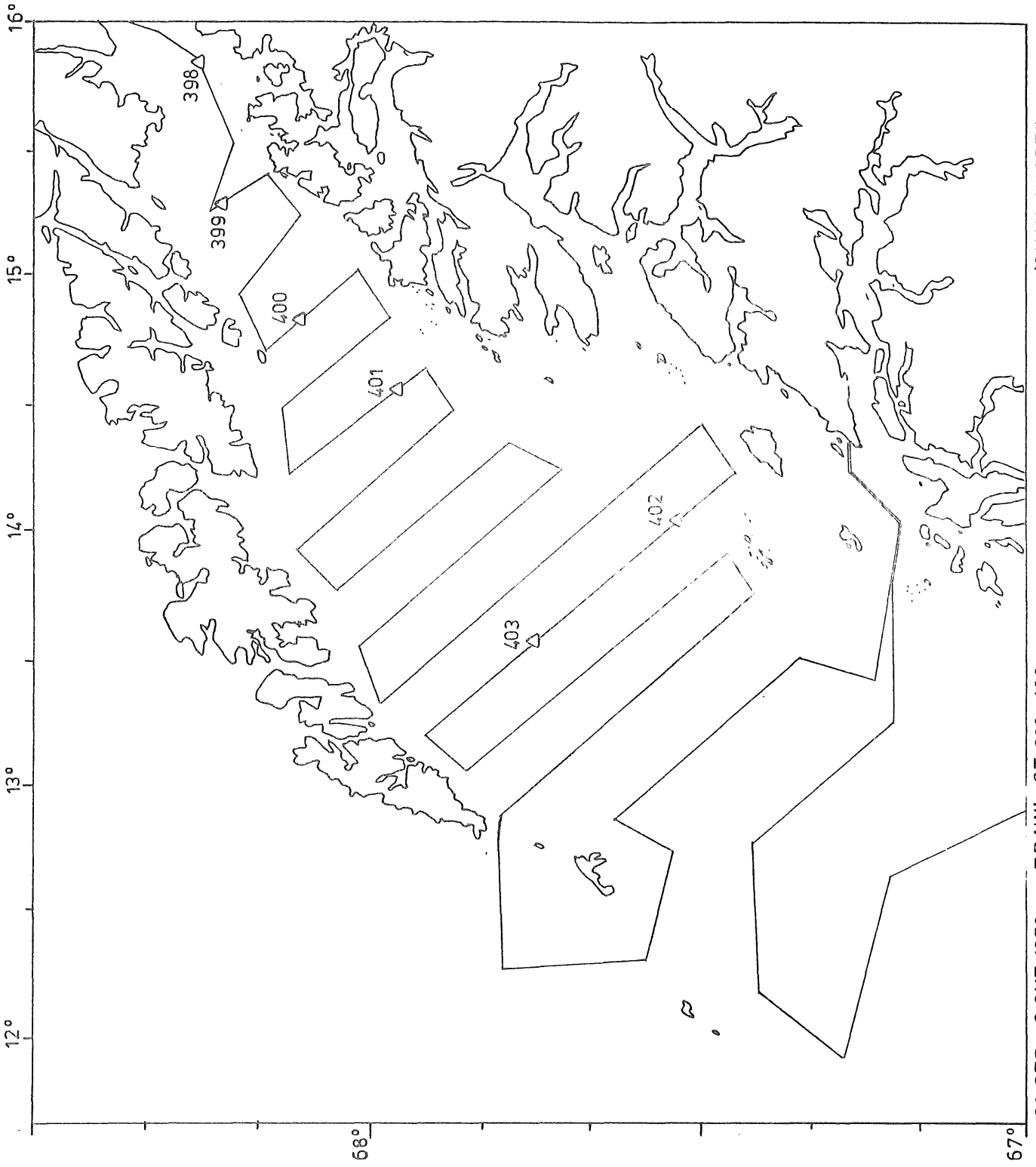






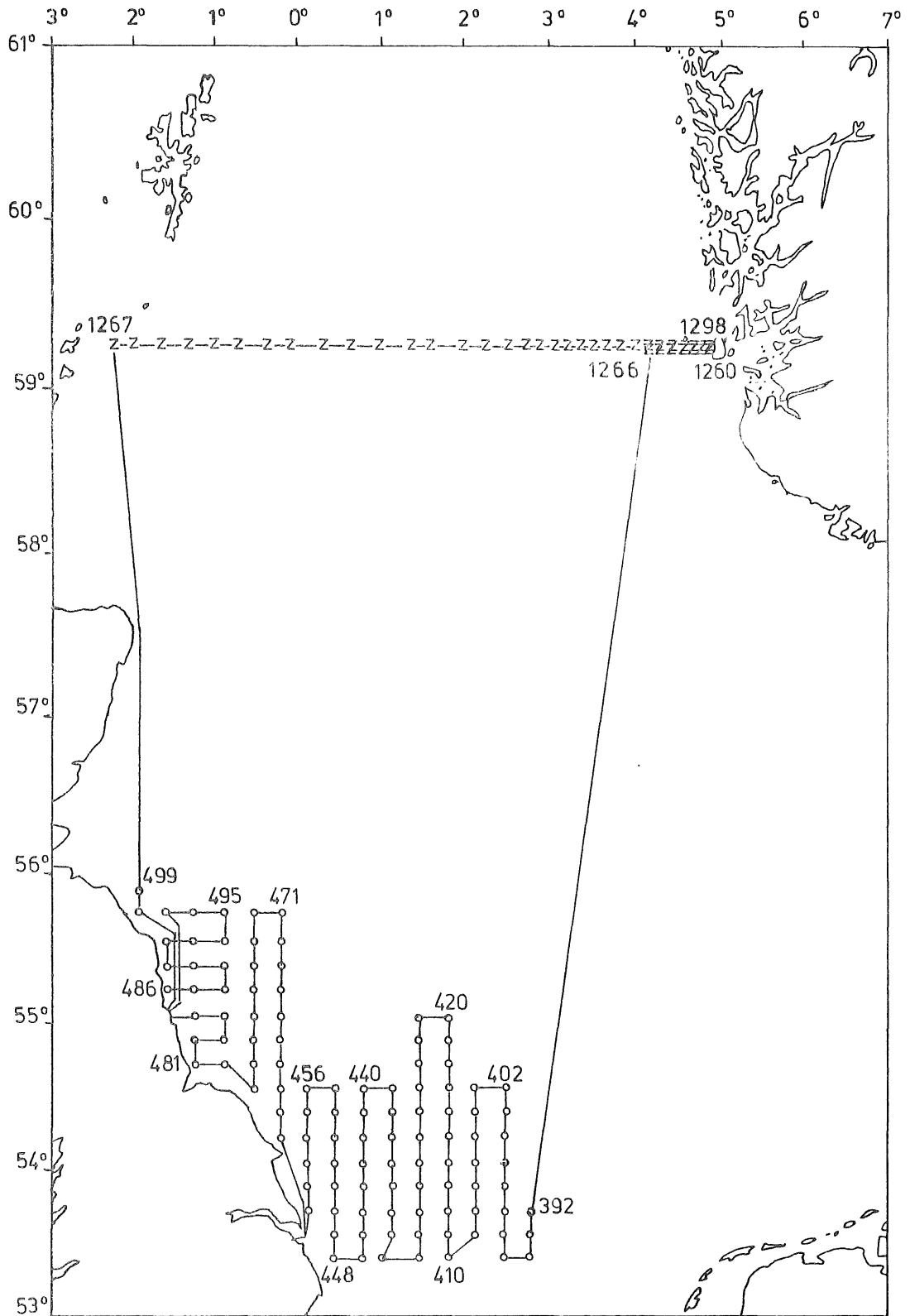
29 SEP. - 2 OKT. 1978 ST.NO. 1239 - 1259

„JOHAN HJORT“

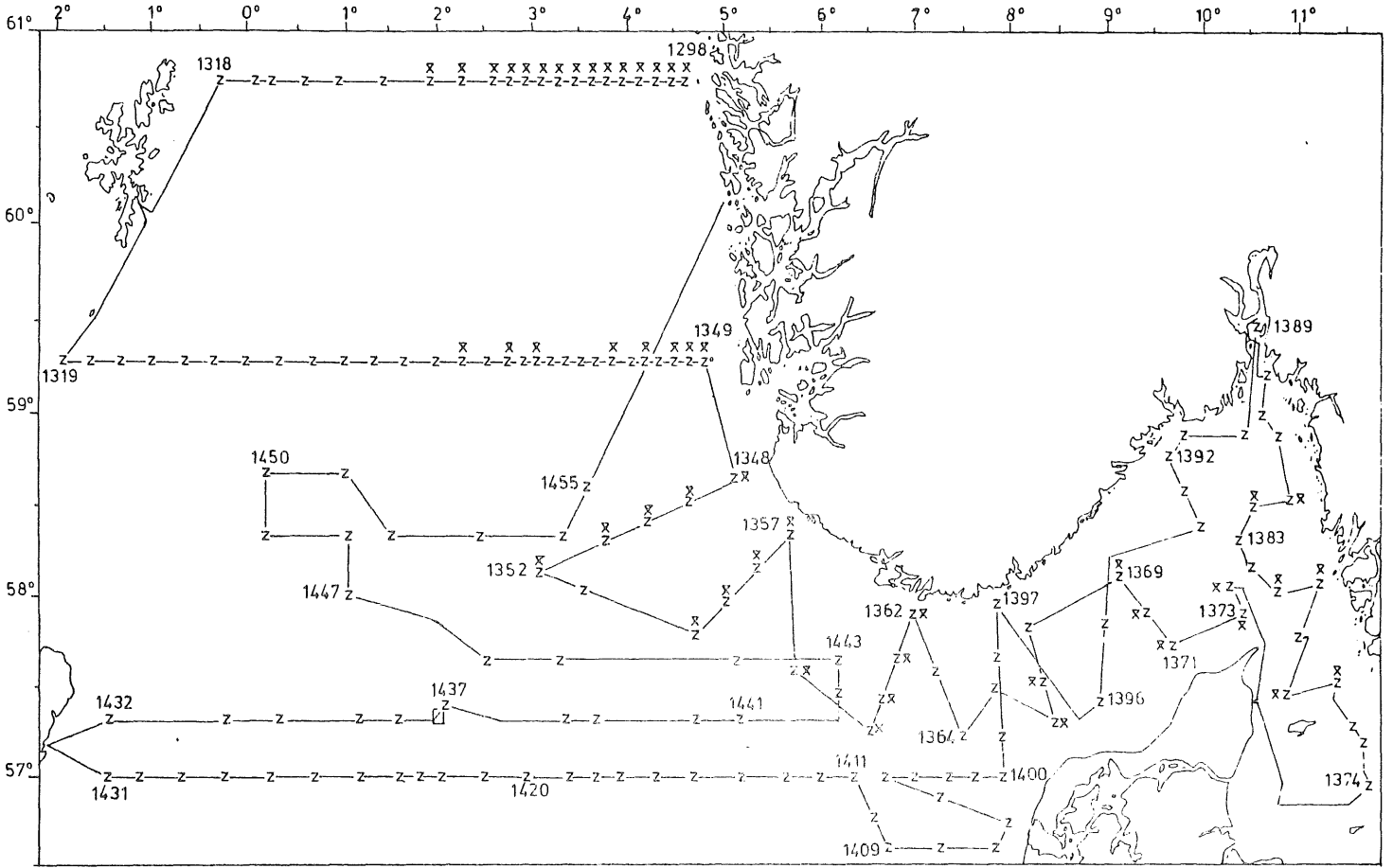


29 SEP - 2 OKT. 1978 TRAWL ST. 398-403

„JOHAN HJORT“

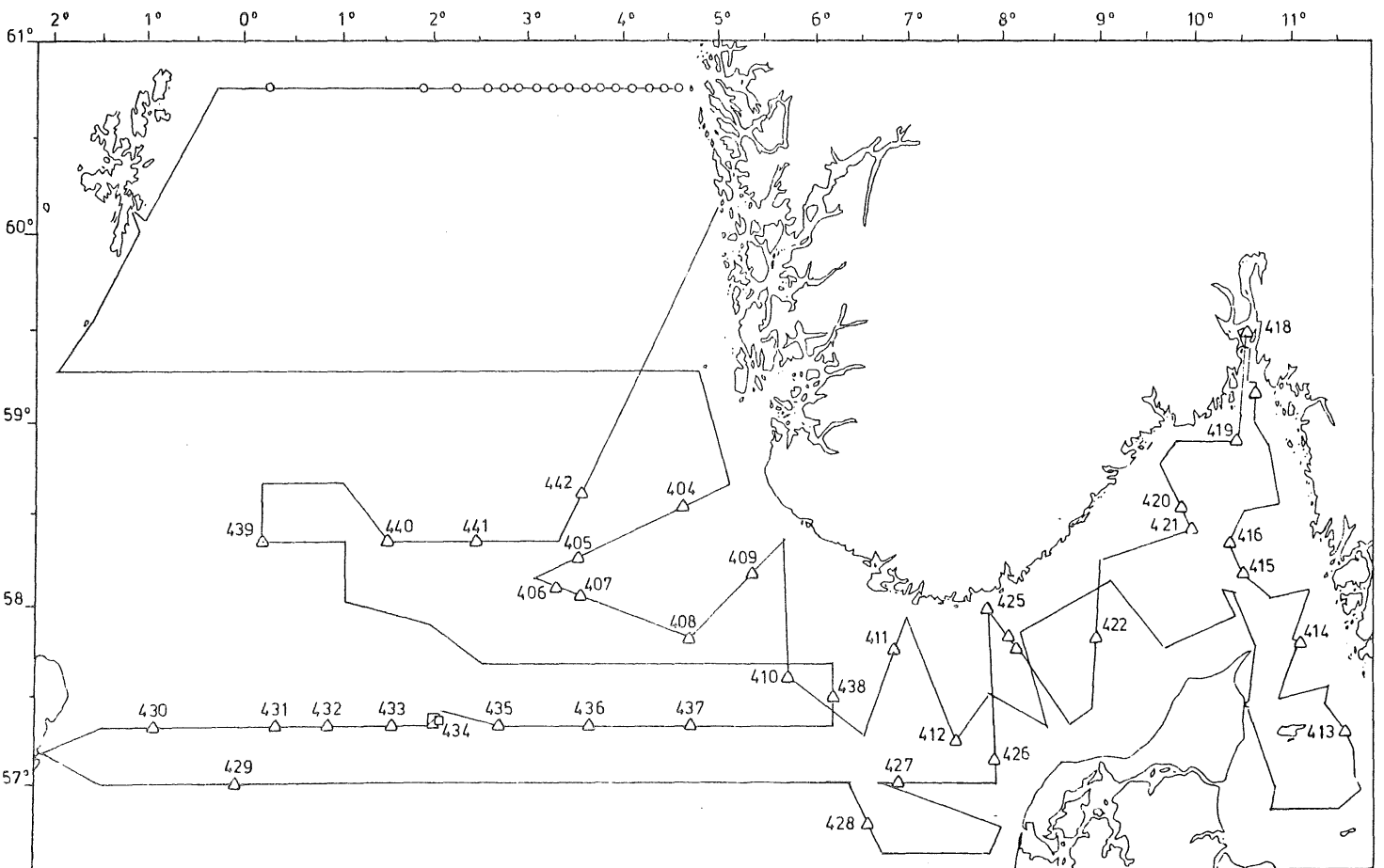


19 OCT.-1 NOV. 1978 ST. NO. 1260 - 1298 ○ 108 LARVAE ST. 392-499  
„JOHAN HJORT“



5 - 30 NOV. 1978 ST. NO. 1298 - 1455

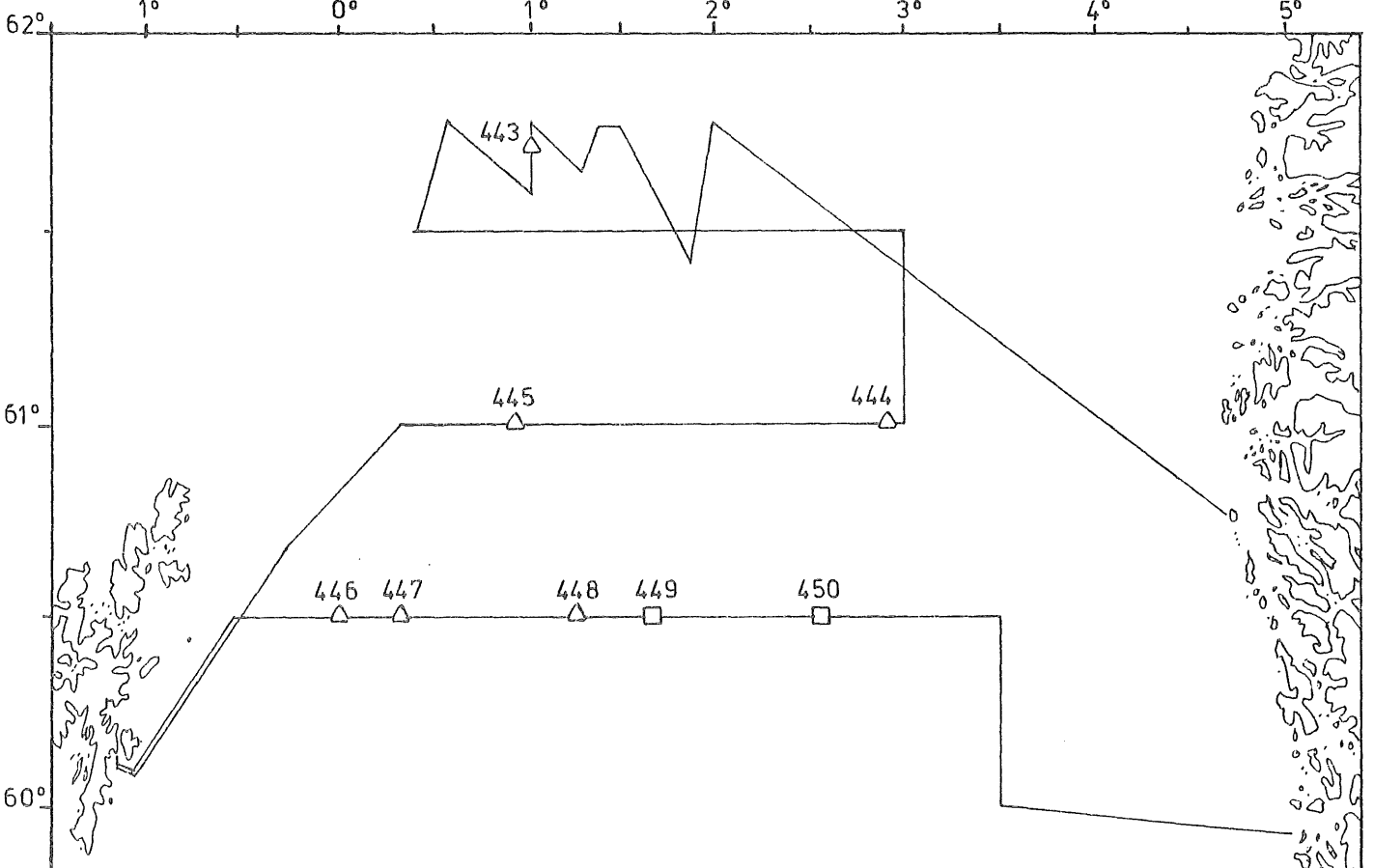
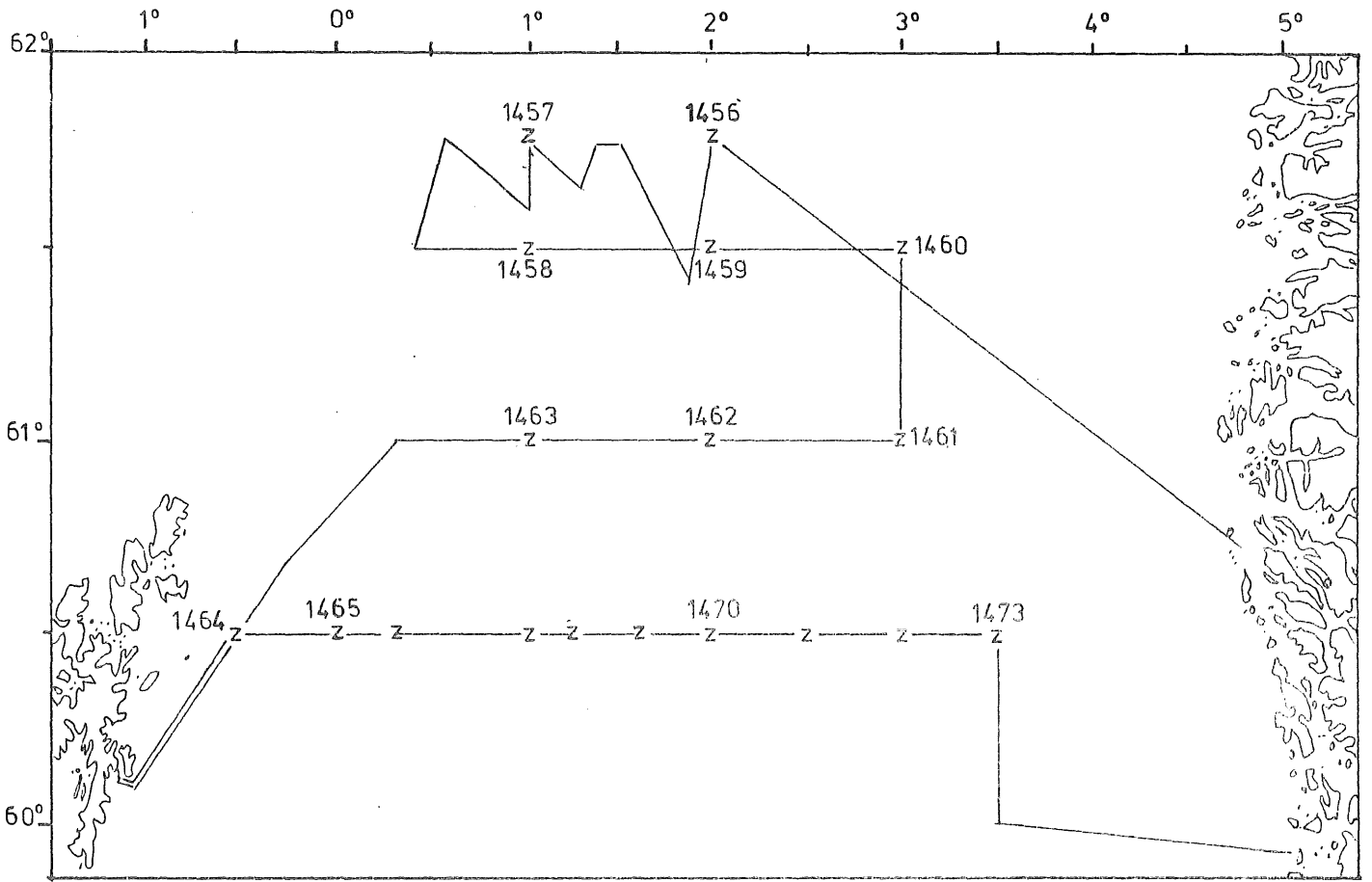
„JOHAN HJORT“



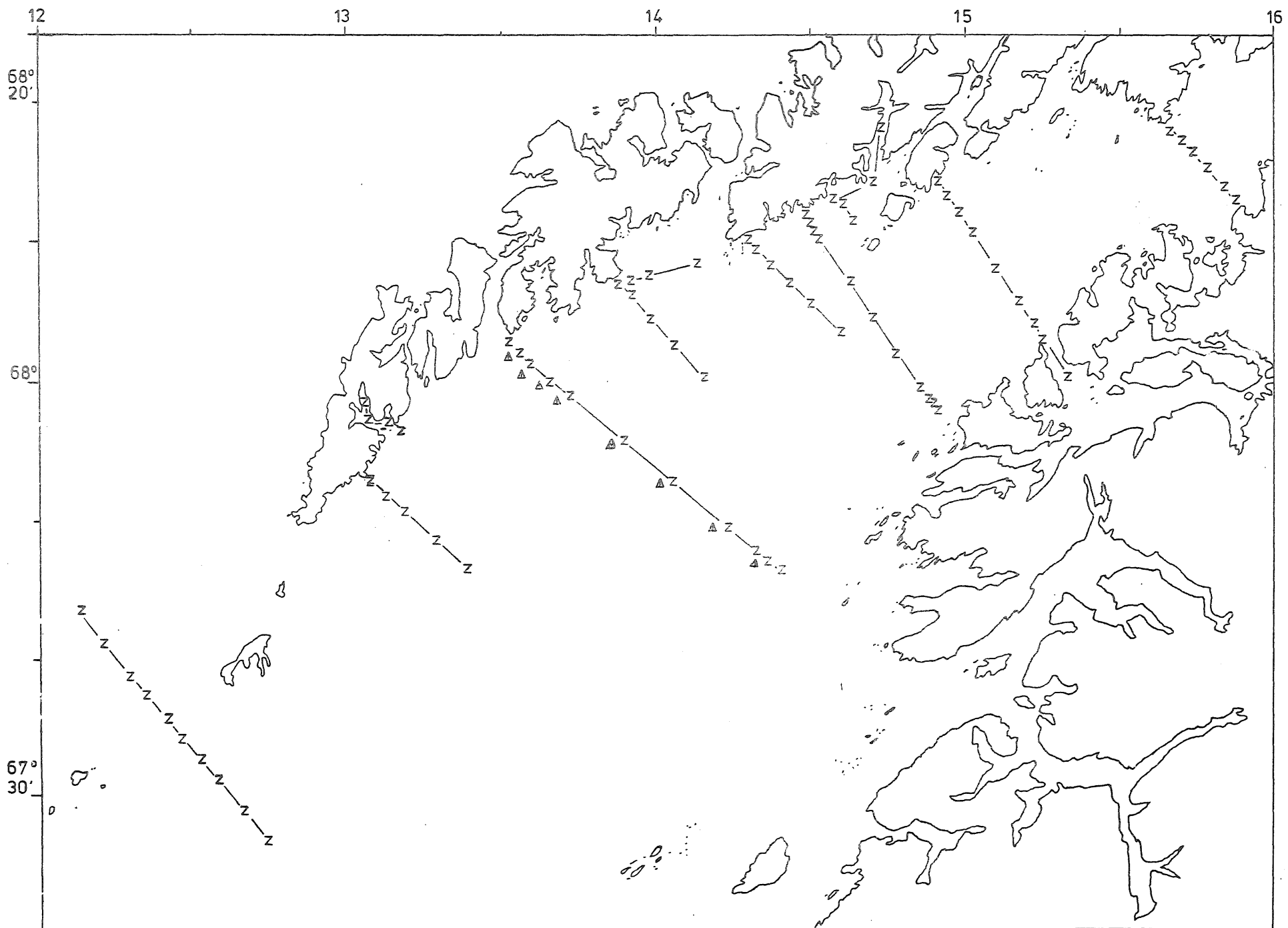
5-30 NOV 1978 TRAWL ST 404-442

o 16 JUDAY NET ST

„JOHAN HJORT“

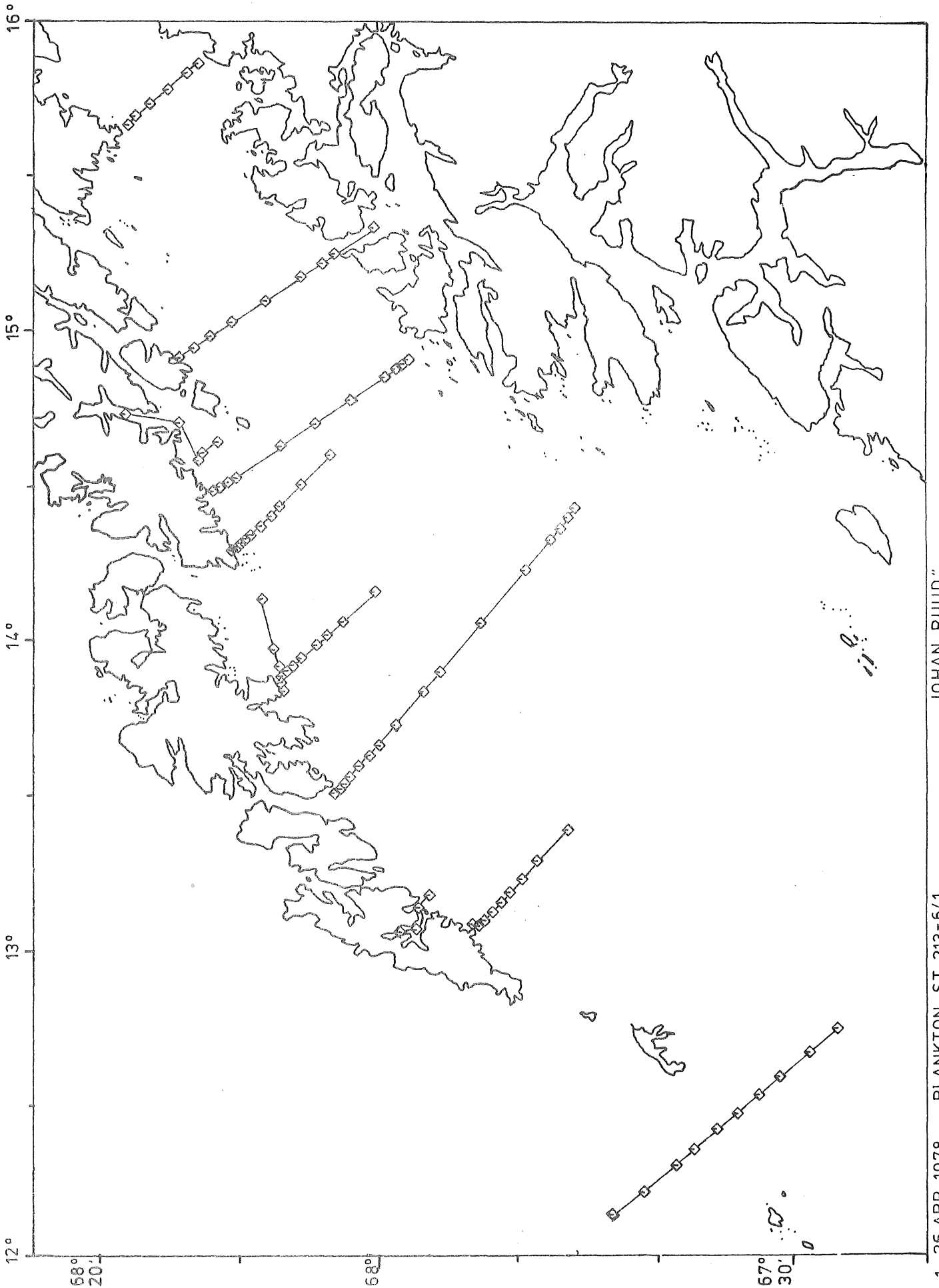


1-12 DEC. 1978 ST. NO. 1456-1473 TRAWL ST. 443-450 „JOHAN HJORT”



1-25 APR. 1978 ST. NO. 213-641 Δ MOORED BUOY ST. „JOHAN RUUD”

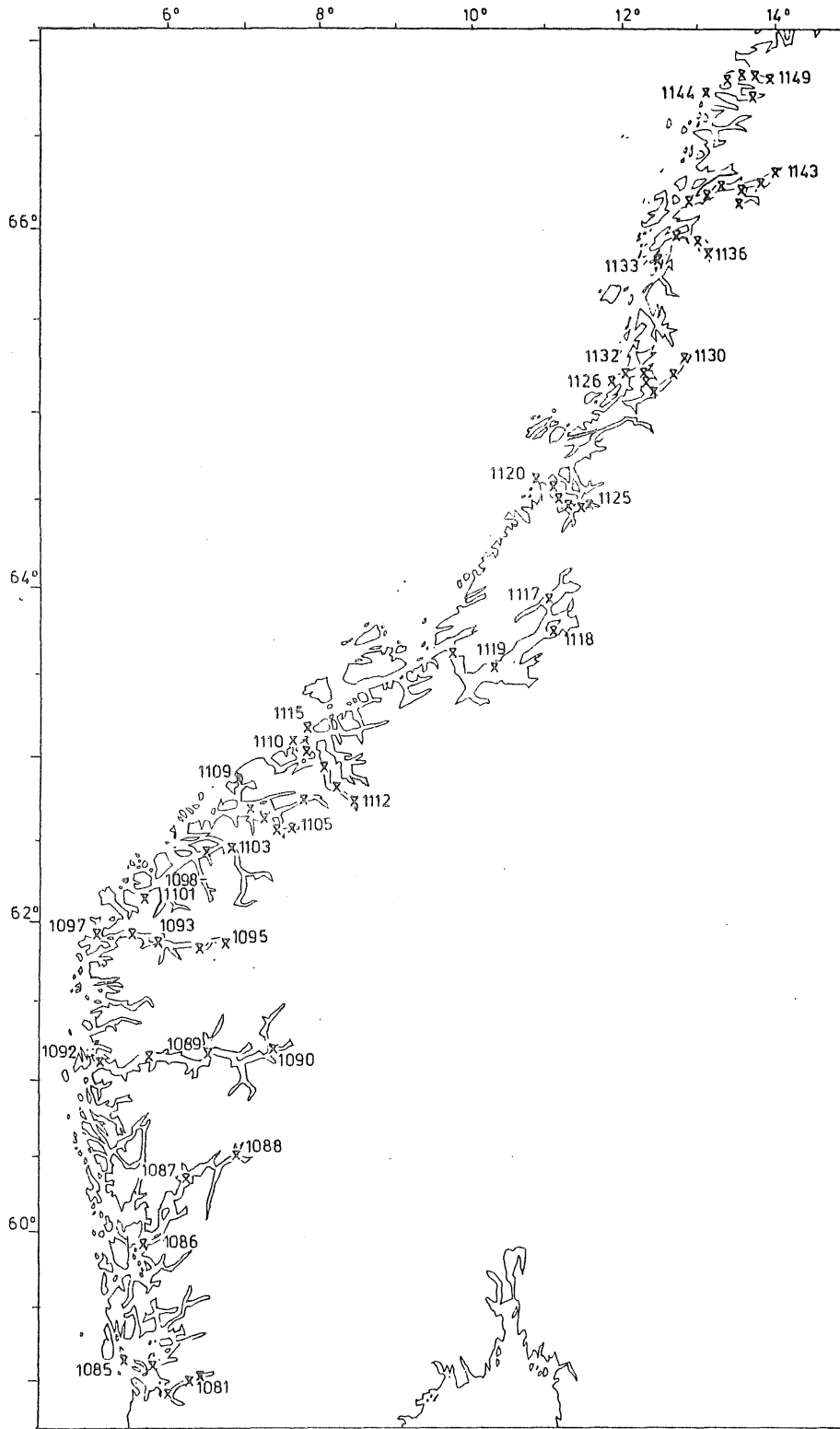




„JOHAN RUUD“

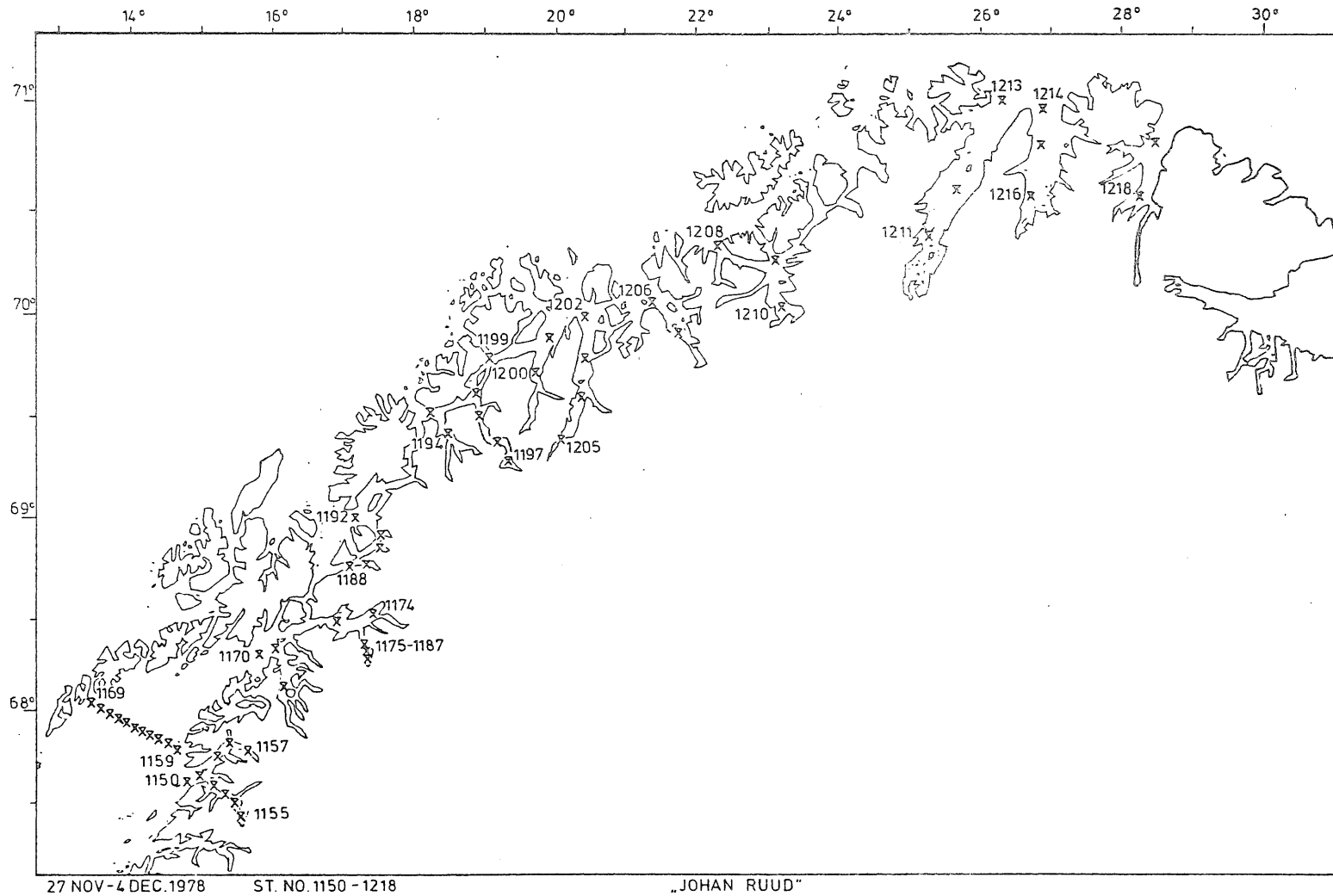
PLANKTON ST. 213-641

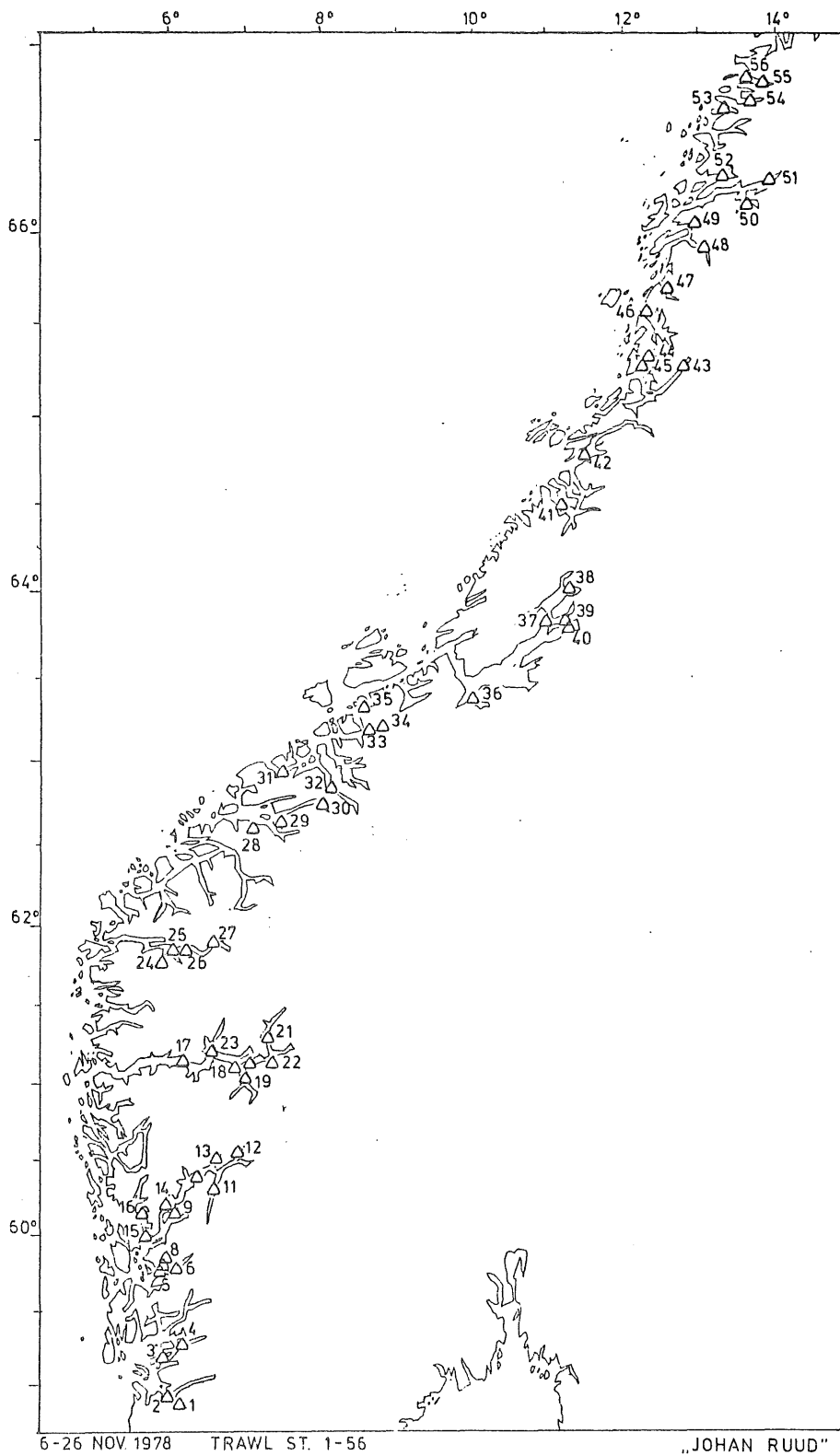
1-26 APR. 1978

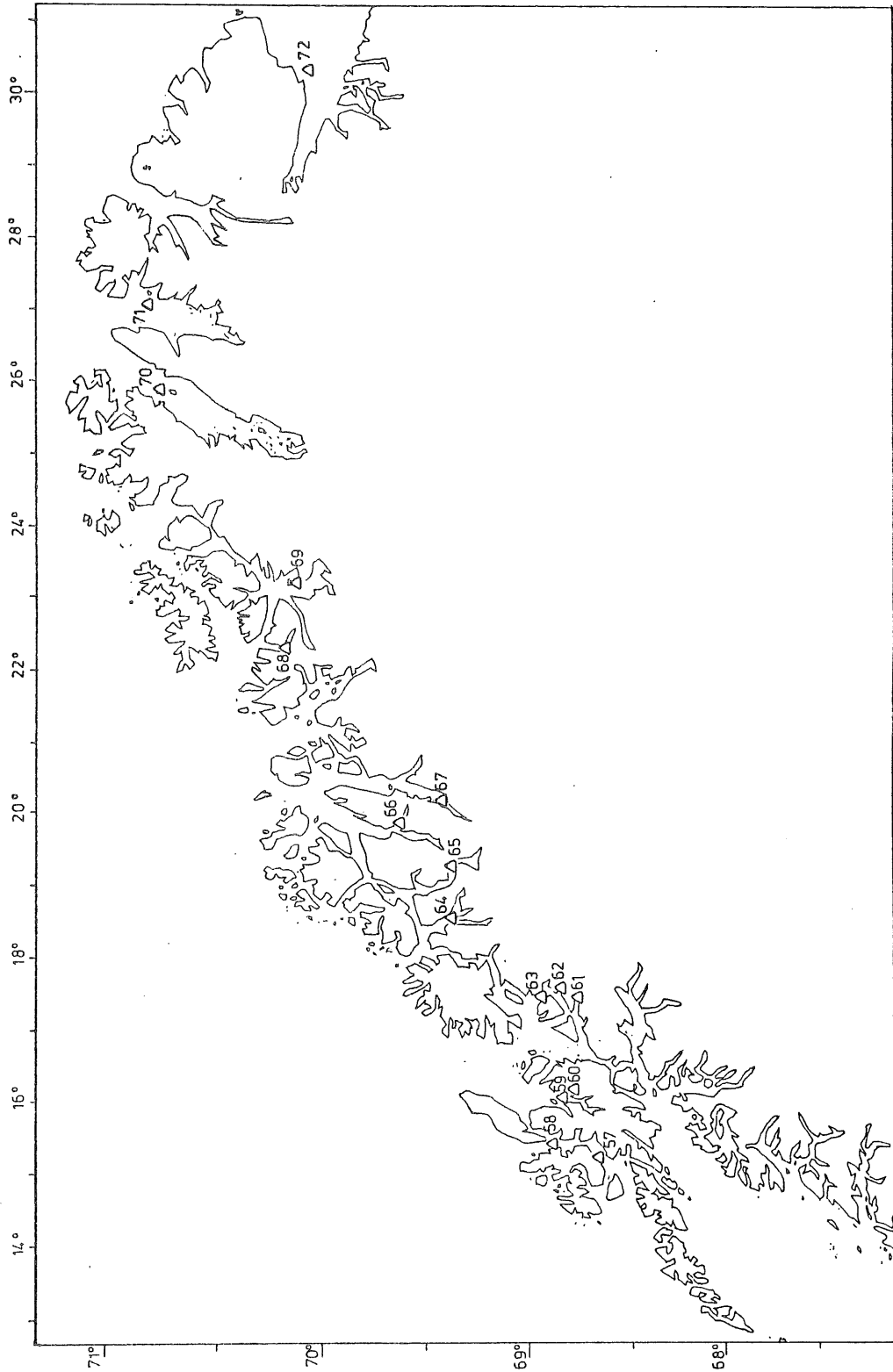


6 - 26 NOV. 1978 ST.NO. 1081 - 1149

„JOHAN RUUD“

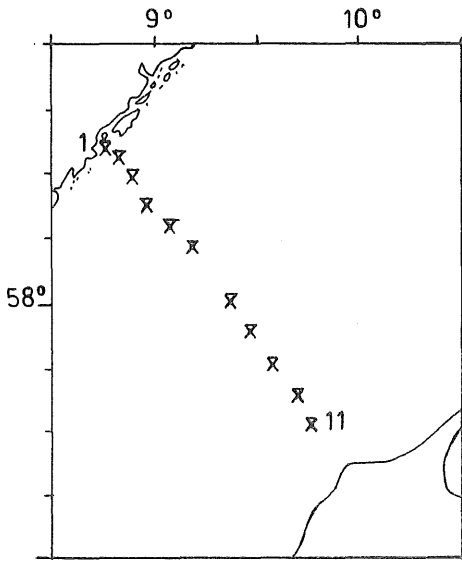




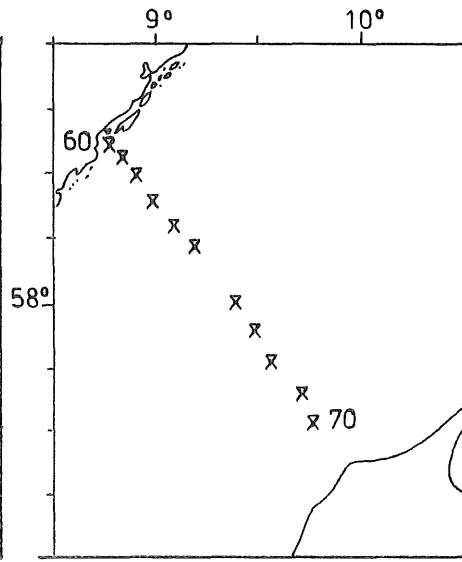


„JOHAN RUUD“

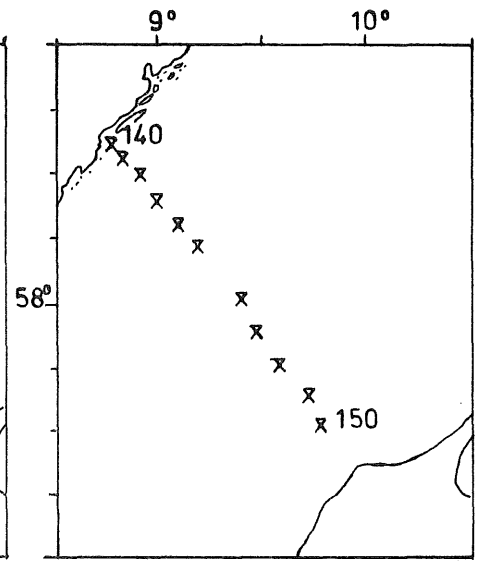
27 NOV. - 4 DEC. 1978 TRAWL ST. 57-72



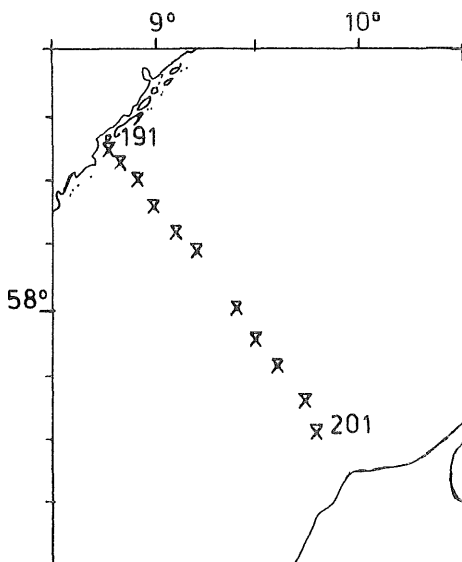
10 JAN. ST. NO. 1-11



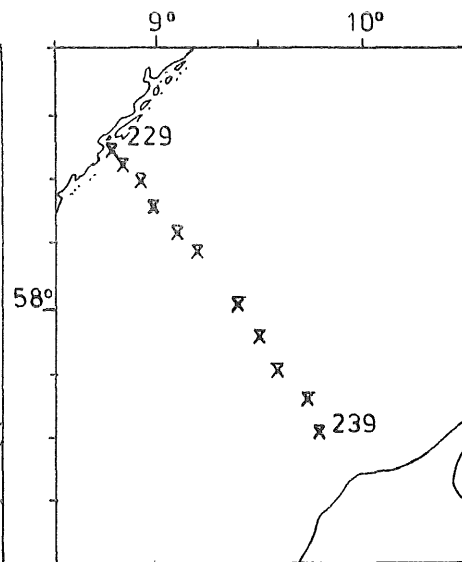
21 FEB. ST. NO. 60-70



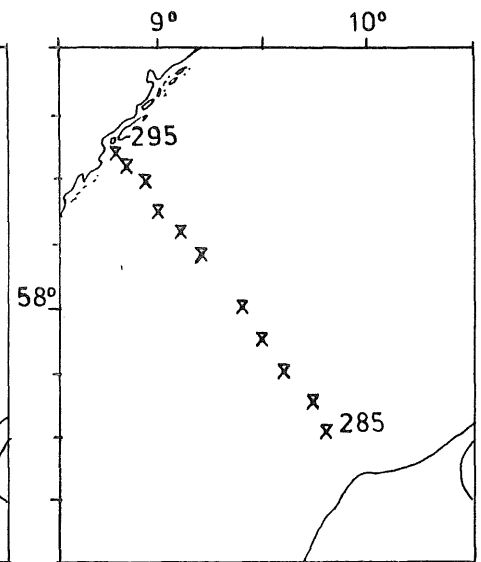
6 APR. ST. NO. 140-150



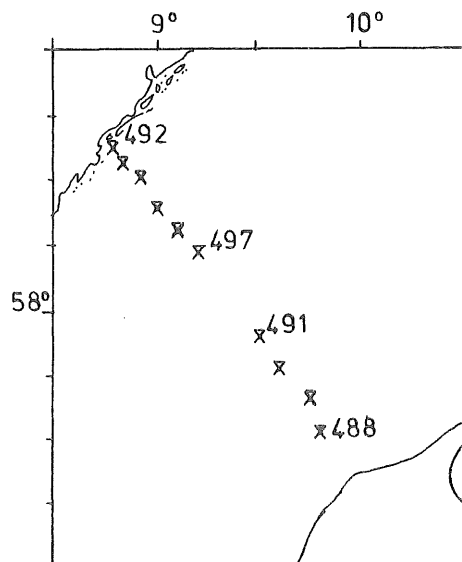
9 MAY ST. NO. 191-201



31 MAY ST. NO. 229-239

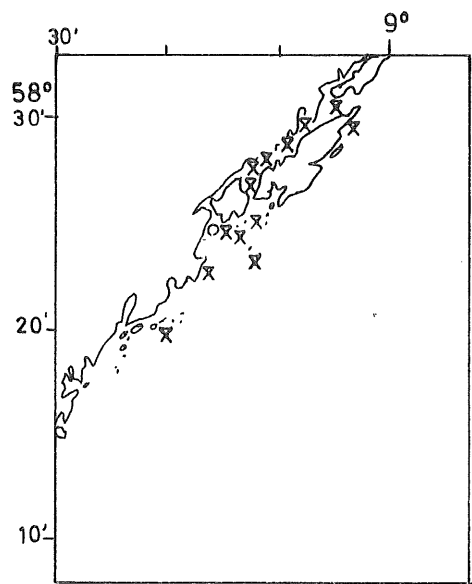


10 AUG. ST. NO. 285-295

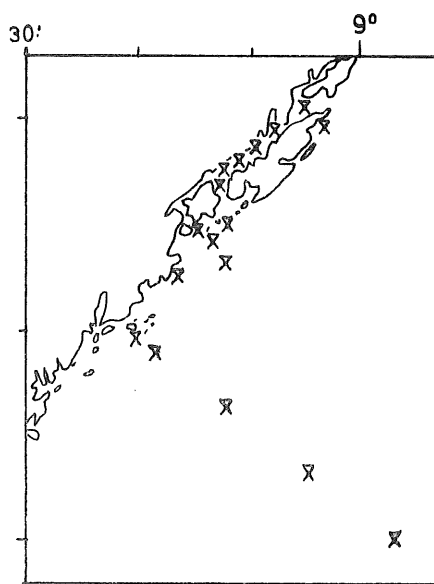


14-18 DEC. ST. NO. 488-497

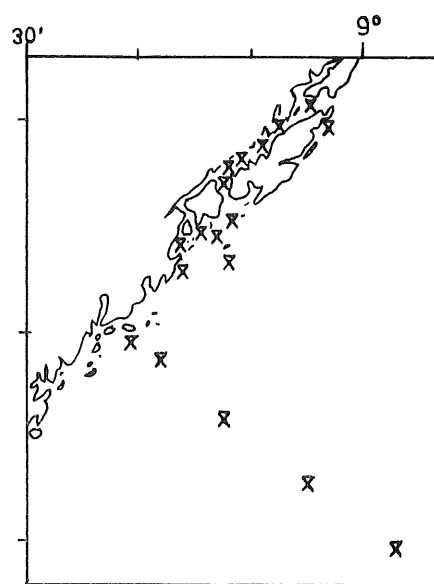
TORUNGEN - HIRTSHALS  
 „G. M. DANNEVIG” 1978



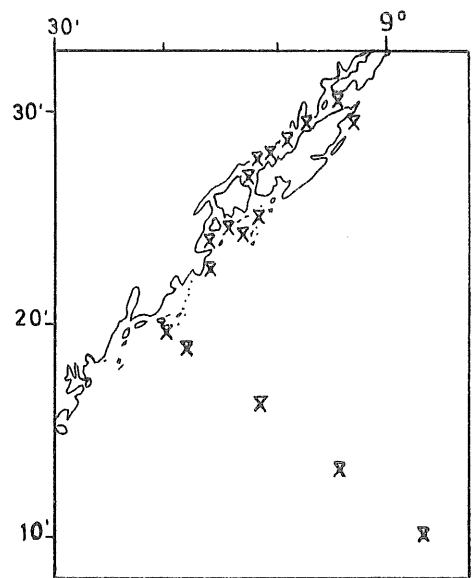
30 JAN. -1 FEB ST.NO.12-23,33



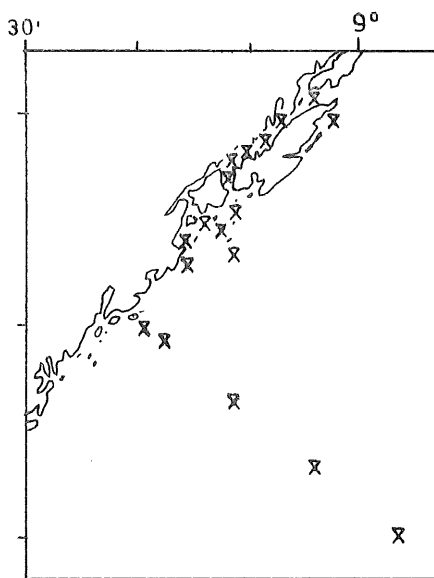
28 FEB. -1 MAR. ST.NO. 71-87



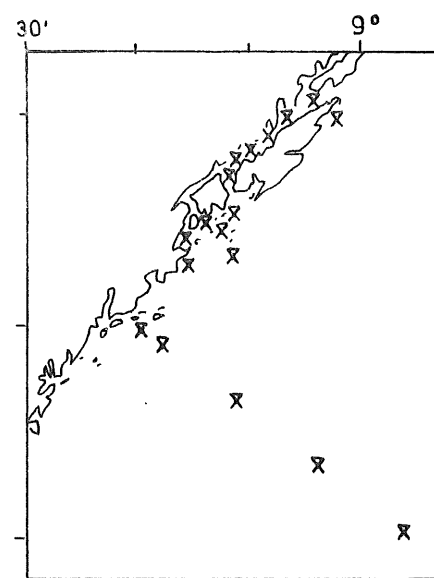
3-5 APR. ST.NO.115-126,134-139



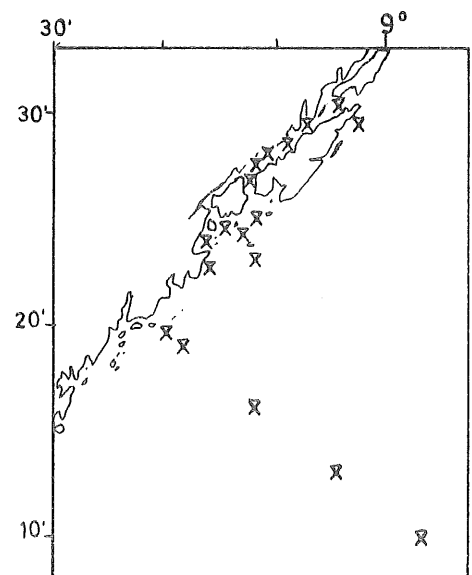
2-3 MAY ST.NO. 173-190



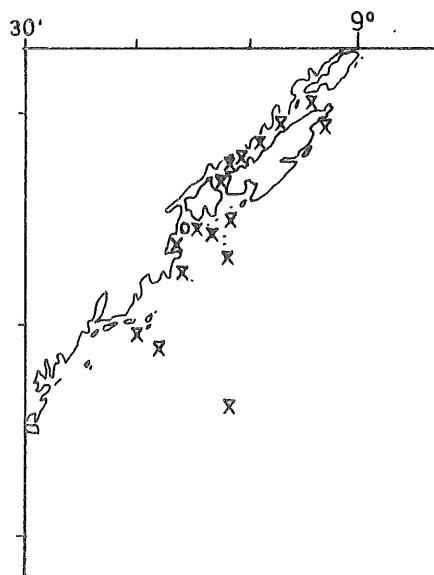
5-6 JUN. ST.NO. 240-257



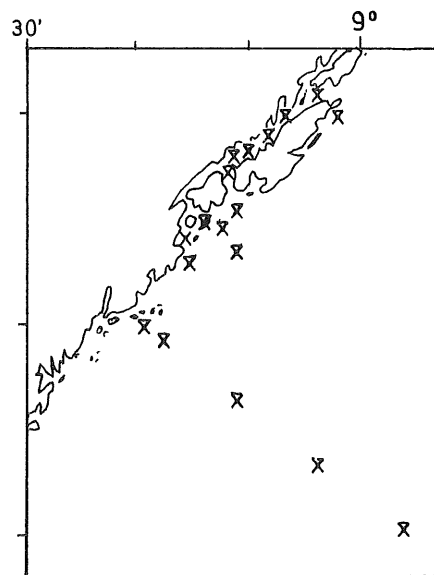
14-16 AUG. ST.NO.296-307,317-322



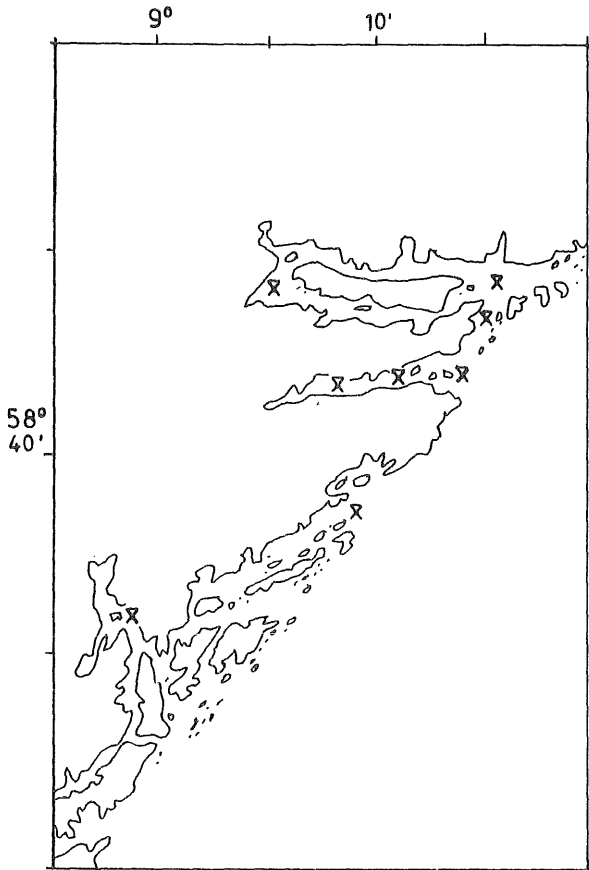
4-5 SEP. ST.NO. 350-367  
„G.M.DANNEVIG” 1978



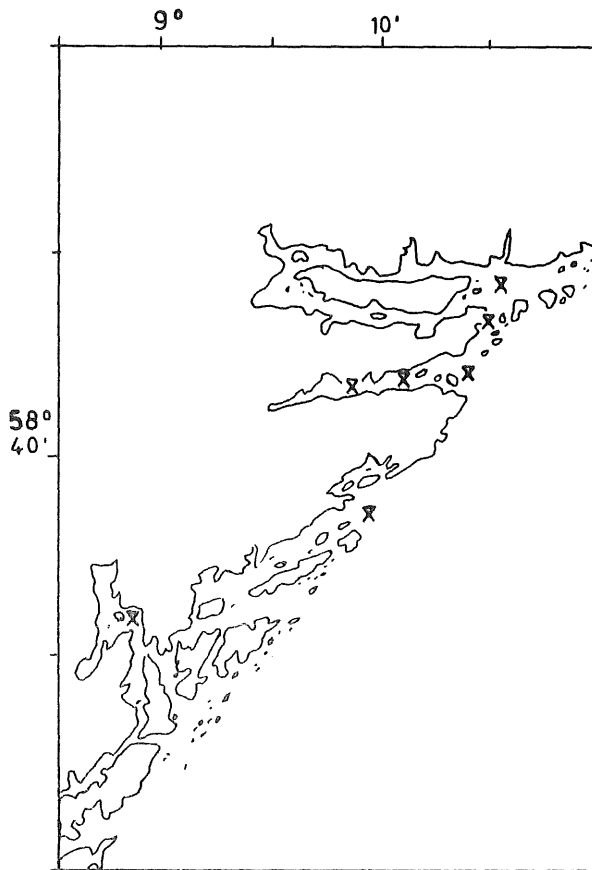
4-5 OCT. ST.NO. 413-428  
I.T.A. PROJECT



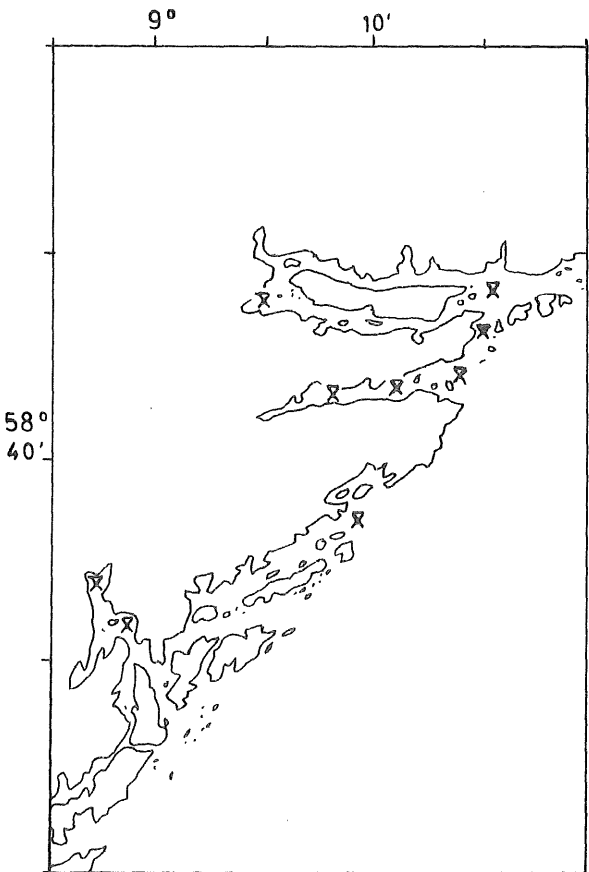
5-7 DEC. ST.NO.461-472,482-487



31 JAN. 1978 ST. NO. 25-32

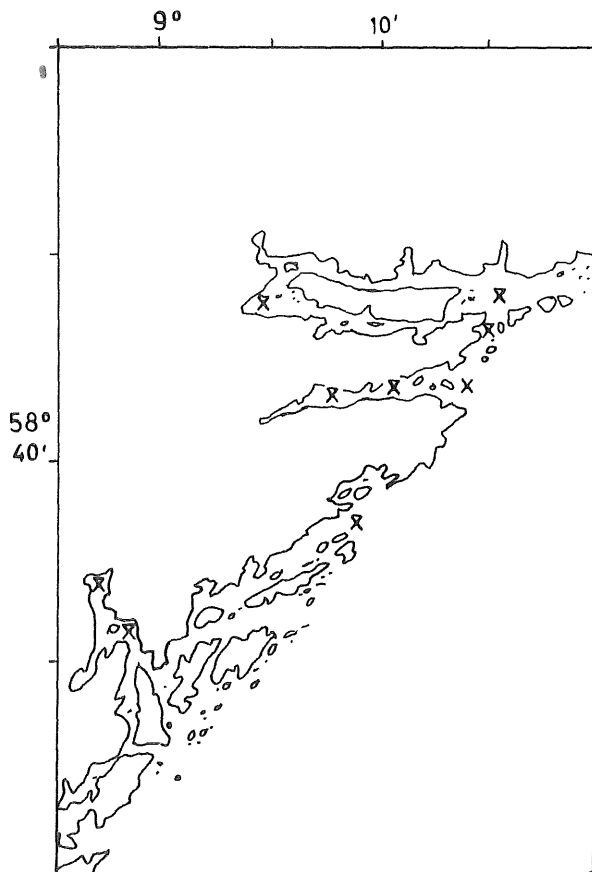


4 APR. 1978 ST. NO. 127-133



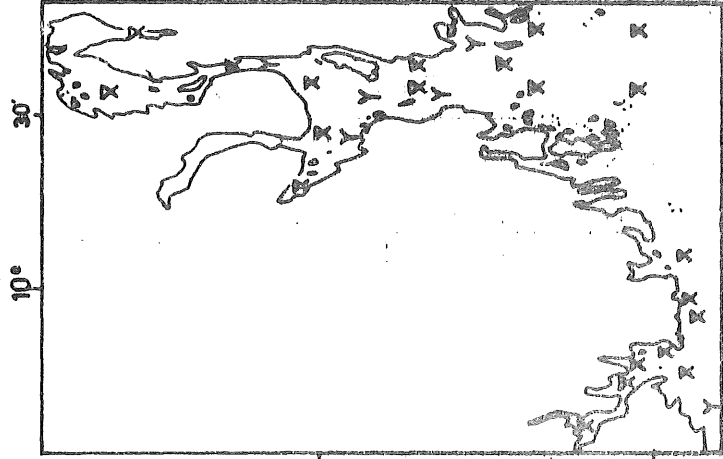
15 AUG. 1978 ST. NO. 308-316

„G.M. DANNEVIG”

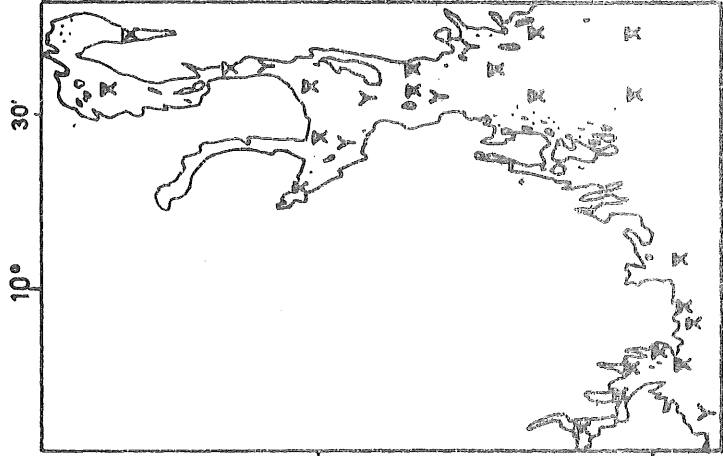


6 DEC. 1978 ST. NO. 473-481

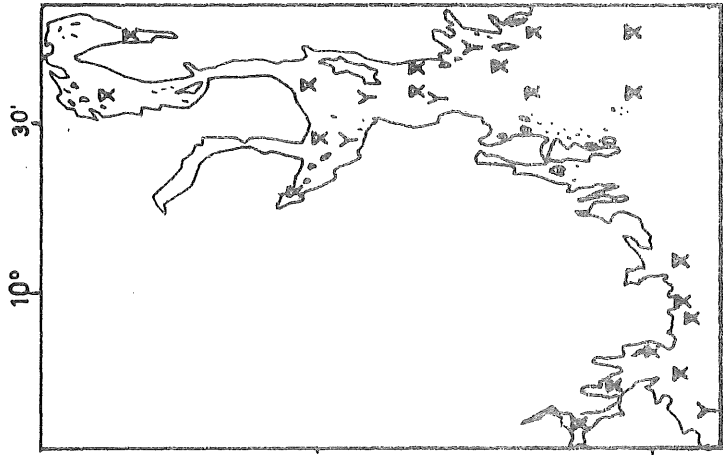




18-26 MAY ST. NO. 202-228



10-19 APR. ST. NO. 151-172



6-16 MAR. ST. NO. 88-114



6-7 FEB. ST. NO. 34-59



31 OCT.-10 NOV. ST. NO. 440-460



14-25 AUG. ST. NO. 323-349



12-21 JUN. ST. NO. 258 - 284

PTK-PROJECT  
"G.M.DANNEVIG" 1978

30°

59°

30°

59°

10°

30°

10°

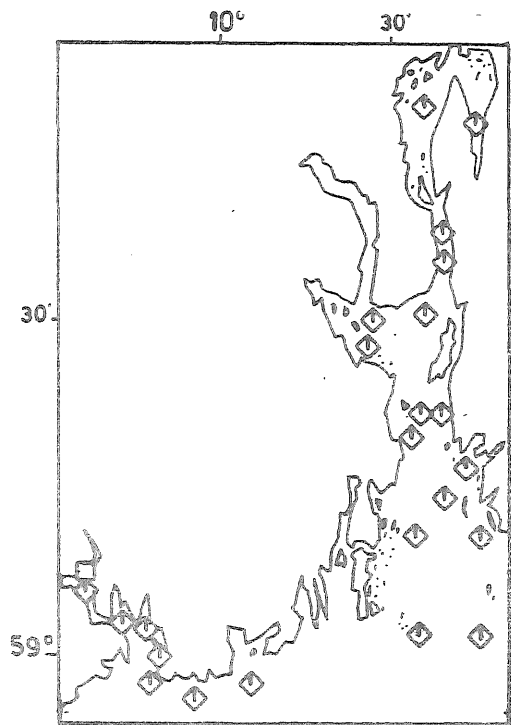
30°

10°

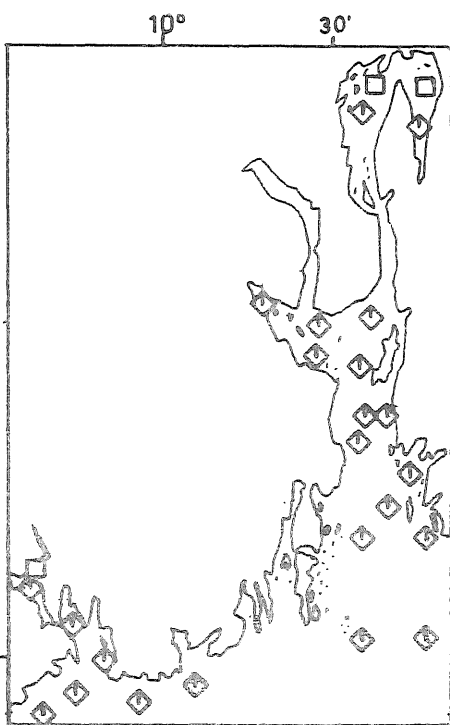
30°

10°

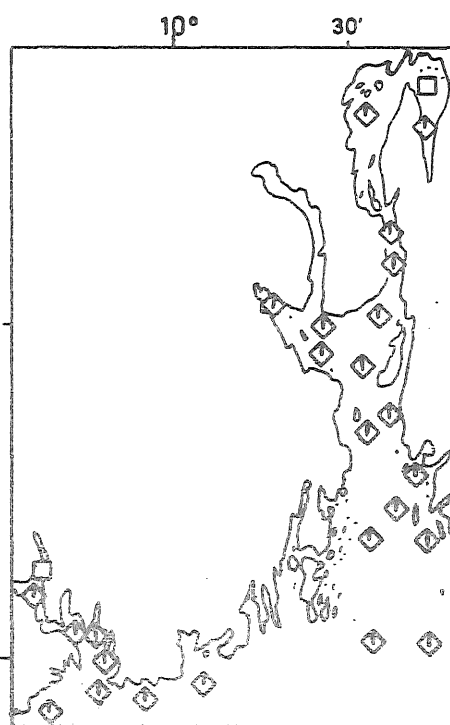
30°



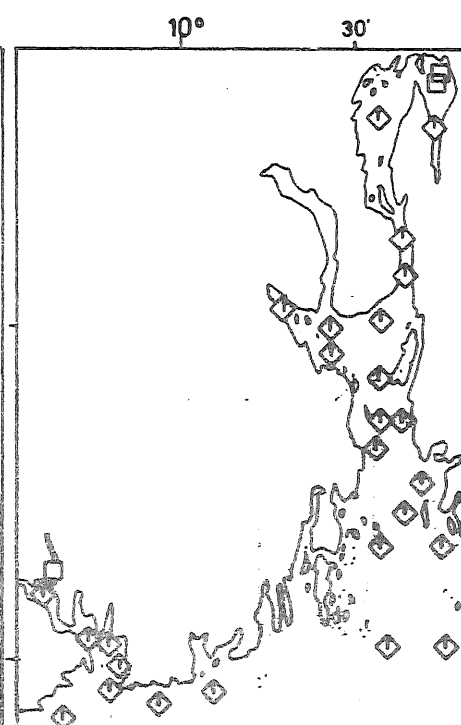
6-17 FEB. 23 PL.ST. 1 TRAWL ST.



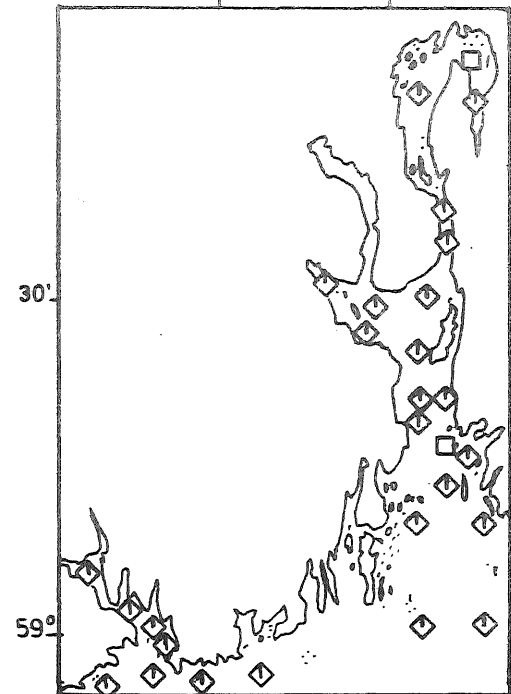
6-16 MAR. 23 PL.ST. 3 TRAWL ST.



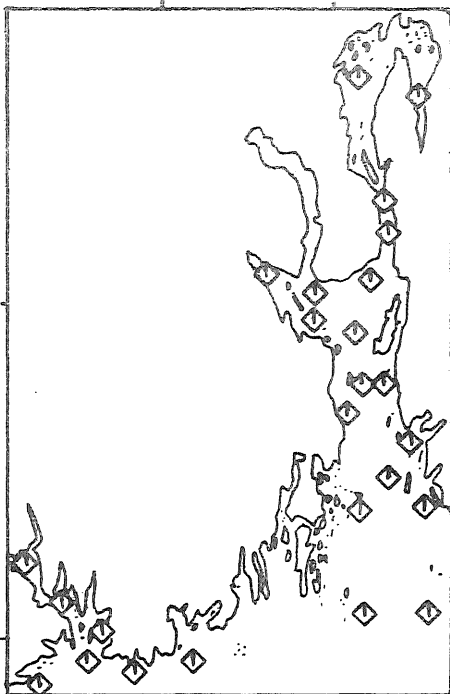
10-19 APR. 25 PL.ST. 2 TRAWL ST.



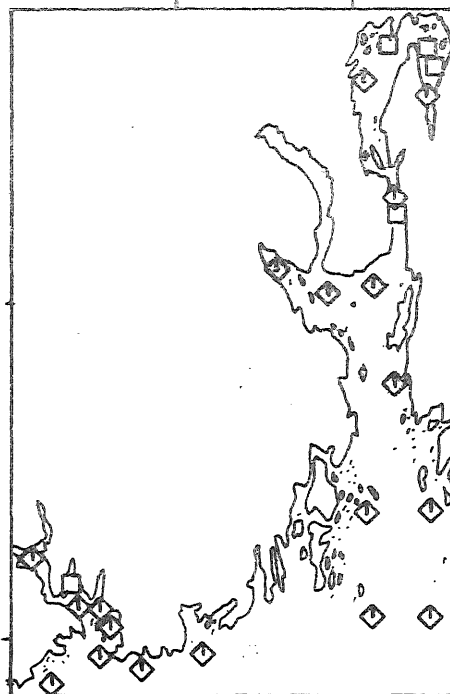
18-26 MAY 26 PL.ST. 3 TRAWL ST.



12-21 JUN. 26 PL.ST. 2 TRAWL ST.

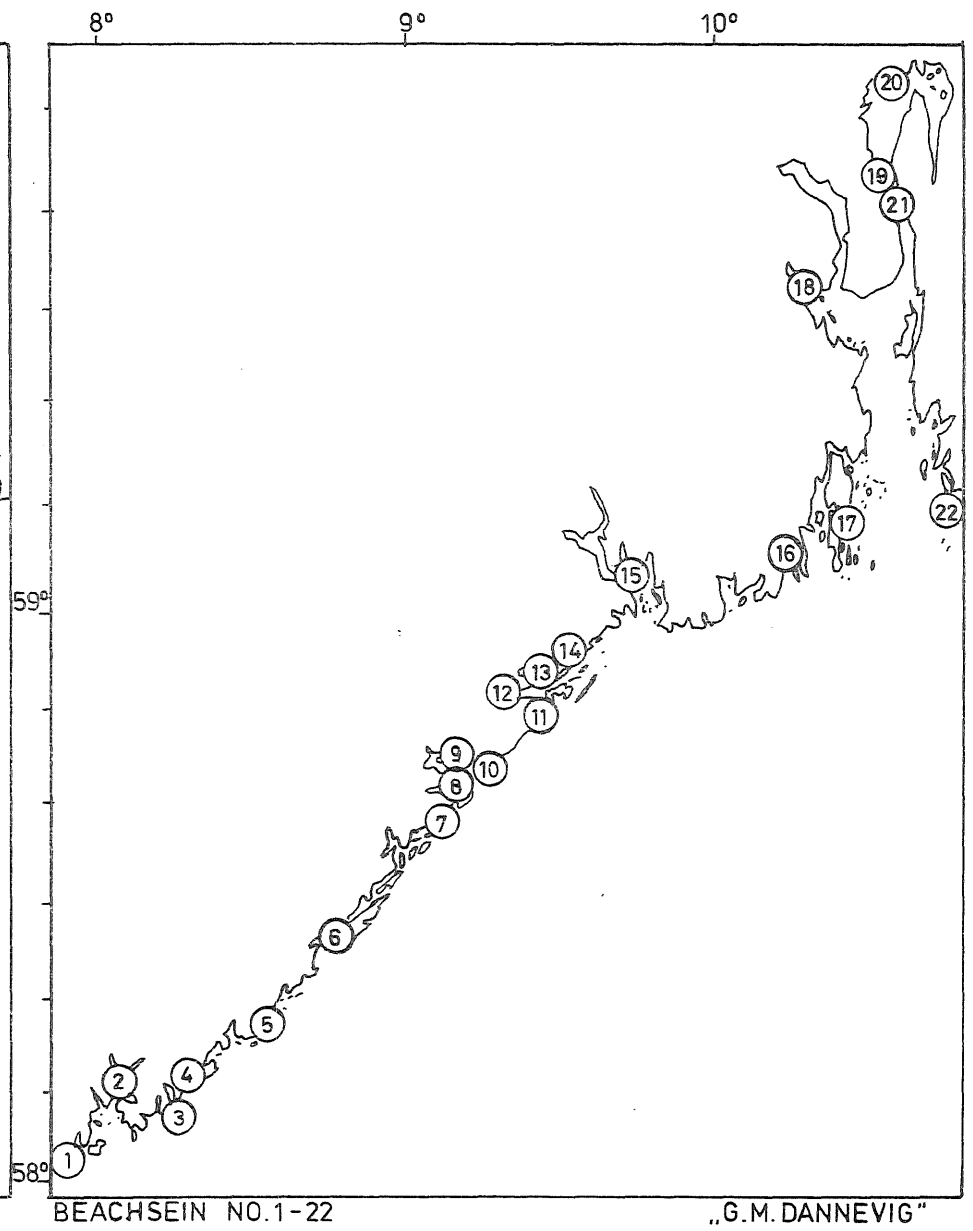
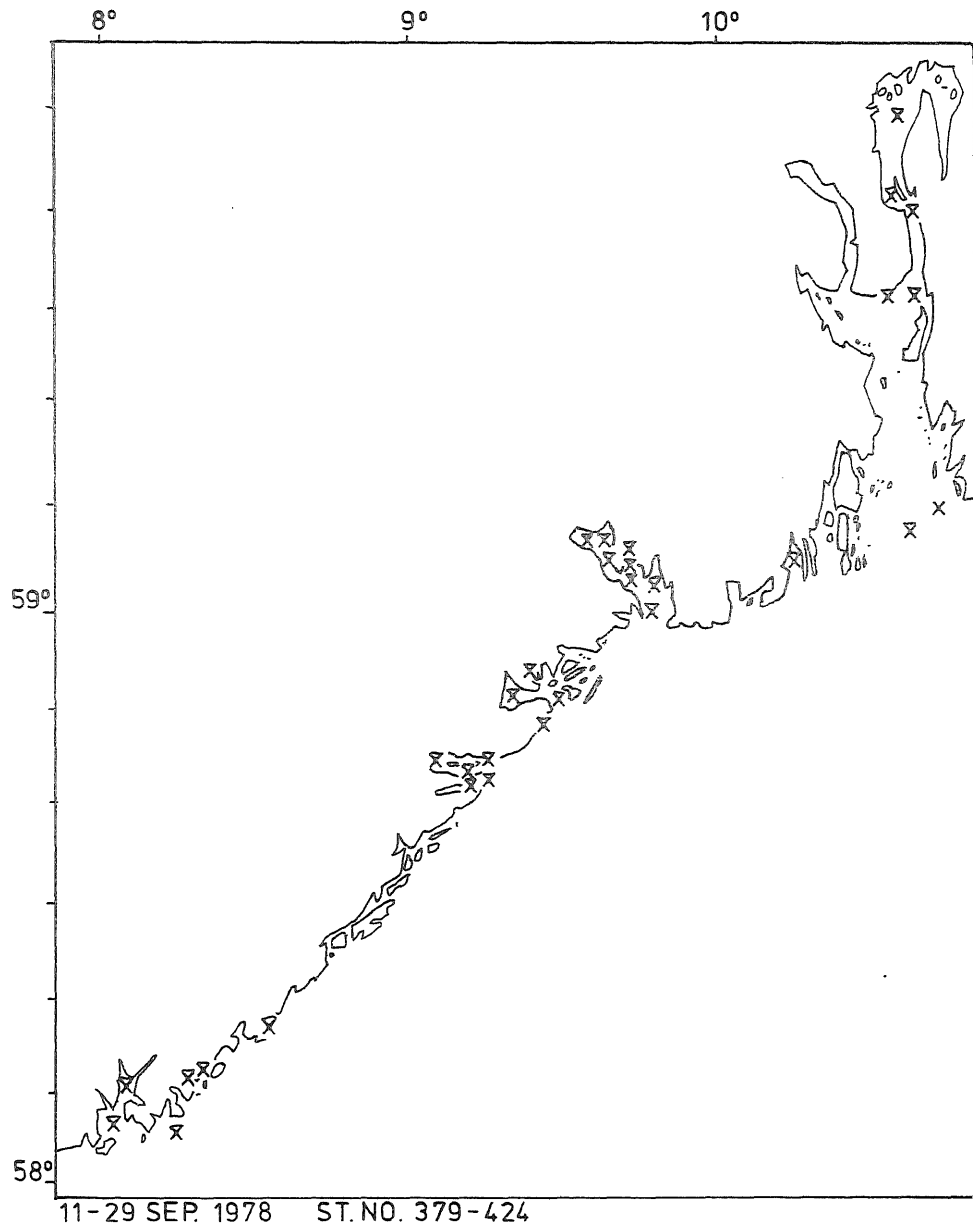


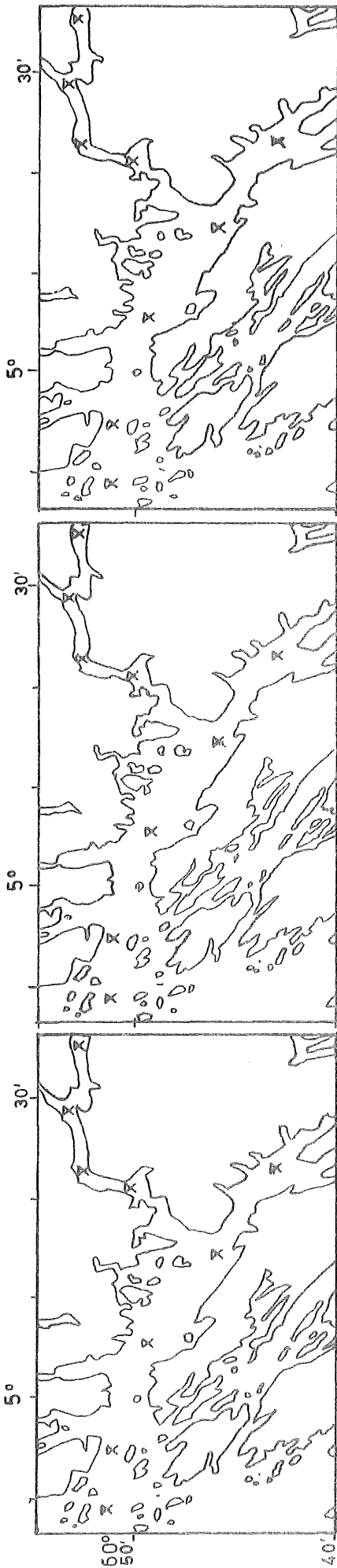
14-25 AUG. 25 PL.ST.



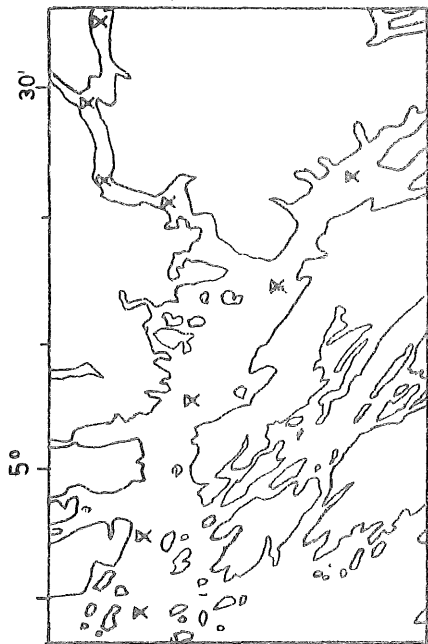
31 OCT.-10 NOV. 19 PL.ST. 5 TRAWL ST.

PTK-PROJECT  
"G.M.DANNEVIG" 1978

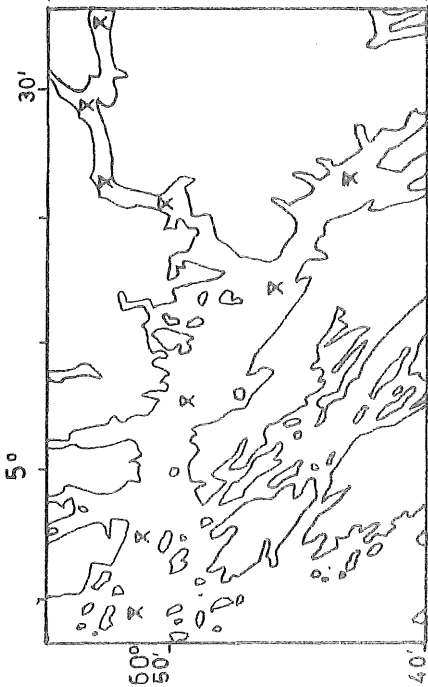




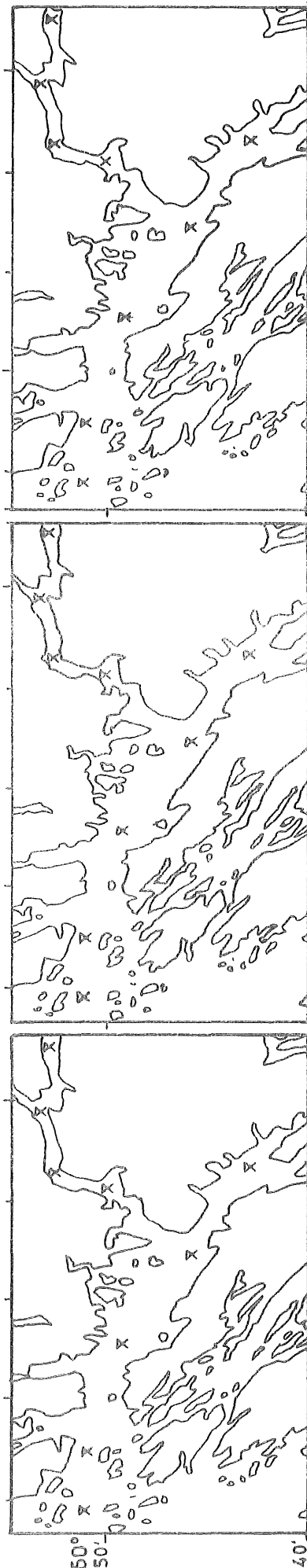
16-18 JAN. 1978 "PEDER RÖNNESTAD"



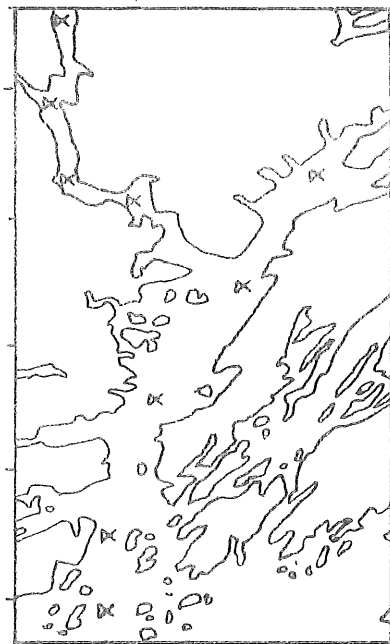
13-16 FEB. 1978 "P.R."



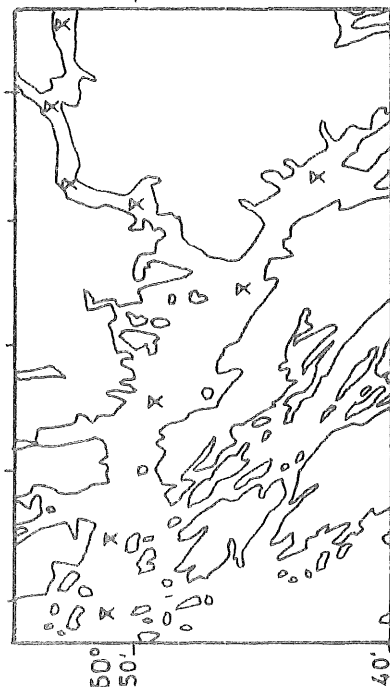
2-5 MAY 1978 "P.R."



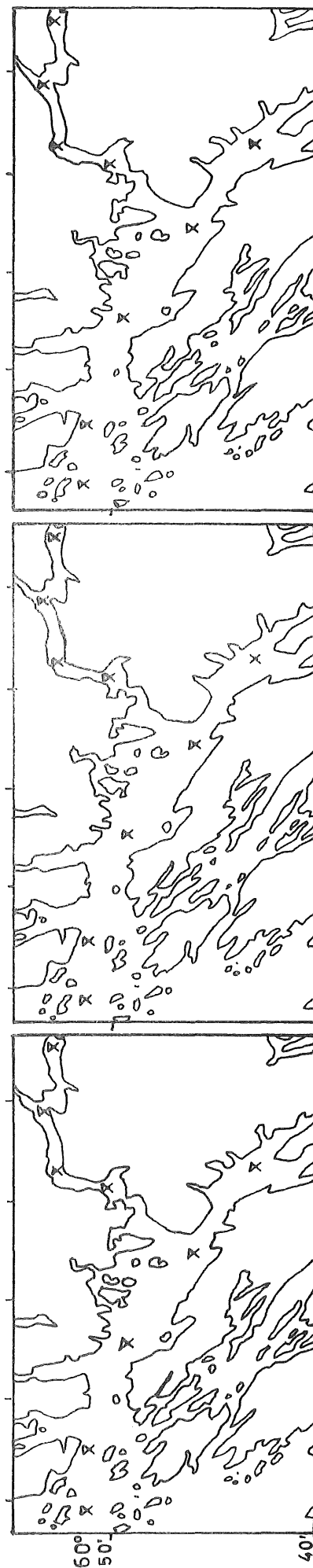
3-5 APR. 1978 "P.R."



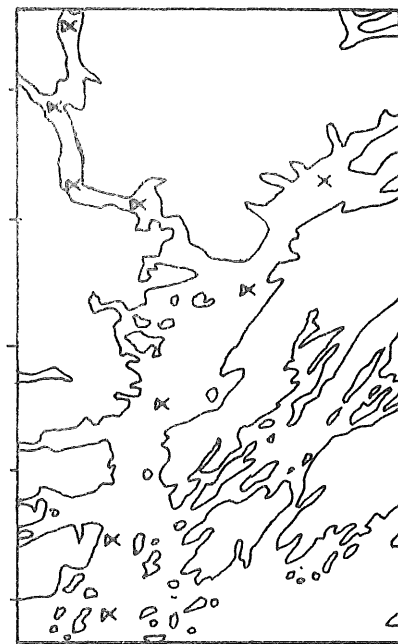
19-21 JUN. 1978 "P.R."



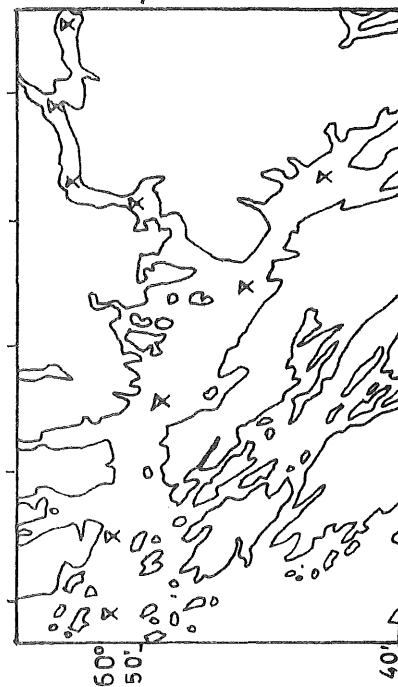
4-6 SEP. 1978 "P.R."



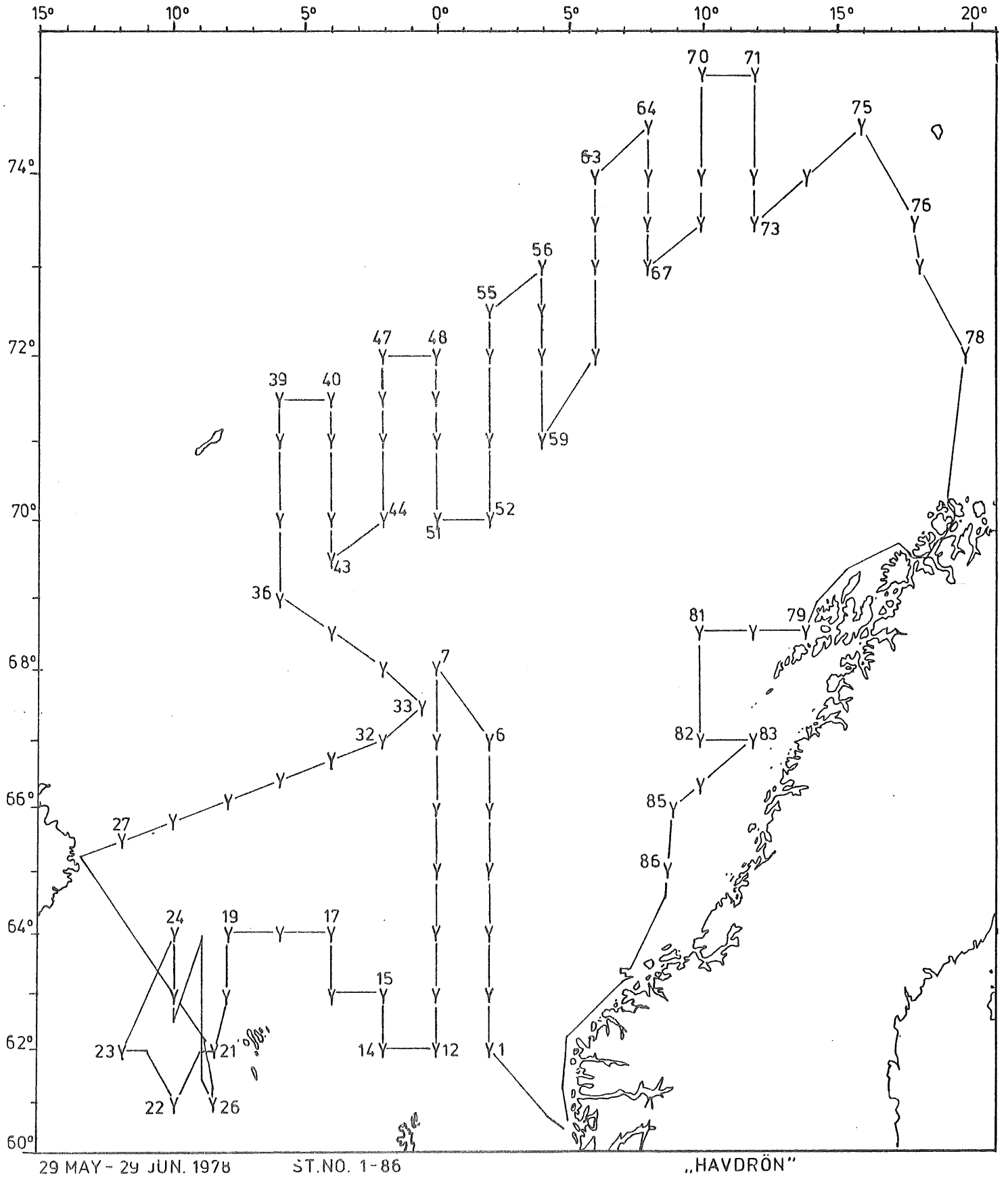
2-4 OCT. 1978 "P.R."

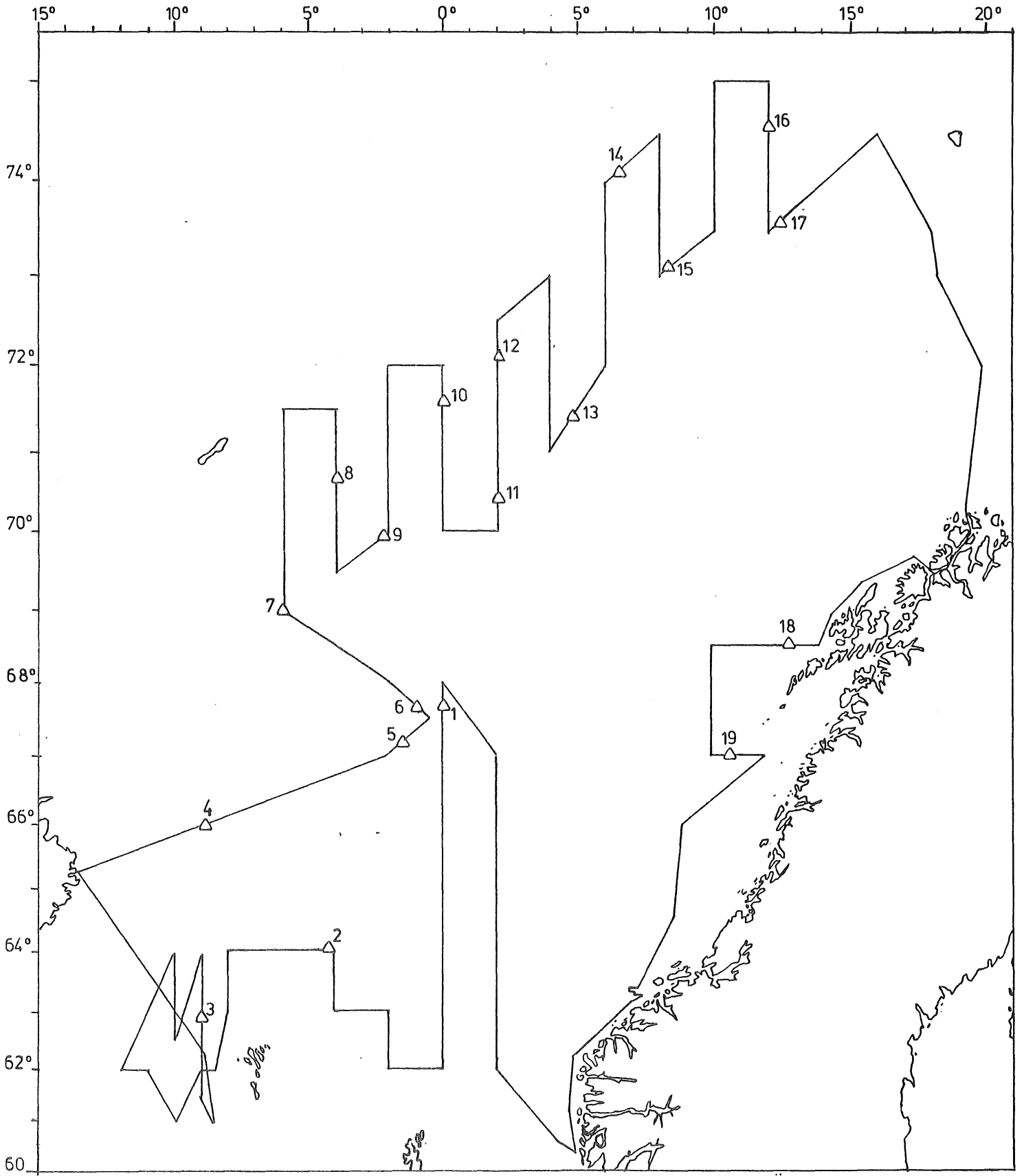


12-14 JUL. 1978 "P.R."



2-4 NOV. 1978 "FRIDTJOF NANSEN"





29 MAY - 29 JUN. 1978

TRAWL ST. 1-19

„HAVDRÖN“

