Sidestripe Shrimp Exploration, British Columbia Central and North Coasts October and November 1978

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May 1979

Fisheries & Marine Service Manuscript Report No. 1520

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SIDESTRIPE SHRIMP EXPLORATION, BRITISH COLUMBIA CENTRAL AND NORTH COASTS OCTOBER AND NOVEMBER 1978

by

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Cat. no. Fs 97-4/1520 ISSN 0701-7618

ABSTRACT

Carmichael, J. R., and J. A. Boutillier. 1979. Sidestripe Shrimp Exploration, British Columbia Central and North Coasts. October and November 1978. Fish. Mar. Serv. MS Rep.1520: 95 p.

A jointly funded Federal-Provincial project was undertaken in the fall of 1978, to explore for new stocks of sidestripe shrimp (Pandalopsis dispar). Using the 80-ft stern trawler M.V. PACIFIC TRIDENT, an area from Rivers Inlet north to the Alaska border was surveyed. Five areas with commercial potential were identified. The calculated harvestable yield from the combined area is 45 metric tons/year.

Key words: Pandalopsis dispar, biomass, sidestripe shrimp, exploratory, area swept trawl survey.

RÉSUMÉ

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À l'automne 1978, un programme d'exploration financé conjointement par les gouvernements fédéral et provincial a été mis en place afin de trouver de nouveaux stocks de crevettes à flancs rayés (Pandalopsis dispar). Effectué à l'aide d'un chalutier à pêche arrière de 80 pieds, le PACIFIC TRIDENT, le relevé a porté sur une zone s'étendant de l'inlet Rivers vers le nord jusqu'à la frontière de l'Alaska. Il enest ressorti que cinq secteurs présentent des possibilités commerciales. Le total exploitable de ces cinq secteurs s'élèverait à 45 tonnes métriques par année.

Mots-clés: Pandalopsis dispar, biomasse, crevette à flanc rayé, exploratoire, zone de relevé, relevé au moyen d'un chalut.

INTRODUCTION

There are six commercial species of shrimp on the coast of British Columbia. One of these species, the sidestripe shrimp (Pandalopsis dispar), is a large, high quality shrimp which at present supports a small commercial trawl fishery in the Gulf of Georgia. The market for this type of shrimp has become very strong and it is evident that an expansion of effort will be directed at this fishery. In an effort to find alternative stocks of sidestripes, an exploratory trawl survey was undertaken in the central and northern inlets and adjacent waters (Fig. 1). The project was jointly funded by the British Columbia Marine Resources Branch, Ministry of the Environment and the Federal Government's Industrial Development Branch. Supervision, and scientific and technical advice for the project was provided through the Crustacea Investigation of the Pacific Biological Station, Department of Fisheries and Oceans.

VESSEL AND GEAR

The charter was carried out aboard the fishing vessel M.V. PACIFIC TRIDENT from October 14 to November 13, 1978, an 80-ft fiberglass stern trawler, owned and operated by Mr. Guy Whyte.

The survey was conducted using a 70-ft semi-balloon trawl (Fig. 2) towed with 4 1/2 x 7 ft metal "Vee" doors. The net was described in greater detail in earlier reports.[1]

SURVEY AREA AND METHODS

The survey was conducted in the mainland inlets and adjacent waters from Smith Sound to the British Columbia-Alaska border (Fig. 1). The basic objective of the survey was to evaluate the potential of a commercial fishery in as large an area as possible. In order to do this efficiently, a review of the available data was conducted to set criteria for exploration. The review found that sidestripe shrimp were most often concentrated on a mud bottom, and in depths of 60-120 fm. These criteria were used in choosing the preliminary trawling locations in an area. If shrimp catches were good in the prime locations, the constraints were relaxed and further tows were made. Tows lasted 30 minutes unless shortened by snags or indication of bad bottom.

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[1]Pacific Biological Station Circulars Nos. 76 and 85.

The catch from each tow was sorted, weighed, and recorded. The large fish were removed from the catch and weighed, while the remaining mixed catch of shrimp, other invertebrates, and small fish was tubbed and weighed. One tub was then sorted into shrimp and scrap, the percentage of shrimp by weight per tub was determined, and the total shrimp catch for the tow was then extrapolated.

RESULTS

A total of 97 tows was completed during the 28-day charter. The tows are summarized (Appendix Table 2). The position of each tow is illustrated using map tracings of various Canadian Hydrographic Survice charts (Fig. 3-28).

In general, sidestripes were found in small concentrations in most of the areas surveyed. Only five areas showed signs of potential commercial stocks. These areas, the average catch/hr towed, and the size of shrimp, are listed below:

Area	No. of tows	Catch		Size	
		Kg/hr	(lb/hr)	Shrimp/kg	(shrimp/lb)
Laredo Sound	5	55	(121)	84	(38)
Smith Sound	1	44	(97)	58	(26)
Grenville Channel	7	37	(81)	72	(33)
Gardner Canal	6	36	(79)	57	(26)
S. Chatham Sound	13	18	(40)	87	(39)

When assessing the potential for a fishery, the size of the harvestable stock, the accessibility of a market, and the fishable area must be considered. For the areas found in this survey, the size is such that any fishery would best be exploited by a small beam trawl fleet. Of these five areas, Grenville Channel and Southern Chatham Sound are close enough to populated areas to make a 1- or 2-day fresh market fishery feasible, while the other three areas are remote and could only realistically be fished with freezer vessels.

Preliminary biomass estimates were calculated for Laredo Sound, Grenville Channel, and Gardner Canal. The estimates were arrived at by a standard area swept calculation which incorporates the horizontal opening of the trawl (30 ft), the mean catch per nautical mile towed, a catch coefficient (1), and the total area of shrimp concentration. Caution must be used when interpreting the biomass estimations for this cursory survey because the limited number of tows necessitates approximations when delimiting the areas of concentrations. Precautionary allowable yields have been estimated for each of these areas.

Laredo Sound was the most productive region found, with the best catches of sidestripes taken in depths of 105-125 fathoms. The estimated yield from this area will be approximately 18 metric tons/year. This area will be limited to vessels large enough to carry sufficient warp to fish at these depths. Surveys conducted in 1966[2] and 1967[3] also proved this ground for sidestripe stocks at levels equivalent to present stocks. However, it has only recently become economically feasible to exploit the shrimp fishery in this area.

Smith Sound was designated only for testing the net prior to the major survey. The catch was large enough to warrant mentioning this 14 sq. naut. mile area as a site for future exploration.

Grenville Channel was only surveyed north of Baker Inlet. This area, because the channel is narrow, initially appears to have very little trawlable bottom, however, since the channel is steep there is quite a substantial amount of trawlable bottom on the sidehill slope. The yield from this area is estimated to be approximately 7 metric tons/year. A previous survey of this area in 1954[4] indicated stocks of about threequarter the size of the present stocks.

Gardner Canal had fair catches of some vary large sidestripes. The area is very limited because of the large number of snags on the bottom. The estimated yield for the area is approximately 11 metric tons.

Southern Chatham Sound, because of its close proximity to Prince Rupert and Port Edward, has had a limited historical freshmarket fishery. In this region the survey catches were low and the trawlable bottom was patchy. Any expansion of the fishery beyond its historical levels seems doubtful.

Using the most conservative estimates, it is believed that the surveyed area should be able to yield 45 metric tons of sidestripes annually. A production of this size could probably be taken by applying an effort of approximately 250 boat days (small 1- or 2-man beam trawlers).

In Southern Chatham Sound it is feasible that a pink shrimp, Pandalus borealis, fishery might re-develop. The potential annual yield from this fishery is expected to be around 52 metric tons/year, which would require a harvesting effort of approximately 290 boat days.

The amount and type of secondary processing would depend on the market situation. A market for whole shrimp, either fresh or frozen, requires little or no processing. If the market was for cooked, hand-peeled shrimp, the number of processing jobs would be quite substantial.

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[2]Pacific Biol. Stat. Circular No. 76.
[3]Pacific Biol. Stat. Circular No. 85.
[4]Pacific Biol. Stat. Circular No. 35.

ACKNOWLEDGMENTS

Thanks are extended to the following: Mr. Guy Whyte and his crew for their cooperation and patience. Val Harpham drafted all the figures used in this report. Messrs. T. G. Halsey and R. H. McIlwaine provided the resources to make this project possible. Pat Morberg looked after the details to keep the project on schedule. Messrs. T. H. Butler and A. N. Yates provided expert advice on the biological and gear aspects of the exploration. T. H. Butler reviewed the manuscript.

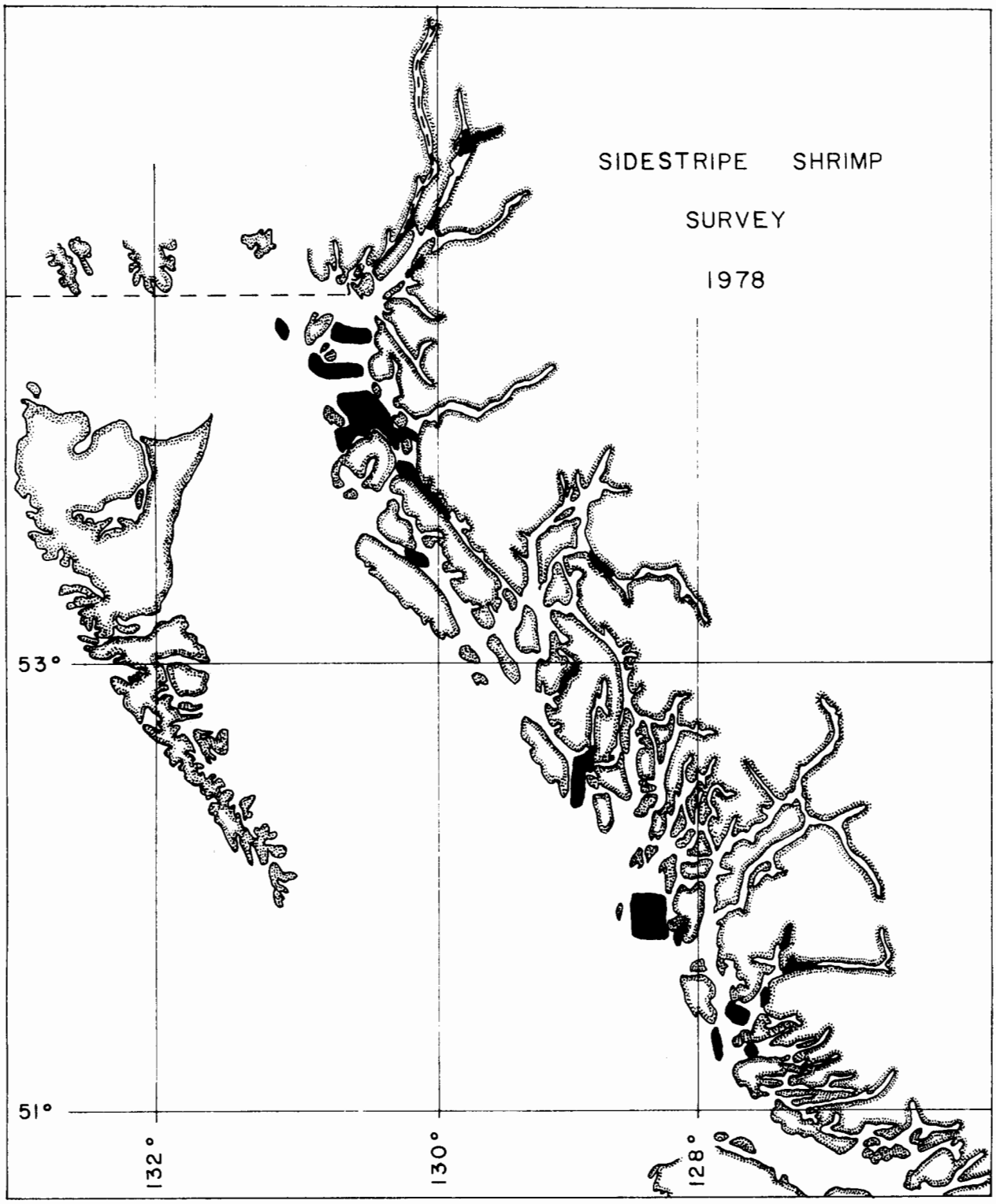

Fig. 1. Areas surveyed in 1978 sidestripe shrimp exploration.

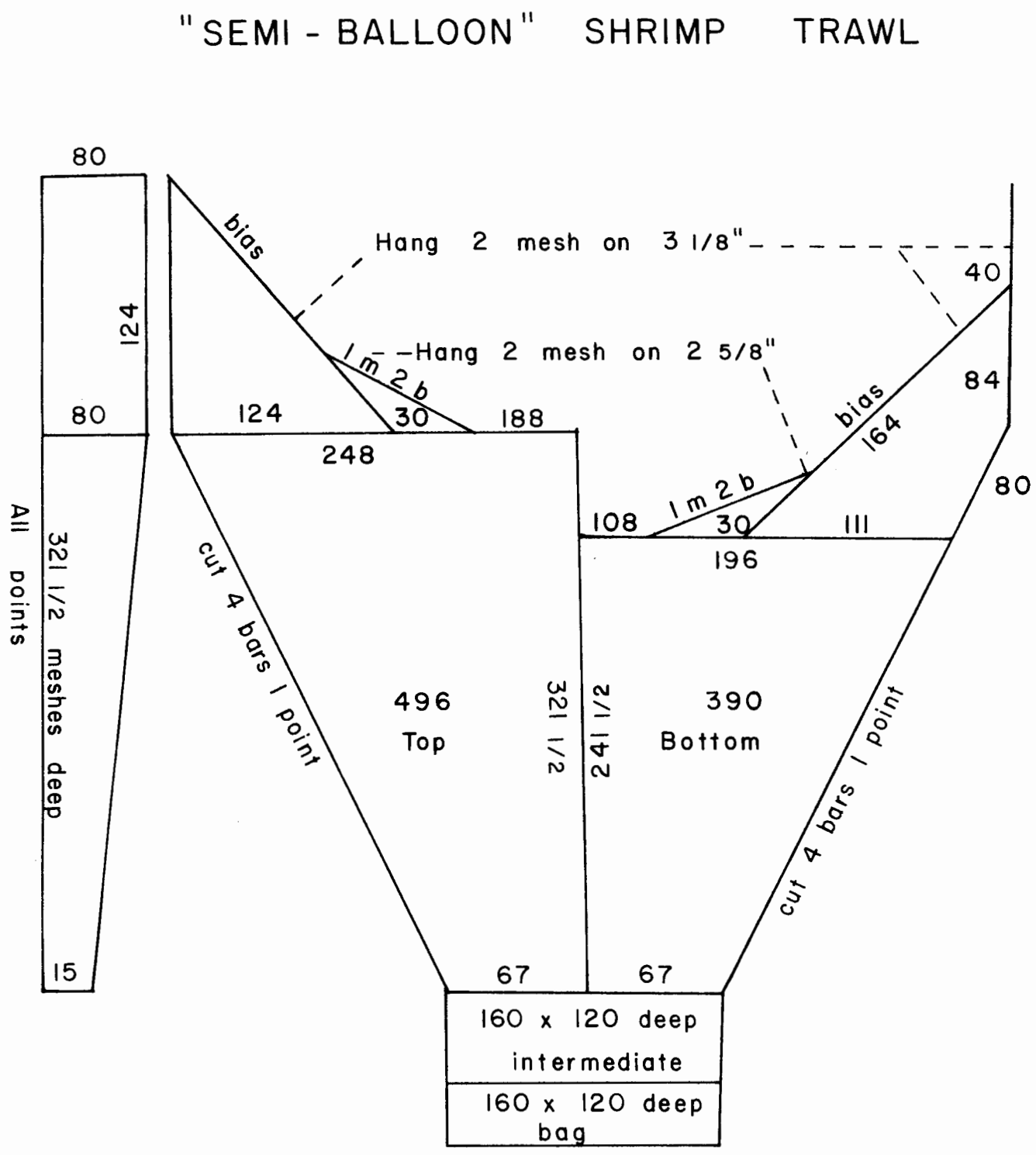

Fig. 2. Diagram of 70' Marinovich trawl (not drawn to scale).

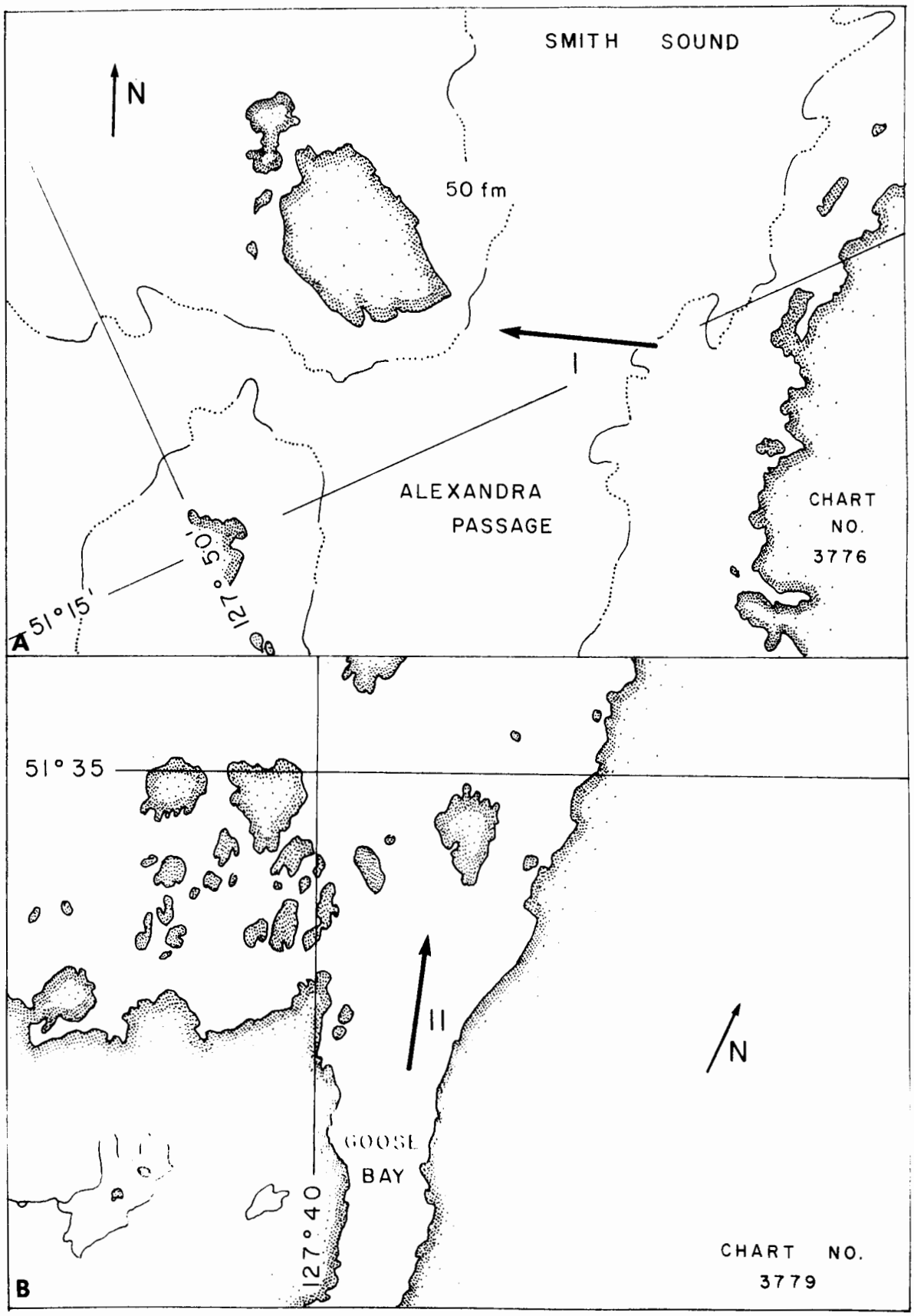

Fig. 3a. Tows in Smith Sound.
Fig. 3b. Tows in Goose Bay (Rivers Inlet).

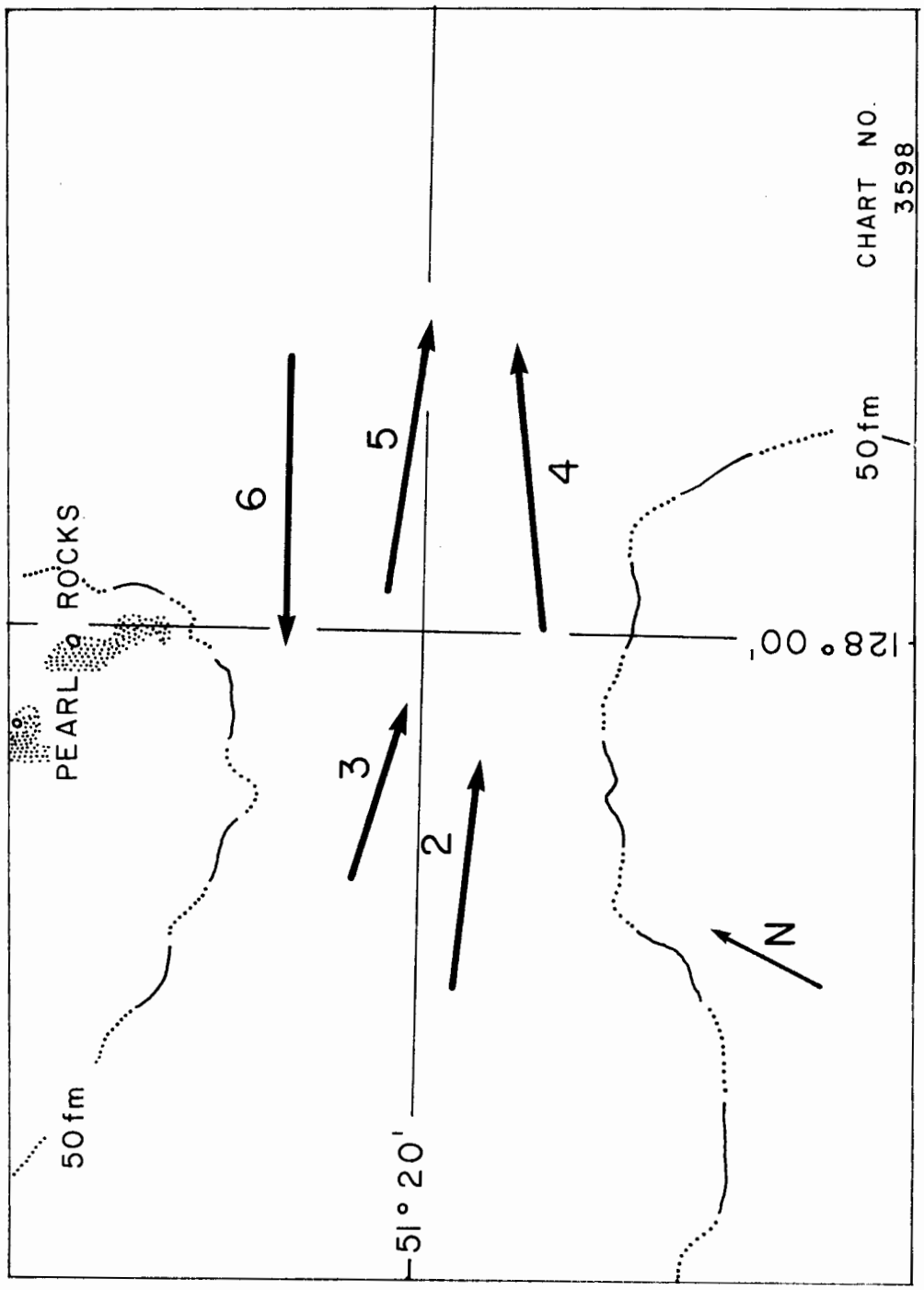

Fig. 4. Tows at Pearl Rocks.

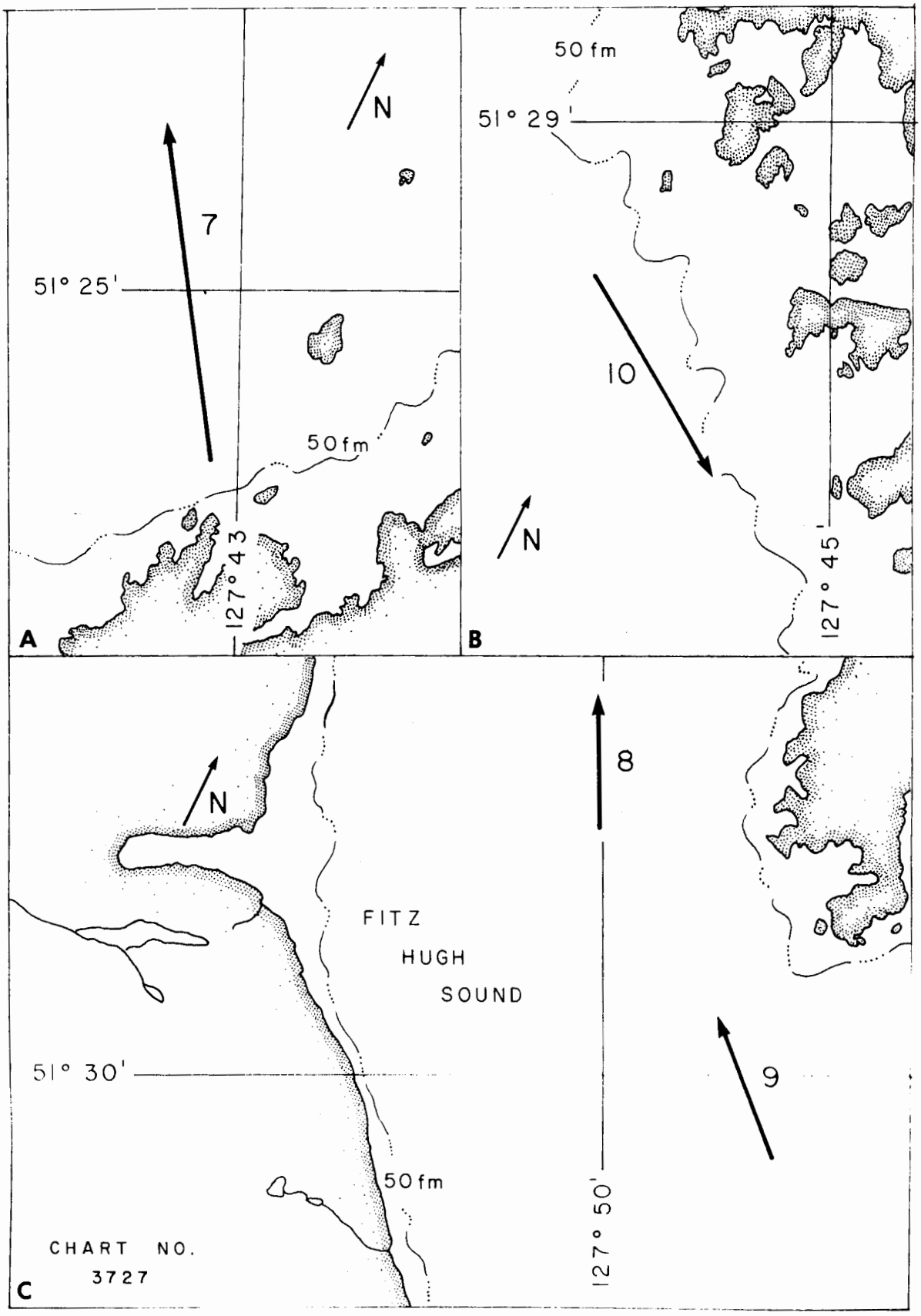

Fig. 5. Tows off the mouth of Rivers Inlet.

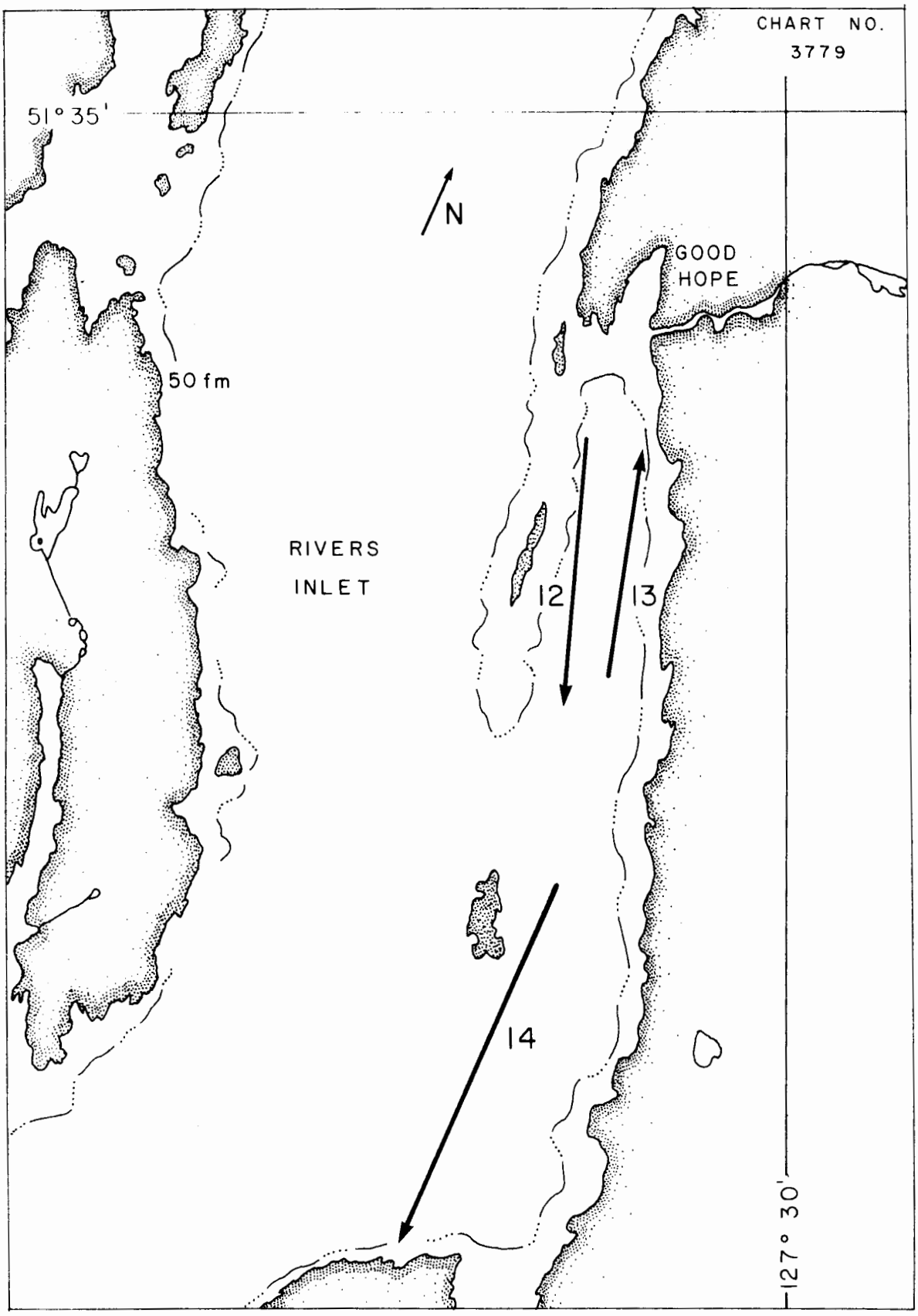

Fig. 6. Tows in Rivers Inlet.

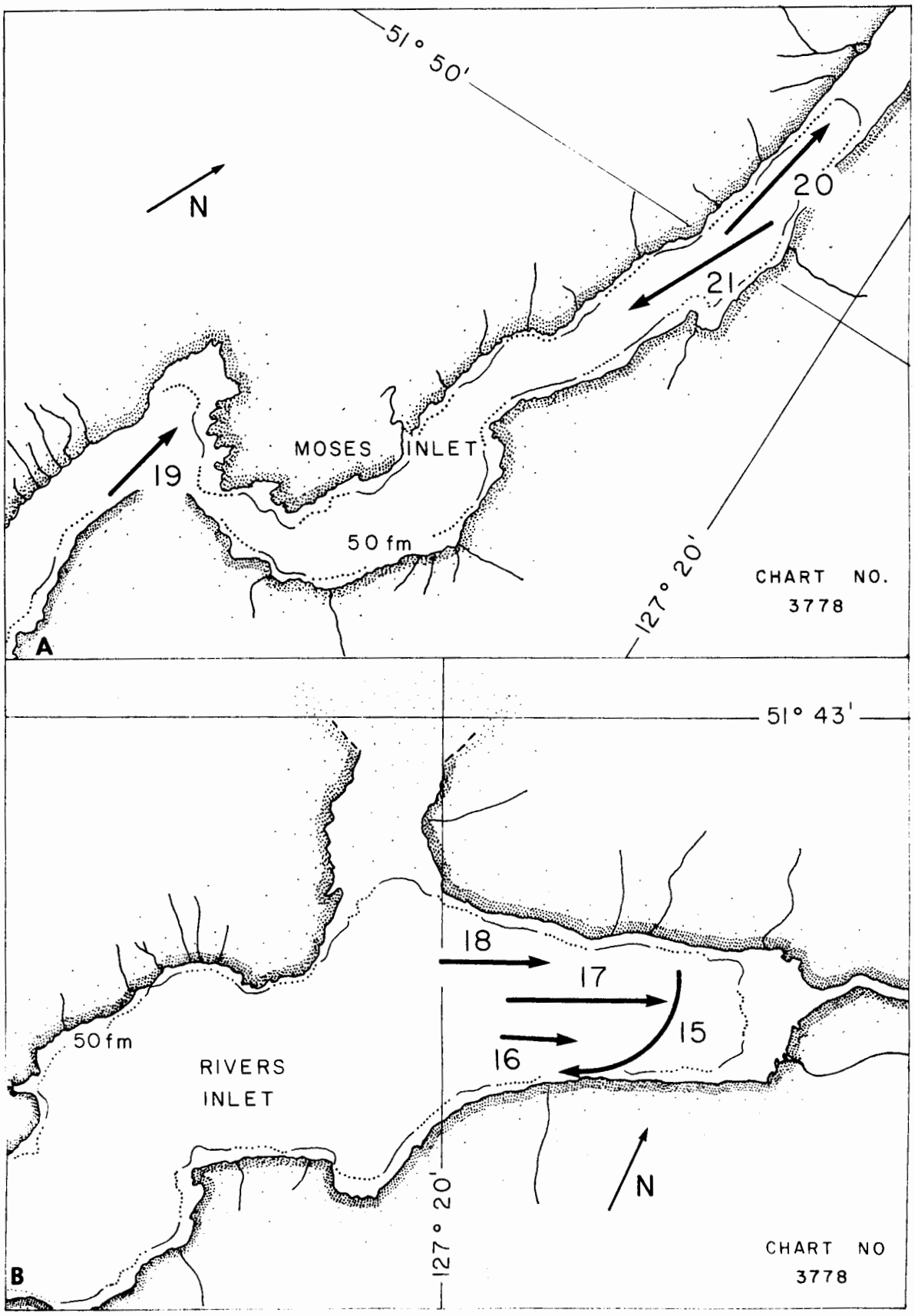

Fig. 7a. Tows in Moses Inlet.

Fig. 7b. Tows in Rivers Inlet.

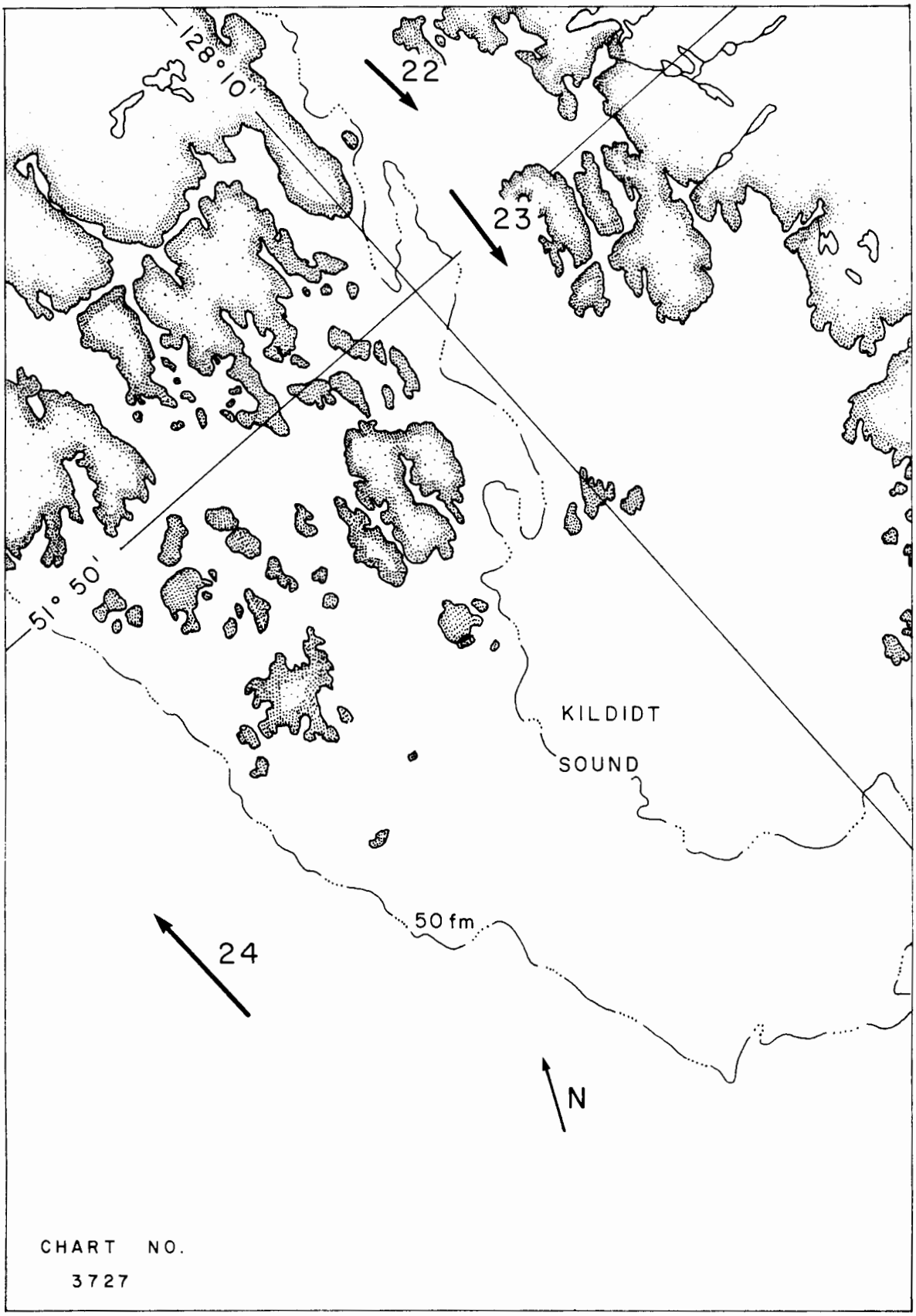

Fig. 8. Tows in Kilddidt Sound.

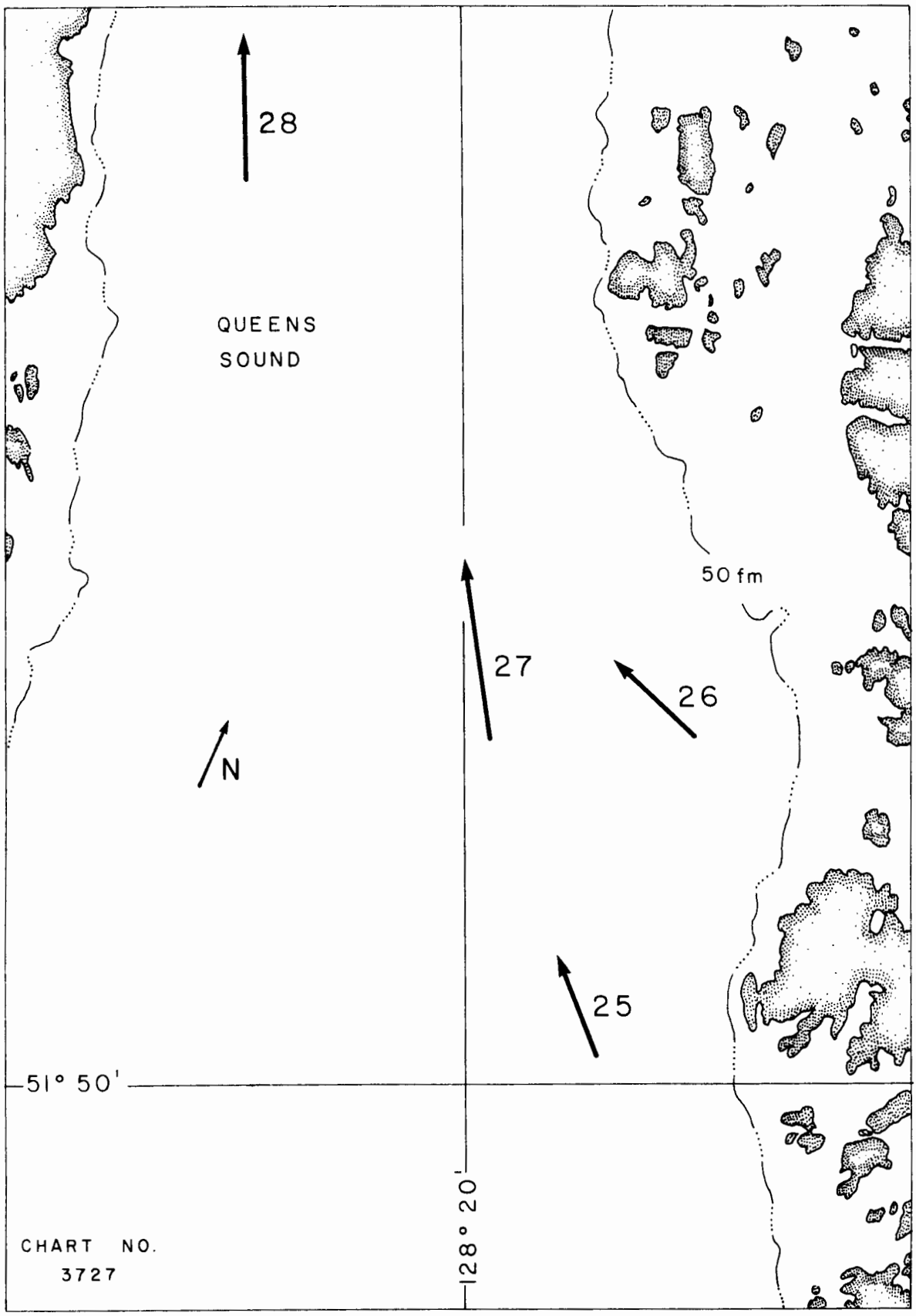

Fig. 9. Tows in Queens Sound.

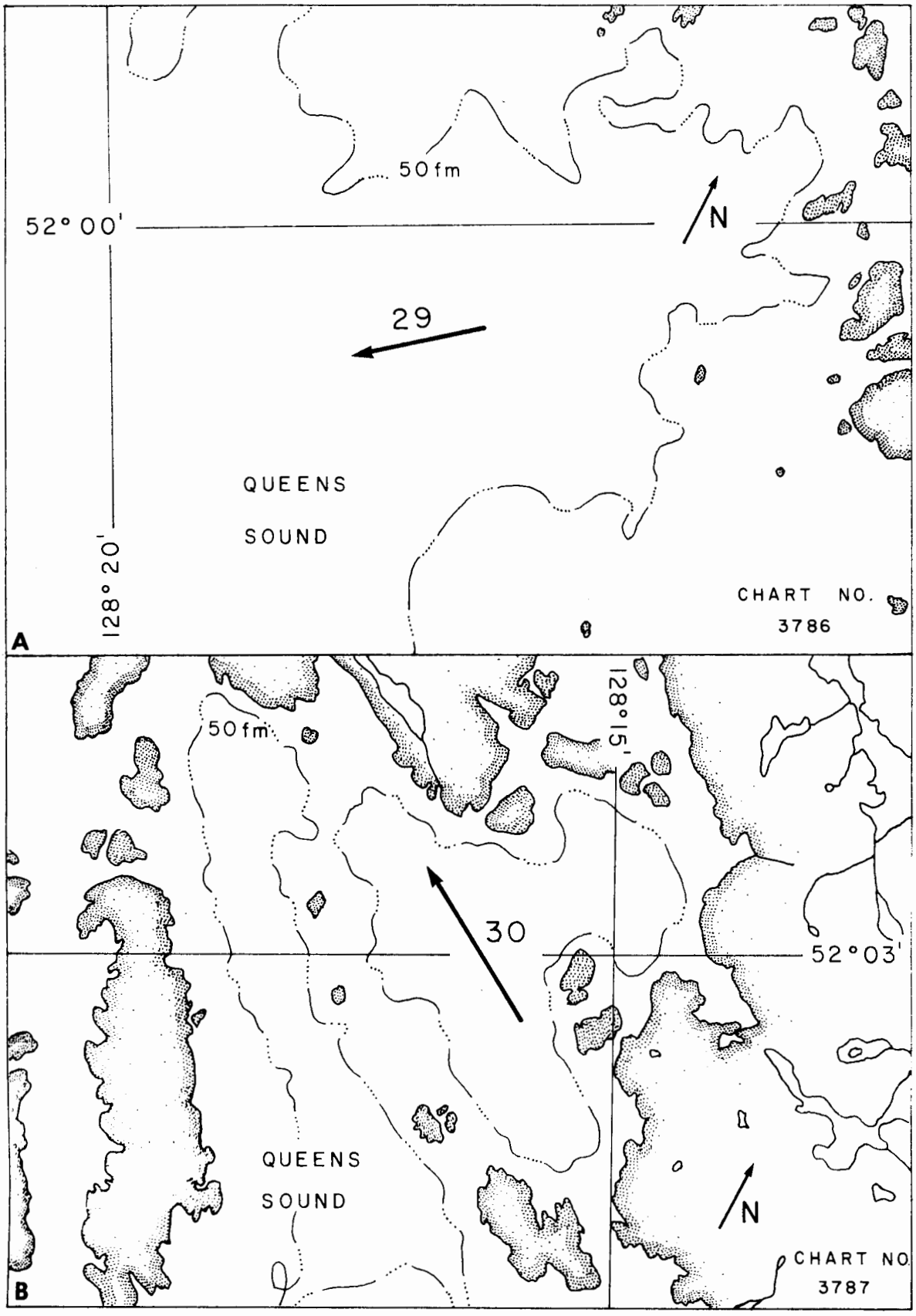

Fig.a, b. Tows in Queens Sound.

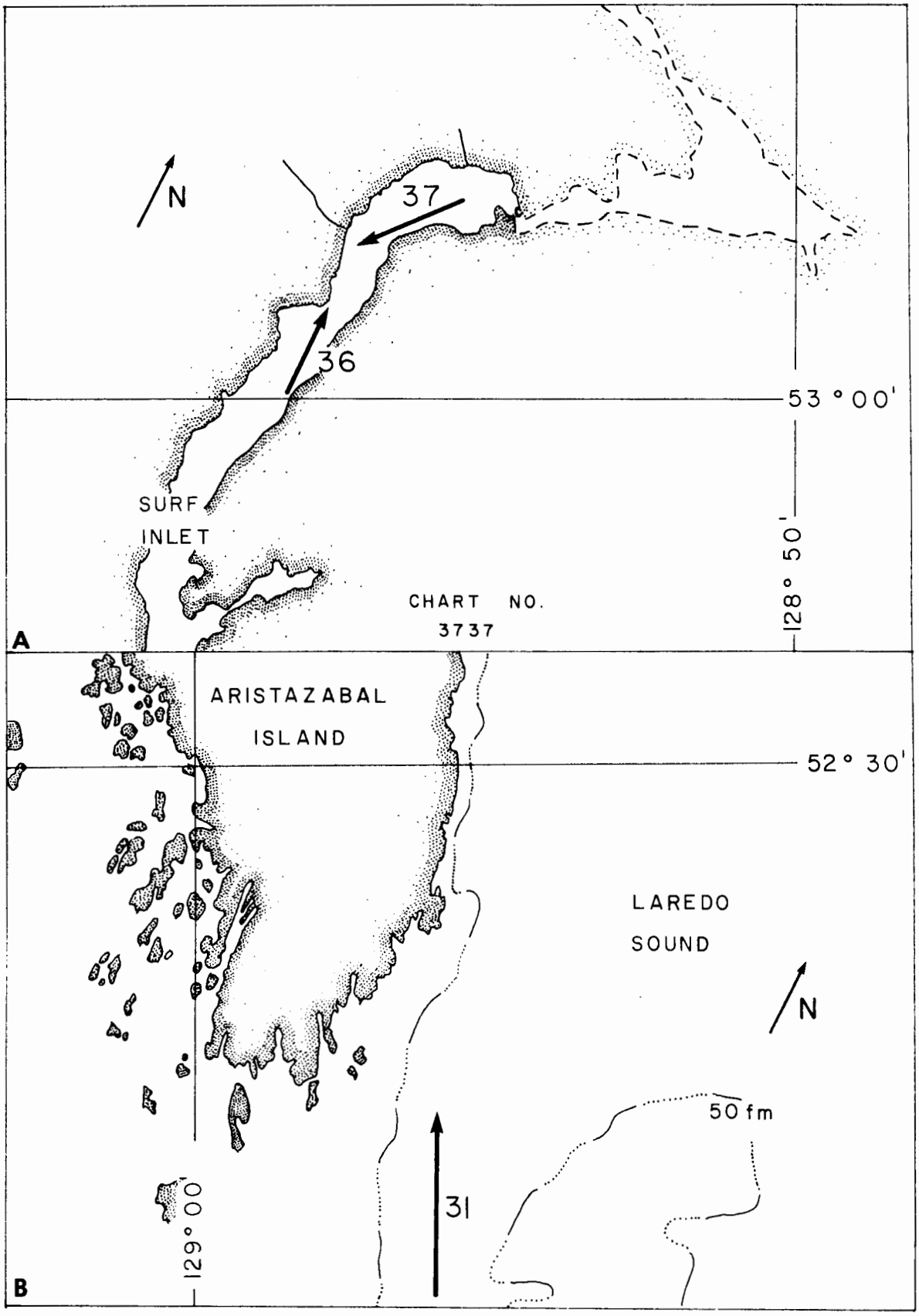

Fig. 11a. Tows in Surf Inlet.

Fig. 11b. Tows in Laredo Sound.

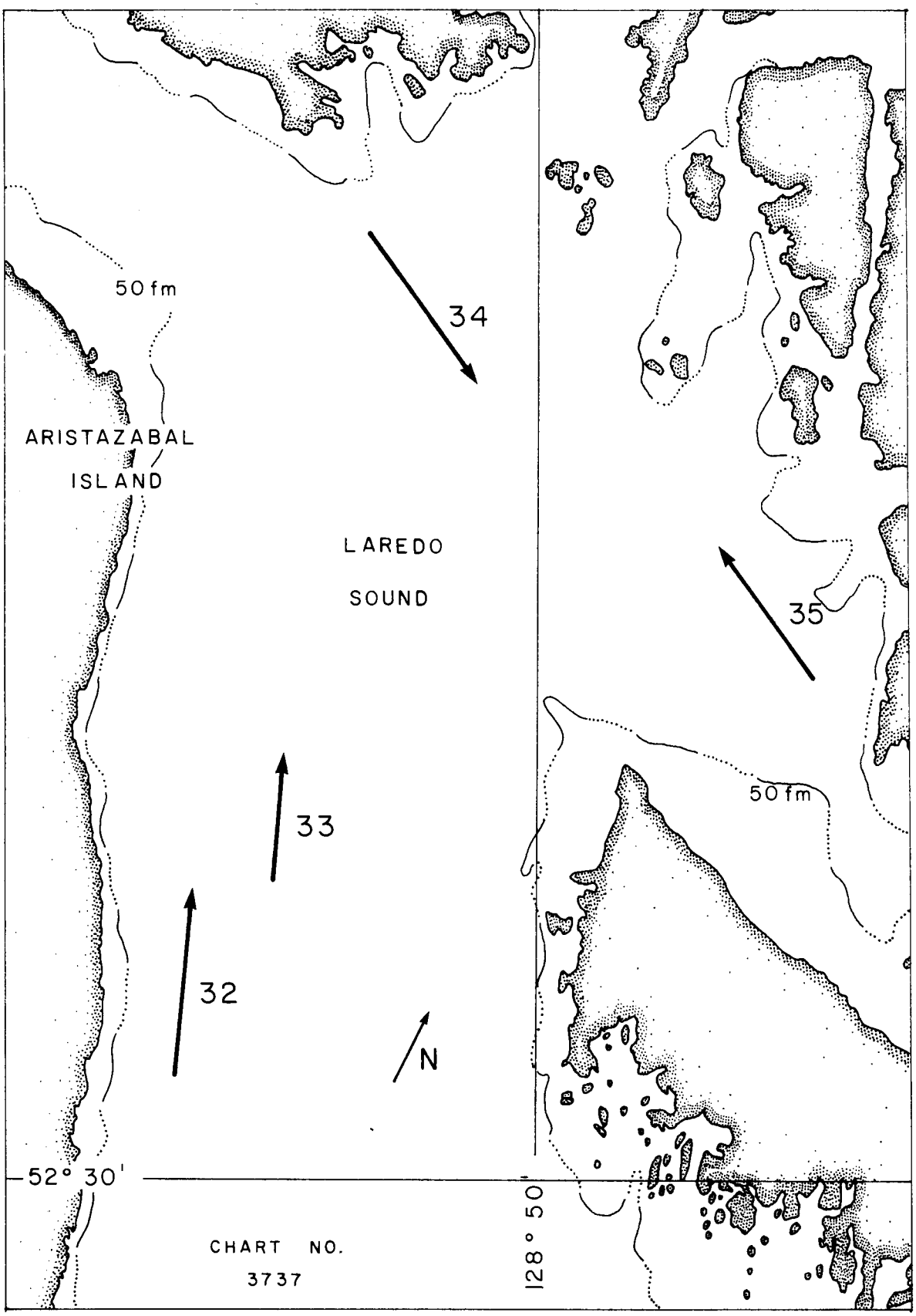

Fig. 12. Tows in Laredo Sound.

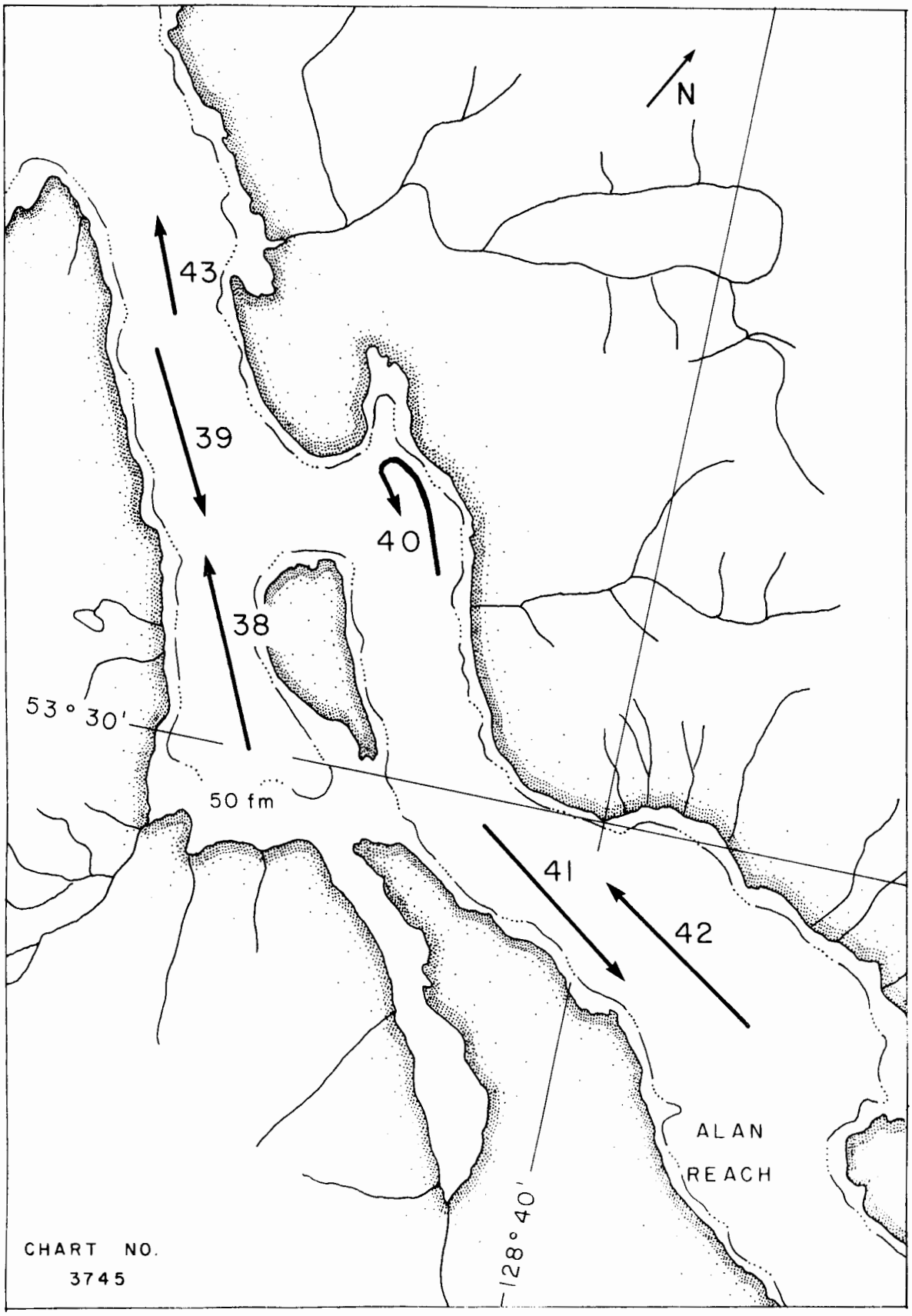

Fig. 13. Tows in Gardner Sound.

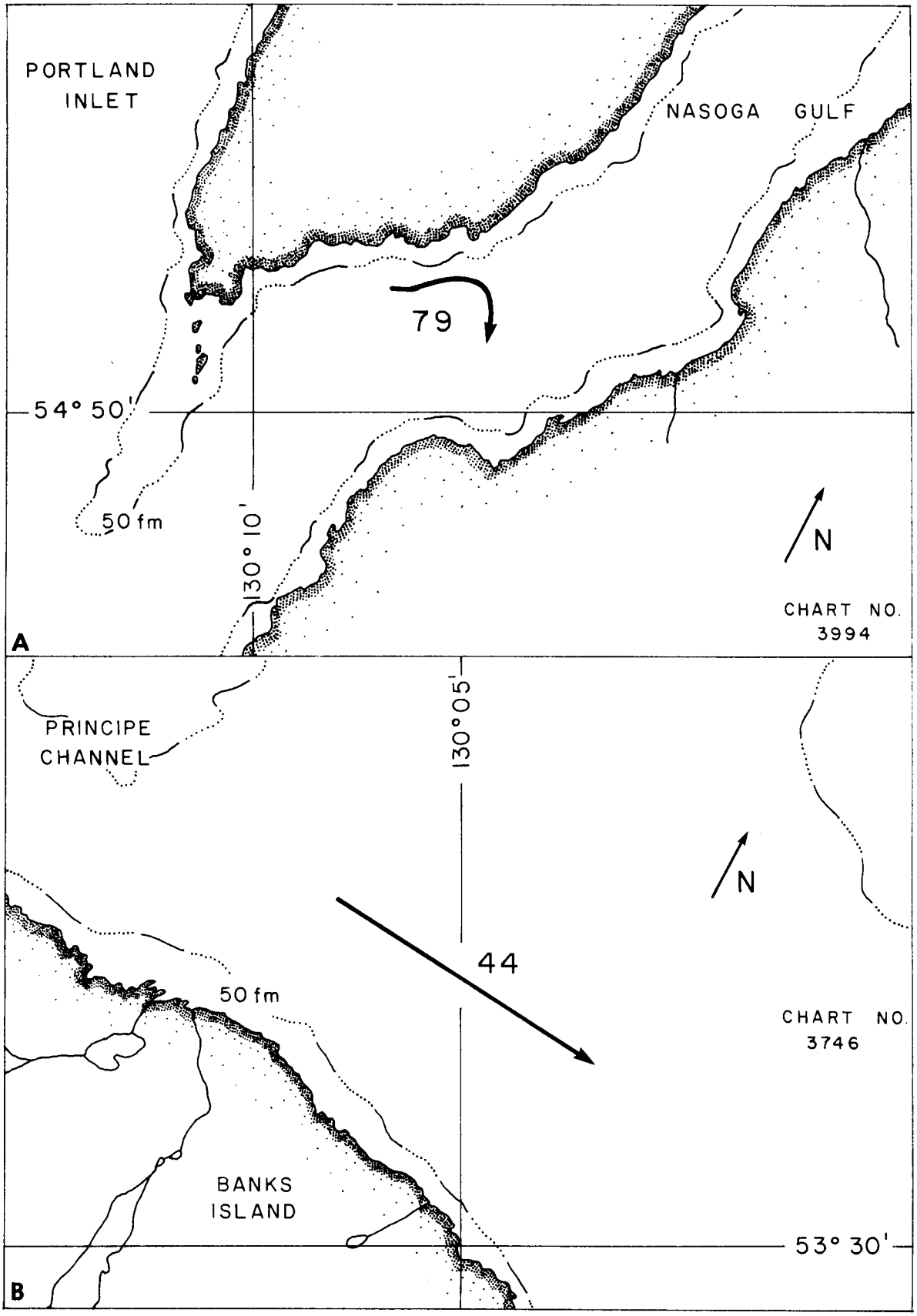

Fig. 14a. Tows in Nasoga Gulf. Fig. 14b. Tows in Principe Channel.

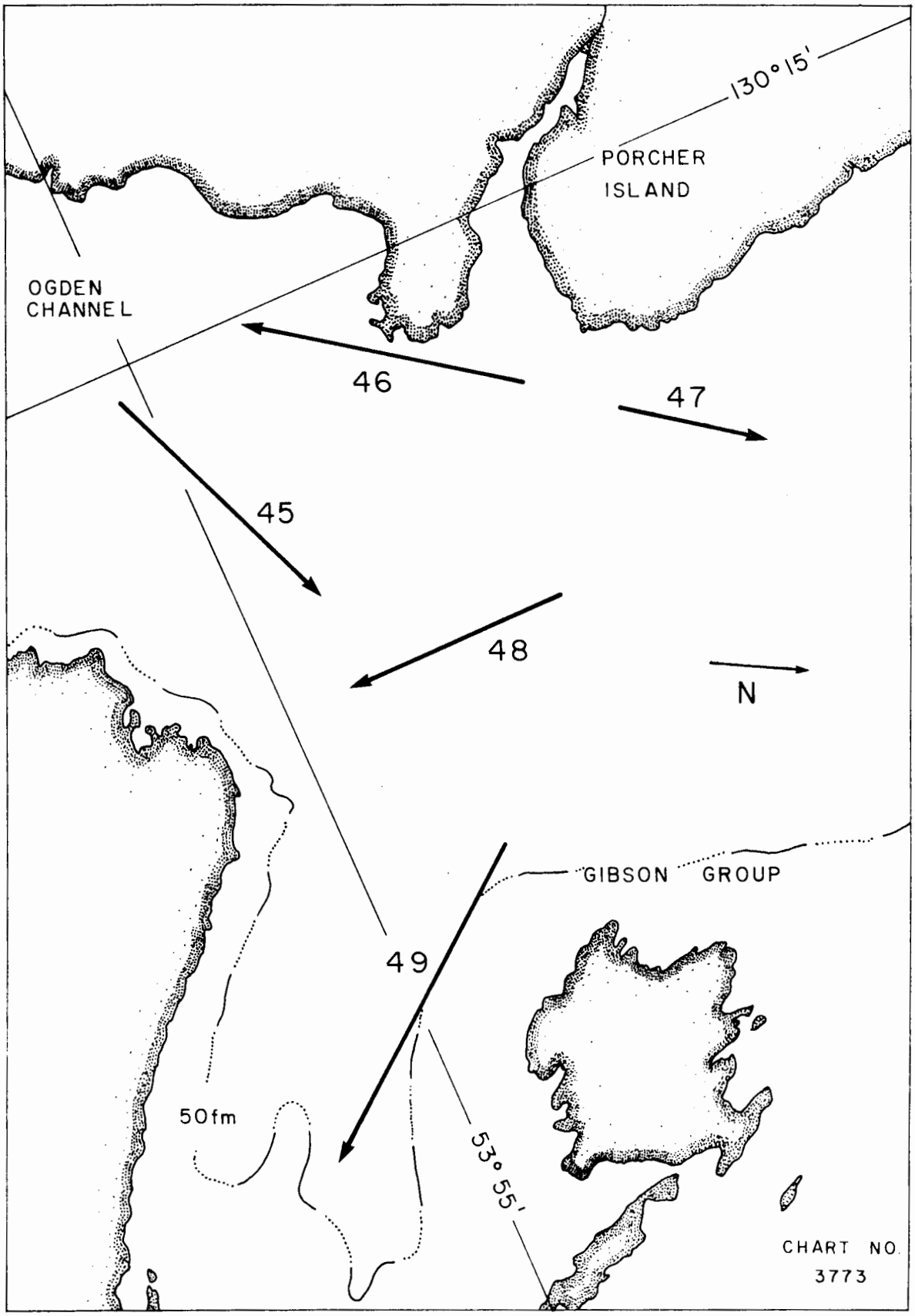

Fig. 15. Tows in Ogden Channel.

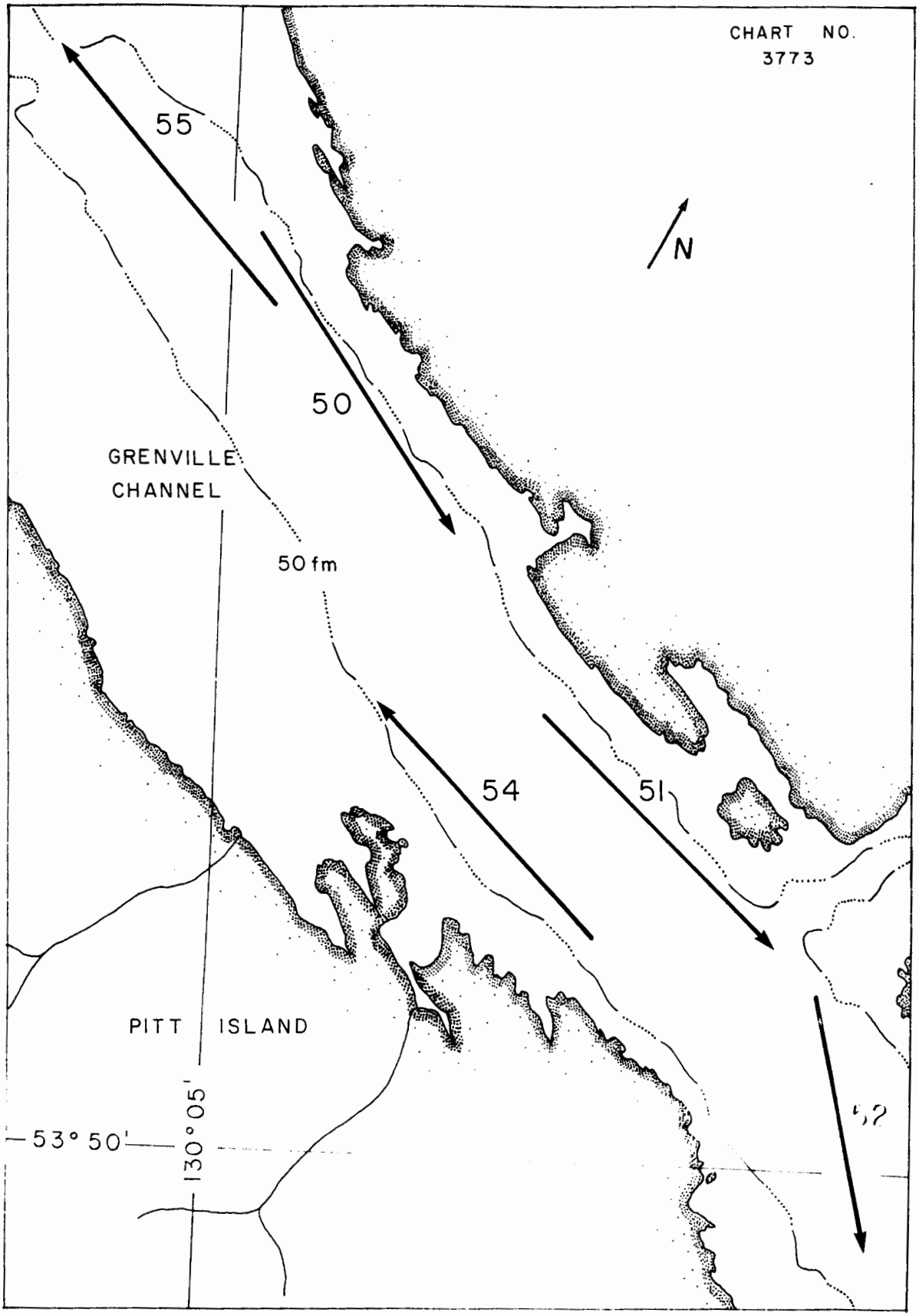

Fig. 16. Tows in Grenville Channel.

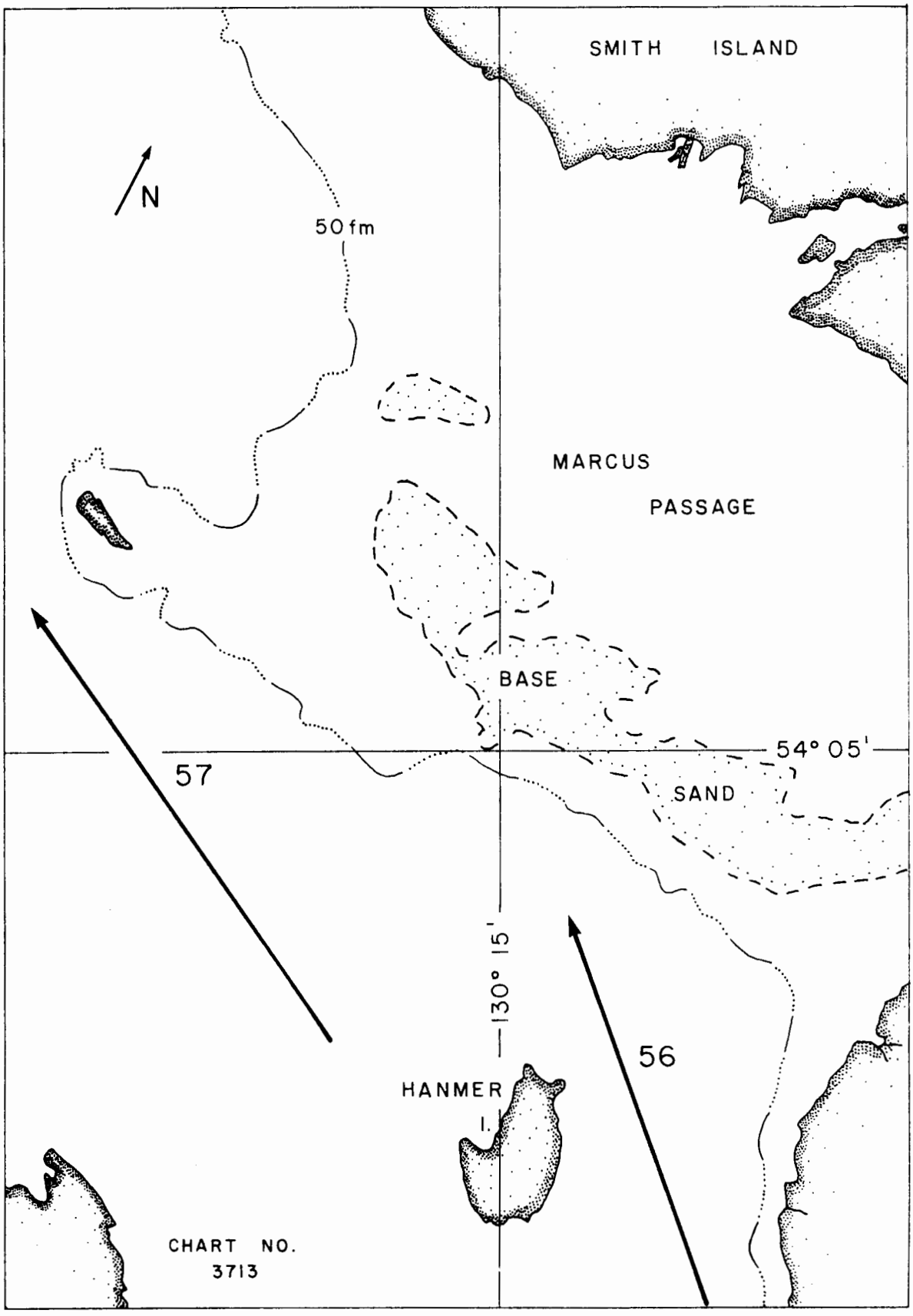

Fig. 17. Tows in southern Chatham Sound.

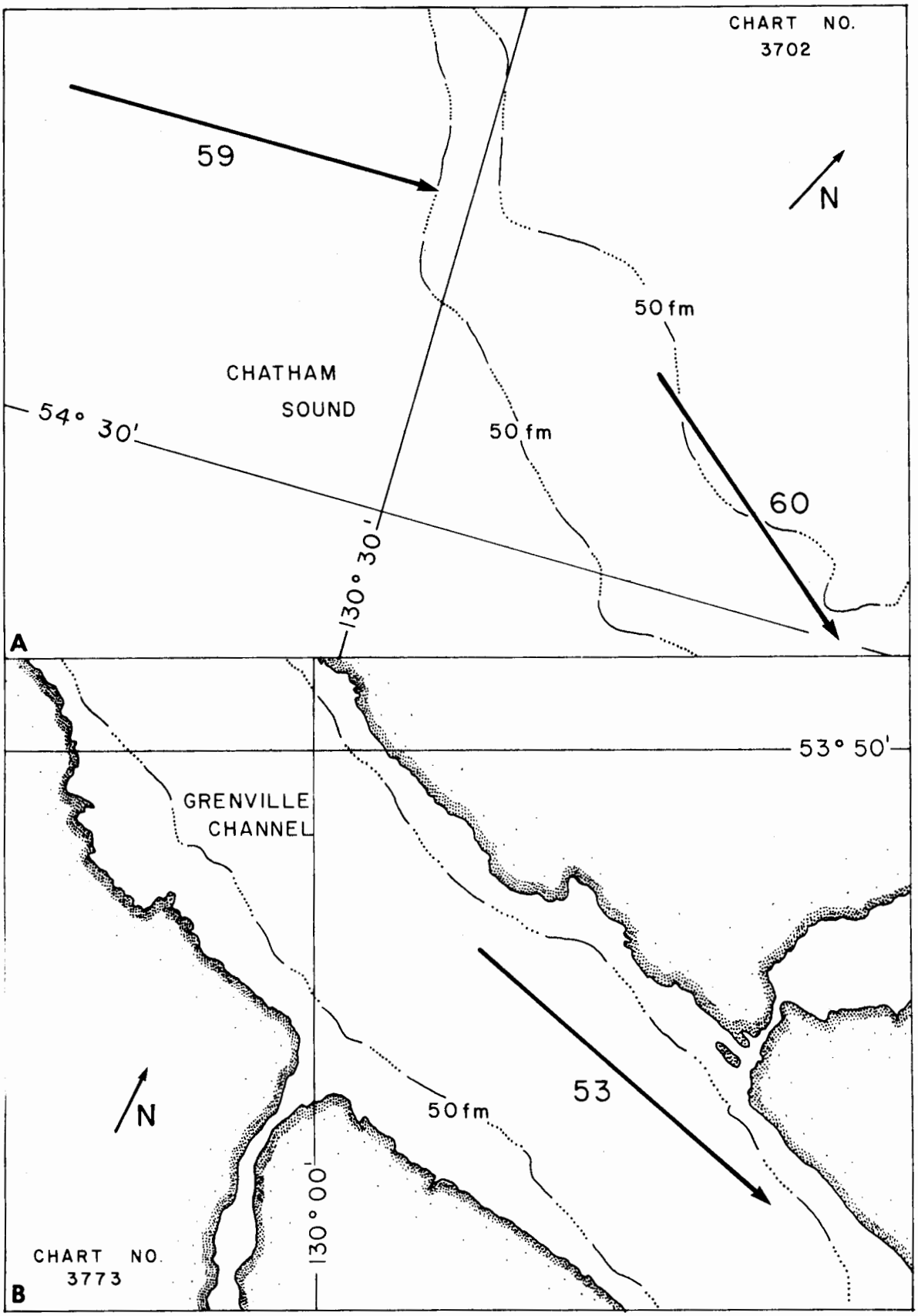

Fig. 18a. Tows in southern Chatham Sound. Fig. 18b. Tows in Grenville Channel.

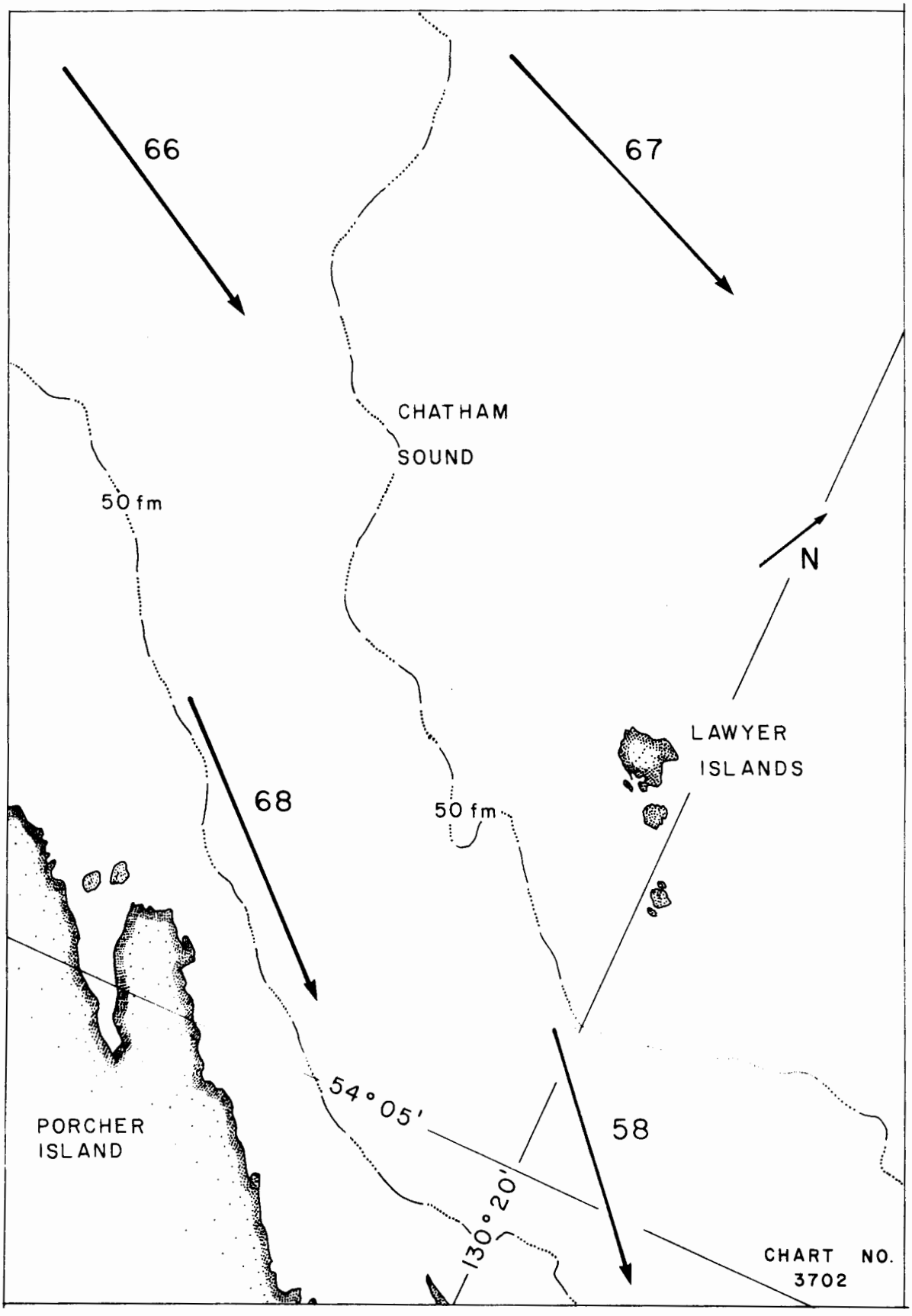

Fig. 19. Tows in southern Chatham Sound.

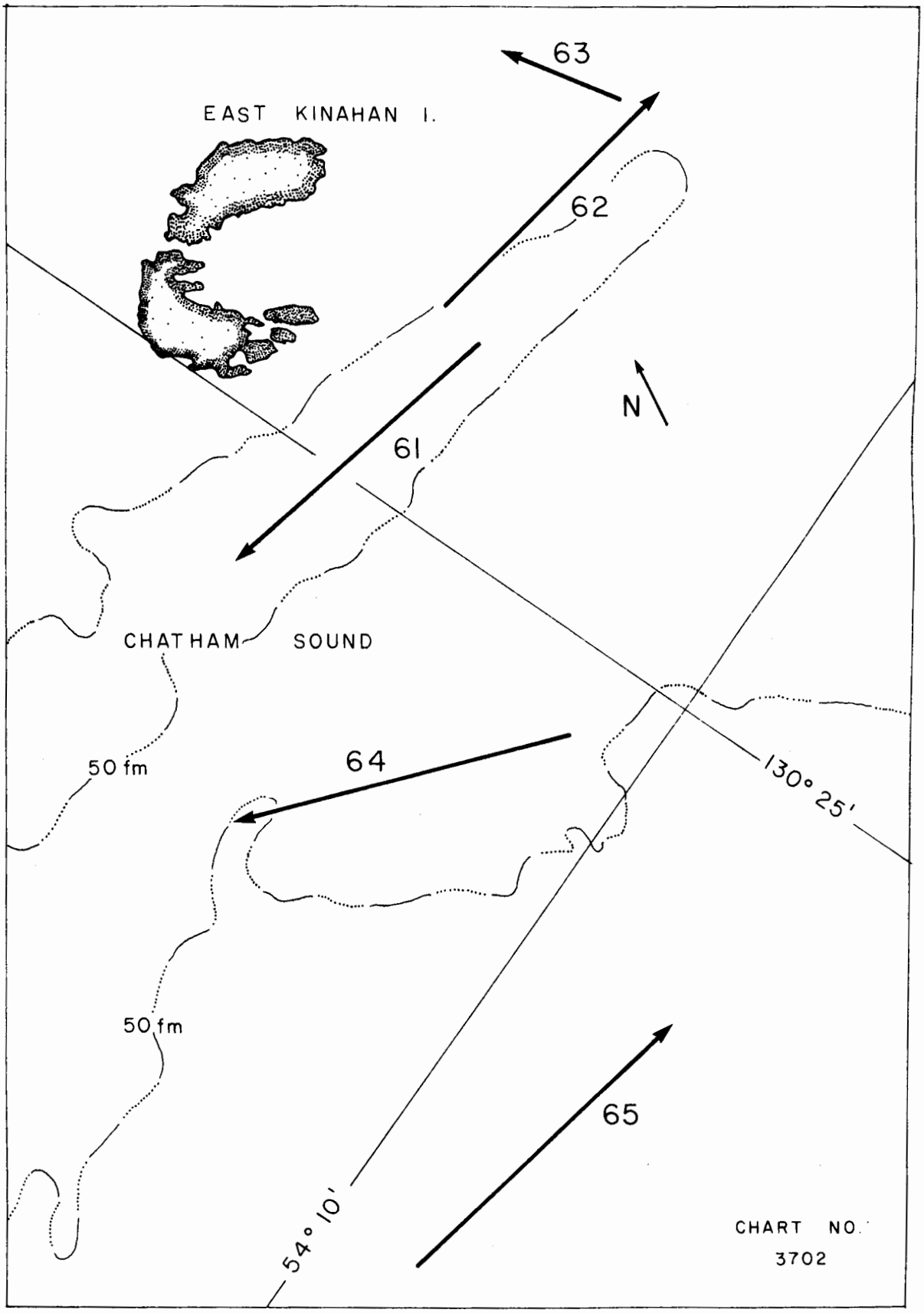

Fig. 20. Tows in southern Chatham Sound.

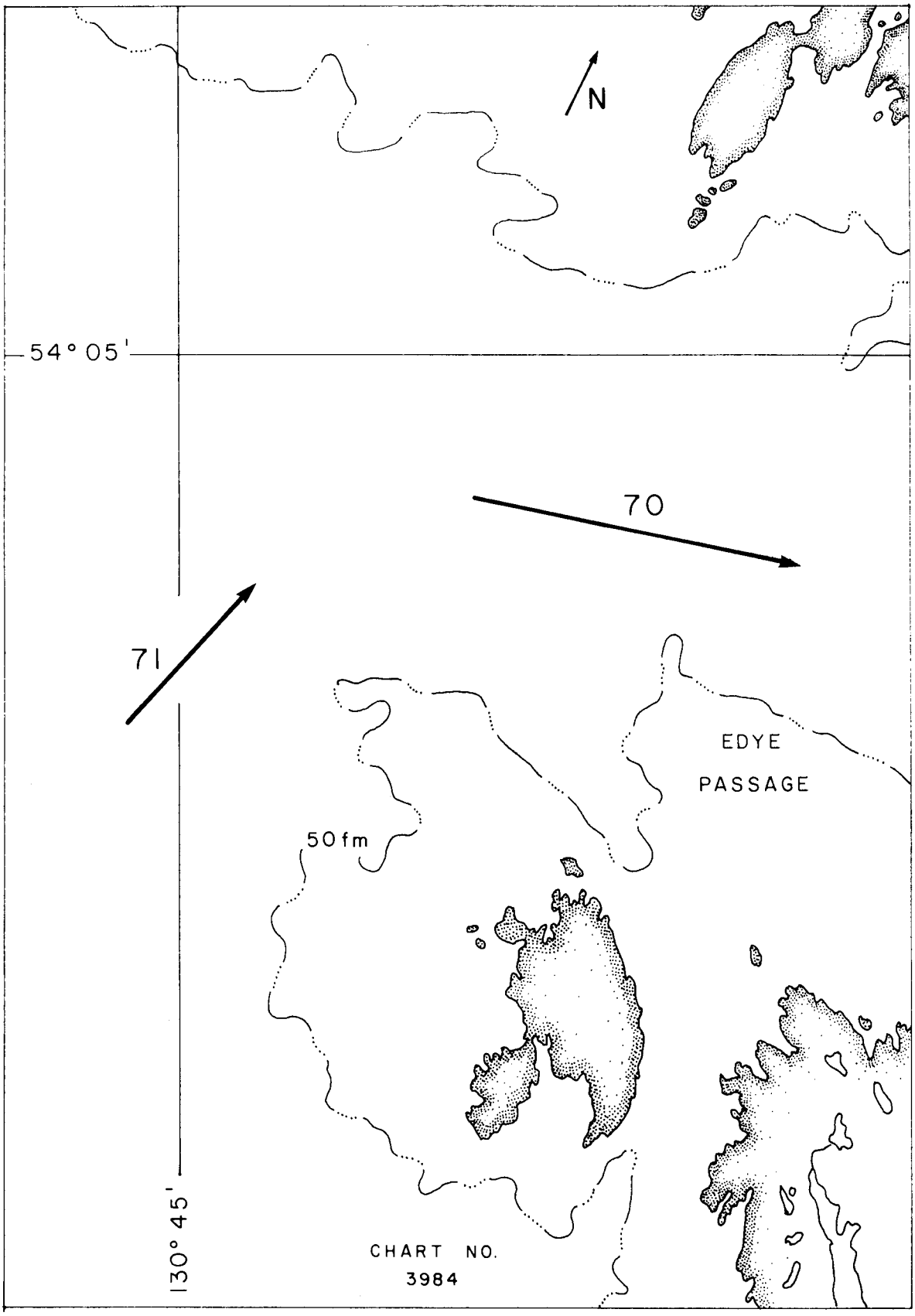

Fig. 21. Tows south of Stephens Island.

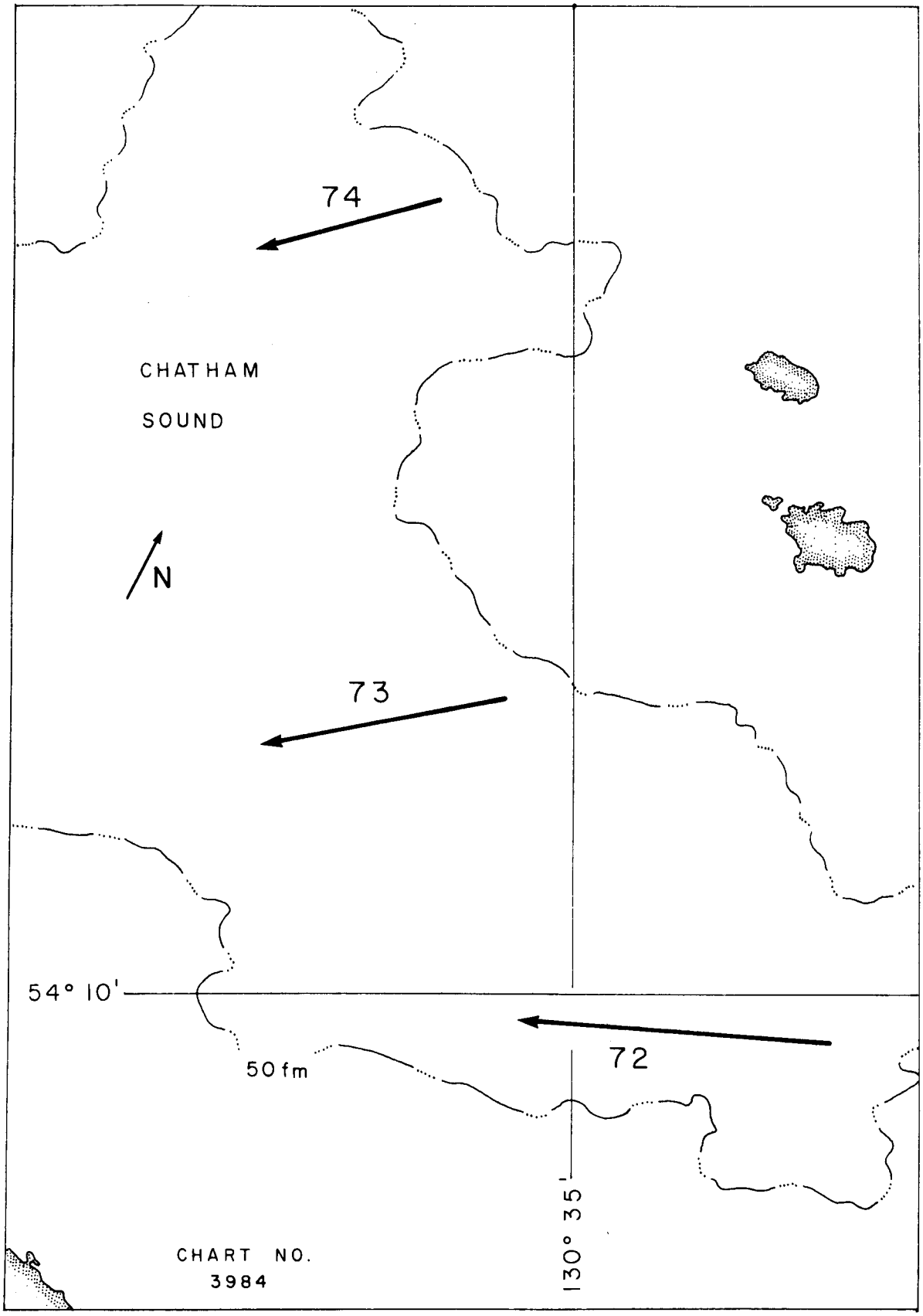

Fig. 22. Tows in southern Chatham Sound.

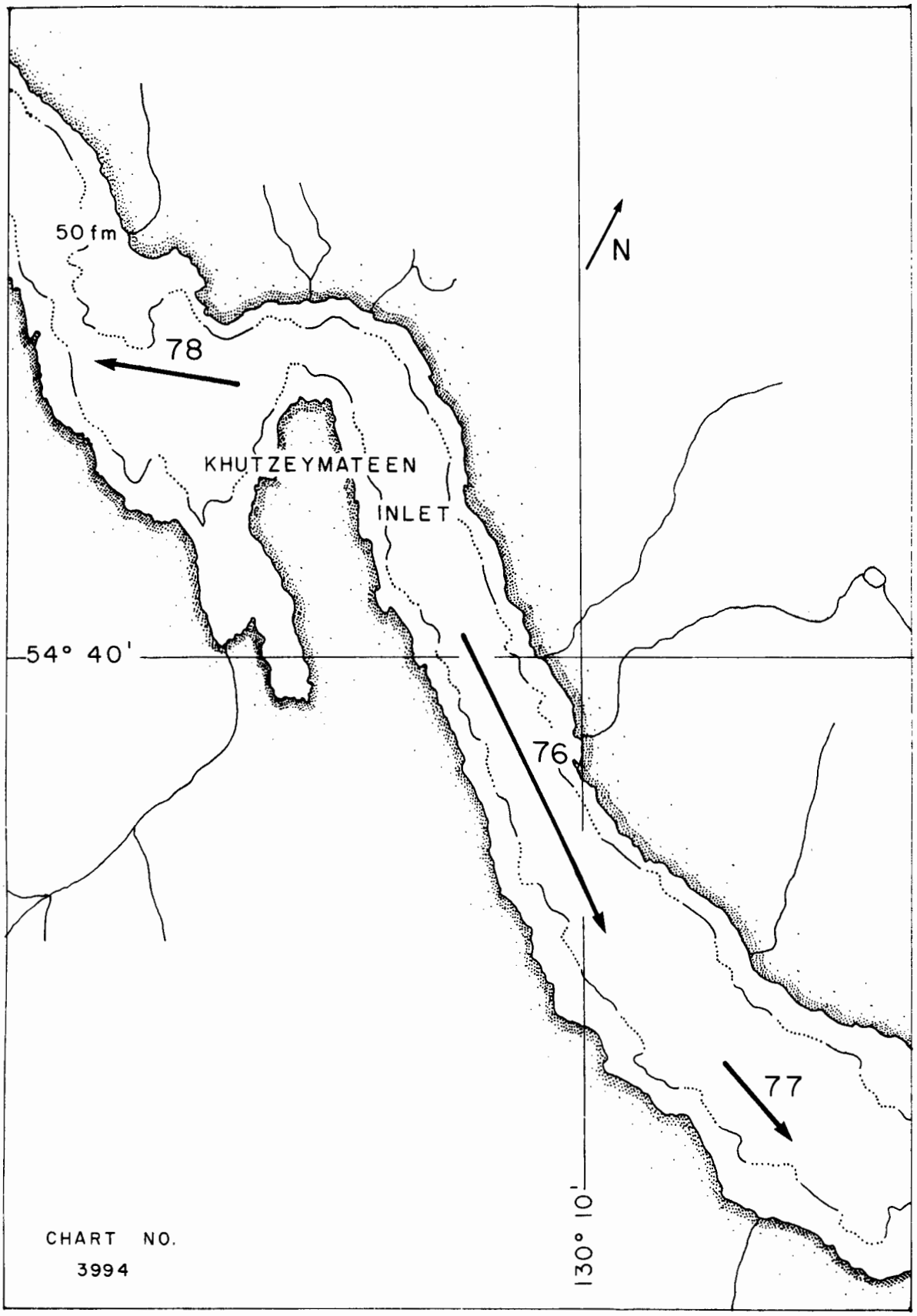

Fig. 23. Tows in Khutzeymateen Inlet.

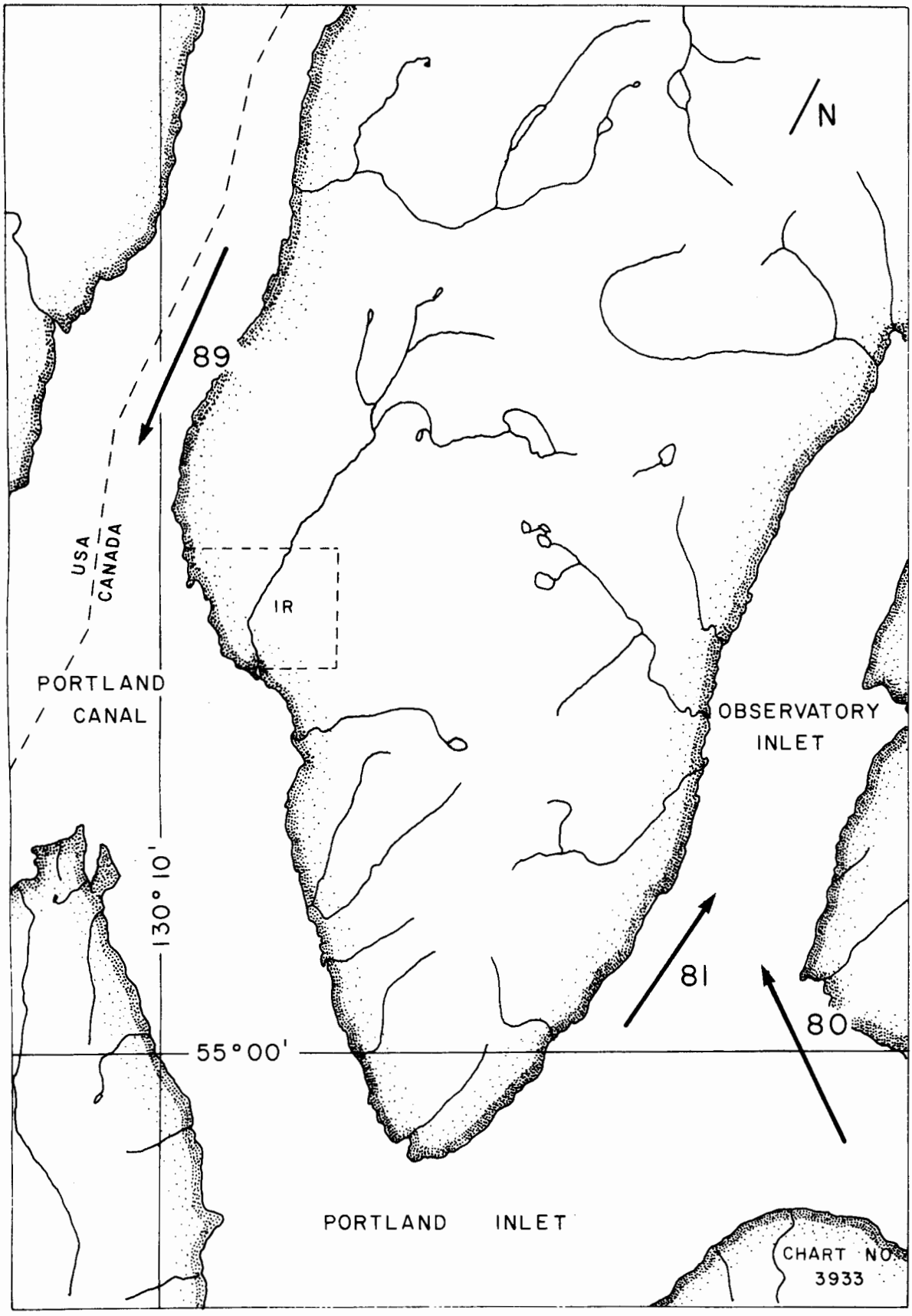

Fig. 24. Tows in Portland Canal and Observatory Inlet.

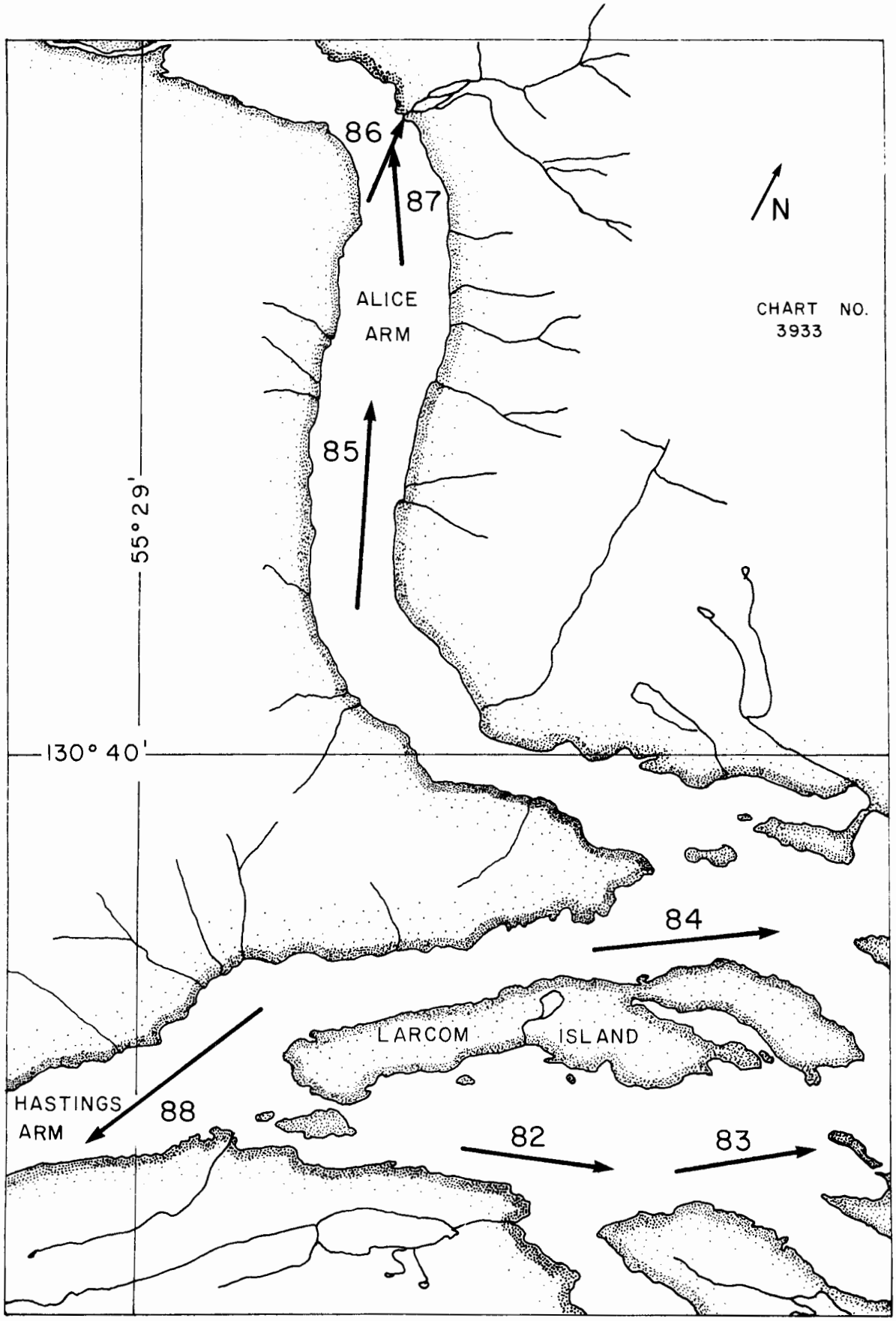

Fig. 25. Tows in Alice Arm, Hastings Arm, and Observatory Inlet.

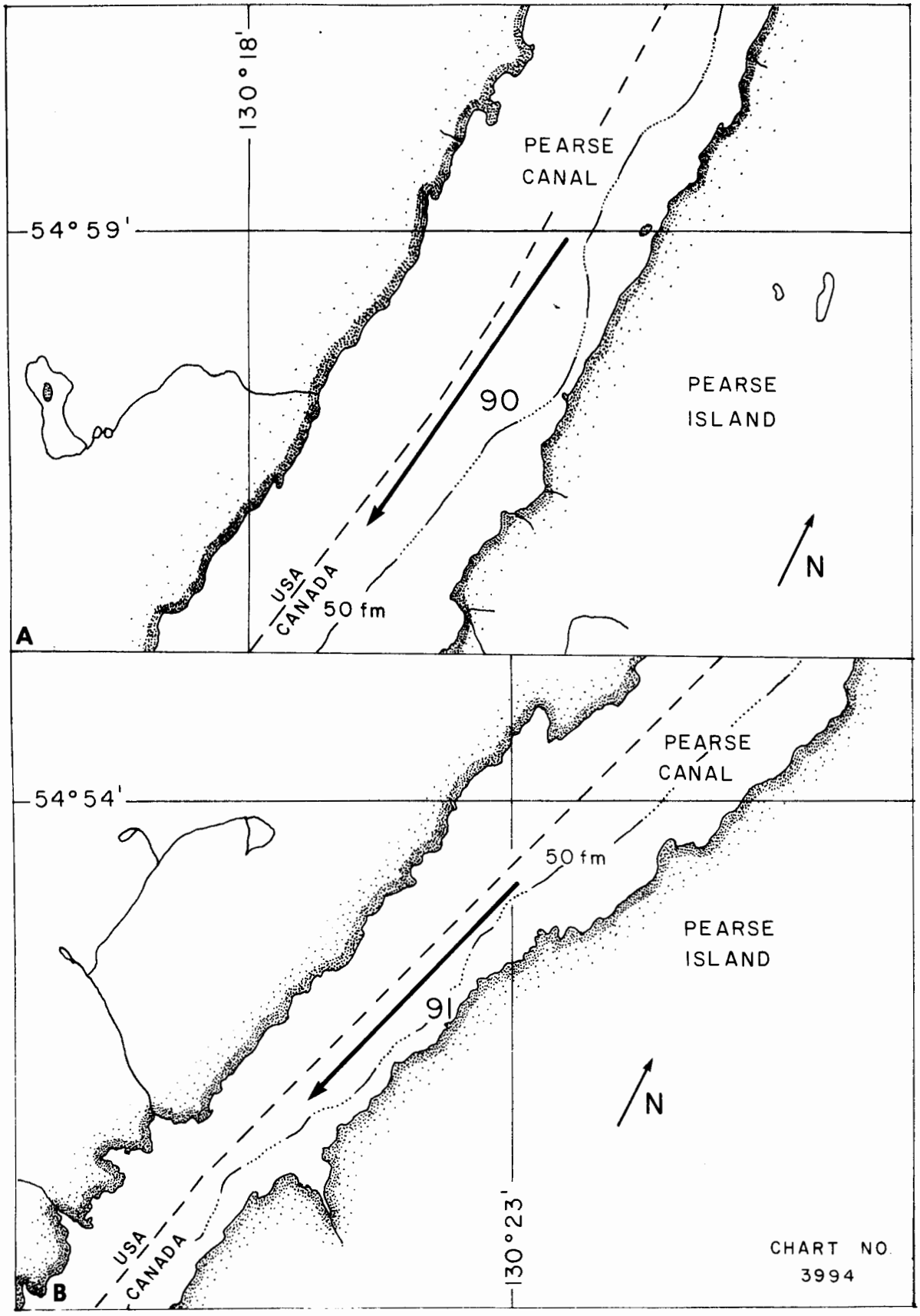

Fig. 26a, b. Tows in Pearse Canal.

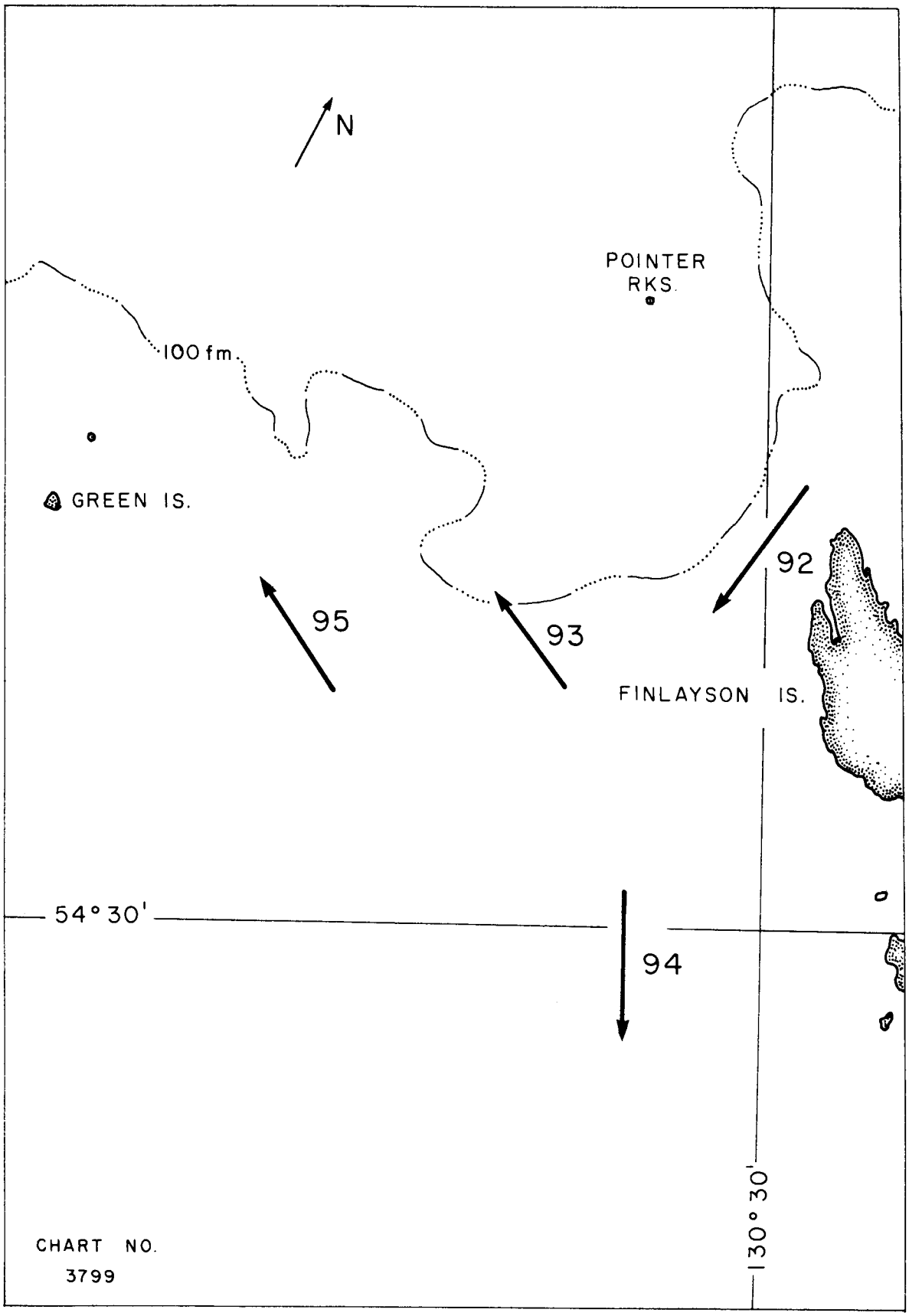

Fig. 27. Tows in northern Chatham Sound.

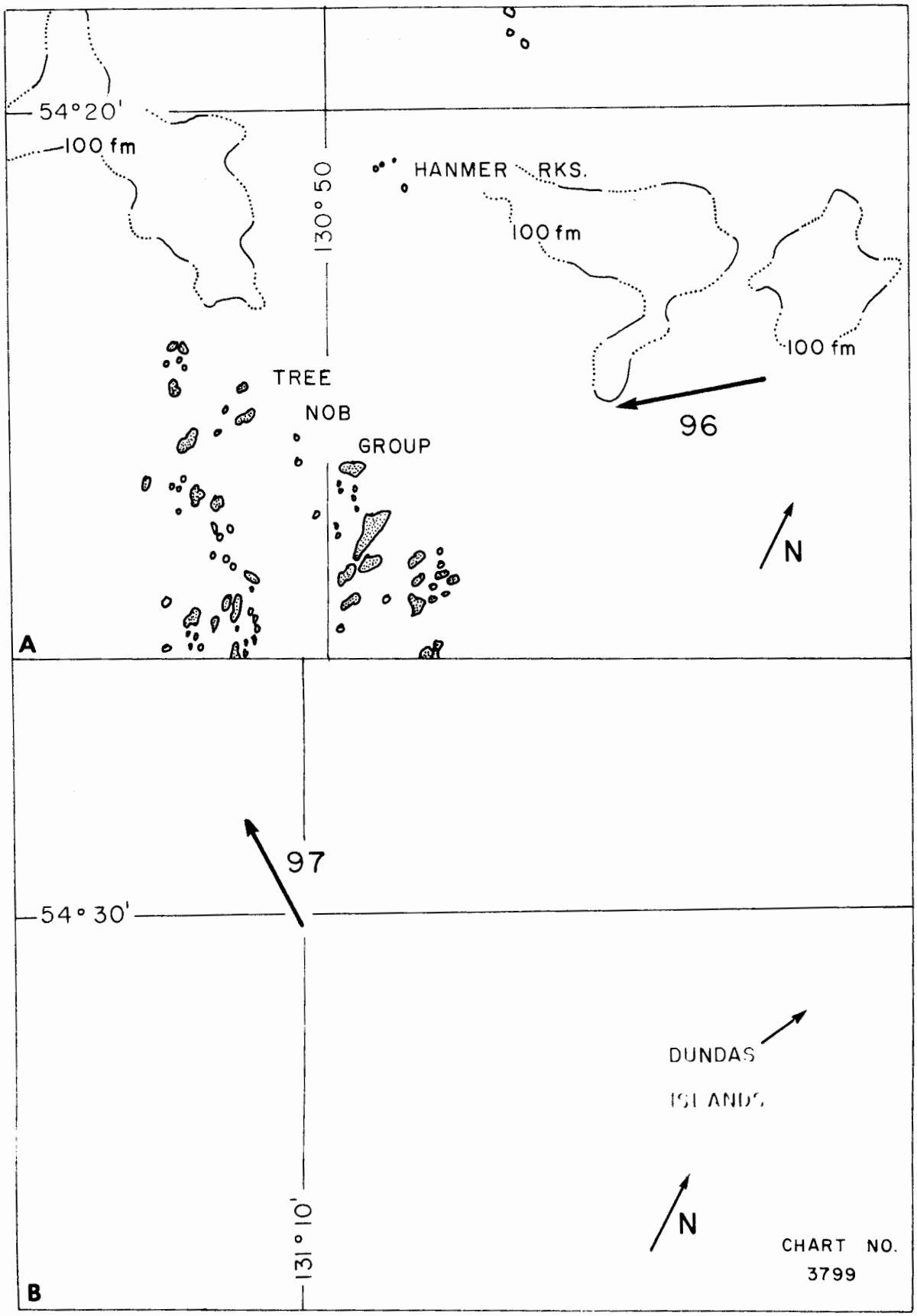

Fig. 28a. Tows in northern Chatham Sound. Fig. 28b. Tows near McMullock Rock.

Appendix Table 1. Summary of survey areas and sets.

Area	Code	Set no.	Fig. no.
Brown Passage	BRNP	96	28
Edye Pass	EDYP	69, 74	22
Gardner Canal	GARC	38-43	13
Grenville Channel	GUCH	49-55	15, 16
Khutzeymateen Inlet	KZMI	75-78	23
Kildidt Sound	KLDS	22, 23	8
Laredo Sound	LASO	31-35	11, 12
McCullock Rock	MCLR	97	28
Moses Inlet	MOSI	19-21	7
Naroga Gulf	NSGG	79	14
Northern Chatham Sound (North of Lucy Is.)	NCHS	92-95	27
Observatory Inlet	OBSI	80-88	24, 25
Ogden Channel	OGDC	45-48	15
Pearl Rocks	PRGD	2-6	4
Pearse Canal	PRSC	90, 91	26
Principe Channel	PCCH	44	14
Portland Canal	PRTC	89	24
Queens Sound	QNSS	24-30	8, 9, 10
Rivers Inlet	RIVI	7-18	5, 6, 7
Smith Sound	SMSO	1	3
Southern Chatham Sound (South of Lucy Is.)	SCHS	56-66, 72, 73	17, 18, 19, 20
South Stephens Is.	SSIS	70, 71	21
Surf Inlet	SRFI	36, 37	11

APPENDIX TABLE 2, SIDESTRIPE EXPLORATION
PACIFIC TRIDENT, OCT-NOV 1978
(SEE FOOTNOTE AT END OF TABLE FOR EXPLANATION OF TERMS)

HAUL NO.	1	2	3	4	5	6
DATE	OCT. 15	OCT. 16	OCT. 16	OCT. 16	OCT. 16	OCT. 16
AREA	SMSD	PRGD	PRGD	PRGD	PRGD	PRGD
TIME START (PST)	1555	0725	0920	1030	1125	1233
DURATION(HR.MIN)	.25	.30	.30	.30	.30	.22
START N. LAT. (DEG)	051	051	051	051	051	051
(MIN)	15.0	19.8	20.4	19.5	20.2	20.8
W. LONG. (DEG)	127	128	128	127	127	127
(MIN)	46.8	03.3	02.3	57.5	59.7	57.5
DIRECTION (DEG.TRUE)	241	094	110	263	097	270
FINISH N. LAT. (DEG)	051	051	051	051	051	051
(MIN)	15.3	19.7	20.1	19.3	20.0	20.8
W.LONG. (DEG)	127	128	128	128	127	128
(MIN)	47.6	01.3	00.8	00.0	57.3	00.0
DISTANCE NAUT. MI.	.6	1.3	1.0	1.6	1.5	1.4
DEPTH (FATHOMS)	62- 59	96- 87	98- 92	85- 86	95- 89	85- 92
SEE FIGURE NO.	3	4	4	4	4	4
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	477	484	832	682	154	568
REMARKS	USABLE	USABLE	USABLE	USABLE	USABLE	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	1	2	3	4	5	6
DATE	OCT. 15	OCT. 16	OCT. 16	OCT. 16	OCT. 16	OCT. 16
AREA	SMSD	PRGD	PRGD	PRGD	PRGD	PRGD
CATCH TOTAL (KG)	477	484	832	682	154	566
SHRIMP						
PINK (BOREALIS)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	15	60	9	T	T
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	22	12	11	10	T	T
NUM/KG	58	50	51	..	..	..
OTHER SHRIMP	..	..	..	..	T	..
INVERTEBRATES						
SQUID	..	T	..	T	..	T
OTHERS	..	T	5	T	..	T
FLATFISH						
DOVER SOLE	..	10	26	5	..	T
FLATHEAD SOLE	..	..	26	..	..	..
TURBOT	..	4	39	152	17	350
OTHERS	13	5	32	3	..	T
ROCKFISH						
S. ALUTUS	1	36	..	..	..	T
OTHERS	T	16	66	..	11	..
OTHER ROUNDFISH						
BLACKCOD	1	17	335	T	..	15
EULACHON	T	4	T	T	..	T
HAKE	33	..	..	..	..	..
PACIFIC COD	16	..	53	24	11	..
WALLEYE POLLOCK	11	153	79	168	49	203
OTHERS	T	35	..	7	..	T
SELACHII						
DOGFISH	176	137	47	64	8	..
RATFISH	205	25	19	128	53	..
SKATES	..	17	34	112	25	..
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	7	8	9	10	11	12
DATE	OCT. 16	OCT. 17	OCT. 17	OCT. 17	OCT. 17	OCT. 17
AREA	RIVI	RIVI	RIVI	RIVI	RIVI	RIVI
TIME START (PST)	1500	0807	0923	1030	1227	1413
DURATION(HR.MIN)	.30	.30	.24	.30	.22	.24
START N. LAT. (DEG)	051	051	051	051	051	051
(MIN)	24.3	32.0	30.4	27.6	23.8	33.7
W. LONG. (DEG)	127	126	127	127	127	127
(MIN)	44.2	50.1	48.5	45.5	39.4	31.4
DIRECTION (DEG.TRUE)	351	000	160	152	170	003
FINISH N. LAT. (DEG)	051	051	051	051	051	051
(MIN)	25.6	33.0	29.3	27.6	24.3	32.6
W.LONG. (DEG)	127	126	127	127	127	127
(MIN)	44.5	50.1	47.8	45.8	39.3	31.3
DISTANCE NAUT. MI.	1.3	1.0	1.1	1.9	.5	1.1
DEPTH (FATHOMS)	76- 86	95- 92	96-100	82- 82	40- 40	78-105
SEE FIGURE NO.	5	5	5	5	3	6
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	83	43	189	106	103	68
REMARKS	USABLE	USABLE	USABLE	USABLE	USABLE	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	7	8	9	10	11	12
DATE	OCT. 16	OCT. 17	OCT. 17	OCT. 17	OCT. 17	OCT. 17
AREA	RIVI	RIVI	RIVI	RIVI	RIVI	RIVI
CATCH TOTAL (KG)	83	43	189	106	103	68
SHRIMP						
PINK (BOREALIS)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	3	T	T	..	..	..
NUM/KG	156	..	..	..	..	..
SIDESTRIPE	8	T	1	4	T	18
NUM/KG	70	..	..	75	..	61
OTHER SHRIMP	T	..	..	..	T	T
INVERTEBRATES						
SQUID	..	..	4	8	..	..
OTHERS	..	..	..	..	T	T
FLATFISH						
DOVER SOLE	..	..	..	..	T	..
FLATHEAD SOLE	3	1	15	10	5	..
TURBOT	8	4	16	3	..	..
OTHERS	..	1	16	16	26	..
ROCKFISH						
S. ALUTUS	..	..	..	..	..	..
OTHERS	..	..	..	..	..	..
OTHER ROUNDFISH						
BLACKCOD	20	33	..	7	10	..
EULACHON	12	4	1	..	T	T
HAKE	..	T	10	5	53	8
PACIFIC COD	..	..	..	..	2	1
WALLEYE POLLOCK	..	..	66	48	..	8
OTHERS	..	..	..	..	T	T
SELACHII						
DOGFISH	24	..	49	3	5	27
RATFISH	5	T	11	2	2	6
SKATES	..	..	..	..	..	..
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	13	14	15	16	17	18
DATE	OCT. 17	OCT. 17	OCT. 18	OCT. 18	OCT. 18	OCT. 18
AREA	RIVI	RIVI	RIVI	RIVI	RIVI	RIVI
TIME START (PST)	1508	1605	0745	0835	0920	1030
DURATION(HR.MIN)	.22	.30	.25	.15	.28	.20
START N. LAT. (DEG)	051	051	051	051	051	051
(MIN)	32.7	31.9	40.9	40.4	40.7	41.0
W. LONG. (DEG)	127	127	127	127	127	127
(MIN)	31.2	31.5	17.0	19.3	19.2	20.1
DIRECTION (DEG.TRUE)	188	030	000	090	090	090
FINISH N. LAT. (DEG)	051	051	051	051	051	051
(MIN)	33.6	30.5	40.1	40.4	40.7	41.0
W.LONG. (DEG)	127	127	127	127	127	127
(MIN)	30.9	32.5	18.4	18.5	17.2	18.8
DISTANCE NAUT. MI.	1.1	1.4	1.1	.5	1.3	.9
DEPTH (FATHOMS)	100- 67	112-130	72- 80	105-105	105- 84	97-105
SEE FIGURE NO.	6	6	7	7	7	7
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	107	88	100	28	27	40
REMARKS	USABLE	USABLE	USABLE	USABLE	SP.NOTED NO WTS	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	13	14	15	16	17	18
DATE	OCT. 17	OCT. 17	OCT. 18	OCT. 18	OCT. 18	OCT. 18
AREA	RIVI	RIVI	RIVI	RIVI	RIVI	RIVI
CATCH TOTAL (KG)	107	88	100	28	27	40
SHRIMP						
PINK (BOREALIS)	..	..	..	..	..	T
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	T	..	T	T	T	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	17	1	1	2	2E	T
NUM/KG	107	63	62	59	..	..
OTHER SHRIMP	T	..	T	T	T	T
INVERTEBRATES						
SQUID	T	2	..	T	..	T
OTHERS	T	T	6	..	..	1
FLATFISH						
DOVER SOLE	..	..	T	T	T	3
FLATHEAD SOLE	..	..	..	..	..	..
TURBOT	4	..	..	T	..	2
OTHERS	..	22	T	T	..	T
ROCKFISH						
S. ALUTUS	..	T	..	..	..	..
OTHERS	..	..	26	3	T	T
OTHER ROUNDFISH						
BLACKCOD	8	..	15	..	T	6
EULACHON	T	2	..	..	..	T
HAKE	12	21	7	8	10E	7
PACIFIC COD	1	..	..	..	..	..
WALLEYE POLLOCK	T	T	24	T	T	11
OTHERS	T	T	..	..	T	T
SELACHII						
DOGFISH	63	56	18	10	15E	9
RATFISH	2	4	3	5	..	1
SKATES	..	..	..	T	T	T
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	19	20	21	22	23	24
DATE	OCT. 18	OCT. 18	OCT. 18	OCT. 19	OCT. 19	OCT. 19
AREA	MOSI	MOSI	MOSI	KLDS	KLDS	UNSS
TIME START (PST)	1250	1415	1510	1157	1315	1440
DURATION(HR.MIN)	.20	.19	.35	.18	.15	.30
START N. LAT. (DEG)	051	051	051	051	051	051
(MIN)	45.6	50.1	50.4	51.6	50.4	46.5
W. LONG. (DEG)	127	127	127	128	128	128
(MIN)	25.8	21.9	21.5	08.5	08.8	17.8
DIRECTION (DEG.TRUE)	021	010	025	175	180	003
FINISH N. LAT. (DEG)	051	051	051	051	051	051
(MIN)	46.3	51.2	49.2	51.1	49.8	47.6
W.LONG. (DEG)	127	127	127	128	128	128
(MIN)	26.6	21.6	22.4	08.4	08.9	17.9
DISTANCE NAUT. MI.	.8	1.2	1.4	.5	.6	1.2
DEPTH (FATHOMS)	103- 88	90- 55	89-101	95-100	87- 90	80- 81
SEE FIGURE NO.	7	7	7	8	8	8
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	79	..	182	169	477	735
REMARKS	USABLE	SP.NOTED NO WTS	USABLE	USABLE	USABLE	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	19	20	21	22	23	24
DATE	OCT. 18	OCT. 18	OCT. 18	OCT. 19	OCT. 19	OCT. 19
AREA	MUSI	MUSI	MUSI	KLUS	KLUS	UNSS
CATCH TOTAL (KG)	79	0	182	179	477	755
SHRIMP						
PINK (BOREALIS)	..	T	..	T	1	..
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	2	T	T	1	7	2
NUM/KG	49	..	..	61	53	89
OTHER SHRIMP	T	..	..	..	..	..
INVERTEBRATES						
SQUID	2	T	2	4	1	T
OTHERS	..	..	32	15	T	T
FLATFISH						
DOVER SOLE	6	1	..	T	..	..
FLATHEAD SOLE	1	..	..	..	7	16
TURBOT	..	..	..	..	3	15
OTHERS	T	..	..	4	2	8
ROCKFISH						
S. ALUTUS	..	..	..	4	..	..
OTHERS	1	T	..	..	..	40
OTHER ROUNDFISH						
BLACKCOD	..	..	..	4	..	5
EULACHON	..	..	..	5	..	6
HAKE	17	T	26	26	241	..
PACIFIC COD	..	..	..	3	..	..
WALLEYE POLLOCK	..	T	..	1	26	240
OTHERS	..	T	..	T	T	..
SELACHII						
DOGFISH	51	T	78	8	90	320
RATFISH	..	T	44	104	101	80
SKATES	..	..	..	T	..	3
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	25	26	27	28	29	30
DATE	OCT. 19	OCT. 19	OCT. 20	OCT. 20	OCT. 20	OCT. 20
AREA	GNSS	GNSS	GNSS	GNSS	GNSS	GNSS
TIME START (PST)	1550	1640	0752	0915	1045	1155
DURATION(HR.MIN)	.15	.10	.30	.25	.15	.20
START N. LAT. (DEG)	051	051	051	051	051	052
(MIN)	50.2	52.8	52.8	57.3	59.6	02.7
W. LONG. (DEG)	128	128	128	128	128	128
(MIN)	18.3	17.0	19.7	22.8	17.6	15.6
DIRECTION (DEG.TRUE)	336	315	356	357	265	331
FINISH N. LAT. (DEG)	051	051	051	051	051	052
(MIN)	51.0	53.4	54.2	58.4	59.5	03.2
W.LONG. (DEG)	128	128	128	128	128	128
(MIN)	18.8	18.0	20.0	22.8	18.4	16.2
DISTANCE NAUT. MI.	.9	.9	1.4	1.1	.6	.8
DEPTH (FATHOMS)	82- 83	84- 84	85- 85	102- 94	78- 80	78- 80
SEE FIGURE NO.	9	9	9	9	10	10
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	462	200	121	213	..	299
REMARKS	USABLE	USABLE	USABLE	USABLE	SP.NOTED NO WTS	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	25	26	27	28	29	30
DATE	OCT. 19	OCT. 19	OCT. 20	OCT. 20	OCT. 20	OCT. 20
AREA	GNSS	GNSS	GNSS	GNSS	GNSS	GNSS
CATCH TOTAL (KG)	462	200	121	213	0	299
SHRIMP						
PINK (BOREALIS)	T	12	T	T	T	..
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	T	2	T	2	T	T
NUM/KG	..	49	..	59	..	..
OTHER SHRIMP	..	..	T	..	..	T
INVERTEBRATES						
SQUID	T	T	1	T	..	2
OTHERS	T	T	T	T	..	2
FLATFISH						
DOVER SOLE	..	6	5	..	1	22
FLATHEAD SOLE	..	17	8	..	T	25
TURBOT	80	28	13	33	1	77
OTHERS	14	6	2	3	T	10
ROCKFISH						
S. ALUTUS	2	1	..	..	1	T
OTHERS	..	8	6	3	1	30
OTHER ROUNDFISH						
BLACKCOD	180	6	18	54	1	15
EULACHON	1	5	1	27	1	17
HAKE	..	1	10	..	..	5
PACIFIC COD	..	..	..	3	..	..
WALLEYE POLLOCK	T	23	13	36	..	51
OTHERS	..	26	3	..	..	..
SELACHII						
DOGFISH	150	50	7	14	1	3
RATFISH	30	..	8	36	1	40
SKATES	5	10	27	2	..	..
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	31	32	33	34	35	36
DATE	OCT. 21	OCT. 21	OCT. 21	OCT. 21	OCT. 22	OCT. 22
AREA	LASO	LASO	LASO	LASO	LASO	SRFI
TIME START (PST)	1225	1338	1440	1610	0825	1325
DURATION(HR.MIN)	.30	.32	.20	.30	.30	.13
START N. LAT. (DEG)	052	052	052	052	052	053
(MIN)	25.5	30.9	32.6	38.1	34.3	00.0
W. LONG. (DEG)	128	128	128	128	128	128
(MIN)	56.7	55.0	53.7	52.4	46.2	57.1
DIRECTION (DEG.TRUE)	001	005	005	140	328	036
FINISH N. LAT. (DEG)	052	052	052	052	052	053
(MIN)	27.0	32.5	33.6	36.9	35.4	00.7
W.LONG. (DEG)	128	128	128	128	128	128
(MIN)	56.7	54.9	53.6	50.9	47.4	56.5
DISTANCE NAUT. MI.	1.4	1.6	1.0	1.6	1.4	.6
DEPTH (FATHOMS)	105-110	110-106	122-124	105-102	107-100	95- 90
SEE FIGURE NO.	11	12	12	12	12	11
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	358	182	162	253	..	327
REMARKS	USABLE	USABLE	USABLE	USABLE	SP.NOTED NO WTS	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	31	32	33	34	35	36
DATE	OCT. 21	OCT. 21	OCT. 21	OCT. 21	OCT. 22	OCT. 22
AREA	LASD	LASD	LASD	LASD	LASD	SKFI
CATCH TOTAL (KG)	358	182	162	253	0	527
SHRIMP						
PINK (BOREALIS)	20	28	30	15	1	..
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	32	25	15	38	T	8
NUM/KG	77	80	100	74	..	60
OTHER SHRIMP	T	T	T	1	..	T
INVERTEBRATES						
SQUID	..	1	T	T	..	..
OTHERS	T	T	20	20	..	T
FLATFISH						
DOVER SOLE	2	..	5	..	..	1
FLATHEAD SOLE	..	1	1	..	..	..
TURBOT	108	8	4	28	T	9
OTHERS	5	..	..	..	T	T
ROCKFISH						
S. ALUTUS	..	36	16	1	T	8
OTHERS	..	3	16	6	..	..
OTHER ROUNDFISH						
BLACKCOD	8	16	10	..	T	..
EULACHON	80	..	..	..	T	T
HAKE	10	3	6	..	T	246
PACIFIC COD	..	..	..	..	..	3
WALLEYE POLLOCK	52	4	1	..	T	2
OTHERS	T	..	..	..	..	T
SELACHII						
DOGFISH	10	5	4	37	T	26
RATFISH	29	45	29	102	..	24
SKATES	2	7	5	5	..	..
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	37	38	39	40	41	42
DATE	OCT. 22	OCT. 23	OCT. 23	OCT. 23	OCT. 23	OCT. 23
AREA	SRF1	GARC	GARC	GARC	GARC	GARC
TIME START (PST)	1538	0835	1050	1217	1315	1420
DURATION(HR.MIN)	.15	.30	.30	.25	.30	.30
START N. LAT. (DEG)	053	053	053	053	053	053
(MIN)	01.7	30.0	33.0	31.7	29.8	28.6
W. LONG. (DEG)	128	128	128	128	128	128
(MIN)	54.6	44.8	47.2	42.9	41.6	37.5
DIRECTION (DEG.TRUE)	061	338	155	000	126	304
FINISH N. LAT. (DEG)	053	053	053	053	053	053
(MIN)	01.3	31.4	31.8	32.0	28.8	29.5
W.LONG. (DEG)	128	128	128	128	128	128
(MIN)	56.0	45.9	46.1	43.2	39.3	39.7
DISTANCE NAUT. MI.	.9	1.5	1.4	1.4	1.7	1.6
DEPTH (FATHOMS)	75- 85	70- 98	99-102	96- 94	105-102	90- 94
SEE FIGURE NO.	11	13	13	13	13	13
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	343	250	309	65	190	182
REMARKS	USABLE	USABLE	USABLE	USABLE	USABLE	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	37	38	39	40	41	42
DATE	OCT. 22	OCT. 23	OCT. 23	OCT. 23	OCT. 23	OCT. 23
AREA	SRFI	GARC	GARC	GARC	GARC	GARC
CATCH TOTAL (KG)	343	250	309	65	190	182
SHRIMP						
PINK (BOREALIS)	T	T	T	T	T	T
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	T	29	12	7	13	29
NUM/KG	..	61	60	50	58	62
OTHER SHRIMP	..	2	..	T	T	T
INVERTEBRATES						
SQUID	..	T	12	T	16	13
OTHERS	..	T	2	T	T	12
FLATFISH						
DOVER SOLE	..	..	..	..	3	..
FLATHEAD SOLE	..	..	..	..	..	..
TURBOT	1	..	3	T	1	..
OTHERS	..	..	..	T	..	..
ROCKFISH						
S. ALUTUS	..	..	..	..	..	T
OTHERS	1	T	..	T	T	..
OTHER ROUNDFISH						
BLACKCOD	95	..	..	..	3	31
EULACHON	T	T	..	..	T	..
HAKE	159	6	T	T	T	2
PACIFIC COD	8	..	..	..	..	..
WALLEYE POLLOCK	34	14	17	3	20	20
OTHERS	1	1	..	..	..	T
SELACHII						
DOGFISH	30	111	59	6	14	6
RATFISH	6	88	202	42	116	63
SKATES	7	1	2	5	2	6
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	43	44	45	46	47	48
DATE	OCT. 23	OCT. 24	OCT. 25	OCT. 25	OCT. 25	OCT. 25
AREA	GARC	PCCH	OGDC	OGDC	OGDC	OGDC
TIME START (PST)	1612	1220	0755	0858	1000	1107
DURATION(HR.MIN)	.30	.25	.35	.25	.15	.30
START N. LAT. (DEG)	053	053	053	053	053	053
(MIN)	33.3	31.5	54.9	56.4	56.7	56.2
W. LONG. (DEG)	128	130	130	130	130	130
(MIN)	47.0	05.9	14.8	13.8	13.4	12.4
DIRECTION (DEG.TRUE)	333	121	036	215	035	179
FINISH N. LAT. (DEG)	053	053	053	053	053	053
(MIN)	34.0	30.8	54.9	55.5	57.2	55.3
W.LONG. (DEG)	128	130	130	130	130	130
(MIN)	47.5	04.1	13.1	14.9	12.8	12.4
DISTANCE NAUT. MI.	.8	1.3	1.8	1.2	.6	1.0
DEPTH (FATHOMS)	100-100	112-107	92- 87	60- 85	66- 58	76- 84
SEE FIGURE NO.	13	14	15	15	15	15
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	21	5	137	185	128	161
REMARKS	USABLE	SP.NOTED NO WTS	USABLE	USABLE	USABLE	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	43	44	45	46	47	48
DATE	OCT. 23	OCT. 24	OCT. 25	OCT. 25	OCT. 25	OCT. 25
AREA	GARC	PCCH	OGDC	OGDC	OGDC	OGDC
CATCH TOTAL (KG)	21	0	137	185	128	161
SHRIMP						
PINK (BOREALIS)	T	T	T	1	T	T
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	T	T	2	15	2	5
NUM/KG	..	..	100	65	64	74
OTHER SHRIMP	..	..	T	1	1	1
INVERTEBRATES						
SQUID	1	T	6	2	1	11
OTHERS	T	..	T	..	T	T
FLATFISH						
DOVER SOLE	..	..	..	21	5	1
FLATHEAD SOLE	..	..	..	..	..	..
TURBOT	..	T	T	6	17	4
OTHERS	1	..	T	1	..	..
ROCKFISH						
S. ALUTUS	..	..	..	..	1	..
OTHERS	..	T	T	..	..	..
OTHER ROUNDFISH						
BLACKCOD	1	T	4	..	..	17
EULACHON	..	..	3	..	1	1
HAKE	..	..	..	..	..	..
PACIFIC COD	..	T	..	..	1	..
WALLEYE POLLOCK	T	T	9	26	..	29
OTHERS	..	1	..	..	11	..
SELACHII						
DOGFISH	4	1	16	40	..	45
RATFISH	15	T	85	65	89	54
SKATES	..	1	12	8	1	14
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	49	50	51	52	53	54
DATE	OCT. 25	OCT. 25	OCT. 25	OCT. 25	OCT. 25	OCT. 26
AREA	GVCH	GVCH	GVCH	GVCH	GVCH	GVCH
TIME START (PST)	1210	1320	1415	1510	1605	0745
DURATION(HR.MIN)	.30	.20	.30	.30	.30	.30
START N. LAT. (DEG)	053	053	053	053	053	053
(MIN)	55.6	53.7	51.8	50.7	49.2	50.9
W. LONG. (DEG)	130	130	130	130	129	130
(MIN)	11.0	04.8	02.8	01.9	58.9	02.4
DIRECTION (DEG.TRUE)	140	147	130	143	140	318
FINISH N. LAT. (DEG)	053	053	053	053	053	053
(MIN)	54.5	52.5	50.9	49.7	48.2	51.8
W.LONG. (DEG)	130	130	130	130	129	130
(MIN)	09.5	03.5	01.2	00.5	57.0	03.9
DISTANCE NAUT. MI.	1.3	2.2	1.3	1.3	1.5	1.3
DEPTH (FATHOMS)	75- 75	65- 70	82- 85	86- 92	93- 94	80- 75
SEE FIGURE NO.	15	16	16	16	18	16
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	138	160	278	173	62	99
REMARKS	USABLE	USABLE	USABLE	USABLE	USABLE	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	49	50	51	52	53	54
DATE	OCT. 25	OCT. 25	OCT. 25	OCT. 25	OCT. 25	OCT. 26
AREA	GVCH	GVCH	GVCH	GVCH	GVCH	GVCH
CATCH TOTAL (KG)	138	160	278	173	62	99
SHRIMP						
PINK (BOREALIS)	..	T	2	T	..	2
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	15	20	16	10	26	29
NUM/KG	68	48	68	80	94	76
OTHER SHRIMP	T	T	T	..	..	3
INVERTEBRATES						
SQUID	8	T	21	9	..	6
OTHERS	1	T	T	T	T	1
FLATFISH						
DOVER SOLE	..	..	6	2	1	..
FLATHEAD SOLE	1	..	..	..	..	..
TURBOT	4	..	9	2	2	9
OTHERS	7	..	3	1	..	2
ROCKFISH						
S. ALUTUS	1	T	1	..	..	..
OTHERS	3	..	..	T	..	..
OTHER ROUNDFISH						
BLACKCOD	21	10	20	2	3	1
EULACHON	3	1	T	..	1	T
HAKE	..	1	2	..	T	T
PACIFIC COD	6	..	..	..	..	..
WALLEYE POLLOCK	22	9	10	..	..	9
OTHERS	..	..	T	..	T	T
SELACHII						
DOGFISH	..	41	22	16	..	16
RATFISH	..	78	153	122	20	21
SKATES	46	..	13	9	9	..
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	55	56	57	58	59	60
DATE	OCT. 26	OCT. 26	OCT. 26	OCT. 26	OCT. 26	OCT. 26
AREA	GVCH	SCHS	SCHS	SCHS	SCHS	SCHS
TIME START (PST)	0835	1023	1110	1210	0849	0945
DURATION(HR.MIN)	.30	.27	.30	.30	.31	.30
START N. LAT. (DEG)	053	054	054	054	054	054
(MIN)	53.4	03.0	04.4	04.8	13.3	13.5
W. LONG. (DEG)	130	130	130	130	130	130
(MIN)	04.7	13.8	16.0	19.0	32.8	28.8
DIRECTION (DEG.TRUE)	316	340	315	302	107	115
FINISH N. LAT. (DEG)	053	054	054	054	054	054
(MIN)	54.4	04.4	05.5	05.6	13.8	12.0
W.LONG. (DEG)	130	130	130	130	130	130
(MIN)	06.2	14.6	17.8	20.2	30.3	26.8
DISTANCE NAUT. MI.	1.3	1.4	1.7	1.5	1.5	2.3
DEPTH (FATHOMS)	74- 55	34- 35	58- 52	56- 58	43- 50	52- 65
SEE FIGURE NO.	16	17	17	19	18	18
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	151	500	298	198	316	209
REMARKS	USABLE	USABLE	USABLE	USABLE	USABLE	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	55	56	57	58	59	60
DATE	OCT. 26	OCT. 26	OCT. 26	OCT. 26	OCT. 28	OCT. 28
AREA	GVCH	SCHS	SCHS	SCHS	SCHS	SCHS
CATCH TOTAL (KG)	131	500	296	198	516	209
SHRIMP						
PINK (BOREALIS)	2	1	5	6	181	21
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	15	..	10	8	13	13
NUM/KG	72	..	78	64	94	100
OTHER SHRIMP	..	..	1	1	4	1
INVERTEBRATES						
SQUID	20	..	..	..	5	..
OTHERS	7	8	1	1	..	1
FLATFISH						
DOVER SOLE	1	..	1	..	1	..
FLATHEAD SOLE	..	1	..	11	2	1
TURBOT	6	10	2	3	2	4
OTHERS	2	4	31	21	1	..
ROCKFISH						
S. ALUTUS	..	..	..	..	..	..
OTHERS	1	2	1	1	..	..
OTHER ROUNDFISH						
BLACKCOD	..	270	..	6	6	..
EULACHON	1	..	15	1	..	1
HAKE	..	..	..	..	..	..
PACIFIC COD	8	..	3	..	..	1
WALLEYE POLLOCK	4	15	11	..	4	10
OTHERS	..	1	..	1	1	1
SELACHII						
DOGFISH	8	108	179	52	56	111
RATFISH	55	60	..	41	61	43
SKATES	3	22	40	48	2	5
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	61	62	63	64	65	66
DATE	OCT. 28	OCT. 28	OCT. 28	OCT. 28	OCT. 28	OCT. 29
AREA	SCHS	SCHS	SCHS	SCHS	SCHS	SCHS
TIME START (PST)	1045	1157	1243	1345	1440	0808
DURATION(HR.MIN)	.30	.25	.17	.30	.30	.30
START N. LAT. (DEG)	054	054	054	054	054	054
(MIN)	11.5	11.7	11.6	10.3	09.6	08.3
W. LONG. (DEG)	130	130	130	130	130	130
(MIN)	23.7	23.7	21.8	25.6	29.2	26.0
DIRECTION (DEG.TRUE)	283	284	302	310	283	121
FINISH N. LAT. (DEG)	054	054	054	054	054	054
(MIN)	11.8	11.5	12.1	11.2	09.3	07.7
W.LONG. (DEG)	130	130	130	130	130	130
(MIN)	25.8	21.7	22.0	27.4	26.9	24.2
DISTANCE NAUT. MI.	1.3	1.2	.8	1.4	1.4	1.3
DEPTH (FATHOMS)	60- 60	52- 40	22- 25	47- 52	55- 60	58- 52
SEE FIGURE NO.	20	20	20	20	20	19
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	178	341	102	294	2500	886
REMARKS	USABLE	USABLE	USABLE	USABLE	UNUSABLE	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	61	62	63	64	65	66
DATE	OCT. 28	OCT. 28	OCT. 28	OCT. 28	OCT. 28	OCT. 29
AREA	SCHS	SCHS	SCHS	SCHS	SCHS	SCHS
CATCH TOTAL (KG)	178	341	102	294	0	886
SHRIMP						
PINK (BOREALIS)	..	115	26	2	1	1
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	T	15	T	T	T	T
NUM/KG	..	108	..	..	..	..
OTHER SHRIMP	..	..	11	T	T	T
INVERTEBRATES						
SQUID	..	..	1	..	T	..
OTHERS	..	..	2	..	T	..
FLATFISH						
DOVER SOLE	..	T	..	..	..	1
FLATHEAD SOLE	..	T	..	2	T	7
TURBOT	T	T	..	8	T	30
OTHERS	T	1	..	T	..	T
ROCKFISH						
S. ALUTUS	1	..	..	T	..	..
OTHERS	..	T	1	2	..	..
OTHER ROUNDFISH						
BLACKCOD	8	2	2	35	1	560
EULACHON	T	..	T	..	..	..
HAKE	55	..	..	..	T	..
PACIFIC COD	..	..	..	..	T	2
WALLEYE POLLOCK	..	..	..	T	T	15
OTHERS	6	..	..	T	T	T
SELACHII						
DOGFISH	78	105	50	152	T	270
RATFISH	50	97	9	78	T	T
SKATES	..	6	1	15	T	T
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	67	68	69	70	71	72
DATE	OCT. 29	OCT. 29	OCT. 29	OCT. 29	OCT. 29	OCT. 30
AREA	SCHS	SCHS	EDYP	SSIS	SSIS	SCHS
TIME START (PST)	0907	1026	1200	1330	1453	0905
DURATION(HR.MIN)	.30	.34	.10	.30	.17	.30
START N. LAT. (DEG)	054	054	054	054	054	054
(MIN)	09.1	05.3	05.3	04.4	03.4	09.8
W. LONG. (DEG)	130	130	130	130	130	130
(MIN)	23.2	21.8	32.7	42.8	45.4	33.1
DIRECTION (DEG.TRUE)	114	313	210	097	044	273
FINISH N. LAT. (DEG)	054	054	054	054	054	054
(MIN)	08.6	06.2	05.1	04.1	04.0	09.9
W.LONG. (DEG)	130	130	130	130	130	130
(MIN)	21.2	23.4	32.8	40.4	44.5	35.4
DISTANCE NAUT. MI.	1.2	1.4	.2	1.5	.8	1.3
DEPTH (FATHOMS)	44- 32	66- 65	59- 62	75- 80	82- 80	65- 65
SEE FIGURE NO.	19	19	-	21	21	22
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	323	562	4	287	..	3166
REMARKS	USABLE	USABLE	SNAG UNUSABLE	USABLE	SNAG UNUSABLE	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	67	68	69	70	71	72
DATE	OCT. 29	OCT. 29	OCT. 29	OCT. 29	OCT. 29	OCT. 30
AREA	SCHS	SCHS	EDYP	SSIS	SSIS	SCHS
CATCH TOTAL (KG)	525	502	4	291	0	1529
SHRIMP						
PINK (BOREALIS)	51	18	..	2	..	1
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	1	3	..	7	..	..
NUM/KG	..	46	..	66	..	..
OTHER SHRIMP	1	1	..	..	..	..
INVERTEBRATES						
SQUID	1	..	..	..	..	..
OTHERS	1	..	4	1	..	..
FLATFISH						
DOVER SOLE	1	..	..	2	..	6
FLATHEAD SOLE	1	35	..	28	..	2
TURBOT	9	5	..	10	..	27
OTHERS	1	1	..	1	..	5
ROCKFISH						
S. ALUTUS	..	3	..	1	..	..
OTHERS	..	1	..	..	..	..
OTHER ROUNDFISH						
BLACKCOD	103	264	..	5	..	1363E
EULACHON	..	..	..	..	..	..
HAKE	..	..	..	..	..	1
PACIFIC COD	..	..	..	2	..	3
WALLEYE POLLOCK	..	3	..	14	..	1
OTHERS	1	1	..	..	..	1
SELACHII						
DOGFISH	156	162	..	53	..	122
RATFISH	..	61	..	160	..	..
SKATES	..	7	..	8	..	..
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	73	74	75	76	77	78
DATE	OCT. 30	OCT. 30	NOV. 6	NOV. 6	NOV. 6	NOV. 6
AREA	SCHS	EDYP	KZMI	KZMI	KZMI	KZMI
TIME START (PST)	1010	1115	0953	1035	1130	1317
DURATION(HR.MIN)	.30	.30	.19	.30	.08	.11
START N. LAT. (DEG)	054	054	054	054	054	054
(MIN)	11.3	13.5	40.1	40.1	38.2	41.2
W. LONG. (DEG)	130	130	130	130	130	130
(MIN)	35.5	36.0	04.5	04.5	02.5	06.2
DIRECTION (DEG.TRUE)	068	000	000	151	135	090
FINISH N. LAT. (DEG)	054	054	054	054	054	054
(MIN)	11.1	13.3	36.6	36.8	37.9	41.3
W.LONG. (DEG)	130	130	130	130	130	130
(MIN)	37.3	37.3	03.4	05.4	02.0	07.2
DISTANCE NAUT. MI.	1.5	.8	..	1.4	.4	.6
DEPTH (FATHOMS)	62- 62	58- 58	83- 83	85- 90	86- 86	67- 68
SEE FIGURE NO.	22	22	--	23	23	23
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	366	66	4	27	4	2
REMARKS	USABLE	USABLE	UNUSABLE	USABLE	USABLE	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	73	74	75	76	77	78
DATE	OCT. 30	OCT. 30	NOV. 6	NOV. 6	NOV. 6	NOV. 6
AREA	SCHS	EDYP	KZMI	KZMI	KZMI	KZMI
CATCH TOTAL (KG)	366	66	4	26	4	0
SHRIMP						
PINK (BOREALIS)	1	2	1	1	..	..
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	..	1	2	6	1	..
NUM/KG	..	91	80	87	80	..
OTHER SHRIMP	..	1	1	..	..	..
INVERTEBRATES						
SQUID	..	..	..	1	1	..
OTHERS	1	1	2	1	2	..
FLATFISH						
DOVER SOLE	1	1	..	1	..	..
FLATHEAD SOLE	2	1	..	..	..	..
TURBOT	1	6	..	3	..	..
OTHERS	..	..	1	1	1	..
ROCKFISH						
S. ALUTUS	..	..	..	..	..	1
OTHERS	1	..	..	..	..	..
OTHER ROUNDFISH						
BLACKCOD	280	..	..	..	..	..
EULACHON	..	..	..	1	..	..
HAKE	..	..	..	..	..	..
PACIFIC COD	1	..	..	1	..	..
WALLEYE POLLOCK	2	1	1	9	..	..
OTHERS	1	1	..	5	..	..
SELACHII						
DOGFISH	80	14	..	2	..	..
RATFISH	1	41	..	..	..	..
SKATES	1	..	..	..	..	..
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	79	80	81	82	83	84
DATE	NOV. 6	NOV. 7	NOV. 7	NOV. 7	NOV. 8	NOV. 8
AREA	NSGG	OBSI	OBSI	OBSI	OBSI	OBSI
TIME START (PST)	1548	0838	0945	1403	0817	0945
DURATION(HR.MIN)	.12	.30	.30	.20	.20	.20
START N. LAT. (DEG)	054	054	055	055	055	055
(MIN)	50.6	59.2	00.1	26.1	24.2	25.0
W. LONG. (DEG)	130	129	130	129	129	129
(MIN)	09.0	59.5	02.9	46.2	46.6	43.1
DIRECTION (DEG.TRUE)	000	355	030	188	17o	173
FINISH N. LAT. (DEG)	054	055	055	055	055	055
(MIN)	50.3	00.8	01.4	24.8	23.0	23.4
W.LONG. (DEG)	130	130	130	129	129	129
(MIN)	08.3	00.8	01.5	46.5	46.3	42.8
DISTANCE NAUT. MI.	.8	1.7	1.4	1.3	1.0	1.6
DEPTH (FATHOMS)	110-110	63- 75	102-102	59- 60	65- 64	85- 90
SEE FIGURE NO.	14	24	24	25	25	25
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	48	108	87	132	33	25
REMARKS	USABLE	USABLE	USABLE	USABLE	USABLE	USABLE

APPENDIX TABLE 6 CONTINUED

HAUL NO.	79	80	81	82	83	84
DATE	NOV. 6	NOV. 7	NOV. 7	NOV. 7	NOV. 8	NOV. 8
AREA	KSGG	OBSI	OBSI	OBSI	OBSI	OBSI
CATCH TOTAL (KG)	46	108	87	135	31	25
SHRIMP						
PINK (BOREALIS)	..	..	1	1	1	..
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	5	8	7	2	2	2
NUM/KG	76	96	140	280	123	129
OTHER SHRIMP	..	..	..	..	..	..
INVERTEBRATES						
SQUID	2	1	..	..	1	2
OTHERS	1	1	1	35	1	4
FLATFISH						
DOVER SOLE	..	..	..	..	..	..
FLATHEAD SOLE	..	..	1	..	2	2
TURBOT	..	..	..	..	..	..
OTHERS	3	3	3	..	3	..
ROCKFISH						
S. ALUTUS	..	..	..	..	..	..
OTHERS	..	..	..	..	..	..
OTHER ROUNDFISH						
BLACKCOD	1	1	..	..	..	..
EULACHON	..	..	..	1	..	..
HAKE	..	..	..	..	..	..
PACIFIC COD	2	9	6	..	..	..
WALLEYE POLLOCK	2	8	11	91	21	6
OTHERS	..	..	..	..	1	1
SELACHII						
DOGFISH	2	38	52	3	..	6
RATFISH	19	41	21	1	1	2
SKATES	12	1	6	..	..	..
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	85	86	87	88	89	90
DATE	NOV. 8	NOV. 8	NOV. 8	NOV. 8	NOV. 9	NOV. 9
AREA	OBSI	OBSI	OBSI	OBSI	PRTC	PRSC
TIME START (PST)	1110	1248	1343	1600	0945	1107
DURATION(HR.MIN)	.30	.22	.20	.30	.30	.30
START N. LAT. (DEG)	055	055	055	055	055	054
(MIN)	27.1	27.0	26.7	27.9	07.2	59.0
W. LONG. (DEG)	129	129	129	129	130	130
(MIN)	37.7	31.3	32.3	44.0	09.0	15.6
DIRECTION (DEG.TRUE)	093	255	080	322	204	214
FINISH N. LAT. (DEG)	055	055	055	055	055	054
(MIN)	27.0	26.7	26.8	29.5	05.4	57.7
W.LONG. (DEG)	129	129	129	129	130	130
(MIN)	34.5	30.0	30.5	46.1	10.4	17.1
DISTANCE NAUT. MI.	1.7	.8	1.0	2.0	2.0	2.4
DEPTH (FATHOMS)	213-210	110-100	175-130	160-170	108-110	75- 68
SEE FIGURE NO.	25	25	25	25	24	26
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	..	9	21	3	..	27
REMARKS	UNUSABLE	USABLE	USABLE	UNUSABLE	USABLE	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	85	86	87	88	89	90
DATE	NOV. 6	NOV. 8	NOV. 8	NOV. 8	NOV. 9	NOV. 9
AREA	OBSI	OBSI	OBSI	OBSI	PRIC	PRSC
CATCH TOTAL (KG)	0	9	21	5	0	27
SHRIMP						
PINK (BOREALIS)	..	..	..	1	1	1
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	..	2	2	1	1	1
NUM/KG	..	88	55	121	..	82
OTHER SHRIMP	..	..	1	1	..	..
INVERTEBRATES						
SQUID	..	..	..	..	1	4
OTHERS	..	1	1	1	..	..
FLATFISH						
DOVER SOLE	..	..	..	..	..	..
FLATHEAD SOLE	..	..	..	..	..	..
TURBOT	..	..	..	..	..	..
OTHERS	..	..	..	..	..	..
ROCKFISH						
S. ALUTUS	..	..	..	..	..	..
OTHERS	..	..	..	..	..	1
OTHER ROUNDFISH						
BLACKCOD	..	..	..	..	..	..
EULACHON	..	..	..	..	1	..
HAKE	..	..	..	..	..	..
PACIFIC COD	..	..	3	..	..	..
WALLEYE POLLOCK	..	7	9	2	..	2
OTHERS	..	..	6	..	..	..
SELACHII						
DOGFISH	..	..	..	..	..	8
RATFISH	..	..	..	..	..	11
SKATES	..	..	1	..	..	..
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	91	92	93	94	95	96
DATE	NOV. 9	NOV. 9	NOV. 9	NOV. 10	NOV. 10	NOV. 10
AREA	PRSC	NCHS	NCHS	NCHS	NCHS	BRNP
TIME START (PST)	1240	1520	1622	0803	0935	1233
DURATION(HR.MIN)	.25	.30	.30	.30	.25	.30
START N. LAT. (DEG)	054	054	054	054	054	054
(MIN)	53.6	34.5	32.3	30.2	32.3	17.2
W. LONG. (DEG)	130	130	130	130	130	130
(MIN)	23.1	29.3	33.3	32.3	37.6	42.6
DIRECTION (DEG.TRUE)	222	215	324	182	330	258
FINISH N. LAT. (DEG)	054	054	054	054	054	054
(MIN)	52.7	33.2	33.3	28.8	33.4	16.9
W.LONG. (DEG)	130	130	130	130	130	130
(MIN)	24.6	30.9	34.7	32.3	38.8	45.0
DISTANCE NAUT. MI.	1.3	1.4	1.3	1.4	1.3	1.5
DEPTH (FATHOMS)	67- 84	79- 85	82- 82	80- 85	65- 65	85- 82
SEE FIGURE NO.	26	27	27	27	27	28
SURFACE TEMP(DEG.C)	..	..	..	..	..	..
BOTTOM TEMP.(DEG.C)	..	..	..	..	..	..
TYPE OF GEAR	6	6	6	6	6	6
TOTAL CATCH (KG)	50	66	71	129	20	1500
REMARKS	USABLE	USABLE	USABLE	USABLE	USABLE	DUMPED ALL JUNK

APPENDIX TABLE 2 CONTINUED

HAUL NO.	91	92	93	94	95	96
DATE	NOV. 9	NOV. 9	NOV. 9	NOV. 10	NOV. 10	NOV. 10
AREA	PRSC	NCHS	NCHS	NCHS	NCHS	BRNP
CATCH TOTAL (KG)	50	68	71	129	20	1470
SHRIMP						
PINK (BOREALIS)	T	2	2	T	1	..
NUM/KG	..	..	..	..	..	..
PINK (JORDANI)	..	..	..	..	..	..
NUM/KG	..	..	..	..	..	..
SIDESTRIPE	T	4	5	6	3	..
NUM/KG	..	82	..	68	130	..
OTHER SHRIMP	..	T	T	..	1	..
INVERTEBRATES						
SQUID	2	4	..	35	..	..
OTHERS	1	..	..	..	..	..
FLATFISH						
DOVER SOLE	..	..	1	..	..	..
FLATHEAD SOLE	..	..	1	3	..	15E
TURBOT	..	2	18	5	..	75E
OTHERS	1	..	1	1	T	..
ROCKFISH						
S. ALUTUS	T	..	..	..	..	..
OTHERS	..	..	..	..	..	..
OTHER ROUNDFISH						
BLACKCOD	5	5	..	..	..	1350E
EULACHON	T	..	1	3	2	15E
HAKE	..	..	..	..	..	..
PACIFIC COD	4	35	1	6	T	..
WALLEYE POLLOCK	1	4	21	69	..	15E
OTHERS	T	..	..	..	..	..
SELACHII						
DOGFISH	8	..	12	1	8	..
RATFISH	29	4	9	4	6	..
SKATES	..	6	..	..	..	..
OTHERS	..	..	..	..	..	..

APPENDIX TABLE 2 CONTINUED

HAUL NO.	97
DATE	NOV. 10
AREA	MCLR
TIME START (PST)	1530
DURATION(HR.MIN)	.30
START N. LAT. (DEG)	054
(MIN)	31.0
W. LONG. (DEG)	131
(MIN)	11.0
DIRECTION (DEG.TRUE)	020
FINISH N. LAT. (DEG)	054
(MIN)	29.8
W.LONG. (DEG)	131
(MIN)	10.0
DISTANCE NAUT. MI.	1.5
DEPTH (FATHOMS)	70- 80
SEE FIGURE NO.	28
SURFACE TEMP(DEG.C)	..
BOTTOM TEMP.(DEG.C)	..
TYPE OF GEAR	6
TOTAL CATCH (KG)	79
REMARKS	USABLE

APPENDIX TABLE 2 CONTINUED

HAUL NO.	97
DATE	NOV. 10
AREA	MCLR
CATCH TOTAL (KG)	79
SHRIMP	
PINK (BOREALIS)	T
NUM/KG	..
PINK (JORDANI)	..
NUM/KG	..
SIDESTRIPE	T
NUM/KG	..
OTHER SHRIMP	..
INVERTEBRATES	
SQUID	..
OTHERS	T
FLATFISH	
DOVER SOLE	..
FLATHEAD SOLE	..
TURBOT	13
OTHERS	8
ROCKFISH	
S. ALUTUS	..
OTHERS	..
OTHER ROUNDFISH	
BLACKCOD	..
EULACHON	T
HAKE	..
PACIFIC COD	9
WALLEYE POLLOCK	3
OTHERS	..
SELACHII	
DOGFISH	2
RATFISH	39
SKATES	5
OTHERS	..

AREA: See appendix table 1 for area code explanations.

TOTAL CATCH (KG): Kilograms.

TYPE OF GEAR: 6=70 ft. Marinovich semi-balloon trawl.

T: Trace.

E: Estimated weight.

Conversion Table

1 Metric Ton(1000 Kilograms)=2204 pounds

1 Kilogram(1000 Grams)=2.2 pounds