

REPORT ON THE SPANISH
SOUTHWEST ATLANTIC FISHERIES

1984

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1.- INTRODUCTION

The first Spanish registered vessels to visit the South West Atlantic - Fishing Grounds, outside the 200 miles off Argentina and around the Falkland Islands, started fishing during the last days of february 1983.

The activity of the Spanish Fleet along 1983 has been developed between February and December, with the main activity during April and October.

Vessels operating in those fishing grounds are all of them modern freezing stern trawlers of advanced technology.

2.- THE MAIN FISHERIES RESOURCES

We may conclude from the obtained results during 1983 that the area is a very rich one as far as fisheries resources is concerned. The main commercial species during 1983 have been: short-fined squid (in spanish "pota" --- "Illex argentinus"), long-fined squid (in spanish "calamar", "Loligo patagonica") and hake ("Merluccius hubbsi").

There are other species of comercial interest which appear as a by- --- catch of the mayor squid fishery like: KINKLIP, RED HAKE, CONGER-EEL, SKATES, etc..

The presence of the mayor species has shown a marked seasonality. Catches of "pota" and hake have been most significant during February-July period. From July to November the "pota" did completely dissapear from the fishing - grounds, appearing again in December. Hake, although it maintains a steady - presence all along the year, has shown minimum abundaces between August and December.

On the contrary, the "calamar" started to show up in the fishery in July, being very abundant up till October. During November and December its -- presence in the fishery has been almost null.

3.- CHARACTERISTICS OF THE VESSELS AND FISHING GEAR

Vessels composing the Spanish Fleet in the South West Atlantic Fishing Grounds, are all modern stern freezer trawlers of modern technology with a great catching and freezing capacity.

As far as the size is concerned, they are all above 350 G.R.T. and 1000 H.P. in the main engine, some of them greater than 2000 G.R.T. and 5000 H.P.

The fishing gear used for catching "pota" and "calamar" are all bottom trawls, generally with a great vertical opening in the mouth, the gear has -sted-bobbings in the foot rope, therefore assuming that the gear does not -- work too close to the bottom. Towing speed is around four knots.

4.- LANDINGS DURING 1983

4.1. Fisheries of "pota" and "hake"

VESSEL SIZE	G.R.T. RANGE	NUMBER OF VESSELS	SFS "POTA" (MT)	WAKE "CALAMAR" (MT)
5	150 - 499,9	3	783	600
6	500 - 999,9	2	480	470
7	1000 - 1999,9	3	1188	1530
8	+ 2000	1	833	600
TOTAL		9	3184	3200

4.2. Mixed Fishery ("pota", hake and "calamar")

VESSEL SIZE	G.R.T. RANGE	NUMBER OF VESSELS	"POTA" (MT)	HAKE (MT)	LFS "CALAMAR" (MT)
5	150 - 499,9	3	181	410	590
6	500 - 999,9	1	-	41	150
TOTAL		4	181	451	740

4.3. "Calamar" Fishery

<u>VESSEL SIZE CATEGORY</u>	<u>G.R.T. RANGE</u>	<u>NUMBER OF VESSELS</u>	<u>"CALAMAR" (TONS)</u>
5	150 - 499,9	5	1985
6	500 - 999,9	1	537
7	1000 - 1999,9	11	11162
8	+ 2000	2	2520
TOTAL		19	16204

5.- MONTHLY EVOLUTION OF THE LANDINGS IN SPANISH PORTS DURING 1983

	^{sfs} <u>"POTA"</u>	<u>HAKE</u>	^{lfs} <u>"CALAMAR"</u>
APRIL	320	140	-
MAY	788	930	-
JUNE	1033	850	-
JULY	413	530	-
AUGUST	630	750	-
SEPTEMBER	-	-	352
OCTOBER	-	-	6263
NOVEMBER	-	-	9029
DECEMBER	-	-	560
TOTAL	3184	3200,	16204

6.- MONTHLY PRESENCE OF THE SPANISH VESSELS IN THE SOUTH WEST ATLANTIC FISHERY

6.1. Hake and "Pota" Fishery

This fishery has been carried out during 1983, mainly in the - February-July period. The presence of Spanish vessels by category according to the GRT, has been as follows:

	NUMBER OF VESSELS					
	<u>FEBRUARY</u>	<u>MARCH</u>	<u>APRIL</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>
Vessels OTB-5 (150-499,9 GRT)	---	---	2	3	3	2
Vessels OTB-6 (500-999,9 GRT)	1	1	2	2	1	1
Vessels OTB-7 (1000-1999,9 GRT)	---	2	3	1	1	1
Vessels OTB-8 (+ 2000 GRT)	---	1	1	1	1	---

6.2. "Calamar" Fishery

This fishery has been carried out during the July-October period. The presence of Spanish vessels has been as follows:

	NUMBER OF VESSELS				
	<u>JULY</u>	<u>AUGUST</u>	<u>SEPTEMBER</u>	<u>OCTOBER</u>	<u>NOVEMBER</u>
Vessels OTB-5 (150-499,9 GRT)	4	6	4	2	-
Vessels OTB-6 (500-999,9 GRT)	1	1	1	-	-
Vessels OTB-7 (1000-1,999,9 GRT)	2	8	11	9	2
Vessels OTB-8 (+ 2000 GRT)	1	2	2	2	-

7.- CATCH PER UNIT OF EFFORT

Catch per effective fishing day (day in which a fishing activity -- has been carried out), and per vessel according to the GRT and by each -- of the main species sought, are presented. Those data correspond to the activity during 1983:

	MEAN CATCH PER DAY FISHED		
	HAKE	"POTA"	"CALAMAR"
VESSELS OTB-5 (150-499,9 GRT)	2,89	2,87	6,21
VESSELS OTB-6 (500-999,9 GRT)	3,81	4,25	6,92
VESSELS OTB-7 (1000-1,999,9 GRT)	8,88	5,64	17,81
VESSELS OTB-8 (+ 2000 GRT)	9,42	8,01	20,12

8.- DISTRIBUTION AND ABUNDANCE OF MAIN CATCH SOUGHT

The figures shown here represent the distribution and a representation of the abundance of the catches made the Spanish fleet during 1983.

The mean catch per day fished obtained for each of the main species: hake, "calamar" and "pota", has been distributed in 1 degree latitude x 1 degree longitude. Abundance of each species has been defined through the catch per unit of effort. Using this index for each one of the different size categories according to their GRT.

8.1. DISTRIBUTION AND ABUNDANCE OF HAKE
("MERLUZA") PER VESSEL CATEGORY

SIMBOLOS	KGS/DIA
●	0 - 2.000
●	2.000 - 5.000
●	5.000 - 10.000
●	10.000 - 20.000
■	+ 20.000

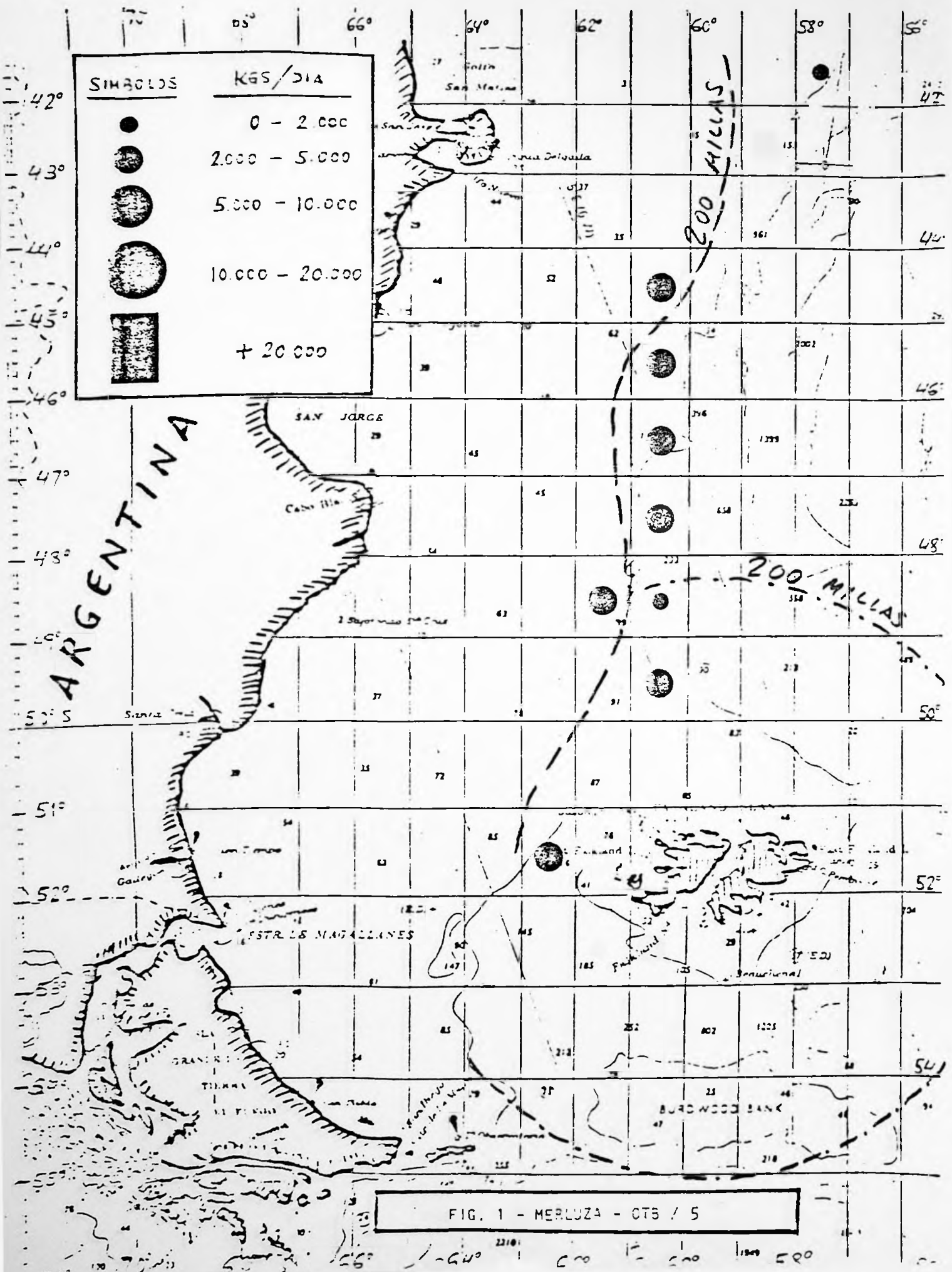


FIG. 1 - MERLUZA - OTS / 5

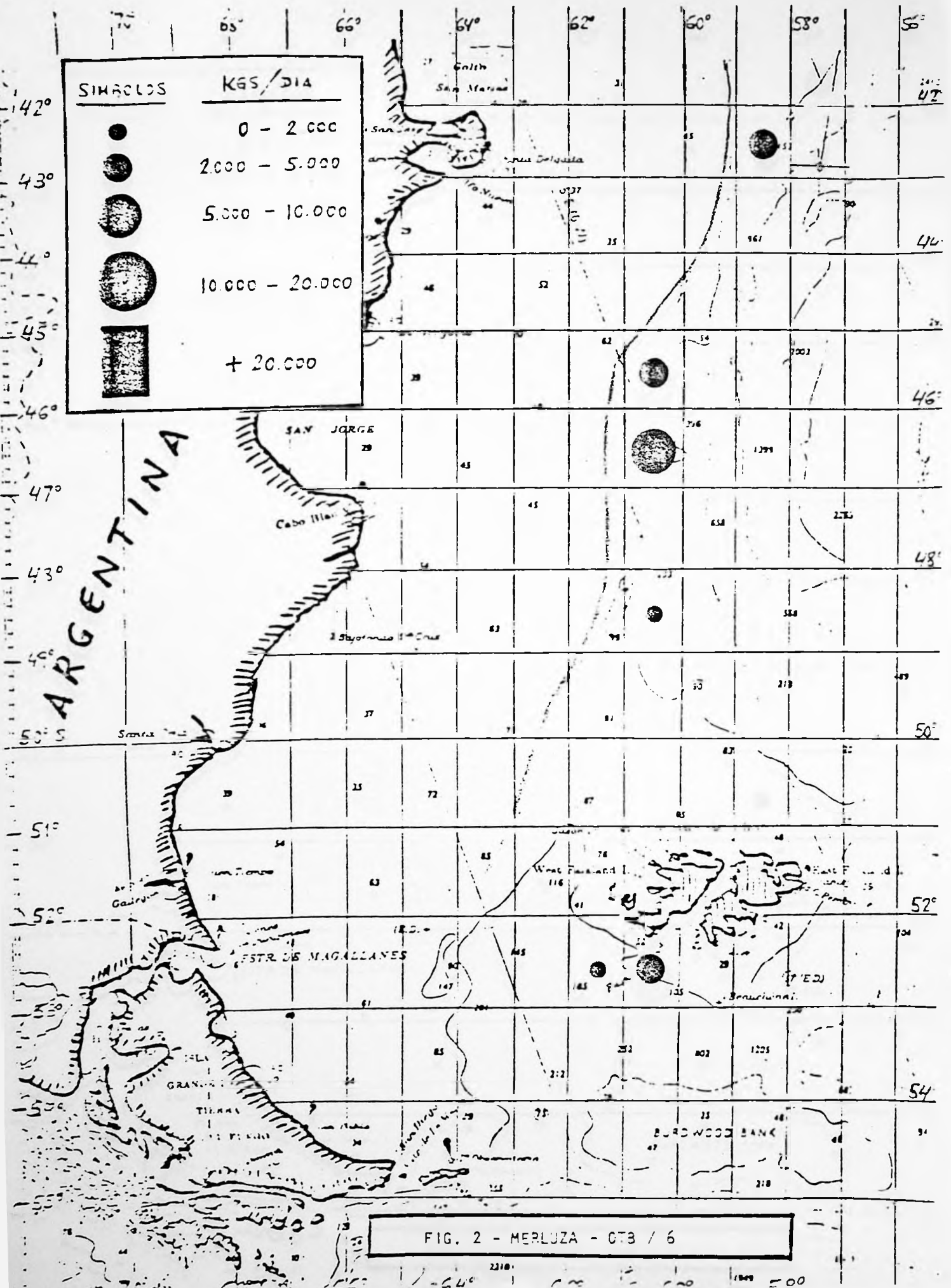
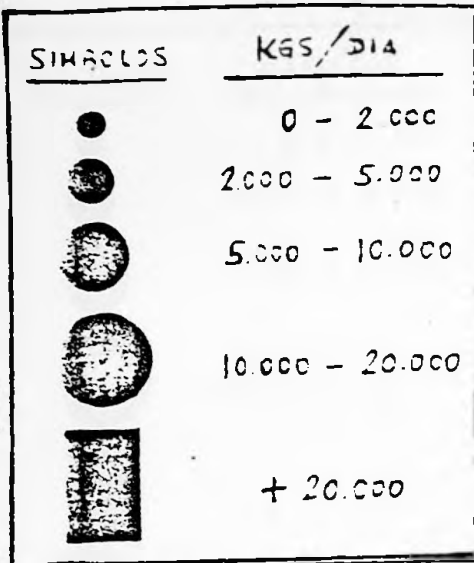
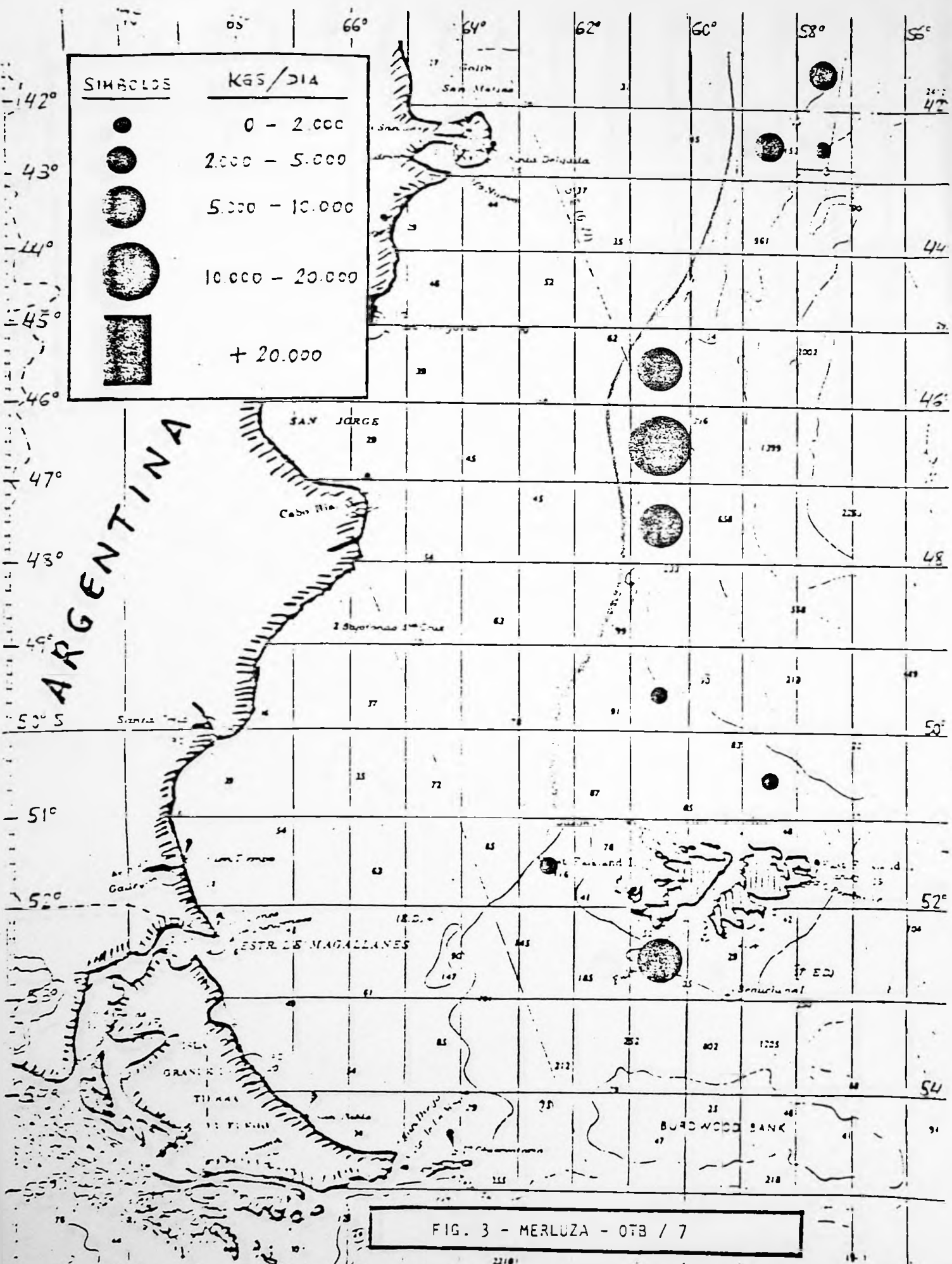
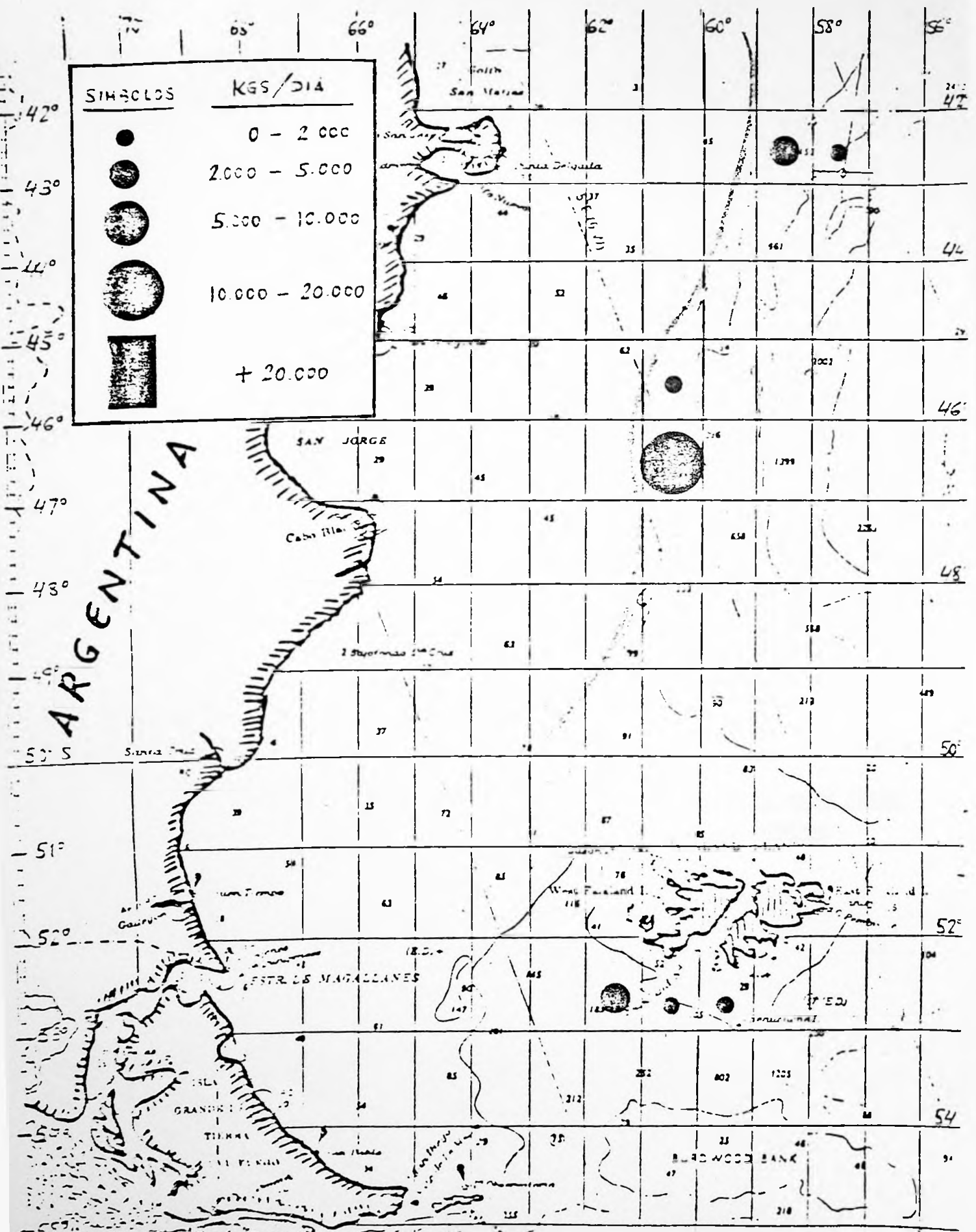


FIG. 2 - MERLUZA - CTB / 6



SIMBOLOS	KGS/DIA
●	0 - 2.000
●	2.000 - 5.000
●	5.000 - 10.000
●	10.000 - 20.000
■	+ 20.000

FIG. 3 - MERLUZA - OTB / 7



SIMBOLOS	KGS/DIA
●	0 - 2.000
●	2.000 - 5.000
●	5.000 - 10.000
●	10.000 - 20.000
■	+ 20.000

FIG. 4 - MERLUZA - OTB / 8

8.2. DISTRIBUTION AND ABUNDANCE OF SHORT FINNED
SQUID ("POTA") PER VESSEL CATEGORY

SIMBOLOS	KES/DIA
●	0 - 2.000
●	2.000 - 5.000
●	5.000 - 10.000
●	10.000 - 20.000
■	+ 20.000

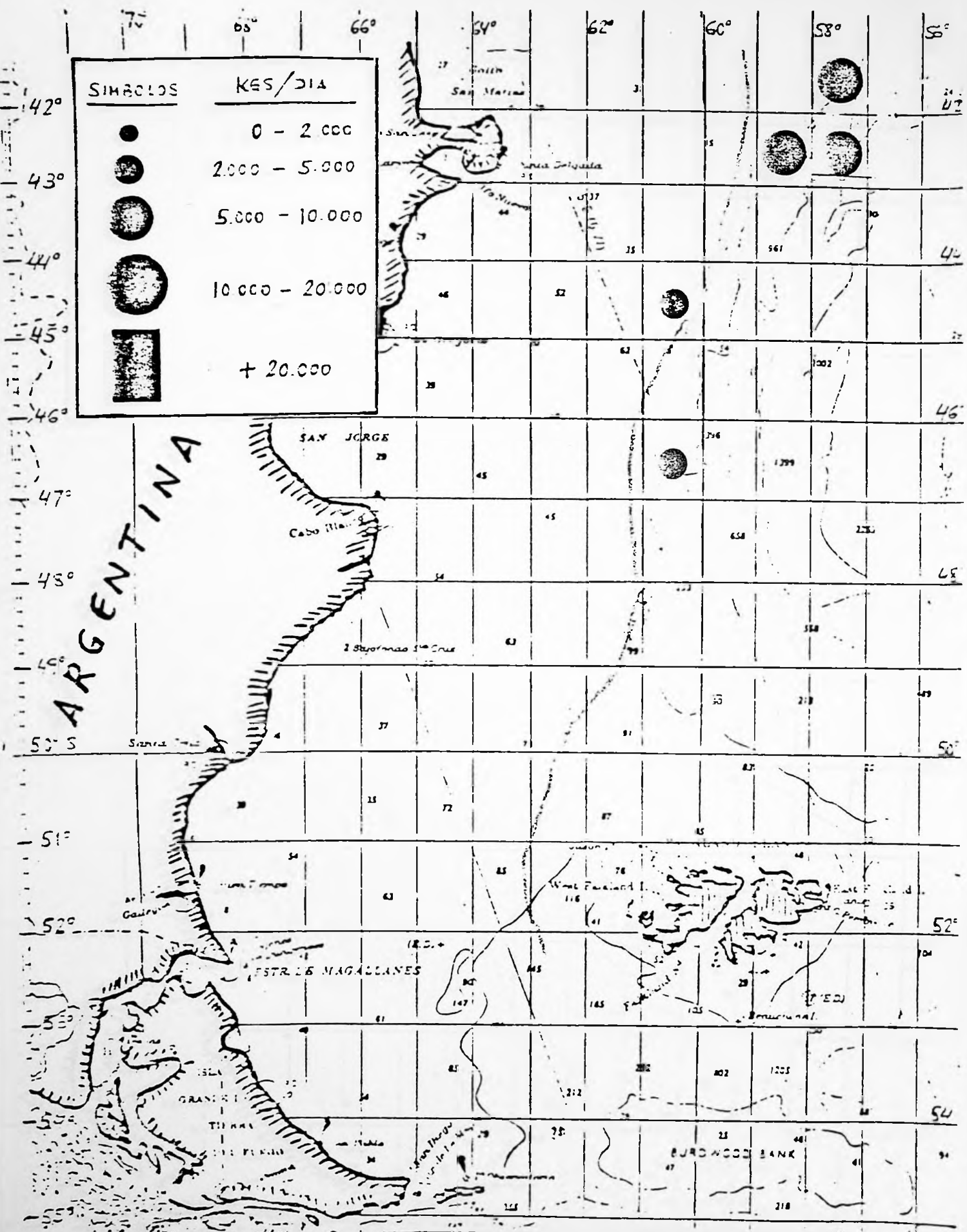


FIG. 5 - POTA - 073 / 5

SIMBOLOS	KGS / DIA
●	0 - 2.000
●	2.000 - 5.000
●	5.000 - 10.000
●	10.000 - 20.000
■	+ 20.000

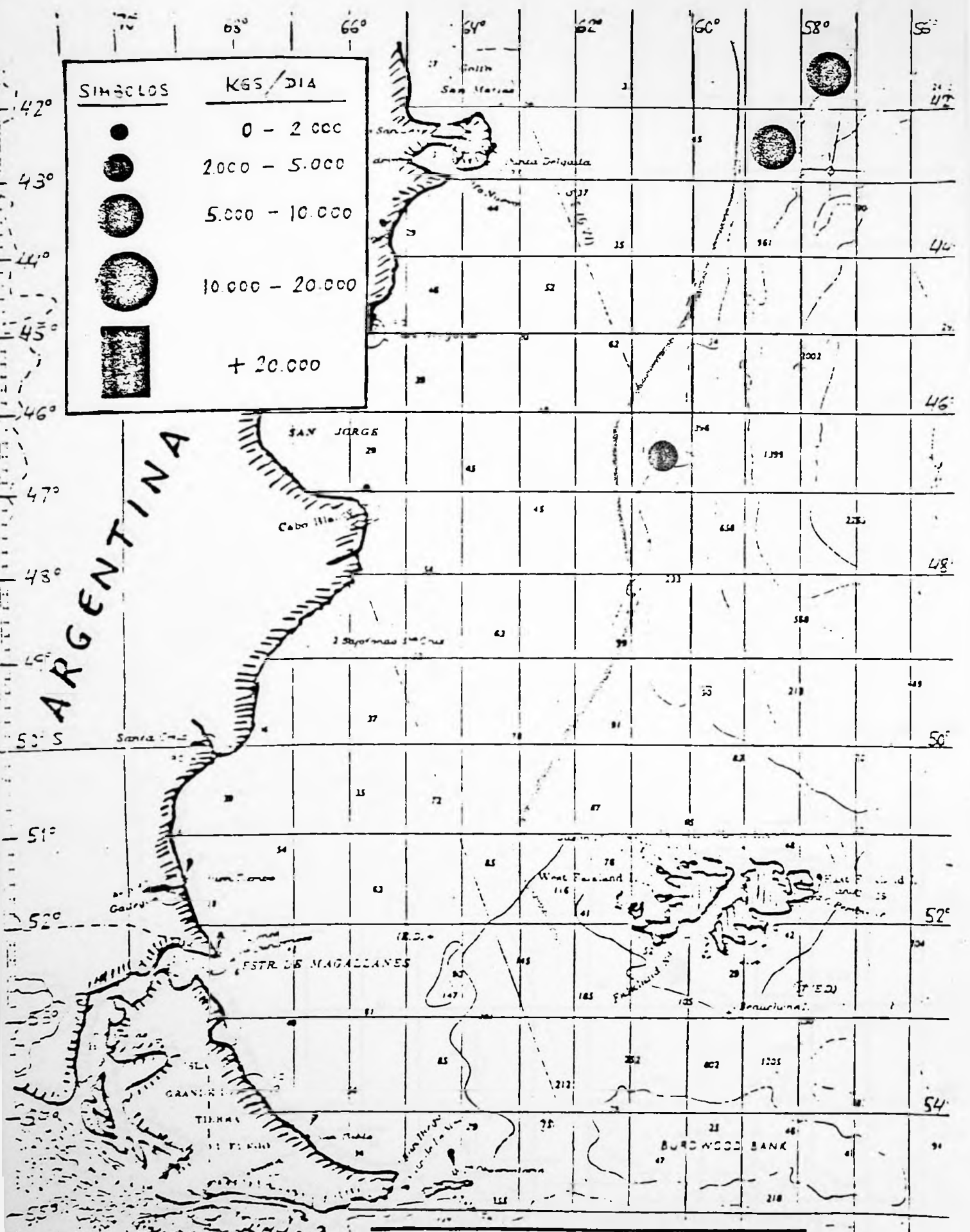
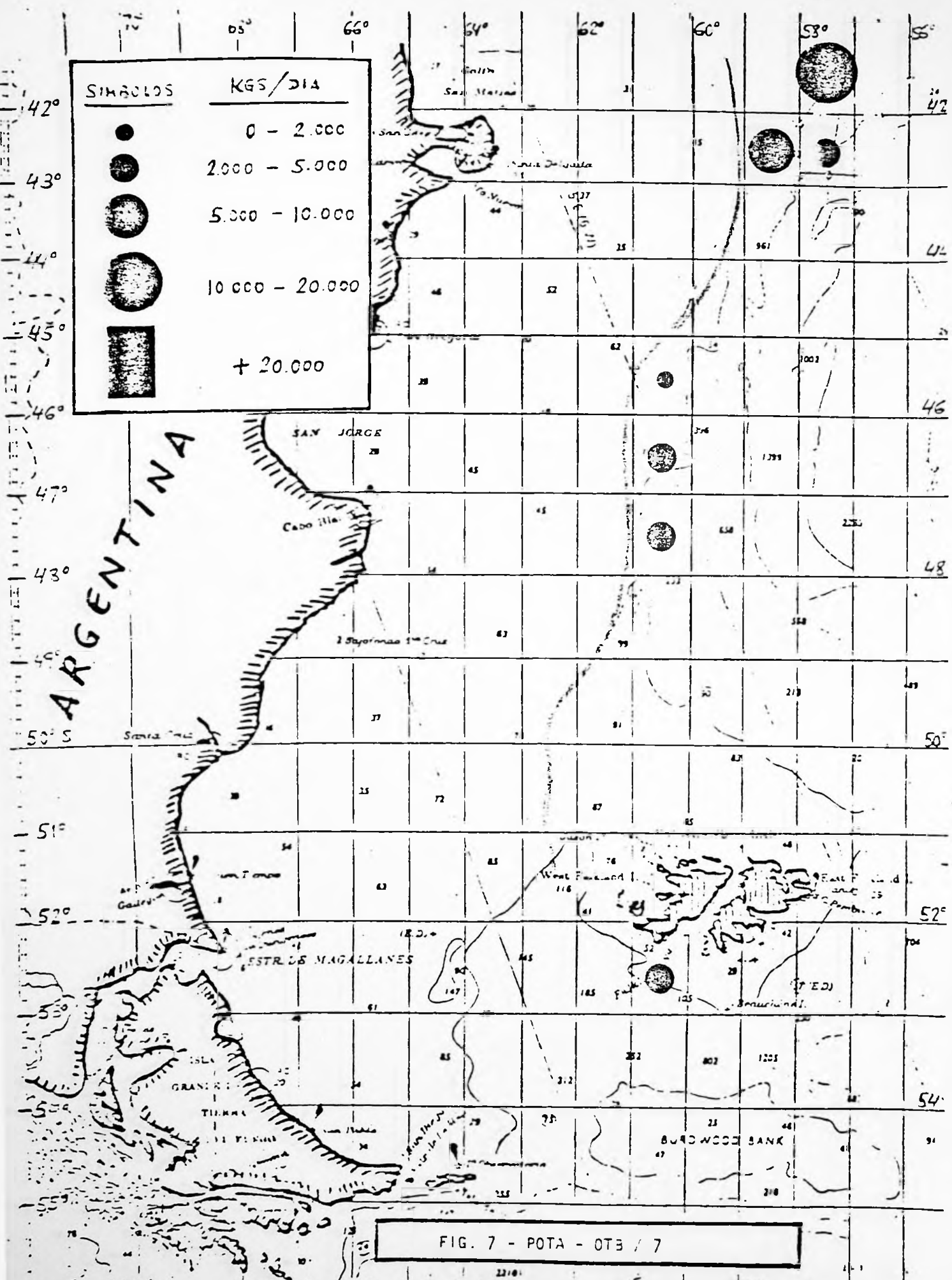
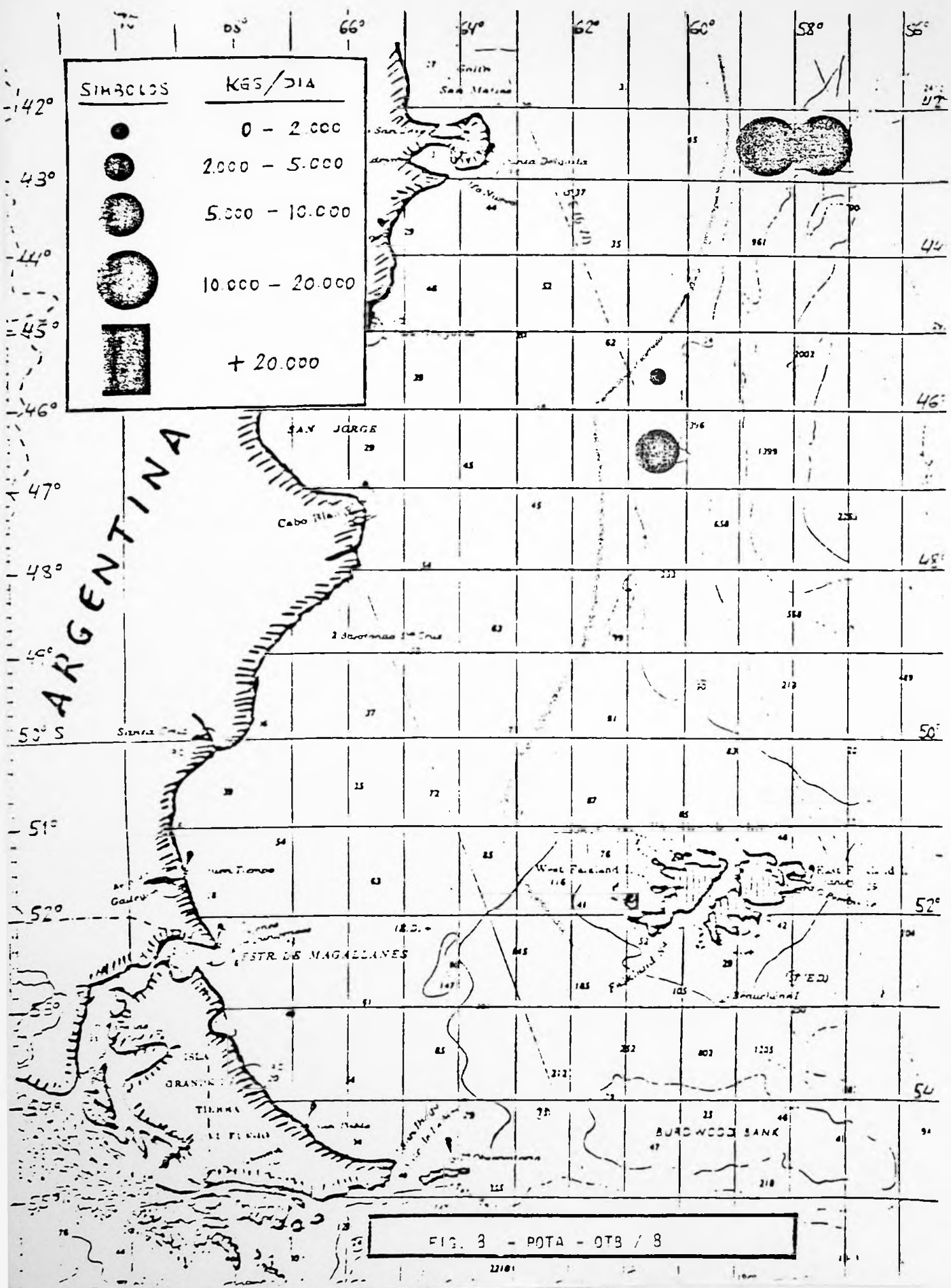


FIG. 6 - POTA - OTB / 6



SIMBOLOS	KGS/DIA
●	0 - 2.000
●	2.000 - 5.000
●	5.000 - 10.000
●	10.000 - 20.000
■	+ 20.000

FIG. 7 - POTA - OTB / 7



SIMBOLOS	KGS/DIA
●	0 - 2.000
●	2.000 - 5.000
●	5.000 - 10.000
●	10.000 - 20.000
■	+ 20.000

ARGENTINA

FIG. 3 - POTA - OTB / 8

8.3. DISTRIBUTION AND ABUNDANCE OF LONG FINNED
SQUID ("CALAMAR") PER VESSEL CATEGORY

SIMBOLOS	KGS/DIA
●	0 - 2.000
●	2.000 - 5.000
●	5.000 - 10.000
●	10.000 - 20.000
■	+ 20.000

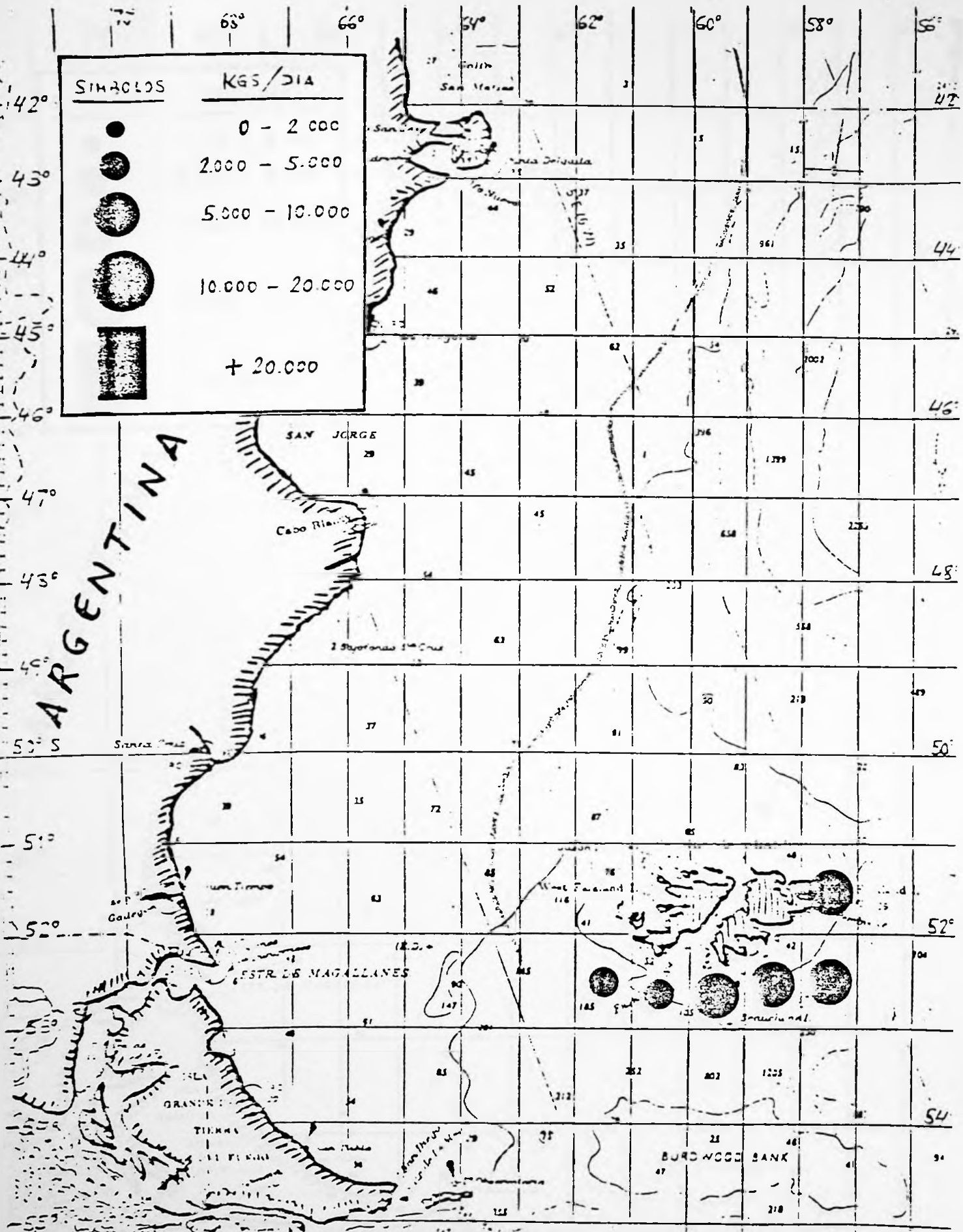
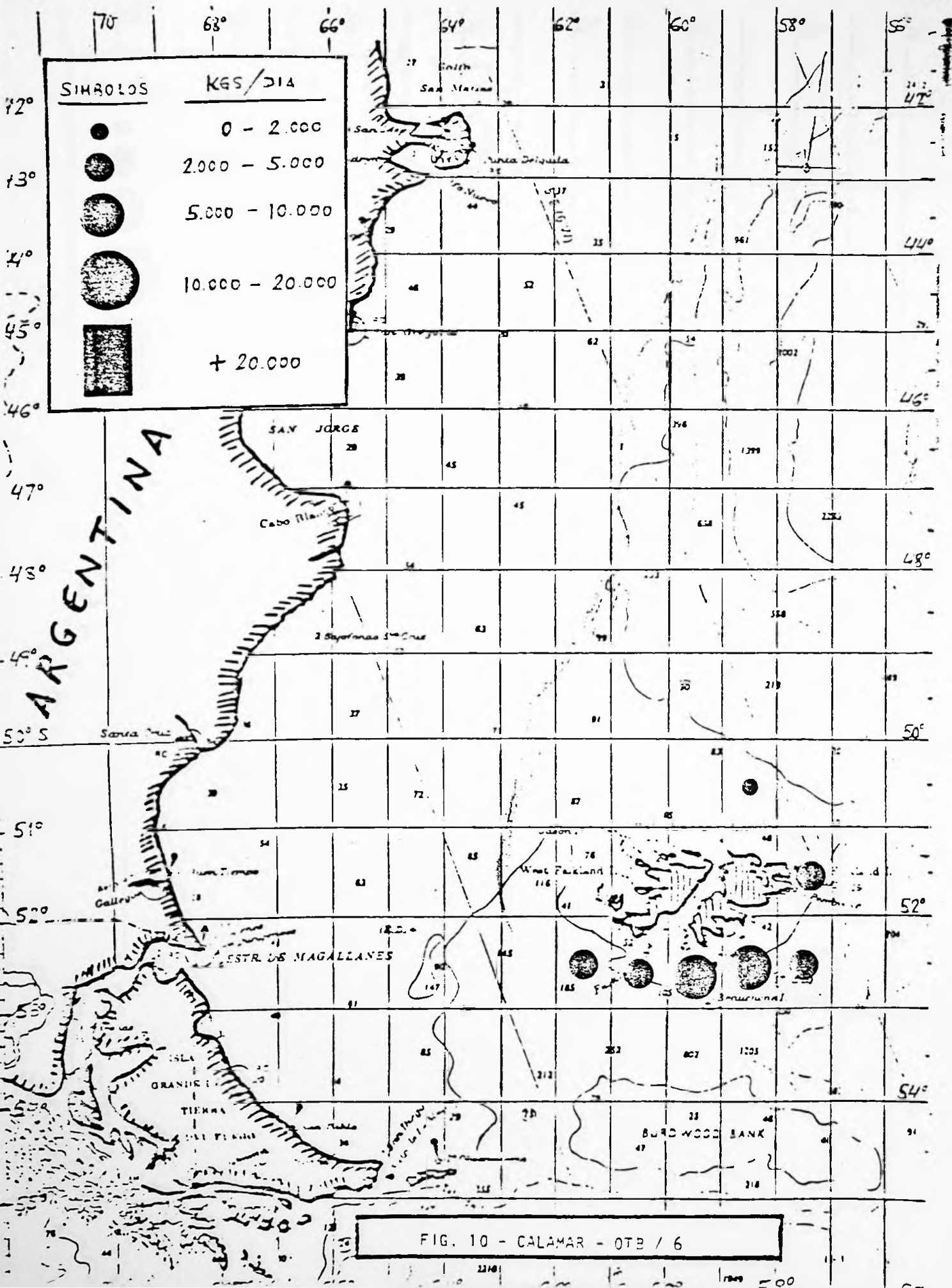


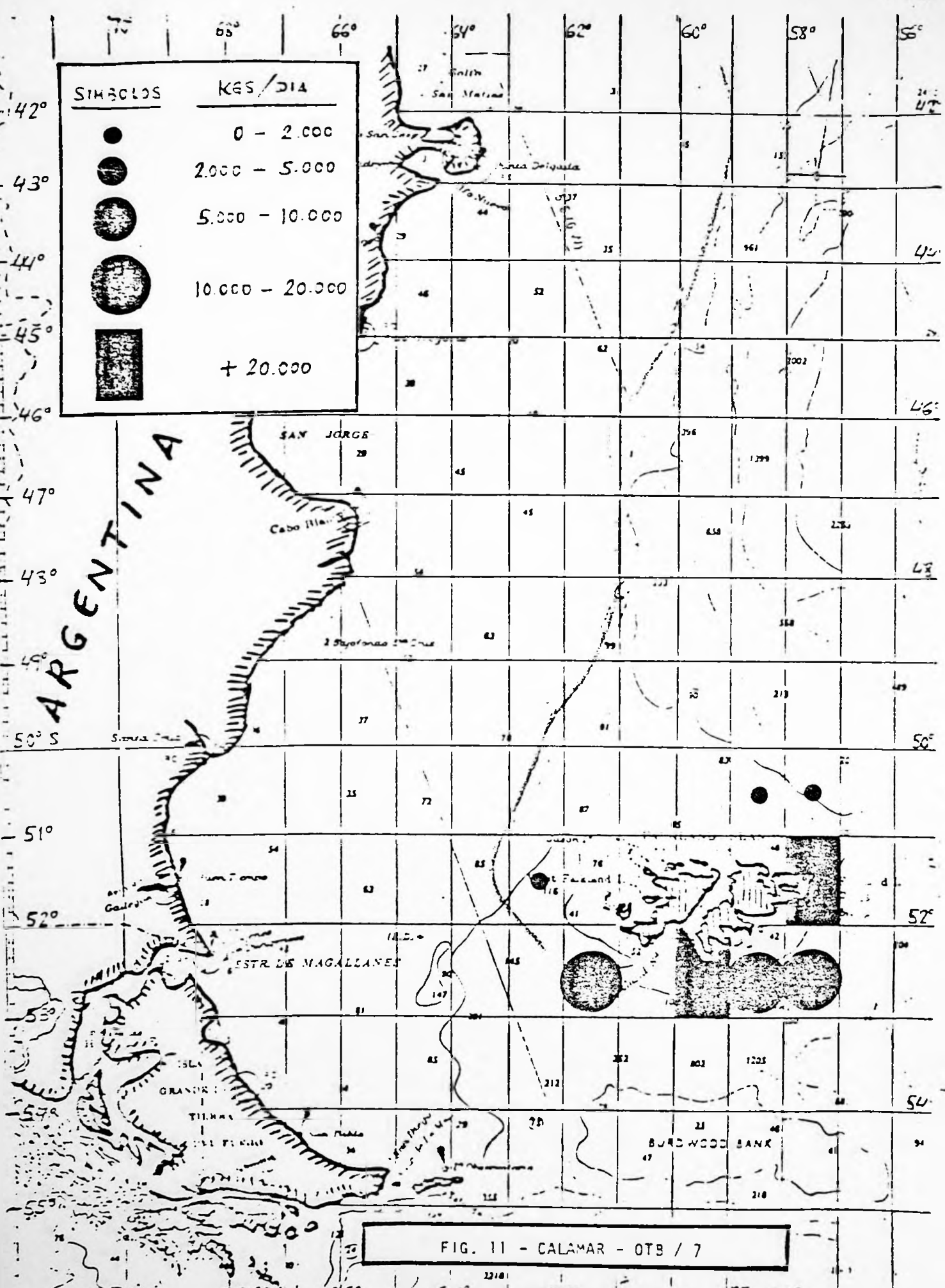
FIG. 9 - CALAMAR - OTB / 5

0 100 200 300 400 500



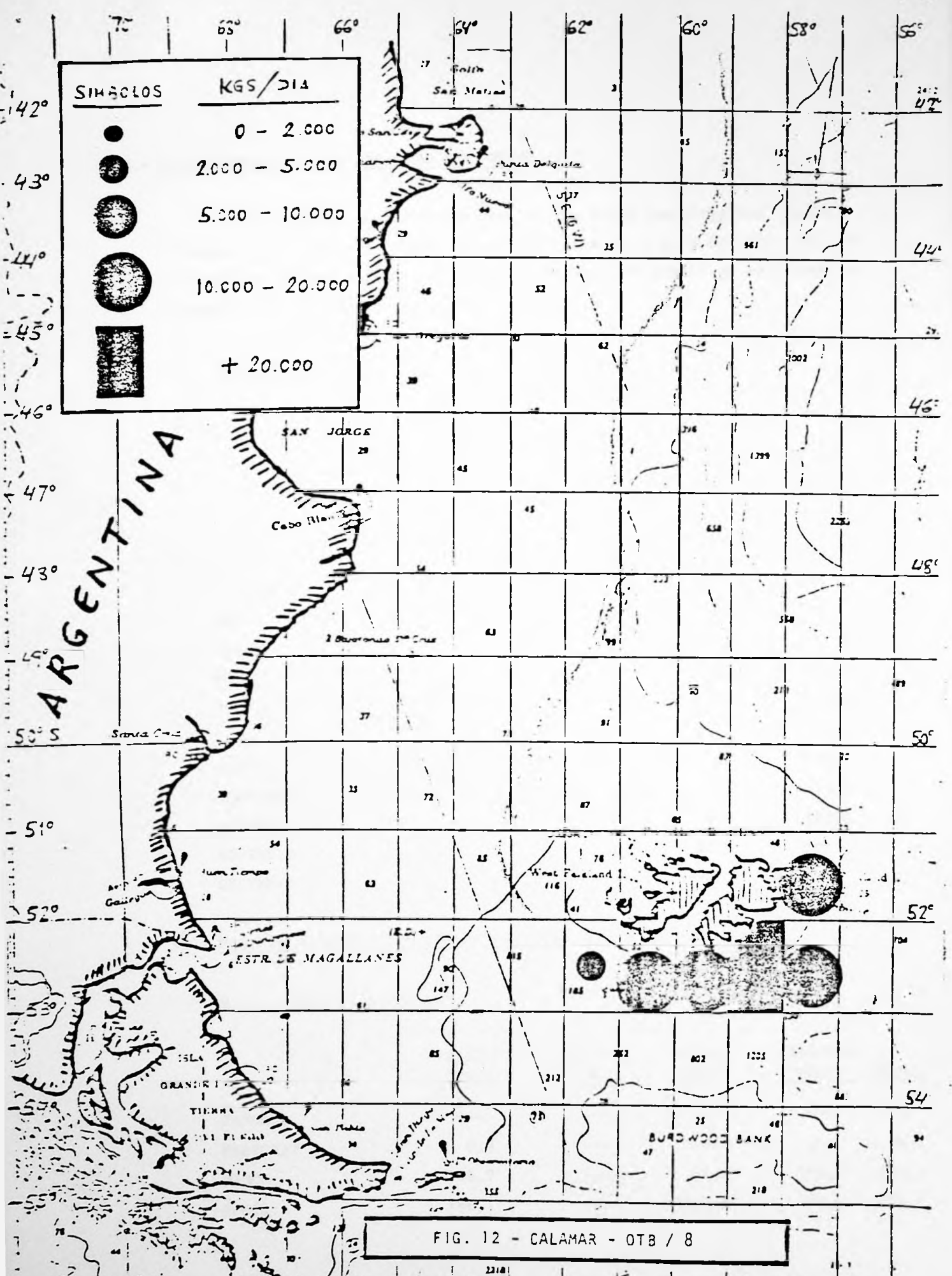
SIMBOLOS	KGS/DIA
●	0 - 2.000
●	2.000 - 5.000
●	5.000 - 10.000
●	10.000 - 20.000
■	+ 20.000

FIG. 10 - CALAMAR - OTE / 6



SIMBOLOS	KGS./DIA
●	0 - 2.000
●	2.000 - 5.000
●	5.000 - 10.000
●	10.000 - 20.000
■	+ 20.000

FIG. 11 - CALAMAR - OTB / 7



SIMBLOS	KGS/DIA
●	0 - 2.000
●	2.000 - 5.000
●	5.000 - 10.000
●	10.000 - 20.000
■	+ 20.000

FIG. 12 - CALAMAR - OTB / 8

9.- DISTRIBUTION OF THE CAPTURES PER MONTH

The distribution of the catches of the three main species ("pota", "calamar" and hake) per month along 1983, has been made for the total of the catches of the fleet, taking a representative sample of each boat -- category depending on their GRT.

9.1. Size of the Sample Used

	<u>VESSELS</u> <u>OTB-5</u>	<u>VESSELS</u> <u>OTB-6</u>	<u>VESSELS</u> <u>OTB-7</u>	<u>VESSELS</u> <u>OTB-8</u>
<u>MONTHS</u>				
JANUARY	---	---	---	---
FEBRUARY	---	100,0	---	---
MARCH	---	100,0	50,0	100,0
APRIL	100,0	50,0	66,6	100,0
MAY	66,6	100,0	100,0	100,0
JUNE	100,0	66,6	100,0	100,0
JULY	100,0	66,6	33,3	100,0
AUGUST	85,7	50,0	25,0	100,0
SEPTEMBER	100,0	100,0	27,3	100,0
OCTOBER	100,0	100,0	44,4	100,0
NOVEMBER	100,0	100,0	50,0	---
DECEMBER	100,0	---	---	---

9.2. Monthly distribution of the catches

9.2.1. Catches of "pota"

	<u>VESSELS</u> <u>OTB-5</u>	<u>VESSELS</u> <u>OTB-6</u>	<u>VESSELS</u> <u>OTB-7</u>	<u>VESSELS</u> <u>OTB-8</u>	<u>TOTAL</u>
JANUARY	---	---	---	---	---
FEBRUARY	8,8	---	---	---	8,8
MARCH	235,7	---	36,2	60,3	332,2
APRIL	186,1	58,4	223,1	270,5	738,1

MAY	262,4	376,9	506,1	375,5	1520,9
JUNE	176,4	44,4	272,2	126,6	619,6
JULY	---	---	149,9	---	149,9
AUGUST	---	---	---	---	---
SEPTEMBER	---	---	---	---	---
OCTOBER	---	---	---	---	---
NOVEMBER	4,4	---	---	---	4,4
DECEMBER	89,9	---	---	---	89,9
TOTAL	963,7	479,7	1187,5	832,9	3463,8

9.2.2. Catches of "pota"

	<u>VESSELS</u> <u>OTB-5</u>	<u>VESSELS</u> <u>OTB-6</u>	<u>VESSELS</u> <u>OTB-7</u>	<u>VESSELS</u> <u>OTB-8</u>	<u>TOTAL</u>
JANUARY	---	---	---	---	---
FEBRUARY	0,9	---	---	---	0,9
MARCH	145,1	---	84,5	29,7	259,3
APRIL	144,0	171,3	505,2	398,8	1219,3
MAY	136,3	152,6	458,4	116,6	863,9
JUNE	244,8	72,6	353,9	17,3	688,6
JULY	250,9	68,1	92,9	15,3	427,2
AUGUST	45,8	5,3	---	17,0	68,1
SEPTEMBER	---	---	7,5	5,1	12,6
OCTOBER	---	2,8	26,5	---	29,3
NOVEMBER	22,7	37,3	---	---	60,0
DECEMBER	18,9	---	---	---	18,9
TOTAL	1009,4	510,0	1528,9	599,8	3648,1

9.2.3. Catches of "calamar"

	<u>VESSELS</u> <u>OTB-5</u>	<u>VESSELS</u> <u>OTB-6</u>	<u>VESSELS</u> <u>OTB-7</u>	<u>VESSELS</u> <u>OTB-8</u>	<u>TOTAL</u>
JANUARY	---	---	---	---	---
FEBRUARY	---	---	---	---	---
MARCH	---	---	---	---	---
APRIL	---	---	---	---	---

MAY	---	---	---	---	---
JUNE	59,5	7,2	---	---	66,7
JULY	756,5	209,7	---	209,9	1175,2
AUGUST	774,8	279,1	866,2	551,4	2471,5
SEPTEMBER	870,2	65,0	5230,1	1316,3	7481,6
OCTOBER	108,2	124,9	5063,8	443,2	5740,1
NOVEMBER	4,6	1,1	2,0	---	7,7
DECEMBER	<u>0,9</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>0,9</u>
TOTAL	2574,7	687,0	11162,1	2519,9	16943,7