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GRAZING ZOOPLANKTON
Cruises organic matter.
Technical report on rough results.

Our results of zooplankton grazing concern the ingestion of living phytoplankton. We use a radiocarbon method applied on natural populations (Daro 1978). The rough results we obtain are expressed in volume water swept clear/h. They are to be multiplied by the concentration of phytoplankton, most of the time chlorophyll a, but sometimes mgC or particulate volume in order to get the ingestion.

In order to situate the results in a more general figure we show at

- the FIG. 1 : the vertical distribution of the zooplankton biomasses at Ostend & Calais in April & October.*
- the FIG. 2 : the horizontal distribution of the biomasses of zooplankton in mgC/m^3 in the net work in front of the belgian coast (in june 1978)*
- the FIG. 3 : the horizontal distribution of the chlorophyll a in mg/m^3 (same place same time)*
- the FIG. 4 : the horizontal distribution of grazing in $\text{mg chl a/m}^3/\text{hour}$ (same place same time)*
- the FIG. 5 : the season variation of the zooplankton biomass at the station 33 during 1977 & 1978.*
- the FIG. 6 : a detail of the variation of the zooplankton biomass in April 1978 at Calais & Ostend.*

OSTEND

DATE	HOUR	DEPTH	F. RATE $\text{cm L/m}^3/\text{h.}$	PHYTO. CONC.		PART VOL. $10^6 \text{ }^3/\text{L.}$	INGESTION/HOUR		PART VOL. $10^6 \text{ }^3/\text{m}^3$	ING./24H.
				CHL. A mg/m^3	CARBON mg/m^3		CHL. A mg/m^3	CARBON mg/m^3		
2/4/78	12 h.	0 M.	-			1198			-	
		8 M.	2.006			1688			3386	
		13 M.	0.897			1628			1450	
5/4/78	12 h.	1 M.	0.072 (13)							
		5 M.	0.054 (13)							
6/4/78	12 h.	1 M.	2.281			3899			8894	
		5 M.	2.644			3740			9888	
		10 M.	0.924			4582			4234	
8/4/78	12 h.	1 M.	1.084							
		5 M.	0.464							
		10 M.	2.043							
9/4/78	0 h.	1 M.	3.548							
		5 M.	3.596							
		10 M.	4.442							
9/4/78	12 h.	1 M.	3.842			6000			21288	
		5 M.	1.967			6928			24913	
		10 M.	2.755			6264			27825	
10/4/78	0 h.	1 M.	17.013			11162			42884	
		3 M.	14.424			10746			21137	
		10 M.	8.972			12636			34951	
		1 M.	3.599			5853			99577	
		3 M.	2.261			5420			78178	
12/4/78	12 h.	10 M.	4.797			9746			87441	
		1 M.	30.491			6385			23618	
		3 M.	18.273			5666			12810	
13/4/78	0 h.	10 M.	11.054			6503			31195	
		1 M.	4.352			3698			112756	
		3 M.	15.222			3232			59058	
13/4/78	12 h.	10 M.	8.423			2764			30553	
		1 M.	3.612			3814			16598	
		3 M.	2.979			6669			101515	
15/4/78	12 h.	10 M.	18.463			4029			33936	
		1 M.	5.696			6934			25046	
		3 M.	5.521			4279			12747	
16/4/78	0 h.	10 M.	7.396			3638			67168	
		1 M.	1.57							
16/4/78	12 h.	3 M.	2.097							

$1000.10^9 \mu^3/\text{m}^3$
24h. or 11% of
the stock

$1.200.10^9 \mu^3/\text{m}^3$
24h. or 24% of
the stock

OSTEND

DATE	HOUR	DEPTH	F. RATE $\mu\text{L}/\text{hr}^3/\text{L.}$	CHL. A ₃ mg/m ³	PHYTO. CONC CARBON mg/m ³	PART. VOL. $10^6 \mu^3/\text{L.}$	CHL. A ₄ mg/m ³	INGESTION/HOUR CARBON mg/m ³	PART VOL. $10^6 \mu^3/\text{m}^3$	ING./24H.
17/4/78	0 h.	1 M.	0.187							
		3 M.	1.063							
		5 M.	3.159							
19/4/78	10 h.	1 M.	1.578							
		3 M.	2.051							
		10 M.	3.848							
16/5/78	12 h.	3 M.	0.55							
17/5/78	0 h.	3 M.	1.19							
17/5/78	2 h.	3 M.	10.04 (32)							
12/6/78	12 h.	3 M.	0.60	2.94			0.002			
11/7/78	12 h.	3 M.	2.24	1.88			0.004			

CALAIS

DATE	HOUR	DEPTH	F. RATE $\mu\text{L}/\text{m}^3/\text{L.}$	PHYTO. CONC.		INGESTION/HOUR		ING./24H.
				CHL. A mg/m^3	CARBON mg/m^3	CHL. A mg/m^3	CARBON mg/m^3	
21/7/77 9/10/77	12 h. 9 h.	3 M.	0.195		141		0.306	17.66mgC/m ³ /2 or 7% of the stock
		0 M.	2.171		223		0.396	
		2 M.	1.777		299		0.225	
		6 M.	0.752		219		0.337	
		14 M.	1.541		298		1.043	
9/10/77	14 h.	30 M.	3.5		219		0.908	
		0 M.	4.145		270		0.766	
		2 M.	2.838		312		0.527	
		6 M.	1.688		265		0.818	
		14 M.	3.086		245		0.694	
10/10/77 10/10/77	0 h. 9 h.	28 M.	2.834		300		1.097	
		5 M.	3.658		-		0.672	
		0 M.	-		250		0.237	
		2 M.	2.686		367		0.917	
		6 M.	0.646		268		0.698	
19/10/77 3/4/78	12 h. 0 h.	14 M.	3.42		278			
		28 M.	2.509					
		3 M.	0.512					
		3 M.	0.241		614		131	
		11 M.	0.106		547		58	
3/4/78	12 h.	20 M.	0.342		634		217	
		3 M.	0.112		793		89	
		12 M.	0.236		829		196	
		20 M.	0.270		817		221	
		3 M.	0.935		495		463	
4/4/78	0 h.	12 M.	0.376		463		174	
		20 M.	0.322		379		122	
		3 M.	0.323					
		13 M.	0.539					
		22 M.	0.582					
7/4/78	12 h.	1 M.	0.408					
		10 M.	0.536					
		22 M.	1.504					

17.66mgC/m³/2
or 7% of the
stock

4.10⁹μ³/m³/24¹
or 1% of the
stock

131
58
217
89
196
221
463
174
122

614
547
634
793
829
817
495
463
379

CALAIS

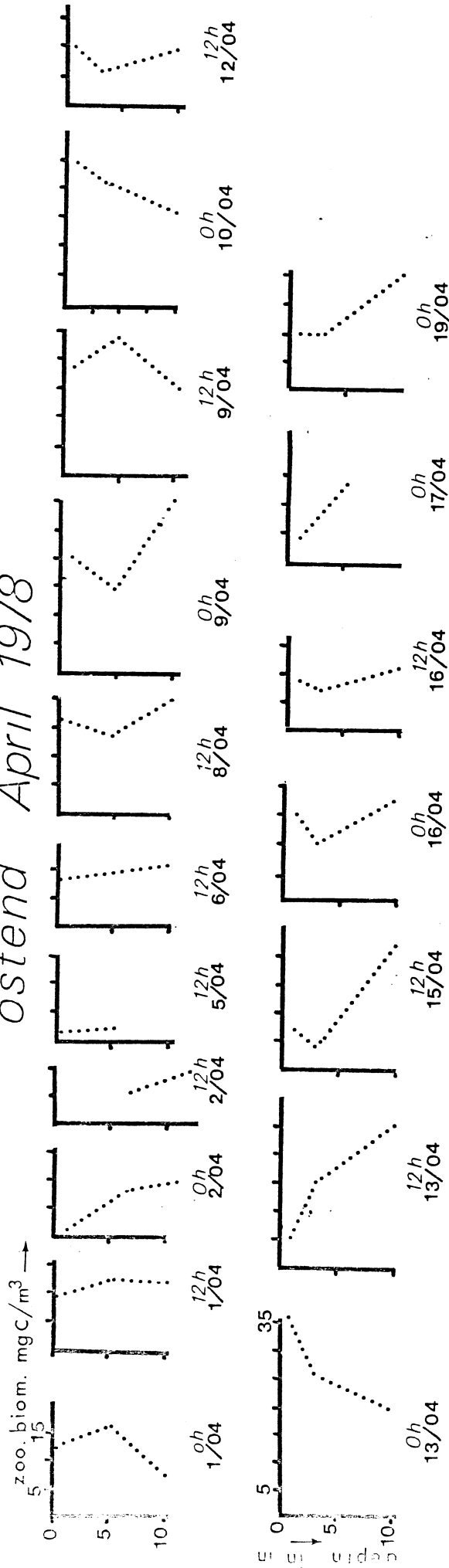
DATE	HOUR	DEPTH	F. RATE wt. l. / wt. l.	CHL. A. mg/m^3	PHYTO. CONC. CARBON mg/m^3	PART. VOL. $10^6 \mu^3 \text{L.}$	CHL. A mg/m^3	INGESTION/HOUR CARBON mg/m^3	PART. VOL. $10^6 \mu^3 \text{m}^3$	ING./24h.
8/4/78	0 h.	1 M.	1.549			977			200	
11/4/78	12 h.	10 M.	0.506			734			382	
		1 M.	0.205			810			505	
12/4/78	0 h.	8 M.	0.520			370			1871	
		22 M.	0.624			557			2600	
		1 M.	5.056			524			1384	
		8 M.	4.668			393			784	
14/4/78	0 h.	22 M.	2.641			659			970	
		1 M.	1.994			700			639	
		8 M.	1.472			649			-	
15/4/78	0 h.	22 M.	0.913			671			625	
		1 M.	-			501			451	
		8 M.	0.931			485			0	
17/4/78	12 h.	22 M.	0.900			475			0	
		1 M.	0			499				
		3 M.	0			407				
18/4/78	0 h.	10 M.	2.346			427				
		0 M.	1.193			319				
		3 M.	2.032							
17/5/78	12 h.	10 M.	1.003							
17/5/78	23 h.	3 M.	0.125							
12/7/78	7 h.	3 M.	1.472							
		3 M.	0							

HANSWEERT

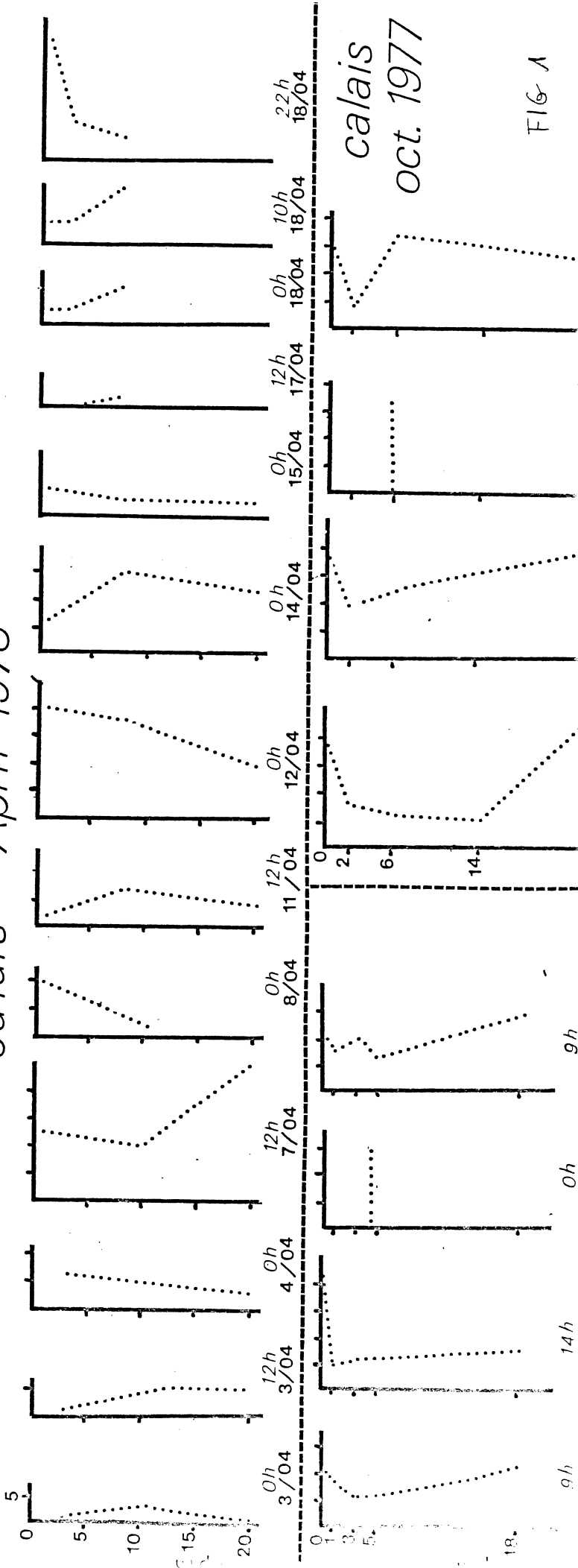
19/7/77	12 h.	3 M.	0.277							
19/10/77	12 h.	3 M.	0.398							
19/5/78	9 h.	3 M.	1.377							

ostend April 1978

zoo. biom. mgC/m³ →



calais April 1978

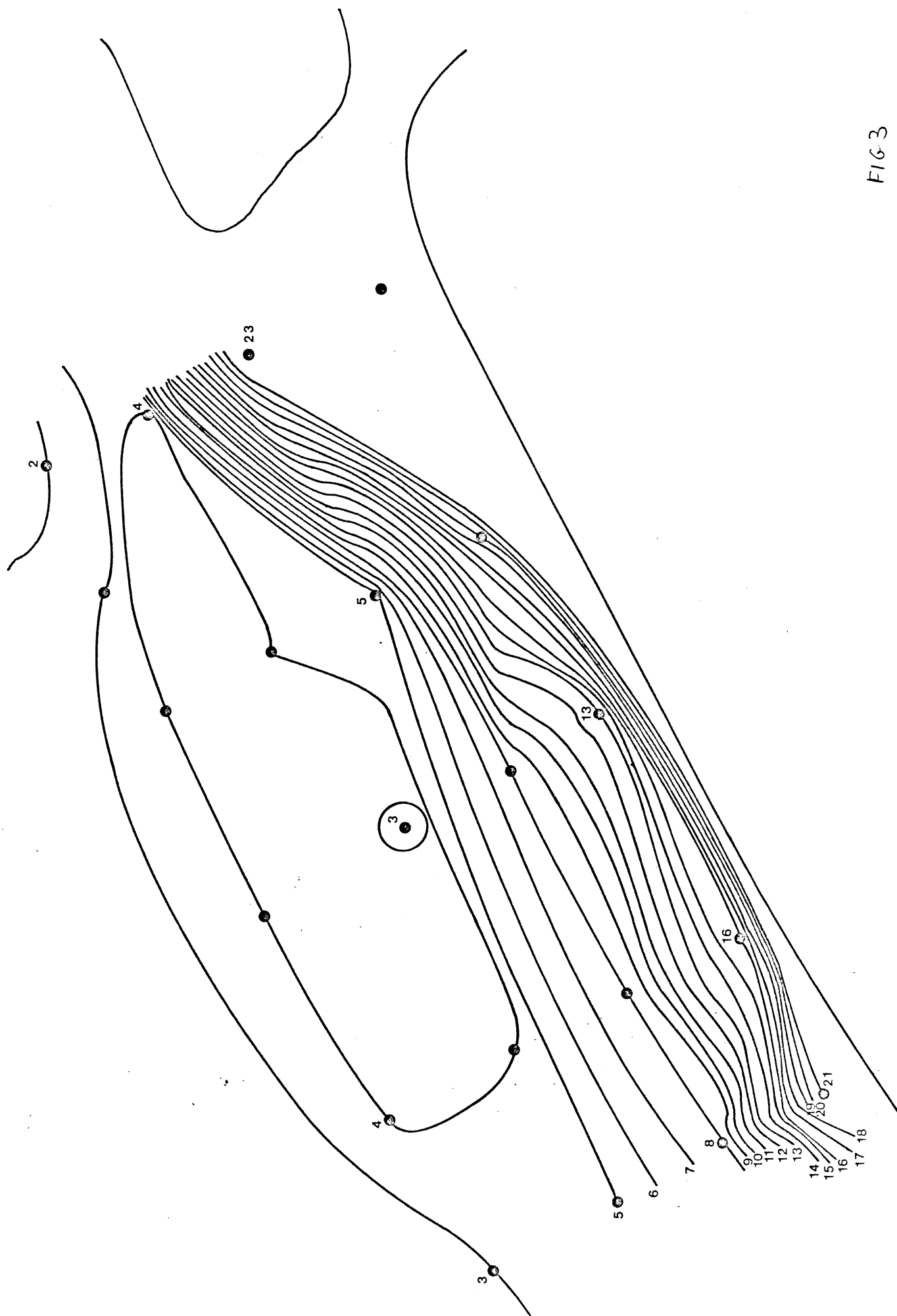


*calais
oct. 1977*

FIG A

FIG 2





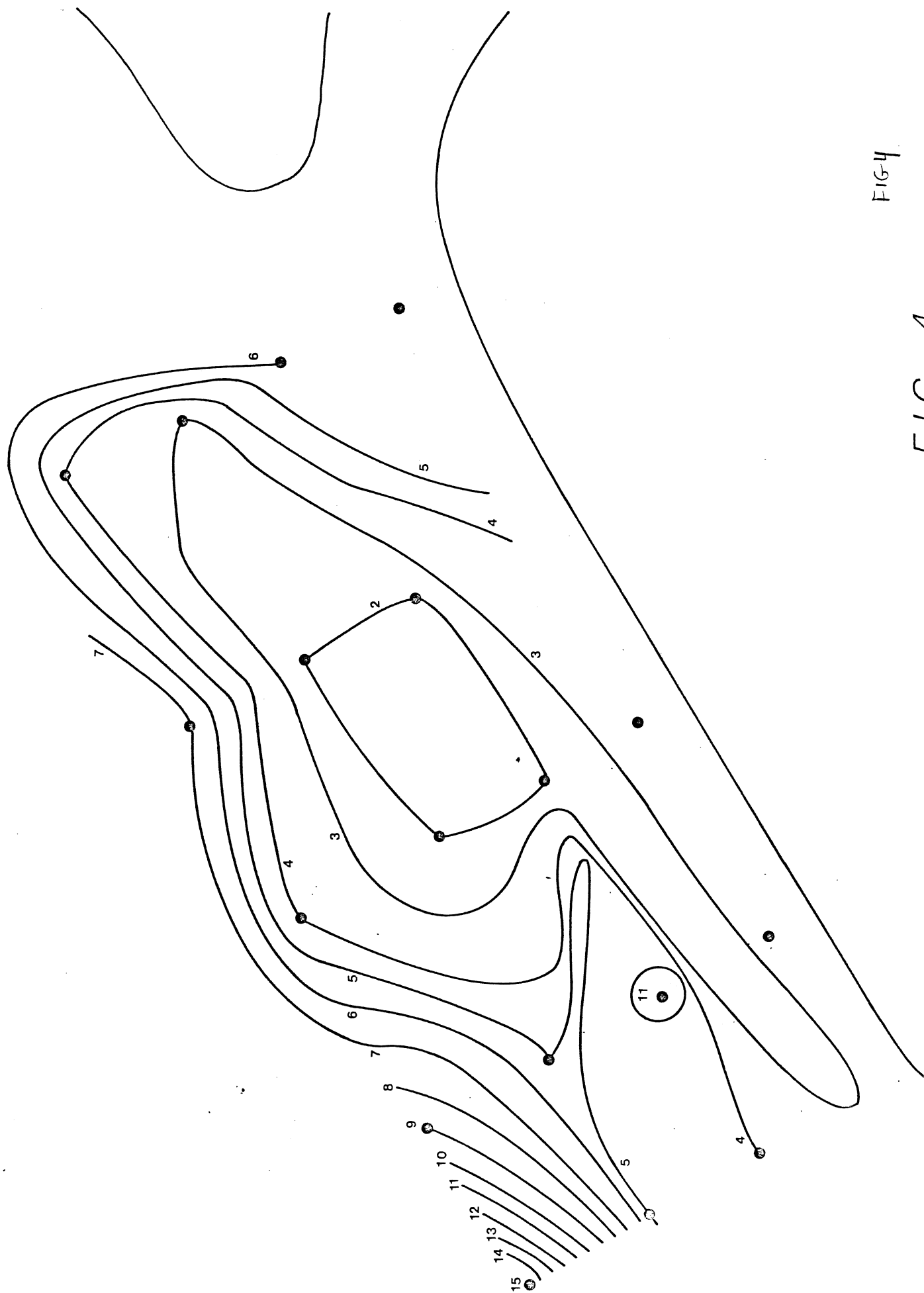
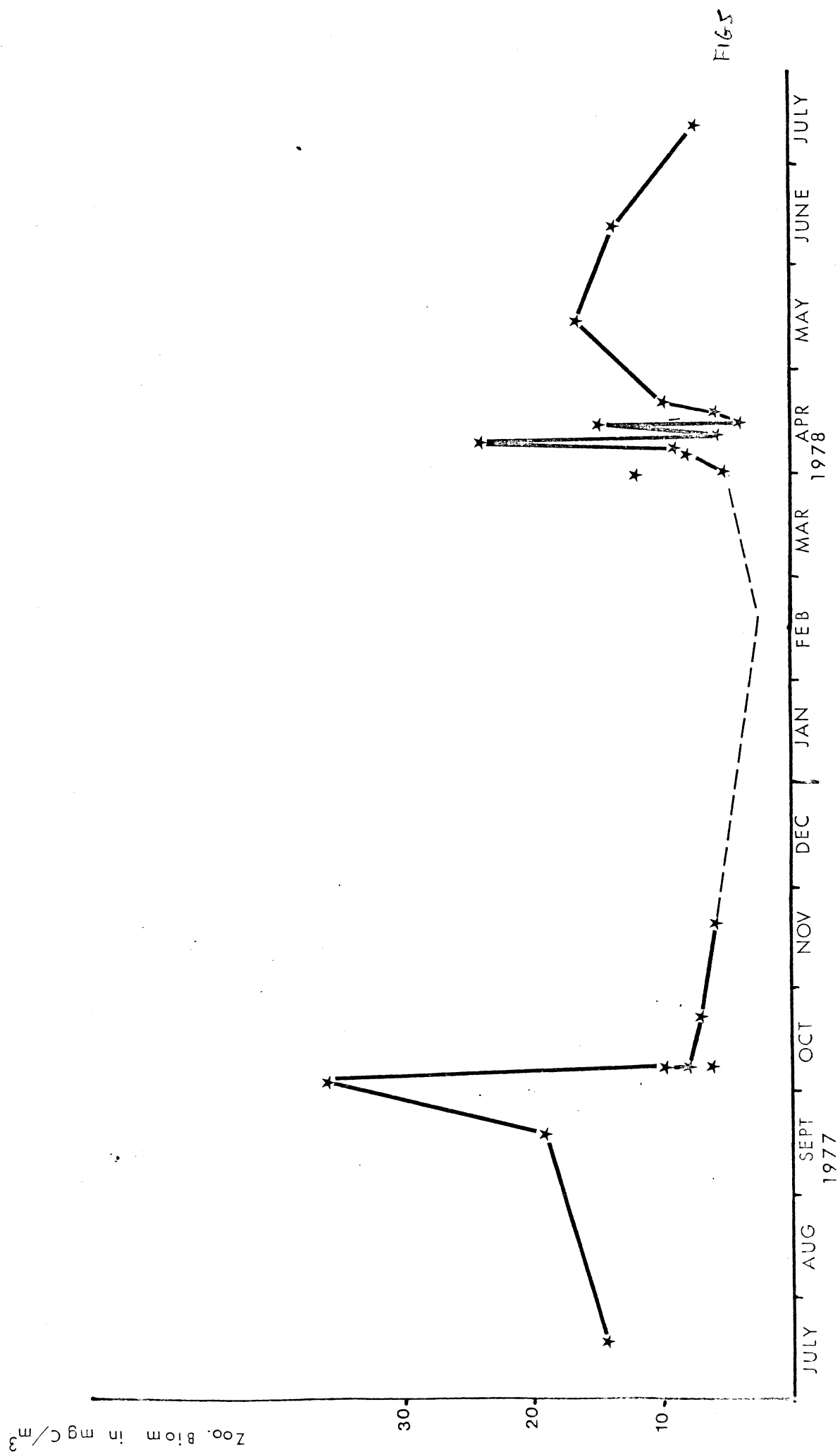


Fig 4.

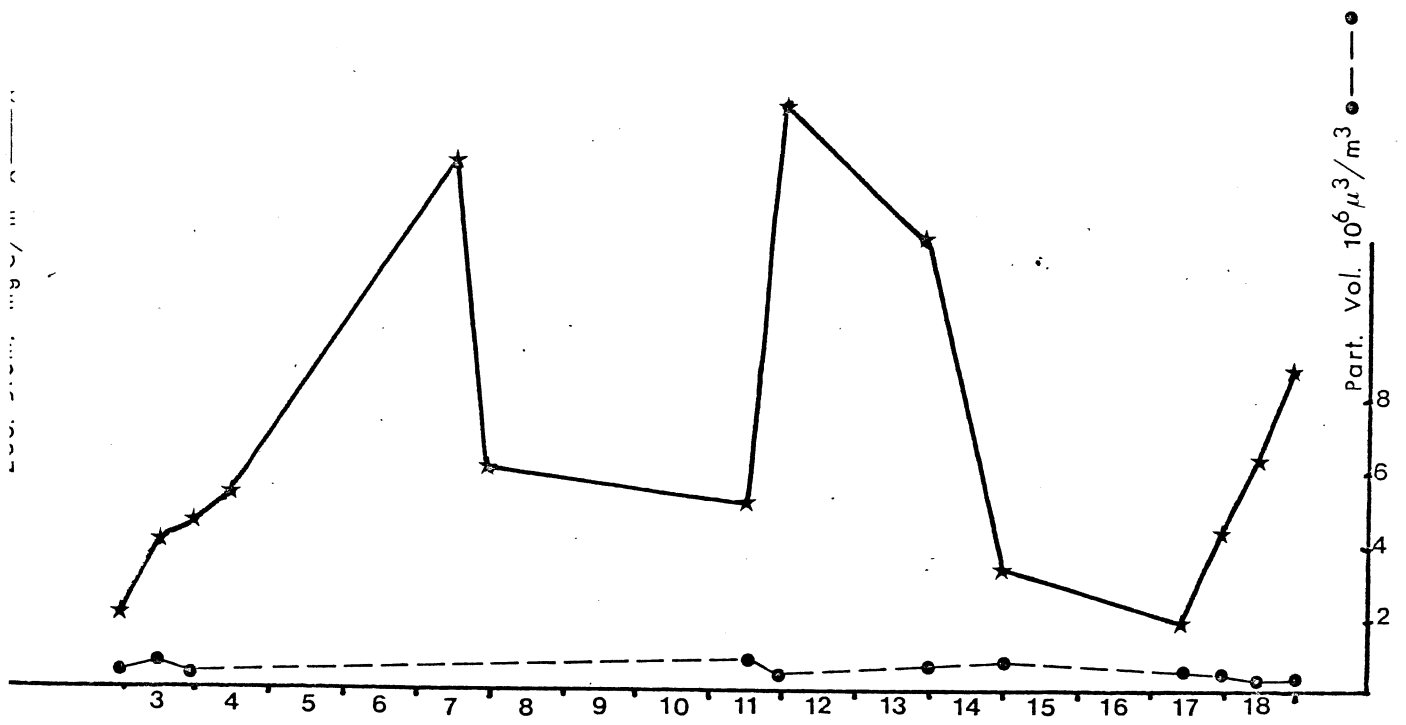
Zooplankton Biomass

Season variation

Ostend St.33 ; -3 m ; 12 h



CALAIS



OSTEND

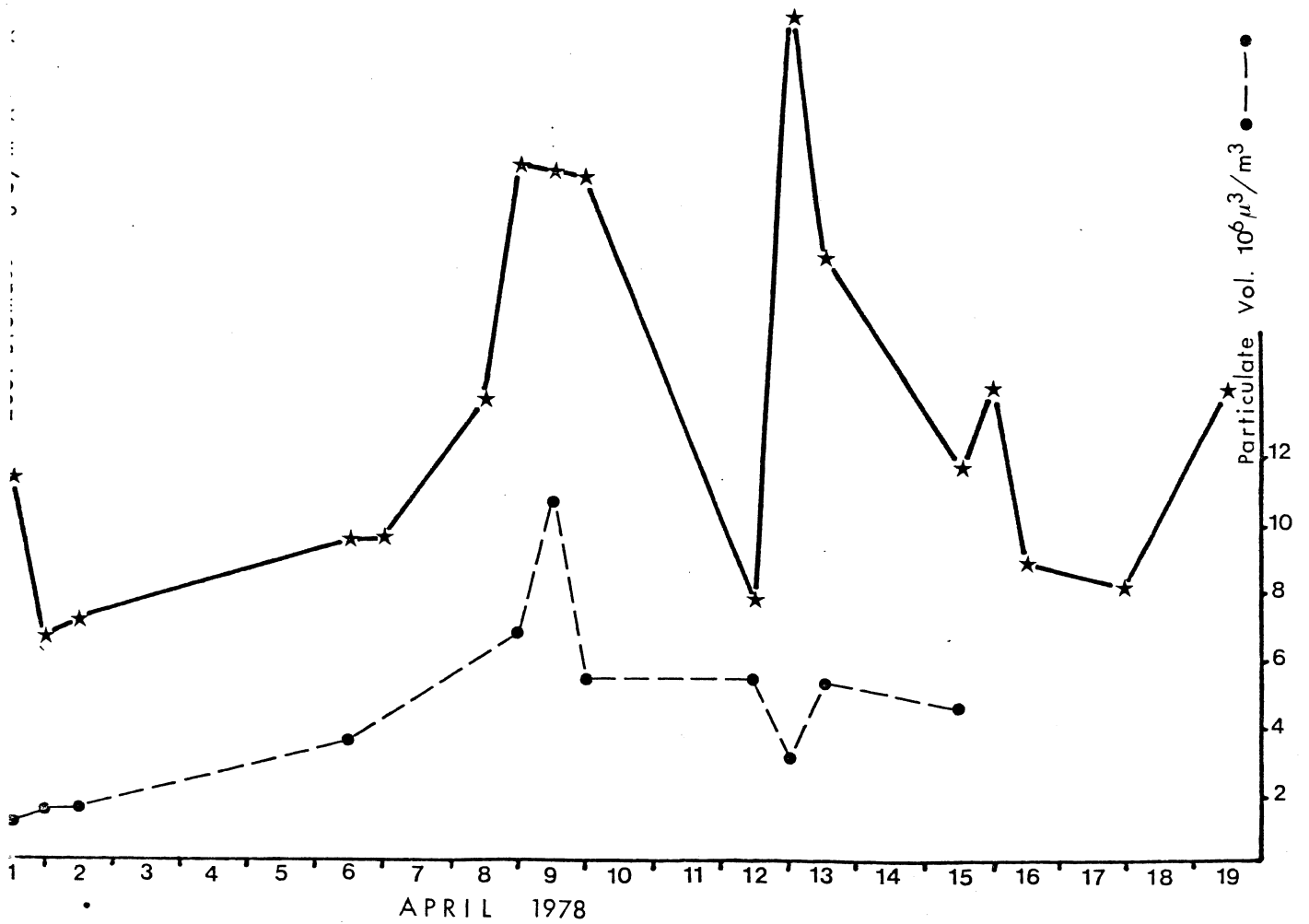


FIG 6