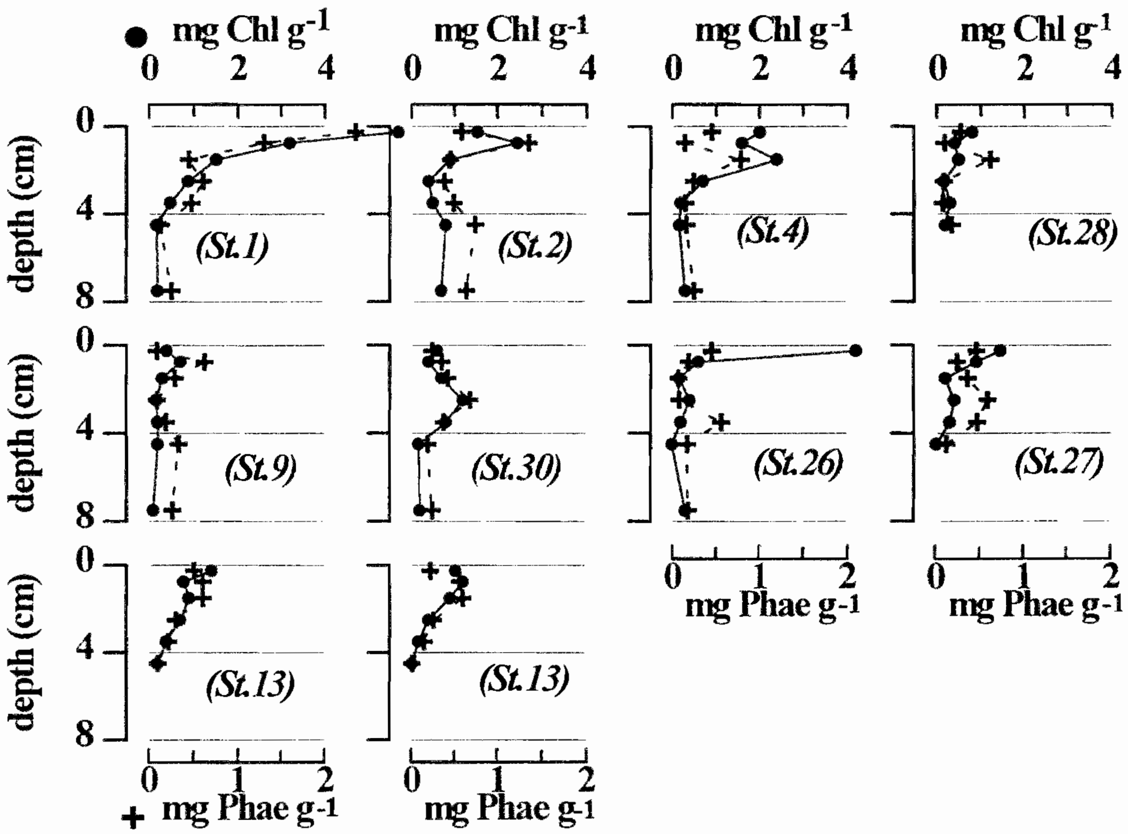

Figure 3: Chlorophyll (Chl) and Phaeophytin (Pha) profiles in the GAR lagoon sediments

Table 2: Chl concentration (mg g $^{-1}$) in GAR lagoon sediments

St	Depth							Average	SE
		0-0.5	0.5-1	1-2	2-3	3-4	4-5	0.5-5cm	0.5-5cm
13	36	1.40	0.78	0.90	0.70	0.40	0.20	0.60	0.29
13	36	1.03	1.20	0.90	0.40	0.17	0.02	0.54	0.50
1	19	5.70	3.20	1.50	0.87	0.48	0.18	1.25	1.20
2	29	1.54	2.45	0.90	0.40	0.50	0.80	1.01	0.83
4	40	2.01	1.60	2.40	0.70	0.20	0.17	1.01	0.97
30	40	0.60	0.40	0.70	1.20	0.80	0.17	0.65	0.39
9	35	0.40	0.70	0.30	0.17	0.20	0.20	0.31	0.22
28	22	0.80	0.40	0.50	0.17	0.30	0.20	0.31	0.14
26	9	4.20	0.60	0.17	0.40	0.20	0.00	0.27	0.23
27	12	1.45	0.90	0.20	0.40	0.30	0.00	0.36	0.34
31	34							0.70	
3	10.8							0.80	
32	25							0.9	
29	8							0.76	
	Average	1.65	1.22	0.85	0.54	0.36	0.19	0.40	
	n	39	31	31	31	31	31		
	SE	0.24	0.17	0.12	0.06	0.04	0.04		

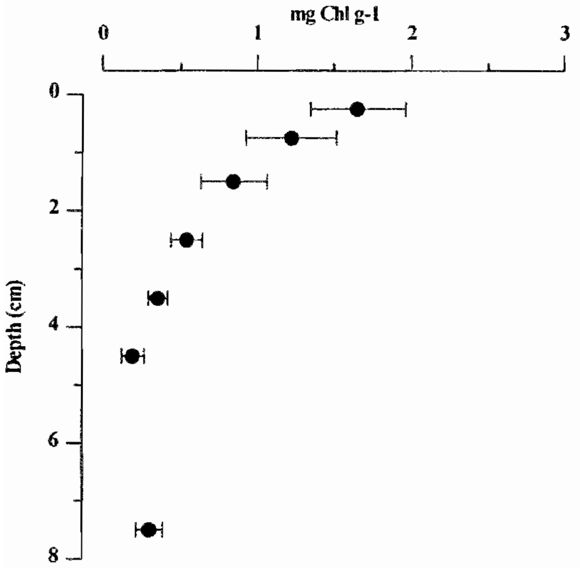

Figure 4: Average ± SE of Chl vs sediment depth

Chl concentration in the upper 0.5 cm was not correlated with station depth (Figure 5) and maximum of phytobenthos biomass (5.7 mg g^{-1}) was observed at 19m depth.

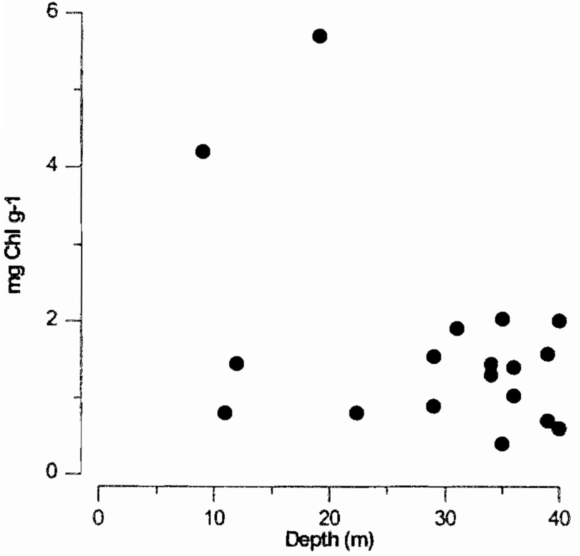

Figure 5: Chl ($_{0-0.5\ cm}$) vs depth of stations

Pha concentrations in the upper 0.5 cm varied between 0.1 et 2.4 mg g^{-1} and was in average 0.56±0.65 mg g^{-1} (Table 3). Below, in the 0.5-5cm sediment depth, Pha was 0.37 mg g^{-1}

Average vertical profiles of Pha appears in Figure 6

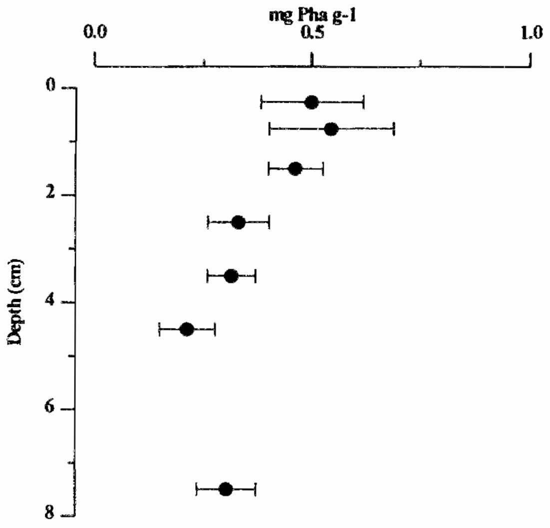

Figure 6: Average ± SE of Pha vs sediment depth

The percentage of active chlorophyll appears in Figure 8.

3.2 Production

Results are summarized in Table 4.

Gross oxygen production was correlated with the depth of the station (Figure 7). Using the equation of the linear regression line GOP *vs* Depth and a daylight period of 10h, we can estimate the average gross oxygen production at 20m, average depth of the lagoon (MacLeod 1992), to 0.7 g O_2 m^{-2} day^{-1}. This production is equivalent to 0.3 g C m^{-2} day^{-1}.

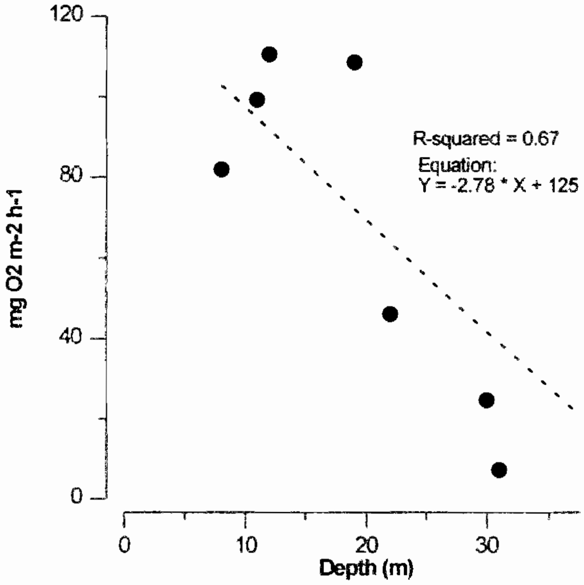

Figure 7: Gross oxygen production vs station depth