DEPARTMENT OF ENVIRONMENT
ENVIRONMENTAL PROTECTION SERVICE
PACIFIC REGION

THE EFFECTS OF PULP MILL DISCHARGES ON PHYTOPLANKTON PRODUCTIVITY IN ALBERNI INLET, 1974-1976

Regional Program Report: 78-3

by

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ABSTRACT

The Environmental Protection Service conducted a series of studies from 1974-76 to determine the impact of discharges from the pulp mill at Port Alberni on water quality and phytoplankton productivity in Alberni Inlet. A lower rate of phytoplankton productivity recorded at stations in the proximity of the pulp mill during the studies appeared to have resulted from either high light attenuation or low nutrient levels, or a combination thereof. Both parameters could have been adversely effected as a consequence of the pulp mill operation.

RÉSUMÉ

Le Service de la protection de l'environnement a procédé, de 1974 à 1976, à une série d'études visant à déterminer l'effet des rejets de la fabrique de pâte de Port Alberni sur la qualité des eaux et la productivité du phytoplancton dans l'inlet Alberni. Il semble que la productivité réduite observée à proximité de la fabrique soit attribuable à la forte atténuation de la lumière, aux faibles teneurs en matières nutritives, ou aux deux à la fois, lesquelles seraient imputables à l'exploitation de la fabrique.

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SUMMARY

The results of the EPS study in Alberni Inlet showed lower phytoplankton productivity in the harbour as compared to a control area further down inlet. In addition, the depth of the euphotic zone in the harbour area, as estimated by light transmission and secchi depth, was shallower than at the control site.

Several factors operating either singly or in combination may have affected phytoplankton growth in the inlet.

Of particular interest during all surveys was the frequency of undetectable nitrate in the upper zone of the water column, both in the harbour and at the control sites. The phenomenon of nitrate disappearance was investigated by Parker, Sibert and Brown (1975) who suggested competition for nitrate by heterotrophic organisms was inhibiting phytoplankton production. Levels of nitrate measured in Rupert and Neroutsos inlets at the same time the Alberni Inlet surveys were conducted were consistently higher (Sullivan, 1979; Sullivan, 1979b). It is therefore possible that nitrate was a growth limiting factor in Alberni Inlet.

It was suggested by Parker et al (1975) that the sparse phytoplankton standing crop at the head of the inlet, as estimated by chlorophyll 'a' concentrations, was responsible for low productivity. The measured chlorophyll 'a' levels (Section 3.7) during this study did not appear to reflect either the production rates or the standing crop and contrary to the findings of Parker et al, 1975, estimated population densities at the head of the inlet were comparable to those found at the control site. As plankton populations were reasonably similar between stations, the lower production in the harbour may have been the result of proximity to the pulp mill discharge.

The calculated mean extinction coefficients in Alberni Inlet point to higher light attenuation in the harbour than at the control site, therefore, limited light was implicated as a probable contributor to reduced phytoplankton productivity in the harbour.

1 INTRODUCTION

In 1974, the Environmental Protection Service initiated a study of the effects of pulp mill effluent from the MacMillan Bloedel pulp mill in Port Alberni, B.C., on phytoplankton productivity in Alberni Inlet (Figure 1). The study was designed to measure several biological, chemical and physical parameters thereby allowing a comparison of environmental condition in areas adjacent to the pulp mill and at a control site. The results of the study conducted over a three-year period are presented in this report.

To assist the reader, the large number of tables and figures referred to in the RESULTS AND DISCUSSION section can be found following the main body of the report.

1.1 Description of Study Area

The MacMillan Bloedel pulp mill is located at the head of Alberni Inlet near the mouth of the Somass River. The original mill was opened in 1954 and has since gone through several expansions, including construction of secondary treatment facilities designed to remove 50% of the BOD from the mill effluent. Low dissolved oxygen in the surface waters of the inlet had been observed periodically (Waldichuk, 1968; Ketcham, 1977) and resulted in several studies to determine the cause of the phenomenon (Parker and Sibert, 1972; Parker *et al*, 1975; Parker and Sibert, 1976).

Parker and Sibert (1972) concluded that low dissolved oxygen was a result of reduced phytoplankton productivity, relative to the rate of respiration, due to the inhibiting effects of humic stain. For the purposes of this study, phytoplankton productivity was used to measure the impact of pulp mill discharges on the primary level of the marine food chain.

1.2 Station Locations/Sampling Frequency (Figure 2)

Station D, near Hohm Island was located nearest the effluent discharge (1.6 km). The area is routinely sampled for water quality by

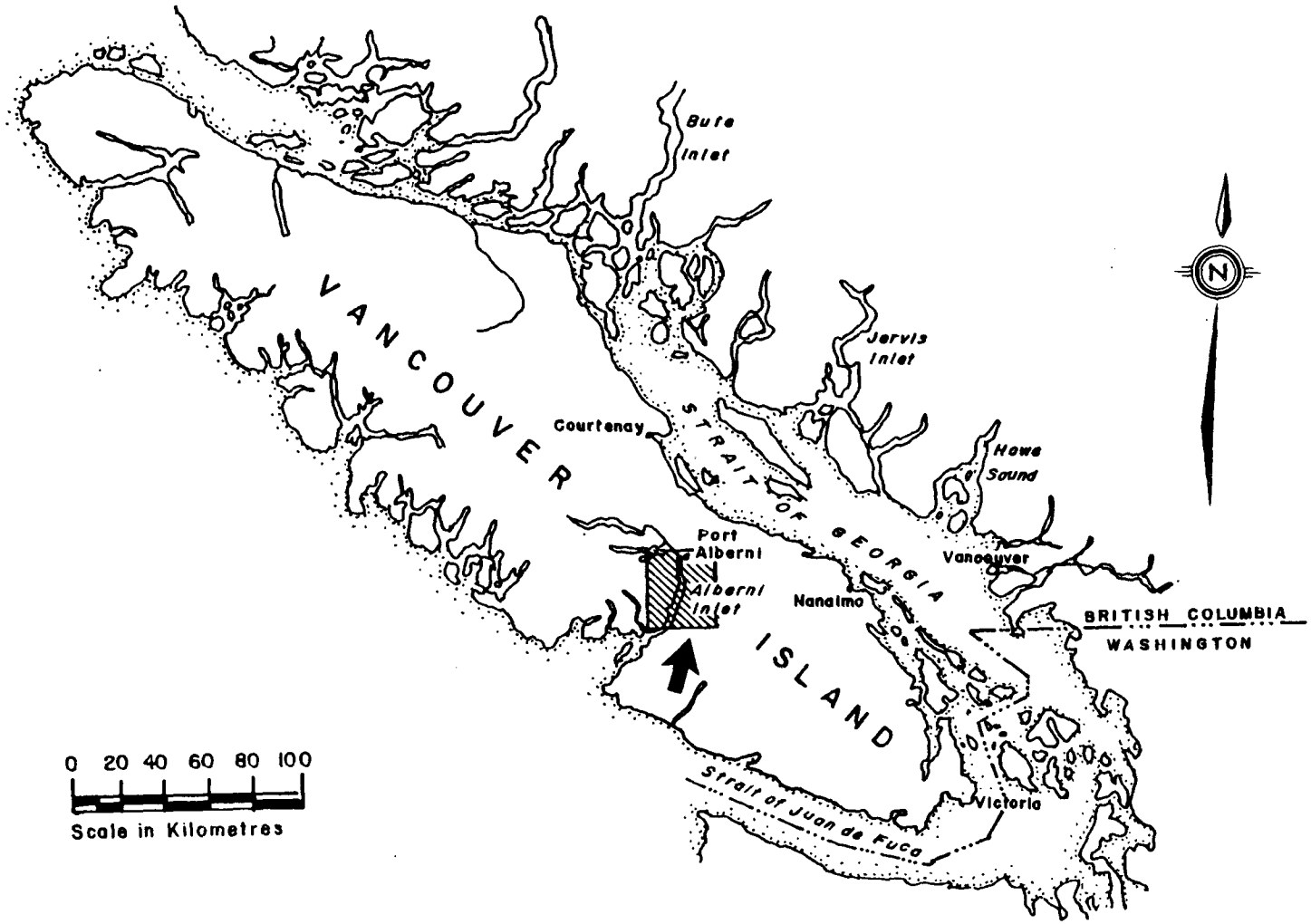

FIGURE I LOCATION MAP - ALBERNI INLET

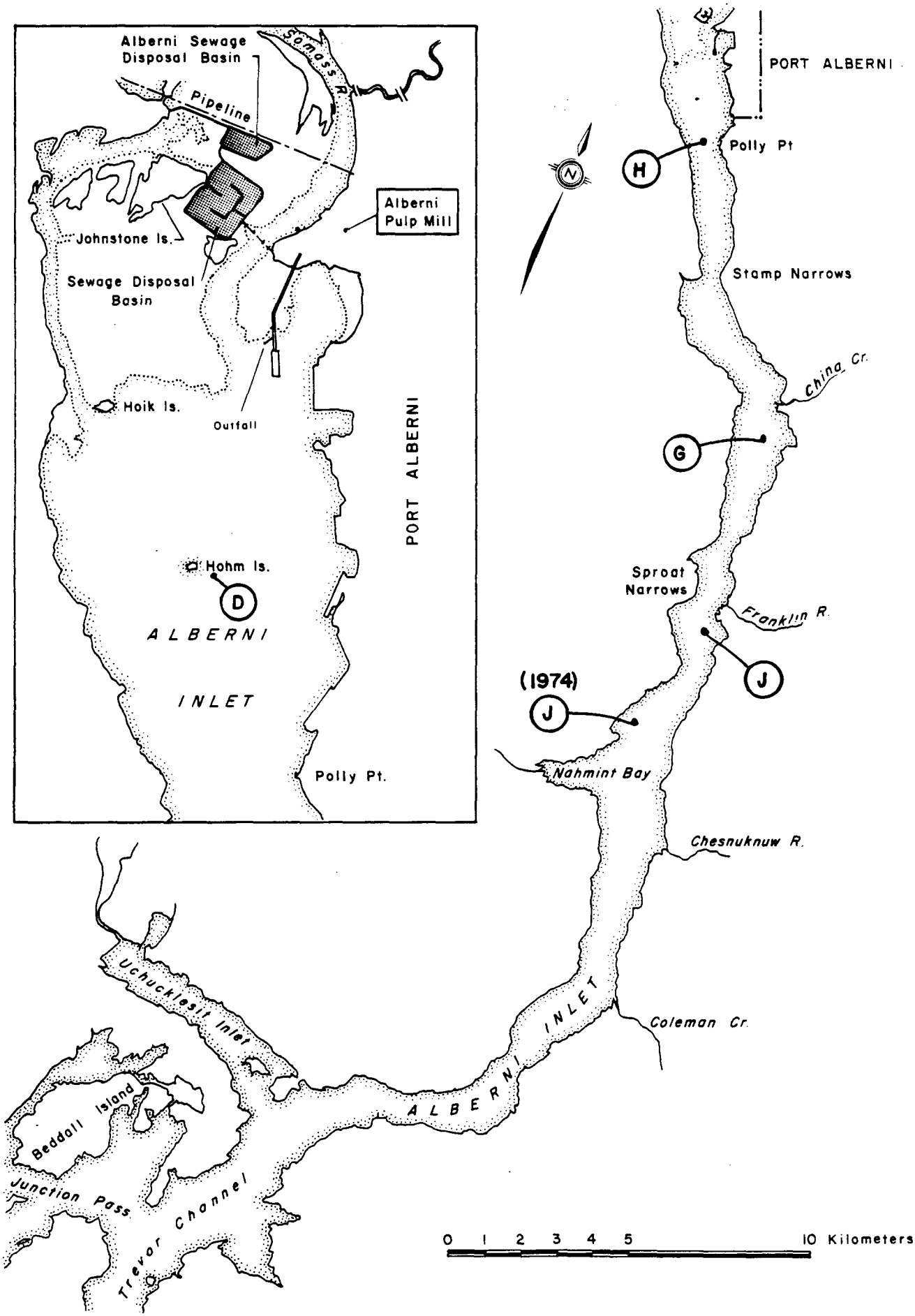

FIGURE 2 ALBERNI INLET PHYTOPLANKTON PRODUCTION STATIONS, 1974 - 1976

the Technical Services section of Alpulp. As Station D was located in shallow water (<20 metres), a second site, Station H was designated near Polly Point, 3.2 km from the effluent discharge. Station G, near China Creek was added to the survey in 1975. It is located approximately 10.8 km from the outfall. In 1974, Station J, the control was marked near Nahmint Bay; however difficulties in maintaining the incubation sets because of the somewhat exposed location caused it to be moved in 1975 (June) to an area near Underwood Cove, 16.9 km from the outfall. Stations H, G, and J were all incubated on the east shore of the inlet (except Station J in 1974 and May, 1975). The samples were collected in mid-channel and moved inshore for incubation to the locations marked on the chart. In 1976, sampling was conducted at Stations D and G only.

During the period of the program, nine sampling trips were completed as follows: June, 1971; May, June, July, August, September, 1975; June, July, September, 1976.

2 METHODS AND MATERIALS

2.1 Biological

2.1.1 Primary Productivity. The standard ^{14}C method proposed by Steeman-Neilsen (1952) was used with minor modifications incorporated. Water was collected from eight depths (0, 1, 2, 3, 5, 10, 20, and 30 metres) at four stations, with a plastic 6-litre Van Dorne bottle. Duplicate 125 ml light bottles were filled from each depth and inoculated with 1 ml $NaH^{14}CO_3$ radioisotope (1 μc) diluted in filtered seawater. At 1, 3, 5, and 20 metres, a 125-ml dark bottle was filled and inoculated with the same amount of isotope, to account for assimilation of isotope by processes other than photosynthesis. All work was completed in subdued light situations to avoid chlorophyll degradation during the inoculation procedure. Three scintillation vials containing scintillation fluor (Liquid Scintillation Fluor, Aquasol[1]) were inoculated with 1 ml of the premixed radioactive solution to obtain an average disintegrations per minute (DPM) estimate.

Duplicate light and dark bottles were incubated in situ with clear plexiglass holders for four to seven hours. After the specified incubation period, the bottles were recovered, transported in dark boxes, and filtered immediately onto 45 μ cellulose nitrate filters. Filters were placed in 10 ml of scintillation fluor and stored in a cooler. Activity measurements were determined on a Packard Tri-Carb Liquid Scintillation Spectrometer (Model 3375). The equation of Strickland and Parsons (1972) was used to convert counts per minute to $mgC/m^3/day$. Areal production rates ($mgC/m^2/day$) were integrated on a Hewlett Packard Calculator Plotter (Model 9830).

2.1.2 Chlorophyll and Phaeophytin. Samples were collected from 1, 3, 5, and 20 metres in 1 litre polyethylene bottles, filtered onto cellulose nitrate filters, placed in dessicant chambers and frozen. In the laboratory, they were dissolved in 90% acetone and analyzed on a spectrophotometer for chlorophyll 'a' and phaeophytin. Samples analyzed

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[1] Aquasol, New England Nuclear xylene-based fluor.

since July 1976 were filtered onto glass fibre filters, placed in dessicant chambers and frozen. Following the addition of 90% acetone, the filters were placed in a tissue grinder and analyzed on a spectrophotometer for pigments.

2.1.3 Phytoplankton Standing Crop. Samples for phytoplankton standing crop were collected at each depth in 100 ml amber glass jars and preserved with Lugol's Solution. Identification and enumeration were completed using Utermohl's sedimentation method (1958). Results are expressed as cells and total numbers.

2.1.4 Seston. Samples for seston analysis were collected in 1-litre polyethylene bottles from 1, 3, 5, and 20-metre depths and frozen immediately. Samples were returned to the laboratory, filtered onto pre-weighed glass fibre filters,and dried to a constant weight at 105°C. Samples were reweighed and ashed in a muffle oven at 550°C for approximately four hours. The loss of material on ignition (LOI) is a measure of particulate organic matter.

2.2 Chemical

2.2.1 Dissolved Oxygen. Samples were collected from 1, 3, 5, and 20 metre depths to accompany the phytoplankton productivity study. Dissolved oxygen was measured by the standard Winkler titration method as outlined in Strickland and Parsons (1972). The percent saturation of oxygen in the water column was calculated from the salinity, temperature and measured dissolved oxygen at each depth using the equation of Gameson and Robertson (1955):

$$C = \frac{475 - (2.65 \times S)}{33.5 + T}$$

$$\% \text{ saturation} = \frac{A}{C} \times 100$$

where C = saturation of oxygen in the sample water
S = salinity of the sample water
T = temperature of sample water
A = observed dissolved oxygen concentration in the sample

2.2.2 Salinity. Density measurements were made on samples collected from each depth and were used to calculate salinity from Sigma-T tables. In 1976, water samples from each depth were analyzed with a Guildline Autosal (Model 8400).

2.2.3 Inorganic Carbon and pH. Samples were collected from 1, 3, 5, and 20 metre depths for inorganic carbon and pH, stored in 180 ml polyethylene bottles, frozen, and analyzed later on an Accumet 420 pH metre. Inorganic carbon was calculated according to the procedure outlined in Strickland and Parsons (1972).

2.2.4 Nutrients. Samples for nutrients were collected from 1, 3, 5, and 20 metre depths removed 250 ml polyethylene bottles, and frozen. Analysis of nitrate, nitrite, ammonia, ortho-phosphate, total phosphate, and silicate were completed by the method outlined in Fisheries and Marine - Environmental Protection Service Laboratory Manual (1974).

2.3 Physical Measurements

2.3.1 Temperature. Temperature measurements were recorded at each sampling depth with a standard centigrade thermometer.

2.3.2 Light. Total incident solar radiation in gram-calories/cm^2 was measured on a Belfort Pyreheliograph during production studies. Percent extinction of light with depth in a water column was measured by a Montedoro-Whitney Solar Illuminance Meter (LMT-8B). These data were regressed to calculate the mean extinction coefficient 'k'according to the procedure outlined in Platt and Irwin (1968). Water transparency was estimated at each station using a standard 30 cm white secchi disc.

3 RESULTS AND DISCUSSION

3.1 Temperature (Table 1)

In 1975, near isothermal conditions, 10.0-12.0°C, were observed during the May survey. By July, a strongly defined thermocline was evident at Stations D and H at a depth of 3-5 metres. At Stations G and J, the thermocline was slightly shallower. Temperatures at the surface in July averaged 17.0-18.0°C and below the thermocline remained at 10.0-12.0°C. High surface temperatures continued during the August survey, 17.5-19.0°C, but by September, surface temperatures were reduced indicating a breakdown of the summer thermocline.

A similar pattern of thermocline development was observed during the 1976 program with temperatures measured in a range from 9.5-18.0°C.

3.2 Salinity (Table 2)

Alberni Inlet is characterized by a strongly defined halocline due to the input of freshwater, particularly from the Somass River. Measured salinities in the surface waters at Stations D and H were very low, from 0.0 to 16.5^{o}/oo. During the June and July 1975 surveys, the depth of the halocline in the harbour averaged 5 metres. The halocline depth at Stations G and J was slightly shallower than in the harbour. It is of interest to note that the flow of the Somass River increases from winter lows at this time (Sullivan, 1978a). By August and September 1975, the halocline was measured at approximately 3 metres at all stations. Below 3 metres, salinities from 26.0-32.0^{o}/oo were indicative of oceanic water.

The 1976 salinity profiles showed differences between Stations D and G similar to those observed in 1975.

3.3 Inorganic Carbon and pH (Tables 3 and 4)

The pH of Alberni Inlet water varied from between 6.77 and 8.7 at all stations during the three survey periods. The highest value 8.7, was recorded at Station D at one metre, the day following the pulp mill

closure in July 1975. Although there was no distinct pattern of pH between stations, the water appeared to be well buffered. The calculated total carbonate carbon values clearly showed the influence of freshwater in the surface waters of Alberni Inlet. Values were consistently lower in the surface waters than at depth. The levels indicate that carbon was not a limiting factor for phytoplankton growth.

3.4 Dissolved Oxygen (Tables 5 and 6)

Dissolved oxygen levels in Alberni Inlet fluctuated with depth at each station; however, differences in DO in the surface waters over the three year period, with a few exceptions, were minimal.

In 1975, prior to the closure, DO at Station D at 5 metres was below 5 mg/l (2.5 to 4.7 mg/l); however, after the closure, the levels increased to 5.8 to 8.2 mg/l. At Station H, the low values, 3.3 to 4.8 mg/l, at 5 metres showed improvement when the mill shutdown but the levels at the 20 metre depth remained low, 3.2-3.8 mg/l, even after closure. Further down the inlet at Station G, DO levels at 20 metres hovered near 5 mg/l for all the 1975 surveys. Only in July (and at one metre in May) were DO levels observed to drop significantly below usual levels. The control area at Station J was observed to have the most acceptable levels of DO, 4.8 to 10.9 mg/l, throughout 1974-1975. Only in July and September 1975, at 20 metres did DO fall below 5 mg/l.

At the two stations sampled in 1976, DO values were considerably higher, with respect to depth, than was noted in 1975. At Station D, a slight depression of DO at 5 metres was observed in September (4.7 mg/l).

3.5 Nutrients

3.5.1 Nitrate and Phosphate (Tables 7 and 8). The levels of nitrate recorded in Alberni Inlet varied considerably during the phytoplankton productivity surveys. The growth limiting potential of nitrate is of particular interest in Alberni Inlet as very low levels, or the absence of nitrate, has been recorded at the head of the inlet on several

occasions (Parker et al, 1975). Parker, in a study of this condition, suggested that large amounts of nitrate are being removed from the system by heterotrophic bacteria, and could in fact be inhibiting or reducing the potential rate of primary productivity.

Highest levels of nitrate, in a range from .012-.304 mgN/l, were measured in May-June 1975 (several depths at Station G and Station J were below the detection limit). During the summer months, levels of nitrate often dropped below the limit of detection (<.01 mgN/l). Apart from removal of nitrate by other mechanisms, nitrate depletion is commonly observed during or following periods of elevated productivity, such as was recorded in August 1975.

In June and July 1976, nitrate levels were below detection levels at Stations D and G at several depths, when virtually zero productivity was measured.

Nitrate measured at 20 metre depths was always higher than that found in the euphotic zone. On the occasions when the levels of nitrate were below the limit of detection, it would seem possible that the lack of nitrate could contribute to reduced phytoplankton productivity.

Phosphate showed minimal seasonal variation and was comparable between stations. As with the nitrate values, phosphate was generally highest at the 20 metre depths at all stations. It is unlikely that phosphate was a factor in reducing phytoplankton production as the suggested growth limiting levels are well below the detection limit, and values were rarely undetectable.

3.5.2 Silicate (Table 9). In 1975, silicate levels were lowest during the summer months increasing considerably by September. A similar trend was observed in 1976. Levels of silicate measured in 1974-1976 ranged from 0.5 to 18.0 mg Si/l. During individual surveys, levels were comparable between stations. In June and July 1976, silicate fell below the limit of detection (0.5 mg Si/l) at several depths; however, as silicate is usually present in excess of levels required for diatom growth, this is not considered significant.

3.6 Seston (Tables 10 and 11)

The percent organic content of dry seston recorded in Alberni Inlet during the three year survey period was reasonably high, with the exception of September 1976. The higher percentages of organic matter in the harbour area as compared to Stations G and J are probably due to increased fibre content resulting from the proximity to the pulp mill discharge. The particularly high values in July 1975, 70-100%, may have been a consequence of the pulp mill closure the day previous to the sampling day. In September 1976, the high dry seston values had a low percentage of organic material.

It appears from the data that seston levels did not adequately reflect phytoplankton standing crop or productivity either seasonally, between stations or with depth.

3.7 Chlorophyll 'a' and Phaeopigments (Tables 12 and 13)

Although the chlorophyll 'a' levels fluctuated considerably in Alberni Inlet over the three year period, there did not appear to be a consistent relationship between the measured levels of chlorophyll 'a' and the measured levels of phytoplankton productivity. As examples, although the chlorophyll 'a' levels at one metre at Station G in June, July, and August 1975, were reasonably close, (3.7-5.7 μg/litre) the measured level of phytoplankton productivity at the same depth varied considerably (Figures 7, 9 and 11).

In June 1976, although standing crop estimates were low and productivity negligible, chlorophyll 'a' values at Stations D and G averaged 2.5 μg/litre.

In July 1976, at Station D, although production was zero and chlorophyll 'a' undetectable, the standing crop estimates were moderately high. During this survey, it appears that nitrate levels were limiting the amount of photosynthetic activity (Table 7). The measured levels of total phaeopigments also did not bear any relation to the level of phytoplankton production.

In spite of the numerous inconsistencies observed, chlorophyll 'a' was usually higher outside the harbour area and higher in the surface waters than at depth.

3.8 Light (Table 14 and 15)

Water transparency was measured at each stations with a standard Secchi disc. The depths recorded were similar between stations during each individual survey period. Definite improvements in water clarity were noted in August and September 1975, when the pulp mill was not operating. Levels of 2.5-4.0 metres recorded in July had risen to 6.0-8.5 metres in August 1975.

The percent of total daylight utilized for incubation is determined by the weather conditions prevailing during the experiment. The percentage will vary on overcast or sunny days. The experiments in Alberni Inlet were conducted with an average of 45-55% total daylight utilized for incubation.

Calculated mean extinction coefficients were lowest at the control station in May, June and July 1975 (.4551-1.3686). There was a large increase in k values at all stations in July with values from 1.3686 to 2.1009. The k values had dropped in August 1975, but at this time were higher outside the harbour area.

In 1976, extinction coefficients for all three surveys were high (1.6100-1.8018) indicating high light attenuation at both stations.

There have been several studies to support the theory that in sufficient light is the major cause of reduced production in areas affected by pulp mill effluent (Stockner et al, 1975; Parker and Sibert, 1976; Stockner and Costella, 1976). The mean extinction coefficients calculated in Alberni Inlet from 1974-1976 were generally higher than those calculated in either Rupert of Neroutsos inlets for the same periods (Sullivan, 1978b; Sullivan, 1978c). It was noted by Stockner and Costella (1976), that where good water circulation and well flushed conditions occur, the impact of pulp mill effluent on phytoplankton will be greatly reduced. However, in Alberni Inlet, the Somass River creates a stratification which has the potential for isolating pulp mill effluent in the surface layers for considerable distances down inlet rather than diminishing the effect of effluent by dilution.

3.9 Phytoplankton Standing Crop (Appendix I)

The standing crop estimates revealed few differences in phytoplankton populations between stations during each survey.

In May, June and July 1975, the samples from all stations were dominated by the diatom, Cyclotella spp. In August 1975, Leptocylindrus spp. was encountered most frequently in the samples. Increases in the density and diversity of all plankters were observed in August, particularly in the numbers of Dinophyceae. Dinoflagellates usually increase at this time of the year; however, as the pulp mill had been closed for approximately one month, the improved water quality undoubtly had an effect on the phytoplankton standing crop. No dominant diatoms were noted in September 1975, while dinoflagellate numbers remained high.

In June 1976, standing crop estimates were extremely low at both stations. In July, more 'normal' population densities were observed with Cyclotella spp. again being the most prevalent Bacillariophyceae. As was observed in 1975, Dinophyceae numbers showed substantial increases during the September survey. Skeletonema costatum and Cyclotella spp. were the most common diatoms recorded at this time.

3.10 Phytoplankton Productivity (Figures 2 to 24 and Table 16)

In 1974, only one series of phytoplankton productivity tests was conducted in Alberni Inlet. The results of the tests showed production at the control site was approximately 10 times greater (465-4142 mgC/m^2/day) than that recorded at stations in the harbour (Figures 3 and 4).

The 1975 production values were usually higher outside the harbour area even though there was considerable variation in values between surveys. The values recorded in July were generally low (125 to 441 mgC/m^2/day) but lowest in the harbour. This may have been the result of low levels of nitrate which was undetectable in the surface waters at all stations. The production profiles of August were very high, 651 to 4859 mgC/m^2/day, and showed greatly increased production at the mouth of the inlet. The pulp mill had been closed for

approximately one month at this time and several water quality conditions showed improvements. Dissolved oxygen, secchi depth/light penetration and nitrate levels were all higher than the previous month. Increases in the density and diversity of phytoplankton standing crop were also recorded during this survey. An increase in phytoplankton activity is natural in the fall; however, with the improved water quality, it appears likely that the higher productivity observed was directly attributable to the closure of the pulp mill. The September production values were very low (13 to 72 $mgC/m^2/day$) and although productivity usually drops off in the fall, low nitrate levels recorded at all stations could have been a growth limiting factor.

In 1976, only two stations (Stations D and G) were monitored for productivity. In both June and July, low production was recorded at Stations D and G (3 to 16 $mgC/m^2/day$). In June, low standing crop and high light attenuation were observed at both stations. In July, when standing crop estimates were improved, undetectable nitrate near the surface and high light attenuation were noted. It would appear that reduced phytoplankton productivity in June and July was caused by either of, or by a combination of, high light attenuation, low nitrate and/or low standing crop. Each of these parameters could have been effected by the pulp mill operation. Although light conditions in the water column were still poor during September survey, the improved standing crop and nitrate regime were reflected in the higher productivity levels measured (652 and 788 $mgC/m^2/day$).

Several factors should be kept in mind when reviewing the results of these surveys. A record of the flow rate of the Somass River was not kept during the plankton study; however, the river is known to strongly influence temperature, salinity and particularly dissolved oxygen regimes in the harbour area (Sullivan, 1978). The freshwater input results in a well defined halocline with limited mixing near the head of the inlet. Secondly, in 1975, following the July survey, the pulp mill was shutdown for approximately three months. This provided an opportunity to examine the recovery of marine systems during the August and September surveys; however, it precluded a study of the autumnal

growth phase of the phytoplankton community under stresses possibly induced by the pulp mill. Finally, during the 1976 surveys, the pulp mill was undergoing a series of modified bleaching trials to reduce to colour in the pulp mill effluent. Any changes in effluent quality as a result of these tests were not monitored by EPS during the phytoplankton surveys.

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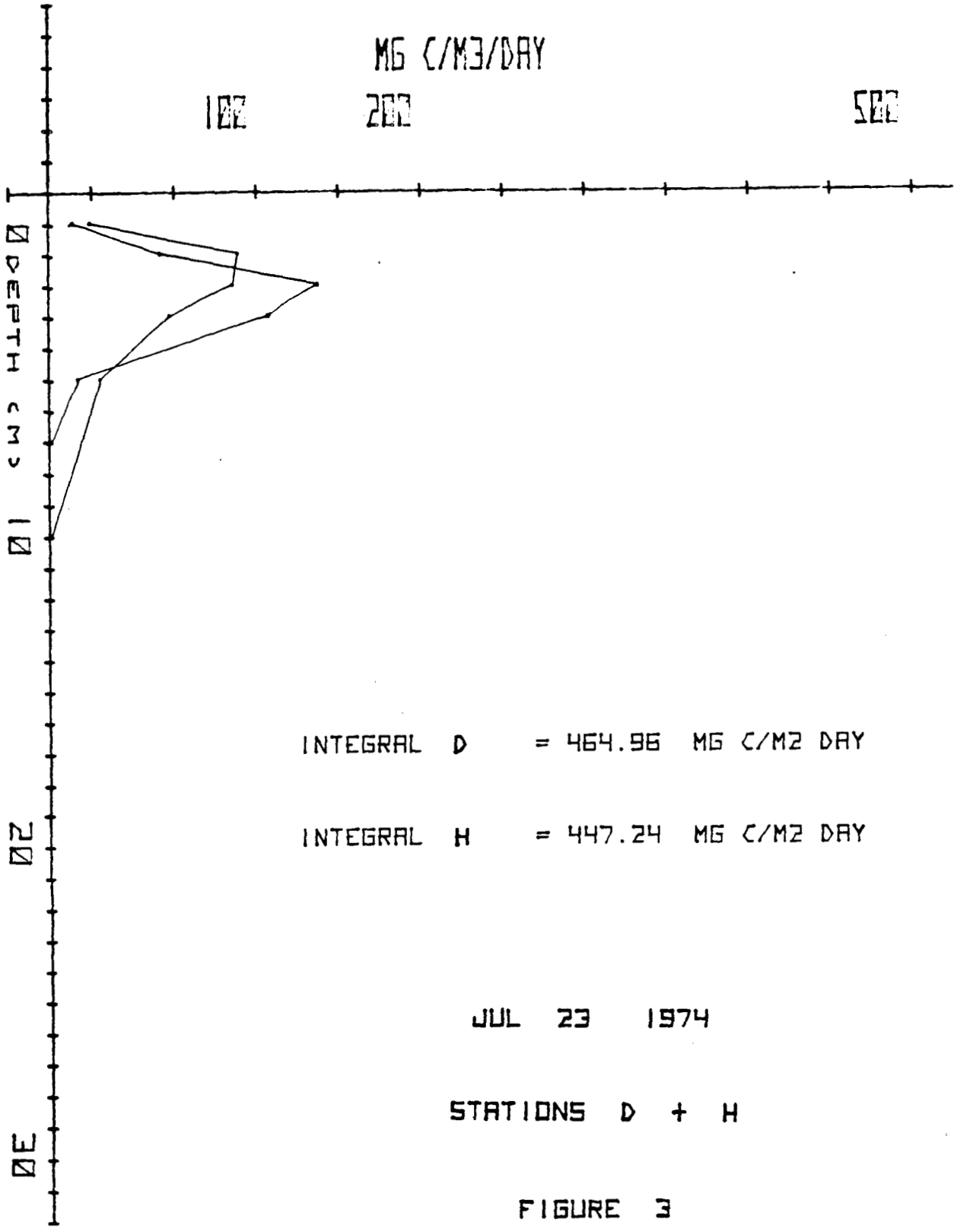
Thanks are also due to R. Woods for the enumeration and identification of phytoplankton from 1975 and 1976.

FIGURES



INTEGRAL D = 464.96 MG C/M2 DAY

INTEGRAL H = 447.24 MG C/M2 DAY

JUL 23 1974

STATIONS D + H

FIGURE 3

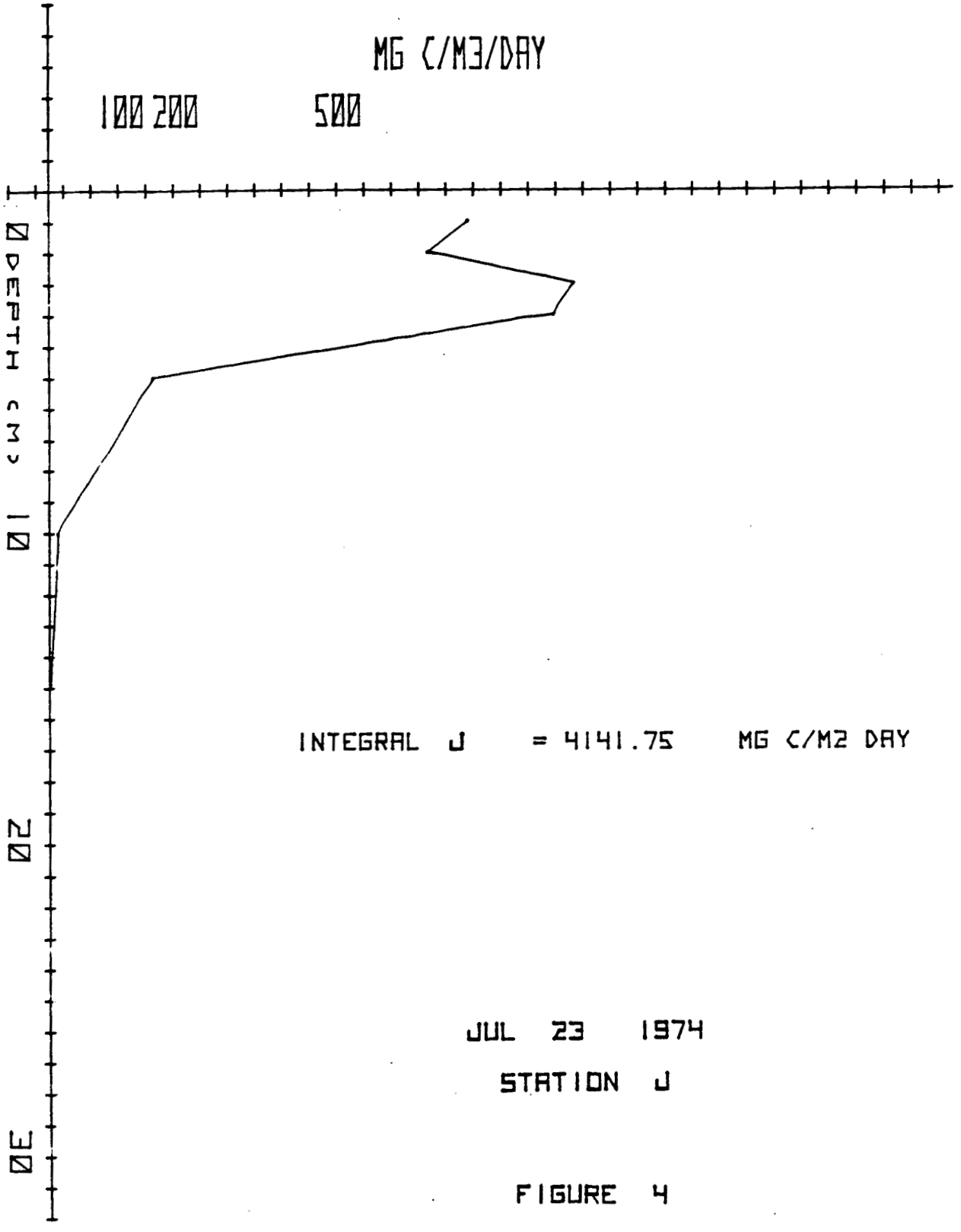

MG C/M3/DAY
100 200
500
DEPTH CM
0
10
20
30
INTEGRAL J = 4141.75 MG C/M2 DAY
JUL 23 1974
STATION J

FIGURE 4

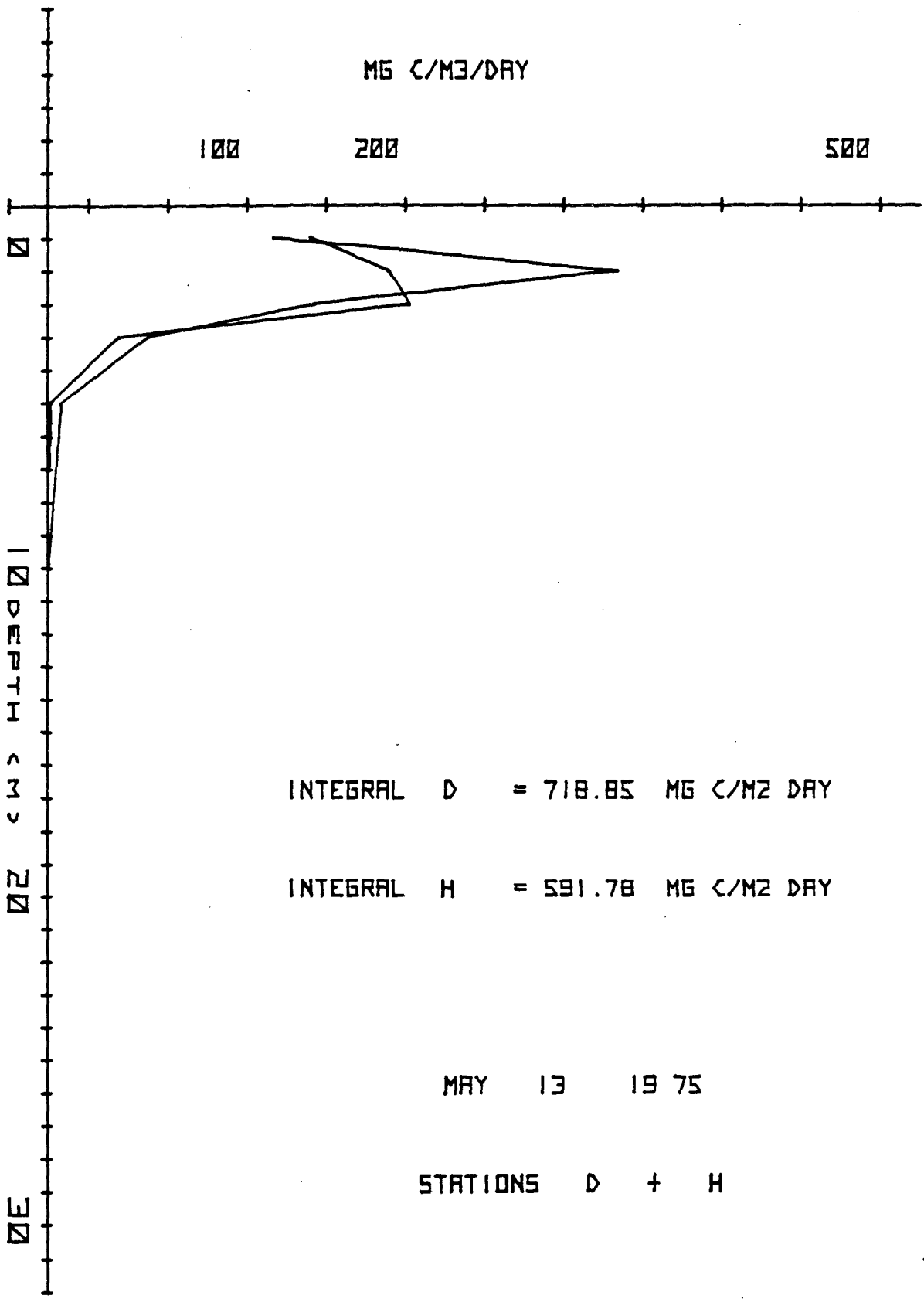

MG C/M3/DAY
100
200
500
0
100
DEPTH (M)
200
300
INTEGRAL D = 718.85 MG C/M2 DAY
INTEGRAL H = 591.78 MG C/M2 DAY
MAY 13 1975
STATIONS D + H

FIGURE 5

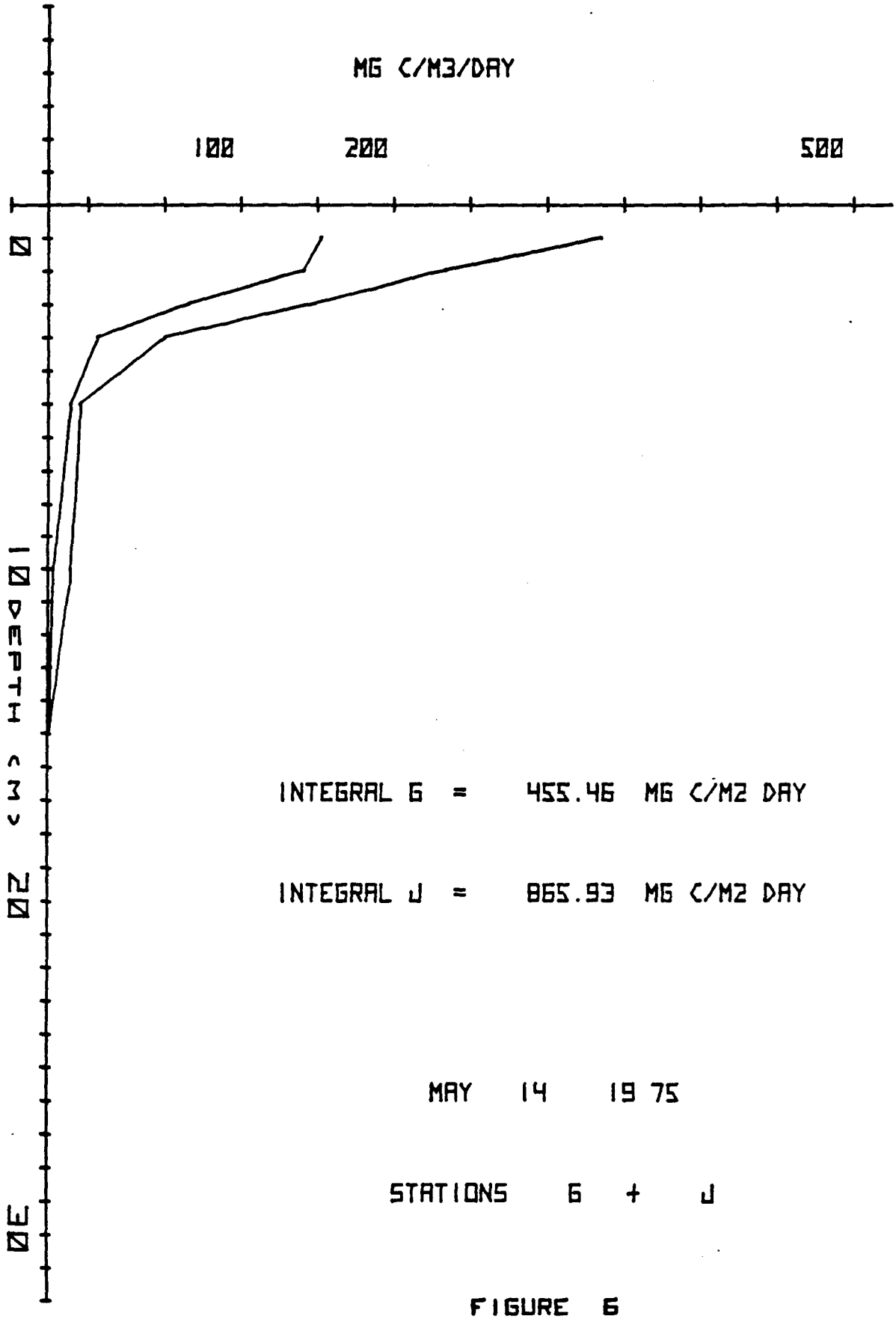

MG C/M3/DAY
100
200
500
0
100
DEPTH CM
200
300
INTEGRAL G = 455.46 MG C/M2 DAY
INTEGRAL J = 865.93 MG C/M2 DAY
MAY 14 1975
STATIONS G + J

FIGURE 6

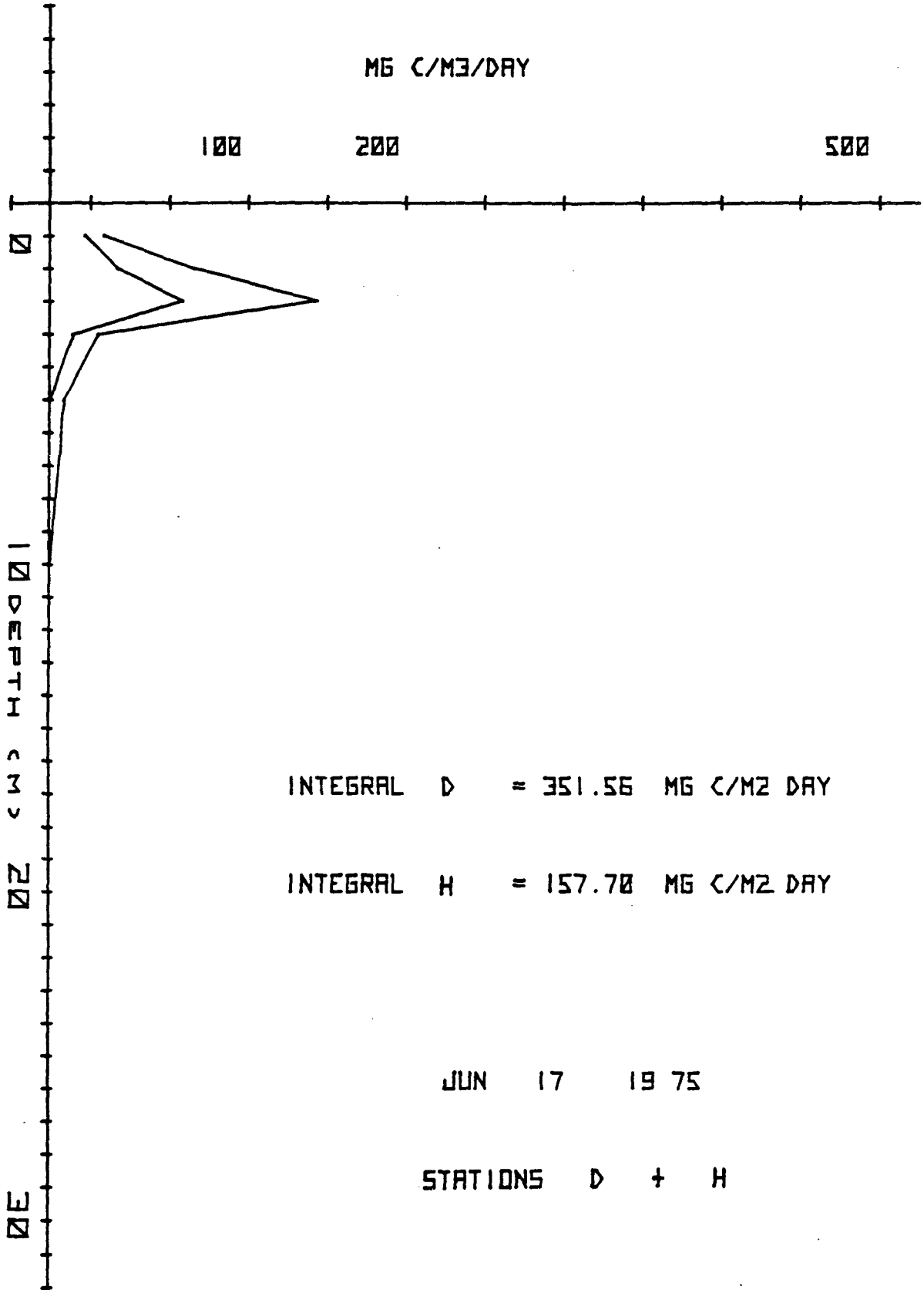

MG C/M3/DAY
100
200
500
0
10
20
30
DEPTH (M)
INTEGRAL D = 351.56 MG C/M2 DAY
INTEGRAL H = 157.70 MG C/M2 DAY
JUN 17 1975
STATIONS D + H

FIGURE 7

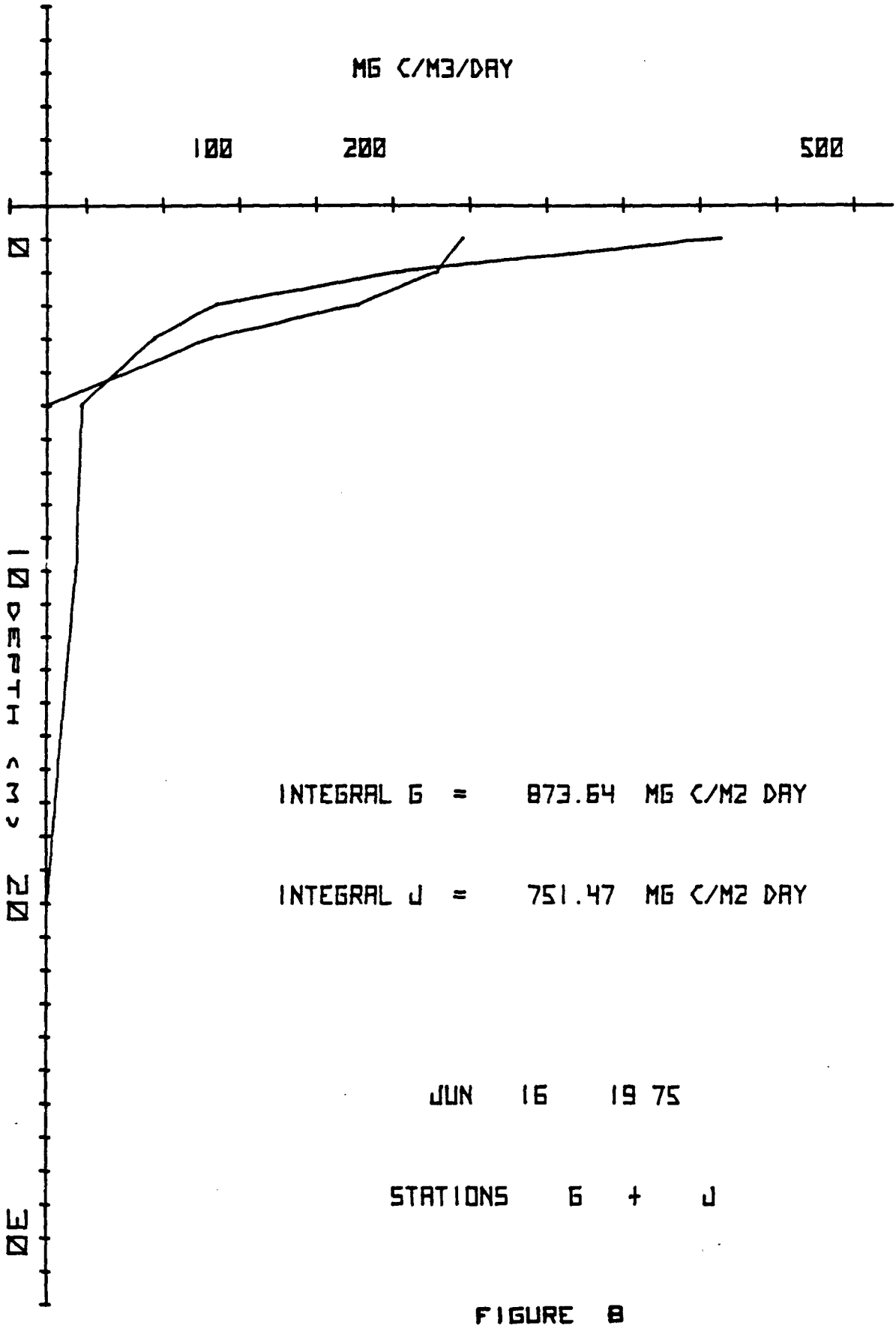

MG C/M3/DAY
100
200
500
0
100
200
300
DEPTH (M)
INTEGRAL G = 873.64 MG C/M2 DAY
INTEGRAL J = 751.47 MG C/M2 DAY
JUN 16 1975
STATIONS G + J

FIGURE 8

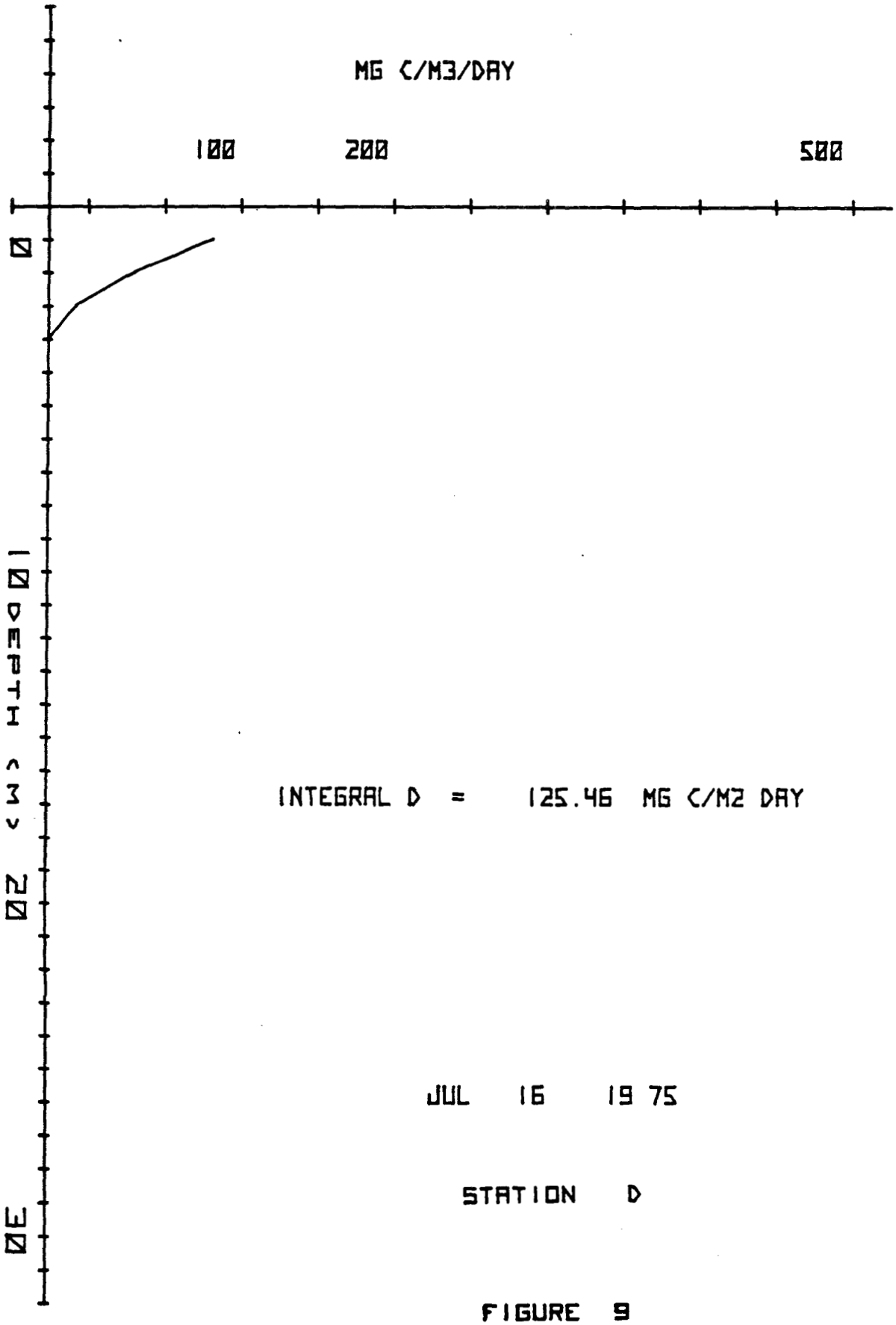

MG C/M3/DAY
100
200
500
0
10
20
30
DEPTH (M)
INTEGRAL D = 125.46 MG C/M2 DAY
JUL 16 1975
STATION D

FIGURE 9

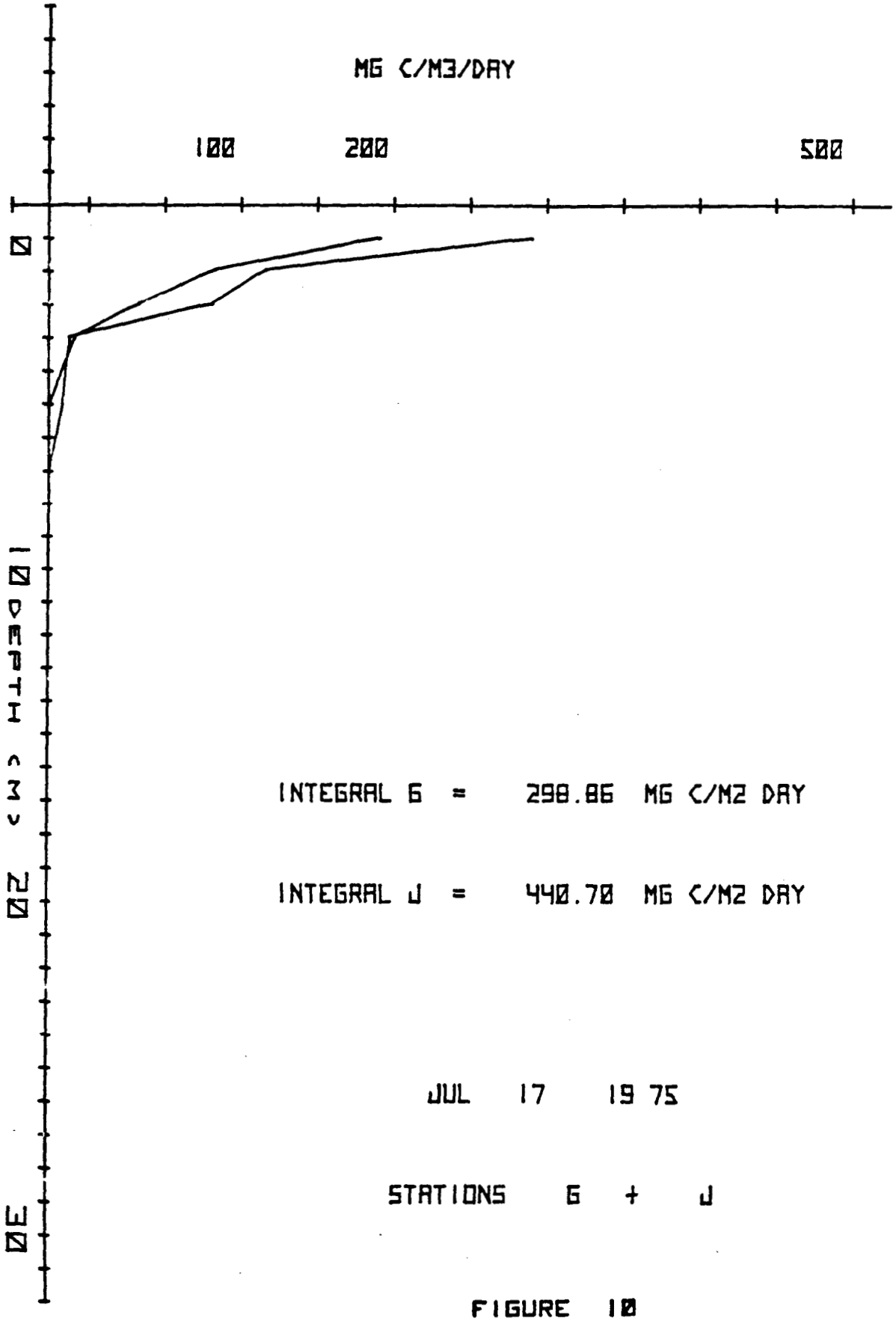

MG C/M3/DAY
100
200
500
0
10
20
30
DEPTH (M)
INTEGRAL G = 298.86 MG C/M2 DAY
INTEGRAL J = 440.70 MG C/M2 DAY
JUL 17 1975
STATIONS G + J

FIGURE 10

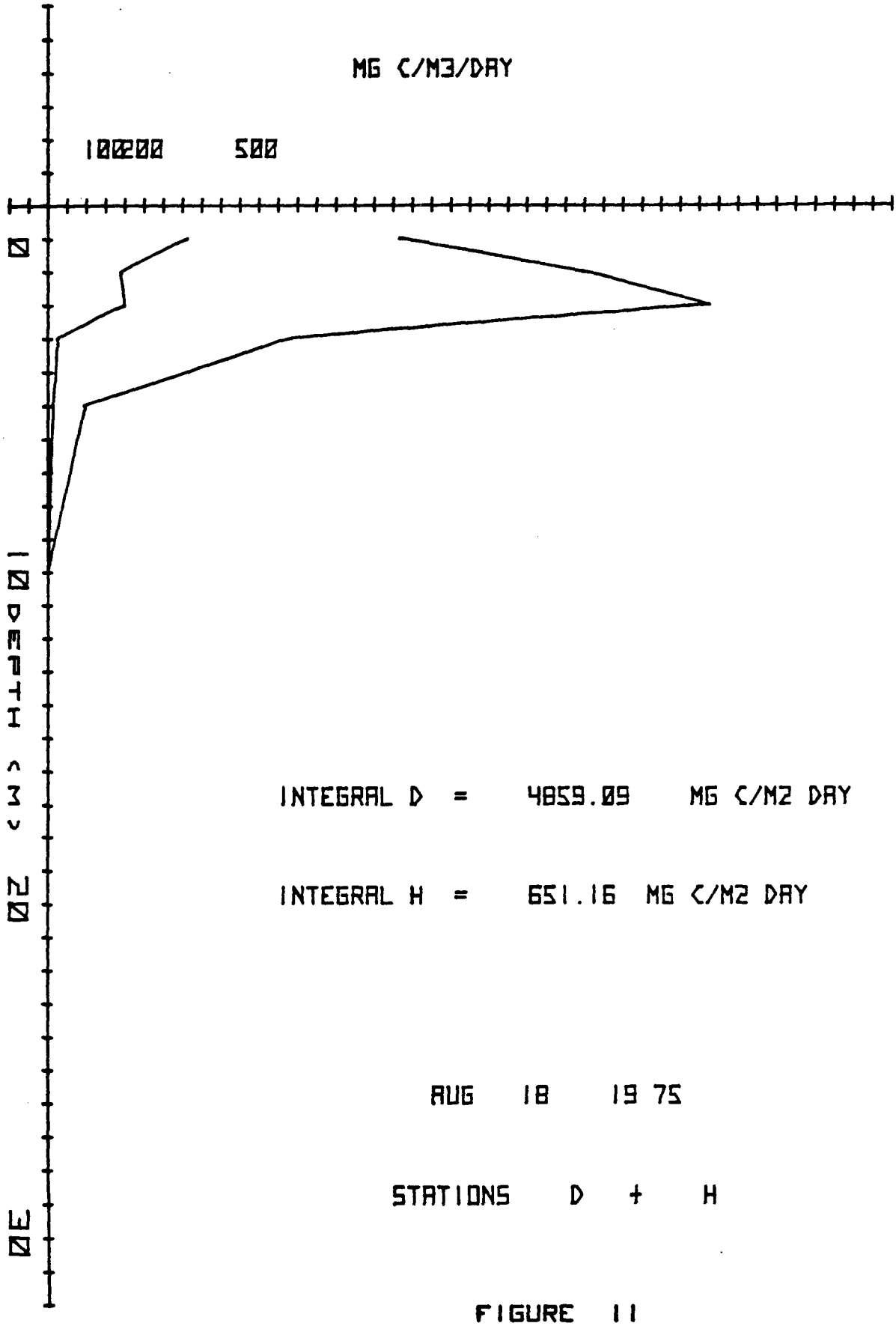

MG C/M3/DAY
10000
500
0
100
200
300
DEPTH (M)
INTEGRAL D = 4859.09 MG C/M2 DAY
INTEGRAL H = 651.16 MG C/M2 DAY
AUG 18 1975
STATIONS D + H

FIGURE 11

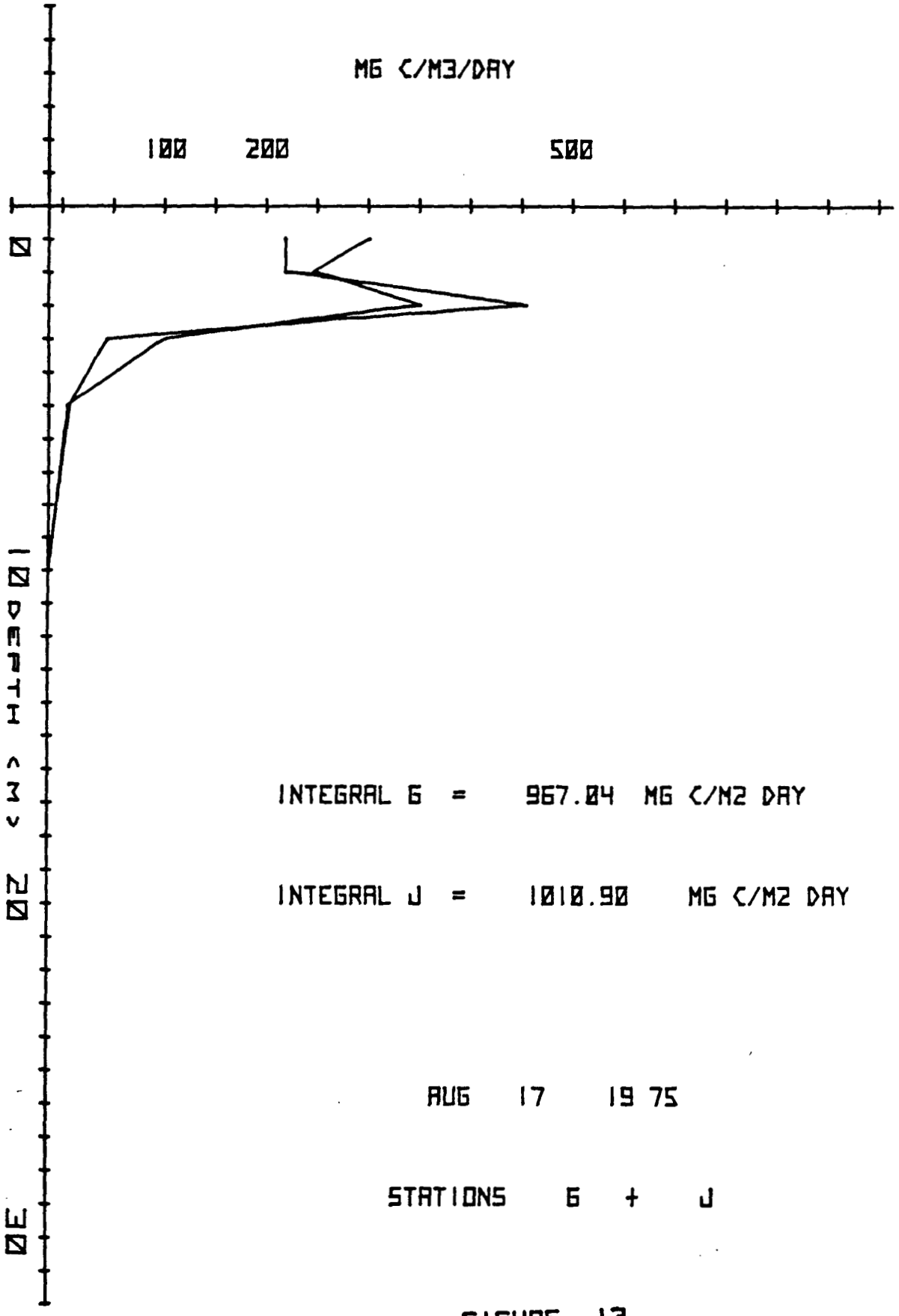
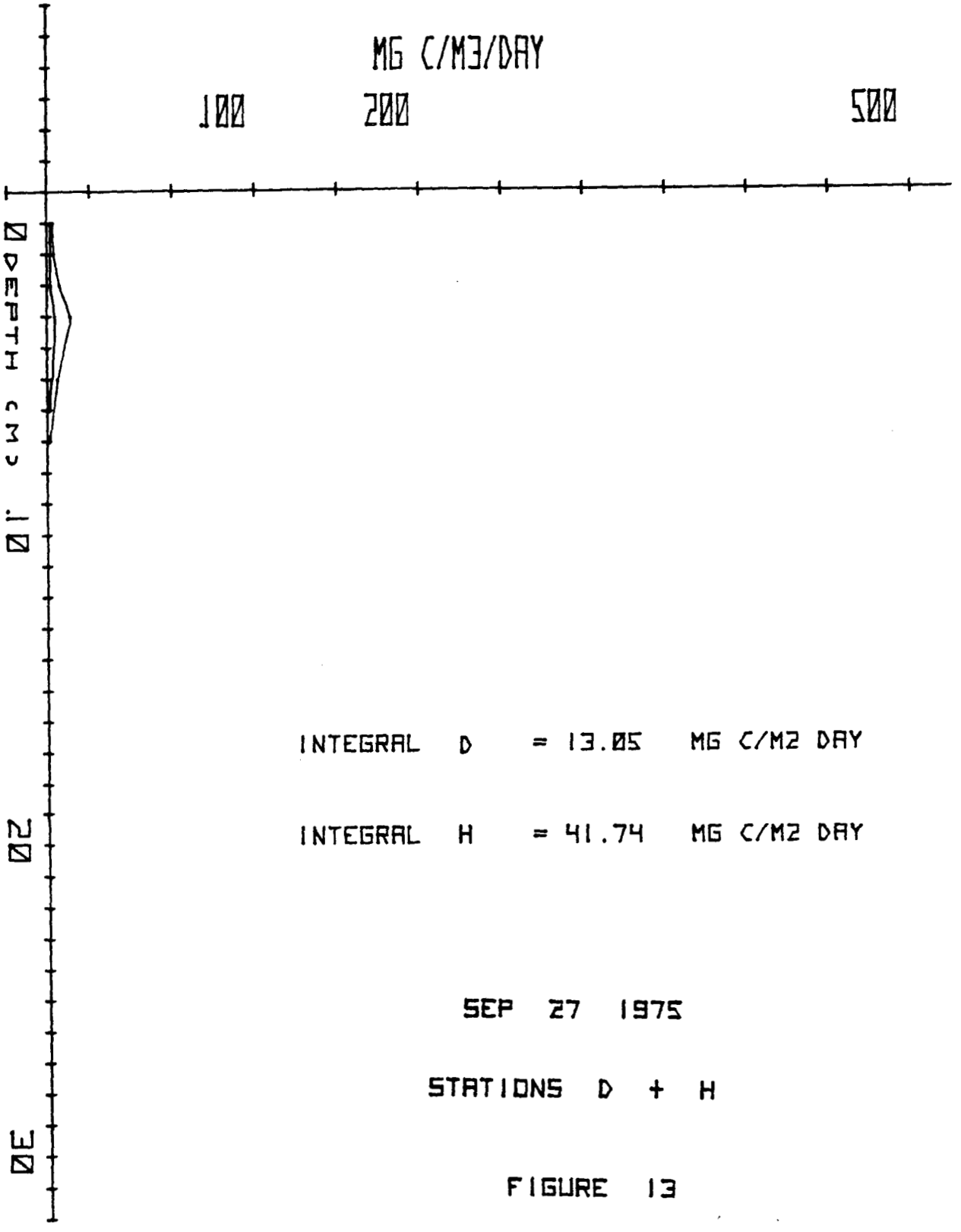

MG C/M3/DAY
100
200
500
0
10
20
30
DEPTH (M)
INTEGRAL G = 967.04 MG C/M2 DAY
INTEGRAL J = 1010.90 MG C/M2 DAY
AUG 17 1975
STATIONS G + J

FIGURE 12



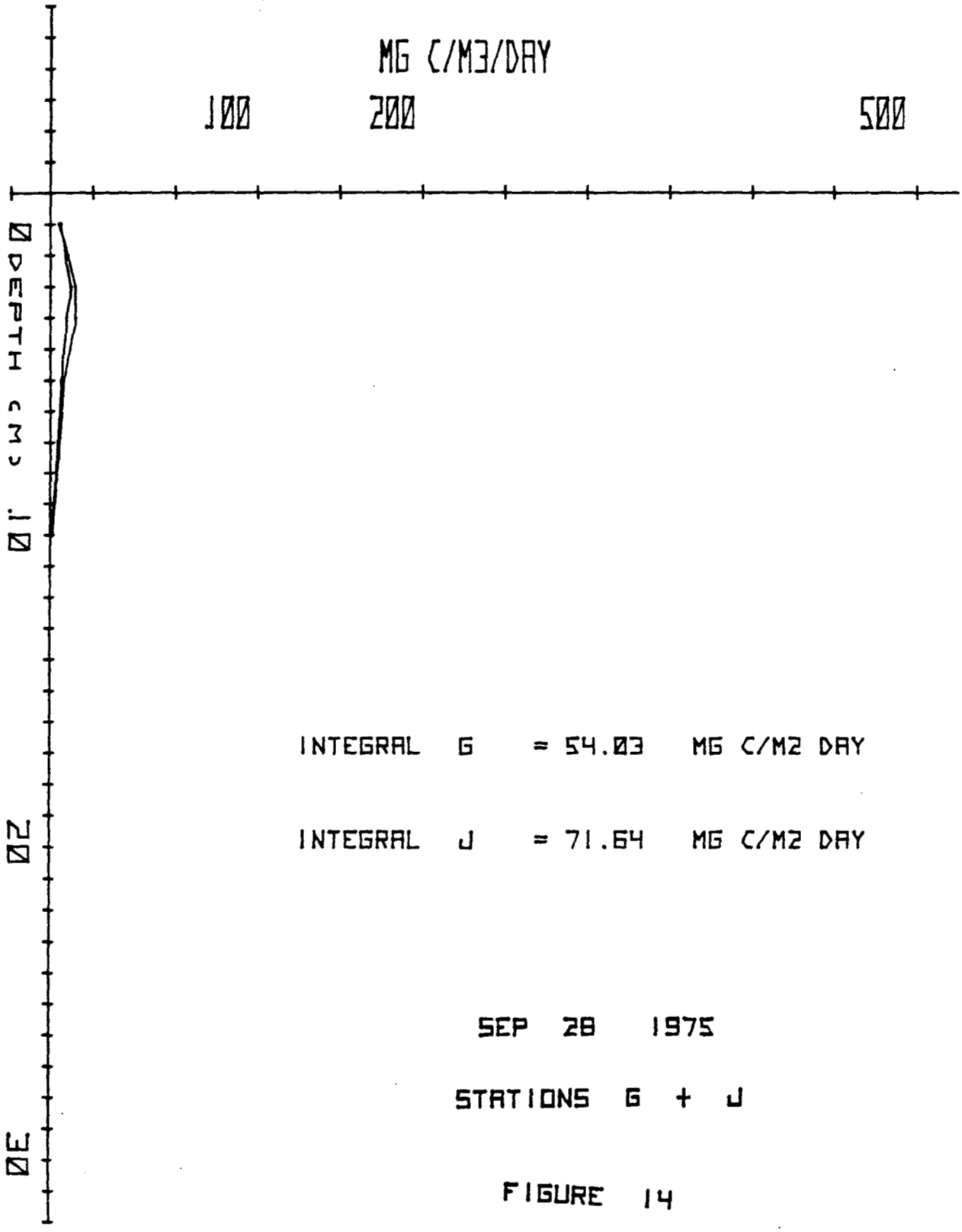
INTEGRAL D = 13.05 MG C/M2 DAY

INTEGRAL H = 41.74 MG C/M2 DAY

SEP 27 1975

STATIONS D + H

FIGURE 13



INTEGRAL G = 54.03 MG C/M2 DAY

INTEGRAL J = 71.64 MG C/M2 DAY

SEP 28 1975

STATIONS G + J

FIGURE 14

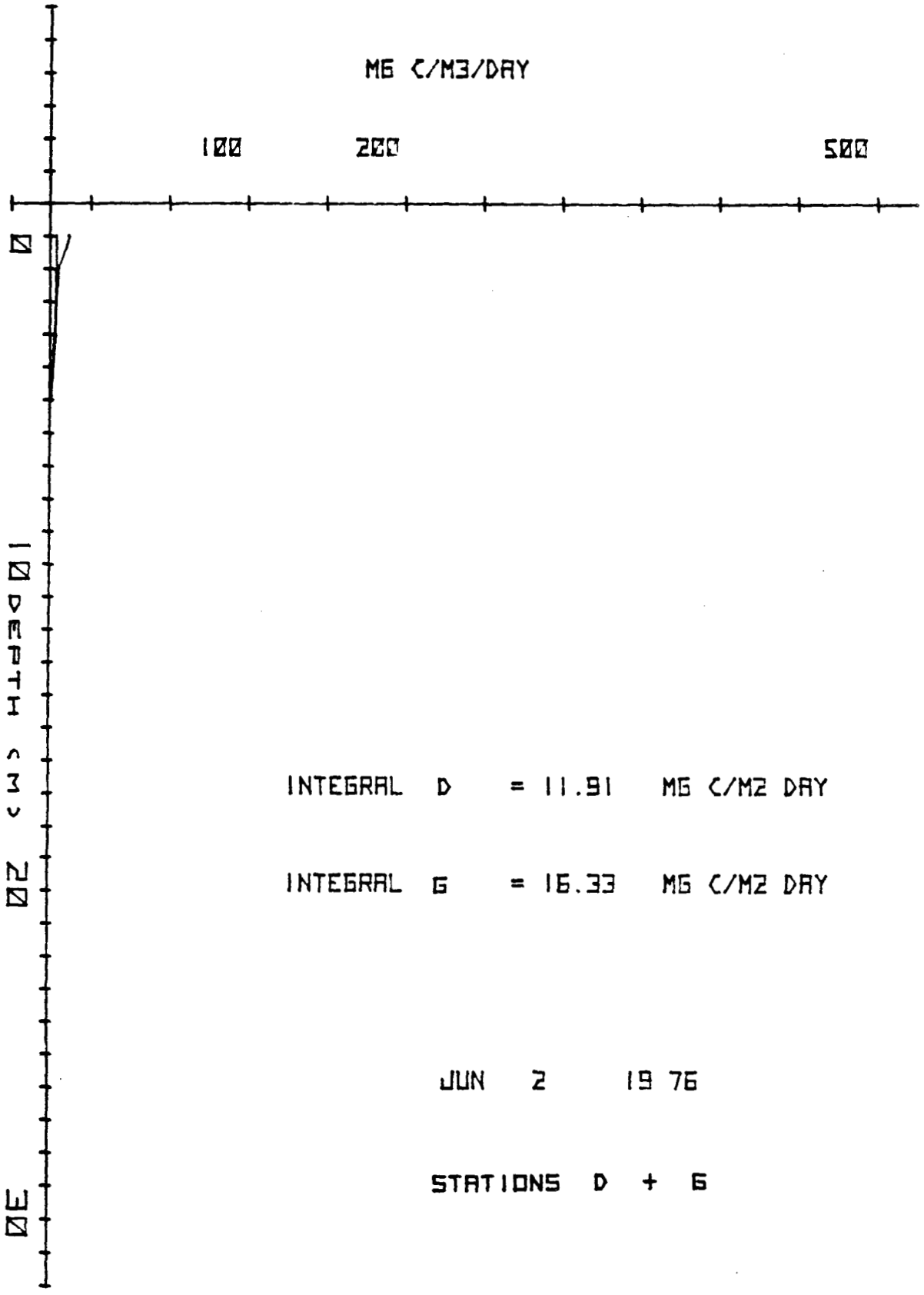

MG C/M3/DAY
100
200
500
0
10
20
30
DEPTH (M)
INTEGRAL D = 11.91 MG C/M2 DAY
INTEGRAL G = 16.33 MG C/M2 DAY
JUN 2 1976
STATIONS D + G

FIGURE 15

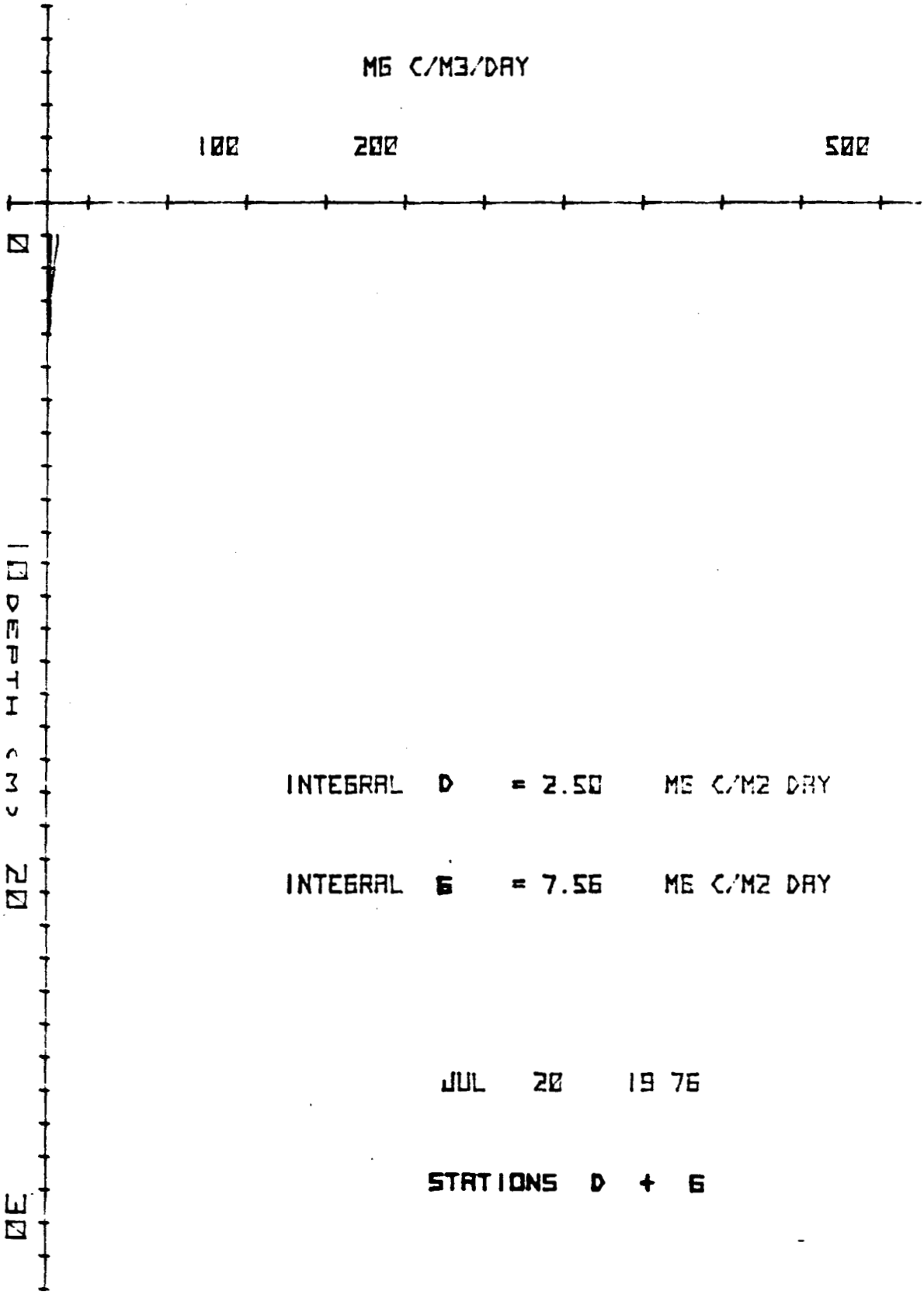

MG C/M3/DAY
100
200
500
0
10
20
30
DEPTH (M)
INTEGRAL D = 2.50 MG C/M2 DAY
INTEGRAL G = 7.56 MG C/M2 DAY
JUL 20 1976
STATIONS D + G

FIGURE 16

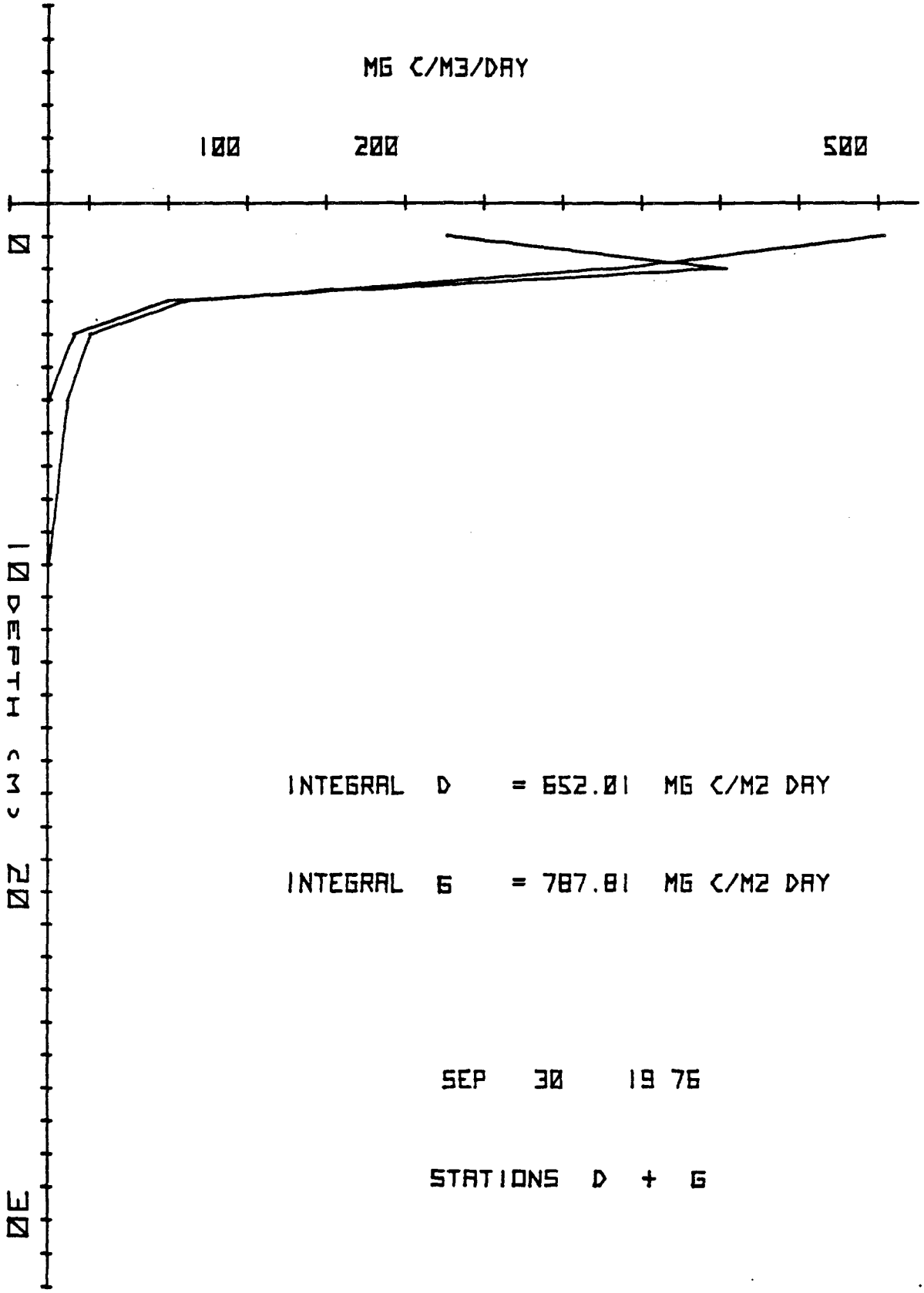

MG C/M3/DAY
100
200
500
0
10
20
30
DEPTH CM
INTEGRAL D = 652.01 MG C/M2 DAY
INTEGRAL G = 787.81 MG C/M2 DAY
SEP 30 19 76
STATIONS D + G

FIGURE 17

TABLES

TABLE 1 DEPTH AND VARIATION IN TEMPERATURE (°C)
ALBERNI INLET, 1974-1976

Date	Station D			Station H			
	1 m	3 m	5 m	1 m	3 m	5 m	20 m
1974							
July 23	17.0	16.0	13.0	18.0	17.0	14.0	12.0
1975							
May 13	13.0	12.0	11.0	13.0	13.0	12.0	11.0
June 17	14.0	13.0	11.0	15.0	12.5	11.0	10.0
July 16	18.0	18.0	11.0	18.0	17.0	12.0	10.0
August 18	18.0	12.5	12.0	19.0	12.5	11.5	10.5
September 27	16.0	14.0	13.5	14.0	13.0	12.5	11.0
1976							
June 2	11.0	11.0	10.0				
July 20	18.0	17.5	10.5	--- not sampled (1976) ----			
September 30	17.0	14.0	12.5				

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				17.0	16.0	12.0	12.0
1975								
May 14	13.5	11.0	10.0	12.0	14.0	12.0	11.0	10.0
June 16	16.0	15.0	15.0	10.0	15.0	15.0	12.0	10.0
July 17	17.0	12.0	10.5	10.0	17.0	11.0	10.0	10.5
August 17	18.0	13.5	12.0	10.0	17.5	14.0	14.0	10.0
September 28	15.0	15.0	12.0	11.0	15.0	15.0	12.0	11.0
1976								
June 2	11.5	11.0	10.0	9.5				
July 20	17.5	14.0	11.5	9.5	--- not sampled (1976) ---			
September 30	16.0	15.0	12.0	11.0				

TABLE 2 DEPTH AND VARIATION IN SALINITY ($^{o}/oo$)
ALBERNI INLET, 1974-1976

Date	Station D			Station H			
	1 m	3 m	5 m	1 m	3 m	5 m	20 m
1974							
July 23	2.8	14.3	26.0	0.0	8.0	28.2	31.0
1975							
May 13	-	-	-	-	-	-	32.6
June 17	2.1	16.2	27.5	2.3	21.3	28.8	32.4
July 16	0.0	8.3	30.2	3.0	9.3	30.3	31.1
August 18	4.2	31.1	31.6	9.2	30.4	31.5	32.5
September 27	15.6	26.9	28.1	16.5	30.5	31.1	32.0
1976							
June 2	0.0	10.7	29.3				
July 20	5.0	6.2	27.9	--- not sampled (1976) ----			
September 30	11.3	20.4	28.5				

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				6.7	10.4	31.0	31.0
1975								
May 14	7.2	28.8	33.1	34.2	11.2	22.5	31.4	33.7
June 16	5.2	4.9	6.2	32.4	8.8	10.2	22.5	32.4
July 17	6.7	29.0	31.2	31.1	8.7	30.2	32.4	32.5
August 17	12.9	29.4	31.6	31.8	14.7	26.2	26.9	31.8
September 28	23.9	29.8	31.0	32.0	21.9	26.5	28.4	32.0
1976								
June 2	4.3	6.2	25.4	32.4				
July 20	6.7	20.4	29.6	32.4	--- not sampled (1976) ---			
September 30	19.0	30.5	30.3	31.5				

TABLE 3 pH MEASUREMENTS
ALBERNI INLET, 1974-1976

Date	Station D			Station H			
	1 m	3 m	5 m	1 m	3 m	5 m	20 m
1974							
July 23	7.7	7.7	7.9	7.5	7.4	8.0	7.8
1975							
May 13	7.48	7.60	7.66	7.40	7.44	7.83	7.85
June 17	6.92	7.23	7.27	6.94	7.26	7.35	7.53
July 16	8.70	7.54	7.57	7.60	-	7.76	7.82
August 18	7.67	7.78	7.74	7.50	7.81	7.70	7.56
September 27	8.2	8.3	8.0	8.3	8.2	8.1	7.9
1976							
June 2	7.60	7.59	7.86				
July 20	7.40	7.40	7.60	--- not sampled (1976) ----			
September 30	7.60	7.64	7.81				

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				7.7	7.8	8.1	8.0
1975								
May 14	8.04	7.94	7.93	7.98	8.27	7.92	8.26	7.92
June 16	7.11	7.26	7.26	7.39	7.11	6.77	7.05	7.32
July 17	7.58	8.09	7.85	8.17	8.08	8.11	7.99	8.17
August 17	7.52	7.90	7.91	7.73	7.58	7.97	7.90	7.79
September 28	8.3	8.3	8.0	8.1	8.4	8.3	8.3	8.1
1976								
June 2	7.57	7.49	7.91	7.96				
July 20	7.70	7.90	7.90	7.80	--- not sampled (1976) ---			
September 30	7.67	7.84	7.83	7.76				

TABLE 4 VARIATION IN TOTAL CARBONATE CARBON (mg C/liter)
ALBERNI INLET, 1974-1976

Date	Station D			Station H			
	1 m	3 m	5 m	1 m	3 m	5 m	20 m
1974							
July 23	6042	12882	15390	5814	6498	18924	17670
1975							
May 13	8119	6601	11058	7647	6387	14796	25876
June 17	8917	17525	24062	9360	19758	24256	25280
July 16	8841	6242	11833	4311	14323	13840	14796
August 18	10639	19350	21762	9884	21305	20815	19644
September 27	13019	15793	18584	12709	15793	18356	23303
1976							
June 2	7533	7712	20355				
July 20	6042	5814	16188	--- not sampled (1976) ----			
September 30	10260	15276	18126				

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				6726	10830	19680	18354
1975								
May 14	6932	10133	11979	11108	4785	8394	8599	16406
June 16	11155	10753	11268	25106	12736	12736	20334	25253
July 17	7212	13612	16930	14280	8868	11751	13612	14340
August 17	7847	18913	17430	17544	11670	17907	18252	18478
September 28	15679	18128	18470	20302	15565	15679	18242	18470
1976								
June 2	7878	5801	16785	20241				
July 20	5472	9804	19836	21318	--- not sampled (1976) ---			
September 30	11856	15048	18582	20862				

TABLE 5 DISSOLVED OXYGEN (ppm)
ALBERNI INLET, 1974-1976

Date	Station D			Station H			
	1 m	3 m	5 m	1 m	3 m	5 m	20 m
1974							
July 23	10.2	9.1	9.5	10.0	9.7	10.0	7.4
1975							
May 13	9.0	7.5	2.5	9.6	7.7	3.8	4.0
June 17	9.3	5.4	4.6	9.3	5.8	4.8	3.8
July 16	7.8	6.9	2.7	8.0	7.3	3.3	2.3
August 18	8.3	6.2	5.8	9.0	6.4	5.6	3.2
September 27	9.5	9.7	8.2	9.7	9.2	7.2	3.8
1976							
June 2	11.0	9.1	-	--- not sampled (1976) ----			
July 20	8.3	7.6	5.9				
September 30	8.2	5.3	4.7				

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				10.0	10.5	10.9	10.3
1975								
May 14	3.6	6.0	5.9	4.8	8.9	6.9	6.3	5.4
June 16	9.3	9.1	9.1	4.2	9.4	5.6	7.2	9.4
July 17	8.3	4.6	4.9	4.8	8.8	5.0	5.2	4.8
August 17	9.3	8.2	7.4	5.5	8.7	8.5	8.2	5.4
September 28	10.4	9.0	6.8	5.1	9.7	10.2	8.3	4.8
1976								
June 2	9.8	9.2	7.2	7.3	--- not sampled (1976) ---			
July 20	8.5	7.7	8.1	6.0				
September 30	8.4	7.5	6.5	5.8				

TABLE 6 PERCENT SATURATION OF DISSOLVED OXYGEN
ALBERNI INLET, 1974-1976

Date	Station D			Station H			
	1 m	3 m	5 m	1 m	3 m	5 m	20 m
1974							
July 23	110	103	108	108	108	118	85
1975							
May 13	-	-	-	-	-	-	45
June 17	94	58	50	96	63	53	42
July 16	84	78	30	88	82	38	25
August 18	98	72	67	105	74	64	36
September 27	108	114	96	106	108	84	43
1976							
June 2	104	91	-				
July 20	93	85	75	--- not sampled (1976) ----			
September 30	93	60	54				

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				111	116	126	119
1975								
May 14	37	67	66	56	95	75	71	61
June 16	100	95	96	47	101	60	79	105
July 17	91	52	55	53	98	56	58	54
August 17	108	97	86	61	101	99	96	60
September 28	122	110	78	58	112	122	94	54
1976								
June 2	95	90	77	81				
July 20	95	87	92	66	--- not sampled (1976) ---			
September 30	98	92	75	66				

TABLE 7 NITRATE MEASUREMENTS (NO_3^-) (mg N/litre)
ALBERNI INLET, 1974-1976

Date	Station D			Station H			
	1 m	3 m	5 m	1 m	3 m	5 m	20 m
1974							
July 23	<.005	.036	.074	<.005	<.005	.056	.133
1975							
May 13	.101	.224	.264	.304	.024	.137	.224
June 17	.249	.026	.158	<.012	.160	.223	.259
July 16	<.01	<.01	.19	<.01	<.01	.18	.19
August 18	.01	.09	.11	<.01	.10	.13	.19
September 27	<.01	<.01	<.01	<.01	<.01	<.01	.14
1976							
June 2	.02	<.01	.16				
July 20	<.01	<.01	.038	--- not sampled (1976) ----			
September 30	<.01	.07	.18				

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				<.005	<.005	.040	.062
1975								
May 14	<.01	.177	.207	.287	<.01	.104	.090	.283
June 16	.023	<.01	<.01	.279	.026	<.01	.146	.272
July 17	<.01	.23	.27	.31	<.01	.23	.29	.31
August 17	.01	.05	.08	.20	.01	<.01	.06	.20
September 28	<.01	<.01	.05	.24	<.01	<.01	<.01	.21
1976								
June 2	.02	.01	.08	.13				
July 20	<.01	<.01	.051	.162	--- not sampled (1976) ---			
September 30	<.01	.04	.18	.25				

TABLE 8 TOTAL PHOSPHATE MEASUREMENTS (TPO_4) (mg P/litre)
ALBERNI INLET, 1974-1976

Date	Station D			Station H			
	1 m	3 m	5 m	1 m	3 m	5 m	20 m
1974							
July 23	.019	.01	.021	.042	.015	.019	.046
1975							
May 13	.023	.032	.069	.020	.034	.053	.068
June 17	.02	.05	.05	.02	.06	.07	.08
July 16	.02	.04	.07	.02	.03	.06	.08
August 18	.02	.05	.05	.02	.05	.06	.08
September 27	.02	.03	.04	.02	.07	.05	.06
1976							
June 2	<.01	.016	.068				
July 20	.012	.010	.032	--- not sampled (1976) ----			
September 30	.037	.054	.064				

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				.049	.020	.036	.039
1975								
May 14	.074	.058	.053	.065	.025	.043	.035	.068
June 16	.02	.03	.02	.075	.02	.02	.05	.07
July 17	.03	.06	.07	.07	.02	.06	.07	.07
August 17	.02	.04	.04	.06	.02	.03	.04	.06
September 28	.03	.04	.08	.06	.03	.05	.05	.06
1976								
June 2	.014	<.01	.036	.026				
July 20	.011	.019	.037	.052	--- not sampled (1976) ---			
September 30	.042	.039	.060	.059				

TABLE 9 SILICATE MEASUREMENTS (mg Si/litre)
ALBERNI INLET, 1974-1976

Date	Station D			Station H			
	1 m	3 m	5 m	1 m	3 m	5 m	20 m
1974							
July 23	2.14	1.82	.096	2.14	2.14	0.86	1.18
1975							
May 13	1.0	1.1	1.2	0.9	1.1	0.9	1.1
June 17	0.9	1.1	0.9	1.0	1.1	1.1	1.3
July 16	0.7	0.7	0.9	0.6	0.6	0.9	1.1
August 18	0.8	0.8	0.8	0.8	0.8	0.9	1.2
September 27	14.5	9.2	9.5	14.5	10.1	14.5	16.0
1976							
June 2	0.7	<0.5	1.0				
July 20	0.7	<0.5	0.6	--- not sampled (1976) ----			
September 30	2.1	2.4	2.5				

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				2.04	1.93	0.86	0.43
1975								
May 14	1.1	1.0	1.0	1.1	1.0	1.0	0.6	1.1
June 16	1.0	1.0	1.0	1.2	0.6	1.0	1.1	1.1
July 17	0.7	0.9	0.9	1.0	0.8	0.8	0.8	0.8
August 17	0.8	0.7	0.7	1.0	0.7	0.7	0.7	1.1
September 28	15.0	16.0	16.5	18.0	15.5	15.5	16.0	17.5
1976								
June 2	0.5	<0.5	0.7	<0.5				
July 20	<0.5	0.6	<0.5	0.8	--- not sampled (1976) ---			
September 30	2.0	2.2	2.6	2.7				

TABLE 10 DEPTH AND VARIATION IN SESTON (mg/litre)
ALBERNI INLET, 1974-1976

Date	Station D				Station H				
	1 m	3 m	5 m	$\overline{X}$	1 m	3 m	5 m	20 m	$\overline{X}$
1974									
July 23	2.2	1.8	1.8	1.9	3.2	2.4	2.9	1.1	2.4
1975									
May 13	2.6	2.5	1.5	2.2	2.1	2.5	1.2	1.6	1.9
June 17	1.3	1.6	1.5	1.5	2.1	3.4	1.1	1.4	2.0
July 16	2.9	3.5	1.4	2.6	2.9	2.8	-	0.9	2.2
August 18	1.5	1.2	0.8	1.2	1.9	0.6	0.9	0.9	1.1
September 27	2.7	8.3	0.9	4.0	2.0	4.3	1.1	6.8	3.6
$\overline{X}$	2.2	3.4	1.2		2.2	2.7	1.1	2.3	
1976									
June 2	2.3	4.0	7.7	4.7					
July 20	2.1	1.9	1.9	2.0	----- not sampled (1976)-----				
September 30	8.3	11.9	14.6	11.6					
$\overline{X}$	4.2	5.9	8.1						

Date	Station G					Station J				
	1 m	3 m	5 m	20 m	$\overline{X}$	1 m	3 m	5 m	20 m	$\overline{X}$
1974										
July 23	--- not sampled (1974) ---					2.1	2.1	<1.0	1.5	1.7
1975										
May 14	2.6	1.8	1.1	0.7	1.6	3.7	2.2	1.3	0.9	2.0
June 16	2.3	2.1	1.8	0.9	1.8	1.8	1.7	1.9	1.6	1.8
July 17	2.0	2.0	1.5	1.3	1.7	2.6	1.8	-	1.5	2.0
August 17	1.8	1.2	0.7	0.9	1.2	1.3	1.6	1.4	2.5	1.7
September 28	1.0	7.5	10.0	0.9	4.9	0.9	0.9	4.0	0.6	1.6
$\overline{X}$	1.9	2.9	3.0	0.9		2.1	1.6	2.2	1.4	
1976										
June 2	2.1	3.0	6.7	2.0	3.5					
July 20	1.4	1.2	0.6	0.7	1.0	----- not sampled (1976) -----				
September 30	9.4	12.4	18.0	15.6	13.9					
$\overline{X}$	4.3	5.5	8.4	6.1						

TABLE 11 PERCENTAGE ORGANIC CONTENT OF DRY SESTON
ALBERNI INLET, 1974-1976

Date	Station D			Station H			
	1 m	3 m	5 m	1 m	3 m	5 m	20 m
1974							
July 23	68.2	72.2	83.3	68.8	66.7	41.4	90.9
1975							
May 13	65.4	76.0	66.7	71.4	68.0	58.3	37.5
June 17	84.6	75.0	46.7	66.7	32.4	72.7	35.7
July 16	100.0	80.0	85.8	69.0	100.0	-	88.9
August 18	66.7	83.3	62.5	57.9	83.3	66.7	77.8
September 27	74.1	75.9	32.3	50.0	69.8	39.1	76.5
1976							
June 2	54.3	40.0	26.0				
July 20	47.6	52.6	47.4	--- not sampled (1976) ----			
September 30	36.1	26.9	20.5				

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				71.4	66.7	Ø	73.3
1975								
May 14	69.2	50.0	63.6	57.1	51.4	59.1	53.8	66.7
June 16	65.2	66.7	77.8	33.3	61.1	64.7	52.6	37.5
July 17	90.0	70.0	80.0	84.7	88.5	77.8	-	40.0
August 17	72.2	66.7	85.7	66.7	76.9	62.5	78.6	68.0
September 28	30.0	80.0	74.0	31.3	32.7	74.5	70.0	49.3
1976								
June 2	54.8	50.8	28.3	50.0				
July 20	71.4	83.3	50.0	42.9	--- not sampled (1976) ---			
September 30	25.5	20.2	15.0	15.4				

TABLE 12 DEPTH AND VARIATION IN CHLOROPHYLL 'a' - ALBERNI INLET, 1974 (μg/litre) - 1976 (mg/m³)

Date	Station D			Station H			
	1 m	3 m	5 m	1 m	3 m	5 m	20 m
1974							
July 23	0.2	1.2	1.1	0.2	0.8	1.3	0.6
1975							
May 13	2.2	2.0	<0.1	1.1	<0.1	1.6	<0.1
June 17	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1
July 16	1.3	4.2	<0.1	3.5	3.7	0.5	<0.1
August 18	2.64	2.29	1.15	2.46	0.88	0.5	0.3
September 27	2.1	4.2	5.7	1.1	11.0	7.4	0.5
1976							
June 2	2.33	2.4	1.22 (μg/litre)				
July 20	<0.8	<0.8	<0.8	--- not sampled (1976) ----			
September 30	-	-	-*				

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				3.0	3.8	2.2	0.6
1975								
May 14	1.2	1.4	<0.1	<0.1	4.6	1.6	0.1	<0.1
June 16	3.7	3.6	3.7	<0.1	4.3	4.0	3.0	<0.1
July 17	5.7	1.6	0.5	<0.1	5.9	1.3	0.3	<0.1
August 17	4.32	2.82	1.07	1.51	81.62†	93.92†	1.74	0.72
September 28	0.7	1.2	10.3	0.5	0.7	4.8	3.4	-
1976								
June 2	2.58	2.69	1.55	1.27				
July 20	1.1	0.96	<0.8	<0.8	--- not sampled (1976) ---			
September 30	-	-	-	-*				

* Values not available for September, 1976
† Analytical results doubtful

TABLE 13 DEPTH AND VARIATION IN TOTAL PHAEOPIGMENTS - ALBERNI INLET - 1976 (µg/litre) - 1976 (mg/m^3)

Date	Station D				Station H			
	1 m	3 m	5 m		1 m	3 m	5 m	20 m
1974								
July 23	<0.2	0.2	0.5		<0.2	<0.2	0.4	<0.2
1975								
May 13	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2
June 17	<0.2	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2
July 16	1.8	2.4	<0.2		<0.2	<0.2	0.8	<0.2
August 18	0.85	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2
September 27	0.4	0.9	0.6		0.5	1.3	<0.2	<0.2
1976								
June 2	0.67	0.0	0.0	(µg/litre)				
July 20	<0.8	<0.8	<0.8		---- not sampled (1976) ---			
September 30	-	-	-*					

Date	Station G				Station J			
	1 m	3 m	5 m	20 m	1 m	3 m	5 m	20 m
1974								
July 23	--- not sampled (1974) ---				1.4	2.3	<0.2	0.5
1975								
May 14	<0.2	<0.2	1.4	<0.2	<0.2	<0.2	<0.2	<0.2
June 16	5.7	<0.2	<0.2	<0.2	0.9	2.2	0.7	<0.2
July 17	<0.2	<0.2	<0.2	<0.2	1.7	2.1	<0.2	<0.2
August 17	2.3	0.32	<0.2	<0.2	<0.2	<0.2	1.63	<0.2
September 28	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
1976								
June 2	1.04	1.23	0.53	0.43				
July 20	0.95	<0.8	<0.8	<0.8	--- not sampled (1976) ---			
September 30	-	-	-	-*				

* Values not available for September, 1976

TABLE 14 MEAN EXTINCTION COEFFICIENT (k) AND SECCHI DEPTH (m) - ALBERNI INLET, 1974-1976

Date	Station D		Station H	
	Extinction Coefficient	Secchi Depth	Extinction Coefficient	Secchi Depth
1974				
July 23	.7742	5.0	1.1958	4.0
1975				
May 13	.7728	4.0	.7728	3.3
June 17	.7343	4.0	.6971	3.3
July 16	2.1009	2.5	1.5707	4.0
August 18	.7379	7.0	.7546	8.5
September 27	.7153	6.5	.7546	6.0
1976				
June 2	1.6545	4.5		
July 20	1.7059	4.0	-- not sampled (1976) --	
September 30	1.8018	2.0		

Date	Station G		Station J	
	Extinction Coefficient	Secchi Depth	Extinction Coefficient	Secchi Depth
1974				
July 23	--- not sampled (1974) ---		.87030	4.3
1975				
May 14	.7802	4.0	.4551	3.0
June 16	.8926	3.5	.5150	6.0
July 17	1.4890	2.6	1.3686	3.0
August 17	.8687	6.0	.8539	6.0
September	-	7.0	-	5.0
1976				
June 2	1.8018	4.5		
July 20	1.3586	4.0	--- not sampled (1976) --	
September 30	1.6100	3.5		

TABLE 15 PERCENTAGE OF TOTAL DAYLIGHT UTILIZED FOR CARBON-14 INCUBATION, ALBERNI INLET, 1974-1976

Date	Station D	Station H
1974		
July 23	70	81
1975		
May 13	49.3	54.6
June 17	46.3	43.8
July 16	42.1	55.3
August 18	51.6	51.6
September 27	57.9	55.3
1976		
June 2	72.4	
July 20	54.7	-- not sampled (1976) --
September 30	59.3	

Date	Station G	Station J
1974		
July 23	-- not sampled (1974) --	73
1975		
May 14	48.4	45.3
June 16	40.0	42.5
July 17	43.4	49.1
August 17	46.9	53.1
September 28	56.8	51.4
1976		
June 2	57.3	
July 20	59.3	-- not sampled (1976) --
September 30	54.9	

TABLE 16 DAILY AREAL PRODUCTION RATES ($mgC/m^2/day$) - ALBERNI INLET, 1974-1976

Date	Station D	Station H
1974		
July 23	465	447
1975		
May 13	719	592
June 17	352	158
July 16	125	- *
August 18	4859	651
September 27	13	42
1976		
June 2	12	-- not sampled (1976) --
July 20	3	
September 30	652	

Date	Station G	Station J
1974		
July 23	-- not sampled (1974) --	4142
1975		
May 14	455	866
June 16	874	751
July 17	299	441
August 17	967	1011
September 28	54	72
1976		
June 2	16	
July 20	8	-- not sampled (1976) --
September 30	788	

* Samples lost during incubation

APPENDICES

APPENDIX I

PHYTOPLANKTON STANDING CROP
1974-1976

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION D

22 July 1974

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Achnanthes spp.	40	30	-	10	-	10	-	-
Amphora spp.	-	20	-	10	-	-	-	-
Cocconeis spp.	20	10	20	10	10	-	-	-
Fragilaria sp.	-	-	10	-	-	-	-	-
Leptocylindrus spp.	40	40	120	500	-	-	-	-
Licmophora spp.	30	10	10	-	-	10	-	-
Navicula spp.	80	160	120	60	10	-	-	-
Nitzschia spp.	280	370	620	400	90	10	-	-
Pleurosigma spp.	10	-	20	10	-	-	-	-
Striatella spp.	-	20	-	-	-	-	-	-
Thalassiosira spp.	-	20	20	30	-	10	-	-
Chrysophyceae	60520	72980	163760	161980	96120	26700	-	-
Dinophyceae								
Glenodinium spp.	140	-	10	60	20	40	-	-
Gymnodinium spp.	-	130	20	-	-	10	-	-
Prorocentrum sp.	-	10	-	-	-	-	-	-
Cryptophyceae	5340	3560	24920	5340	1780	1780	-	-
Rhodomonas spp.	-	3560	12460	24920	16020	7120	-	-
Chlorophyta								
Scenedesmus spp.	-	-	40	-	-	-	-	-
Quadri-flagellate cell	80	140	50	120	-	-	-	-
Silicoflagellata								
Distephanus sp.	-	-	-	-	10	-	-	-
Ciliata								
Strombidium spp.	10	80	210	20	30	90	-	-
S. strobilis	-	-	10	-	-	-	-	-
Unidentified ciliate	30	50	10	-	-	-	-	-
Unidentified ciliate	10	-	-	-	-	-	-	-
Tintinnidae								
Stenosmella sp.	-	-	10	-	-	-	-	-
Miscellaneous								
Unidentified cell	-	30	10	-	-	30	-	-
Unidentified cell	-	-	10	10	-	-	-	-
Unidentified cell	-	-	10	-	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

22 July 1974

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Achnanthes spp.	20	10	10	10	-	-	-	-
Amphiprora spp.	-	20	-	10	-	-	-	-
Amphora spp.	-	10	10	-	-	-	-	-
Cocconeis spp.	20	10	10	30	10	10	10	10
Fragilaria spp.	-	20	-	-	-	-	-	-
Leptocylindrus spp.	-	-	-	90	-	-	-	-
Licmophora spp.	-	30	20	-	-	-	-	-
Navicula spp.	10	40	30	30	10	-	-	-
Nitzschia spp.	440	1120	1600	1720	40	40	20	-
N. closterium	-	10	-	-	-	-	-	-
Pleurosigma spp.	-	10	-	-	-	-	-	10
Striatella sp.	-	-	-	10	-	-	-	-
Thalassiosira spp.	-	10	10	-	-	10	30	-
Unidentified filament	-	-	90	-	-	-	-	-
Unidentified filament	80	-	-	-	-	-	-	-
Unidentified filament	-	40	-	-	-	-	-	-
Chrysophyceae	90780	226060	263440	250980	126380	69420	39160	32040
Dinophyceae								
Glenodinium spp.	60	40	60	10	10	30	10	-
Cryptophyceae	3560	17800	12460	48060	3560	8900	3560	3560
Rhodomonas spp.	3560	32040	14240	21360	26700	7120	1780	3560
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	-	-	-	40	-	-	-	-
Euglenophyceae								
Phacus c.f.	-	-	-	-	-	-	20	10
Cyanophyta								
Oscillatoria c.f.	170	-	-	-	-	-	-	-
Ciliata								
Strombidium spp.	60	860	990	370	60	100	30	10
Unidentified ciliate	-	10	-	-	-	-	-	-
Unidentified ciliate	100	60	-	10	-	-	-	-
Suctoria								
Trochiscia spp.	10	20	70	100	20	20	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

22 July 1974

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Miscellaneous								
Unidentified cell	-	-	10	-	-	20	-	10
Unidentified cell	-	-	-	-	-	-	-	20
Unidentified cell	-	30	-	80	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION J

22 July 1974

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphiprora spp.	40	10	-	-	-	-	-	-
Chaetoceros spp.	1010	270	40	-	-	-	-	-
Cocconeis spp.	20	20	30	30	-	-	10	10
Leptocylindrus spp.	50	-	40	40	-	-	-	-
Melosira spp.	80	-	-	-	-	-	-	-
Navicula spp.	50	30	-	40	-	-	-	-
Nitzschia spp.	6920	3950	3310	1950	50	50	30	40
N. closterium	-	30	30	10	-	20	10	-
Thalassiosira spp.	130	90	160	150	-	20	20	-
Chrysophyceae	418300	473480	336420	398720	65860	99680	42720	24920
Dinophyceae								
Cochlodinium sp.	10	-	-	-	-	-	-	-
Dinophysis sp.	-	-	-	-	-	-	-	10
Glenodinium spp.	130	170	160	110	-	-	10	-
Cryptophyceae	67640	62900	90260	49840	-	3560	5340	-
Rhodomonas spp.	90260	39160	35600	46280	7120	8900	1780	1780
Chlorophyta								
Scenedesmus spp.	120	80	-	-	-	-	-	-
Cyanophyta								
Anabaena c.f.	600	330	210	120	-	-	-	-
Silicoflagellata								
Distephanus spp.	-	-	10	-	-	-	-	-
Ciliata								
Strombidium spp.	550	630	1140	510	-	40	50	60
Unidentified ciliate	-	-	10	-	-	-	-	-
Suctoria								
Trochiscia spp.	40	110	150	210	-	-	-	20
Miscellaneous								
Unidentified cell	10	-	-	-	-	-	40	30
Unidentified cell	20	60	10	170	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION D

May 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Achnanthes spp.	-	50	-	10	-	-	-	-
Amphiprora spp.	-	-	20	10	-	10	-	-
Amphora spp.	10	-	30	10	-	-	-	-
Cocconeis spp.	10	20	20	-	30	-	-	-
Coscinodiscus spp.	-	10	-	10	-	-	-	-
Cyclotella spp.	69420	179780	115700	135280	19580	-	-	-
Fragilaria spp.	30	90	10	40	50	10	-	-
Leptocylindrus spp.	-	20	-	-	-	-	-	-
Licmophora spp.	-	30	-	-	-	10	-	-
Melosira spp.	10	50	60	30	20	30	-	-
Navicula spp.	70	140	150	100	80	90	-	-
Nitzschia spp.	490	580	490	40	180	190	-	-
N. closterium	30	20	-	30	20	10	-	-
Okedenia spp.	10	-	30	10	-	-	-	-
Pleurosigma spp.	20	60	20	30	40	-	-	-
Skeletonema costatum	4010	11810	27170	61500	25780	17600	-	-
Thalassiosira spp.	100	59	60	80	140	50	-	-
Chrysophyceae	2121760	2424360	617660	357780	1730160	131720	-	-
Dinophyceae								
Glenodinium spp.	70	30	120	940	220	20	-	-
Gymnodinium spp.	-	50	90	250	10	10	-	-
Gymnodinoid cell	30	60	70	-	-	30	-	-
Oxytoxum spp.	-	-	-	-	20	10	-	-
Peridinium spp.	10	-	40	60	20	-	-	-
Cryptophyceae	28480	85440	24920	605980	30260	10680	-	-
Rhodomonas spp.	12460	8900	19580	2379580	7120	1780	-	-
Chlorophyta								
Chlorophyceae								
Scendesmus spp.	-	-	80	-	-	-	-	-
Euglenophyceae								
Euglena c.f.	20	30	40	-	90	60	-	-
Cyanophyta								
Cyanophyceae								
Oscillatoria c.f.	-	-	120	-	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION D

May 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Silicoflagellata								
Distephanus sp.	-	10	-	-	-	-	-	-
Ciliata								
Mesodinium rubrum	-	40	120	110	40	-	-	-
Strombidium spp.	-	90	4010	200	100	20	-	-
Tintinnopsis sp.	-	10	-	-	-	-	-	-
Unidentified ciliate	40	150	30	-	510	20	-	-
Unidentified ciliate	-	20	-	-	-	-	-	-
Suctoria								
Trochiscia spp.	20	60	100	160	50	20	-	-
Miscellaneous								
Unidentified cell	-	20	-	-	-	20	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

May 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Achnanthes spp.	10	-	-	30	-	-	-	-
Amphiprora spp.	20	-	-	-	10	10	-	-
Amphora spp.	-	-	-	20	-	-	-	10
Cocconeis spp.	40	30	10	70	10	30	10	-
Cyclotella spp.	105020	106800	1869600	167880	11460	-	-	-
Fragilaria spp.	20	50	-	50	10	-	-	10
Leptocylindrus spp.	160	200	-	-	-	-	-	-
Licmophora spp.	10	10	-	-	-	-	10	-
Melosira spp.	20	30	100	140	20	20	-	20
Navicula spp.	130	180	80	80	50	10	30	10
Nitzschia spp.	320	200	170	230	140	60	80	20
N. closterium	60	20	40	10	10	10	-	-
Okedenia spp.	-	-	-	40	10	-	-	-
Pleurosigma spp.	40	20	40	30	20	10	10	30
Skeletonema costatum	9470	9990	93310	23390	31540	20060	4180	1530
Striatella spp.	10	30	20	-	-	-	-	-
Thalassiosira spp.	280	430	1030	660	10	20	20	10
Chrysophyceae	2566760	2285520	402280	391600	167320	178000	99680	172660
Dinobryon spp.	-	-	-	-	10	-	10	-
Dinophyceae								
Cochlodinium spp.	-	-	10	10	10	-	-	-
Glenodinium spp.	20	50	370	220	50	20	10	10
Gymnodinium spp.	20	-	210	100	-	-	-	10
Gymnodinoid cell	30	70	70	-	-	-	-	-
Peridinium spp.	-	-	20	-	-	-	-	-
Cryptophyceae	23140	49840	58740	39160	3560	7120	-	3560
Rhodomonas spp.	3560	19580	154860	267000	-	1780	1780	1780
Chlorophyta								
Euglenophyceae								
Euglena c.f.	-	-	10	50	110	10	50	10
Chlorophyceae	10	-	-	-	-	-	-	-
Unidentified biflagellate	70	-	-	-	-	-	-	-
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	-	-	-	-	-	250	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

May 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Ciliata								
Dysteria sp.	10	-	-	-	-	-	-	-
Mesodinium rubrum	-	10	280	80	-	-	10	-
Strombidium spp.	20	10	930	160	-	-	-	-
Tintinnopsis sp.	-	-	-	-	-	10	-	-
Unidentified ciliate	80	230	40	10	10	-	-	30
Unidentified ciliate	10	-	-	-	-	-	-	40
Suctoria								
Trochiscia spp.	30	60	160	40	20	-	10	-
Miscellaneous								
Collar flagellate	10	10	10	-	-	-	-	-
Unidentified cell	-	20	-	-	-	-	10	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION G

May 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Achnanthes spp.	-	-	10	20	-	-	-	-
Amphiprora sp.	-	10	-	-	-	-	-	-
Amphora spp.	10	10	10	10	-	10	-	-
Bacteriastrum sp.	-	-	10	-	-	-	-	-
Chaetoceros spp.	-	-	110	310	570	160	60	40
Cocconeis spp.	-	20	10	10	10	10	-	10
Coscinodiscus spp.	10	-	-	10	60	60	20	10
Cyclotella spp.	339980	391600	110360	106800	19580	14240	-	-
Fragilaria spp.	10	10	10	-	-	-	-	10
Melosira spp.	150	50	110	40	-	-	-	-
Leptocylindrus spp.	-	10	660	1160	5880	1140	220	50
Licmophora spp.	10	-	20	-	-	10	-	20
Navicula spp.	100	100	80	40	90	30	10	30
Nitzschia spp.	290	350	1480	1630	3630	2070	2350	810
N. closterium	20	30	80	60	110	70	40	30
Pleurosigma spp.	80	180	20	140	30	10	-	-
Skeletonema costatum	98690	25450	130710	20870	23250	8250	5320	4140
Thalassiosira spp.	870	920	750	430	280	170	100	60
Chrysophyceae	861520	3171960	286580	313280	192240	69420	131720	37380
Dinophyceae								
Cochlodinium sp.	-	-	-	-	10	-	-	-
Glenodinium spp.	560	7390	330	170	190	20	-	-
Gymnodinium spp.	20	200	10	-	10	10	-	-
Gymnodinoid cell	-	-	190	20	30	-	10	10
Oxytoxum spp.	-	-	-	-	20	-	10	-
Peridinium spp.	90	620	90	20	130	30	10	20
Cryptophyceae	26700	24920	21360	17800	28480	8900	10680	14240
Rhodomonas spp.	26700	5340	33820	7120	17800	-	1780	8900
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	-	-	80	-	-	-	-	-
Euglenophyceae								
Euglena c.f.	40	10	470	190	230	20	40	40
Cyanophyta								
Cyanophyceae								
Oscillatoria c.f.	-	330	-	-	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION G

May 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Ciliata								
Mesodinium rubrum	40	40	50	60	80	-	20	10
Salpingella spp.	-	-	-	-	10	-	10	-
Stenosmella spp.	-	-	-	-	-	-	-	20
Strombidium spp.	210	100	-	-	10	-	-	-
Tintinnopsis spp.	-	10	20	-	10	-	-	-
Unidentified ciliate	30	30	140	40	10	-	-	-
Suctoria								
Trochiscia spp.	60	120	140	-	-	-	-	-
Miscellaneous								
Unidentified cell	-	10	30	30	100	-	30	-
Unidentified cell	-	-	-	-	10	-	-	-
Unidentified cell	-	70	-	-	-	-	-	-
Bacteria	-	X	-	X	-	X	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION J

May 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta		NO SAMPLE						
Bacillariophyceae								
Amphiprora sp.	10		-	-	-	-	-	-
Amphora spp.	10		10	-	-	-	-	-
Chaetoceros spp.	-		80	40	480	370	10	-
Cocconeis	-		60	-	10	-	-	-
Coscinodiscus spp.	-		60	20	90	100	30	-
Corethron spp.	-		-	-	30	-	-	-
Cyclotella spp.	48060		236740	126380	23140	3560	1780	-
Ditylum sp.	-		-	-	10	-	-	-
Fragilaria spp.	40		-	10	20	-	-	-
Leptocylindrus spp.	20		-	20	110	110	-	-
Licmophora spp.	30		30	10	-	-	-	-
Melosira spp.	50		120	120	-	10	-	10
Navicula spp.	50		160	110	50	30	20	-
Nitzschia spp.	190		1170	1280	6080	696	2160	470
N. closterium	20		90	20	230	210	30	-
Pleurosigma spp.	-		10	10	20	-	-	-
Rhizosolenia spp.	-		-	-	340	-	-	-
Skeletonema costatum	29360		200080	180080	102920	29690	7000	1700
Thalassiosira spp.	490		660	480	30	180	80	30
Chrysophyceae	1094700		1278040	1007480	265220	135280	49640	83660
Dinophyceae								
Glenodinium spp.	3730		30	2010	190	70	20	20
Gymnodinium spp.	160		-	10	10	-	10	-
Gymnodinium cyst	-		-	-	-	10	-	-
Gymnodinoid cell	40		-	-	-	-	-	-
Peridinium spp.	430		130	240	60	40	30	-
Cryptophyceae	60520		49840	23140	8900	7120	10680	5340
Rhodomonas spp.	51620		51620	21360	17800	3560	-	-
Chlorophyta								
Euglenophyceae								
Euglena c.f.	10		40	120	50	20	-	-
Ciliata								
Mesodinium rubrum	80		50	80	20	-	10	10
Salpingella spp.	-		-	20	20	-	-	-
Stenosmella spp.	-		-	-	-	-	10	-
Strombidium spp.	40		-	10	-	-	-	10
Unidentified ciliate	-		210	140	-	20	-	-
Suctoria								
Trochiscia spp.	30		50	20	-	-	-	-
Miscellaneous								
Unidentified cell	10		-	80	10	-	10	10

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION D

June 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Achnanthes spp.	10	-	-	10	-	-		
Amphiprora spp.	10	10	10	-	10	10		
Amphora spp.	10	-	10	-	-	-		
Bacteriastrum spp.	-	-	-	10	10	-		
Chaetoceros spp.	-	-	-	-	100	-		
Cocconeis spp.	100	30	10	10	10	-		
Coscinodiscus sp.	-	-	-	-	-	10		
Cyclotella spp.	-	3560	5340	-	-	-		
Fragilaria spp.	10	60	60	-	-	20		
Leptocylindrus spp.	-	-	20	-	10	-		
Licmophora sp.	-	-	-	10	-	-		
Melosira spp.	50	50	30	-	-	10		
Navicula spp.	90	150	110	110	100	-		
Nitzschia spp.	60	770	360	310	100	40		
N. closterium	-	50	-	10	20	-		
Pleurosigma sp.	-	10	-	-	-	-		
Skeletonema costatum	-	40	-	-	3800	140		
Thalassiosira spp.	20	-	20	20	10	10		
Unidentified filament	-	-	-	-	-	-		
Unidentified pennate	20	150	90	10	40	-		
Chrysophyceae	37380	122820	172660	65860	24920	14240		
Dinobryon spp.	-	-	10	-	10	-		
Dinophyceae								
Glenodinium spp.	80	60	80	160	170	130		
Gymnodinium spp.	-	30	70	-	-	10		
Gymnodinoid cell	-	10	-	-	-	-		
Oxytoxum spp.	-	-	-	-	20	40		
Polykrikos c.f.	-	-	-	-	10	-		
Peridinium spp.	10	-	-	10	10	30		
Cryptophyceae	12460	23140	19580	10680	7120	3560		
Rhodomonas spp.	1780	14240	10680	19580	8900	-		
Chlorophyta								
Chlorophyceae								
Unidentified cell	80	340	500	60	-	-		
Scenedesmus spp.	-	-	-	40	-	-		
Euglenophyceae								
Euglena c.f.	80	200	90	170	80	20		

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION D

June 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	-	-	1390	-	300	-		
Oscillatoria c.f.	600	530	-	1050	-	-		
Ciliata								
Mesodinium rubrum	40	-	10	110	-	-		
Paramecium c.f.	-	-	10	-	-	-		
Strombidium spp.	1210	2000	1790	860	360	70		
Tintinnopsis spp.	-	-	-	30	-	-		
Unidentified ciliate	80	210	190	110	10	-		
Unidentified ciliate	-	30	-	10	-	-		
Unidentified ciliate	-	20	-	20	-	-		
Suctoria								
Trochiscia	70	40	50	60	10	10		
Miscellaneous								
Unidentified flagellate	50	180	140	-	-	-		
Larva: Trochophore	10	-	10	-	-	-		
Unidentified cell	-	-	-	-	10	40		
Unidentified cell	-	-	-	-	-	10		
Unidentified cell	-	-	-	60	-	-		

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

June 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Achnanthes spp.	-	10	10	-	-	-	-	
Amphora spp.	10	10	10	10	10	10	-	10
Chaetoceros spp.	-	-	-	50	30	-	-	
Cocconeis spp.	30	30	50	20	10	10	10	
Cyclotella spp.	-	1780	1780	-	-	-	-	
Fragilaria spp.	20	60	30	20	-	-	10	
Licmophora spp.	10	-	20	20	10	10	10	
Melosira spp.	10	40	40	-	30	-	-	
Navicula spp.	70	130	160	90	30	20	20	10
Nitzschia spp.	350	540	600	190	170	50	10	30
N. closterium	20	-	40	60	-	10	-	10
Pleurosigma spp.	10	10	10	20	-	-	-	
Rhizosolenia sp.	-	-	-	-	-	10	-	
Skeletonema costatum	120	20	60	3030	820	-	-	
Striatella spp.	-	-	-	-	-	-	-	20
Thalassiosira spp.	-	20	-	-	20	10	-	
Unidentified pennate diatom	20	90	100	-	-	-	-	
Chrysophyceae	65860	89220	119260	83660	26700	12460	17800	21360
Dinobryon spp.	20	-	-	-	-	-	-	
Dinophyceae								
Ceratium spp.	-	-	-	-	10	-	-	
Glenodinium spp.	60	150	100	100	80	-	80	10
Gymnodinoid cell	-	-	-	-	-	100	-	
Oxytoxum spp.	-	-	-	-	10	30	-	
Peridinium spp.	-	-	-	10	20	20	-	
Cryptophyceae	8900	14240	12460	16020	5340	1780	1780	3560
Rhodomonas spp.	-	3560	1780	12460	12460	-	-	1780
Chlorophyta								
Chlorophyceae								
Unidentified cell	-	-	210	-	-	-	-	
Euglenophyceae								
Euglena c.f.	20	150	17	410	270	50	20	
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	-	-	-	-	600	-	-	
Oscillatoria c.f.	-	-	-	-	-	-	400	

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

June 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Ciliata								
Mesodinium rubrum	-	10	-	20	10	20	-	
Strombidium spp.	2970	3050	1780	400	230	40	50	40
Unidentified ciliate	200	260	140	30	10	-	10	
Unidentified ciliate	30	10	-	-	-	-	-	
Suctoria								
Trochiscia spp.	160	100	30	10	-	10	10	
Miscellaneous								
Unidentified cell	-	-	-	90	30	-	10	10
Unidentified cell	10	-	-	10	-	20	-	
Unidentified flagellate	-	110	90	20	10	-	-	

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION G

June 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Achnanthes sp.	-	-	-	-	-	-	10	
Amphiprora spp.	10	-	-	-	-	10	-	
Amphora spp.	-	70	10	-	10	20	-	
Bacteriastrum sp.	-	-	-	-	-	10	-	
Chaetoceros spp.	140	500	300	200	340	130	-	90
Cocconeis spp.	20	80	-	20	40	-	10	10
Cyclotella spp.	174340	135280	331860	95680	295480	-	1780	
Fragilaria spp.	-	40	-	10	-	-	-	
Leptocylindrus spp.	-	-	-	-	-	30	20	
Licmophora spp.	-	10	-	-	-	-	-	10
Melosira spp.	70	180	90	30	30	10	-	
Navicula spp.	60	170	50	40	100	30	20	
Nitzschia spp.	110	290	70	120	120	160	130	90
N. closterium	30	30	20	40	30	10	-	
Pleurosigma spp.	-	60	20	30	30	-	-	10
Rhizosolenia robusta	20	-	30	40	-	-	-	
Rhoicosphenia sp.	-	-	-	10	-	-	-	
Skeletonema costatum	70	340	150	70	880	540	280	100
Striatella spp.	20	-	-	-	-	-	-	
Thalassiosira spp.	-	-	-	20	20	20	-	30
Unidentified pennate	-	-	-	-	-	10	-	
Chrysophyceae	215380	375580	218940	202920	259880	56960	30260	28480
Dinophyceae								
Cochlodinium sp.	-	-	-	-	-	-	10	
Glenodinium spp.	260	240	100	120	1830	60	40	
Gymnodinium spp.	90	30	50	40	70	-	-	
Oxytoxum spp.	-	-	-	-	-	50	60	20
Peridinium spp.	2520	2110	1960	1980	3390	20	10	
Cryptophyceae	82260	40940	20260	8900	49840	8900	3560	5340
Rhodomonas spp.	224280	144180	206480	62300	69420	5340	-	-
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	-	70	-	-	40	-	-	
Unidentified cell	10	150	10	-	-	-	-	
Euglenophyceae								
Euglena c.f.	700	1020	920	740	540	100	20	10

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION G

June 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	-	330	650	-	60	-	-	
Oscillatoria c.f.	-	160	-	600	-	250	-	
Radiolaria								
Ciliata								
Mesodinium rubrum	-	10	-	-	30	10	10	
Strombidium spp.	1360	1080	1540	1170	880	30	-	20
Unidentified ciliate	30	-	20	10	10	-	-	
Unidentified ciliate	-	10	-	-	-	-	-	
Suctoria								
Trochiscia spp.	40	10	-	-	110	-	-	
Miscellaneous								
Unidentified cell	50	-	-	-	-	10	-	
Unidentified cell	-	-	-	-	-	-	10	
Unidentified cell	-	120	20	100	30	-	-	
Unidentified cell	-	-	-	-	-	-	10	
Collar flagellate	-	-	-	-	-	1760	-	

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION J

June 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphiprora sp.	10	-	-	-	-	-	-	-
Chaetoceros spp.	130	60	50	120	-	-	-	-
Cocconeis spp.	30	-	-	-	10	10	-	-
Corethron spp.	-	-	-	-	20	-	-	-
Coscinodiscus sp.	-	-	-	-	-	-	-	10
Cyclotella spp.	-	646140	313280	538220	39160	-	1780	-
Melosira spp.	-	10	20	40	20	-	-	-
Navicula spp.	70	40	10	20	30	20	20	-
Nitzschia spp.	80	60	30	70	-	40	100	10
N. closterium	20	-	-	-	20	10	20	-
Pleurosigma spp.	10	-	-	-	10	-	-	-
Skeletonema costatum	500	240	60	90	540	-	80	-
Thalassiosira spp.	20	-	-	-	-	10	20	-
Chrysophyceae	315060	129940	117480	113920	87220	19580	30240	-
Pedinomonas c.f.	1780	-	-	-	-	-	-	-
Dinophyceae								
Cochlodinium spp.	-	10	-	-	10	-	-	-
Glenodinium spp.	1480	1060	490	600	210	120	40	-
Gymnodinium spp.	40	60	50	10	10	-	10	-
Oxytoxum sp.	-	-	-	-	-	10	-	-
Peridinium spp.	1960	2010	1850	1600	130	40	40	-
Prorocentrum spp.	-	-	-	-	10	-	10	-
Cryptophyceae	39160	10680	21360	14240	16020	5340	1780	-
Rhodomonas spp.	12460	3560	-	7120	8900	-	-	
Chlorophyta								
Euglenophyceae								
Euglena c.f.	130	120	90	160	760	10	-	-
Cyanophyta								
Cyanophyceae								
Oscillatoria c.f.	-	300	-	350	-	-	-	-
Silicoflagellata								
Distephanus spp.	-	-	-	-	30	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION J

June 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Ciliata								
Mesodinium rubrum	-	10	20	40	20	10	-	-
Strombidium spp.	670	350	620	390	240	120	40	20
S. strobilis	20	80	40	20	10	10	-	-
Tintinnopsis sp.	-	-	-	-	10	-	-	-
Unidentified ciliate	10	-	10	40	-	-	-	-
Suctoria								
Trochiscia spp.	30	-	10	10	-	-	-	-
Miscellaneous								
Unidentified cell	10	-	-	-	30	20	-	-
Unidentified cell	-	-	20	-	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION D

July 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphiprora spp.	-	10	40	-	-	-		
Amphora spp.	20	10	10	20	20	-		
Chaetoceros spp.	60	-	-	-	-	-		
Cocconeis spp.	30	40	80	10	-	-		
Coscinodiscus spp.	-	-	10	-	30	10		
Cyclotella spp.	10680	10680	16020	42720	5340	1780		
Fragilaria spp.	80	90	50	50	30	10		
Grammatophora spp.	-	20	20	-	-	-		
Leptocylindrus spp.	-	-	-	90	20	-		
Licmophora spp.	-	30	10	-	-	-		
Melosira spp.	40	20	20	30	20	-		
Navicula spp.	200	110	60	70	10	10		
Nitzschia spp.	500	570	480	80	200	60		
N. closterium	100	120	80	60	30	10		
Pleurosigma spp.	-	30	20	20	30	10		
Rhizosolenia robusta	530	720	760	650	120	-		
Rhoicosphenia sp.	-	-	10	-	-	-		
Skeletonema costatum	40	-	-	370	1390	170		
Thalassiosira sp.	-	-	-	-	10	-		
Unidentified filament	-	280	-	-	-	-		
Chrysophyceae	213600	226060	259880	249200	121040	304380		
Dinophyceae								
Amphidium spp.	-	-	-	-	10	10		
Glenodinium spp.	920	800	1390	44000	2561	160		
Gymnodinium spp.	20	230	-	70	-	-		
Gymnodinoid cell	330	-	270	30	620	230		
Oxytoxum spp.	-	-	-	-	20	80		
Peridinium spp.	30	10	-	1500	20	20		
Prorocentrum spp.	-	-	-	10	10	-		
Cryptophyceae	21360	24920	46280	19580	16080	1780		
Rhodomonas spp.	226060	5340	147740	167300	16080	5340		
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	280	240	200	200	120	-		
Unidentified cell	180	-	200	-	-	-		
Euglenophyceae								
Euglena c.f.	1720	1350	1160	50	120	150		
Phacus c.f.	-	-	10	-	-	-		

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION D

July 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	990	1530	910	940	700	280		
Oscillatoria c.f.	560	-	-	-	350	80		
Radiolaria								
Acanthometra c.f.	-	-	-	-	10	-		
Ciliata								
Mesodinium rubrum	-	20	10	160	-	20		
Strombidium spp.	14660	19820	9160	1260	720	420		
Tintinnopsis sp.	-	-	-	-	10	-		
Unidentified ciliate	-	-	10	-	30	-		
Miscellaneous								
Unidentified cell	20	-	-	-	80	120		
Unidentified cell	20	30	100	90	10	-		
Collar flagellate	-	-	10	-	-	-		
Bacteria	X	X	X	-	-	-		

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

July 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphiprora spp.	-	-	30	-	10	-	-	10
Amphora spp.	10	10	10	-	-	-	-	-
Chaetoceros spp.	70	80	140	20	20	50	-	-
Cocconeis spp.	30	30	-	-	20	-	-	20
Corethron spp.	-	-	-	-	10	10	-	-
Coscinodiscus sp.	-	-	-	-	-	10	-	-
Cyclotella spp.	37380	21360	28480	44500	16020	-	-	-
Ditylum brightwelli	-	-	-	-	-	10	-	-
Fragilaria spp.	170	30	20	30	20	90	20	-
Leptocylindrus spp.	-	-	130	-	20	-	-	-
Licmophora spp.	10	-	-	20	-	10	-	20
Melosira spp.	10	30	20	-	-	-	20	-
Navicula spp.	180	70	60	110	20	30	20	30
Nitzschia spp.	720	630	1130	230	70	150	90	130
N. closterium	70	60	40	30	20	20	30	-
Planktoniella spp.	-	-	-	20	-	-	-	-
Pleurosigma spp.	-	-	20	70	20	-	10	-
Rhizosolenia robusta	880	980	1000	660	70	-	10	-
Skeletonema costatum	230	150	280	150	1240	680	60	200
Striatella spp.	-	-	-	-	10	10	-	-
Thalassiosira spp.	-	-	-	10	20	-	-	-
Chrysophyceae	190460	176220	142400	147740	44500	51620	46280	42720
Dinophyceae								
Ceratium sp.	-	-	10	-	-	-	-	-
Glenodinium spp.	1240	1390	3910	9960	220	190	130	80
Gymnodinium spp.	10	-	10	90	50	-	-	10
Gymnodinoid cell	850	460	530	210	540	120	70	60
Oxytoxum spp.	-	-	-	-	-	-	20	-
Peridinium spp.	-	-	20	1460	60	40	10	-
Prorocentrum spp.	-	20	-	20	30	-	-	-
Cryptophyceae	30260	21360	21360	12460	14240	5340	5340	8900
Rhodomonas spp.	156640	437880	277680	101460	16020	1780	-	-
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	150	250	240	80	-	-	-	-
Unidentified cell	-	-	80	-	-	-	-	-
Euglenophyceae								
Euglena c.f.	210	480	400	30	30	80	40	20
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	1140	1490	2020	1530	230	140	290	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

July 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Ciliata								
Mesodinium rubrum	-	-	20	260	30	-	-	-
Strombidium spp.	12490	1709	7620	2530	1200	100	90	90
S. strobilis	10	70	40	-	-	-	-	-
Tintinnopsis spp.	-	-	-	-	20	-	-	-
Unidentified ciliate	-	10	-	-	-	-	-	-
Unidentified ciliate	-	40	-	-	-	-	-	-
Suctoria								
Trochiscia sp.	-	-	-	-	-	-	10	-
Miscellaneous								
Unidentified cell	-	-	-	10	20	10	-	-
Unidentified cell	-	-	-	-	-	10	-	-
Unidentified cell	-	20	130	180	20	-	-	-
Bacteria	X	X	X	X	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION G

July 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphora spp.	-	-	20	-	-	30	10	10
Bacteriastrum sp.	-	-	-	-	-	-	10	-
Chaetoceros spp.	10	60	40	30	20	10	10	-
Cocconeis spp.	10	10	30	10	-	-	20	10
Corethron sp.	-	-	-	-	-	10	-	-
Coscinodiscus spp.	-	-	-	40	40	10	20	10
Cyclotella spp.	16020	14240	12460	8900	1780	1780	-	-
Leptocylindrus sp.	-	-	-	-	-	10	-	-
Melosira spp.	60	-	50	50	-	-	-	60
Navicula spp.	130	50	50	90	40	30	10	20
Nitzschia spp.	70	160	260	160	150	120	120	120
N. closterium	70	60	60	30	20	20	-	10
Okedenia spp.	-	-	-	10	-	-	-	20
Pleurosigma spp.	10	40	120	60	20	-	-	-
Rhizosolenia robusta	500	720	300	60	20	-	-	-
Rhoicosphenia sp.	-	-	10	-	-	-	-	-
Skeletonema costatum	60	80	40	1040	510	410	430	950
Thalassiosira spp.	20	40	50	80	-	-	-	-
Chrysophyceae	94340	105020	94340	72980	46280	32040	35600	23140
Dinophyceae								
Glenodinium spp.	3780	3920	2270	1190	90	70	-	-
Gymnodinium spp.	-	20	40	30	-	-	-	-
Gymnodinoid cell	40	210	240	320	80	90	50	40
Oxytoxum spp.	-	-	-	140	130	90	40	60
Peridinium spp.	1110	1180	1130	10	40	20	-	-
Prorocentrum spp.	10	10	140	230	20	-	-	-
Cryptophyceae	19580	17800	24920	17800	8900	7120	7120	5340
Rhodomonas spp.	428980	450340	405840	80100	16020	-	1780	-
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	-	160	80	230	-	-	-	-
Unidentified cell	10	-	-	-	-	-	-	-
Prasinophyceae	-	-	3560	-	-	-	-	-
Euglenophyceae								
Euglena c.f.	-	10	10	150	-	310	120	80
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	1410	1010	1070	640	-	270	-	420

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION G

July 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Ciliata								
Mesodinium rubrum	270	140	230	20	30	-	-	-
Salpingella spp.	-	-	-	40	20	10	-	-
Strombidium spp.	3320	3490	2020	780	280	110	9[illegible]	70
S. strobilis	20	20	-	10	-	-	-	-
Unidentified ciliate	20	10	10	40	-	-	-	-
Unidentified ciliate	-	-	10	-	10	-	-	-
Miscellaneous								
Unidentified cell	-	-	-	20	-	20	10	-
Unidentified cell	-	-	-	-	-	30	-	-
Unidentified cell	-	20	70	-	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION J

July 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphora spp.	-	-	-	-	-	-	30	-
Biddulphia aurita	-	-	-	10	-	-	-	-
Chaetoceros spp.	30	30	-	10	70	40	-	10
Cocconeis spp.	40	40	-	10	30	20	-	20
Coscinodiscus spp.	-	10	-	20	40	20	10	10
Cyclotella spp.	28480	32040	-	7120	-	1780	-	-
Fragilaria spp.	10	30	10	10	40	-	-	-
Grammatophora spp.	-	10	-	-	10	-	-	-
Leptocylindrus sp.	-	-	-	-	10	-	-	-
Licmophora spp.	10	-	-	-	-	10	-	10
Melosira spp.	120	10	10	40	10	30	-	-
Navicula spp.	70	10	-	60	20	10	10	-
Nitzschia spp.	370	230	20	100	280	260	140	160
N. closterium	80	70	40	110	30	30	20	-
Okedenia sp.	10	-	-	-	-	-	-	-
Pleurosigma spp.	60	60	10	50	-	-	-	-
Rhizosolenia robusta	550	200	10	100	50	-	-	-
Rhoicosphenia spp.	10	-	-	-	-	-	10	-
Skeletonema costatum	40	70	70	160	600	870	810	640
Thalassiosira spp.	20	10	-	10	10	-	-	-
Chrysophyceae	178000	181560	304380	804600	60520	55180	30260	32040
Dinophyceae								
Amphidinium spp.	10	40	-	10	-	-	-	-
Cochlodinium spp.	50	-	-	10	-	-	-	-
Dinophysis sp.	-	-	-	-	10	-	-	-
Glenodinium spp.	1740	2330	100	740	120	70	100	70
Gymnodinium spp.	40	90	-	10	-	-	10	-
Gymnodinoid cell	130	530	-	300	160	150	20	20
Oxytoxum spp.	-	-	-	100	100	120	20	50
Peridinium spp.	550	640	-	20	10	20	-	-
Prorocentrum spp.	220	320	-	70	10	-	20	-
Cryptophyceae	44500	21360	10680	24920	10680	8900	3560	-
Rhodomonas spp.	468140	411180	5340	80100	7120	14240	1780	-
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	120	-	-	80	-	160	-	-
Euglenophyceae								
Euglena c.f.	20	40	3090	160	270	180	30	40
Phacus c.f.	-	-	70	-	-	10	-	-
Prasinophyceae	5340	7120	-	-	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION J

July 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	1680	380	-	340	50	-	-	-
Silicoflagellata								
Distephanus sp.	-	-	-	-	10	-	-	-
Ciliata								
Dysteria spp.	-	-	610	-	-	-	-	-
Euplotes c.f.	-	-	190	-	-	-	-	-
Mesodinium rubrum	470	530	-	80	-	10	-	-
Salpingella spp.	1940	-	-	20	-	10	-	-
Strombidium spp.	-	1890	250	910	210	150	70	-
Tintinnopsis spp.	-	20	-	-	-	-	10	-
Unidentified ciliate	-	-	1680	-	-	10	-	-
Unidentified ciliate	-	-	-	10	-	-	-	-
Miscellaneous								
Unidentified cell	-	10	10	60	-	-	-	10
Unidentified cell	-	-	-	-	10	-	20	30
Unidentified cell	20	30	-	-	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION D

August 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphiprora sp.	-	10	-	-	-	-		
Amphora spp.	-	20	-	-	-	-		
Asteromphalus heptactis	-	-	-	90	30	-		
Chaetoceros spp.	80	640	310	100	-	10		
Cocconeis spp.	10	10	10	10	-	-		
Coscinodiscus spp.	-	-	-	10	20	50		
Cyclotella spp.	5340	-	-	-	-	-		
Fragilaria spp.	290	60	-	20	-	10		
Gomphonema spp.	20	-	-	-	-	-		
Grammatophora spp.	-	20	-	-	-	-		
Leptocylindrus spp.	20	20	30	-	90	-		
Leptocylindrus c.f.	2710	22130	3670	8640	2100	660		
Melosira spp.	-	-	40	-	-	-		
Navicula spp.	140	20	40	40	20	10		
Nitzschia spp.	530	90	120	190	220	190		
N. closterium	-	10	20	40	130	30		
Rhizosolenia spp.	190	30	20	-	-	-		
R. robusta	-	-	10	50	50	20		
Rhoicosphenia sp.	10	-	-	-	-	-		
Skeletonema costatum	-	-	-	-	20	410		
Thalassiosira spp.	-	50	10	-	30	40		
Chrysophyceae	838380	323960	327420	156420	44500	115700		
Dinophyceae								
Amphidinium spp.	-	330	130	110	-	-		
Ceratium fusus	-	-	10	-	-	-		
Cochlodinium spp.	-	50	20	20	-	-		
Dinophysis spp.	-	30	100	60	-	-		
Glenodinium spp.	450	2710	27840	12580	260	80		
Gymnodinium spp.	-	70	40	40	10	20		
Gymnodinoid cell	-	190	1050	710	120	50		
Noctiluca scintillans	-	-	10	-	10	-		
Oxytoxum spp.	-	80	30	20	-	10		
Peridinium spp.	-	610	2240	1230	120	30		
Prorocentrum spp.	20	3100	7320	890	-	-		
Cryptophyceae	17800	51620	37380	23140	7120	6900		
Rhodomonas spp.	1780	149520	97900	28480	7120	-		
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	120	-	-	-	-	-		
Euglenophyceae								
Euglena c.f.	10	100	190	420	200	120		

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION D

August 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	60	540	-	-	-	-		
Silicoflagellata								
Distephanus spp.	-	-	50	40	20	-		
Ciliata								
Euplotes sp.	-	10	-	-	-	-		
Mesodinium rubrum	10	210	-	-	-	-		
Parundella spp.	-	20	60	-	-	-		
Strombidium spp.	1050	5980	850	530	230	-		
S. strobilis	-	-	50	20	-	-		
Tiarina spp.	-	10	70	-	60	20		
Tintinnopsis spp.	-	10	-	-	-	10		
Miscellaneous								
Collar flagellate	1780	-	-	-	1780	1760		
Unidentified cell	-	460	820	470	270	20		
Unidentified cell	-	-	-	-	-	20		
Unidentified cell	-	100	20	-	-	-		
Planktonic crustacean	-	10	-	20	10	-		
Ascidian larva	-	-	-	10	-	-		

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION G

August 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphiprora sp.	-	-	-	-	-	-	10	-
Amphora spp.	20	-	10	-	-	-	-	-
Chaetoceros spp.	2360	1270	860	50	110	100	10	-
Cocconeis spp.	10	20	-	-	-	-	-	10
Coscinodiscus spp.	-	-	-	60	40	-	70	40
Cyclotella spp.	5340	-	-	3560	-	-	-	-
Eucampia spp.	-	-	-	-	20	30	-	10
Fragilaria spp.	30	-	-	40	-	-	-	-
Leptocylindrus spp.	21330	29160	46620	34020	8020	1960	700	280
Melosira spp.	10	30	20	10	-	10	-	-
Navicula spp.	50	20	10	50	10	30	-	-
Nitzschia spp.	110	40	30	160	130	140	210	240
N. closterium	-	-	20	40	110	80	20	20
Pleurosigma spp.	40	-	-	-	-	-	-	10
Rhizosolenia spp.	50	-	-	-	-	-	-	-
R. robusta	10	-	10	170	160	30	40	30
Skeletonema costatum	40	-	-	-	150	-	90	60
Thalassiosira spp.	20	-	30	20	10	30	20	30
Chrysophyceae	715560	332680	352440	178000	69420	64670	55180	42720
Dinophyceae								
Amphidinium spp.	30	300	310	90	70	20	-	-
Ceratium fusus	-	-	-	10	-	-	-	-
Cochlodinium spp.	130	90	70	30	10	-	-	-
Dinophysis spp.	-	-	60	120	30	-	-	-
Glenodinium spp.	4410	6160	3000	920	110	30	20	50
Gymnodinium spp.	10	-	30	90	40	-	-	-
Gymnodinoid cell	20	610	1240	870	460	100	60	60
Noctiluca scintillans	-	-	-	-	10	-	-	-
Oxytoxum spp.	-	20	70	20	-	-	-	-
Peridinium spp.	20	130	280	480	120	60	30	-
Prorocentrum spp.	1180	10710	24840	3090	130	50	60	20
Cryptophyceae	58060	53400	23140	13140	17800	5340	14240	8900
Rhodomonas spp.	50840	65860	67640	16020	12460	-	-	-
Chlorophyta								
Euglenophyceae								
Euglena c.f.	30	60	40	460	30	60	70	100
Phacus c.f.	10	20	-	40	-	10	-	30
Prasinophyceae	-	260	240	-	10	10	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION G

August 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	410	-	-	-	-	-	180	-
Oscillatoria c.f.	1800	-	-	90	-	-	-	120
Silicoflagellata								
Distephanus spp.	-	10	-	80	20	-	-	-
Ciliata								
Mesodinium rubrum	70	220	230	-	50	-	-	-
Strombidium spp.	5890	4680	3150	320	330	140	30	20
S. strobilis	20	-	10	20	-	-	-	-
Tiarina c.f.	-	-	20	20	10	40	20	-
Tintinnopsis spp.	10	30	40	-	-	-	-	-
Unidentified ciliate	10	40	-	-	10	10	-	10
Miscellaneous								
Amphipod	-	-	-	-	10	-	-	-
Ascidian larva	-	-	-	10	-	-	-	-
Collar flagellate	1780	-	21360	3560	1780	3560	7120	5340
Unidentified cell	10	190	300	710	110	70	20	60
Unidentified cell	-	-	-	10	-	-	-	-
Unidentified cell	-	10	-	-	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

August 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphora spp.	10	10	10	-	-	-	-	-
Asteromphalus heptactis	-	-	-	20	10	10	-	-
Chaetoceros spp.	20	310	390	170	80	-	-	50
Cocconeis spp.	-	20	10	-	-	-	-	-
Corethron sp.	-	-	-	-	-	-	10	-
Coscinodiscus spp.	-	-	-	60	20	30	20	-
Cyclotella spp.	1780	1780	1780	-	-	-	-	-
Eucampia spp.	-	-	20	-	-	-	-	-
Fragilaria spp.	220	80	-	10	40	30	10	-
Gomphonema sp.	10	-	-	-	-	-	-	-
Leptocylindrus spp.	-	-	20	20	30	70	-	-
Leptocylindrus c.f.	5150	10980	55630	5330	2270	830	140	90
Melosira spp.	-	-	60	20	-	-	10	10
Navicula spp.	90	20	-	40	20	20	30	20
Nitzschia spp.	270	100	220	140	210	210	40	30
N. closterium	60	-	-	90	80	80	40	30
Pleurosigma spp.	-	10	10	-	-	-	-	-
Rhizosolenia spp.	200	80	-	-	20	20	-	-
R. robusta	-	10	50	40	20	10	-	-
Skeletonema costatum	50	-	70	30	90	490	390	120
Thalassiosira spp.	20	10	-	10	30	30	-	-
Chrysophyceae	509080	466360	243860	67640	37380	33820	30460	30460
Dinophyceae								
Amphidinium spp.	-	750	320	90	60	20	-	-
Cochlodinium spp.	-	30	60	10	-	10	-	-
Dinophysis	-	10	100	90	-	-	-	-
Glenodinium spp.	300	1190	10040	1900	180	30	40	30
Gymnodinium spp.	-	10	150	50	-	-	-	-
Gymnodinoid cell	40	100	700	390	220	80	-	90
Noctiluca scintillans	-	-	-	10	-	-	-	-
Oxytoxum spp.	-	20	40	-	-	-	-	-
Peridinium spp.	-	150	530	250	120	20	20	30
Prorocentrum spp.	40	410	7440	-	-	-	10	20
Cryptophyceae	58740	55180	28480	12460	16020	1780	5340	3560
Rhodomonas spp.	16020	71200	89000	12460	7120	1780	-	-
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	80	-	-	-	-	-	-	80
Euglenophyceae								
Euglena c.f.	10	-	220	350	120	60	60	50

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

August 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Prasinophyceae	-	-	30	-	-	-	-	-
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	780	230	260	-	-	-	-	-
Oscillatoria c.f.	-	60	-	630	-	-	-	-
Silicoflagellata								
Distephanus spp.	-	-	-	20	10	-	-	-
Ciliata								
Mesodinium rubrum	-	540	60	10	10	-	-	-
Salpingella spp.	-	-	40	-	-	-	-	-
Strombidium spp.	880	6140	2160	170	100	12	60	90
S. strobilis	-	10	50	-	-	-	-	-
Tiarina spp.	-	-	40	20	30	40	-	-
Unidentified ciliate	20	20	50	-	-	-	10	-
Unidentified ciliate	-	-	-	-	-	20	-	-
Miscellaneous								
Collar flagellate	-	1780	3560	7120	-	-	1780	1780
Unidentified cell	-	40	730	400	100	60	40	60
Unidentified cell	-	-	-	20	-	10	-	-
Unidentified cell	10	-	10	-	-	-	-	-
Planktonic crustacean	40	40	-	-	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION J

August 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Asteromphalus sp.	-	-	-	10	-	-	-	-
Amphiprora spp.	10	-	-	10	-	-	-	-
Amphora spp.	20	10	20	-	-	-	-	-
Chaetoceros spp.	1010	1200	710	110	160	40	60	60
Cocconeis spp.	-	40	10	10	10	10	10	-
Coscinodiscus spp.	-	20	20	60	50	20	30	30
Eucampia spp.	-	20	-	-	40	50	40	-
Fragilaria spp.	-	10	-	10	-	-	-	-
Grammatophora sp.	10	-	-	-	-	-	-	-
Leptocylindrus spp.	49870	38170	57870	82560	26130	4650	1630	1080
Licmophora sp.	10	-	-	-	-	-	-	-
Melosira spp.	40	210	40	-	-	-	-	-
Navicula spp.	130	120	80	40	30	40	30	30
Nitzschia spp.	100	130	120	170	100	180	330	160
N. closterium	20	-	10	40	40	170	40	70
Pleurosigma spp.	10	-	10	-	-	10	-	-
Rhizosolenia sp.	-	-	-	-	10	-	-	-
Rhizosolenia robusta	-	-	-	110	50	90	20	-
Rhoicosphenia spp.	10	10	-	-	-	-	-	-
Skeletonema costatum	40	70	-	-	40	-	-	-
Thalassiosira spp.	20	70	40	20	50	30	30	90
Chrysophyceae	178780	357780	375580	217160	115700	58740	39160	33820
Dinophyceae								
Amphidinium spp.	210	250	250	140	190	40	20	10
Ceratium sp.	-	-	-	10	-	-	-	-
Cochlodinium spp.	-	10	60	-	-	30	-	-
Dinophysis spp.	10	-	110	220	50	-	20	-
Glenodinium spp.	2820	2520	1660	1930	470	40	20	40
Gymnodinium spp.	50	80	-	110	20	-	-	-
Gymnodinoid cell	140	680	2740	1560	570	160	40	20
Gyrodinium spp.	60	50	50	10	30	-	10	-
Oxytoxum spp.	20	60	80	20	20	30	100	50
Peridinium spp.	70	70	360	1800	240	-	20	20
Prorocentrum spp.	26780	24260	43440	12840	350	40	40	-
Cryptophyceae	47060	39940	37380	35600	24920	5340	3560	10680
Rhodomonas spp.	41720	64080	42720	28480	16720	5340	-	1780
Chlorophyta								
Euglenophyceae								
Euglena c.f.	150	80	190	140	100	90	10	20
Prasinophyceae	60	120	70	-	10	10	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION J

August 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	890	1330	740	-	-	-	-	-
Oscillatoria c.f.	140	-	-	-	-	-	-	-
Radiolaria								
Dictyophimus sp.	-	-	-	-	10	-	-	-
Silicoflagellata								
Distephanus spp.	-	-	-	-	20	10	-	10
Ciliata								
Mesodinium rubrum	120	70	70	120	30	10	10	-
Salpingella spp.	10	-	10	20	-	-	-	-
Strombidium spp.	3610	4070	2300	890	550	140	130	100
S. strobilis	-	-	10	-	-	10	-	-
Tiarina c.f.	-	-	-	30	10	20	-	-
Tintinnopsis spp.	30	10	30	-	-	-	-	-
Unidentified ciliate	60	140	20	10	10	-	20	-
Miscellaneous								
Collar flagellate	3560	5340	7120	-	3560	1780	1780	-
Unidentified cell	110	30	200	740	500	160	70	50
Unidentified cell	-	-	-	-	-	-	-	10

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION D

September 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Asteromphalus heptactis	-	-	10	10	-	40		
Amphiprora spp.	20	-	-	-	-	-		
Amphora spp.	10	10	-	-	-	-		
Chaetoceros spp.	-	-	-	-	50	50		
Coscinodiscus spp.	-	-	10	70	100	410		
Cyclotella spp.	1780	1780	12460	1780	-	-		
Ditylum spp.	-	-	20	-	-	10		
Eucampia spp.	-	30	-	-	-	-		
Grammatophora sp.	10	-	-	-	-	-		
Gyrosigma spp.	-	-	-	-	-	20		
Leptocylindrus c.f.	150	130	90	70	40	-		
Licmophora sp.	-	10	-	-	-	-		
Melosira spp.	50	60	-	-	-	-		
Navicula spp.	300	130	110	40	60	10		
Nitzschia spp.	190	180	120	90	130	10		
N. closterium	-	-	40	20	-	-		
Pleurosigma spp.	10	20	-	-	-	-		
Rhizosolenia spp.	240	30	-	-	-	10		
R. delicatula	-	10	-	-	-	-		
R. robusta	80	30	20	10	-	-		
Rhoicosphenia spp.	-	20	-	-	10	-		
Skeletonema costatum	90	-	-	-	-	-		
Thalassionema nitzschoides	-	20	-	-	-	-		
Thalassiosira spp.	20	-	20	80	60	10		
Chrysophyceae	660380	1922400	1726600	1975800	1173020	521540		
Dinophyceae								
Amphidinium spp.	-	280	120	-	-	-		
Ceratium fusus	-	-	-	10	130	-		
Cochlodinium spp.	-	30	80	-	30	-		
Dinophysis spp.	-	10	360	300	430	30		
Glenodinium spp.	83	2810	2340	310	120	-		
encysted Glenodinium	30	60	20	20	-	-		
Gymnodinium spp.	-	-	-	-	-	60		
Gymnodinoid cell	-	190	160	30	60	50		
Oxytoxum spp.	-	40	210	20	20	-		
Peridinium spp.	20	120	360	260	130	10		
encysted Peridinium	-	-	10	10	-	-		
Polykrikos sp.	-	-	-	-	-	10		
Prorocentrum spp.	-	10	20	-	-	-		
Cryptophyceae	33820	28480	39160	21360	21360	7120		
Rhodomonas spp.	12460	10680	5340	-	-	-		
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	160	-	-	-	-	-		

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION D

September 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Euglenophyceae								
Euglena c.f.	-	10	60	-	-	10		
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	250	-	-	-	-	-		
Silicoflagellata								
Distephanus spp.	-	-	-	40	-	-		
Ebria spp.	-	30	10	10	-	-		
Ciliata								
Favella spp.	-	-	280	10	-	-		
Mesodinium rubrum	-	110	350	300	460	-		
Parundella spp.	-	-	350	10	20	-		
Salpingella spp.	-	-	20	-	10	-		
Strombidium spp.	-	670	950	770	1450	40		
S. conicum	-	60	30	-	230	30		
S. strobilis	-	-	-	10	160	-		
Tiarina c.f.	-	10	30	100	60	-		
Tintinnopsis spp.	-	10	110	-	-	-		
Unidentified ciliate	-	-	-	10	10	-		
Miscellaneous								
Collar flagellate	-	-	-	33820	7120	-		
Planktonic crustacean	-	-	-	10	30	-		
Unidentified cell	-	-	20	80	10	-		

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

September 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphiprora sp.	10	-	-	-	-	-	-	-
Asteromphalus heptactis	-	10	40	40	40	50	30	-
Chaetoceros spp.	-	-	-	50	220	60	60	60
Cocconeis sp.	10	-	-	-	-	-	-	-
Corethron sp.	-	-	-	10	-	-	-	-
Coscinodiscus spp.	-	20	100	200	290	330	310	30
Cyclotella spp.	3560	-	7120	1780	-	-	-	-
Ditylum spp.	-	10	-	10	-	-	-	-
Fragilaria spp.	220	30	-	-	-	-	-	-
Gyrosigma spp.	-	-	10	-	-	10	40	30
Leptocylindrus c.f.	20	680	180	180	20	-	60	50
Licmophora sp.	-	10	-	-	-	-	-	-
Melosira spp.	40	50	80	-	10	-	-	-
Navicula spp.	80	10	-	-	20	30	50	50
Nitzschia spp.	100	50	-	30	40	10	130	50
N. closterium	20	20	-	-	-	-	30	20
Pleurosigma sp.	-	10	-	-	-	-	-	-
Rhizosolenia spp.	300	30	-	10	-	10	10	-
R. delicatula	-	-	30	10	-	-	-	-
R. robusta	50	50	10	-	-	-	-	-
Skeletonema costatum	160	-	-	-	-	-	-	190
Thalassionema nitzschoides	-	-	-	10	20	-	20	90
Thalassiosira spp.	20	20	100	70	50	30	70	-
Chrysophyceae	354220	1691000	181560	414740	247420	242080	179780	81880
Dinophyceae								
Amphidinium spp.	-	210	-	-	-	-	-	-
Ceratium fusus	-	-	-	60	40	-	-	-
Cochlodinium spp.	-	120	-	10	-	-	-	-
Dinophysis spp.	10	50	160	340	190	20	-	-
Glenodinium spp.	260	3130	120	110	80	-	70	20
encysted Glenodinium	60	70	40	10	-	-	-	-
Gymnodinium spp.	-	40	30	40	10	30	-	-
Gymnodinoid cell	-	120	20	20	20	-	-	-
Oxytoxum spp.	-	220	60	10	40	-	-	-
Peridinium spp.	20	330	270	90	100	40	-	-
encysted Peridinium	-	-	10	-	-	-	-	-
Polykrikos sp.	-	-	-	10	-	-	-	-
Prorocentrum spp.	-	40	-	-	-	-	-	-
Cryptophyceae	62300	74760	1780	33820	17800	1780	7120	7120
Rhodomonas spp.	23140	5340	-	1780	-	-	7120	-
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	200	-	-	-	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION H

September 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Euglenophyceae								
Euglena c.f.	-	20	-	-	20	-	-	-
Radiolaria								
Lithomelissa sp.	-	-	-	-	-	10	-	-
Silicoflagellata								
Distephanus sp.	-	-	-	-	-	10	-	-
Ciliata								
Dysteria spp.	-	20	-	-	-	-	-	-
Favella spp.	-	90	180	-	-	-	-	-
Mesodinium rubrum	30	40	130	690	1120	40	40	30
Parundella spp.	-	80	30	70	10	-	20	-
Salpingella spp.	-	-	10	10	-	-	-	-
Stenosmella sp.	-	-	-	-	-	-	-	10
Strombidium spp.	820	460	180	730	1050	170	10	-
S. conicum	-	610	-	70	150	130	50	10
S. strobilis	-	10	-	-	80	10	-	30
Tiarina c.f.	-	-	40	10	-	-	-	10
Tintinnopsis spp.	-	30	-	-	-	20	-	-
Tintinnus sp.	-	-	10	-	-	-	-	-
Miscellaneous								
Collar flagellate	-	-	3560	-	1780	1780	1780	-
Planktonic Crustacean	-	-	20	30	-	30	-	-
Planktonic Polychaete	-	-	-	10	10	-	-	-
Unidentified cell	-	20	-	-	-	-	-	-
Unidentified cyst	1400	70	-	30	-	-	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION G

September 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphiprora spp.	-	-	-	-	-	10	10	
Amphora spp.	60	10	-	-	-	-	-	
Asteromphalus heptactis	10	10	40	50	30	-	10	
Biddulphia spp.	-	10	-	10	10	10	-	
Chaetoceros spp.	-	220	30	140	30	400	120	
Coscinodiscus spp.	40	30	60	170	270	140	180	20
Cyclotella spp.	-	5340	5340	-	-	-	-	
Ditylum spp.	-	10	10	-	-	-	10	
Eucampia spp.	-	-	-	40	-	-	-	
Fragilaria sp.	10	-	-	-	-	-	-	
Gyrosigma spp.	-	-	-	-	10	10	-	
Leptocylindrus spp.	1870	2190	2590	1460	-	-	100	80
Licmophora spp.	50	-	-	-	-	-	-	
Melosira sp.	10	-	-	-	-	-	-	
Navicula spp.	60	-	20	60	60	40	80	30
Nitzschia spp.	280	90	20	10	10	30	60	70
N. closterium	20	30	20	-	10	10	20	
Pleurosigma spp.	20	10	-	-	-	-	-	
Rhizosolenia spp.	20	80	30	40	10	40	50	
R. delicatula	-	-	10	-	-	-	-	
R. robusta	-	30	10	30	10	-	-	30
Skeletonema costatum	-	350	730	-	260	-	-	480
Thalassionema nitzschoides	-	-	-	10	40	50	-	90
Thalassiosira spp.	20	140	140	60	90	20	30	10
Chrysophyceae	1858000	1833400	617660	325060	99480	40940	71200	42720
Dinophyceae								
Amphidinium spp.	20	60	-	-	-	-	-	-
Ceratium fusus	-	-	-	20	10	-	-	-
Cochlodinium spp.	10	50	-	10	-	10	-	-
Dinophysis spp.	10	10	240	370	60	10	-	-
Glenodinium spp.	580	-	390	50	30	10	40	-
Gymnodinium spp.	10	390	420	60	-	-	-	-
cyst of Gymnodinium	-	-	10	-	-	-	-	-
Gymnodinoid cell	40	130	60	20	30	-	-	-
Oxytoxum spp.	20	170	130	10	-	-	-	-
Peridinium spp.	150	580	630	80	180	30	30	-
Prorocentrum sp.	-	10	-	-	-	-	-	-
Cryptophyceae	131720	32040	37380	5340	28480	5340	5340	7120
Rhodomonas spp.	16020	5340	-	7120	-	-	-	-
Chlorophyta								
Euglenophyceae								
Euglena c.f.	10	20	10	-	10	-	10	10

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION G

September 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Cyanophyta								
Cyanophyceae								
Anabaena c.f.	1020	-	-	-	-	-	-	-
Radiolaria								
Unidentified Radiolarian	-	-	-	-	-	-	-	10
Silicoflagellata								
Distephanus spp.	-	-	-	-	10	10	-	-
Ebria spp.	10	-	10	-	-	-	-	10
Ciliata								
Favella spp.	80	280	60	10	-	-	-	-
Mesodinium rubrum	70	190	1440	870	1030	-	10	-
Parundella spp.	10	1220	150	20	-	-	-	-
Salpingella spp.	-	170	20	-	-	-	-	10
Strombidium spp.	1580	1570	1320	570	2450	-	10	30
S. conicum	-	140	60	50	80	30	110	20
S. strobilis	10	-	10	-	20	10	10	130
Tiarina c.f.	20	10	30	-	-	-	10	-
Tintinnopsis sp.	-	10	-	-	-	-	-	-
Tintinnus spp.	10	10	60	-	-	-	-	-
Unidentified ciliate	-	10	10	-	-	-	-	-
Miscellaneous								
Ascidian tadpole	-	-	-	10	-	-	-	-
Collar flagellate	1780	-	14240	7120	-	-	-	-
Planktonic Crustacean	-	-	20	10	40	-	-	-
Unidentified cell	-	20	-	-	10	-	20	-
Unidentified cell	-	-	-	-	-	10	-	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION J

September 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphora spp.	-	20	-	-	-	-	-	-
Asteromphalus heptactis	10	20	-	40	60	-	-	-
Biddulphia longicruris	-	-	-	-	40	20	-	-
Chaetoceros spp.	40	90	140	280	250	400	80	30
Cocconeis sp.	-	-	-	10	-	-	-	-
Coscinodiscus spp.	30	70	90	200	150	270	160	50
Cyclotella spp.	3560	7120	-	-	-	-	-	1780
Ditylum spp.	-	10	10	-	-	-	-	-
Leptocylindrus c.f.	2020	3270	4930	4270	690	20	60	-
Licmophora sp.	10	-	-	-	-	-	-	-
Melosira spp.	-	-	40	-	-	-	-	-
Navicula spp.	240	60	-	40	20	30	30	10
Nitzschia spp.	230	80	90	140	100	140	80	150
N. closterium	20	70	-	10	-	30	20	-
Rhizosolenia spp.	10	70	40	80	90	180	40	20
R. delicatula	-	-	-	10	-	-	-	-
R. robusta	40	30	10	50	30	-	-	-
Rhoicosphenia spp.	10	-	-	-	10	-	-	-
Schroederella spp.	60	-	-	-	-	-	-	-
Skeletonema costatum	-	110	120	-	-	-	20	110
Thalassionema nitzschoides	20	-	-	-	-	-	-	-
Thalassiosira spp.	20	70	70	150	50	10	20	-
Chrysophyceae	2776800	2338600	3043800	2207200	603420	117480	108580	105020
Dinophyceae								
Amphidinium spp.	50	-	40	-	-	-	-	-
Ceratium fusus	-	-	-	-	30	-	-	-
Cochlodinium spp.	10	10	30	20	-	-	-	-
Dinophysis spp.	20	50	220	70	280	-	-	-
Glenodinium spp.	470	1010	600	2070	10	-	-	-
encysted Glenodinium	-	20	-	40	10	-	-	-
Gymnodinium spp.	70	120	420	110	90	-	-	-
Gymnodinoid cell	30	150	70	30	180	10	-	-
Oxytoxum spp.	20	50	80	60	10	-	-	-
Peridinium spp.	70	100	400	360	140	10	-	-
encysted Peridinium	-	-	-	20	-	-	-	-
Polykrikos spp.	-	20	10	-	-	-	-	-
Prorocentrum spp.	20	20	-	-	-	-	-	-
Cryptophyceae	92560	92560	67640	46280	16020	7120	5340	1780
Rhodomonas spp.	14240	5340	8900	3560	3560	-	-	-
Phaeophyta								
Phaeophyceae								
Unidentified cell	-	-	-	10	-	-	20	-

ALBERNI INLET PHYTOPLANKTON SAMPLES

STATION J

September 1975

Data Expressed as Total Count/100 ml

	Depth in Metres							
	0	1	2	3	5	10	20	30
Silicoflagellata								
Distephanus sp.	-	-	-	-	-	-	10	-
Ebria spp.	30	10	30	-	-	-	-	-
Ciliata								
Favella spp.	20	90	120	-	-	-	-	-
Mesodinium rubrum	200	700	3420	2070	1460	60	-	-
Parundella spp.	-	170	460	80	-	-	-	-
Ptychocyclis sp.	-	-	-	10	-	-	-	-
Salpingella spp.	20	10	10	100	-	-	-	-
Strombidium spp.	3800	1860	5320	4240	2430	80	-	10
S. conicum	30	30	130	100	60	20	50	60
S. strobilis	-	-	10	-	40	20	-	-
Tiarina c.f.	-	-	40	10	-	-	10	-
Tintinnopsis spp.	-	-	70	-	-	-	-	-
Tintinnus spp.	-	10	10	10	-	-	-	-
Unidentified ciliate	40	-	10	-	30	10	-	-
Miscellaneous								
Ascidian tadpole	-	-	-	10	-	-	-	-
Collar flagellate	3560	-	-	1780	1780	-	-	-
Planktonic Crustacean	-	-	-	-	20	40	-	40
Echinoderm larva	-	-	-	10	-	-	-	-
Unidentified cell	10	10	120	170	-	-	-	-

Data Expressed as Total Count/100 ml

	Depth in Meters							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Actinoptychus spp.	-	-	-	-	10	-		
Chaetoceros spp.	-	-	-	-	-	180		
Coscodiscus spp.	10	-	-	-	-	-		
Melosira spp.	-	-	-	30	-	-		
Navicula spp.	10	-	20	-	-	-		
Nitzschia spp.	40	30	30	20	20	-		
N. closterium	-	-	-	-	30	-		
Pleurosigma spp.	10	-	10	-	-	-		
Thalassionema nitzschoides	-	-	-	-	20	-		
Thalassiosira spp.	10	-	-	-	10	-		
Chrysophyceae	7120	5340	7120	7120	5340			
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	80	-	-	-	-	-		
Ciliata								
Unidentified ciliate #(1)	-	80	30	-	-	-		
Miscellaneous								
Bacteria	-	-	-	*	-	-		

* Bacteria present

Data Expressed as Total Count/100 ml

	Depth in Meters							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Melosira sp	10	-	50	-	-	-	-	-
Navicula spp.	-	-	10	-	-	10	-	-
Nitzschia spp.	10	20	10	10	10	10	10	-
Thalassiosira subtilis	40	-	-	-	-	-	-	10
Chrysophyceae	-	7120	-	5340	-	3560	-	-
Cryptophyceae	-	1780	-	-	-	-	-	-
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	-	-	-	80	-	-	-	-
Ciliata								
Platycola, c.f.	-	-	-	10	-	-	-	-
Unidentified ciliate #(1)	-	10	-	-	-	-	-	-
Miscellaneous								
Phaeophycean reproductive cell	10	-	-	-	-	-	-	-
Unidentified amoeboid cell	100	30	-	10	-	-	-	-
Bacteria	-	-	-	-	-	-	-	*

* *Bacteria present*

Data Expressed as Total Count/100 ml

	Depth in Meters							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphiprora spp.	-	30	20	-	-	-		
Amphora spp.	-	-	-	-	10	-		
Chaetoceros spp.	-	-	-	10	-	-		
Cocconeis spp.	20	10	20	20	-	-		
Coscinodiscus spp.	-	-	-	-	10	-		
Cyclotella spp.	40940	62300	67640	67640	1780	-		
Melosira spp.	80	10	-	30	-	-		
Meridion vulgare	-	-	10	-	-	-		
Navicula spp.	20	50	30	30	20	-		
Nitzschia spp.	210	130	230	170	130	240		
N. closterium	170	100	150	130	-	-		
N. sigmoides	-	10	20	40	10	-		
Rhizosolenia stolterfothii	-	-	-	20	-	20		
Rhoicosphenia curvata	10	10	-	-	-	-		
Skeletonema costatum	-	20	-	-	70	140		
Synedra spp.	20	-	10	-	10	-		
Thalassionema nitzschoides	150	50	90	110	-	-		
Thalassiosira spp.	10	10	10	30	20	40		
Chrysophyceae	124600	148520	147740	305380	541120	226060		
Dinobryon spp.	-	-	-	1780	-	-		
Dinophyceae								
Amphidinium spp.	-	-	-	-	40	-		
Dinophysis spp.	-	-	-	-	10	-		
Glenodinium spp.	120	50	260	510	170	30		
Noctiluca spp.	-	-	-	-	10	10		
Peridinium spp.	-	-	-	40	10	10		
Cryptophyceae	7120	19580	14240	890	16020	10680		
Rhodomonas spp.	1780	3560	-	-	1780	-		
Chlorophyta								
Chlorophyceae								
Dispora spp.	-	-	-	-	1440	-		
Scenedesmus spp.	80	80	80	-	-	-		
Zygnema spp.	60	-	-	-	-	-		
Euglenophyceae								
Eutreptiella, c.f.	370	200	120	40	40	-		
Prasinophyceae								
Unidentified Prasinophyte	270	340	250	440	30	-		

July 1976

Data Expressed as Total Count/100 ml

	Depth in Meters							
	0	1	2	3	5	10	20	30
Cyanophyta								
Cyanophceae								
Anabaena spp.	-	120	130	130	230	-		
Symploca spp.	-	-	-	360	-	-		
Haptophyta								
Unidentified Haptophycean	-	10	-	-	-	-		
Ciliata								
Colpidium spp.	90	170	200	130	-	-		
Dysteria spp.	620	800	1120	840	-	-		
Mesodinium rubrum	20	-	-	-	-	-		
Strombidium spp.	610	400	1180	640	-	-		
S. conicum	1800	2590	3030	1420	-	40		
Tiarina, c.f.	-	-	-	-	-	20		
Unidentified ciliate #(1)	160	110	30	50	-	-		
Suctoria								
Trochiscia spp.	120	70	230	160	-	-		
T. ovata	-	-	-	-	10	-		
Miscellaneous								
Crustacean larva	10	-	-	-	-	-		
Echinoderm larva	10	-	-	-	-	-		
Unidentified larva	10	20	70	-	-	-		
Unidentified cell #(4)	20	20	10	50	-	-		

Data Expressed as Total Count/100 ml July 1976

	Depth in Meters							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphiprora spp.	10	-	30	10	-	-	-	-
Chaetoceros spp.	10	-	80	-	-	-	-	-
Cocconeis spp.	10	20	20	30	-	-	-	-
Cyclotella spp.	132500	83560	101360	26700	1780	-	-	-
Licmophora spp.	-	-	-	20	-	10	-	-
Melosira spp.	10	40	40	30	-	-	-	-
Navicula spp.	50	20	50	10	10	-	-	10
Nitzschia spp.	180	110	190	30	160	20	100	70
N. closterium	60	60	30	10	-	10	10	10
N. sigmoides	80	30	30	10	-	-	-	10
Nitzschoid cell	-	-	10	-	-	-	-	-
Rhizosolenia spp.	-	-	-	-	-	30	20	20
R. stolterfothii	-	-	-	-	-	90	50	20
Skeletonema costatum	40	-	90	-	30	-	40	-
Synedra spp.	20	-	-	-	-	-	-	20
Thalassionema nitzschoides	50	30	40	10	20	-	-	
Thalassiosira spp.	40	40	60	30	40	20	-	30
Chrysophyceae	363120	248880	359560	259880	283020	14480	108580	103240
Dinophyceae								
Dinophysis spp.	-	-	-	10	10	-	-	10
Dinophysoid cell	-	-	-	-	10	-	-	-
Glenodinium spp.	2960	3450	2000	960	130	10	20	40
Gymnodinium spp.	80	50	30	-	10	-	-	-
G. splendens	20	-	10	-	-	-	-	-
Nactiluca spp.	-	-	-	10	10	-	-	-
Oxytoxum spp.	-	-	-	10	-	10	-	-
Peridinium spp.	-	40	10	10	-	-	-	-
P. depressum	-	-	-	-	-	-	20	-
Cryptophyceae	55180	35600	76540	17800	8900	5340	3560	14240
Rhodomonas spp.	12460	1780	8900	5340	-	-	-	-
Chlorophyta								
Euglenophyceae								
Eutreptiella, c.f.	10	10	-	-	-	-	-	10
Phacus, c.f.	-	30	-	-	-	-	-	-
Cyanophyta								
Cyanophyceae								
Anabaena spp.	-	-	510	73	-	-	-	-

Data Expressed as Total Count/100 ml

July 1976

	Depth in Meters							
	0	1	2	3	5	10	20	30
Ciliata								
Colpidium spp.	640	450	270	10	-	-	-	-
Dysteria spp.	100	100	70	-	-	-	-	-
Mesodinium rubrum	30	10	-	1460	10	-	-	-
Strombidium spp.	1400	1320	1430	160	-	-	-	-
S. conicum	1280	910	105	460	150	-	-	-
Tiarina, c.f.	-	-	-	-	20	-	-	-
Unidentified diliate #(1)	-	-	-	-	760	10	-	-
Suctoria								
Trochiscia spp.	20	40	80	-	-	-	-	-
Miscellaneous								
Crustacean #(1)	-	-	-	-	-	-	-	10
Unidentified cell #(1)	-	10	-	-	-	20	-	-
Unidentified cell #(4)	20	20	-	-	-	-	-	-

September 1976

Data Expressed as Total Count/100 ml

	Depth in Meters							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Amphora spp.	-	-	-	-	10	-		
Asterionella kariana	-	-	120	-	-	-		
Asteromphalus heptactis	-	-	-	-	10	-		
Chaetoceros spp.	10	-	10	-	-	-		
Cocconeis spp.	20	10	10	-	-	-		
Coscinodiscus spp.	-	10	20	10	-	10		
Grammatophora spp.	-	-	10	-	-	-		
Leptocylindrus danicum	-	-	-	-	-	30		
Melosira spp.	40	40	70	10	10	10		
Navicula spp.	30	20	10	30	10	-		
Nitzschia spp.	260	150	130	80	30	20		
N. sigmoides	-	80	50	40	30	-		
Pinnularia spp.	-	20	30	70	-	-		
Rhizosolenia delicatula	-	10	70	-	-	-		
R. setigera	-	-	10	-	-	-		
Rhoicosphenia curvata	10	-	-	-	-	-		
Skeletonema costatum	10720	6350	8870	5380	520	-		
Striatella spp.	-	10	-	-	-	-		
Synedra spp.	-	-	-	10	-	-		
Thalassionema nitzschoides	30	40	30	30	-	-		
Thalassiosira spp.	80	230	300	310	20	40		
Unidentified filament	270	530	810	100	50	30		
Chrysophyceae	42720	46280	26700	24920	8900	5340		
Loricate chrysophycean	-	-	1780	-	-	-		
Dinophyceae								
Amphidinium spp.	-	10	3430	3350	10	20		
Ceratium fusus	-	-	-	-	10	-		
Dinophysis spp.	-	-	-	10	10	-		
Glenodinium spp.	1120	6890	3340	2120	190	30		
Gymnodinium spp.	10	30	-	10	-	-		
G. splendens	10	-	-	-	-	-		
Oxytoxum spp.	-	-	-	10	-	-		
Peridinium spp.	-	10	90	90	-	-		
Prorocentrum spp.	50	20	400	200	30	-		
Unidentified dinoflagellate (Pouchetia, c.f.)	-	50	130	30	-	-		
Cryptophyceae	5340	51620	23140	19380	3560	-		
Rhodomonas spp.	-	327520	24920	12460	3560	-		
Chlorophyta								
Chlorophyceae								
Scenedesmus spp.	-	40	-	-	-	-		

Data Expressed as Total Count/100 ml

	Depth in Meters							
	0	1	2	3	5	10	20	30
Chlorophyta								
Euglenophyceae								
Euglena spp.	-	10	-	10	-	-		
Cyanophyta								
Cyanophyceae								
Anabaena, c.f.	120	-	250	-	-	-		
Silicoflagellata								
Ebria spp.	-	20	-	-	-	-		
Radiolaria								
Unidentified radiolarian	-	-	-	-	-	10		
Unidentified radiolarian	-	-	-	-	-	-		
Ciliata								
Colpidium spp.	-	10	30	60	-	-		
Dysteria spp.	-	10	-	-	-	-		
Mesodinium rubrum	-	-	10	50	20	10		
Strombidium spp.	180	230	210	150	40	10		
S. conicum	740	960	840	1200	110	10		
Unidentified ciliate	-	50	30	30	-	-		
Miscellaneous								
Crustacean - amphipod	-	-	-	-	20	-		
Unidentified cell	-	-	580	700	120	-		

Data Expressed as Total Count/100 ml

	Depth in Meters							
	0	1	2	3	5	10	20	30
Chrysophyta								
Bacillariophyceae								
Chaetoceros spp.	60	-	10	60	-	-	20	-
Cocconeis spp.	80	-	-	-	-	-	-	-
Coscinodiscus spp.	30	-	30	10	-	-	-	-
Cyclotella spp.	19580	21360	16020	16020	-	-	-	-
Ditylum spp.	-	-	-	10	-	-	-	-
Leptocylindrus danicum	60	-	10	20	-	-	-	-
Licmophora spp.	40	30	-	10	-	-	-	-
Melosira spp.	160	80	40	-	-	-	-	-
Navicula spp.	80	10	-	20	10	10	20	-
Nitzschia spp.	30	120	20	10	10	20	-	10
N. closterium	80	-	40	40	-	10	10	10
N. sigmoides	230	160	-	-	10	10	-	-
Pleurosigma spp.	-	40	-	-	-	-	-	-
Rhizosolenia delicatula	180	120	-	420	10	-	-	-
R. stolterfothii	-	-	200	-	-	-	-	-
Rhoicosphenia curvata	-	-	-	10	-	-	-	-
Skeletonema costatum	7380	11340	3800	6280	9060	2320	2760	2980
Thalassionema nitzschoides	-	-	-	10	-	-	10	10
Thalassiosira spp.	200	220	490	440	50	10	10	10
Chrysophyceae	85440	96120	154860	39160	14240	12460	12460	17800
Pedinomonas spp.	-	5340	-	1780	-	-	-	-
Loricate chrysophycean	-	-	-	-	1780	-	-	1780
Dinophyceae								
Amphidinium spp.	200	440	220	360	100	80	10	10
Ceratium fusus	-	-	-	-	30	-	-	-
Cochlodinium spp.	-	-	30	60	-	-	-	-
Dinophysis spp.	-	-	10	-	30	-	-	-
Dinophysoid cell	-	20	-	-	-	-	-	-
Glenodinium spp.	2040	3680	1200	1240	90	20	10	30
Gymnodinium spp.	30	10	10	20	-	-	-	-
Gymnodinoid cell	300	820	160	520	30	10	-	30
Gyrodinium spp.	-	10	-	10	-	-	-	-
Noctiluca spp.	-	-	-	10	-	10	-	-
Peridinium spp.	160	430	180	220	10	40	-	20
Polykrikos spp.	-	-	10	-	-	-	-	-
Prorocentrum spp.	-	13890	620	180	-	-	-	10
Unidentified dinoflagellate (Pouchetia, c.f.)	-	-	50	-	-	-	-	-
Cryptophyceae	30260	33820	56960	21360	10680	5340	-	1780
Rhodomonas spp.	145960	124600	14240	14240	-	1780	-	-

Data Expressed as Total Count/100 ml

	Depth in Meters							
	0	1	2	3	5	10	20	30
Chlorophyta								
Euglenophyceae								
Euglena spp.	2160	640	20	-	-	-	-	-
Cyanophyta								
Cyanophyceae								
Anabaena spp.	-	620	-	-	-	-	-	-
Radiolaria								
Lithomelissa spp.	-	-	-	-	10	-	-	-
Unidentified radiolarian	-	-	-	-	10	-	-	-
Ciliata								
Mesodinium rubrum	-	120	-	60	10	-	-	-
Strombidium spp.	40	-	160	120	40	-	-	-
S. conicum	200	40	400	400	100	80	20	10
S. strobilis	10	-	-	-	10	-	-	-
Tintinnidae								
Tintinnus spp.	-	20	100	-	-	-	-	-
Miscellaneous								
Crustacean	-	-	10	-	-	-	10	-
Crustacean	-	-	-	20	-	-	-	-
Unidentified cell	860	6080	3620	3220	210	20	-	10
Unidentified filament	10040	8840	7780	4640	730	290	340	70