OCEANOGRAPHICAL OBSERVATIONS
IN THE INDIAN OCEAN IN 1961
H.M.A.S. *DIAMANTINA*
Cruise Dm 2/61

OCEANOGRAPHICAL CRUISE REPORT NO. 9

DIVISION OF FISHERIES AND OCEANOGRAPHY
COMMONWEALTH SCIENTIFIC AND INDUSTRIAL
RESEARCH ORGANIZATION, AUSTRALIA 1963

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H.M.A.S. DIAMANTINA

Cruise Dm 2/61

made by

C.S.I.R.O. DIVISION OF FISHERIES AND OCEANOGRAPHY

CRONULLA, SYDNEY

COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH

ORGANIZATION, AUSTRALIA

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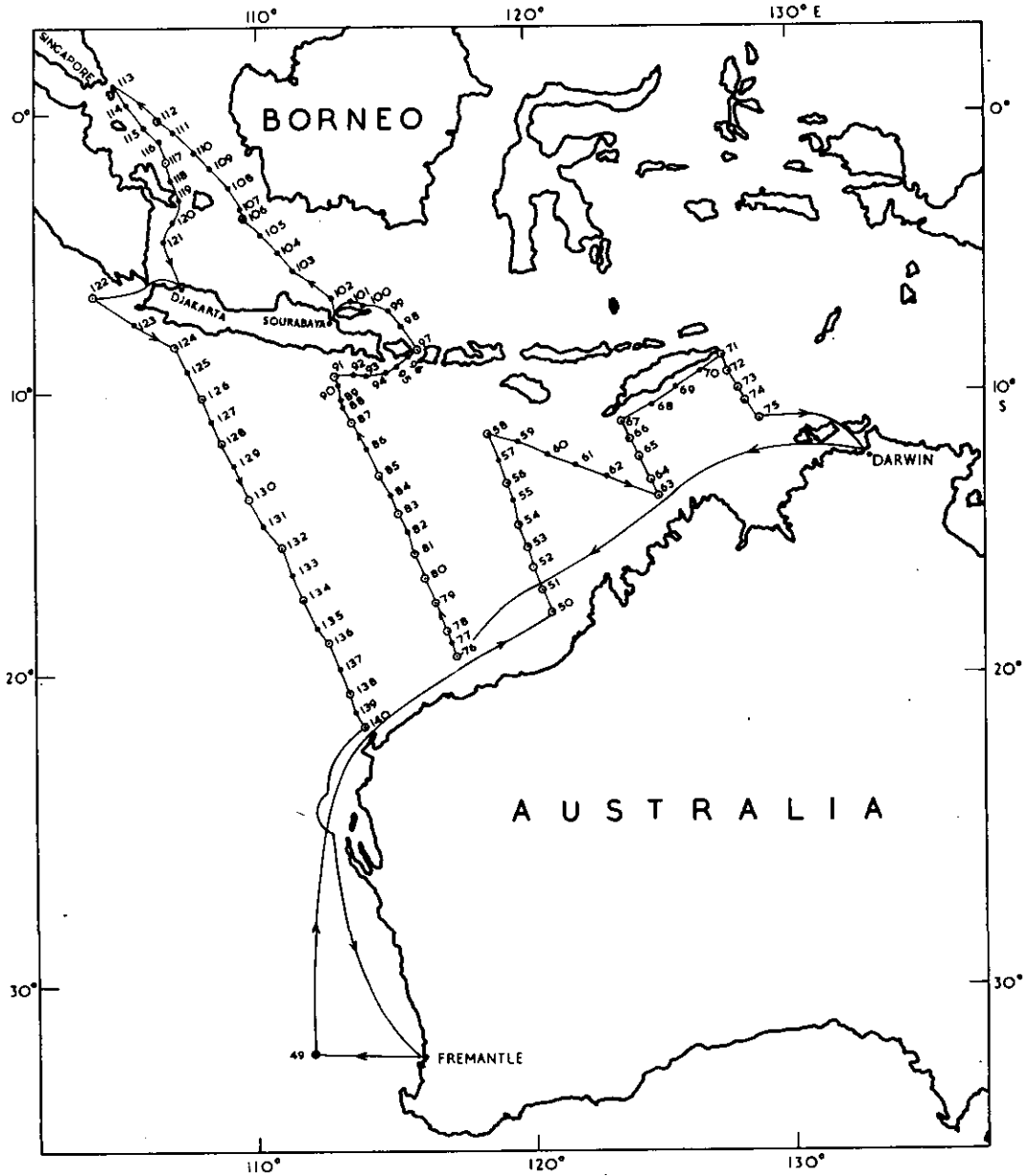
110°
120°
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0°
10°
20°
30°
10° S
BORNEO
AUSTRALIA
SINGAPORE
DJAKARTA
SOURABAYA
DARWIN
FREMANTLE

Fig. 1

OCEANOGRAPHICAL CRUISE REPORT

No. 9

Oceanographical Observations in the Indian Ocean in 1961

H.M.A.S. DIAMANTINA

Cruise Dm 2/61

May 1 - June 12, 1961

I. INTRODUCTION

In this report data are recorded from the second cruise in 1961 of H.M.A.S. Diamantina, Royal Australian Navy frigate, which undertakes oceanographical cruises in the Indian Ocean.

Objectives

This cruise was planned to repeat work done on Cruise Dm 2/60 on water circulation and upwelling and their effects on productivity.

Itinerary

The cruise commenced on May 1 when the ship left Fremantle and worked the SCOR-UNESCO Reference Station 1, it then moved north to work a series of lines of stations between Broome and Darwin. It left Darwin on May 15, moved south-west to a position north-east from Onslow, and worked a line of stations across the Indian Ocean and to Sourabaya, worked stations to Singapore and back to Djakarta. The ship left Djakarta on June 4 and worked a line of stations on the run back to the Australian coast near Onslow. The cruise concluded at Fremantle on June 12, 1961. Figure 1 shows the positions of all stations.

Scientific Personnel

B.S. Newell (Cruise Leader)
F. Davies
N. Dyson
C. Middleton
J. Staniforth

Lieutenant A.L. Lumanauw of the Hydrographic Section, Indonesia, joined the cruise at Sourabaya and left at Kjakarta.

The analyses of hydrological samples were done in the ship's laboratory by Messrs Davies, Newell, and Staniforth. The analyses for nitrate were done at Cronulla by Messrs Davies, Janovsky, Prothero, and Walker.

The primary production samples were taken, incubated and counted on board by Mr N. Dyson. The samples for pigment determination were taken and filtered aboard by Mr N. Dyson and the analyses were done at Cronulla by Mr M. Wootton. The counts of phytoplankton were done aboard by Mr C. Middleton and the determinations of species were done at Cronulla by Mr E.J.F. Wood. The zooplankton samples were weighed at Cronulla by Mr D.J. Tranter.

The data were processed under the direction of Mr A.D. Crooks by Mrs M. Derrick, Mrs B. Tarbett and Misses M. Johnson, L. Lalor, and E. Wanstall. The plots were prepared for publication by Mr R. Breach and Mrs B. Walters.

II. WORK ACCOMPLISHED

Bathythermograph casts were made at 30 stations. Primary production and pigment samples were taken to 150 m at 37 stations and surface samples by the Doty method were taken for primary production at 34 stations. Zooplankton samples were taken at 21 stations, phytoplankton samples were taken with a 5 l sampler at 29 stations. Surface hydrology samples were taken at 77 stations and, at 40 of these, subsurface casts were made. Table 1 shows the work done at each station.

TABLE 1

WORK DONE AT EACH STATION

Station Number	BT	Hydrology		Primary Production		Pig-ments	Phyto-plankton		Zoo-plankton
		1	2	1	2		1	2	
49	+	+	+				+	+	+
50		+	+		+	+	+	+	
51		+	+		+	+	+	+	
52	+	+	+		+	+	+	+	
53	+	+	+		+	+			+

Station Number	BT	Hydrology 1	Hydrology 2	Primary Production 1	Primary Production 2	Pig-ments	Phyto-plankton 1	Phyto-plankton 2	Zoo-plankton
54	+	+	+		+	+			+
55	+	+							
56	+	+	+	+	+	+	+	+	
57	+	+		+					
58		+	+	+	+	+	+	+	+
59	+	+							
60	+	+							
61	+	+							
62	+	+							
63		+	+		+	+	+	+	
64		+	+		+	+			
65		+	+		+	+			
66	+	+	+		+	+			
67	+	+	+		+	+			
68	+	+							
69	+	+							
70	+	+							
71		+	+		+	+			
72		+	+		+	+			
73		+	+		+	+	+	+	
74		+	+		+	+			
75		+	+		+	+			
76		+	+		+	+	+	+	
77				+					
78		+	+	+	+	+			+
79		+	+		+	+	+	+	+
80		+	+		+	+			+
81		+	+		+	+	+	+	+
82	+	+							
83		+	+		+	+	+	+	+
84	+	+							
85		+	+		+	+	+	+	+
86	+	+							
87		+	+	+	+	+	+	+	+
88				+					
89	+	+							

Station Number	BT	Hydrology 1	Hydrology 2	Primary Production 1	Primary Production 2	Pig-ments	Phyto-plankton 1	Phyto-plankton 2	Zoo-plankton
90				+					
91		+	+	+	+	+	+	+	+
92				+					
93	+								
94				+					
95	+	+		+					
96				+					
97		+	+	+	+	+	+	+	
98				+					
99		+		+					
100		+		+					
101		+		+					
102		+		+					
103		+		+					
104		+		+					
105		+		+					
106		+	+	+	+	+	+	+	
107		+		+					
108		+		+					
109		+		+					
110		+		+					
111		+		+					
112		+	+	+	+	+	+	+	
113		+		+					
114		+		+					
115		+		+					
116		+		+					
117		+	+	+	+	+	+	+	
118		+		+					
119		+		+					
120		+		+					
121		+		+					
122		+	+		+	+	+	+	+
123	+	+							
124		+	+		+	+	+	+	
125	+	+							

Station Number	BT	Hydrology		Primary Production		Pig-ments	Phyto-plankton		Zoo-plankton
		1	2	1	2		1	2	
126		+	+		+	+	+	+	+
127	+	+							
128		+	+		+	+	+	+	+
129	+	+							
130		+	+		+	+	+	+	+
131	+	+							
132		+	+		+	+	+	+	+
133	+	+							
134		+	+		+	+	+	+	+
135		+							
136		+	+		+		+	+	+
137	+								
138		+	+		+	+	+	+	+
139	+	+							
140		+	+		+	+	+	+	

BT Bathythermograms

Hydrology
1 Surface
2 Subsurface

Primary Production
1 Surface sampling (Doty method)
2 Euphotic zone

Phytoplankton
1 Qualitative) with
2 Quantitative) 5 l sampler

III. METHODS OF COLLECTION AND ANALYSIS OF SAMPLES

1. Physics

Temperature.- Water temperatures were taken with deep-sea reversing thermometers: protected thermometers with a range of -2° to 30°C, and unprotected thermometers with a range of -2° to 30°C or -4° to 60°C. The accuracy of the temperatures is considered to be ± 0.03 deg. C. The readings are recorded in degrees Celsius.

Bathythermograph.- A 900 ft bathythermograph was used at the stations indicated in Table 1. Photographs of each slide are filed at Cronulla.

Thermometric Depth.- Depth calculations were made by the method described by Pollak (1950) and are considered accurate to ± 15 m below 1000 m and to 1% above that depth.

σ_t.- The values were calculated by computer, using the Table of σ_t given by the U.S. Hydrographic Office (1951).

Dynamic Heights.- Dynamic heights were calculated from interpolated values of temperature and salinity using Tables 6, 7, and 9, given by La Fond (1951).

2. Chemistry

Salinity.- Salinity was measured on board with an inductive salinometer (Brown and Hamon 1961).

Dissolved Oxygen.- The standard Winkler method (Jacobsen, Robinson and Thompson 1950) was used with potassium iodate as the iodometric standard. Samples were collected in 275-300 ml capacity bottles and 100 ml duplicate aliquots were titrated to a starch end point. Values are given as ml/l. Duplicate titrations agreed to better than 0.03 ml/l of oxygen.

Oxygen Saturation.- The saturation value is computed from the nomograph of Richards and Corwin (1956).

Inorganic Phosphate.- The method of Atkins (1923) was used with 1 ml molybdate reagent (300 ml 10% ammonium molybdate and 100 ml 50% sulphuric acid) and 0.1 ml 1% stannous chloride diluted afresh from a 40% stock solution in hydrochloric acid, which was kept under paraffin. The reagents were automatically dispensed by a piston dispenser.

Standard phosphate solutions were made up in distilled water. Analyses were carried out in batches of 10 at air temperatures less than 25°C; readings were taken within 10 minutes after the reagents were added and completed within a further 10 minutes. At air temperatures greater than 25°C, batches of 6 were analysed and the times were 5 and 7 minutes respectively. Each batch was compared with a distilled water blank and a 0.65 µg at./l standard in a Hilger Spekker absorptiometer using 4 cm cells and Ilford 608 filters. Each week a complete check was made using standards up to 3.25 µg at./l. Results are given as µg at.P/l without any correction for salt error and are precise to ± 10% for values less than 0.5 µg at./l and ± 5% for higher values. If it is wished to correct for salt effects, the results given should be multiplied by 1.15.

Total Phosphorus.- 100 ml samples were drawn from the Nansen water bottles into 150 ml Pyrex conical flasks, 0.2 ml of 72% perchloric acid was added, and digestion at 200° - 250°C carried out immediately on a sand tray. After evaporation of water, heating was continued until fuming of the salt residue commenced. The samples were then allowed to cool, 100 ml of distilled water and 2 drops of 2% phenolphthalein were added. If alkaline, perchloric acid was added until a slight acidity persisted. The flasks were allowed to stand for about 24 hours to allow the salts to dissolve. Phosphate was then determined as described for inorganic phosphate. Results are given as µg at./l, without salt correction. If it is wished to correct for salt effects, the results given should be multiplied by 1.15.

Nitrate.- Samples were taken, stored at sea in plastic bottles, and preserved with 2 drops of saturated $HgCl_2$. Nitrate was determined at Cronulla by the strychnidine method (Rochford 1947). The reagent was prepared by the addition of 0.64 g strychnidine to a litre of nitrate free sulphuric acid. 5 ml of this reagent were added, with minimum agitation, to

5 ml sea-water or standard nitrate solution. The standards were made up in a mixture of equal volumes of artificial sea-water and nitrate-free sulphuric acid. The standards and samples were shaken to distribute the reagent, and the colour developed for 2 hours. The solutions were read in a UNICAM SP 600 spectrophotometer at a wavelength of 530 mμ using a 5 mm cell. Samples with an absorbence greater than that of the standard corresponding to 14.4 μg at./l were diluted with artificial sea-water - sulphuric acid mixture before reading. Results are given in μg at./l.

3. Primary Production

Measurements of photosynthetic uptake of CO_2 were made by the ^{14}C method described by Jitts (1957) with the exceptions that radioactivity was measured on board with a windowless Geiger counter, and the determination of ^{14}C stock activities was made by the method of Jitts and Scott (1961).

At certain stations, surface samples were taken with a plastic bucket, and photosynthesis was measured by the method of Doty (1956) in 250 ml pyrex bottles and with incubation in a fluorescent light incubator as described by Doty (1958). The data for surface samples appear on pp. 88-91.

4. Pigments

Water samples were taken with a plastic sampler and filtered within one or two hours through millipore filters. The filters were placed in envelopes and stored in metal desiccators over silica gel. The analyses were carried out at Cronulla using the method given by Humphrey (1960).

5. Phytoplankton

Samples were collected in 5 l plastic sampler (Davis 1957) at 0, 25, 50, 75, 100, and 150 m. The samples were transferred to polythene bottles and centrifuged immediately at 5,000 g in a continuous centrifuge (Davis 1957); each 5 l sample took 15 min. The residue in the cup was carefully washed into a graduated tube and diluted to 10 ml with sea-water.

Quantitative Examination.- All counts were made with a Petroff Hausser bacterial counting chamber. If the count was

more than five per field, four fields were counted; if the count was less than five per field, ten fields were counted.

Organisms with chlorophyll were counted by using a Wild BG 12 fluorescence filter, a Wild OG 1 exclusion filter, an immersed condenser, and a high-power incandescent lamp. The chloroplasts appeared bright red in the blue-violet light.

Organisms without chlorophyll were calculated as the difference between total living organisms and organisms with chlorophyll. Total living organisms were counted after adding acridine orange to give a final concentration of 2 parts per million. The living organisms gave a green fluorescence in the blue-violet light produced by the filter system described above.

Total particles were counted with ordinary illumination.

Qualitative Examination.- Twenty minute tows were made with a modified Hardy Indicator. The plankton was washed off the metal grid (120 meshes/in.) with sea-water, and formalin was added to give a final concentration of 2%. Identifications were made at Cronulla (Tables 3 and 4).

6. Zooplankton

The sampler used to collect zooplankton was a modified Clarke-Bumpus unit. On this cruise it was fitted with a new and more robust flowmeter designed and constructed at Cronulla, and calibrated by flume tank. The net was nylon No. 4 mesh (62 meshes per inch).

The hauls were oblique from 200 m to the surface. The depth was estimated from wire angle and is only approximate. The speed of tow was 2-4 knots and the wire was recovered at about 10 metres per minute. The period of tow averaged half an hour and the volume filtered 27 m^3.

Samples were weighed after washing in 50% alcohol to facilitate removal of external "interstitial" water.

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IV. DATA SHEETS AND TABLES

The data sheets for this cruise are arranged in six parts. Part 1 contains the data for hydrology deep stations. Part 2 lists the temperature and salinities for surface samples. Part 3 gives the data for primary production. Part 4 for pigments. Part 5 for quantitative and qualitative phytoplankton, and Part 6 for zooplankton.

Explanations of the headings used on the data sheets are given at the beginning of each part.

Short vertical lines below certain headings indicate the position of decimal points.

DATA

PART 1

HYDROLOGY

DEEP STATIONS

EXPLANATION OF HEADINGS

Part 1 Hydrology - Deep Stations

SHIP — The figures 11 are used to designate Diamantina

CRUISE — Cruise numbers are allotted each year, beginning with 1 for the first cruise.

STATION — Stations are numbered consecutively for each ship for each year.

DATE — Given as year, month, day.

TIME — Given in Zone Time, and is the time at the beginning of the first cast. The code letter used for the time zone (Table 2) follows the time.

TABLE 2

CODE FOR TIME ZONES

Longitude Exceeding	Up to but not exceeding	Time Zone (hrs)	Code
07°30'E.	22°30'E.	-1	A
22°30'E.	37°30'E.	-2	B
37°30'E.	52°30'E.	-3	C
52°30'E.	67°30'E.	-4	D
67°30'E.	82°30'E.	-5	E
82°30'E.	97°30'E.	-6	F
97°30'E.	112°30'E.	-7	G
112°30'E.	127°30'E.	-8	H
127°30'E.	142°30'E.	-9	I
142°30'E.	157°30'E.	-10	K
157°30'E.	172°30'E.	-11	L
172°30'E.	180°	-12	M
180°	172°30'W.	+12	Y
172°30'W.	157°30'W.	+11	X
157°30'W.	142°30'W.	+10	W
142°30'W.	127°30'W.	+9	V
127°30'W.	112°30'W.	+8	U

Longitude Exceeding	Up to but not exceeding	Time Zone (hrs)	Code
112°30'W. -	97°30'W.	+7	T
97°30'W. -	82°30'W.	+6	S
82°30'W. -	67°30'W.	+5	R
67°30'W. -	52°30'W.	+4	Q
52°30'W. -	37°30'W.	+3	P
37°30'W. -	22°30'W.	+2	O
22°30'W. -	07°30'W.	+1	N
07°30'W. -	07°30'E.	0	Z

LATITUDE LONGITUDE — The position of each station is given in degrees and minutes.

SONIC DEPTH — Given in metres, measured at standard sound velocity of 800 fm (1463 m) per second.

MAX. SAMP. DEPTH — Maximum sampling depth is given to the nearest 100 m, and is in 100 m units.

AIR TEMP. WET DRY — Air temperatures are recorded from wet and dry bulb thermometers in °C and tenths.

WIND DIR. SPEED — Wind direction and speed are coded using Tables 8 and 9 in U.S. Hydrogr. Office (1955).

ANEM. HEIGHT — The average height of the anemometer above sea level is given in metres.

CLOUD TYPE AMT. — Cloud type and amount are coded using Tables 2 and 3 in U.S. Hydrogr. Office (1955).

VIS. — Visibility is coded using Table 4 in U.S. Hydrogr. Office (1955).

SEA DIR. AMT. — Sea directions and amount are coded using Tables 5 and 8 in U.S. Hydrogr. Office (1955).

SWELL DIR. AMT.	Sea swell direction and amount are coded using Tables 6 and 8 in U.S. Hydrogr. Office (1955).
ATMOS. PRESSURE	Atmospheric pressure is coded. The reading in millibars has the figure for 900 or 1000 omitted, so that 999.4 millibars is recorded as 994 and 1013.4 as 134.
WIRE ANGLES CAST 1 CAST 2	Wire angles are measured at the surface and expressed in degrees for each cast. No more than two wire angles are recorded; if there is a third cast, the shallow cast angle is neglected.
CAST	The cast numbers (corresponding to the wire angles) are shown.
DEPTH	Actual sampling depth given in metres.
TEMP.	Sea temperatures are recorded in °C to two decimal places.
S‰	Salinities are recorded in parts per thousand to three decimal places.
σ_t	Sigma-t to three decimal places.
O_2	Oxygen is given in ml/l to two decimal places.
O_2 % SAT.	Oxygen percentage saturation.
INORG. P	Inorganic phosphate values are given in µg at./l to two decimal places.
TOTAL P	Values given as µg at./l to two decimal places.
NITRATE	Values given as µg at./l to one decimal place.

A blank in any of the last three columns indicates that no sample was available.

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	49	61	05	02	60 H	3201 S	11201 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
4755	47	68	71	12	5	16	8	9	9	12	3	12	5	253	05	10

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2105	35762	25078	498	106	08				
2	23	2103	35767	25088	504	107	08		24		
2	46	2104	35773	25088	510	108	10		25		
2	70	2018	35790	25332	516	108	11				
2	93	1930	35781	25556	504	104	21		32	6	
2	139	1767	35822	25999	504	101	24			7	
2	185	1577	35694	26350	534	103	24		36	1 1	
2	274	1253	35189	26651	558	100	46		62	4 5	
2	446	955	34780	26874	563	95	85		97	14 0	
2	620	788	34580	26982	516	83	117		132	20 4	
2	789	512	34407	27213	445	67	152		171	29 2	
2	961	412	34464	27368	379	56	171		195	34 0	
1	1176	341	34515	27481	362	52	186		190	35 0	
1	1355	301	34562	27556	374	54	191		203	32 0	
1	1797	254	34690	27700	362	51	189		195	33 8	
1	2238	211	34732	27769	379	53	178		194	36 2	
1	2664	179	34741	27802	403	56	181		186	31 2	
1	3106	157	34741	27819	422	58	180		193	32 8	
1	3560	135	34729	27825	439	60	170		181	28 6	
1	4009	121	34721	27828	445	61	168		181	32 6	
1	4182	119	34722	27830	445	61	170		175	30 4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	50	61	05	06	10 H	1744 S	12102 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
94	01	68	79	11	6	16	7	9	9	11	3	11	4	135	05	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		2780	34717	22266	445	105	21			2	
1	20	2775	34718	22285	445	105	21		31		
1	40	2783	34717	22258	439	104	21		33		
1	60	2776	34718	22280	445	105	21		32		
1	80	2676	34654	22550	374	87	47		57	7	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	51	61	05	06	535 H	1658 S	12045 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
201	02	67	80	11	7	16	8	9	9	12	2	13	9	1144	05	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	$\%O_2$ SAT.	INORG. P		TOTAL P	NITRATE	D
1		2847	34639	21990	445	106	19				
1	23	2845	34641	21997	439	105	20		32		
1	45	2851	34642	21978	439	105	20		31		
1	67	2843	34637	22001	445	106	20				
1	90	2735	34616	22337	439	103	23		31		
1	112	2535	34647	22989	379	86	44				
1	134	2404	34700	23422	356	70	57		62	31	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	52	61	05	06	1030 H	1609 S	12025 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
439	04	72	81	11	6	16	7	9	9	11	3	13	9	1171	05	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
1		2890	34652	21856	439	105	11				
1	23	2885	34650	21872	445	107	11		28		
1	45	2890	34652	21855	451	108	11		26		
1	67	2885	34650	21871	445	107	11				
1	90	2686	34565	22454	427	99	22		33		
1	112	2376	34527	23373	320	71	58			43	
1	134	2221	34694	23946	314	68	61			44	
1	177	1995	34942	24749	308	64	77		84	72	
1	217	1616	34805	25577	261	50	112			132	
1	258	1310	34712	26168	249	45	135		137	150	
1	347	1071	34709	26619	267	46	142		153	170	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	53	61	05	06	1500 H	1520 S	12008 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
1554	1	75	84	11	5	16	7	9	9	11	3	13	8	18	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		2898	34681	21849	433	104	08				
2	22	2896	34681	21856	451	108	10		32		
2	43	2899	34675	21843	451	108	10		24		
2	66	2891	34678	21873	451	108	10				
2	86	2473	34607	23146	379	85	40		54		
2	108	2260	34637	23793	314	68	68			46	
2	130	2068	34624	24313	284	59	84			73	
1	171	1860	34631	24859	273	55	98		106	103	
1	211	1582	34701	25576	255	49	114			125	
1	252	1333	34650	26074	231	42	133		142	148	
1	335	1066	34620	26560	249	43	154			180	
1	421	952	34664	26789	255	43	153			200	
1	598	750	34632	27080	279	41	176		194	242	
1	778	599	34618	27273	201	31	209		226	268	
1	860	553	34615	27329	207	32	215		230	280	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	54	61	05	06	2030 H	1433 S	11950 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
2834	28	75	84	11	3	16	7	9	9	11	2	12	5	111	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		2907	34636	21787	439	106	09				
2	25	2902	34634	21801	445	107	10		25		
2	49	2907	34634	21785	445	107	11		25		
2	72	2740	34566	22284	451	106	11				
2	96	2496	34515	23007	385	87	34		65	56	
2	120	2244	34585	23799	302	65	75			101	
2	142	2082	34636	24285	296	62	83			145	
2	184	1744	34697	25194	273	54	104		108	171	
2	220	1491	34670	25754	255	48	122			133	
2	256	1326	34655	26091	243	44	138		151	182	
2	350	1037	34726	26693	279	48	146			230	
2	448	912	34690	26876	303	50	149		162	232	
1	632	717	34606	27104	225	36	191		203	220	
1	804	593	34598	27265	214	33	202		206	266	
1	965	523	34601	27350	219	34	209		222	260	
1	1129	462	34614	27434	225	34	214		219	280	
1	1301	403	34690	27557	237	35	213		220	208	
1	1749	287	34708	27685	290	42	193		212	237	
1	2200	219	34732	27763	332	47	201		211	208	
1	2471	195	34733	27791	350	49	187		211	210	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	56	61	05	07	545 H	1303 S	11923 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
4892	37	7 7	8 2	12	4	16	7	9	9	12	2	10	5	11 0	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
3		29 14	34321	21526	427	103	15				
3	21	29 10	34313	21535	439	106	17		31		
3	43	29 13	34315	21525	445	107	17		31		
3	62	29 11	34318	21536	439	106	18				
3	72	29 14	34313	21521	439	106	17		37		
3	101	27 06	34383	22255	397	92	36			2	
3	120	24 82	34435	22989	332	75	61			3 2	
3	155	20 55	34560	24300	243	51	89		94	7 8	
2	169	18 94	34630	24772	273	55	96		108	12 8	
3	186	17 57	34560	25058	290	57	103			12 4	
3	218	13 57	34531	25933	261	48	136		138	17 1	
3	295	10 45	34555	26545	237	41	166			22 2	
2	347	9 76	34564	26671	231	39	176		178	23 6	
3	376	9 30	34569	26752	231	39	176		175	23 8	
3	554	7 65	34620	27046	243	39	188		194	24 2	
1	770	6 22	34598	27227	207	32	199		210	27 8	
2	798	6 13	34603	27242	219	34	207		210	28 8	
1	971	5 25	34593	27344	225	34	207		215	30 2	
2	1230	3 96	34625	27513	237	35	211		222	32 4	
2	1669	2 99	34702	27669	284	41	211		218	29 8	
2	2114	2 31	34734	27755	320	45	204		208	26 3	
2	2530	1 91	34740	27791	356	50	199		207	28 5	
2	2965	1 64	34744	27815	374	52	178		199	26 0	
2	3245	1 51	34735	27818	391	54	178		199	26 9	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	58	61	05	07	1715 H	1119 S	11841 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
5212	35	76	85	11	6	16	7	9	9	11	3	9	8	0913	05	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		2804	34110	21732	415	98	12			2	
2	21	2796	34093	21747	445	105	15		25		
2	40	2768	34116	21853	439	103	15		32		
2	60	2582	34353	22620	362	83	41			24	
2	78	2446	34448	23107	308	69	62		71	49	
2	99	2283	34470	23600	284	62	78			70	
2	115	2110	34582	24167	290	61	82			81	
2	152	1718	34542	25138	279	55	107		118	116	
2	188	1446	34552	25762	267	50	123			142	
2	224	1270	34569	26138	249	45	137		151	186	
2	306	1014	34529	26580	237	40	156			234	
2	397	895	34572	26811	219	36	168		170	258	
1	608	738	34616	27083	201	32	192		213	282	
1	776	609	34610	27253	207	32	207		209	236	
1	947	518	34602	27359	219	33	209		214	308	
1	1117	454	34609	27439	225	34	206		218	304	
1	1287	398	34631	27516	243	36	219		227	306	
1	1725	280	34718	27699	290	41	209		225	306	
1	2155	204	34734	27777	344	48	197		213	306	
1	2593	173	34742	27807	374	52	195		205	282	
1	3040	149	34731	27816	391	54	185		196	306	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	63	61	05	09	600 H	1333 S	12505 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
82	01	74	84	09	3	16	7	9	9	9	2	9	2	0960	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
1		2905	34550	21730	427	103	12				
1	20	2896	34546	21755	433	104	14		29		
1	40	2901	34547	21740	433	104	12		25		
1	60	2897	34547	21752	427	103	14		23		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	64	61	05	09	1010 H	1300 S	12451 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
73	01	76	87	09	4	16	8	9	9	9	2	9	2	15	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		28 66	34 460	21 791	4 21	101	23				
1	20	28 59	34 461	21 814	4 27	102	19		34		
1	40	28 63	34 462	21 802	4 27	102	19		35		
1	60	28 63	34 462	21 803	4 27	102	19		32		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	65	61	05	09	1315 H	1210 S	12427 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
104	01	7 | 7	8 | 6	10	4	16	8	9	9	10	2	9	4	08 | 6	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		29 | 65	34 | 428	21 | 433	457	111	12			
1	20	2878	34425	21725	457	109	12		32		
1	40	2881	34425	21714	439	105	13		27		
1	60	2873	34421	21738	433	104	13		28		
1	80	2871	34424	21748	427	102	20		38		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	66	61	05	09	1630 H	1136 S	12408 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
311	03	77	89	09	4	16	8	9	9	9	2	8	4	052	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		2880	34252	21588	439	105	16				
1	24	2867	34242	21624	451	108	16		81		
1	47	2869	34241	21618	445	106	18		32		
1	70	2864	34243	21633	439	105	18				
1	93	2708	34322	22202	397	92	31		40	8	
1	116	2558	34405	22734	344	78	58			35	
1	138	2240	34484	23732	302	65	81			70	
1	183	1610	34528	25379	267	51	123		128	162	
1	226	1401	34550	25855	255	47	134			188	
1	268	1217	34551	26226	249	44	153		160	214	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	67	61	05	09	2100 H	1058 S	12352 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
1975	18	78	84	09	5	16	8	9	9	9	2	8	5	17	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	$\%O_2$ SAT.	INORG. P		TOTAL P	NITRATE	D
2		2864	34124	21545	433	103	17				
2	23	2861	34113	21547	445	106	18		26		
2	45	2865	34116	21537	445	106	18		30		
2	68	2792	34243	21872	445	105	18				
2	90	2498	34411	22924	320	72	61		67	5 1	
2	111	2279	34465	23607	308	67	74			7 9	
2	132	2020	34527	24367	290	60	90			7 8	
2	174	1668	34526	25244	261	51	119		121	15 0	
2	218	1357	34558	25954	261	48	133			19 2	
2	263	1259	34557	26150	249	45	149		152	21 6	
2	350	1004	34551	26613	237	40	161			31 0	
2	436	858	34558	26858	225	37	181			33 6	
1	594	725	34529	27034	225	36	199		199	30 0	
1	760	620	34588	27222	225	35	208		209	33 0	
1	926	516	34611	27327	231	33	213		234	36 0	
1	1092	456	34610	27437	231	35	215		229	33 2	
1	1262	394	34623	27514	237	35	221		227	31 8	
1	1521	331	34665	27610	267	39	218		220	34 6	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	71	61	05	10	2135 I	837 S	12732 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
1006	09	7 | 9	8 | 2	14	3	16	8	9	9	14	2	11	2	1 | 1	01	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		28 15	33804	21466	439	104	08				
1	22	28 10	33805	21483	445	105	08		25		
1	43	27 07	34033	21988	415	96	20		36	1 0	
1	65	24 94	34325	23095	356	80	48			3 5	
1	86	23 01	34486	23561	296	65	72		79	7 5	
1	108	21 31	34523	24064	284	60	83			9 2	
1	128	20 41	34524	24309	284	59	83			9 4	
1	168	17 11	34580	25183	273	54	106		114	14 0	
1	206	14 45	34580	25785	243	45	129			21 2	
1	244	13 21	34589	26051	225	41	142		152	21 4	
1	317	10 12	34590	26630	237	40	164			25 8	
1	394	8 61	34556	26852	225	37	178		186	30 4	
1	554	7 38	34575	27051	225	36	193		206	32 8	
1	725	6 21	34593	27224	219	34	204		214	32 8	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	72	61	05	11	55 I	903 S	12746 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
2414	23	79	82	13	3	16	8	9	9	13	2	11	2	089	00	99

CAST	DEPTH	TEMP.	‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		2830	34038	21593	439	104	18				
2	22	2825	34024	21601	445	105	20		32		
2	42	2769	34027	21785	439	103	20		30		
2	62	2810	34037	21657	421	99	22				
2	82	2625	34581	22660	243	56	76		89	68	
2	102	2293	34502	23595	273	59	76			134	
2	120	2258	34493	23690	290	63	76			112	
2	158	1774	34575	25029	261	52	106		120	155	
2	196	1461	34579	25749	249	47	127			264	
2	236	1316	34597	26066	219	40	149		159	263	
2	312	1072	34568	26500	225	39	154			262	
2	393	917	34564	26768	225	37	173		193	300	
1	545	790	34553	26958	219	35	175		196	334	
1	685	653	34586	27177	219	34	193		220	310	
1	850	555	34594	27309	225	34	200		221	358	
1	1020	466	34612	27427	225	34	211		238	348	
1	1195	426	34622	27479	231	34	213		233	358	
1	1630	306	34690	27654	267	38	205		231	334	
1	1872	280	34708	27692	284	41	202		238	310	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	73	61	05	11	600 I	940 S	12804 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
117	01	77	82	11	3	16	8	9	9	11	2	8	2	090	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
1		2878	34350	21667	421	101	10				
1	20	2875	34347	21676	433	104	12		25		
1	40	2877	34343	21666	433	104	12				
1	60	2875	34343	21674	433	104	12		24		
1	80	2875	34343	21674	433	104	12				
1	100	2873	34361	21694	433	98	12		27		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	74	61	05	11	1000 I	1013 S	12823 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
66	01	79	86	11	4	16	8	9	9	11	2	10	3	088	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		2893	34304	21584	421	101	14				
1	10	2890	34313	21602	433	104	14		24		
1	20	2892	34313	21595	439	105	14				
1	30	2890	34308	21599	433	104	14		22		
1	40	2888	34303	21602	433	104	17				
1	50	2894	34310	21587	433	104	17		24		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	75	61	05	11	1415 I	1044 S	12851 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
37	03	79	86	12	5	16	8	9	9	12	2	10	3	0888	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		2922	34400	21559	439	106	10				
1	10	2899	34392	21631	439	105	10		19		
1	20	2899	34402	21639	439	105	10		19		
1	30	2896	34402	21648	433	104	10		24		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	76	61	05	18	500 H	1913 S	11735 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
88	01	71	80	11	2	16	7	9	9	11	2	5	3	1467	00	99

CAST	DEPTH	TEMP.	s‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
1		2706	34960	22689	434	101	19				
1	20	2695	34946	22714	440	103	19		32		
1	40	2700	34947	22697	440	103	19		37		
1	60	2696	34947	22710	440	103	19		40		
1	80	2703	34947	22687			19		36		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	78	61	05	18	1030 H	1818 S	11712 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
978	09	72	82	13	4	16	8	9	9	13	3	13	2	154	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		2746	34744	22397	446	105	11				
1	23	2748	34772	22411	452	106	11		24		
1	45	2754	34839	22442	452	106	12		24		
1	68	2755	34840	22439	452	106	12				
1	90	2512	34713	23107	434	98	23		38		
1	113	2259	34750	23881	323	70	63			45	
1	135	2179	34876	24201	317	68	66			51	
1	176	2054	35295	24861	387	81	49		50	13	
1	220	1650	35219	25690	328	60	85			73	
1	261	1428	35089	26214	334	62	103		106	49	
1	344	1176	34975	26634	381	67	105			227	
1	424	947	34786	26893	428	72	116		130	352	
1	592	685	34625	27164	240	38	188		198	650	
1	775	551	34628	27341	217	33	202		211	690	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	79	61	05	18	1700 H	1723 S	11647 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
2377	23	75	84	11	4	16	8	9	9	11	2	4	5	1209	02	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2801	34757	22229	446	106	10				
2	24	2792	34747	22252	446	106	10		26		
2	47	2794	34740	22240	452	107	10		26		
2	70	2788	34730	22250	452	107	10				
2	93	2488	34673	23151	428	96	21		41	4	
2	117	2352	34767	23627	375	83	41			13	
2	139	2152	34699	24140	299	64	74			105	
2	183	1954	34900	24823	299	61	83		94	106	
2	225	1698	35056	25580	305	55	90			132	
2	267	1492	35037	26034	311	59	111		119	157	
2	348	1206	34999	26594	370	66	105			154	
2	439	985	34815	26852	475	80	99		114	166	
1	550	818	34669	27006	387	63	144		156	212	
1	707	663	34628	27196	240	38	194		202	318	
1	864	577	34626	27307	217	33	209		220	322	
1	1030	507	34629	27394	211	32	197		209	322	
1	1190	448	34633	27464	229	34	215		218	322	
1	1613	320	34687	27638	276	40	205		220	326	
1	1873	258	34719	27720	311	44	200		210	320	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	80	61	05	18	2340 H	1629 S	11622 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
4389	35	8 0	8 3	11	3	16	7	9	9	11	2	11	4	13 0	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		2771	34698	22281	446	105	10				
2	24	2766	34697	22298	452	107	10		24		
2	47	2764	34767	22356	452	107	10		24		
2	69	2690	34712	22553	452	105	12				
2	92	2391	34674	23442	381	84	40		54	26	
2	114	2238	34761	23949	328	71	62			76	
2	136	2077	34781	24407	305	64	75			124	
2	180	1773	34946	25315	293	58	90		103	156	
2	223	1495	34921	25939	287	54	108			240	
2	266	1306	34960	26366	311	56	115		123	212	
2	349	1093	34905	26732	381	66	108			206	
2	439	916	34747	26913	481	80	108		117	222	
1	626	680	34627	27173	252	40	191		202	394	
1	797	570	34627	27316	211	32	205		214	420	
1	968	504	34627	27396	217	33	207		223	450	
1	1143	442	34631	27469	223	33	207		219	426	
1	1320	393	34650	27537	246	36	192		221	394	
1	1755	270	34716	27707	305	43	203		207	476	
1	2212	210	34731	27770	340	48	200		207	448	
1	2638	183	34739	27797	364	51	188		200	458	
1	3107	149	34731	27816	399	55	184		191	426	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	81	61	05	19	700 H	1537 S	11559 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
5486	3	76	84	10	4	16	8	9	9	10	2	9	4	138	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		2785	34650	22200	440	104	07				
2	25	2782	34648	22209	446	105	08		34		
2	49	2788	34649	22189	452	107	08		39		
2	72	2712	34669	22449	440	103	08				
2	95	2350	34679	23564	364	80	41		66	36	
2	117	2217	34783	24023	328	71	57			99	
2	140	2088	34802	24393	305	64	67			131	
2	183	1808	34899	25193	287	57	87		109	188	
2	226	1572	35036	25856	305	58	94			208	
2	267	1369	35045	26304	323	59	100		126	242	
2	352	1128	34936	26692	358	63	108			222	
2	441	940	34773	26894	417	70	111		136	260	
2	623	700	34631	27149	252	40	184		202	432	
2	812	595	34632	27289	205	32	205		224	446	
1	1000	484	34621	27414	217	33	205		215	446	
1	1173	435	34631	27477	229	34	205		227	444	
1	1350	379	34658	27557	252	37	205		215	434	
1	1791	274	34717	27704	299	43	202		207	490	
1	2240	213	34740	27774	334	47	190		208	388	
3	2630	187	34734	27790	370	52	194		206	466	
3	3058	160	34729	27807	381	53	186		210	446	
3	3498	138	34722	27817	411	57	176		202	444	
3	3982	122	34722	27828	428	59	184		184	426	
3	4383	117	34719	27829	434	59	183		202	402	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	83	61	05	19	1915 H	1407 S	11523 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
5486	5	77	82	07	2	16	8	9	9	7	2	7	4	1288	05	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2841	34226	21699	428	102	10				
2	24	2840	34214	21692	440	105	10		24		
2	47	2844	34216	21681	446	106	10		24		
2	70	2844	34250	21706	440	105	10				
2	93	2592	34360	22594	375	86	32		44	24	
2	115	2358	34478	23389	334	74	54			53	
2	136	2248	34668	23848	328	71	57			65	
2	176	1859	34667	24889	276	56	95		100	148	
2	210	1520	34621	25653	264	50	114			186	
2	250	1364	34791	26118	270	50	121		134	192	
2	335	1020	34635	26652	229	39	159			246	
2	420	938	34664	26813	234	39	160		165	326	
2	588	718	34628	27120	234	37	184		187	352	
2	760	576	34616	27300	205	32	203		242	408	
1	980	494	34623	27405	211	32	205		206	438	
1	1150	439	34626	27468	223	33	207		214	416	
1	1320	401	34646	27525	234	34	210		211	416	
1	1758	290	34721	27693	287	41	204		206	450	
1	2196	221	34745	27772	334	47	192		200	422	
1	2638	186	34741	27796	364	51	184		195	370	
1	3083	157	34737	27815	381	53	189		195	388	
1	3513	137	34733	27827	405	56	185		185	350	
1	3985	121	34727	27833	422	58	181		184	346	
1	4414	117	34727	27836	428	59	184		188	368	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	85	61	05	20	545 H	1251 S	11445 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
5029	49	77	83	09	4	16	8	9	9	9	2	8	4	1266	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2854	34354	21752	417	99	12				
2	22	2850	34347	21761	435	104	13		22		
2	44	2854	34347	21746	440	105	12		24		
2	65	2847	34347	21768	434	103	12				
2	88	2573	34410	22692	381	87	39		43	1 2	
2	111	2269	34458	23632	311	67	72			13 0	
2	133	2043	34511	24294	281	59	85			17 6	
2	179	1790	34560	24977	270	54	104		108	24 2	
2	223	1461	34568	25740	264	49	127			27 0	
2	267	1285	34732	26234	264	48	140		141	32 8	
2	351	1057	34783	26702	293	50	140			32 8	
2	436	924	34728	26885	323	54	145		146	34 6	
2	622	727	34638	27116	205	33	202		2 2	44 4	
2	816	580	34621	27299	205	32	215		215	45 0	
1	917	527	34617	27361	205	31	210		211	44 0	
1	1078	476	34617	27420	217	33	216		218	50 4	
1	1244	427	34635	27489	223	33	216		218	48 2	
1	1673	314	34714	27665	276	40	213		213	44 8	
1	2103	235	34750	27764	311	44	206		207	47 4	
1	2542	193	34748	27797	340	47	201		201	47 4	
1	3002	163	34738	27811	376	52	194		200	46 0	
1	3421	139	34733	27825	396	55	188		195	45 6	
1	3875	118	34737	27843	428	59	189		954	62 0	
1	4207	116	34729	27838	396	54	189		193	45 0	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	87	61	05	20	2000 H	1059 S	11344 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
6218	54	78	82	10	4	16	8	9	9	10	2	9	4	127	03	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
3		2820	33373	21126	406	105	10				
3	23	2852	34153	21606	440	105	12		30		
3	47	2859	34278	21677	446	106	12		30		
3	69	2611	34378	22551	364	83	39			13	
3	92	2377	34306	23204	334	74	62		72	75	
3	114	2076	34374	24101	305	64	83			125	
3	181	1498	34417	25550	276	52	122		128	207	
3	225	1280	34552	26103	252	45	136			235	
3	270	1115	34532	26402	240	42	159		161	330	
3	357	927	34577	26762	229	38	168			358	
3	444	859	34640	26920	211	35	181		184	380	
2	588	766	34661	27078	199	32	190		191	370	
2	775	636	34632	27235	199	31	213		214	474	
2	949	530	34609	27351	211	32	213		214	442	
2	1108	464	34624	27439	223	33	209		215	400	
2	1277	412	34641	27510	229	34	209		218	410	
2	1705	294	34716	27685	287	41	211		212	468	
2	2159	231	34736	27756	317	45	205		205	436	
2	2623	195	34737	27787	353	49	201		201	374	
1	2423	198	34739	27785	346	48	197		201	400	
1	2858	176	34737	27801	370	51	197		208	370	
1	3234	148	34769	27847	387	53	188			380	
1	3630	122	34718	27825	411	56	186		191	374	
1	4058	116	34718	27829	422	58	188		189	360	
1	4522	113	34718	27831	434	59	188		189	422	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	91	61	05	21	1000 H	912 S	11309 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
2551	25	7 9	8 5	11	5	16	8	9	9	11	2	11	5	12 3	03	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2894	33566	21029	440	105	08				
2	24	2887	33554	21042	446	106	09		16		
2	47	2855	33996	21481	452	107	09		16		
2	71	2528	34118	22609	387	87	32			28	
2	94	2254	34141	23433	340	73	61		75	108	
2	118	1879	34383	24622	305	62	92			199	
2	142	1707	34601	25209	264	52	106			310	
2	187	1380	34579	25922	258	47	129		132	392	
2	230	1189	34549	26278	240	42	141			412	
2	271	1084	34543	26467	234	40	165		166	472	
2	353	970	34699	26787	199	34	166			550	
2	444	896	34756	26952	187	31	179		180	624	
1	556	787	34710	27000	182	28	194		204	670	
1	717	703	34657	27165	187	30	205		206	654	
1	842	613	34649	27279	193	30	203		213	620	
1	995	501	34628	27400	211	32	209		209	640	
1	1152	434	34627	27475	229	34	219		220	626	
1	1567	305	34739	27678	270	39	219		220	560	
1	1997	236	34719	27755	317	45	206		207	570	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	97	61	05	22	700 H	817 S	11550 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
1207	13	77	82	13	2	16	8	9	9	13	2	99	9	1222	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2848	32424	20322	428	101	07			1 0	
2	23	2842	32810	20632	440	104	11		40		
2	46	2840	33356	21049	440	104	11		32		
2	68	2818	33504	21231	428	101	19				
2	90	2711	33752	21764	422	98	24		40		
2	113	2554	34127	22537	387	88	39			3 6	
2	135	2175	34192	23693	358	76	70			10 5	
2	170	1646	34392	25192	311	60	107		115	21 3	
2	226	1406	34530	25830	299	55	112			20 0	
2	266	1128	34493	26349	270	47	146		152	25 3	
2	346	936	34489	26680	247	41	157			28 0	
1	422	842	34511	26847	234	38	168		174	15 2	
1	612	674	34540	27112	223	35	200		216	36 0	
1	771	603	34557	27220	217	34	204		213	60 8	
1	939	527	34570	27323	205	31	207		222	27 8	
1	1114	433	34601	27456	199	30	207		233	42 6	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	106	61	05	25	800 G	341 S	10949 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
	0	81	88	12	3	16	8	9	9	12	2	12	2	0966	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		2961	32250	19818	427	102	10				
1	10	2948	32219	19837	433	103	10		22		
1	20	2952	32220	19824	433	103	10		22		
1	30	2949	32220	19835	433	103	10		22		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	112	61	05	26	800 G	7 S	10645 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
42	0	85	88	14	6	16	7	9	9	14	2	14	3	083	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		2971	32991	20339	451	108	08				
1	10	2966	33000	20362	439	105	08		19		
1	20	2970	33015	20359	445	107	08		19		
1	30	2961	33068	20428	445	107	10		17		
1	40	2920	33364	20790	427	102	11		24		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	117	61	06	01	800 G	131 S	10703 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
37	0	80	86	12	3	16	7	9	9	12	2	99	9	1171	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
1		2961	32724	20172	436	104	08				
1	10	2950	32716	20204	436	104	08		23		
1	20	2961	32719	20167	430	103	08		22		
1	30	2958	32712	20174	436	104	08		21		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	122	61	06	04	2300 G	620 S	10415 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
2103	2	80	86	16	2	16	8	9	9	16	2			98	10	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2927	32808	20349	447	107	08			8	
2	25	2901	33424	20897	447	107	08		24	4	
2	50	2877	33602	21110	447	106	08		24	5	
2	66	2773	34316	21990	418	98	21			1	
2	89	2336	34599	23546	302	66	71		84	12	
2	112	1911	34650	24744	244	50	103			150	
2	134	1476	34775	25868	197	37	133			204	
2	178	1364	34920	26218	168	31	151		156	247	
2	216	1228	34900	26474	162	29	153			248	
2	252	1180	34943	26600	156	28	153		170	247	
2	332	1103	34976	26769	168	29	163			361	
2	422	985	34885	26907	156	26	162		184	248	
1	512	905	34837	27002	156	26	188		193	226	
1	700	747	34772	27193	151	24	214		220	383	
1	860	616	34720	27331	174	27	217		219	253	
1	1046	512	34721	27462	191	29	219		220	240	
1	1220	450	34721	27532	203	30	216		218	266	
1	1672	313	34766	27708	273	39	209		216	300	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	124	61	06	05	1630 G	802 S	10716 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
	27	77	84	11	3	16	8	9	9	14	2	24	2	088	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2820	34000	21596	447	106	14			1 0	
2	21	2809	34032	21656	453	107	17		33		
2	42	2752	34277	22026	418	98	23		39		
2	63	2661	34521	22502	401	93	32				
2	75	2304	34514	23573	325	71	62		71	6 8	
2	107	1988	34499	24431	284	59	89			13 0	
2	130	1482	34546	25678	261	49	125			23 4	
2	175	1187	34585	26310	232	41	152		159	27 6	
2	221	1129	34685	26495	209	36	160			31 6	
2	266	1089	34762	26629	186	32	168		172	34 0	
2	355	1033	34830	26793	174	32	173			9 0	
2	437	976	34829	26877	174	29	175		184	12 8	
1	574	881	34816	27024	162	27	194		198	25 2	
1	728	738	34756	27193	156	25	212		216	36 0	
1	903	557	34675	27370	191	29	216		219	35 0	
1	1073	462	34676	27482	215	32	214		220	39 8	
1	1245	395	34691	27567	238	35	217		219	32 8	
1	1678	310	34755	27702	279	40	205		210	45 8	
1	2137	229	34751	27770	325	46	200		206	15 6	
1	2335	214	34751	27782	337	47	192		206	31 2	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	126	61	06	06	500 G	1000 S	10812 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
6511	3	78	84	11	3	16	7	9	9	11	2	22	4	09 3	10	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2767	34120	21859	447	105	08			20	2
2	23	2761	34139	21895	447	105	10		22	1	3
2	47	2757	34130	21899	453	106	10		25		1
2	70	2469	34272	22906	354	79	44			4	1
2	93	2193	34397	23798	319	68	72		78	6	3
2	116	1906	34505	24646	284	58	93			9	1
2	139	1695	34522	25177	279	55	103			8	8
2	185	1451	34542	25742	267	50	127		138	10	8
2	228	1241	34527	26160	250	45	138			12	3
2	272	1120	34527	26390	244	42	151		162	12	2
2	357	945	34549	26710	220	37	172			17	8
2	438	880	34642	26889	209	35	177		186	14	5
1	611	743	34653	27104	191	31	199		206	18	4
1	773	621	34621	27247	203	32	207		217	14	3
1	939	530	34632	27369	209	32	211		225	23	0
1	1100	454	34637	27452	220	33	213		227	18	6
1	1278	397	34658	27539	232	34	213		225	13	5
1	1695	302	34733	27692	284	41	202		212	28	4
1	2115	229	34743	27763	325	46	200		209		
1	2570	191	34740	27792	354	49	194		203	21	5

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	128	61	06	06	1630 G	1133 S	10859 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
4901	3	7 8	8 4	10	4	16	7	9	9	10	2	18	4	07 8	00	10

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	$\%O_2$ SAT.	INORG. P		TOTAL P	NITRATE	D
2		2780	33947	21687	447	105	08				
2	20	2776	33957	21710	453	106	10		24		
2	40	2773	34096	21823	459	108	10		23		
2	60	2677	34418	22371	441	102	14				
2	80	2467	34527	23104	389	87	37		45	6	
2	101	2273	34715	23814	348	76	56			44	
2	122	2098	34904	24445	331	70	67			65	
2	164	1716	34835	25367	290	57	103		104	114	
2	207	1410	34627	25895	261	48	131			172	
2	250	1309	34942	26346	313	57	111		122	163	
1	338	1053	34837	26750	332	53	145			193	
2	428	900	34724	26922	337	56	145		145	176	
1	554	756	34655	27087	232	37	194		197	377	
1	713	610	34631	27269	197	31	216		219	308	
1	893	520	34623	27373	209	32	216		217	295	
1	1070	451	34629	27458	226	34	216		219	264	
1	1250	395	34657	27540	238	35	219		225	314	
1	1690	283	34733	27709	296	42	205		211	222	
1	2155	213	34743	27777	343	48	200		205	308	
1	2641	170	34737	27805	372	52	200		204	275	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	130	61	06	07	600 G	1337 S	10957 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
5121	3	78	83	09	3	16	7	9	9	7	2	21	1	096	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2782	33943	21678	424	100	07			1 0	
2	22	2781	33932	21673	436	102	07		22	3	
2	45	2852	34511	21876	430	103	09		22	4	
2	67	2758	34491	22169	418	98	11				
2	89	2544	34467	22824	383	87	23		39	1 1	
2	111	2356	34228	23205	331	73	56			8 0	
2	132	2195	34319	23734	308	66	71			9 7	
2	174	1826	34448	24802	284	57	97		105	19 0	
2	214	1614	34545	25383	273	53	110			23 3	
2	252	1339	34557	25988	255	46	135		142	29 3	
2	336	1095	34680	26554	250	43	149			31 5	
2	424	917	34684	26863	255	42	163		165	40 5	
1	556	808	34662	27016	261	42	176		181	44 0	
1	713	649	34611	27202	203	32	214		214	54 0	
1	880	544	34607	27332	215	33	216		217	41 0	
1	1055	478	34611	27414	215	32	212		218	53 6	
1	1229	425	34626	27483	220	33	214		225	39 0	
1	1650	319	34707	27655	261	38	209		213	48 2	
1	2085	237	34735	27750	313	44	205		213	44 1	
1	2532	189	34738	27791	343	48	203		211	33 2	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	132	61	06	07	1730 G	1513 S	11103 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
5486	3	7 8	8 3	07	4	16	8	9	9	7	2	21	4	11 0	00	15

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	$\%O_2$ SAT.	INORG. P		TOTAL P	NITRATE	D
2		2797	34159	21794	418	99	08				
2	22	2794	34133	21783	436	103	10		31		
2	45	2739	34106	21939	441	103	10		27		
2	68	2734	34135	21978	436	102	10				
2	91	2456	34527	23138	383	86	32		50	1 1	
2	113	2283	34711	23781	343	75	46			4 4	
2	136	2101	34744	24315	308	65	68			9 7	
2	181	1850	34800	25012	302	61	88		98	12 1	
2	224	1613	34922	25676	296	57	97			16 5	
2	267	1336	34772	26161	267	49	128		137	21 9	
2	350	1097	34803	26645	284	49	138			24 2	
2	433	963	34771	26854	343	58	132		141	23 3	
1	598	767	34638	27058	273	44	176		183	30 6	
1	760	637	34633	27236	197	31	215		215	33 0	
1	925	538	34616	27351	209	32	215		225	33 0	
1	1096	460	34617	27438	215	32	216		223	33 0	
1	1267	417	34633	27497	232	34	216		218	37 5	
1	1710	306	34704	27664	279	40	210		215	36 4	
1	2120	227	34737	27760	319	45	203		211		
1	2582	183	34737	27804	354	45	203		211	32 7	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	134	61	06	08	600 G	1711 S	11151 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
4572	3	75	81	04	3	16	8	9	9	4	2	22	4	11 7	15	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		2655	34350	22390	453	105	10				
2	24	2653	34342	22390	453	105	10		25		
2	47	2656	34341	22382	459	106	11		25		
2	71	2618	34889	22913	453	104	12				
2	95	2468	34916	23393	441	99	21		32		
2	118	2248	34933	24050	343	74	53			47	
2	141	2147	35070	24438	354	75	54			48	
2	187	1903	35090	25101	319	65	75		87	70	
2	230	1751	35408	25722	377	75	64			60	
2	274	1567	35398	26150	366	51	202		76		
2	360	1129	34965	26713	401	70	108			109	
2	439	931	34758	26897	488	82	101		113		
1	624	699	34624	27145	255	40	188		206	294	
1	830	583	34633	27304	203	31	216		224		
1	964	509	34641	27401	209	32	216		223	254	
1	1180	448	34650	27480	220	33	216		225	294	
1	1356	396	34663	27544	244	36	217		229	276	
1	1779	281	34714	27695	313	45	205		216		
1	2197	218	34738	27768	337	47	205		208		
1	2664	181	34739	27799	366	51	202		208	8	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	136	61	06	08	1730 H	1849 S	11243 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
2149	22	76	80	00		16	8	9	9			22	1	1255	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		2583	34896	23040	453	105	10				
2	23	2565	34986	23160	465	107	11		26		
2	46	2565	34897	23090	465	107	11		26		
2	70	2530	34995	23280	459	105	13				
2	93	2441	35188	23682	447	100	14		32		
2	116	2361	35145	23886	412	91	29			1 8	
2	139	2244	35144	24222	395	86	40			3 3	
2	185	1998	35371	25067	395	82	44		52	3 7	
2	230	1790	35339	25573	360	72	66			7 1	
2	273	1654	35586	26089	436	85	51		52	8 8	
1	359	1207	35058	26639	406	72	95			12 8	
2	432	978	34794	26847	383	65	125		130	18 8	
1	653	723	34632	27117	267	43	184		179	26 7	
1	835	586	34631	27300	215	33	208		217	29 4	
1	1015	515	34638	27485	209	30	213		225	31 6	
1	1195	438	34650	27489	232	35	213		227	28 8	
1	1374	400	34662	27539	250	37	216		223	29 6	
1	1800	265	34721	27715	313	45	205		211	30 0	
1	1966	232	34734	27754	325	46	203		204		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	138	61	06	09	530 H	2032 S	11335 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
1051	09	79	84	15	3	16	7	9	9	15	2	23	1	11 4	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		2640	34908	22860	436	101	10				
1	24	2628	34872	22867	453	105	10		26		
1	48	2626	34880	22883	453	105	10		26		
1	71	2613	34882	22924	447	103	10				
1	94	2586	34902	23021	441	101	13		32		
1	118	2350	34840	23688	354	78	45			28	
1	140	2235	34959	24108	348	75	51			42	
1	187	2062	35320	24857	395	83	42		53	56	
1	232	1876	35643	25590	430	88	34			16	
1	278	1772	35776	25952	459	92	31		43	11	
1	368	1350	35393	26612	523	96	44			27	
1	456	1090	34979	26794	540	94	73		84	85	
1	634	750	34573	27031	459	74	137		142		
1	797	542	34614	27341	238	36	210		220	277	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	140	61	06	09	1310 H	2139 S	11402 E

SONIC DEPTH	MAX. SAMP. DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SPEED	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST 1	WIRE ANGLES CAST 2
183	02	76	81	00		16	7	9	9			25	1	1318	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
1		2621	34894	22908	505	116	12				
1	24	2613	34904	22940	459	106	12		32		
1	47	2612	34916	22951	453	104	12		32		
1	70	2563	34875	23074	418	95	24				8
1	93	2543	34917	23168	424	97	23		36		9
1	115	2502	35041	23387	459	104	12				
1	138	2456	35153	23610	465	105	12		28	24	1

DATA

PART 2

HYDROLOGY

SURFACE SAMPLING

EXPLANATION OF HEADINGS

Part 2 Hydrology - Surface Sampling

STATION	Stations are numbered consecutively for each ship for each year.
DATE	Given as year, month, day.
TIME	Given in Zone Time. The code letter used for the time zone (Table 2) follows the time.
LATITUDE LONGITUDE	The position of each station is given in degrees and minutes.
TEMP.	Sea temperatures are recorded in °C to one decimal place.
S‰	Salinities are recorded in parts per thousand to two decimal places.

STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	S‰
49	61	5	2	600G	3201S	11200E	2105	3576
50	61	5	6	100H	1743S	12102E	2780	3471
51	61	5	6	540H	1658S	12045E	2847	3463
52	61	5	6	1030H	1608S	12025E	2890	3465
53	61	5	6	1500H	1520S	12008E	2898	3468
54	61	5	6	2030H	1433S	11949E	2907	3463
55	61	5	7	200H	1345S	11935E	2910	3436
56	61	5	7	600H	1302S	11925E	2914	3432
57	61	5	7	1300H	1212S	11904E	2880	3433
58	61	5	7	1715H	1119S	11841E	2804	3411
59	61	5	8	100H	1140S	11950E	2820	3390
60	61	5	8	700H	1204S	12053E	2850	3420
61	61	5	8	1300H	1227S	12202E	2880	3414
62	61	5	8	1900H	1258S	12320E	2920	3445
63	61	5	9	600H	1332S	12505E	2905	3455
64	61	5	9	1010H	1300S	12451E	2866	3446
65	61	5	9	1315H	1209S	12427E	2965	3442
66	61	5	9	1630H	1135S	12408E	2880	3425
67	61	5	9	2130H	1057S	12351E	2864	3412
68	61	5	10	500H	1017S	12452E	2790	3405
69	61	5	10	1100H	940S	12548E	2840	3389
70	61	5	10	1645H	904S	12646E	2850	3386
71	61	5	10	2135I	837S	12731E	2815	3380
72	61	5	11	55I	902S	12746E	2830	3403
73	61	5	11	600I	940S	12804E	2878	3435
74	61	5	11	1010I	1013S	12822E	2893	3430
75	61	5	11	1415I	1044S	12850E	2922	3440
76	61	5	18	500H	1913S	11735E	2706	3496
77	61	5	18	800H	1848S	11721E		
78	61	5	18	1030H	1818S	11712E	2746	3474
79	61	5	18	1700H	1723S	11647E	2801	3475
80	61	5	18	2340H	1628S	11622E	2771	3469
81	61	5	19	715H	1537S	11559E	2785	3465
82	61	5	18	1600H	1446S	11540E	2790	3421
83	61	5	19	1915H	1407S	11523E	2841	3422
84	61	5	20	200H	1329S	11504E	2820	3428
85	61	5	20	540H	1250S	11445E	2854	3435
86	61	5	20	1410H	1157S	11415E	2890	3433
87	61	5	20	2000H	1058S	11344E	2820	3337
88	61	5	21	400H	1016S	11326E		
89	61	5	21	500H	1006S	11322E	2720	3392
90	61	5	21	800H	936S	11314E		
91	61	5	21	1000H	912S	11309E	2894	3356
92	61	5	21	1600H	909S	11355E		
93	61	5	21	1800H	908S	11417E	2910	3347
94	61	5	21	2000H	905S	11439E		

STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	S‰
95	61	5	22	1H	855S	11520E	2880	3363
96	61	5	22	400H	829S	11546E		
97	61	5	22	700H	816S	11550E	2848	3242
98	61	5	22	1200H	735S	11531E		
99	61	5	22	1600H	657S	11502E	2940	3213
100	61	5	22	2000H	649S	11415E	2900	3203
101	61	5	23	1H	639S	11344E	2915	3220
102	61	5	23	400H	635S	11307E	2915	3199
103	61	5	24	2000G	531S	11139E	2950	3191
104	61	5	25	1G	457S	11105E	2920	3186
105	61	5	25	400G	422S	11031E	2970	3185
106	61	5	25	800G	341S	10949E	2961	3225
107	61	5	25	1200G	316S	10941E	2985	3225
108	61	5	25	1600G	232S	10923E	2995	3226
109	61	5	25	2000G	150S	10845E	2990	3261
110	61	5	26	1G	116S	10804E	2970	3273
111	61	5	26	400G	38S	10725E	2940	3291
112	61	5	26	800G	7S	10644E	2971	3299
113	61	5	31	1600G	105S	10501E	2985	3277
114	61	5	31	2000G	32S	10539E	2945	3315
115	61	6	1	1G	11S	10615E	2965	3300
116	61	6	1	400G	50S	10652E	2965	3310
117	61	6	1	800G	130S	10703E	2961	3272
118	61	6	1	1200G	220S	10706E	2970	3259
119	61	6	1	1600G	304S	10718E	2960	3277
120	61	6	1	2000G	348S	10710E	2920	3254
121	61	6	2	1G	429S	10657E	2940	3288
122	61	6	4	2300G	620S	10415E	2927	3280
123	61	6	5	930G	717S	10551E	2850	3367
124	61	6	5	1630G	802S	10716E	2820	3400
125	61	6	5	2330G	900S	10743E	2822	3375
126	61	6	6	500G	1000S	10812E	2767	3412
127	61	6	6	1130G	1050S	10834E	2780	3411
128	61	6	6	1530G	1135S	10858E	2780	3394
129	61	6	6	2330G	1216S	10921E	2770	3391
130	61	6	7	600G	1338S	10957E	2782	3394
131	61	6	7	1300G	1429S	11024E	2800	3403
132	61	6	7	1730G	1513S	11105E	2797	3415
133	61	6	8	100G	1613S	11126E	2740	3442
134	61	6	8	600G	1710S	11150E	2655	3435
135	61	6	8	1300G	1803S	11218E	2680	3450
136	61	6	8	1730H	1849S	11243E	2583	3589
137	61	6	9	530H	1949S	11311E		
138	61	6	9	100H	2032S	11335E	2640	3490
139	61	6	9	1000H	2104S	11348E	2560	3493

DATA

PART 3

PRIMARY PRODUCTION

(a) Stations sampled to 150 m (pp. 68-87).

(b) Stations at which surface samples were taken (pp. 88-91).

EXPLANATION OF HEADINGS

Part 3 Primary Production

(a) Stations sampled to 150 m.

SHIP	The figures 11 are used to designate Diamantina.
CRUISE	Cruise numbers are allotted each year, beginning with 1 for the first cruise.
STATION	Stations are numbered consecutively for each ship for each year.
DATE	Given as year, month, day.
TIME	Given in Zone Time (Table 2).
LATITUDE LONGITUDE	The position of each station is given in degrees and minutes.
SONIC DEPTH	Given in m, measured at standard sound velocity of 800 fm (1463 m) per second.
MAX. SAMP. DEPTH	Depth of deepest observation to nearest 10 m is recorded in units of 10 m.
DIST. FROM COAST	Distance of nearest land in miles.
METHOD OF INCUBATION	On this cruise method of incubation was by light incubator and is recorded by a zero.
STOCK NUMBER	Number of C^{14} stock used.
STOCK ACTIVITY	The activity of C^{14} stock used is recorded in millions of counts/min.
BACKGROUND	Background count is recorded in counts/min.
DEPTH	Depth of sampling is given in metres.

LIGHT COUNT	The counts/min of the filter from the clear bottle.
DARK COUNT	The counts/min of the filter from the dark bottle.
NET COUNT	The difference between the light and dark counts.
INCUBATION PERIOD	Given in hours.
RATE OF PRODUCTION A B	A is given in mgC/hr/m^3 to two decimal places. B is given in gC/day/m^2 to two decimal places. A day has been taken to be equal to 10 hours.

(b) Stations at which surface samples were taken as for (a) except -

ACTIVITY (c.p.m.)

LIGHT	The activities of the filters from two duplicate light bottles are given.
DARK	The activity from the dark bottle.
NET	The dark activity subtracted from the mean of the duplicate light activities.

Asterisks indicate negative values which are assumed to equal zero for further calculations.

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0050	61	5	06	130 H	1744 S	12103 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
94	08	90	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1144	31	1113	400	0066	0000
10	1202	35	1167	400	0069	0007
20	1679	27	1652	400	0098	0015
40	1618	7	1611	400	0095	0034
60	1648	24	1624	400	0096	0053
80	591	30	561	400	0033	0066

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0051	61	5	06	620 H	1658 S	12045 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
201	15	80	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1467	16	1451	400	0086	0000
25	2332	33	2299	400	0136	0028
50	2014	24	1990	400	0118	0060
75	2428	37	2391	400	0141	0092
100	150	25	125	400	0007	0111
150	21	5	16	400	0001	0113

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0052	61	5	06	1100 H	1609 S	12025 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
439	15	100	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	463	7	456	400	0027	0000
25	731	11	720	400	0043	0009
50	860	8	852	400	0050	0021
75	1005	8	997	400	0059	0035
100	127	1	126	400	0007	0043
150	6	2	4	400	0000	0045

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0053	61	5	06	1520 H	1520 S	12008 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
1554	15	115	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	152	16	136	400	0008	0000
25	344	33	311	400	0018	0003
50	311	45	266	400	0016	0007
75	533	8	525	400	0031	0013
100	57	2	55	400	0003	0017
150	4	1	3	400	0000	0018

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0054	61	5	06	2100 H	1433 S	11950 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2834	15	125	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	43	21	22	400	0001	0000
25	50	26	24	400	0001	0000
50	57	29	28	400	0002	0000
75	299	11	288	400	0017	0002
100	70	4	66	400	0004	0005
150	4	4		400	0000	0006

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0056	61	5	07	630 H	1303 S	11925 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4892	15	170	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	399	8	391	400	0023	0000
25	489	4	485	400	0029	0007
50	388	4	384	400	0023	0014
75	616	8	608	400	0036	0021
100	140	16	124	400	0007	0026
150	8	3	5	400	0000	0028

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0058	61	5	07	1800 H	1119 S	11841 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
5212	15	120	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	549	32	517	400	0031	0000
25	525	33	492	400	0029	0008
50	903	10	893	400	0053	0018
75	29	5	24	400	0001	0025
100	12	1	11	400	0001	0025
150	6	7	1 *	400	0000	0025

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0063	61	5	09	600 H	1333 S	12505 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
82	07	20	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	4227	38	4189	400	0247	0000
10	3742	57	3685	400	0218	0023
20	4401	52	4349	400	0257	0047
30	3203	51	3152	400	0186	0069
50	3979	36	3943	400	0233	0111
70	2886	38	2848	400	0168	0151

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0064	61	5	09	1020 H	1300 S	12451 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD. OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
73	07	30	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	7994	89	7905	400	0467	0000
10	10670	164	10506	400	0620	0054
20	8635	86	8549	400	0505	0110
30	10232	101	10131	400	0598	0165
50	9580	176	9404	400	0555	0280
70	9988	180	9808	400	0579	0393

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0065	61	5	09	1315 H	1210 S	12427 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
104	10	25	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	5850	28	5822	400	0344	0000
25	10446	102	10344	400	0611	0119
50	9980	67	9913	400	0585	0269
75	12382	20	12362	400	0730	0433
100	9809	61	9748	400	0576	0596

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0066	61	5	09	1700 H	1136 S	12408 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
311	15	40	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1130	51	1079	400	0064	0000
25	900	45	855	400	0050	0014
50	885	36	849	400	0050	0027
75	1250	16	1234	400	0073	0042
100	164	16	148	400	0009	0052
150	22	18	4	400	0000	0054

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0067	61	5	09	2150 H	1058 S	12352 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
1975	15	35	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	77	29	48	400	0003	0000
25	154	32	122	400	0007	0001
50	166	39	127	400	0008	0003
75	217	20	197	400	0012	0006
100	40	9	31	400	0002	0008
150	11	5	6	400	000C	0009

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0071	61	5	10	2215 I	837 S	12732 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
1006	15	20	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	146	32	114	400	0007	0000
25	118	31	87	400	0005	0002
50	483	21	462	400	0027	0006
75	77	11	66	400	0004	0010
100	28	10	18	400	0001	0011
150	8	4	4	400	0000	C011

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0072	61	5	11	115 I	903 S	12746 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2414	15	75	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1046	102	944		400	0056	0000
25	1019	59	960		400	0057	0014
50	1320	70	1250		400	0074	0030
75	151	18	133		400	0008	0040
100	29	16	13		400	0001	0041
150	12	32	20	*	400	0000	0041

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0073	61	5	11	630 I	940 S	12804 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
117	13	95	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	3647	62	3585	400	0212	0000
25	3925	65	3860	400	0228	0055
50	3618	47	3571	400	0211	0110
75	4185	60	4125	400	0244	0167
100	2639	58	2581	400	0152	0217
125	123	12	111	400	0007	0237

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0074	61	5	11	1100 I	1013 S	12823 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
66	05	85	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	2360	27	2333	400	0138	0000
25	2019	29	1990	400	0118	0032
50	2622	28	2594	400	0153	0066

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0075	61	5	11	1415 I	1044 S	12851 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
37	03	90	0	7	10 390	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	2642	26	2616	400	0155	0000
10	1715	30	1685	400	0100	0013
25	2455	28	2427	400	0143	0031

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0076	61	5	18	500 H	1913 S	11735 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
88	08	70	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1250	17	1233	400	0073	0000
25	1615	14	1601	400	0095	0021
50	1169	24	1145	400	0068	0041
75	2029	17	2012	400	0119	0064

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0078	61	5	18	1100 H	1818 S	11712 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
978	15	115	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	537	9	528	400	0031	0000
25	588	26	562	400	0033	0008
50	1004	18	986	400	0058	0019
75	464	9	455	400	0027	0030
100	54	7	47	400	0003	0034
150	16	8	8	400	0000	0035

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0079	61	5	18	1800 H	1723 S	11647 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2377	15	130	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	131	20	111	400	0007	0000
25	3020	36	2984	400	0176	0023
50	76	30	46	400	0003	0045
75	402	12	390	400	0023	0048
100	65	11	54	400	0003	0051
150	11	6	5	400	0000	0052

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0080	61	5	18	2340 H	1629 S	11622 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4389	15	175	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	137	4	133		300	0010	0000
25	45	40	5		300	0000	0001
50	235	26	209		300	0016	0003
75	198	16	182		300	0014	0007
100	43	6	37		300	0003	0009
150	8	36	28	*	300	000C	0C09

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0081	61	5	19	800 H	1537 S	11559 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
5486	15	210	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	2865	18	2847	400	0168	0000
25	2813	18	2795	400	0165	0042
50	2299	12	2287	400	0135	0080
75	635	14	621	400	0037	0102
100	53	9	44	400	0003	0107
150	12	10	2	400	0000	0108

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0083	61	5	19	1920 H	1408 S	11523 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
5486	15	300	0	7	10 390	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	80	32	48	400	0003	0000
25	42	34	8	400	0000	0000
50	118	32	86	400	0005	0001
75	299	20	279	400	0016	0004
100	40	8	32	400	0002	0006
150	12	8	4	400	0000	0007

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0085	61	5	20	615 H	1251 S	11445 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
5029	15	240	0	7	10 390	8

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	218	19	199	400	0012	0000
25	342	21	321	400	0019	0004
50	244	25	219	400	0013	0008
75	725	13	712	400	0042	0015
100	106	12	94	400	0006	0021
150	11	4	7	400	0000	0023

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0087	61	5	20	2000 H	1059 S	11344 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
6218	15	210	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	230	69	161	400	0010	0000
25	94	62	32	400	0002	0002
50	222	45	177	400	0010	0004
75	146	18	128	400	0008	0006
100	31	12	19	400	0001	0007
150	23	5	18	400	0001	0008

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0091	61	5	21	1030 H	912 S	11309 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2551	15	60	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	302	13	289	400	0017	0000
25	474	16	458	400	0027	0006
50	78	17	61	400	0004	0010
75	269	11	258	400	0015	0012
100	29		29	400	0002	0014
150	11	11		400	0000	0015

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0097	61	5	22	730 H	8165 S	11550 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
1207	15	10	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	2823	133	2690	400	0159	0000
25	1552	30	1522	400	0090	0031
80	2159	17	2142	400	0127	0091
100	850	17	833	400	0049	0113
150	476	10	466	400	0028	0132

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0106	61	5	25	800 H	3415 S	10949 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
31	02	10	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1569	15	1554	400	0092	0000
10	2108	17	2091	400	0123	0011
20	3563	21	3542	400	0209	0028
25	3178	26	3152	400	0186	0038

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0112	61	5	26	300 G	70 S	10644 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
42	04	60	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1574	42	1532	400	0090	0000
10	1604	39	1565	400	0092	0009
20	1514	48	1466	400	0087	0018
30	543	33	510	400	0030	0024
40	1670	14	1656	400	0098	0030

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0117	61	6	01	800 G	1305 S	10703 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
36	03	10	0	7	10390	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1658	50	1608	400	0095	0000
20	2124	78	2046	400	0121	0022
30	3437	59	3378	400	0200	0038

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0122	61	6	04	2300 G	620 S	10415 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2103	15	70	0	7	10390	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	649	54	595	400	0035	0000
25	540	71	469	400	0028	0008
50	203	37	166	400	0010	0013
75	266	23	243	400	0014	0016
100	70	12	58	400	0003	0018
150	51	20	31	400	0002	0019

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0124	61	6	05	1630 G	802 S	10716 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
	15	100	0	7	10390	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	349	72	277	400	0016	0000
25	260	77	183	400	0011	0003
50	760	56	704	400	0042	0010
75	498	18	480	400	0028	0019
100	77	16	61	400	0004	0023
150	81	26	55	400	0003	0025

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	0126	61	6	06	500 G	1000 S	10812 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
6511	15	160	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	226	21	205		400	0012	0000
25	210	35	175		400	0010	0003
50	200	38	162		400	0010	0006
75	93	706	613	*	400	0000	0006
100	11	9	2		400	0000	0006
150	18	5	13		400	0001	0006

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0128	61	6	06	1700 G	1133 S	10858 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4901	15	180	0	7	10 390	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	210	41	169		400	0010	0000
25	182	50	132		400	0008	0002
50	264	45	219		400	0013	0005
75	486	31	455		400	0027	0010
100		10	10	*	400	0000	0010
150	16	7	9		400	0001	0010

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0130	61	6	07	600 G	1338 S	10957 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
5121	15	300	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	320	21	299		400	0018	0000
25	451	22	429		400	0025	0005
50	367	12	355		400	0021	0011
75	720	10	710		400	0042	0019
100	104	45	59		400	0003	0025
150	15	18	3	*	400	0000	0025

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0132	61	6	07	1800 G	1515 S	11103 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
5486	15	420	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	21	53	32	*	400	0000	0000
25	103	37	66		400	0004	0001
50	320	319	1		400	0000	0002
75	361	24	337		400	0020	0005
100	29	21	8		400	0000	0008
150	17	18	1	*	400	0000	0008

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0134	61	6	08	630 G	1710 S	11150 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4572	15	295	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	181	26	155	400	0009	0000
25	318	17	301	400	0018	0003
50	249	84	165	400	0010	0007
75	390	9	381	400	0023	0011
100	98	12	86	400	0005	0015
150	7	7		400	0000	0016

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0136	61	6	08	1800 H	1849 S	11243 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2149	15	200	0	7	10390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	141	52	89	400	0005	0000
25	157	66	91	400	0005	0001
50	143	70	73	400	0004	0002
75	550	52	498	400	0029	0006
100	188	20	168	400	0010	0011
150	20	28	8 *	400	0000	0011

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0138	61	6	09	600 H	2032 S	11335 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
1051	15	90	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	276	41	235	400	0014	0000
25	750	27	723	400	0043	0007
50	1009	20	989	400	0058	0020
75	913	15	898	400	0053	0034
100	61	11	50	400	0003	0041
150	18	12	6	400	000C	0042

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	0140	61	6	09	1340 H	2139 S	11402 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
183	15	30	0	7	10 390	11

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1110	33	1077	400	0064	0000
25	1360	28	1332	400	0079	0018
50	1333	26	1307	400	0077	0038
75	586	25	561	400	0033	0052
100	274	15	259	400	0015	0058
150	128	15	113	400	0007	0064

SURFACE PRODUCTIVITY DATA SHEET

Stn No.	Year	Month	Day	Lat.	Long.	Incubation Time In	Incubation Time Out	Activity (c.p.m.) Light	Dark	Net	Production mgC/hr/m^3
56	61	5	7	1303S	11923E	0825	1225	308 374	08	333	.20
57	61	5	7	1212S	11904E	1213	1613	383 557	13	457	.28
58	61	5	7	119S	11841E	1603	2003	277 318	34	263	.16
77	61	5	18	1848S	11722E	0805	1205	762 659	5	706	.43
78	61	5	18	1818S	11712E	1205	1605	620 738	14	665	.41
87	61	5	21	1059S	11344E	0005	0405	303 169	65	171	.10
88	61	5	21	1016S	11326E	0405	0805	385 281	16	317	.19
90	61	5	21	936S	11314E	0804	1204	563 513	10	528	.32
91	61	5	21	912S	11309E	1205	1605	529 474	2	499	.31
92	61	5	21	910S	11356E	1603	1955	349 382	23	342	.19

SURFACE PRODUCTIVITY DATA SHEET

Stn No.	Year	Month	Day	Lat.	Long.	Incubation Time In	Incubation Time Out	Activity (c.p.m.) Light	Activity (c.p.m.) Dark	Activity (c.p.m.) Net	Production mgC/hr/m^3
94	61	5	21	906S	11439E	1955	2355	76 139	21	86	.05
95	61	5	22	856S	11521E	0013	0405	169 222	40	155	.09
96	61	5	22	829S	11546E	0403	0810	506 1158	42	790	.48
97	61	5	22	817S	11550E	0812	1200	1512 41	25	751	.42
98	61	5	22	736S	11532E	1200	1600	1164 1635	104	1295	.80
99	61	5	22	657S	11502E	1605	2000	1327 986	73	1083	.60
100	61	5	22	649S	11415E	2005	2400	332 282	61	246	.14
101	61	5	23	639S	11344E	0001	0411	52 211	528	-397	0
102	61	5	23	635S	11308E	0410	0740	592 513	57	495	.28
103	61	5	24	532S	11139E	2000	2400	220 155	24	163	.10

SURFACE PRODUCTIVITY DATA SHEET

Stn No.	Year	Month	Day	Lat.	Long.	Incubation Time In	Incubation Time Out	Activity (c.p.m.) Light	Dark	Net	Production mgC/hr/m^3
104	61	5	25	458S	11105E	0002	0405	277 377	42	285	.17
105	61	5	25	423S	11031E	0410	0800	403 433	59	357	.20
106	61	5	25	342S	10949E	0804	1200	0 0	14	-14	0
107	61	5	25	316S	10942E	1200	1600	1193 1331	38	1224	.75
108	61	5	25	233S	10923E	1606	2000	690 413	37	514	.29
109	61	5	25	151S	10845E	2007	2400	291 273	57	225	.13
110	61	5	25	117S	10805E	0002	0403	263 0	307	-44	0
111	61	5	26	038S	10726E	0410	0810	438 612	74	451	.28
112	61	5	26	007S	10645E	0807	1200	1850 1668	72	1737	.97
112	61	5	26	007S	10645E	1200	1600	0	534	-534	0

SURFACE PRODUCTIVITY DATA SHEET

Stn No.	Year	Month	Day	Lat.	Long.	Incubation Time In	Incubation Time Out	Activity (c.p.m.) Light	Dark	Net	Production mgC/hr/m^3
113	61	5	31	106N	10501E	1605	2005	0 0	76	-76	0
114	61	5	31	032N	10540E	2005	0005	591 572	33	548	.33
115	61	6	1	011S	10616E	0005	0405	519 592	175	380	.23
116	61	6	1	051S	10652E	0405	0805	1490 1178	84	1250	.77
117	61	6	1	131S	10703E	0805	1200	1339 1262	78	1222	.68
118	61	6	1	220S	10707E	1200	1600	0 0	155	-155	0
119	61	6	1	304S	10719E	1607	2007	41 24	59	-27	0
120	61	6	1	348S	10710E	2008	0005	446 511	94	384	.24

DATA

PART 4

PIGMENTS

EXPLANATION OF HEADINGS

Part 4 Pigments

SHIP	The figures 11 are used to designate Diamantina.
CRUISE	Cruise numbers are allotted each year, beginning with 1 for the first cruise.
STATION	Stations are numbered consecutively for each ship for each year.
DATE	Is given as year, month, day.
TIME	Given in Zone Time (Table 2).
LATITUDE LONGITUDE	The position of each station is given in degrees and minutes.
DEPTH	Actual sampling depth is given in metres, a blank at the top of this column indicates 0 m.
CHLOROPHYLL a b c	Chlorophyll a and b are given in mg/m^3, and chlorophyll c in $MSPV/m^3$, to two decimal places.
ASTACIN NON - ASTACIN	Astacin and non-astacin are given in $MSPU/m^3$ to two decimal places.

An asterisk in the body of the table indicates that a negative value was found. A blank indicates that the value was zero.

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	51	61	5	06	535 H	1658 S	12045 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	44	22	192	26	10 *
25	28	11	81	11	
50	28	13	61	16	3 *
75	18	9	31	7	1
100	14	10	35	7	1
150	13	11	69	12	3 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	52	61	5	06	1030 H	1609 S	12025 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	6	5	34	5	1 *
25	11	6	39	8	
50	6	4	25	5	1
75	12	6	26	8	1 *
100	14	3	59	8	1
150	11	6	40	8	2 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	53	61	5	06	1500 H	1520 S	12008 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	8	5	32	8	1 *
25	7	4	30	7	2 *
50	5	5	15	5	1
75	14	8	54	10	*
100	11	6	60	8	1 *
150	13	11	56	10	2 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	54	61	5	06	2030 H	1433 S	11950 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	6	5	33	6	1
25	6	3	34	4	2
50	6	5	34	6	1
75	6	6	21	4	2
100	11	3	25	5	2
150	5	5	15	4	1

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	56	61	5	07	545 H	1303 S	11923 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	9	11	34	9		*
25	6	5	32	5	1	
50	7	8	34	6		
75	8	5	31	8		*
100	15	8	72	8	1	
150	9	8	48	7	1	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	58	61	5	07	1715 H	1119 S	11841 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	7	3	38	3	3	
25	12	9	43	7	1	
50	15	13	46	8	1	
75	12	9	57	7	1	
100	5	3	36	4	1	
150	6	5	32	11	3	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	63	61	5	09	600 H	1333 S	12505 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
	37	14	83	8	4
10	31	17	79	10	
20	28	13	74	10	1
30	26	13	73	9	2
50	27	8	62	7	3
70	28	13	58	12	1

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	64	61	5	09	1010 H	1300 S	12451 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
	106	25	134	18	7
10	118	29	186	20	9
20	166	30	155	21	15
30	152	30	199	23	13
50	141	16	130	21	9

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	65	61	5	09	1315 H	1210 S	12427 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
	75	24	119	15	7
25	109	25	132	16	13
50	83	15	129	15	8
75	55	12	61	13	5
100	18	10	50	8	1 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	66	61	5	09	1630 H	1136 S	12408 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
	11	11	37	7	2
25	12	5	35	6	1
50	14	11	53	7	2
75	15	10	52	7	3
100	14	11	53	8	1
150	8	4	27	4	3

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	67	61	5	09	2100 H	1058 S	12352 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	6	4	24	4	1	
25	6	7	28	6		*
50	8	5	31	5	1	
75	19	8	56	6	4	
100	14	10	65	11	1	*
150	6	6	22	5	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	71	61	5	10	2135 I	837 S	12732 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	5	4	26	5		*
25	11	5	34	8	2	*
50	22	12	65	10	1	
75	14	10	67	11	1	*
100	9	5	49	8	1	*
150	8	5	65	9	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	72	61	5	11	55 I	903 S	12746 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	13	11	69	9	3 *
25	17	8	57	10	2 *
50	19	11	87	10	1
75	17	9	64	7	2
100	13	8	71	11	*
150	13	11	70	11	2 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	73	61	5	11	600 I	940 S	12804 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	52	12	104	12	3
25	54	14	85	11	4
50	48	16	90	11	1
75	49	14	82	12	1
100	28	13	59	9	1
125	20	8	60	10	1 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	74	61	5	11	1000 I	1013 S	12823 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	17	17	62	9	4
10	15	5	41	5	2
25	18	6	45	6	
50	22	8	48	9	1 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	75	61	5	11	1415 I	1044 S	12851 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	32	19	114	17	6 *
10	23	10	70	9	3
25	29	12	74	10	2

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	76	61	5	18	500 H	1913 S	11735 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
	28	12	66	10	1
25	28	10	60	9	2
50	24	12	70	10	1
75	23	8	60	7	2

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	78	61	5	18	1030 H	1818 S	11712 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
	10	7	44	7	*
25	9	6	40	7	2
50	11	7	45	6	1
75	11	6	58	8	
100	11	6	40	6	1
150	6	4	46	5	2

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	79	61	5	18	1700 H	1723 S	11647 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	7	6	35	6	2	
25	7	6	36	5		
50	10	5	36	6	1	
75	7	3	24	4	2	
100	11	9	59	6	1	*
150	7	4	28	5	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	80	61	5	18	2340 H	1629 S	11622 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	6	5	32	7	1	*
25	5	4	24	6	1	*
50	10	3	26	5	1	
75	20	12	64	8	2	
100	11	7	58	6	3	
150	5	5	18	4		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	81	61	5	19	700 H	1537 S	11559 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	7	3	38	4	2
25	6	5	30	2	3
50	7	5	35	5	2
75	12	5	38	6	1
100	9	7	28	5	
150	9	4	27	6	1

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	83	61	5	19	1915 H	1407 S	11523 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	6	5	32	5	1 *
25	6	5	33	5	1 *
50	10	4	30	7	
75	21	13	62	8	2
150	7	6	37	3	4

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	85	61	5	20	545 H	1251 S	11445 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	8	4	27	4	1	
25	7	3	39	5	1	*
50	7	4	29	4	2	
75	16	7	52	7	1	
100	14	9	47	7	1	
150	6	5	32	5	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	87	61	5	20	2000 H	1059 S	11344 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	7	7	27	6		*
25	7	6	38	5	1	
50	11	7	45	7	1	
75	4	2	11	1		
100	10	5	47	6		*
150	6	4	26	4	1	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	91	61	5	21	1000 H	912 S	11309 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	6	3	33	5	2	
25	8	4	30	6	2	
50	15	6	45	7	1	
75	12	7	46	7		
100	10	7	34	7	1	*
150	10	5	36	9	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	97	61	5	22	700 H	817 S	11550 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	21	10	56	9		
25	20	8	44	7	2	
50	16	6	45	6	1	
75	20	9	49	8		
100	17	8	42	7	1	
150	12	8	37	8	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	106	61	5	25	800 G	341 S	10949 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	22	11	50	9		*
10	20	7	55	7	1	
20	19		142	6	1	
25	20	8	40	14		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	112	61	5	26	800 G	7 S	10645 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	17	8	41	6		
10	16	7	39	6		
20	18	8	56	10	2	*
30	17	4	45	6		
40	15	6	43	6	2	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	117	61	6	01	800 G	131 S	10703 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
	24	9	52	6	3
20	27	8	64	9	1
30	28	8	63	7	4

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	122	61	6	04	2300 G	620 S	10415 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
	21	5	41	6	
25	12	7	30	6	
50	12	8	38	6	1
75	19	9	48	6	3
100	17	6	46	7	2
150	6	5	30	5	1

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	124	61	6	05	1630 G	802 S	10716 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	2	2	10	2		*
25	12	7	30	10		
50	54	14	103	10	9	
75	25	12	67	9	4	
100	19	9	61	10		*
150	12	12	74	20	5	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	126	61	6	06	500 G	1000 S	10812 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	10	8	51	8	2	*
25	9	5	32	7		*
50	12	8	54	9	3	*
75	17	17	90	10	2	
100	11	7	47	8		
150	7	5	51	10	3	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	128	61	6	06	1630 G	1133 S	10859 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	6	5	33	5	1	*
25	6	5	32	8	1	*
50	11	5	36	9	1	
75	21	11	60	8	2	
100	16	10	52	19	6	*
150	10	4	45	7	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	130	61	6	07	600 G	1337 S	10957 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	11	3	22	4	2	
25	11	2	30	4		*
50	11	4	30	5		*
75	21	9	63	7	2	
100	17	8	43	3	5	
150	10	5	32	5		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	132	61	6	07	1730 G	1513 S	11103 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	6	3	34	4	1	*
25	9	12	26	5	1	*
50	11	4	29	5		*
75	19	11	41	5	2	
100	20	8	59	6	2	
150	10	5	21	4		*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	134	61	6	08	600 G	1711 S	11151 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	8	5	35	6	3	*
25	12	3	40	6	2	*
50	7	4	25	3	1	*
75	14	5	40	5	2	
100	18	10	51	6	3	
150	6	5	31	5		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	136	61	6	08	1730 H	1849 S	11243 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	7	3	37	4	1 *
25	8	2	36	5	3 *
50	10	5	34	6	2 *
75	29	11	53	6	4

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	138	61	6	09	530 H	2032 S	11335 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	17	5	27	4	1
25	21	5	26	5	1
50	28	9	51	4	2
75	21	7	30	5	4
100	11	9	42	3	4
150	13	13	69	11	5 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	140	61	6	09	1310 H	2139 S	11402 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	22	10	34	10	1	
25	23	14	31	8	1	*
50	34	5	37	4	7	
75	34	10	49	8	7	
100	23	7	39	5	5	
150	16	10	14	3	4	
200	4	60	270	20	5	
					5	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	2	50	61	5	06	100 H	1744 9	12102 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
	20	7	69	12	1
10	19	9	46	7	3
20	20	7	51	10	
40	19	9	61	7	1
60	25	8	60	11	
80	18	7	50	7	2

DATA

PART 5

PHYTOPLANKTON

EXPLANATION OF HEADINGS

Part 5 Phytoplankton

SHIP	The figures 11 are used to designate Diamantina.
CRUISE	Cruise numbers are allotted each year, beginning with 1 for the first cruise.
STATION	Stations are numbered consecutively for each ship for each year.
DATE	Is given as year, month, day.
TIME	Given in Zone Time (Table 2).
LATITUDE LONGITUDE	The position of each station is given in degrees and minutes.
DEPTH	Actual sampling depth is given in metres, a blank at the top of this column indicates 0 m.
ORGANISMS WITH CHLOROPHYLL / WITHOUT CHLOROPHYLL	The counts of organisms with and without chlorophyll are expressed as log numbers per litre.
TOTAL PARTICLES	The counts of total particles are expressed as log numbers per litre. A blank indicates that the count was zero.

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	49	61	5	02	2200 G	3201 S	11201 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			6640
25		4880	4970
50			6770
75		4700	6270
100			4990
125			6460
150		4400	5270

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	50	61	5	06	100 H	1744 S	12103 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4880	6540
10	5300	4700	6420
20	5850	5510	4810
40	5000	5180	5160
60	5000	5000	6420
80	5600	5720	6420

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	51	61	5	06	600 H	1658 S	12045 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	5480	5940	6480
25		5180	5070
50	5700	4400	6760
75	5000		6670
100			6620
125		4400	4830
150	5000		6310

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	52	61	5	06	1030 H	1609 S	12025 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			6330
25		4400	4760
50		4400	6710
75			5260
100			6320
125		4400	4920
150			5090

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	53	61	5	06	1500 H	1520 S	12008 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			5010
25	4100		5260
50	4400		5040
75	4180		4980
100	4300		6350
125			6750
150			5080

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	54	61	5	06	2030 H	1433 S	11950 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			6550
25	4700		6720
50			6730
75	4540		6590
100			5410
125			5000
150			6510

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	56	61	5	07	600 H	1303 S	11925 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			5050
25		4400	5430
50			5880
75		4400	6640
100		4000	6680
125		4400	6510
150			6680

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	58	61	5	07	1715 H	1119 S	11841 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			6610
25		4000	5080
50		5080	5410
75		4700	5260
100			5420
125			5640
150			6530

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	63	61	9	05	600 H	1333 S	12505 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4000	5440
10		4510	5120
20			4950
30	5000	4400	4760
50		4880	6820
70		4400	6610

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	64	61	5	09	1010 H	1300 S	12451 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	5850	4400	5320
10	5900	4510	5260
20	6110	4680	6820
30	6040	4860	5180
50	5700	4440	6730
70	6230	4700	5150

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	65	61	5	09	1315 H	1210 S	12427 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4400	4950
25		4400	6440
50	6040	5090	6630
75	6260	5010	5370
100	6150	5010	5390

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	66	61	5	09	1630 H	1140 S	12408 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4700	5170
25			6580
50	5000	4350	6620
75		4630	6660
100		4700	6870
125		4400	6890
150		4400	6560

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	67	61	5	09	2100 H	1058 S	12352 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
25			6610
50			6580
75			6630
100		4240	6570
125		4700	6740
150			6660
			6700

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	71	61	5	10	2130 I	837 S	12732 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
25			5350
50			4860
75		4400	5120
100		4880	6820
125			6510
150			6770
			5460

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	72	61	5	11	110 I	903 S	12746 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			4760
25		4400	5100
50		4700	6510
75		4700	6600
100		4880	5450
125			5510
150			6640

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	73	61	5	11	600 I	940 S	12804 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	5000	4700	4630
25	5000	4880	4920
50			6530
75	5300	4700	5220
100	5000	4000	5080
125		4400	6540

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	74	61	5	11	1010 I	1013 S	12823 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	5850	4700	5350
10	5000	4700	5430
25	5300	4880	5110
50		4400	6630

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	75	61	5	11	1415 I	1044 S	12851 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			5190
10			5170
25		5040	6490

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	76	61	5	18	500 H	1913 S	11735 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4700	5430
25		4880	4900
50	5300	4240	5090
75	5000	4300	5010

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	78	61	5	18	1030 H	1818 S	11712 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			5370
25		4700	5090
50		4650	5080
75		4880	5100
100			5080
125		4700	5430
150			5210

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	79	61	5	18	1710 H	1723 S	11647 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	5000	4400	5170
25		4700	5200
50			4890
75		4400	5290
100		4510	5180
125			5310
150			5690

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	80	61	5	18	2340 H	1629 S	11622 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4700	5150
25			4970
50		4700	4650
75		4650	5160
100		4100	5080
125			5330
150			4800

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	81	61	5	19	800 H	1537 S	11559 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4400	6480
25	5000	4400	6490
50		4400	5420
75			5250
100			5320
125		4880	5210
150		4000	6540

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	83	61	5	19	1930 H	1408 S	11523 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		5400	6480
25		4700	5130
50		4860	5130
75		4480	4900
100		4880	5060
125			4890
150			5020

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	85	61	5	20	600 H	1251 S	11445 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			5030
25		4000	5250
50		4000	5100
75		4400	5150
100		4400	4780
125		4400	4880
150			6590

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	87	61	5	20	1945 H	1059 S	11344 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4400	6560
25	5480	4630	4780
50		4570	5370
75		4000	5110
100			4600
125			6730
150			6540

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	91	61	5	21	1000 H	912 S	11309 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			4970
25		4000	4930
50		4480	5390
75		4400	6530
100			5400
125			6570
150			5230

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	97	61	5	22	700 H	817 S	11550 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	5300	4880	5110
25		4180	5050
50	5000	5220	6580
75	5480	5440	6580
100		5100	6620
125		4700	5450
150		4400	6480

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	106	61	5	25	800 G	342 S	10949 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	5000	4000	5090
20	5300	4240	6490
25	5480	4700	7700

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	112	61	5	26	800 G	7 S	10645 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			4800
10			6890
20		4400	6700
30		4880	6750
40		4480	6670

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	117	61	6	01	800. G	131 S	10703 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	5480	4000	5240
20	5000	4400	6610
30	5300	5440	6590

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	122	61	6	04	2300 G	620 S	10415 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			5160
25	4700		6510
50	4780		6660
75	4240		6540
100	4000		5270
125	4700		5530
150	4400		5440

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	124	61	6	05	1630 G	802 S	10716 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4880	5320
25	5300	4180	5260
50		4400	6640
75		4400	5330
100			5150
125		4400	5180
150			5370

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
1.1	02	126	61	6	06	500 G	1000 S	10812 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4440	5100
25			4950
50		4700	5080
75		4510	4810
100			5380
125			4740
150			5420

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	128	61	6	06	1620 G	1133 S	10859 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4880	5320
25		4700	5600
50		4100	6610
75		4600	5390
100			5590
125			5310
150			5430

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	130	61	6	07	600 G	1338 S	10957 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
			5400
25		4700	5310
50		4700	4900
75		4000	5100
100		4700	5400
125		4880	6610
150			5270

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	132	61	6	07	1730 G	1513 S	11103 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4000	5280
25		4180	5500
50		4100	5040
75		4540	5000
100		4880	5090
125			5240
150			5300

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	134	61	6	08	600 G	1711 S	11051 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4100	4800
25		4100	4680
50		4240	4950
75		4480	4990
100		4350	4650
125		4000	4900
150			4800

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	136	61	6	08	1730 H	1849 S	11243 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4000	4920
25		4000	4920
50		4880	5180
75		4630	5070
100		4180	5310
125		4700	5360
150		4000	5100

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	138	61	6	09	530 H	2032 S	11335 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4300	5400
25		4350	5250
50		4350	5660
75		4400	5320
100		4400	5450
125			6560
150			6590

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	02	140	61	6	09	1300 H	2139 S	11402 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4180	6360
25		4300	5120
50		4180	5350
75		4700	5070
100		4400	5360
125		4700	5450
150			5430

TABLE 3

OCCURRENCE OF DIATOMS

Numbers refer to Stations at which organisms were found

Actinoptychus senarius 53, 67, 71, 73, 81, 87, 122.

Amphipleura micans 51, 76, 97, 124.

Amphiprora alata 73.
A. gigantea 51, 63, 91, 97.

Amphora cuneata 74.
A. terroris

Asteromphalus dallasiana 73.
A. elegans 51, 87.
A. flabellatus 56, 71.
A. heptactis 49, 53, 54, 65, 67, 71, 72, 73, 74, 76, 78, 80, 85, 106, 128, 130, 134, 136, 138, 140.
A. hookeri 49, 52, 71, 72, 73, 74, 75, 76, 78, 79, 81, 91, 112, 126, 140.
A. ralfsianus 72.
A. roperianus 65, 74.

Asteronella japonica 56, 87.
A. kariana 97, 124.

Bacteriastrum comosum 49, 52, 64, 65, 73, 74, 75, 78, 80, 117.
B. delicatulum 54, 65, 72, 73.
B. elongatum 65, 66, 80.
B. hyalinum 50, 51, 52, 53, 65, 71, 72, 73, 74, 75, 76, 83, 87, 97, 106, 112, 117, 122, 124, 130, 134, 138, 140.
B. varians 74, 75, 78.

Biddulphia chinensis 51, 58, 63, 73, 76, 106, 122, 124, 136.
B. longicruris 51, 71.
B. mobiliensis 50, 51, 63, 64, 65, 71, 72, 73, 74, 75, 76, 87, 91, 97, 122, 124, 138, 140, 170.

Campylodiscus echeneis 67, 73, 75, 80, 132, 136, 140.
C. undulatus 50, 170.

Triceratium favus 122.
T. reticulum 130.
T. robertsianum 73, 76.
T. tessellatum 66, 72.

TABLE 4

OCCURRENCE OF DINOFLAGELLATES

Numbers refer to Stations at which organisms were found

Amphisolenia bidentata 51, 53, 54, 56, 67, 70, 71, 72, 73, 74, 106, 112, 138, 140.
A. claviceps 91.
A. globifera 49, 53, 54, 72, 78, 79, 81, 83, 112, 122.
A. schroderi 71, 80.

Ceratium arietinum 49, 53, 56, 67, 78, 80, 81.
C. belone 53.
C. breve 72, 136.
C. buceros 49, 50, 53, 54, 56, 63, 66, 67, 71, 72, 73, 74, 75, 76, 78, 80, 81, 97, 112, 140.
C. candelabrum 53, 56, 73, 79.
C. carriense 140.
C. cephalotum 53.
C. compressum 51.
C. concilians 128.
C. contortum 49, 50, 53, 56, 71, 72, 74, 79, 87, 97, 112, 132, 134, 136, 140.
C. declinatum 51, 53, 54, 56, 67, 73, 74, 79, 128, 136, 138.
C. deflexum 50, 53, 56, 72, 73, 117, 122.
C. dens 74, 75, 78.
C. digitatum 66.
C. euarcuatum 66.
C. extensum 54, 72, 74, 75, 78, 83, 85, 126, 128, 134.
C. falcatiforme 67, 79.
C. falcatum 67.
C. furca 49, 50, 51, 53, 54, 56, 63, 65, 67, 71, 72, 73, 74, 75, 76, 80, 85, 87, 91, 97, 106, 112, 117, 122, 124, 126, 128, 130, 132, 136.
C. fusus 49, 50, 51, 52, 53, 54, 56, 58, 63, 66, 67, 70, 71, 72, 73, 74, 75, 78, 79, 80, 81, 85, 87, 97, 106, 112, 117, 122, 124, 128, 130, 134, 136, 138, 140.
C. geniculatum 79, 83.

DATA

PART 6

ZOOPLANKTON

OBLIQUE HAULS : 200-0 m

STATION	DATE	TIME	LATITUDE	LONGITUDE	VOLUME FILTERED m^3	BIOMASS mg/m^3
49	2.5.61	0850	32°01'S.	112°00'E.	32.4	24
53	6.5.61	1605	15°20'S.	120°08'E.	19.6	8
53	6.5.61	1605	15°20'S.	120°08'E.	29.4	20
54	6.5.61	2208	14°33'S.	119°49'E.	22.2	21
54	6.5.61	2208	14°33'S.	119°49'E.	25.6	18
58	7.5.61	1915	11°19'S.	118°41'E.	22.0	46
58	7.5.61	1915	11°19'S.	118°41'E.	22.5	51
78	18.5.61	1120	18°18'S.	117°12'E.	29.4	29
78	18.5.61	1120	18°18'S.	117°12'E.	30.5	24
79	18.5.61	1828	17°23'S.	116°47'E.	25.2	35
79	18.5.61	1828	17°23'S.	116°47'E.	27.7	39
80	19.5.61	0150	16°28'S.	116°22'E.	18.2	24
80	19.5.61	0150	16°28'S.	116°22'E.	17.4	39
81	19.5.61	1120	15°37'S.	115°59'E.	19.0	21
81	19.5.61	1120	15°37'S.	115°59'E.	22.2	22
83	19.5.61	2200	14°07'S.	115°23'E.	14.0	22
83	19.5.61	2200	14°07'S.	115°23'E.	16.0	24
85	20.5.61	0902	12°50'S.	114°45'E.	25.0	12
85	20.5.61	0902	12°50'S.	114°45'E.	24.4	19
87	20.5.61	2345	10°58'S.	113°44'E.	32.9	99

OBLIQUE HAULS : 200-0 m

STATION	DATE	TIME	LATITUDE	LONGITUDE	VOLUME FILTERED m^3	BIOMASS mg/m^3
87	20.5.61	2345	10°58'S.	113°44'E.	34.5	111
89	21.5.61	1150	10°06'S.	113°22'E.	29.8	54
89	21.5.61	1150	10°06'S.	113°22'E.	33.3	46
122	4.6.61	0025	06°20'S.	104°15'E.	19.7	35
122	4.6.61	0025	06°20'S.	104°15'E.	16.2	59
124	5.6.61	1805	08°02'S.	107°16'E.	28.6	90
124	5.6.61	1805	08°20'S.	107°16'E.	21.2	98
126	6.6.61	0647	10°00'S.	108°12'E.	51.0	16
126	6.6.61	0647	10°00'S.	108°12'E.	53.2	29
128	6.6.61	1535	11°33'S.	108°58'E.	51.5	17
130	7.6.61	0801	13°38'S.	109°57'E.	34.6	29
130	7.6.61	0801	13°38'S.	109°57'E.	26.7	31
132	7.6.61	1923	15°13'S.	111°03'E.	21.3	23
132	7.6.61	1923	15°13'S.	111°03'E.	17.8	28
134	8.6.61	0800	17°10'S.	111°50'E.	36.9	21
134	8.6.61	0800	17°10'S.	111°50'E.	27.6	26
136	8.6.61	1858	18°49'S.	112°43'E.	24.3	33
136	8.6.61	1858	18°49'S.	112°43'E.	19.8	40
138	9.6.61	0625	20°32'S.	113°35'E.	20.1	27
138	9.6.61	0625	20°32'S.	113°35'E.	15.9	30

V. FIGURES

HYDROLOGY

VERTICAL SECTIONS

Vertical sections for temperature (°C), salinity (‰), oxygen (ml/l, and inorganic phosphate (µg at./l) were prepared from data in Section IV Part 1, and appear as Figures 2-7.

Vertical sections for the line of Stations 76-91. Degrees of longitude (S) indicated at bottom on section. ..... Minimum ---- Maximum.

Fig. 2	Temperature to 550 m.
Fig. 3	Temperature 500 m to bottom.
Fig. 4	Salinity to 550 m.
Fig. 5	Salinity 550 m to bottom.
Fig. 6	Oxygen surface to bottom.
Fig. 7	Inorganic phosphate surface to bottom.

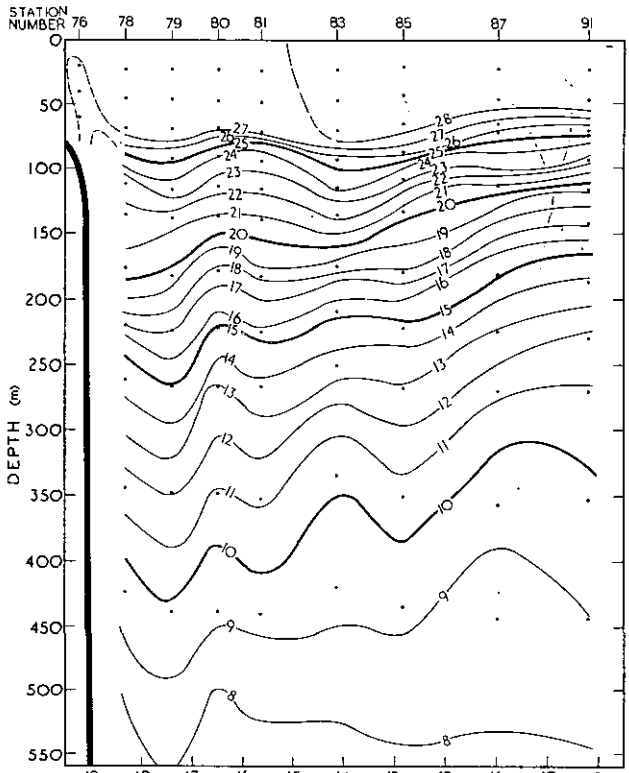

STATION NUMBER
76 78 79 80 81 83 85 87 91
DEPTH (m)
0 50 100 150 200 250 300 350 400 450 500 550
19 18 17 16 15 14 13 12 11 10 9
LATITUDE °S

Fig. 2

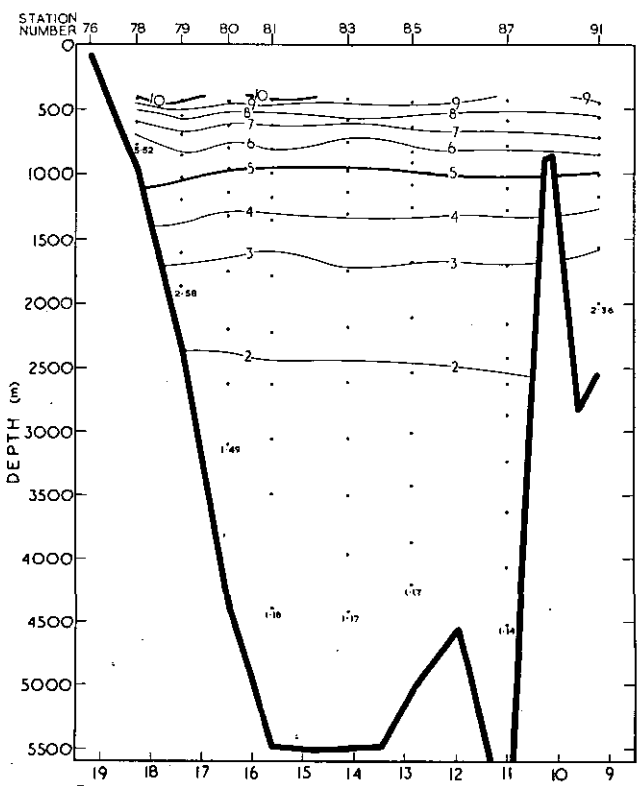
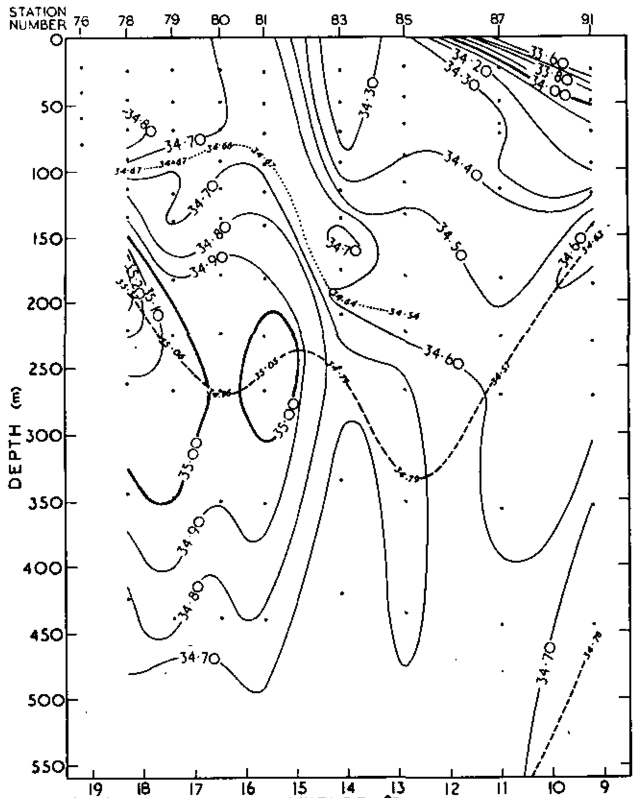
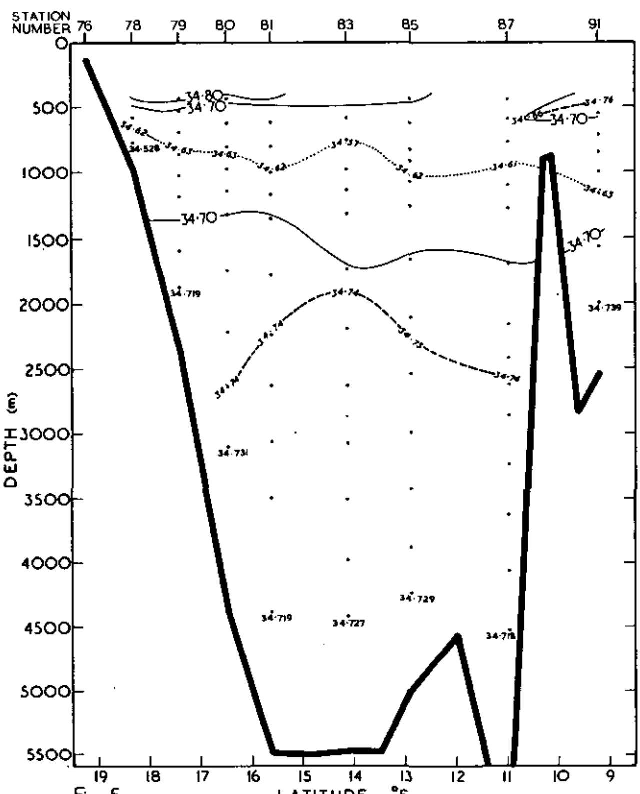

STATION NUMBER
76 78 79 80 81 83 85 87 91
DEPTH (m)
0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500
19 18 17 16 15 14 13 12 11 10 9
LATITUDE °S

Fig. 3


STATION NUMBER
DEPTH (m)
LATITUDE °S
Fig. 4


STATION NUMBER
DEPTH (m)
LATITUDE °S
Fig. 5

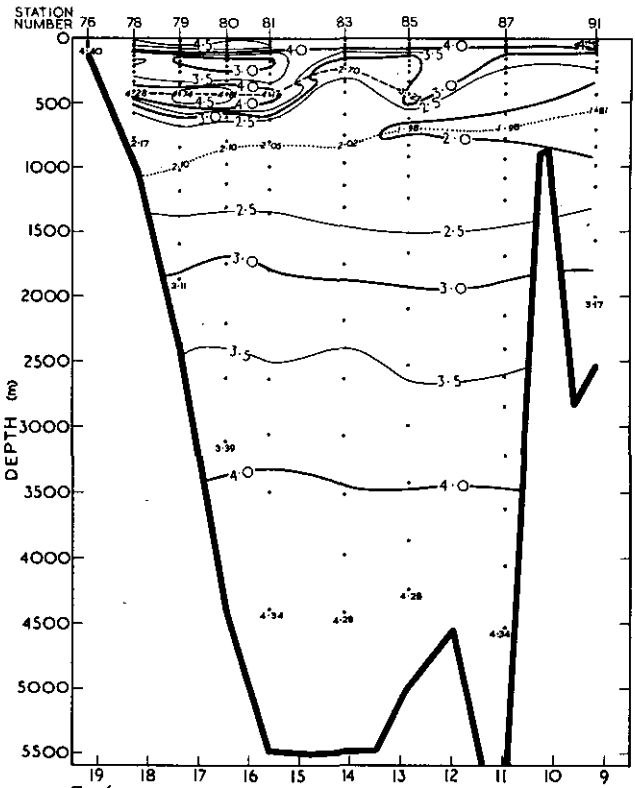

STATION NUMBER
76 78 79 80 81 83 85 87 91
DEPTH (m)
0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500
19 18 17 16 15 14 13 12 11 10 9
LATITUDE °S

Fig.6

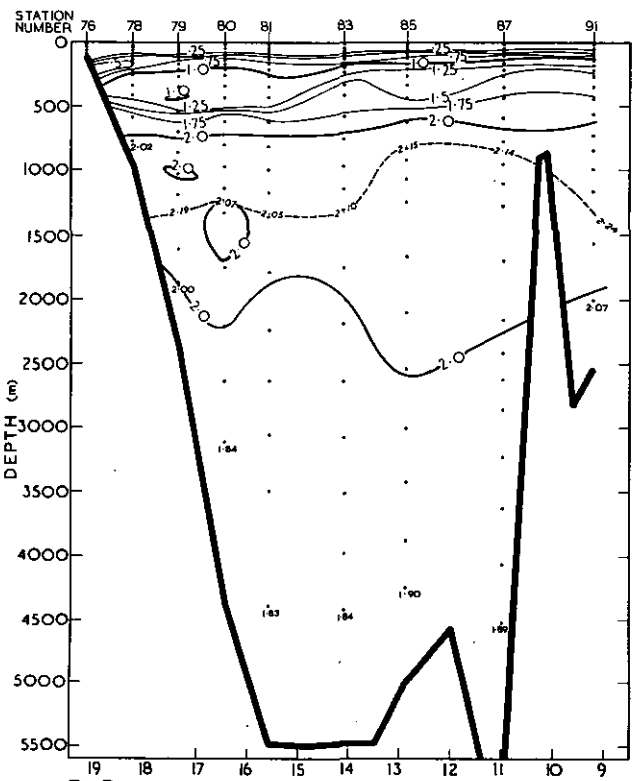

STATION NUMBER
76 78 79 80 81 83 85 87 91
DEPTH (m)
0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500
19 18 17 16 15 14 13 12 11 10 9
LATITUDE °S

Fig.7

HYDROLOGY

HORIZONTAL DISTRIBUTION OF PROPERTIES

Figures illustrating the horizontal distribution of properties at the surface, at 50 m, and at 250 m were prepared from data in Section IV Part 1.

Figs 8-12

Fig. 8A	Surface	Temperature
Fig. 8B		Salinity
Fig. 8C		Oxygen
Fig. 9A	50 m	Temperature
Fig. 9B		Salinity
Fig. 10A		Oxygen
Fig. 10B		Inorganic phosphate
Fig. 11A	250 m	Temperature
Fig. 11B		Salinity
Fig. 12A		Oxygen
Fig. 12B		Inorganic phosphate

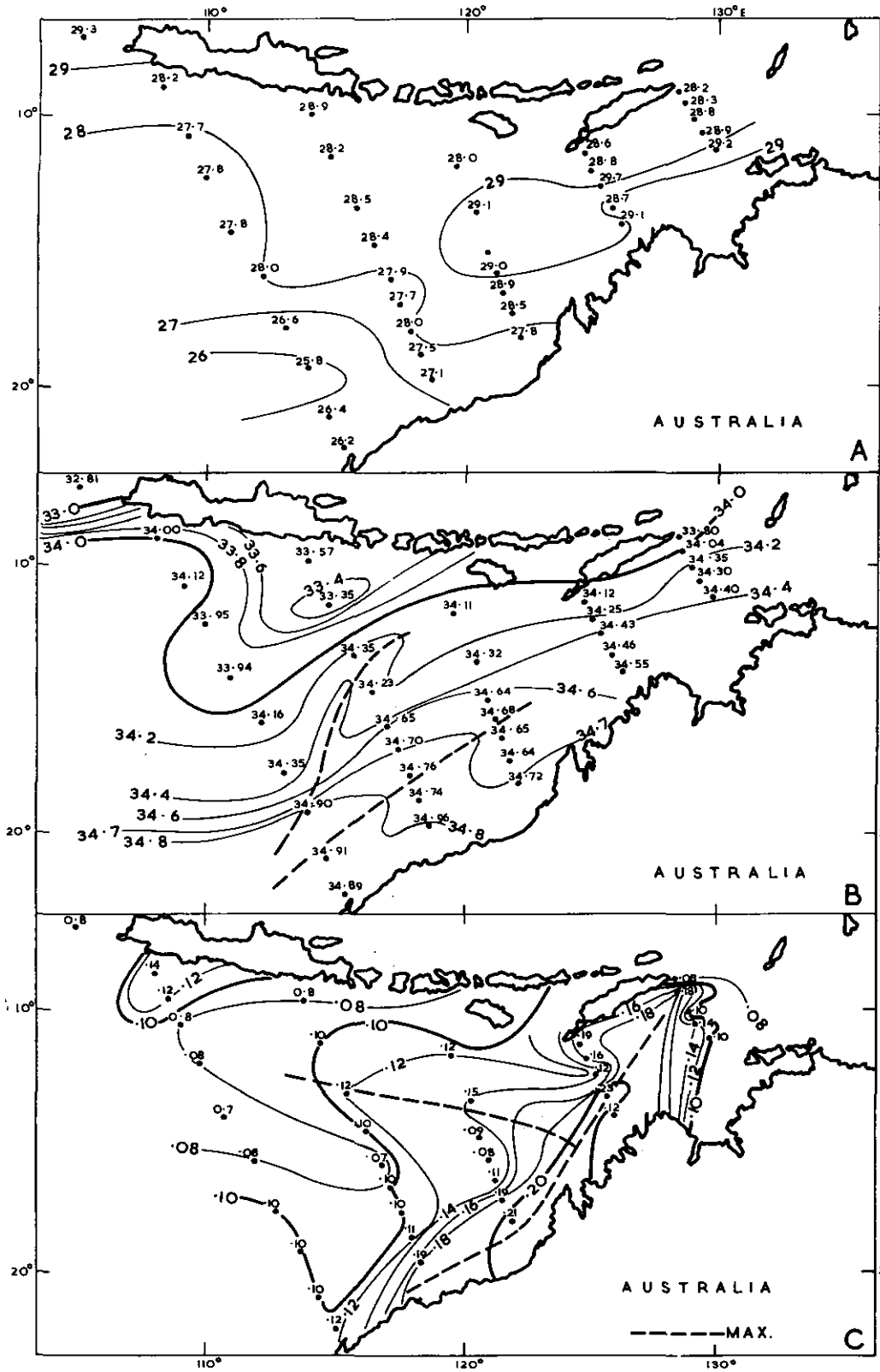


Fig. 8

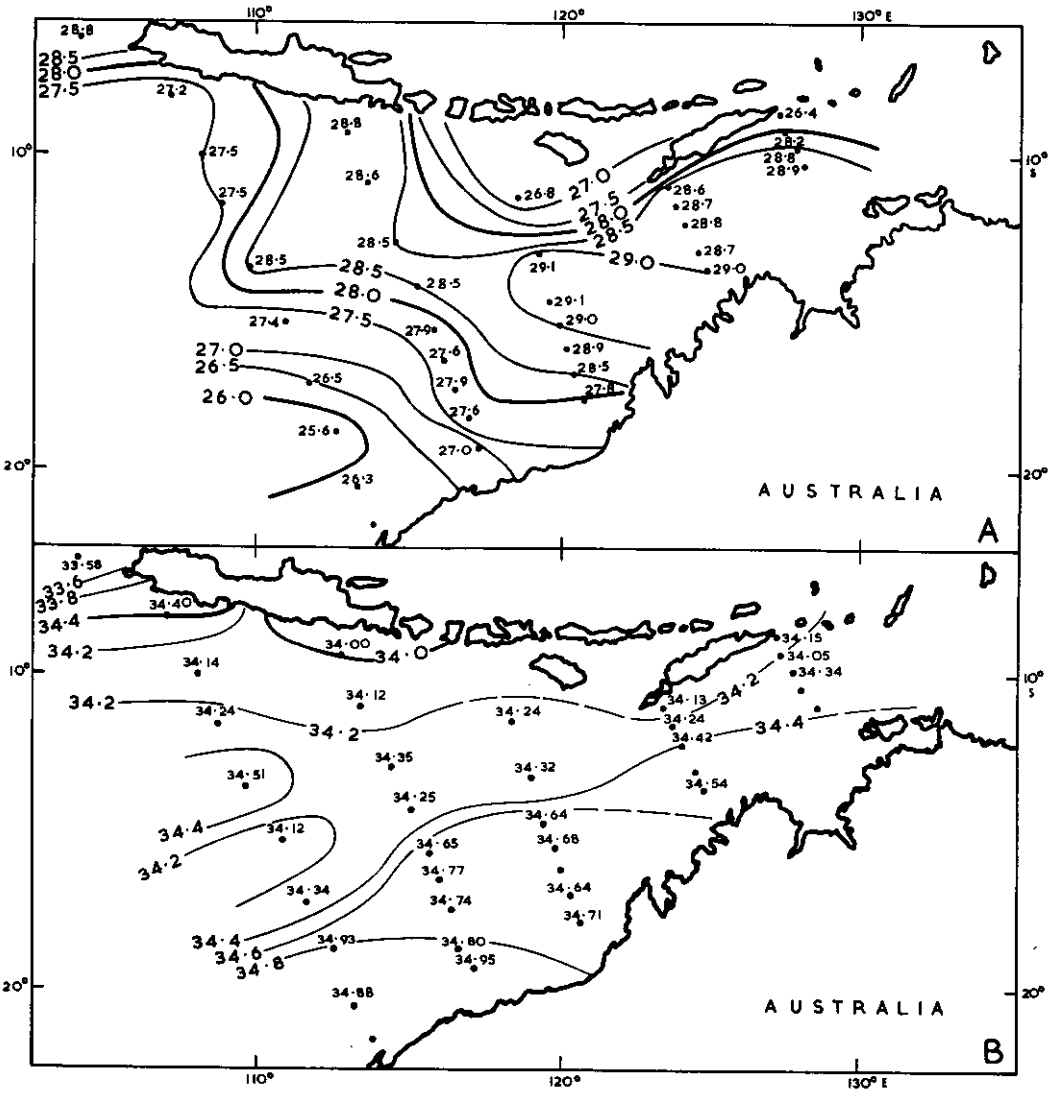


Fig. 9

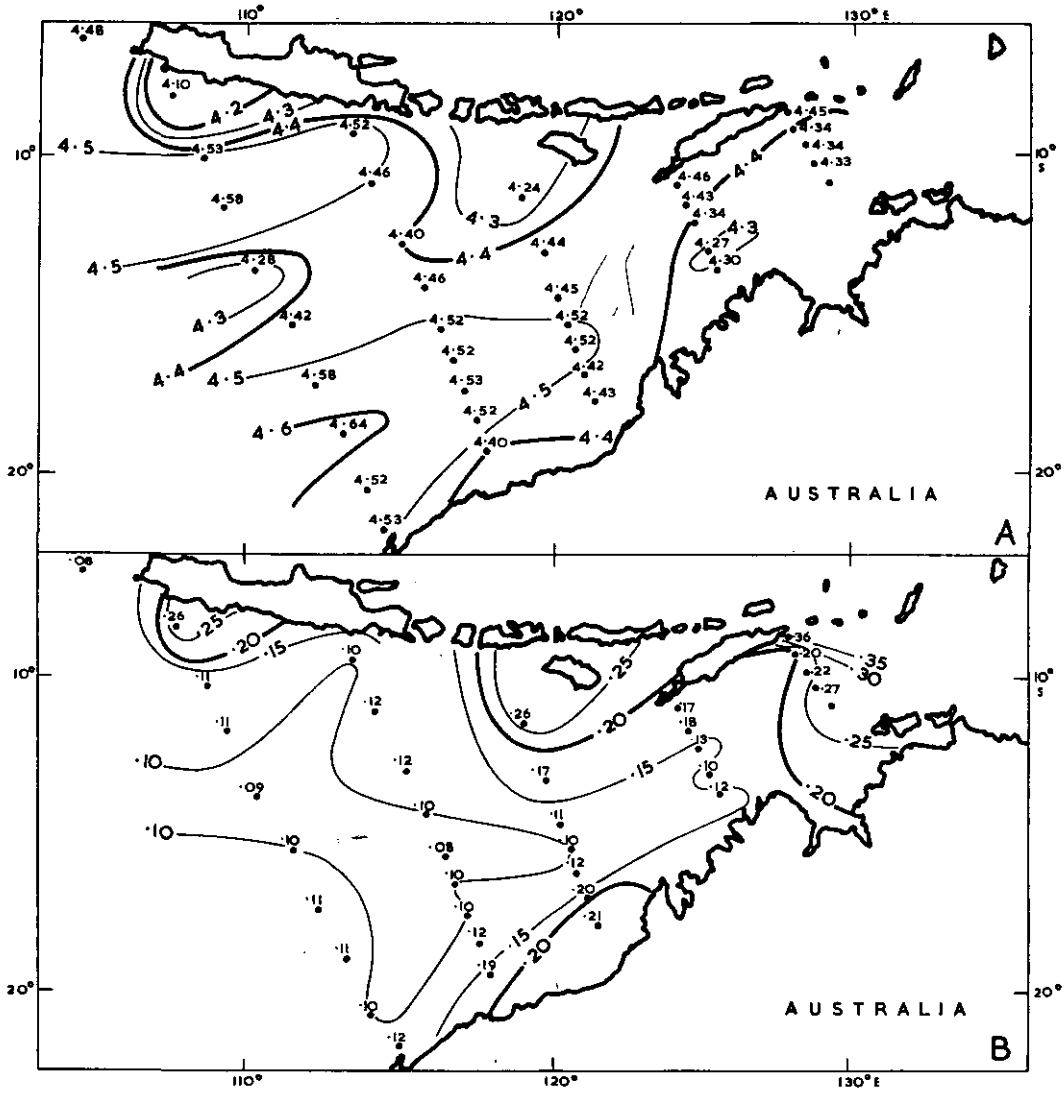


Fig. 10

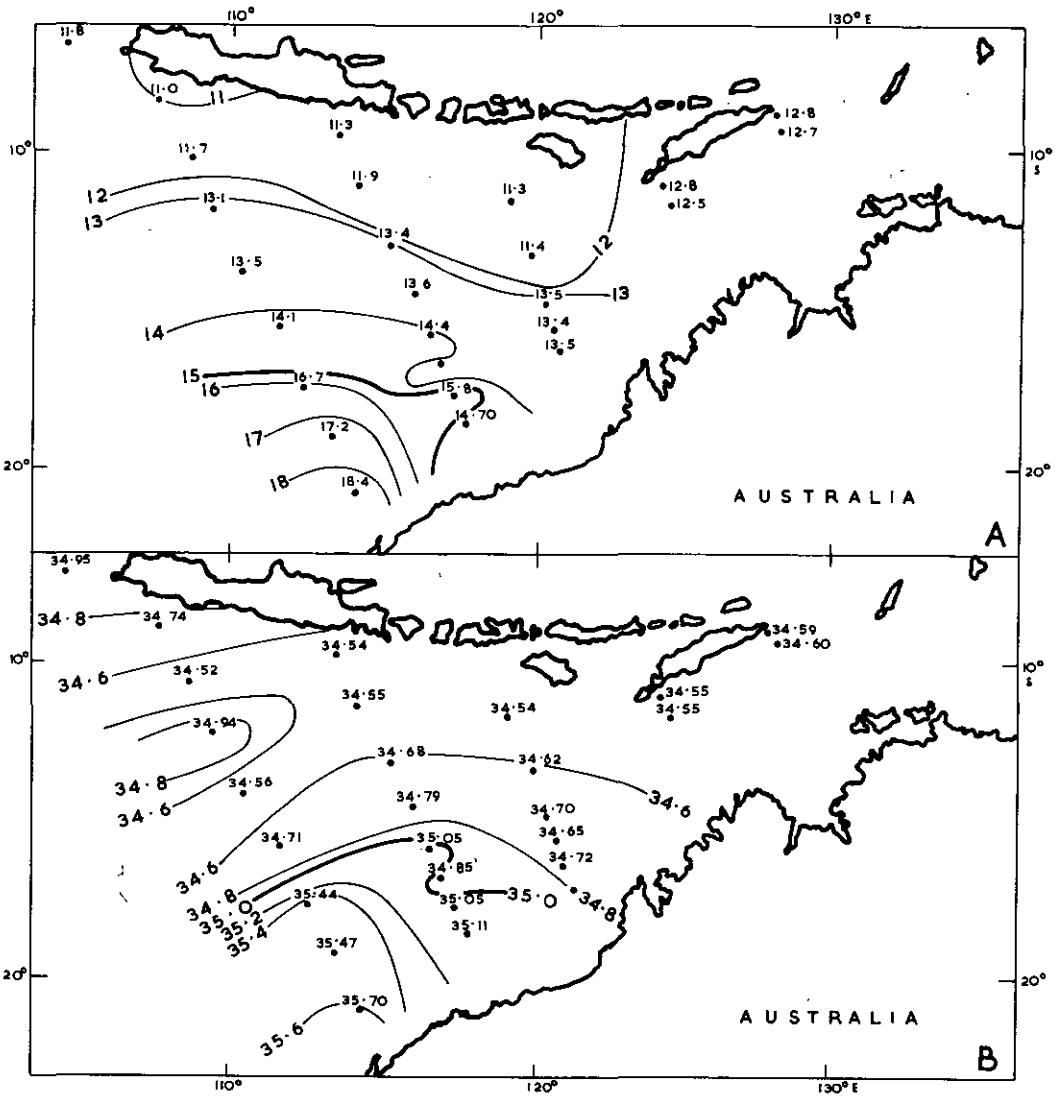


Fig. 11

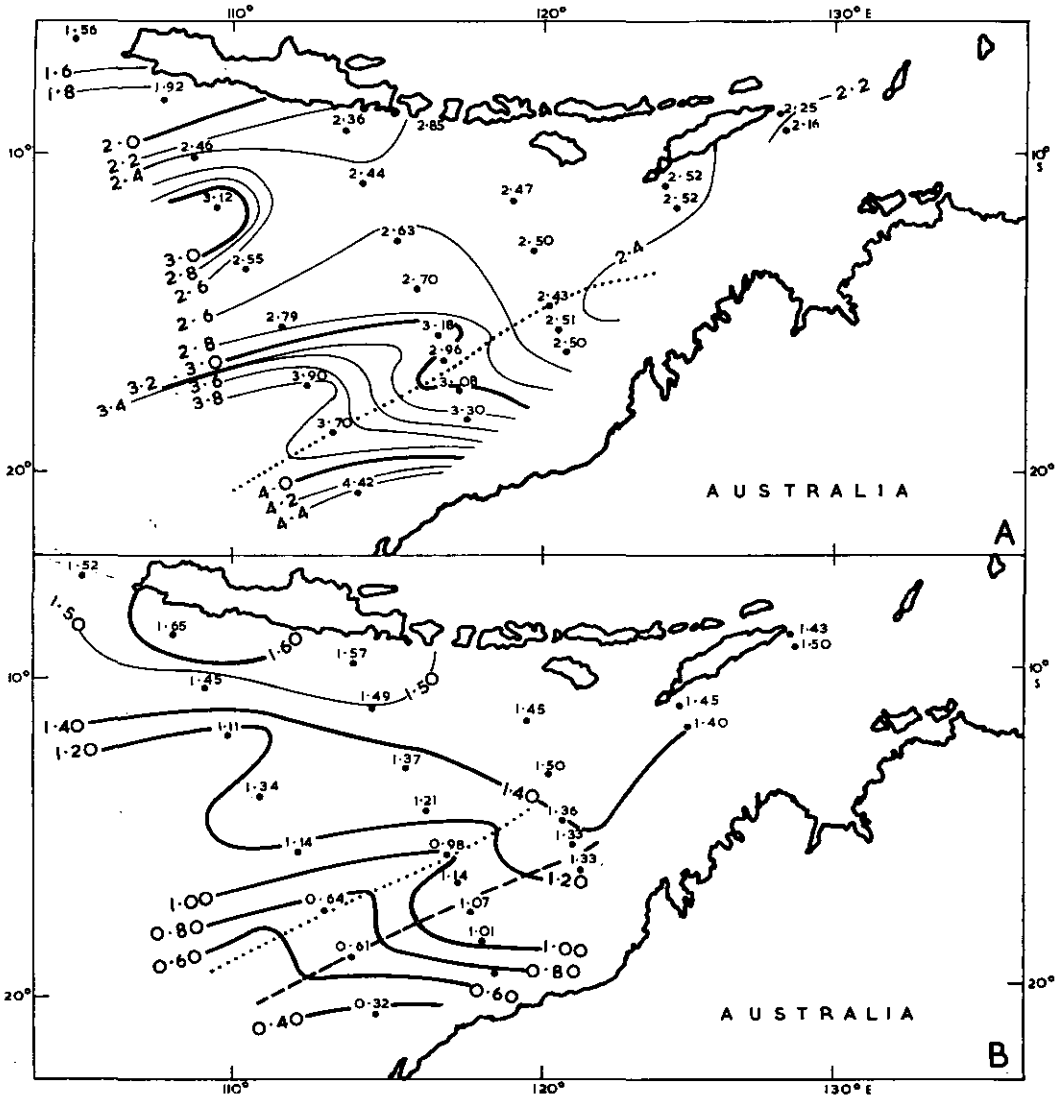


Fig. 12

PRIMARY PRODUCTION

Fig. 13. Horizontal distribution of values for primary production beneath 1 sq. m of sea surface. Station number and time are given at the left of each station. Primary production at right in $gC/day/m^2$.

Fig. 14. Vertical profiles of hourly rates of primary production at each ^{14}C station. Sampling times are given below the station number.

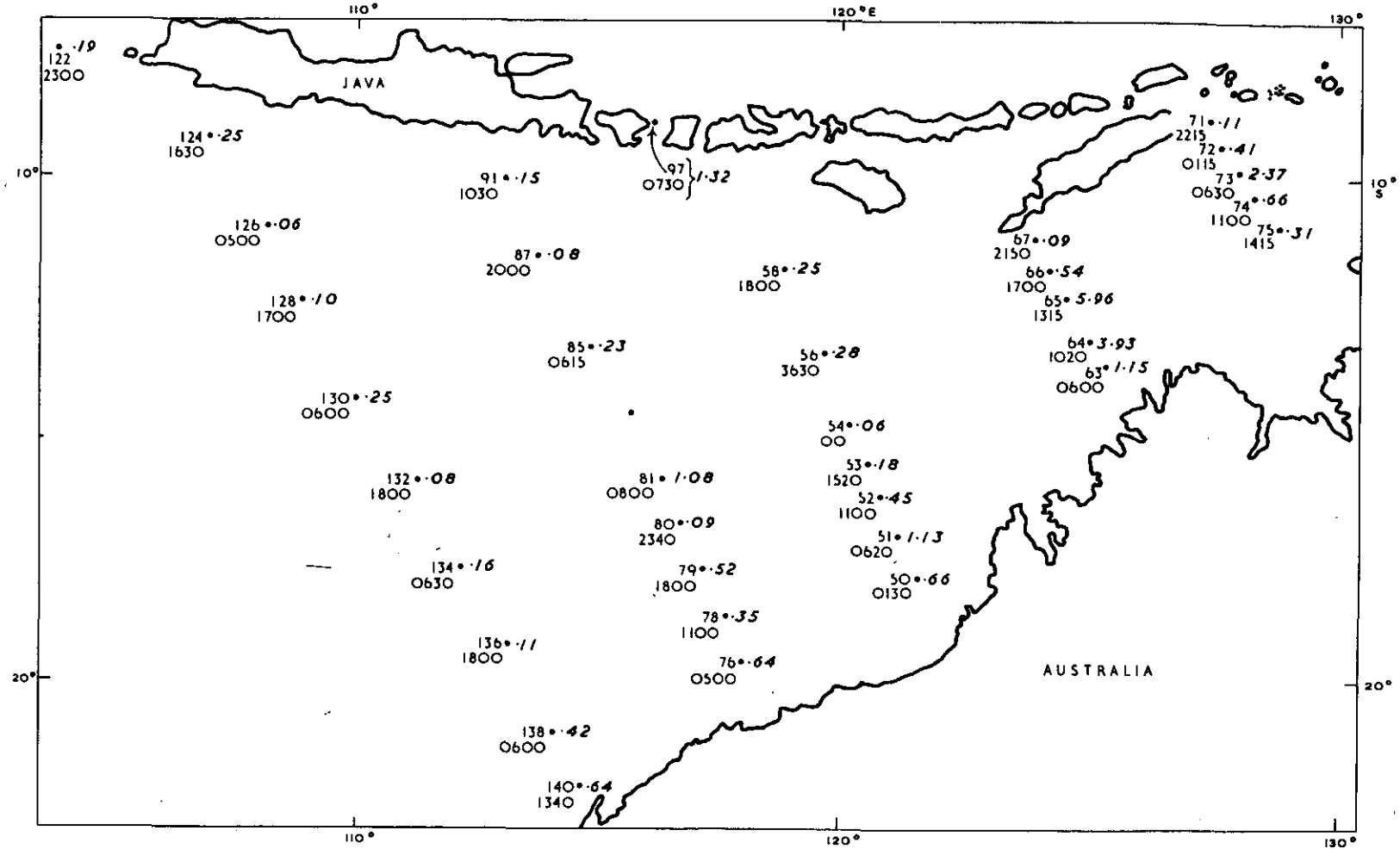

110°
120°E
130°
10°
10°S
20°
20°
JAVA
AUSTRALIA
·19
122
2300
124 ·25
1630
91 ·15
1030
97
0730
1·32
126 ·06
0500
87 ·08
2000
128 ·10
1700
85 ·23
0615
130 ·25
0600
132 ·08
1800
81 1·08
0800
80 ·09
2340
134 ·16
0630
79 ·52
1800
78 ·35
1100
136 ·11
1800
76 ·64
0500
138 ·42
0600
140 ·64
1340
58 ·25
1800
56 ·28
3630
54 ·06
00
53 ·18
1520
52 ·45
1100
51 1·13
0620
50 ·66
0130
71 ·11
2215
72 ·41
0115
73 2·37
0630
74 ·66
1100
75 ·31
1415
67 ·09
2150
66 ·54
1700
65 5·96
1315
64 3·93
1020
63 1·15
0600

Fig. 13

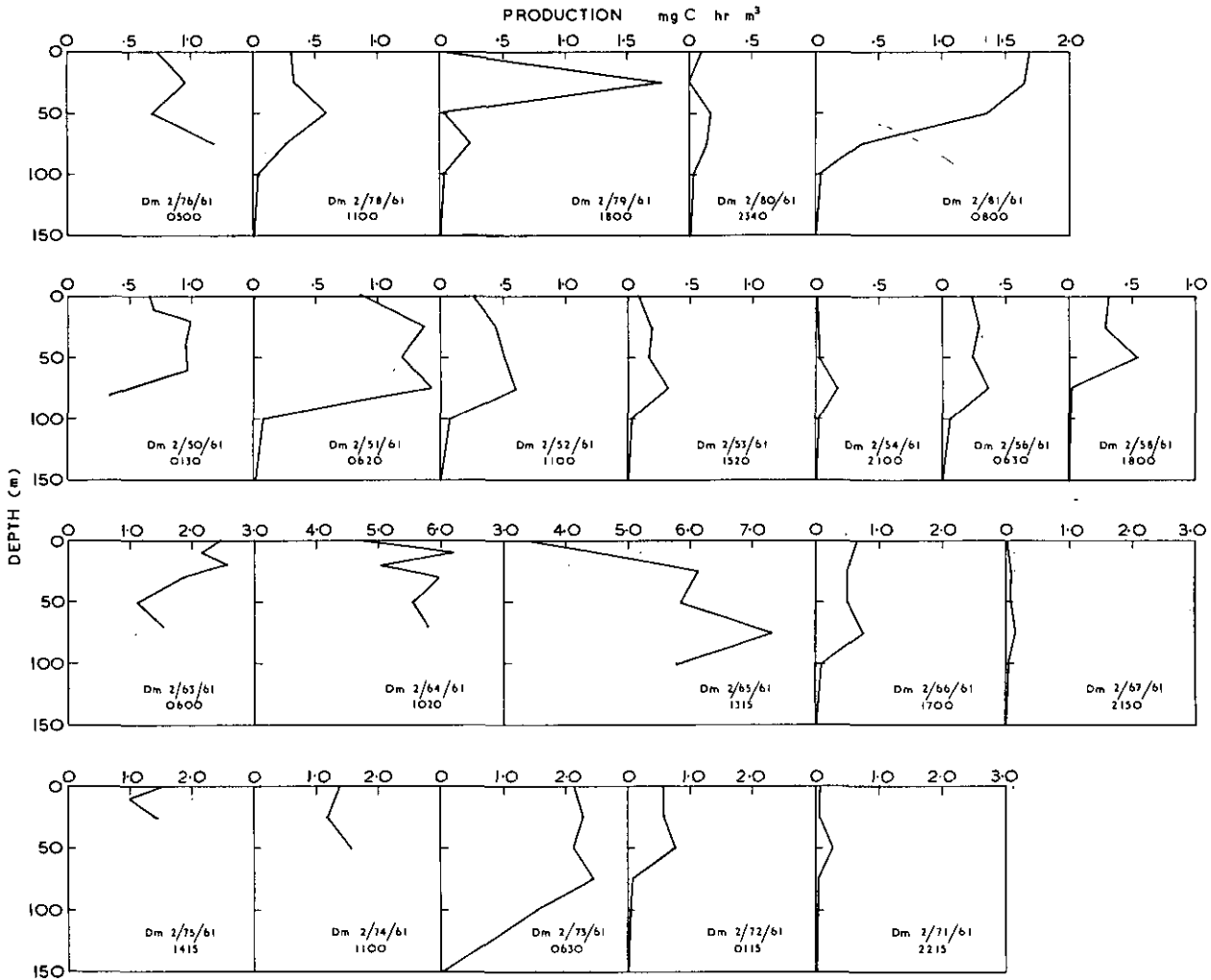

PRODUCTION mg C hr m³
DEPTH (m)
Dm 2/76/61 0500
Dm 2/78/61 1100
Dm 2/79/61 1800
Dm 2/80/61 2340
Dm 2/81/61 0800
Dm 2/50/61 0130
Dm 2/51/61 0620
Dm 2/52/61 1100
Dm 2/53/61 1520
Dm 2/54/61 2100
Dm 2/56/61 0630
Dm 2/58/61 1800
Dm 2/63/61 0600
Dm 2/64/61 1020
Dm 2/65/61 1315
Dm 2/66/61 1700
Dm 2/67/61 2150
Dm 2/75/61 1415
Dm 2/74/61 1100
Dm 2/73/61 0630
Dm 2/72/61 0115
Dm 2/71/61 2215

Fig. 14

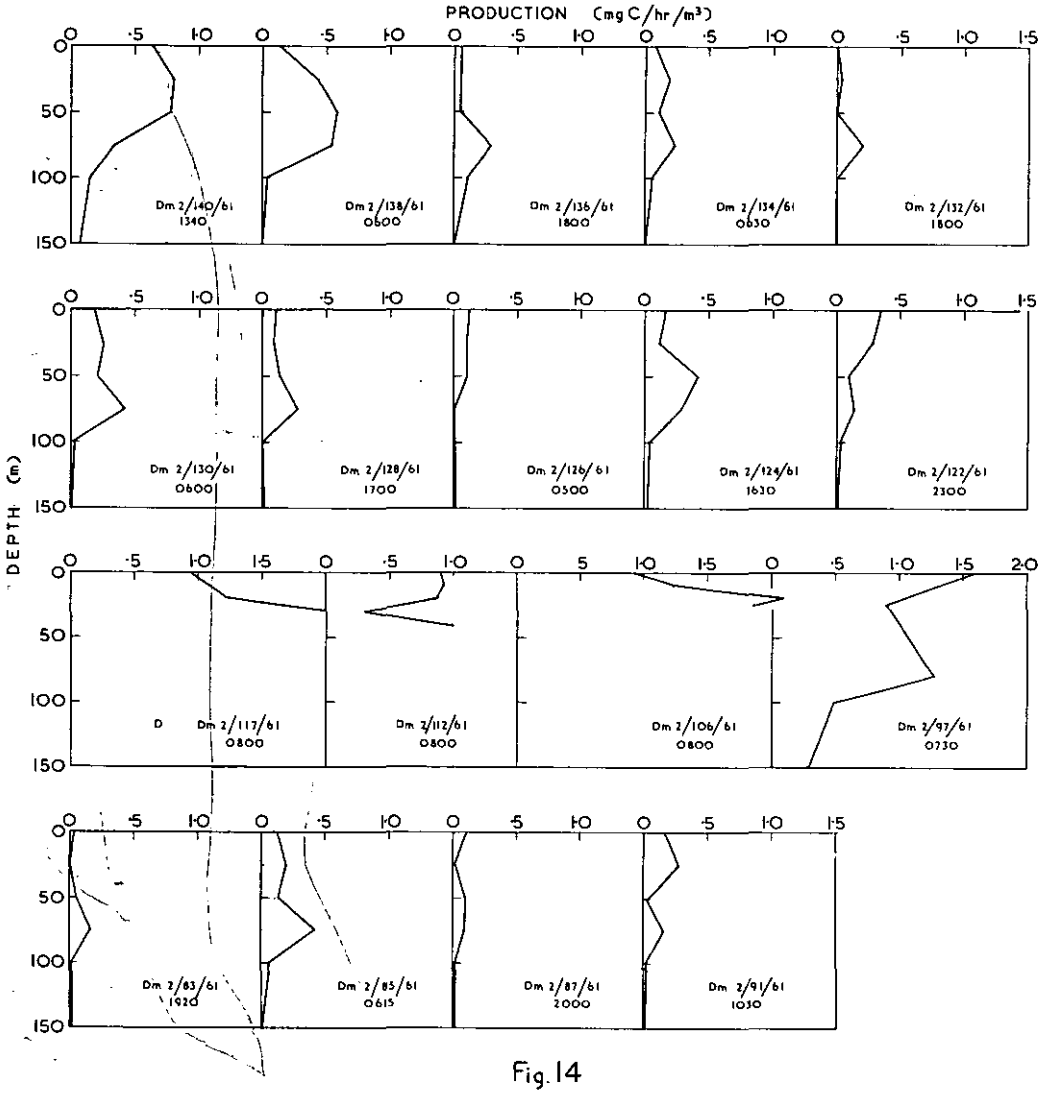

PRODUCTION (mg C/hr/m³)
DEPTH (m)
Dm 2/140/61 1340
Dm 2/138/61 0600
Dm 2/136/61 1800
Dm 2/134/61 0630
Dm 2/132/61 1800
Dm 2/130/61 0600
Dm 2/128/61 1700
Dm 2/126/61 0500
Dm 2/124/61 1630
Dm 2/122/61 2300
D
Dm 2/117/61 0800
Dm 2/112/61 0800
Dm 2/106/61 0800
Dm 2/97/61 0730
Dm 2/83/61 1920
Dm 2/85/61 0615
Dm 2/87/61 2000
Dm 2/91/61 1030

Fig. 14

OCEANOGRAPHICAL CRUISE REPORTS

1. Oceanographical observations in the Indian Ocean in 1959. H.M.A.S. *Diamantina* Cruises Dm1/59 and Dm2/59.
2. Oceanographical observations in the Indian Ocean in 1960. H.M.A.S. *Diamantina* Cruise Dm1/60.
3. Oceanographical observations in the Indian Ocean in 1960. H.M.A.S. *Diamantina* Cruise Dm2/60.
4. Oceanographical observations in the Indian Ocean in 1960. H.M.A.S. *Diamantina* Cruise Dm3/60.
5. Oceanographical observations in the Pacific Ocean in 1960. H.M.A.S. *Gascoyne* Cruise G1/60 and G2/60.
6. Oceanographical observations in the Pacific Ocean in 1960. H.M.A.S. *Gascoyne* Cruise G3/60.
7. Oceanographical observations in the Indian Ocean in 1961. H.M.A.S. *Diamantina* Cruise Dm1/61.
8. Oceanographical observations in the Pacific Ocean in 1961. H.M.A.S. *Gascoyne* Cruise G1/61.
9. Oceanographical observations in the Indian Ocean in 1961. H.M.A.S. *Diamantina* Cruise Dm2/61.