OCEANOGRAPHICAL OBSERVATIONS
IN THE PACIFIC OCEAN IN 1961
H.M.A.S. *GASCOYNE*
Cruise G 1/61

OCEANOGRAPHICAL CRUISE REPORT NO. 8

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

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H.M.A.S. GASCOYNE

Cruise G 1/61

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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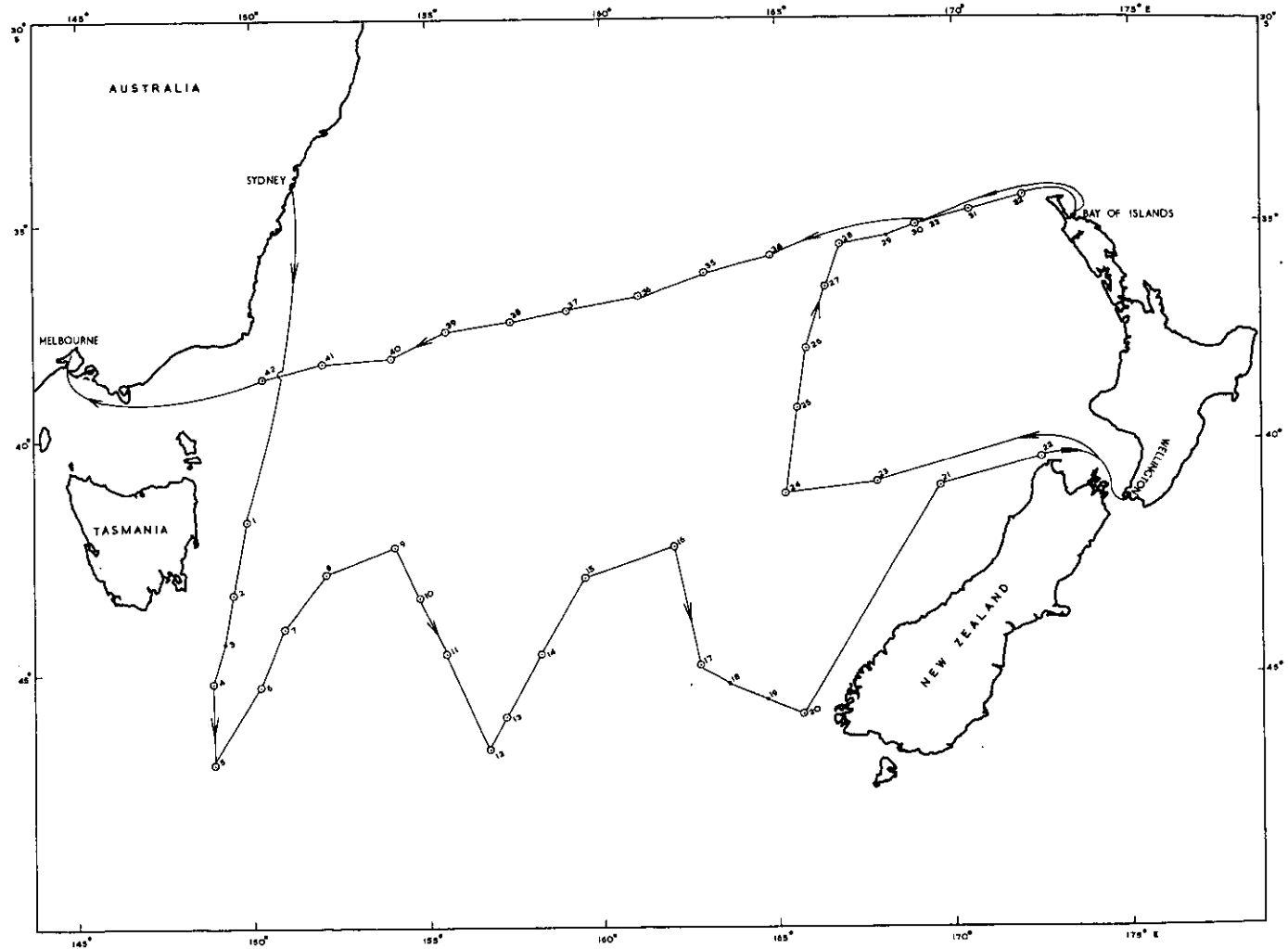
AUSTRALIA
SYDNEY
MELBOURNE
TASMANIA
BAY OF ISLANDS
WELLINGTON
NEW ZEALAND
145°
150°
155°
160°
165°
170°
175° E
30° S
35°
40°
45°

Fig. 1

OCEANOGRAPHICAL CRUISE REPORT

No. 8

Oceanographical Observations in the Pacific Ocean in 1961

H.M.A.S. GASCOYNE

Cruise G 1/61

January 12 - February 13, 1961

I. INTRODUCTION

This report gives the data collected during Cruise G 1/61 when H.M.A.S. Gascoyne, Royal Australian Navy frigate, was operating in the south-west Pacific Ocean from January 12 to February 13, 1961.

Objectives

This cruise was planned to sample on both sides of the Subtropical Convergence, so that physical and biological properties of the different water masses could be compared; to extend the network of stations worked on previous cruises into the southern Tasman Sea; and to compare methods of measuring primary production.

Itinerary

The cruise commenced at Sydney, moved south to the region of the Subtropical Convergence off the east coast of Tasmania, thence to Wellington. A traverse was worked out into the Tasman and then back to the Bay of Islands, from there the ship crossed the Tasman to Melbourne, arriving there on February 13. The positions of all stations are shown in Figure 1.

Scientific Personnel

E.J.F. Wood (Cruise Leader)
C. Irving
H. Jitts
W. Prothero
B. Scott
J. Staniforth

The analyses of hydrological samples were done in the ship's laboratory by Messrs Prothero and Staniforth. The primary production measurements were made by Messrs Jitts and Scott. The samples for pigment determination were taken and filtered aboard by Mr Scott and the analyses were done at Cronulla by Mr Wootton. The collection of zooplankton samples was done by Mr Irving and of phytoplankton samples by Mr Wood. The zooplankton samples were weighed at Cronulla by Mr Tranter.

The data were processed, under the direction of Mr Crooks, by Mrs Derrick, Mrs Tarbett, and Misses Johnson, Lalor and Wanstall. The plots were prepared for publication by Mr Breach.

II. WORK ACCOMPLISHED

On this cruise 42 stations were worked. At 37 of these surface and deep hydrology samples were taken. At 36 stations surface primary production, pigment samples, qualitative and quantitative phytoplankton samples were taken, and 17 of these zooplankton samples were taken. Table 1 shows the work done at each station.

TABLE 1

WORK DONE AT EACH STATION

Station	BT	Hydrology		Prim. Prod.				Pig-	Phytoplankton		Zoo-
		Surface	Deep	1	2	3	4	ments	1	2	plankton
1		+	+						+	+	
2		+	+	+				+	+	+	
3	+										
4		+	+	+				+	+	+	+
5	+	+	+	+				+	+	+	
6	+	+	+	+				+	+	+	
7		+	+	+	+	+	+	+	+	+	+
8		+	+	+				+	+	+	
9		+	+	+	+	+	+	+	+	+	+
10		+	+	+				+	+	+	
11		+	+	+	+	+	+	+	+	+	+
12		+	+	+				+	+	+	
13		+	+	+	+	+	+	+	+	+	+
14		+	+	+				+	+	+	

Station	BT	Hydrology Surface	Hydrology Deep	Prim. Prod. 1	Prim. Prod. 2	Prim. Prod. 3	Prim. Prod. 4	Pigments	Phytoplankton 1	Phytoplankton 2	Zooplankton
15		+	+	+				+	+	+	
16		+	+	+				+	+	+	+
17		+	+	+				+	+	+	+
18	+								+ s	+ s	
19	+								+ s	+ s	
20		+	+	+				+	+	+	
21		+	+	+	+	+	+	+	+	+	+
22	+	+	+	+				+			
23		+	+	+				+	+	+	
24		+	+	+				+			
25		+	+	+				+			
26		+	+	+				+			+
27		+	+	+				+	+	+	
28	+	+	+	+				+	+	+	

BT — Bathythermograms

Prim. Prod. — Primary Production
1 *Constant light incubation*
2 Simulated in situ incubation
3 In situ incubation
4 In situ incubation with automatic ^{14}C introduction

Phytoplankton
1 Qualitative) with 5 l sampler
2 Quantitative)
s Surface only

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.- Sigma-t 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.- Oxygen percentage saturation values were computed using the equations 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 temperature less than 25°C; readings were taken within 10 minutes after the reagents were added and completed within a further 10 minutes. At air temperature 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 ug 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 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 adding 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

The methods used for measuring primary production were those described by Jitts (1957) with the modifications used on Cruise Dm 2/60 (C.S.I.R.O. Aust. 1962).

Relative production was measured on samples from standard depths of 0, 25, 50, 75, 100, and 150 m taken with twin "light" and "dark" 400 ml plastic bottles (Jitts 1957) at stations indicated in Table 1 (Primary Production). After inoculation with the ^{14}C solution the samples were incubated for four hours in a fluorescent light incubator with a light intensity of about 1100 ft candles.

During the five drift stations (G 1/7, 9, 11, 13, 21/61) the percentage penetration of sunlight into the ocean was measured at between 1000 and 1100 hours with a submarine photometer. Sampling depths for measuring in situ primary production were selected as those at which the same percentage penetration was found as was transmitted through the one to five blue glass filters used in the simulated in situ incubator as described in Jitts and Wyrtki (unpublished). In situ production was then measured in three different ways. At the selected depths two duplicate sets of samples were taken with twin "light" and "dark" 400 ml plastic bottles in two successive casts within half an hour before local noon. These were inoculated with a ^{14}C solution. At local noon, one set was placed in the simulated in situ incubator (coded 3 in Method of Incubation in Data Sheets) and the other resuspended from a drifting buoy in the ocean at the depths from which the samples were taken (coded 1 in Method of Incubation in Data Sheets).

The third way in which in situ production was measured used modified twin light and dark samplers in which the ^{14}C solution was introduced automatically at the depths at which samples were taken (coded 2 in Method of Incubation in Data

Sheets). In these samplers, ampoules containing the ^{14}C solution were held in plastic clips on the end-flaps of the bottles. When the flaps were released by messengers at the selected depths, the ampoules were broken against plastic bars cemented across the ends of the bottles, thus releasing their contents into the bottles. To ensure mixing with the contents, these were stirred by plastic propellers within the bottles operated by external spring mechanisms also triggered by the messengers. A set of these samplers was suspended from a drifting buoy at the same depths as selected for the two sets described in the preceeding paragraph. This third set was triggered off at local noon. All three sets were recovered within half an hour after sunset and filtered.

4. Pigments

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

5. Phytoplankton

Samples were collected in a 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 seawater.

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.

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 the Cronulla laboratory, and calibrated by flume tank. The net was nylon No. 4 mesh (62 meshes per inch).

The oblique hauls were from 200 m to the surface and 400 m to 200 m. The horizontal hauls were at 400, 200, 100, 50, and 0 m. Depths were estimated from wire angle and are only approximate. The speed of tow was 2-3 knots and the wire was recovered at about 10 m per minute. The period of tow averaged half an hour and the volume filtered 11.2 m^3.

Samples were weighed at Cronulla after washing in 50% alcohol to facilitate removal of external "intersitial" water (Tranter 1960).

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IV. DATA SHEETS AND TABLES

The data sheets for this cruise are arranged in five parts. Part 1 contains the data for hydrology deep stations, Part 2 gives the data for primary production, Part 3 for pigments, Part 4 for quantitative and qualitative phytoplankton, and Part 5 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 20 are used to designate Gascoyne.

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
112°30'W.	97°30'W.	+7	T

Longitude Exceeding	Up to but not exceeding	Time Zone (hrs)	Code
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 to 1 decimal place.
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 direction 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, a blank indicates 0 metres.
TEMP.	Sea temperatures are recorded in °C to 2 decimal places.
S‰	Salinities are recorded in parts per thousand, to 3 decimal places.
σ_t	Sigma-t recorded to 3 decimal places.
O_2	Oxygen is given in ml/l to 2 decimal places.
O_2 % SAT.	Oxygen percentage saturation.
INORG. P	Inorganic phosphate values are given in µg at./l to 2 decimal places.
NITRATE	Values given as µg at./l to 1 decimal place.

A blank in either of the last two columns indicates that a sample was not available.

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	1	61	1	14	100 K	4142 S	14948 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
4297	36	16 1	18 9	28	3	16	8	9		28	4	27	3	6 5	35	30

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		1757	35459	25750	540	103	10			00 0	
2	21	1752	35473	25769	552	110	8				
2	42	1706	35441	25854	558	110	18			00 0	
2	62	1409	35342	26450	517	96	39			3 2	
2	83	1371	35345	26532	494	91	63			04 9	
2	126	1315	35291	26605	500	91	66				
2	167	1222	35170	26695	505	90	62			04 6	
2	254	1135	35051	26768	517	91	76			04 2	
2	419	935	34725	26865	505	85	95			08 8	
2	596	804	34717	27066	459	75	120			10 1	2
2	760	682	34500	27070	430	68	142			15 2	
2	940	539	34476	27235	418	64	150			16 0	
1	1146	425	34466	27356	401	59	174			17 6	
1	1458	298	34606	27600	360	48	189			15 8	1
1	1950	230	34685	27716	395	56	166			14 4	
1	2440	196	34737	27785	412	58	192			11 8	
1	2947	171	34749	27814	430	60	190			12 2	8
1	3422	133	34729	27826	453	62	189			12 4	
1	3619	116	34728	27837	430	59	172			13 4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	2	61	1	14	1400 K	4317 S	14926 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
2926	18	14 4	15 6	25	3	16	8	8	2	24	3	23	3	8 9	15	10

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		1482	35024	26047	581	109	21			00 0	
2	21	1471	35026	26072	610	115	27				
2	43	1314	35008	26388	569	103	31			02 0	
2	65	1239	35116	26621	575	103	43			3 2	
2	87	1207	35149	26709	540	96	56			05 3	
2	134	1164	35100	26753	529	93	67			6 9	
2	183	1099	34993	26790	534	93	70			07 8	
2	284	987	34809	26844	546	92	76			10 4	
1	451	847	34586	26896	563	92	102			14 5	
1	637	789	34944	26953	488	79	121			22 2	
1	809	635	34464	27104	441	69	151			25 4	
1	980	464	34401	27263	441	66	156			29 8	
1	1171	380	34472	27408	401	59	186			32 2	
1	1350	295	34581	27575	383	52	173			29 2	1
1	1824	241	34663	27690	389	55	166			32 3	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	4	61	1	15	400 K	4512 S	14848 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
3840	35	12 8	15 6	23	2	16	8	9	4	99	4	23	3	11 7	30	25

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		1515	35244	26145							
2	24	1511	35244	26153	505	96	17			1 0	
2	47	1512	35246	26151	540	102	25			01 0	
2	71	1337	35209	26497	540	99	49			5 4	
2	95	1270	35171	26603	516	93	53			07 3	
2	143	1229	35167	26680	516	89	57			8 2	
2	192	1184	35128	26737	516	91	73			09 2	
2	288	1096	35000	26800	528	92	74			11 7	
2	472	883	34651	26891	540	89	95			17 3	
2	668	802	34579	26960	464	75	117			25 8	
2	840	693	34502	27057	440	70	136			45 6	
2	1021	538	34447	27213	428	65	142			38 6	
1	1050	508	34452	27253	417	63	180			43 8	
1	1230	421	34479	27371	381	56	188			40 0	
1	1621	323	34593	27560	370	51	181			35 8	1
1	2040	231	34691	27720	422	60	165			41 8	
1	2510	203	34712	27759	411	58	198			41 8	
1	3000	198	34710	27772	422	56	184			44 6	
1	3480	133	34690	27801	417	55	174			49 2	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20.	1	5	61	1	15	1630 K	4645 S	14851 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
2798	01	12 8	15 0	28	2	16	8	6	8	26	3	25	3	17 7	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		1115	34553	26419	615	107	72			07 8	
2	21	1105	34550	26435	610	106	68			7 7	
2	42	1073	34564	26503	615	106	69			08 0	
2	63	1041	34577	26570	615	105	74			9 5	
2	85	984	34624	26705	592	100	88			10 2	
2	129	913	34626	26824	581	97	92			13 0	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	6	61	1	16	230 K	4516 S	15010 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	19	12 8	13 9	29	2	16	8	0	8	29	2	24	3	23 0	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		1407	34954	26153	581	108	20			00 2	
2	24	1407	34949	26150	523	97	22			5	
2	47	1316	35039	26408	523	95	48			00 1	
2	71	1248	35129	26613	558	100	53			2 5	
2	95	1204	35138	26706	529	94	68			04 4	
2	142	1143	35060	26760	529	93	71			5 1	
1	176	1101	34994	26787	512	89	76			06 2	
1	291	953	34741	26848	563	95	92			7 4	
1	467	861	34610	26894	540	89	112			11 8	
1	643	809	34553	26929	483	78	134			16 6	
1	827	662	34448	27056	454	71	157			22 2	
1	1013	515	34428	27226	414	63	182			28 6	
1	1201	373	34402	27360	431	63	193			29 8	2
1	1391	325	34469	27460	397	57	208			25 2	
1	1868	245	34630	27660	374	53	195			32 4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	7	61	1	16	1130 K	4405 S	15053 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
3054	27	14 4	17 2	28	2	16	8	8	2	28	1	24	4	25 5	00	00

CAST	DEPTH	TEMP.	$s‰$	σ_t	O_2	$\%\ O_2$ SAT.	INORG. P		TOTAL P	NITRATE	D
2		1739	35482	25806	558	111	16			02 4	
2	19	1678	35482	25953	563	110	15				
2	38	1671	35477	25970	546	103	13			00 0	
2	57	1455	35375	26375	517	97	40			3 0	
2	75	1386	35325	26484	506	94	48			04 5	
2	113	1311	35298	26618	506	92	58			5 7	
1	163	1265	35217	26647	494	89	62			09 3	
1	286	1102	34988	26780	483	84	89			12 9	
1	467	864	34613	26892	529	87	101			17 2	
1	642	774	34560	26987	443	71	129			21 8	
1	817	664	34487	27084	420	66	148			27 8	
1	994	538	34472	27233	397	60	159			26 2	
1	1189	428	34489	27371	391	58	186			28 0	
1	1335	336	34508	27480	362	52	188			30 4	
1	1749	257	34651	27667	368	52	189			21 4	
1	2240	212	34725	27760	408	55	180			29 4	
1	2727	178	34738	27800	423	59	161			25 2	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	8	61	1	17	230 K	4248 S	15208 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	18	14 4	16 1	23	1	16	7	8	8	26	2	26	3	26 8	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		1860	35762	25722	523	106	14			00	0
2	22	1848	35767	25756	523	106	16				
2	44	1846	35767	25761	500	101	18			00	0
2	66	1701	35621	26004	483	95	28			3	8
2	89	1631	35549	26114	471	92	36			05	4
2	135	1468	35371	26345	523	98	37			4	4
1	174	1391	35348	26492	489	91	47			06	7
1	280	1236	35181	26677	506	91	64			08	4
1	459	1086	34958	26786	529	92	67			09	0
1	650	875	34636	26892	494	82	92			15	2
1	844	757	34552	27005	443	71	110			19	2
1	1002	616	34455	27122	425	66	134			24	5
1	1211	449	34453	27320	397	59	146			20	3
1	1385	371	34466	27412	391	57	161			27	2
1	1827	257	34612	27635	339	48	173			30	0

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	9	61	1	17	1100 K	4216 S	15405 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	50	15 | 0	17 | 2	17	1	16	7	8	6	99	2	16	1	26 | 0	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE		D
2		1808	35448	25612	516	104	17			00	0	
2	23	1799	35491	25668	552	111	12			1	3	
2	47	1503	35387	26280	575	109	21			01	2	
2	71	1420	35335	26419	587	109	40			2	2	
2	95	1373	35309	26500	534	98	59			04	3	1
2	145	1286	35252	26630	528	92	55			6	5	
2	188	1206	35152	26713	540	96	69			07	4	
2	280	1113	35108	26855	558	97	64			07	8	1
2	473	906	34684	26881	516	86	106			13	9	
2	666	810	34579	26947	481	78	127			20	6	
2	850	681	34489	27063	442	70	162			26	6	
2	1028	528	34430	27211	428	65	172			29	4	
1	1203	423	34447	27344	399	59	165			31	2	
1	1386	348	34491	27455	387	56	176			33	0	
1	1855	268	34636	27645	358	51	206			28	4	1
1	2328	215	34721	27757	387	54	182			33	6	
1	2796	180	34741	27801	422	59	185			30	2	
1	3270	144	34729	27822	428	57	188			30	4	
1	3730	119	34726	27833	440	60	195			35	4	
1	4019	111	34719	27833	440	60	195			28	2	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	10	61	1	18	200 K	4320 S	15444 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
4663	18	13 3	15 0	17	2	16	8	8	8	17	3	16	1	22 1	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		1617	35232	25905	575	111	7			00 0	
2	13	1616	35234	25909	558	108	9				
2	23	1413	35162	26302	622	116	10			00 0	
2	35	1298	35208	26574	558	101	38			3 7	
2	45	1220	35143	26678	552	99	43			04 3	
2	67	1182	35115	26730	516	88	55			6 1	
1	192	1139	35055	26764	546	96	57			06 3	
1	351	992	34770	26800	546	89	64			06 2	1
1	433	895	34652	26874	560	93				08 7	
1	613	824	34567	26918	534	87	84			10 8	
1	783	738	34514	27003	452	72	123			15 4	
1	956	593	34448	27146			130			17 4	
1	1142	454	34427	27294	417	62	155			17 6	
1	1328	365	34484	27432	364	53	170			17 8	
1	1799	252	34637	27660	364	52	166			18 2	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	11	61	1	18	1100 K	4435 S	15529 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	42	12 8	15 6	17	2	16	7	8	6	99	3	16	1	21 6	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		1432	34694	25901	605	112	20			04	0
2	21	1412	34688	25939	605	112	21			4	0
2	44	1264	34705	26255	616	111	37			01	1
2	65	1118	34821	26622	581	101	57			3	2
2	88	1059	34760	26680	558	96	64			06	2
2	132	946	34703	26829	558	94	77			8	5
2	173	921	34665	26841	569	95	85			09	8
2	272	873	34609	26875	593	98	84			14	1
2	439	827	34558	26905	569	93	110			13	6
2	623	759	34488	26952	516	83	125			14	0
2	792	646	34449	27078	452	71	165			20	1
2	970	477	34385	27235	422	63	169			21	8
1	1200	367	34426	27384	417	61	193			22	9 1
1	1383	306	34491	27480	387	53	195			25	2
1	1845	246	34653	27670	364	49	205			24	2
1	2316	205	34727	27760	393	53	191			18	0
1	2775	181	34745	27800	417	56	167			18	0
1	3241	150	34740	27822	417	58	154			22	6
1	3700	120	34724	27831	440	60	173			21	8
1	4190	108	34721	27837	446	61	166			21	6

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	12	61	1	19	600 K	4631 S	15645 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	18	94	128	23	99	16	7	8	6	99	2	17	1	228	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		1342	34674	26072	605	110	45			015	
2	24	1319	34663	26112	581	106	49			16	
2	48	1241	34642	26251	581	104	57			020	
2	72	998	34625	26681	593	101	79			62	
2	96	931	34637	26803	581	97	112			061	
2	144	863	34561	26853	599	99	113			74	
1	189	842	34521	26854	593	97	104			063	
1	299	838	34527	26865	610	100	111			063	
1	444	839	34558	26888	581	95	123			129	
1	633	774	34500	26939	540	87	134			167	
1	792	665	34444	27049	464	73	167			195	
1	974	479	34369	27220	452	68	170			234	
1	1160	382	34421	27365	434	64	192			234	
1	1320	324	34450	27446	405	58	210			242	
1	1756	248	34636	27662	393	56	213			240	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	13	61	1	19	1145 K	4553 S	15710 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
4846	43	12 2	15 6	18	2	16	8	1	6	18	3	21	1	21 7	00	00

CAST	DEPTH	TEMP.	s‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		1472	34933	25999	587	110	8			00 0	
2	22	1471	34940	26007	587	110	10				
2	45	1398	34950	26169	581	107	13			00 0	
2	68	1257	34945	26452	552	99	33			2 5	
2	90	1197	35088	26681	528	94	34			06 0	
2	137	1064	34917	26794	558	96	50			6 8	
2	179	992	34786	26817	552	94	64			08 1	
2	275	899	34664	26876	522	87	87			10 6	
2	462	818	34607	26950			99				
2	655	749	34564	27026	534	86	116			15 4	
2	835	626	34514	27156	475	74	125			15 6	
2	1026	492	34448	27269	446	67	162			19 2	
1	1182	401	34444	27365	411	60	175			23 7	1
1	1381	322	34497	27484	405	58	168			21 8	
1	1846	270	34649	27653	381	54	164			23 6	1
1	2338	206	34726	27769	399	56	156			22 4	
1	2786	179	34747	27807	422	59	162			23 9	
1	3258	147	34740	27825	428	59	159			22 2	
1	3705	121	34729	27835	440	60	160			20 6	
1	4195	110	34723	27837	446	61	157			20 1	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	14	61	1	20	300 L	4436 S	15815 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
4940	19	94	122	18	3	16	8	8	8	18	3	20	3	249	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE		D
2		1511	35009	25971	569	108	21			00	0	
2	23	1510	35009	25970	569	103	38					2
2	47	1444	35076	26155	581	104	40			00	0	
2	72	1329	35096	26420	581	102	51			1	4	2
2	96	1213	35065	26632	552	98	65			06	9	
2	147	1101	34950	26750	580	97	72			7	7	
2	194	1058	34890	26783	528	91	82			08	2	
2	302	930	34710	26861	499	83	121			13	2	
1	464	821	34574	26927	452	74	126			15	1	
1	660	713	34496	27023	422	67	185			21	8	
1	838	590	34436	27140	422	65	171			22	4	
1	1019	475	34494	27324	417	63	187			22	6	2
1	1214	377	34455	27397	405	59	195			24	4	
1	1405	303	34507	27510	381	55	192			23	6	
1	1877	236	34654	27687	387	55	185			23	8	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	15	61	1	20	1430 L	4302 S	15926 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
4760	41	10 | 6	14 | 4	18	3	16	8	8	-	18	4	19	3	23 | 0	00	00

CAST	DEPTH	TEMP.	$s‰$	σ_t	O_2	$\%_{O_2}$ SAT.	INORG. P		TOTAL P	NITRATE	D
2		1654	35232	25817	569	111	27			00 0	
2	22	1653	35237	25825	558	109	18				
2	44	1514	35234	26139	575	109	26			00 0	
2	67	1295	35127	26518	558	101	45			4 0	
2	90	1180	35072	26702	528	93	62			05 1	
2	134	1139	35021	26738	558	98	57			5 3	1
2	171	1122	34991	26747	546	95	61			04 8	
2	273	1054	34909	26806	540	93	76			07 5	
2	447	864	34618	26895	540	89	98			09 1	
2	630	783	34549	26965	523	84	127			12 6	
2	808	656	34473	27084	446	70	142			17 0	
2	936	523	34411	27202	411	62	167			17 6	
1	1195	396	34455	27378	399	59	182			21 3	
1	1383	324	34534	27513	364	53	188			21 6	
1	1840	248	34647	27671	375	53	186			21 2	
1	2308	202	34725	27771	393	55	173			24 6	1
1	2778	168	34738	27815	422	57	179			25 6	
1	3242	137	34735	27828	422	58	182			23 8	
1	3661	120	34724	27831	440	60	184			24 9	
1	4146	111	34725	27838			181			24 2	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	16	61	1	21	1400 L	4217 S	16203 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
4940	44	13 9	16 7	18	3	16	8	8	6	18	4	18	3	14 7	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		1586	35309	26034	558	107	17			00 0	
2	21	1583	35313	26043	563	108	19				
2	44	1569	35327	26087	563	108	19			00 0	
2	66	1419	35384	26460	504	94	49			4 0	
2	90	1377	35344	26517	504	93	52			05 6	
2	129	1298	35276	26625	528	92	44			5 0	
2	173	1229	35153	26669	498	89	62				
2	288	1090	35042	26844	522	91	76			07 2	
2	467	882	34696	26928	528	87	99			11 1	
2	657	776	34560	26984	468	75	130			15 1	
2	836	647	34490	27110	439	69	163			14 8	
2	1014	515	34452	27244	409	62	178			21 2	
1	1198	418	34476	27372	385	57	183			21 6	
1	1397	335	34514	27486	379	55	194			25 2	
1	1854	252	34638	27660	421	60	178			20 0	4
1	2325	203	34699	27749	415	58	183			22 6	4
1	2692	170	34731	27801	385	53	184			22 4	
1	3260	140	34729	27821	409	56	184			20 4	
1	3716	122	34725	27830	421	58	179			26 4	
1	4155	116	34722	27832	445	61	187			31 0	
1	4443	113	34721	27833	451	62	182			29 6	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	17	61	1	22	800 L	4451 S	16248 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
4760	19	11 1	16 1	21	2	16	8	0	2	21	2	16	1	12 7	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		1461	35029	26096	593	111	17			00	0
2	22	1454	35029	26111	581	109	13				
2	46	1453	35026	26111	575	108	11			00	0
2	69	1274	35116	26552	534	96	39			3	6
2	94	1265	35152	26599	534	96	43			03	9
2	142	1245	35149	26635	534	96	45			6	5
2	190	1215	35109	26663	529	94	47			04	7
2	291	1122	34980	26738	540	94	61			07	8
1	463	917	34681	26860	511	85	95			10	6
1	655	801	34557	26944	447	72	117			22	4
1	836	667	34478	27073	430	68	137			25	8
1	1017	514	34427	27220	412	60	157			32	4
1	1206	394	34458	27383	395	58	180			31	6
1	1396	316	34517	27506	389	56	184			32	8
1	1878	239	34654	27684	383	54	183			32	4

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	20	61	1	22	2230 L	4550 S	16541 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
3750	28	10 0	12 8	19	4	16	8	8	2	18	3	18	3	13 7	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		1429	35003	26144	616	115	21			01 4	
2	23	1429	35002	26144	616	115	19				
2	47	1255	35137	26606	540	97	51			05 5	
2	71	1215	35109	26662	552	98	55			5 0	
2	94	1183	35077	26698	558	99	61			07 9	
2	142	1140	35015	26732	552	97	69			8 3	
2	190	1096	34939	26753	558	97	66			08 7	
2	292	989	34793	26825	511	83	93			14 9	
2	479	848	34602	26907	529	87	114			09 2	
2	670	769	34540	26979	476	77	138			24 8	
2	879	624	34461	27117	450	70	163			06 2	
2	1037	488	34420	27255	436	63	183			31 2	
1	1209	397	34445	27369	418	61	182			30 2	
1	1400	325	34511	27493	389	56	203			09 4	
1	1874	256	34636	27655	383	54	204			36 2	
1	2337	215	34701	27742	412	58	187			40 8	
1	2805	168	34728	27800	430	60	192			39 0	
1	1037	488	34420	27251	436	66	183			31 2	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	21	61	1	24	600 L	4101 S	16937 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
	07	99 9	99 9	21	1	16	7	8	9	99	2	22	3	16 5	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		1843	35331	25434	540	109	20			00	0
1	22	1841	35360	25463	546	110	21				
1	44	1715	35349	25762	575	113	22			00	0
1	67	1419	35313	36400	552	99	43			2	0
1	90	1370	35272	26477	546	101	57			03	8
1	138	1324	35259	26563	534	97	60			4	7
1	180	1284	35209	26600	523	91	74			05	1
1	279	1177	35058	26695	500	88	89			08	0
1	459	964	34760	26844	465	78	121			13	0
1	648	791	34566	26966	465	75	144			22	1
1	724	712	34505	27032	441	70	161			23	2

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	23	61	1	30	2200 L	4053 S	16745 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
1080	11	20 0	22 8	01	2	16	6	8	7	35	2	34	1	19 5	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		1872	35335	25364	523	106	8			00 0	
2	23	1773	35340	25616	529	106	6				
2	46	1588	35271	26000	587	113	7			00 0	
2	70	1339	35265	26536	546	100	37			4 6	
2	94	1279	35221	26623	523	95	43			06 6	
2	141	1236	35202	26694	529	95	51			6 8	
1	200	1205	35128	26696	535	95	49			07 0	
1	300	1101	34984	26780	500	87	72			08 5	
1	500	796	34573	26964	466	75	123			19 6	
1	700	650	34489	27105	437	68	147			21 4	
1	900	520	34442	27231	420	64	165			23 2	
1	1100	450	34466	27330	402	60	174			25 4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	24	61	2	01	945 L	4110 S	16510 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
4390	40	16.7	20.0	34	1	16	8	8	1	34	2	27	1	14.2	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		17.34	35.212	25.611	5.46	108	11			00.0	
2	21	16.54	35.217	25.807	5.46	106	6				
2	43	16.22	35.217	25.880	5.58	108	8			00.0	
2	65	13.71	35.324	26.516	5.46	101	20			3.2	
2	86	13.08	35.280	26.612	5.29	96	42			05.8	
2	121	12.66	35.231	26.656	5.29	95	44			6.2	
2	166	12.15	35.143	26.689	5.29	94	48			07.0	
2	271	11.07	34.975	26.761	5.23	91	61			08.1	
2	446	8.89	34.664	26.891	5.12	85	99			14.6	
2	630	7.95	34.565	26.959	4.77	77	124				
2	807	6.71	34.496	27.082	4.37	69	149			06.2	
2	986	5.22	34.434	27.210	3.11	45	163			26.2	
1	1181	4.03	34.454	27.370	3.97	58	193			27.6	
1	1379	3.28	34.525	27.502	3.74	54	189			28.4	
1	1840	2.51	34.651	27.672	3.56	50	187			30.0	
1	2331	2.00	34.728	27.780			189			24.8	
1	2772	1.63	34.732	27.807	4.14	57	169			26.6	
1	3235	1.34	34.731	27.827	4.20	58	176			26.2	
1	3698	1.20	34.737	27.842	4.25	58	188			27.0	
1	3991	1.16	34.722	27.832	4.25	58	180			24.4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	25	61	2	01	2300 L	3922 S	16534 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
2580	18	20.6	22.2	34	3	16	8	8	8	34	2	33	1	14.5	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		19.37	35.556	25.367	5.34	110	9			00	0
2	22	19.29	35.613	25.432	5.22	107	10				
2	44	16.89	35.420	25.880	5.63	111	9			00	0
2	67	14.71	35.360	26.330	5.75	108	26				4
2	90	13.68	35.321	26.519	5.34	98	47			02	4
2	136	13.02	35.277	26.621	5.22	95	49			3	6
2	182	12.54	35.206	26.650	5.06	87	58			03	7
2	281	11.49	35.045	26.738	5.05	89	62			06	5
1	441	9.17	34.727	26.897	5.05	84	102			08	5
1	624	7.97	34.610	26.992	4.64	75	131			21	6
1	795	6.77	34.580	27.140	4.28	67	156			29	6
1	974	5.49	34.547	27.279	4.11	63	171			26	8
1	1158	4.22	34.479	27.370	3.93	58	187			33	0
1	1336	3.51	34.541	27.492	3.75	55	188			31	2
1	1782	2.77	34.715	27.700	3.75	54	189			32	4

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	26	61	2	02	745 L	3758 S	16550 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
1830	16	18 3	21 1	35	1	16	7	8	8	34	2	34	1	13 1	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE		D
2		1955	35567	25340	528	105	11			02	1	2
2	23	1847	35567	25606	546	111	6				9	
2	46	1670	35464	25958	575	113	12			00	0	
2	69	1440	35395	26424	522	98	39			2	1	
2	93	1398	35384	26504	516	96	44			03	8	
2	138	1347	35337	26576	505	93	57			16	2	
2	184	1311	35293	26605	522	91	49			05	0	
1	286	1192	35127	26720	516	92	72			06	6	
1	430	1012	34854	26835	469	80	97			10	1	
1	611	826	34631	26964	452	74	135			19	8	
1	780	694	34519	27068	446	71	157			10	0	
1	951	566	34490	27213	417	64	172			25	2	
1	1138	456	34483	27336	411	61	191			11	6	
1	1313	359	34526	27472	370	54	178			18	4	
1	1594	288	34651	27639	352	50	193			15	4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	27	61	2	02	1800 L	3630 S	16626 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
1330	12	19.4	20.0	02	1	16	6	8	8	1	2	24	1	10.7	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
1		2051	35597	25098	511	107	9			00 0	
1	24	1954	35590	25349	522	108	13				
1	48	1745	35536	25833	563	112	11			00 0	
1	72	1554	35388	26166	540	103	30			2 6	
1	97	1438	35338	26383	499	93	48			05 6	
1	146	1381	35305	26480	492	91	50			7 1	
1	180	1334	35251	26536	487	89	58			07 5	
1	293	1212	35104	26665	464	83	78			19 7	
1	475	935	34752	26886	364	61	120			25 8	4
1	666	752	34579	27034	417	67	145			37 0	
1	847	629	34522	27158	422	66	166			36 2	
1	1026	505	34498	27293	440	66	183			41 8	4
1	1222	385	34518	27440	387	57	197			45 0	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	28	61	2	03	400 L	3532 S	16650 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
2200	19	20 | 0	20 | 6	01	1	16	7	8	8	1	2	5	3	12 | 5	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2110	35705	25020	516	110	9			00	0
2	23	2097	35731	25075	499	106	7				
2	45	1900	35611	25505	534	109	8			00	0
2	67	1690	35550	25975	505	99	13				
2	90	1584	35483	26171	487	94	36			02	8
2	135	1457	35401	26391	487	91	43			4	6
2	171	1381	35323	26493	487	90	54			07	3
2	277	1213	35159	26704	446	80	71			04	0
2	469	920	34723	26887	434	72	118			14	3
1	598	787	34596	26995	428	69	127			19	0
1	795	640	34516	27139	434	68	150			20	6 2
1	976	522	34564	27324	405	61	167			22	8
1	1165	426	34530	27406	381	56	176			19	8
1	1347	346	34594	27539	358	52	190			22	0
1	1852	230	34669	27704	352	50	189			22	8
1	1914	223	34698	27732	364	51	194			22	7

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	30	61	2	03	1500 L	3507 S	16853 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
1100	9	18 9	22 2	24	3	16	8	8	3	24	3	22	4	4 6	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
1		1967	35509	25254	505	105	13			00	0
1	21	1957	35536	25299	511	106	8				
1	42	1820	35629	25721	517	104	15			00	0
1	65	1706	35580	25961	476	94	23			7	42
1	86	1634	35609	26154	465	90	31			09	62
1	122	1502	35593	26441	511	97	23				
1	164	1449	35383	26396	470	88	57			07	6
1	273	1301	35212	26572	459	83	72			05	4
1	440	1003	34924	26905	441	75	95			09	7
1	636	808	34662	27016	430	70	126			07	6
1	805	643	34524	27140	424	63	149			18	4
1	896	584	34510	27207	418	64	158			17	8

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	31	61	2	03	2330 L	3448 S	17023 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
2220	20	17 2	19 4	29	2	16	8	8	3	29	3	23	3	6 5	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		1985	35606	25281	529	110	9			00	0
2	25	1986	35592	25268	523	109	8				
2	50	1968	35633	25345	534	111	8			00	1
2	75	1799	35546	25708	534	107	18			1	2
2	99	1785	35550	25746	517	104	21			00	0
2	149	1522	35404	26251	470	89	50			3	0
2	189	1404	35293	26415	476	85	63			03	1
2	277	1289	35159	26556	465	84	68			04	7
2	456	1065	34910	26786	436	75	104			13	0
2	640	816	34660	27003	430	70	138			05	2
1	832	654	34580	27171	412	65	156			20	4
1	1019	525	34510	27279	401	61	174			22	8
1	1205	465	34710	27515	372	53	189			29	62
1	1396	331	34573	27537	377	55	199			26	1
1	1862	253	34639	27660	331	47	201			32	6
1	2049	238	34660	27690	343	48	208			28	2

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	32	61	2	04	930 L	3426 S	17155 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.
229	02	18 | 9	20 | 6	28	1	16	8	5	3	28	2	27	3	7 | 9	00	99

CAST	DEPTH	TEMP.	s‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		1692	35390	25848	523	103	40			04	0
1	25	1633	35364	25969	482	94	41			5	0
1	50	1570	35346	26099	488	94	45			05	0
1	74	1474	35295	26260	465	84	71			9	8
1	99	1419	35270	26373	465	87	71			12	0
1	147	1310	35146	26504	453	82	82			13	2
1	195	1264	35106	26564	447	81	89			13	8

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	34	61	2	09	930 L	3547 S	16452 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
990	7	194	217	01	1	16	8	8	1	1	2	1	1	198	30	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE		D
1		2009	35540	25167	523	109	11			00	0	
1	15	1974	35540	25259	534	111	7					
1	30	1950	35523	25309	534	110	9			00	0	
1	48	1729	35451	25807	569	113	10					
1	65	1599	35449	26112	569	110	19			00	0	
1	99	1447	35378	26395	500	94	39			3	6	
1	144	1381	35334	26501	505	93	48			04	4	
1	208	1280	35251	26645	511	92	55			05	2	
1	359	1072	34915	26777	453	78	89			07	2	
1	524	867	34664	26927	465	77	117			17	6	
1	694	731	34554	27145	441	70	138			18	8	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	35	61	2	09	1730 L	3613 S	16300 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
2470	11	20 0	21 7	36	2	16	8	5	3	36	2	2	3	16 7	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		2061	35674	25131	523	110	8			00 0	
1	25	2029	35691	25227	511	107	7				
1	50	1983	35673	25336	517	107	10			00 0	
1	75	1791	35600	25770	511	102	12				
1	100	1587	35509	26186	465	90	30			02 9	
1	150	1489	35415	26333	459	87	53			5 1	
1	200	1381	35325	26494	494	91	51			04 5	
1	300	1127	34986	26740	465	78	86			05 4	
1	500	892	34677	26898	465	77	119			13 4	
1	700	743	34550	27024	436	70	146			19 2	
1	900	594	34473	27165	412	64	174			23 6	
1	1100	480	34470	27299	406	61	185			21 2	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	36	61	2	10	500 L	3643 S	16107 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
4760	10	194	211	01	2	16	6	8	7	29	3	2	3	113	00	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		1958	35654	25387	511	106	6			00 0	
1	24	1957	35668	25402	529	109	9				
1	46	1780	35561	25767	563	113	11			01 0	
1	68	1508	35434	26305	563	107	24			1 4	
1	90	1443	35405	26424	534	100	34			04 0	
1	141	1397	35396	26515	540	100	38			3 7	
1	174	1386	35388	26532	540	100	43			04 2	
1	281	1301	35280	26626	517	94	51			06 2	
1	453	1043	34879	26802	494	85	103			10 2	
1	648	836	34621	26942	459	75	122			08 5	
1	821	698	34524	27067	436	69	138			10 6	
1	1003	560	34509	27235	418	64	148			12 4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	37	61	2	10	1400 L	3703 S	15911 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
4880	10	17 2	20 0	16	2	16	8	8	6	16	3	14	3	13 4	00	99

CAST	DEPTH	TEMP.	s‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
1		2076	35747	25145	505	107	11			00	0
1	24	2054	35730	25192	523	110	9				
1	48	1916	35671	25510	534	110	11			00	0
1	71	1774	35582	25797	517	103	19				
1	95	1650	35552	26073	500	98	33			02	7
1	141	1489	35475	26350	481	87	58			6	4
1	182	1415	35373	26461	488	91	49			07	2
1	287	1251	35163	26634	488	88	72			12	8
1	471	969	34773	26847	453	76	110			17	6
1	665	771	34572	27001	436	70	139			21	0
1	839	623	34481	27134	436	68	159			21	82
1	1021	509	34511	27298	406	61	174			26	4

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	38	61	2	10	2300 K	3721 S	15725 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
4570	10	144	178	17	2	16	8	9	2	17	2	18	1	158	30	99

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
1		2000	35699	25311	500	104	9			00 0	
1	23	1999	35713	25325	500	104	8				
1	44	1856	35652	25647	517	105	13			00 0	
1	67	1674	35550	26015	517	101	17				
1	90	1595	35541	26191	489	94	32			01 7	
1	137	1472	35435	26384	437	82	54			6 8	
1	176	1445	35443	26451	483	90	55			06 4	
1	268	1309	35286	26613	483	88	64			07 2	
1	438	1052	34911	26811	523	90	82			14 0	
1	630	824	34594	26938	489	80	125			19 6	
1	808	687	34511	27072	414	65	161			23 4	
1	992	551	34471	27210	408	58	179			18 4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	39	61	2	11	730 K	3729 S	15532 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
4760	17	16|7	19|4	20	2	16	8	8	2	20	2	21	1	17|6	30	20

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2079	35711	25110	489	103	11			00 0	
2	23	2074	35727	25134	489	103	10				
2	46	2067	35747	25169	489	103	8			00 0	
2	69	1832	35692	25738	494	100	14				
2	92	1751	35613	25877	477	95	30			01 2	
2	139	1563	35498	26231	512	98	54			4 7	
2	185	1450	35427	26410	470	85	54			05 0	
2	281	1308	35268	26602	464	84	74			07 4	
1	418	1122	35002	26755	443	74	97			08 5	
1	583	782	34680	27069	443	72	121			15 6	1
1	747	749	34568	27029	414	66	149			17 6	
1	918	622	34499	27149	402	62	175			18 2	
1	1085	493	34487	27297	402	61	180			20 4	
1	1260	419	34500	27389	362	54	193			21 6	
1	1692	284	34603	27605	397	57	192			21 1	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	40	61	2	11	1700 K	3810 S	15400 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
4570	41	139	183	19	2	16	8	8	5	19	3	20	3	207	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	O_2 % SAT.	INORG. P		TOTAL P	NITRATE	D
2		2082	35981	25307	512	109	9			008	
2	23	2084	35893	25234	506	107	10				7
2	47	2023	35807	25333	517	108	11			008	
2	71	1887	35774	25663	506	103	14				7
2	95	1877	35779	25692	483	99	25			013	
2	142	1805	35693	25807	448	90	39			3	9
2	192	1704	35661	26028	466	92	38			045	
2	288	1605	35544	26171	443	86	50			056	
2	467	1282	35231	26626	483	87	65			099	
2	656	942	34748	26872	443	74	119			169	
2	821	778	34578	26995	414	67	148			220	
2	1019	613	34482	27150	417	62	165			314	
1	1170	512	34485	27274	379	57	184			406	
1	1347	407	34514	27414	362	53	174			512	
1	1784	269	34645	27651	333	47	194			478	
1	2242	218	34716	27751	379	53	187			424	
1	2712	187	34748	27801	402	56	181			408	
1	3137	152	34749	27828	431	60	182			396	
1	3589	123	34734	27837	437	60	185			370	
1	4072	115	34767	27869	446	61	182			424	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	41	61	2	12	500 K	3815 S	15205 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
4570	18	17 8	20 6	24	2	16	8	8	2	24	2	23	1	20 1	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	$\%_o$ O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		2110	35779	25076	489	104	7			00 0	
2	23	2110	35800	25091	494	105	7				
2	46	2033	35727	25246	494	104	10			00 0	
2	70	1755	35607	25863	454	90	30			4 8	
2	94	1630	35499	26079	448	87	39			05 7	
2	141	1500	35453	26338	460	87	49			7 3	
2	190	1443	35439	26440	483	87	51			06 1	
2	296	1281	35254	26644	477	86	65			07 6	
1	442	994	34830	26848	431	73	107			24 4	
1	617	815	34636	26986	437	71	129			32 0	
1	775	668	34511	27098	414	65	154			32 8	
1	961	537	34472	27235	397	60	174			42 0	
1	1146	436	34491	27364	385	57	190			39 0	
1	1336	350	34544	27495	362	53	186			47 8	
1	1818	245	34668	27690	368	52	194			47 8	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	42	61	2	12	1915 K	3839 S	15019 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
4020	37	16 1	18 9	24	1	16	7	0	4			23	1	22 6	00	00

CAST	DEPTH	TEMP.	S‰	σ_t	O_2	% O_2 SAT.	INORG. P		TOTAL P	NITRATE	D
2		2030	35674	25214	517	108	9			00 0	
2	24	1990	35645	25296	500	104	16				
2	47	1720	35625	25963	532	105	10			00 01	
2	70	1560	35156	25974	476	91	68			8 6	
2	94	1472	35110	26134	482	91	81			09 4	
2	143	1337	35005	26339	465	85	73			13 2	
2	190	1089	34884	26723	459	80	98			15 8	
2	289	949	34702	26825	470	79	121			17 0	
2	488	839	34541	26874	430	70	144			19 6	
2	681	701	34520	27059	430	68	155			23 9	
2	882	505	34474	27274	406	61	173			20 8	
2	1083	460	34495	27341	395	59	177			25 7	
1	1207	380	34586	27499	354	52	188			28 7	
1	1399	317	34588	27562	343	49	197			25 4	
1	1865	239	34680	27704	372	53	195			25 0	
1	2339	200	34749	27792	383	54	187			20 7	
1	2794	179	34753	27812	418	58	188			22 4	
1	3267	143	34754	27839	441	61	189			22 0	
1	3738	109	34770	27876	443	61	204			20 2	

DATA

PART 2

PRIMARY PRODUCTION

EXPLANATION OF HEADINGS

Part 2 Primary Production

SHIP	The figures 20 are used to designate Gascoyne.
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.
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 metres is recorded in units of 10 m.
DIST. FROM COAST	Distance of nearest land in miles.
METHOD OF INCUBATION	0 = constant light incubation 1 = in situ incubation 2 = in situ incubation with auto-introduction of ^{14}C 3 = simulated in situ incubation.
STOCK NUMBER	Number of ^{14}C stock used.
STOCK ACTIVITY	The activity of ^{14}C stock used is recorded in millions of counts/min, i.e. 9.11×10^6 count/min.
BACKGROUND	Background count is recorded in counts/min.
DEPTH	Actual sampling depth given in metres, a blank at the top of this column indicates 0 m.

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 light and dark count.

INCUBATION PERIOD — For method 0, the period is given in hours. For methods 1, 2, 3, as part of daylight period, i.e. 50 equals $\frac{1}{2}$ day.

RATE OF PRODUCTION

A. For method 0 given in $mgC/hr/m^3$ to 2 decimal places.
For methods 1, 2, 3, given as $mgC/day/m^3$ to 2 decimal places.

B. Is given in $gC/day/m^2$ to 2 decimal places. In method 0, a day has been taken to be equal to 10 hours.

An asterisk in the Net Count column indicates a negative net value, which is assumed to equal zero for further calculations.

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	2	61	1	14	1500 K	4317 S	14926 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2926	15	90	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	378	19	359		450	0022	0000
25	2234	53	2181		450	0131	0020
50	52	46	474		450	0028	0040
75	365	4	361		450	0022	0041
100	94	4	90		450	0005	0041
150	3	1	4	*	450	0000	0041

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	4	61	1	15	530 K	4212 S	14848 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
3840	15	25	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1035	15	1020		400	0069	0000
25	517	3	514		400	0035	0013
50	1412	26	1386		400	0093	0029
75	47	510	463	*	400	0000	0041
100	41		41		400	0003	0041
150	14		14		400	0001	0042

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	5	61	1	15	1700 K	4645 S	14851 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2798	15	270	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	35	5	345		400	0023	0000
25	1	13	14	*	400	0000	0000
50	63	19	611		400	0041	0005
75	719	16	703		400	0047	0016
100	268	8	260		400	0018	0024
150	36	8	28		400	0002	0029

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	6	61	1	16	345 K	4516 S	15010 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4389	15	240	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	2719	27	2692	400	0182	0000
25	2865	39	2826	400	0191	0047
50	1133	18	1115	400	0075	0080
75	218	8	210	400	0014	0091
100	47	14	33	400	0002	0093
150	9	8	1	400	0000	0094

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	7	61	1	16	1200 K	4405 S	15053 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
3054	06	200	2	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	184	6	178	50	0096	0000
10	356	11	345	50	0186	0001
15	214	14	200	50	0108	0002
30	761	17	744	50	0401	0006
40	301	11	290	50	0156	0009
55	7	2	5	50	0003	0010

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	7	61	1	16	1220 K	4405 S	15053 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
3054	06	200	1	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	196	23	173	50	0093	0000
10	392	50	342	50	0184	0001
15	397	43	354	50	0191	0002
30	313	51	262	50	0141	0004
40	578	26	552	50	0298	0006
55	38	13	25	50	0013	0008

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	7	61	1	16	1330 K	4405 S	15053 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
3054	06	200	3	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	228		228	50	0123	0000
10	266		266	50	0143	0001
15	386		386	50	0208	0002
30	217		217	50	0117	0004
40	303		303	50	0163	0005
55	77		77	50	0041	0007

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	7	61	1	16	1315 K	4405 S	15053 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
3054	15	200	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	473	20	453		400	0031	0000
25	786	15	771		400	0052	0010
50	379	4	375		400	0025	0020
75	86	6	80		400	0005	0024
100	25	18	7		400	0000	0025
150	2	9	7	*	400	0000	0025

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	8	61	1	17	315 K	4248 S	15208 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4572	15	250	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	485	67	418		450	0025	0000
25	1299	44	1255		450	0075	0013
50	156	24	1536		450	0092	0034
75	126	12	114		450	0007	0046
100	13	14	1	*	450	0000	0046
150	12	11	1		450	0000	0046

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	9	61	1	17	1215 K	4216 S	15405 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4572	05	350	2	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	426	17	409		50	0221	0000
10	412	12	400		50	0216	0002
15	414	14	400		50	0216	0003
45	491	29	462		50	0249	0010
50	66	95	29	*	50	0000	0011

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	9	61	1	17	1200 K	4216 S	15405 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4572	05	350	1	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	593	1470		50	0000	
10	926	36	890	50	0480	0002
15	884	24	860	50	0464	0004
35	811	26	785	50	0423	0013
45	50	24	476	50	0257	0016
50	207	26	181	50	0098	0017

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	9	61	1	17	1245 K	4216 S	15405 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4572	05	350	3	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	706		706	50	0380	0000
10	783		783	50	0421	0004
15	701		701	50	0377	0006
35	1469		1469	50	0790	0017
45	669		669	50	0360	0023
50	74		740	50	0398	0025

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	9	61	1	17	1215 K	4216 S	15405 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4572	15	350	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	131	29	102	400	0007	0000
25	1318	26	1292	400	0087	0012
50	2684	42	2642	400	0178	0045
75	81	7	74	400	0005	0068
100	19	9	10	400	0001	0069
150	1		10	400	0001	0069

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	10	61	1	18	300 K	4320 S	15444 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4663	15	410	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	537	25	512	400	0035	0000
25	588	34	554	400	0037	0009
50	1492	40	1452	400	0098	0026
75	166	11	155	400	0010	0040
100	37	15	22	400	0001	0041
150	27	9	18	400	0001	0042

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	11	61	1	18	1215 K	4435 S	15529 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4755	15	475	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	131	24	1286	400	0087	0000
25	2038	65	1973	400	0133	0028
50	2089	22	2067	400	0139	0062
75	694	16	678	400	0046	0085
100	379	9	370	400	0025	0094
150	35	10	25	400	0002	0101

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	11	61	1	18	1145 K	4435 S	15529 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4755	05	475	2	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	826		826	50	0444	0000
10	1046		1046	50	0563	0005
15	1029		1029	50	0554	0008
35	736		736	50	0396	0018
40	328		328	50	0176	0019
50	3		3	50	0002	0020

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	11	61	1	18	1140 K	4435 S	15529 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4755	05	475	1	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1406		1406	50	0756	0000
10	1757		1757	50	0945	0009
15	1998		1998	50	1075	0014
35	982		982	50	0528	0030
40	298		298	50	0160	0032
50	167		167	50	0090	0033

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	11	61	1	18	1230 K	4435 S	15529 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4755	05	475	3	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1619		1619	50	0871	0000
10	1965		1965	50	1057	0010
15	1717		1717	50	0924	0015
35	1989		1989	50	1070	0035
40	1737		1737	50	0935	0040
50	103		1030	50	0554	0047

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	12	61	1	19	715 K	4631 S	15645 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4755	15	580	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	93	38	892	450	0053	0000
25	2281	21	2260	450	0135	0024
50	1111	31	1079	450	0065	0049
75	346	11	335	450	0020	0060
100	224	7	217	450	0013	0064
150	56	22	34	450	0002	0068

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	13	61	1	91	1515 K	4553 S	15710 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4846	15	560	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	923	26	897	400	0060	0000
25	1111	31	1080	400	0073	0017
50	114	24	1116	400	0075	0036
75	286	8	278	400	0019	0048
100	78	6	72	400	0005	0051
150	27	5	22	400	0001	0053

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	13	61	1	19	1230 K	4553 S	15710 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4846	05	560	3	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1437		1437	50	0773	0000
10	1765		1765	50	0950	0009
15	1587		1587	50	0855	0014
35	118		1180	50	0636	0028
40	653		653	50	0351	0030
50	28		280	50	0151	0032

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	13	61	1	19	1200 K	4553 S	15710 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4846	05	560	1	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	135	31	1319	50	0712	0000
10	1313	32	1281	50	0691	0007
15	1405	32	1373	50	0741	0011
35	417	25	392	50	0211	0021
40	213	16	197	50	0106	0022
50	65	29	36	50	0019	0023

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	13	61	1	19	1215 K	4553 S	15710 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4846	05	560	2	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1034		1034		50	0556	0000
10	1034		1034		50	0556	0006
15	732	21	711		50	0384	0008
35	281	21	260		50	0140	0013
40	177	21	156		50	0084	0014
50	4	7	3	*	50	0000	0014

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	14	61	1	20	345 L	4436 S	15815 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4940	15	500	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	806	16	790	400	0053	0000
25	996	16	980	400	0066	0015
50	1167	20	1147	400	0077	0033
75	547	11	536	400	0036	0047
100	305	12	293	400	0020	0054
150	24	12	12	400	0001	0059

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	15	61	1	20	1510 L	4302 S	15925 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4760	15	480	0	8	9 | 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	233	18	215	400	0014	0000
25	324	13	311	400	0021	0004
50	329	15	314	400	0021	0009
75	107	36	1034	400	0070	0020
100	23	36	194	400	0013	0030
150	11	11		400	0000	0033

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	16	61	1	21	1430 L	4217 S	16203 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4940	15	310	0	8	9 | 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	767	35	732	400	0049	0000
25	933	82	851	400	0057	0013
50	402	23	379	400	0026	0023
75	67	23	44	400	0003	0027
100	26	31	5 *	400	0000	0027
150	11	25	14 *	400	0000	0027

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	17	61	1	22	920 L	4451 S	16248 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4760	15	240	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	918	27	891		400	0060	0000
25	1344	38	1306		400	0088	0019
50	1104	21	1083		400	0073	0039
75	591	23	568		400	0038	0053
100	6	44	16		400	0001	0058
150	2	28	8	*	400	0000	0058

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	20	61	1	22	2355 L	4550 S	16541 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
3750	15	50	0	8	9 100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	2643	64	2579	400	0174	0000
25	2772	67	2705	400	0182	0045
50	242	19	223	400	0015	0070
75	84	10	74	400	0005	0073
100	24	22	2	400	0000	0074
150	36	16	20	400	0001	0074

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	21	61	1	24	630 L	4101 S	16937 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
	05	115	3	8	9|100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	214		214	50	0115	0000
10	549		549	50	0295	0002
15	358		358	50	0193	0003
35	363		363	50	0195	0007
40	242		242	50	0130	0008
50	456		456	50	0245	0010

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	21	61	1	24	650 L	4101 S	16937 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
	05	115	1	8	9|100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	27		270	50	0145	0000
10	254		254	50	0136	0001
15	405		405	50	0218	0003
35	326		326	50	0175	0007
40	283		283	50	0152	0008
50	31		310	50	0167	0009

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	21	61	1	24	920 L	4101 S	16937 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
15	115	0	8	9	100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	107	35	72	400	0005	0000
25	285	31	254	400	0017	0003
50	170	42	1658	400	0112	0019
75	1382	33	1349	400	0091	0044
100	121	26	95	400	0006	0056
150	31	17	14	400	0001	0058

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	22	61	1	25	125 L	4022 S	17226 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
10	10	0	8	9	100	15

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	444	48	396	400	0027	0000
25	553	53	500	400	0034	0008
50	147	53	1417	400	0096	0024
75	828	19	809	400	0055	0043
100	225	17	208	400	0014	0052

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	23	61	1	31	2240 L	4053 S	16745 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
1080	15	225	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT		INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	81	25	56		400	0004	0000
25	102	56	46		400	0003	0001
50	213	53	160		400	0011	0003
75	413	23	390		400	0026	0008
100	38	21	17		400	0001	0011
150	3	62	32	*	400	0000	0011

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	24	61	2	01	1035 L	4110 S	16510 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4390	15	300	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	175	60	115	400	0008	0000
25	356	41	315	400	0021	0004
50	657	33	624	400	0042	0012
75	907	41	866	400	0058	0025
100	168	8	160	400	0011	0034

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	25	61	2	01	1140 L	3922 S	16534 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2580	15	410	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	8	19	61	400	0004	0000
25	129	18	111	400	0007	0001
50	172	26	146	400	0010	0003
75	556	28	528	400	0036	0009
100	105	11	94	400	0006	0014
150	41	14	27	400	0002	0016

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	26	61	2	02	835 L	3758 S	16550 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
1830	15	430	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	197	19	178	400	0012	0000
25	313	21	292	400	0020	0004
50	353	27	326	400	0022	0009
75	1065	20	1045	400	0070	0021
100	481	14	467	400	0031	0034
150	87	11	76	400	0005	0043

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	27	61	2	02	1835 L	3630 S	16626 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
1330	15	410	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	99	21	78	400	0005	0000
25	133	20	113	400	0008	0002
50	34	17	323	400	0022	0006
75	707	12	695	400	0047	0015
100	93	15	78	400	0005	0022
150	35	18	17	400	0001	0024

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	28	61	2	03	115 L	3522 S	16650 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2200	15	360	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	198	18	180	400	0012	0000
25	244	17	227	400	0015	0003
50	256	17	239	400	0016	0007
75	471	27	444	400	0030	0013
100	371	9	362	400	0024	0020
150	21	7	14	400	0001	0026

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	30	61	2	03	1545 L	3507 S	16853 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
1100	15	230	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	111	15	96	400	0006	0000
25	23	17	213	400	0014	0003
50	1322	29	1293	400	0087	0016
75	663	21	642	400	0043	0032
100	115	6	109	400	0007	0038
150	29	12	17	400	0001	0040

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	31	61	2	04	20 L	3448 S	17023 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2220	15	120	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	128	25	103	400	0007	0000
25	169	26	143	400	0010	0002
50	593	34	559	400	0038	0008
75	286	14	272	400	0018	0015
100	78	11	67	400	0005	0018
150	19	6	13	400	0001	0020

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	32	61	2	04	1010 L	3426 S	17155 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
229	15	50	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	1839	28	1811	400	0122	0000
25	3048	17	3031	400	0204	0041
50	2109	14	2095	400	0141	0084
75	1019	9	1010	400	0068	0110
100	508	9	499	400	0034	0123
150	168	9	159	400	0011	0134

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	34	61	2	09	1020 L	3548 S	16452 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
990	15	480	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	103	21	82	400	0006	0000
25	159	36	123	400	0008	0002
50	553	32	521	400	0035	0007
75	878	16	862	400	0058	0019
100	111	26	85	400	0006	0027
150	52	21	31	400	0002	0029

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	35	61	2	09	1805 L	3613 S	16300 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
2470	15	585	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
25	61	20	41	400	0003	0000
50	108	31	77	400	0005	0001
75	153	29	124	400	0008	0003
100	418	39	379	400	0026	0007
150	561	26	535	400	0036	0014
	21	15	6	400	0000	0024

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	36	61	2	10	545 L	3643 S	16107 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4760	15	590	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
25	151	19	132	400	0009	0000
50	219	11	208	400	0014	0003
75	376	23	353	400	0024	0008
100	801	15	786	400	0053	0018
150	219	13	206	400	0014	0026
	2	14	6	400	0000	0030

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	37	61	2	10	1450 L	3703 S	15911 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4880	15	510	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	153	13	140	400	0009	0000
25	284	21	263	400	0018	0003
50	451	27	424	400	0029	0009
75	1409	24	1385	400	0093	0024
100	244	9	235	400	0016	0038
150	3	13	17	400	0001	0042

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	38	61	2	10	2340 K	3721 S	15725 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4570	15	420	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	136	20	116	425	0007	0000
25	259	25	234	425	0015	0003
50	501	28	473	425	0030	0009
75	583	24	559	425	0035	0017
100	18	9	171	425	0011	0023
150	9	8	1	425	0000	0026

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	39	61	2	11	815 K	3729 S	15532 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4760	15	330	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	175	13	162	400	0011	0000
25	669	17	652	400	0044	0007
50	713	23	690	400	0047	0018
75	972	27	945	400	0064	0032
100	98	11	87	400	0006	0041
150	3	13	17	400	0001	0043

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	40	61	2	11	1740 K	3810 S	15400 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4570	15	240	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	131	28	103	400	0007	0000
25	178	25	153	400	0010	0002
50	278	38	240	400	0016	0005
75	39	20	370	400	0025	0010
100	178	14	164	400	0011	0015
150	21	8	13	400	0001	0018

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	41	61	2	12	605 K	3815 S	15205 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4570	15	140	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	321	44	277	400	0019	0000
25	133	44	89	400	0006	0003
50	723	42	681	400	0046	0014
75	369	17	352	400	0024	0023
100	86	8	78	400	0005	0027
150	53	12	41	400	0003	0029

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	42	61	2	12	2010 K	3839 S	15019 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4020	15	80	0	8	9 100	12

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION A	RATE OF PRODUCTION B
	111	34	77	400	0005	0000
25	18	51	129	400	0009	0002
50	815	25	790	400	0053	0010
75	27	7	263	400	0018	0019
100	59	9	50	400	0003	0022
150	1	7	3	400	0000	0023

DATA

PART 3

PIGMENTS

EXPLANATION OF HEADINGS

Part 3 Pigments

SHIP	The figures 20 are used to designate Gascoyne.
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 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 $MSPU/m^3$, to 2 decimal places.
ASTACIN NON-ASTACIN	Astacin and non-astacin are given in $MSPU/m^3$ to 2 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
20	1	2	61	1	14	1500 K	4317 S	14926 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	34	15	89	25	7	*
25	34	12	79	8	5	
50	25	12	72	7	2	
75	15	7	61	6	1	
100	12	9	46	6	2	
150	6	4	41	1	4	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	4	61	1	15	530 K	4212 S	14848 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	27	13	91	12	2	*
25	21	11	61	6	1	
50	25	10	61	8	1	
75	12	8	53	10	3	*
100	7	6	29	5	1	*
150	6	3	47	5		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	5	61	1	15	1700 K	4645 S	14851 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	8	6	28	4	1	
25	12	8	51	7		
50	14	9	44	7	2	
75	15	8	42	6	1	
100	8	6	51	4		
150	9	6	40	8	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	6	61	1	16	345 K	4516 S	15010 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	27	9	69	7	2	
25	26	9	57	5	4	
50	12	8	41	4	1	
75	10	7	46	6	1	*
100	12	13	64	11	4	*
150	4	4	27	4	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	7	61	1	16	1200 K	4405 S	15053 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	10	4	55	6	1	
25	14	6	57	7	1	
50	10	6	39	6		
75	25	8	63	8	3	
100	10	3	26	5	2	
150	6	5	32	5	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	8	61	1	17	315 K	4248 S	15208 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	23	11	61	12	1	*
25	12	6	31	6		
50	20	10	71	9		
75	27	9	72	8	4	
100	6	5	31	5	1	
150	12	6	57	10	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	9	61	1	17	1215 K	4216 S	15405 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	8	4	28	6	1	*
25	8	8	35	5		
50	20	11	62	7	2	
75	11	9	56	6		
100	7	3	24	5	1	*
150	5	4	25	4	1	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	10	61	1	18	300 K	4320 S	15444 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	11	5	35	5	1	
25	17	13	72	9	2	*
50	19	11	76	9	2	*
75	22	6	78	9	2	
100	13	6	42	8		
150	7	7	60	10	3	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	11	61	1	18	1215 K	4435 S	15529 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	1	7	48	8	1	
25	26	15	53	6	5	
50	21	12	69	9	1	
75	9	6	41	3	1	
100	9	7	42	6	2	*
150	5	4	26	6	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	12	61	1	19	715 K	4631 S	15645 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	11	7	60	9	1	*
25	15	8	40	7	1	
50	17	8	57	13	4	*
75	14	11	59	7		
100	13	11	60	8		
150	17	12	65	9	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	13	61	1	19	1515 K	4553 S	15710 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	18	11	72	9		
25	20	8	48	7	2	
50	28	14	69	8	3	
75	15	8	43	7	1	*
100	9	4	41	4		
150	6	4	40	5		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	14	61	1	20	345 L	4436 S	15815 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	10	7	55	5		
25	10	4	40	5	1	
50	15	7	51	6	1	
75	24	14	92	12	1	*
100	12	9	56	7	1	
150	11	10	60	11	3	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	15	61	1	20	1510 L	4302 S	15925 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	6	5	31	4	1	*
25	7	4	40	6	1	*
50	13	4	34	5	2	
75	20	10	70	9		
100	9	7	56	8	1	*
150	5	7	40	18	9	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	16	61	1	21	1430 L	4217 S	16203 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	10	7	48	8	1	*
25	18	10	69	10	1	*
50	20	11	62	10		
75	7	3	24	2	3	
100	8	6	51	10	3	*
150	7	4	28	8	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	17	61	1	22	920 L	4451 S	16248 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	18	15	98	18	4	*
25	18	11	60	8	1	*
50	13	7	38	7	1	
75	9	6	50	7		
100	4	6	37	6	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	20	61	1	22	2355 L	4550 S	16541 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	69	21	148	18	1	*
25	54	18	124	13	1	
50	30	6	73	9	1	
75	18	12	64	9	1	*
100	9	7	47	8	1	*
150	8	8	49	7	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	21	61	1	24	920 L	4101 S	16937 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	4	3	21	4		
25	6	6	26	7	1	*
50	5	4	26	4	1	*
75	15	8	53	10	1	
100	9	8	39	7	1	
150	11	12	84	14		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	22	61	1	25	125 L	4022 S	17220 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	8	4	30	4	1	
25	11	10	60	7	1	*
50	29	10	78	7	17	
75	16	8	53	6	1	
100	10	6	53	5	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	23	61	1	31	2240 L	4053 S	16745 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	11	8	40	8	1	*
25	12	6	44	12	5	*
50	10	6	40	13	7	*
75	19	12	65	9	3	
100	6	7	41	6	1	
150	10	9	54	10	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	24	61	2	01	1035 L	4110 S	16510 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	11	9	57	10		
25	7	6	38	9	1	*
50	12	9	57	9	1	*
75	17	10	67	11	2	*
100	9	8	49	9	2	*
150	10	7	70	10	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	25	61	2	01	1140 L	3922 S	16534 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	5	4	52	8	2	*
25	5	9	26	6		
50	13	11	56	11	2	*
75	26	16	92	12	2	
100	13	8	52	9	2	
150	10	7	57	12	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	26	61	2	02	835 L	3758 S	16550 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	5	4	50	7		
25	7	4	55	8	2	*
50	6	5	32	7	1	*
75	27	16	78	12	1	
100	14	10	64	12	2	*
150	7	7	56	9	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	27	61	2	02	1835 L	3630 S	16626 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	7	4	27	7		
25	9	4	43	7		
50	14	7	61	10	1	*
75	22	13	74	14	2	*
100	9	8	40	8		
150	5	5	18	4		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	28	61	2	03	115 L	3522 S	16650 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	8	5	35	6		
25	7	8	23	6	1	*
50	11	3	38	6		
75	20	11	62	9	2	
100	14	12	51	10		
150	11	7	58	11	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	30	61	2	03	1545 L	3507 S	16853 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	29	17	86	14		
25	22	11	77	11		
50	6	5	32	7	1	*
75		7	29	6	2	
100	6	3	42	9	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	31	61	2	04	20 L	3448 S	17023 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	11	7	61	10	3	*
25	6	5	32	9	1	*
50	15	9	61	13	1	*
75	9	8	21	12	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	32	61	2	04	1010 L	3426 S	17155 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	25	12	82	10		
25	28	13	78	10	1	
50	19	10	66	9		
75	11	8	41	5	2	
100	12	8	55	9	1	*
150	10	7	47	10	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	34	61	2	09	1020 L	3548 S	16452 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN	
	a	b	c			
	5	4	27	4	1	
25	6	5	29	4		
50	10	6	41	7		
75	24	15	88	11	1	
100	14	8	66	9	1	*
150	10	8	51	8	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	35	61	2	09	1805 L	3613 S	16300 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	6	4	25	6	2	
25	9	6	49	10	1	
50	9	5	33	7	2	*
75	32	19	100	14	2	
100	20	17	88	13	1	*
150	8	4	27	5	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	36	61	2	10	545 L	3643 S	16107 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	28	7	44	6	3	
25	7	5	46	7	1	*
50	19	5	44	5	4	
75	19	12	68	11	1	*
100	19	6	34	5	5	
150	7	4	29	7	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	37	61	2	10	1450 L	3703 S	15911 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	5	3	34	5	1	
25	15	6	69	8	2	*
50	15	2	34	3	4	
75	62	16	90	9	9	
100	37		50	5	9	
150			57	19	7	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	38	61	2	10	2340 K	3721 S	15725 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	11	5	50	9	6	*
25	12	8	66	8	1	*
50	15	8	65	9		
75	6	5	32	4	2	
100	37	8	72	14	2	*
150	12	10	63	10	1	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	0 39	61	2	11	815 K	3729 S	15532 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
	19	4	38	3	9
25	15	1	29	3	6
50	10	7	46	6	
75	58	13	87	5	22
100	37	11	[illegible]	4	11
				4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	0 40	61	2	11	1740 K	3810 S	15400 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
	10	2	19	3	6
25	16	6	46	6	5
50	44	10	58	5	15
75	26	7	59	5	8
100	7	3	24	7	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	0 41	61	2	12	605 K	3815 S	15205 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN	
	27	9	53	8	4	
25	16	4	34	3	12	
50	19	13	81	10		
75	15	12	58	9	1	
100	12	8	54	9	2	*
150	6	4	25	9	2	*

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	0 42	61	2	12	2010 K	3839 S	15019 E

DEPTH	CHLOROPHYLL a	CHLOROPHYLL b	CHLOROPHYLL c	ASTACIN	NON ASTACIN
	13	9	58	7	1
25	13	3	107	9	
50	27	12	83	12	
75	30	18	29	15	
100	17	7	53	9	1
150	8	6	49	7	

DATA

PART 4

PHYTOPLANKTON

EXPLANATION OF HEADINGS

Part 4 Phytoplankton

SHIP	The figures 20 are used to designate Gascoyne.
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. 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.
DEPTH	Given in m. A blank at the top of this column denotes 0 m.
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
20	1	1	61	1	14	100 K	4142 S	14948 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	400	562	500
25	485	595	599
50	448	590	592
75	500	548	560
100	500	600	**604**

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	2	61	1	14	1330 K	4317 S	14926 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	530	580	504
25	573	635	676
50	570	595	615
75	551	570	591
150	400	500	**504**

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	4	61	1	15	400 K	4512 S	14848 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	500	590	595
25	570	630	640
50	578	630	641
75	500	548	595
100		500	500
150		448	448

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	5	61	1	15	1615 K	4645 S	14851 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	570	660	665
25	500	578	585
50	500	590	595
75	400	530	532
100	430	448	470
150			

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	6	61	1	16	230 K	4516 S	15010 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	648	578	656
25	648	548	652
50	630	530	634
75	500	500	530
150		500	500
			490

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	7	61	1	16	1600 K	4405 S	15053 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	500	593	613
25	500	585	623
50		600	600
75	600	685	690
100		504	504
150		430	430

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	8	61	1	17	230 K	4248 S	15208 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	430	548	562
25	500	548	590
50	430	600	615
75	500	600	604
100	500	585	
150		500	504

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	9	61	1	17	1400 K	4216 S	15404 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		557	523
25		523	523
50	400	520	532
75		448	448
100		448	448
150		400	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	10	61	1	18	200 K	4338 S	15445 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		448	4600
25	400	430	5110
50	500	570	
75	500	548	
100		370	
150		400	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	11	61	1	18	1400 K	4435 S	15532 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	478	530	
25	430	470	
50	590	500	
75	460	500	
100	400	478	
150		500	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	12	61	1	19	600 K	4631 S	15645 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	530	570	
25	530	600	
50	585	548	
75	570	500	
100	500	500	
150			

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	13	61	1	19	1400 K	4553 S	15710 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	670		
25	630	530	
50	630	500	
75	578	548	
100	430	511	
150		400	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	14	61	1	20	200 L	4436 S	15815 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	578	548	
25	532	548	
50	548	530	
75	560	611	
100	470	500	
150	500		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	15	61	1	20	1400 L	4302 S	15926 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		430	
25		400	
50	470	470	
75	548	536	
100	485		6180
150		400	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	16	61	1	21	1400 L	4217 S	16203 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	530	560	672
25	560	600	685
50	530	600	611
75	500	500	740
100		500	700
150		460	675

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	17	61	1	22	800 L	4451 S	16248 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	485	500	679
25	530	500	711
50		490	702
75			685
100		448	701
150		430	680

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	18	61	1	22	1400 L	4512 S	16336 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		4700	
25			
50			
75			
100			
150			

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	20	61	1	22	2230 L	4550 S	16541 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	640	578	
25	600	618	672
50	548	430	673
75		485	713
100			676
150		460	700

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	21	61	1	24	900 L	4101 S	16937 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	448	500	615
25		526	601
50	530	570	697
75	470	600	600
100		470	604
150	470	470	708

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	22	61	1	25	100 L	4022 S	17226 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		500	
25	400	485	
50		600	
75		536	
150			

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	23	61	1	31	2200 L	4053 S	16745 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		448	
25	470	470	
50		548	
75	570	570	600
100	400	500	504
150	400		400

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	24	61	2	01	1045 L	4102 S	16742 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	400		
25	470	470	
50	508	495	
75	500	504	
100	448		
150	460		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	25	61	2	01	2245 L	3924 S	16500 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	400	478	
25	460	530	
50	430	490	
75	578	560	
100	478	460	
150			

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	26	61	2	02	745 L	3800 S	16550 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	430	400	
25	448	478	
50	560	500	
75	560	630	
100		526	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	27	61	2	02	1800 L	3630 S	16626 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		400	
25	485	500	
75	585	600	
100	478	460	
150	400	448	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	28	61	2	02	2345 L	3532 S	16650 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	400	470	
25	485	448	
50	470	560	
75	560	620	
100	448	578	
150		448	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	30	61	2	03	1530 L	3507 S	16853 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	430	400	
25	500	500	
50	570	648	
75	530	548	
100	430	546	
150		495	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	31	61	2	03	2330 L	3448 S	17023 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	470	470	
25	490	478	
50	626	630	
75	400	500	
100		400	
150			

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	32	61	2	04	945 L	3426 S	17155 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	667		
25	665		
50	600	570	
75	400	500	
100		470	
150	478	500	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	34	61	2	09	900 L	3548 S	16452 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
		430	
25		490	
50	570	618	
100	570	600	
150		511	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	35	61	2	09	1730 L	3613 S	16300 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	530	400	
25	430	560	
50	570	600	
75	578	600	
100	548	608	
150		400	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	36	61	2	10	50 L	3643 S	16107 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	430	500	
25	500	500	
50	500	578	
75	490	548	
100	430	548	
150		500	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	37	61	2	10	1500 L	3703 S	15911 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	448	548	
25	500	470	
50	570	570	
75	618	560	
100	560	560	
150		330	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	38	61	2	10	2300 K	3721 S	15725 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	560	500	
25	518	518	
50	548	548	
75	548	600	
100	500	470	
150	400		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	39	61	2	11	730 K	3729 S	15532 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	530	478	
25	578	560	
50	515	530	
75	590	630	
100		504	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	45	61	2	11	1800 K	3810 S	15400 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	430	560	
25	504	585	
50	460	578	
75	600	560	
100	478	530	
150		448	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	41	61	2	12	530 K	3815 S	15205 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	548	530	
25	560	578	
50	548	600	
75	400	460	
100	500	560	
150	400	460	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
20	1	42	61	2	12	1900 K	3839 S	15019 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
	526		
25	560	500	
50	585	530	
75	470	500	
100	508		
150	408		

TABLE 3

OCCURRENCE OF DIATOMS

Numbers refer to Stations at which organisms were found. Numbers in brackets indicate the depths (m) at which samples were collected.

Amphora proteus 37(150).

Asteromphalus flabellatus 27(0).
A. hookeri 16(50).

Chaetaceros concavicorne 23(0-50).
C. convolutum 32(0-50).
C. criophilum 13(25, 75), 32(0-50).
C. lorenzianum 42(50, 75).
C. secundum 42(100).
C. teres 42(100).
C. vanheurckii 15(50).
C. vistulae 13(0).

Corethron criophilum 1(100), 5(45), 7(100), 8(50), 13(25-100), 15(0-150), 16(0), 25(75, 100), 32(0-50).

Coscinodiscus excentricus 17(75, 100).
C. lineatus 24(100), 25(150), 26(50, 75), 31(75).
C. subtilis 12(100), 13(150), 34(75, 100).

Eutreptia viridis 23(50), 38(0, 25, 50), 39(0), 41(0, 25, 50, 100), 42(50).

Fragilaria antarctica 11(50, 75, 100, 150).
F. granulata 7(0, 25, 75), 8(75, 150), 12(75), 15(100), 25(50), 27(75, 100), 30(150), 34(50, 75).
F. oceanica 5(0, 25), 6(1, 150), 9(50), 11(50, 75), 12(50, 100).
F. striatula 13(50).

Fragilariopsis antarctica 5(0, 25, 75, 100, 150), 12(0, 50, 75).

Grammatophora marina 1(100, 150).

Hemidiscus cuneiformis 21(50), 25(50), 36(75, 100).

Leptocylindrus danicus 1(100, 150), 2(150), 4(0), 42(150).

Melosira granulata 1(75, 100), 4(150), 10(25, 50, 100, 150), 11(0, 50, 75, 100, 150), 12(0), 13(75), 16(100), 17(150), 18(0), 25(100), 32(150), 40(50), 42(0).
M. polaris 6(1, 25, 75, 150), 11(0, 75).

Nitzschia longissima 1(75, 100), 14(25).
N. martiana 25(50), 27(75).
N. pacifica 12(0, 25), 20(0, 25).
N. seriata 4(0-100), 5(0-50), 6(0-150), 13(0-100), 42(50, 75, 100).

Planktoniella sol 1(0-100), 2(100), 4(0-100), 5(50-150), 6(25, 50), 7(0-150), 8(150), 9(0, 50, 150), 10(25, 75), 11(150), 13(0-100), 14(25, 75, 150), 16(0-150), 17(150), 20(50), 21(75), 27(100), 28(75), 31(0, 75), 32(50), 35(100), 39(150), 42(100).

Pleurosigma capense 25(50), 32(25), 42(100).
P. directum 2(75), 4(0-100), 5(0-150), 6(0-75), 7(0, 150), 10(0-75), 11(0-100), 12(0-150), 13(0-100), 14(25-150), 15(0-100), 16(25, 100), 20(0).
P. formosum 23(100).
P. strigosum 23(100).

Rhizosolenia alata 1(0, 75), 8(150), 9(25, 50, 100), 10(0-75), 11(0-75), 13(50, 75, 150), 14(0-150), 15(50, 100, 150), 16(0), 25(25), 27(75, 150), 28(0), 31(0-50), 32(0-50), 34(0, 25), 35(100), 42(25, 50).
R. alata f. inerme 2(0-75), 4(0-150), 6(0-75), 14(75),
R. bergonii 27(0).
R. calcar avis 27(0-50), 31(25, 50).
R. cylindrus 6(50).
R. hebetata f. semispina 2(0, 75, 100), 30(0), 31(0-150), 32(0-150).
R. styliformis 2(0-150), 4(0-150), 5(0-150), 6(0-150), 7(0-150), 8(150), 9(150), 10(25, 150), 11(25, 50, 75), 12(0, 25, 75), 13(50-150), 14(0-100), 15(0, 25, 50, 75, 150).

Schroederella delicatula 42(25, 100).

Skeletonema costatum 6(1, 25), 20(0, 25), 37(150).

Stephanopyxis turris 42(75, 100).

Synedra acus 23(75).
S. superba 26(50-150), 27(50, 75), 28(50, 100), 30(75, 150), 32(25), 34(50-100), 35(50), 36(0, 50, 75).
S. ulna 21(75, 100), 34(50-150).

Thalassiothrix antarctica 4(0), 5(0, 25), 6(0, 150), 11(150).
T. frauenfeldii 25(100), 26(100).
T. longissima 2(0, 25, 75), 4(0, 50, 100), 6(1, 25, 50, 75, 100), 7(75, 100, 150), 10(25, 75, 150), 13(0-100), 15(0-75), 16(50), 23(25-100), 25(75, 100), 30(75), 31(25-75), 32(0-75), 34(75), 35(100, 150), 42(0-100).
T. nitzschioides 16(50), 23(50).

Thalassiosira aestivalis 24(25, 50), 25(75, 100), 27(100), 34(75, 100), 34(100, 150), 36(75), 38(100, 150), 39(75), 42(25, 100).
T. condensata 4(0-100), 6(1), 13(25).

Tropidoneis lepidoptera 25(100).

TABLE 4

OCCURRENCE OF DINOFLAGELLATES

Numbers refer to Stations at which organisms were found. Numbers in brackets indicate depths (m) at which samples were collected.

Amphidinium kesslitzi 38(50), 39(75).
A. turbo 36(75), 37(50), 41(25).

Amphisolenia globifera 2(75), 30(100), 34(100).
A. schroederi 39(150).

Blepharocysta paulseni 1(0).

Ceratium arietinum 13(0), 16(0).
C. breve 23(25).

Ceratium buceros 1(75), 4(50), 8(100), 10(50), 13(50), 15(100, 150), 16(0, 25, 50), 23(100), 24(25), 28(100), 34(25), 35(50), 36(25, 75), 37(50), 40(75), 42(75).
C. candelabrum 42(25).
C. concilians 31(25).
C. declinatum 29(0), 30(0), 34(0), 35(0), 36(0, 25, 150), 37(0, 25), 38(25), 40(0, 25, 75), 41(0, 150).
C. extensum 1(0, 25), 9(0, 25), 10(0, 25), 15(0, 25), 16(25, 150), 30(150).
C. falcatiforme 8(25), 9(25), 10(0, 25, 50), 13(0), 16(0, 25, 50), 40(150).
C. falcatum 9(50, 100), 30(50), 31(0).
C. furca 1(0, 25), 2(0, 25), 4(0-75), 5(150), 7(0, 75), 8(0, 25), 9(25, 50), 10(0-50), 11(25, 50), 15(50), 16(0-50), 17(50), 18(0), 20(0, 25), 23(0-50), 24(0), 27(50), 29(0), 39(25), 40(0), 42(0, 25).
C. fusus 2(0, 25, 50), 4(0, 25, 50), 6(0, 25, 50, 150), 8(0, 25), 9(0-50), 10(0, 25, 50, 100), 13(0, 25), 16(0, 25, 50, 75, 150), 20(0, 25), 21(50), 23(0, 25), 24(0-50), 25(0, 25, 100), 26(0, 50, 75), 27(0, 75, 100), 28(75), 29(0), 30(25), 31(0, 25), 34(0, 25, 50, 75, 100), 35(0, 25), 36(0, 25, 75, 150), 38(0, 25, 100), 39(0, 25, 50), 41(0-50), 42(0, 25, 50, 75, 150).
C. gibberum 24(0).
C. horridum 9(50), 10(25).
C. karsteni 31(0, 25).
C. kofoidi 27(50, 75), 34(75), 35(50, 75), 36(0), 37(100), 38(25, 75), 39(100), 40(0, 25, 50, 75), 41(100), 42(25).
C. lineatum 1(25, 75), 5(0, 25, 50, 100), 6(0, 25, 50, 75, 100, 150), 7(0, 25, 150), 9(75), 10(0, 50, 100), 11(0, 25, 50, 75, 100), 12(0, 25, 50, 75, 100, 150), 13(0, 50, 75, 100), 14(50), 15(150), 16(100, 150), 17(0, 25, 50), 18(0), 19(0), 20(0, 25), 21(150), 23(100).
C. lunula 31 (0, 25).
C. massiliense 30(0), 31(0, 25).
C. minutum 1(0-100), 4(0), 7(25, 75), 8(0-100), 9(0-50), 10(0, 50), 12(0, 75), 14(0), 42(0-50).
C. pentagonum 9(50, 75), 8(0, 150), 13(0-150), 14(75), 15(0-50), 24(50), 28(150), 32(75), 37(50-150), 40(0-75), 41(0-50), 42(100).
C. platycorne 16(75), 42(75).
C. pulchellum 8(0).
C. schmidti 40(0, 50).
C. symmetricum 16(100), 21(50, 100), 38(100), 23(50).

Ceratium teres 7(0, 50), 8(0, 25), 13(25), 17(0, 25), 15(0, 25), 16(25), 18(0), 19(0), 20(0, 25), 21(25, 150), 23(25), 24(0, 25), 26(0), 27(0, 25), 28(50, 150), 29(0), 30(0), 31(0, 25), 35(0, 25), 36(0, 25), 37(0, 25), 38(0, 25), 39(0, 50), 40(0-50), 41(0, 25), 42(0, 25).
C. trichoceros 25(0).
C. tripos 9(50).

Cochlodinium faurei 40(50).
C. virescens 40(25, 75), 41(50).

Dinophysis diegensis 10(25), 13(25), 41(75).
D. exigua 1(75), 8(0), 15(0, 25, 75), 36(75), 37(50), 41(75).
D. fortii 34(100), 35(25), 36(0), 41(0).
D. hastata 8(50), 23(75), 37(0, 25, 50), 38(25), 40(150), 42(75).
D. monacantha 37(50, 75).
D. norvegica 1(100).
D. okamurai 8(0).
D. ovum 24(75).
D. sacculus 8(0), 9(50),
D. schroederi 2(0), 14(0), 27(25).
D. schuetti 25(50), 28(0), 35(25, 75), 36(25), 37(50, 100), 40(25), 41(75), 42(50).
D. sphaericum 10(75), 21(25), 24(25), 25(75).
D. tripos 1(0-150), 4(0, 25), 6(0, 25), 7(25, 50, 75), 8(0, 25, 50, 150), 9(0-75), 10(0, 50), 11(0), 13(0-100), 14(0-150), 15(0-100), 16(50-100), 17(25), 23(0, 50, 150), 24(25, 50), 25(75), 27(0), 29(0), 30(100), 34(50, 75), 36(0, 25, 75), 42(0).
D. truncata 4(0-50), 5(150), 6(0-50), 8(150), 9(0-50), 10(0-100), 11(50, 75), 13(0-100), 14(25-150), 15(0-100), 16(25), 17(0-50), 19(0), 20(0, 25), 24(50).
D. uracantha 30(75, 100).

Diplopsalis lenticula 1(0-75), 4(25-100), 7(50, 100), 9(0-50), 14(75, 150), 16(0), 29(0).
D. minor 21(25), 34(100), 35(50-100), 42(25-100).

Exuviaella baltica 25(25).
E. compressa 23(150).
E. marina 27(50), 34(0, 50, 150).

Goniaulax alaskensis 31(25).

Goniaulax apiculata 9(25), 20(0, 25), 24(25, 50), 28(50).
G. diegensis 24(0), 40(0).
G. digitale 15(0-50).
G. kofoidi 24(0), 25(100).
G. monacantha 9(0, 25), 23(0, 25), 38(50).
G. polygramma 4(75), 7(50), 10(0, 25), 13(0, 25), 14(150), 25(25, 75).
G. scrippsae 31(50), 34(50, 150), 35(0), 36(0), 37(25), 42(0, 25).
G. spinifera 21(0, 75), 23(75), 26(0, 50).
G. turbynei 7(25), 13(0, 25), 17(50), 21(50), 23(25, 50).

Goniodoma polyedricum 21(50, 75), 23(0), 24(0, 25), 25(50, 75), 26(0, 25), 36(0), 41(25, 75).

Gymnodinium bogorense 38(50).
G. galaeiforme 20(25), 23(50), 34(0, 25, 50), 35(75).
G. grammaticum 20(0).
G. marinum 2(0), 4(75), 5(0), 6(25), 7(50), 8(25, 50), 9(25), 12(25), 14(75), 15(50), 17(25), 28(25, 75), 30(0, 50), 31(75), 36(25), 38(0, 25, 50), 39(0, 75, 100), 40(0, 25, 75), 41(0, 25, 50), 42(50).
G. minor 24(0, 25), 36(25), 37(25, 50), 38(50), 39(0, 100), 40(25), 41(75), 42(25, 50).
G. simplex 2(25), 6(25), 23(0, 25), 24(25), 27(25), 34(25, 50), 35(25, 50, 75), 36(0, 25, 75), 37(25, 50), 38(0, 25, 50), 39(0, 25, 50, 75), 40(0-50), 41(25, 50), 42(0, 25, 50).
G. sphaericum 23(0, 25, 50), 24(75), 25(50), 27(25), 31(0, 25), 36(50-100), 37(25), 38(0), 40(0-100), 41(25, 75), 42(50).
G. splendens 10(0, 25), 12(25), 16(25, 50), 17(50), 23(50, 75), 41(0, 25, 50).
G. splendidum 24(25, 50), 25(25, 75), 35(25, 50, 75), 40(0, 25, 50, 75), 42(25, 50).
G. sulcatum 25(0).

Murrayella biconica 24(25).
M. intermedia 36(50), 37(50), 40(0, 25), 41(0).

Ornithocercus magnificus 25(25), 29(0), 31(0), 34(25).

Oxytoxum belgicae 18(0), 20(0, 25), 40(25), 42(0, 50).
O. compressum 7(0), 11(25), 17(0, 25).
O. constrictum 21(25), 26(50), 38(50).

Oxytoxum contractum 25(75).
O. curvatum 1(0-75), 4(0-150), 6(0, 25), 7(0-75), 8(0, 50), 9(25), 10(0-50), 11(25, 100), 13(0-75), 14(0-150), 15(0-75, 150), 16(0), 17(50, 75), 18(0), 19(0), 24(50, 75), 25(50), 28(0, 25), 29(0), 30(0, 50), 35(50), 36(0-50), 39(25, 75), 41(0, 50).
O. elegans 4(0-150), 5(50-100), 6(0, 50), 8(25), 10(0-75), 14(0), 36(75), 40(0), 41(0, 25), 42(25, 50).
O. longum 17(0), 23(50).
O. milneri 13(0-75), 15(0-50), 17(0, 25), 23(0, 25), 24(0, 25), 25(25, 50).
O. mitra 16(50).
O. parvum 1(75, 100), 2(0, 25), 4(0-150), 6(0), 7(50, 75), 9(0-50), 10(0), 11(0, 25), 12(0-100), 13(0, 25), 14(0-50), 15(0, 25), 17(0-50), 18(0), 19(0), 20(0), 21(0-50), 23(0-50), 24(0-50), 25(0, 25), 26(0), 27(0-50), 28(0), 30(0-100), 31(0), 34(25, 50), 35(50), 36(0), 37(0, 50), 38(50), 40(25, 50), 41(0-75).
O. sceptrum 1(0-50), 5(50), 13(0, 25), 14(50, 75), 20(0, 25).
O. scolopax 1(0), 2(150), 4(0-75), 5(75), 7(0-75), 8(0, 50), 9(25, 50), 10(0-50), 12(25), 13(0, 25), 14(0-75), 15(0-75), 16(25-75), 17(0-150), 18(0), 19(0), 20(0), 21(0, 25), 23(0-100), 24(0, 50), 25(0-75), 26(0-100), 27(25, 50, 75), 28(50, 75, 100), 30(0-75), 31(0-50), 34(0-100), 35(0-100), 36(25-75), 37(50-100), 38(50, 75), 39(25-75), 40(0-100), 41(0-75), 42(0-50).
O. sphaericum 26(25), 42(0).
O. turbo 24(50, 75), 40(0), 41(75).
O. variabile 15(50, 150), 16(0-50), 17(0-50), 18(0), 19(0), 20(0, 25), 21(25), 23(25, 50), 24(0-50), 27(0), 28(75), 30(25, 75), 31(25), 35(0-75), 36(0-150), 37(0-100), 38(0-150), 39(25, 100), 41(0, 50).

Peridinium breve 5(150), 34(75).
P. brevipes 4(75), 12(25), 23(25, 75).
P. cerasus 7(50, 100), 10(0, 75), 41(50).
P. conicum 4(0, 25).
P. crassipes 10(75), 20(50).
P. depressum 4(0, 25), 13(50), 14(50, 150), 31(0, 100).
P. divergens 7(75), 16(50), 31(0, 150).
P. globulum 1(0).
P. granii 4(75), 5(150), 9(25), 23(0, 25), 24(150), 27(25), 28(50).
P. hirobis 10(25), 30(50).

Peridinium leonis 10(50).
P. oceanicum 1(50, 150), 4(25), 6(0, 25), 7(25, 75), 10(50, 75), 11(25, 75), 13(0, 25), 14(0).
P. okamurai 28(150), 30(25).
P. orbiculare 1(25), 2(75), 4(25), 5(100), 9(75), 23(25), 30(25), 38(50).
P. ovatum 10(0, 25), 13(25).
P. pedunculatum 4(0, 50), 26(50), 28(0), 34(50).
P. pellucidum 10(0, 25), 12(150), 13(0, 25, 50), 21(0, 25, 50, 150), 37(25).
P. pyriforme 13(0, 25, 50).
P. roseum 20(0, 25), 31(0, 25).
P. steinii 1(100), 7(50, 75), 27(25).
P. subinerme 6(0, 25).
P. tenuissimum 11(25), 13(0, 25).
P. thorianum 4(0-50), 11(0, 50).
P. turbinatum 4(150).
P. variegatum 2(50), 4(25, 50), 6(25, 50, 100).

Phalacroma argus 4(150), 12(75), 13(75, 100), 41(50).
P. doryphorum 4(75), 25(25), 34(50), 35(25), 37(100).
P. favus 26(25), 29(0).
P. micropterygia 20(50).
P. ovum 1(0, 25), 13(75), 23(50), 24(150), 25(25, 50), 26(25), 27(25), 28(50, 100), 31(25), 34(50,150), 35(0), 38(25), 41(25).
P. parvulum 4(0, 50), 12(75), 23(0), 24(50), 25(0), 30(75), 35(25), 36(25-150), 40(50).
P. pulchellum 7(25), 42(50).
P. pulchrum 38(75).
P. rotundatum 1(50), 7(50), 9(0), 13(25), 16(0), 26(150), 30(75), 40(0), 41(75).

Podolampas palmipes 1(25-150), 2(75), 4(0-75), 5(100), 6(50), 7(25-100), 8(0-75), 9(0-75), 10(0-50), 11(50-100), 13(0-100), 15(50, 75), 16(50), 17(0, 150), 24(25), 25(50, 75), 26(0, 25), 27(0), 28(0), 29(0, 150), 34(0, 75), 35(25, 50), 36(0, 25), 37(25), 38(0, 25), 39(25, 75), 40(0-50), 41(0), 42(25).
P. spinifer 7(50), 9(0, 75), 10(50, 75), 11(50, 75), 13(0-100), 14(50), 15(75-150), 16(75), 20(50), 21(75), 24(25, 50), 26(0-75), 28(50, 100), 30(25, 75), 31(0, 25), 34(75, 100), 36(0), 37(0-50), 38(75), 39(25-100), 40(25-75), 42(0-100).

Pronoctiluca pelagica 1(25, 75), 2(50), 4(50), 4(50, 75), 5(50-150), 6(0-75), 8(75-150), 10(75), 14(75), 31(75), 32(25, 100), 35(100), 38(0-100).
P. spinifera 11(50), 13(25-100), 17(75-150), 23(75), 24(50, 75), 30(0-50), 41(0-150), 42(0-100).

Prorocentrum micans 23(50-100), 39(25), 42(25, 50).
P. pelagica 9(0, 100), 26(50), 36(50).
P. rostratum 1(0-50), 4(25, 50), 7(50), 8(0-150), 9(0-100), 10(0-50), 13(0-100), 14(0-150), 15(50, 75), 16(0), 24(50), 30(50, 75), 37(0-75), 38(50), 39(0-75), 41(0, 25), 42(50).
P. scutellum 3(25), 9(150), 11(0, 25), 12(0-75), 17(0, 25), 20(0, 25), 24(50), 28(0), 39(25, 75), 41(25, 50).

Pyrocystis robusta 25(75).

Pyrophacus horologicum 9(25).

Warnowia atra 17(0), 20(50), 23(25, 50), 25(75), 32(25), 40(100), 41(50).
W. violacea 1(100), 10(50), 12(0), 13(0, 25), 14(0), 25(25), 26(25), 28(50), 35(0, 100), 40(75).

DATA

PART 5

ZOOPLANKTON

ZOOPLANKTON BIOMASS : OBLIQUE HAULS, 200-0 m

STATION	DATE	TIME	LATITUDE	LONGITUDE	VOLUME FILTERED	BIOMASS mg/m^3
7	16.1.61	1417	44°05'S.	150°53'E.	12.2	7
13	19.1.61	1307	45°53'S.	157°10'E.	11.6	7
21	24.1.61	1047	41°01'S.	169°37'E.	13.7	5
26	2.2.61	0938	37°57'S.	165°50'E.	11.0	6
30	3.2.61	1650	35°07'S.	168°53'E.	4.0	7
39	11.2.61	0912	37°29'S.	155°32'E.	14.7	292*

ZOOPLANKTON BIOMASS : OBLIQUE HAULS, 400-200 m

7	16.1.61	1417	44°05'S.	150°53'E.	10.3	26
13	19.1.61	1307	45°53'S.	157°10'E.	10.5	10
21	24.1.61	1000	41°01'S.	169°37'E.	13.4	1
26	2.2.61	0938	37°58'S.	165°50'E.	14.6	3

* Salps

ZOOPLANKTON BIOMASS : HORIZONTAL HAULS

STATION	DATE	TIME	LATITUDE	LONGITUDE	DEPTH m	VOLUME FILTERED m^3	BIOMASS mg/m^3
4	15.1.61	0737	45°12'S.	148°48'E.	0	10.2	2
	15.1.61	0737	45°12'S.	148°48'E.	200	4.0	5
	15.1.61	0737	45°12'S.	148°48'E.	400	5.6	9
9	17.1.61	1308	42°16'S.	154°04'E.	0	17.0	6
	17.1.61	1308	42°16'S.	154°04'E.	50	18.3	14
	17.1.61	1308	42°16'S.	154°04'E.	100	1.4	14
11	18.1.61	1320	44°35'S.	155°29'E.	0	9.6	2
	18.1.61	1320	44°35'S.	155°29'E.	200	10.2	2+122*
	18.1.61	1320	44°35'S.	155°29'E.	400	4.9	18
16	21.1.61	1636	42°17'S.	162°03'E.	0	6.8	1
	21.1.61	1636	42°17'S.	162°03'E.	50	14.0	1
17	22.1.61	1020	44°51'S.	162°48'E.	0	9.4	5
	22.1.61	1020	44°51'S.	162°48'E.	50	2.6	77
	22.1.61	1020	44°51'S.	162°48'E.	100	13.5	1+41*
33	8.2.61	1455	35°00'S.	169°14'E.	0	7.6	13
	8.2.61	1455	35°00'S.	169°14'E.	50	20.0	5
	8.2.61	1455	35°00'S.	169°14'E.	100	21.5	9

* Salps

ZOOPLANKTON BIOMASS : HORIZONTAL HAULS

STATION	DATE	TIME	LATITUDE	LONGITUDE	DEPTH m	VOLUME FILTERED m^3	BIOMASS mg/m^3
34	9.2.61	1035	35°48'S.	164°52'E.	0	21.9	4
	9.2.61	1035	35°48'S.	164°52'E.	50	18.9	5
	9.2.61	1035	35°48'S.	164°52'E.	100	16.5	4
35	9.2.61	1743	36°12'S.	163°00'E.	0	14.6	1+27*
	9.2.61	1743	36°12'S.	163°00'E.	50	15.8	10
40	11.2.61	1645	38°10'S.	154°00'E.	0	10.8	5+28*
	11.2.61	1645	38°10'S.	154°00'E.	200	7.4	7
	11.2.61	1645	38°10'S.	154°00'E.	400	14.4	17
41	12.2.61	0750	38°15'S.	152°05'E.	0	10.1	3
	12.2.61	0750	38°15'S.	152°05'E.	200	2.0	15
	12.2.61	0750	38°15'S.	152°05'E.	400	1.2	25
42	12.2.61	1825	38°39'S.	150°18'E.	0	8.8	16+59*
	12.2.61	1825	38°39'S.	150°18'E.	200	7.1	7
	12.2.61	1825	38°39'S.	150°18'E.	400	9.7	8

* Salps

V. FIGURES

Figs 2-10	Hydrology-Horizontal Distribution of Properties
Figs 11-12	Primary Production

HYDROLOGY

HORIZONTAL DISTRIBUTION OF PROPERTIES

Figures illustrating the horizontal distribution at the surface, at 50 m, and at 150 m were prepared from data in Part 1. No salt correction has been used for the inorganic phosphate values.

Figs 2-10	Horizontal	distribution of properties
Fig. 2	Surface	Temperature
Fig. 3		Salinity
Fig. 4		Inorganic phosphate
Fig. 5	50 m	Temperature
Fig. 6		Salinity
Fig. 7		Inorganic phosphate
Fig. 8	150 m	Temperature
Fig. 9		Salinity
Fig.10		Inorganic phosphate

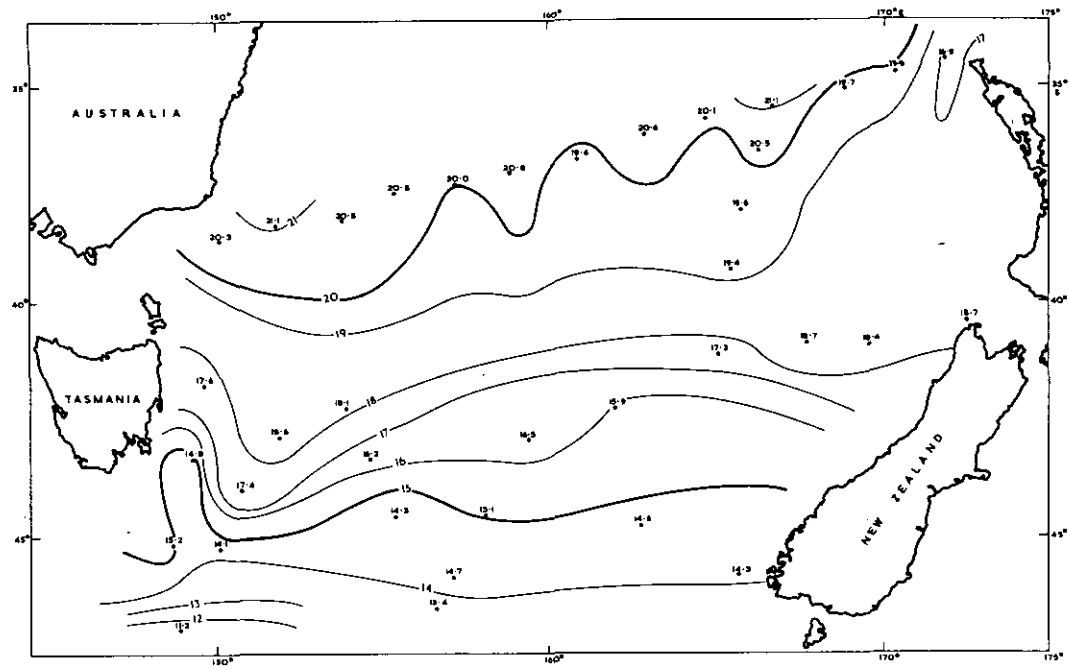
AUSTRALIA
TASMANIA
NEW ZEALAND

Fig. 2

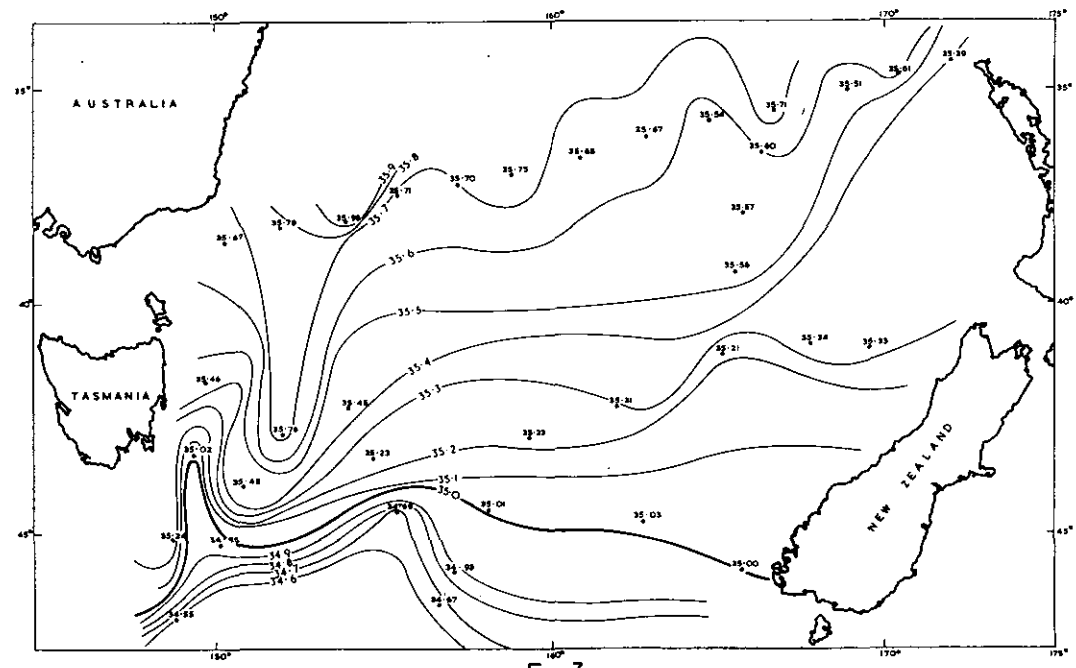
AUSTRALIA
TASMANIA
NEW ZEALAND

Fig. 3

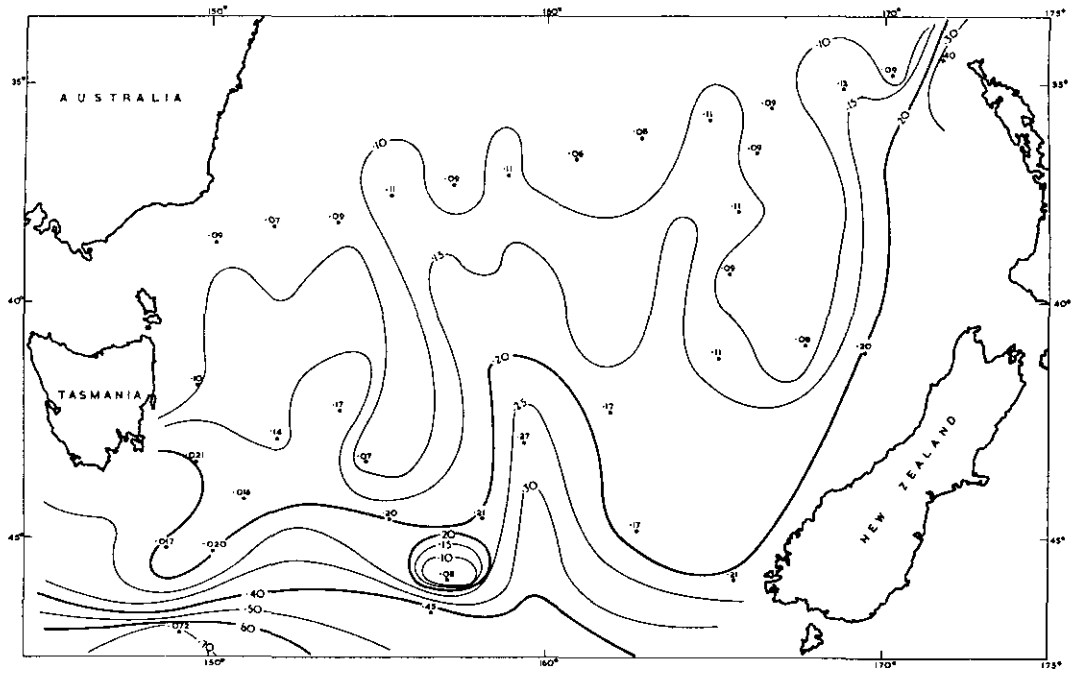
AUSTRALIA
TASMANIA
NEW ZEALAND

Fig. 4

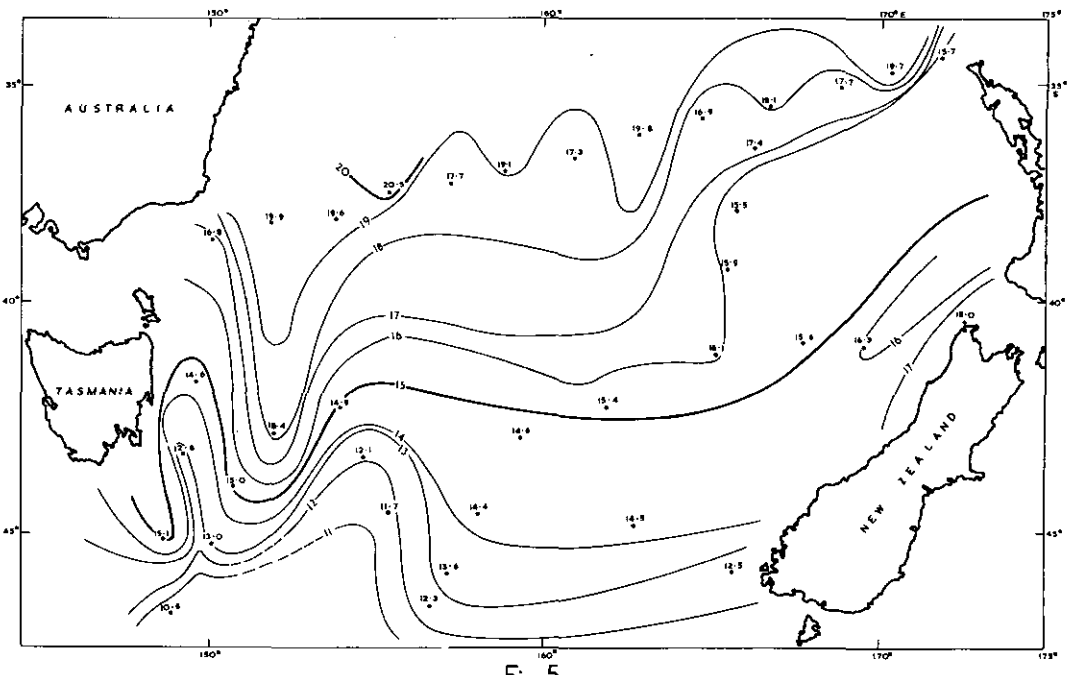
AUSTRALIA
TASMANIA
NEW ZEALAND

Fig. 5

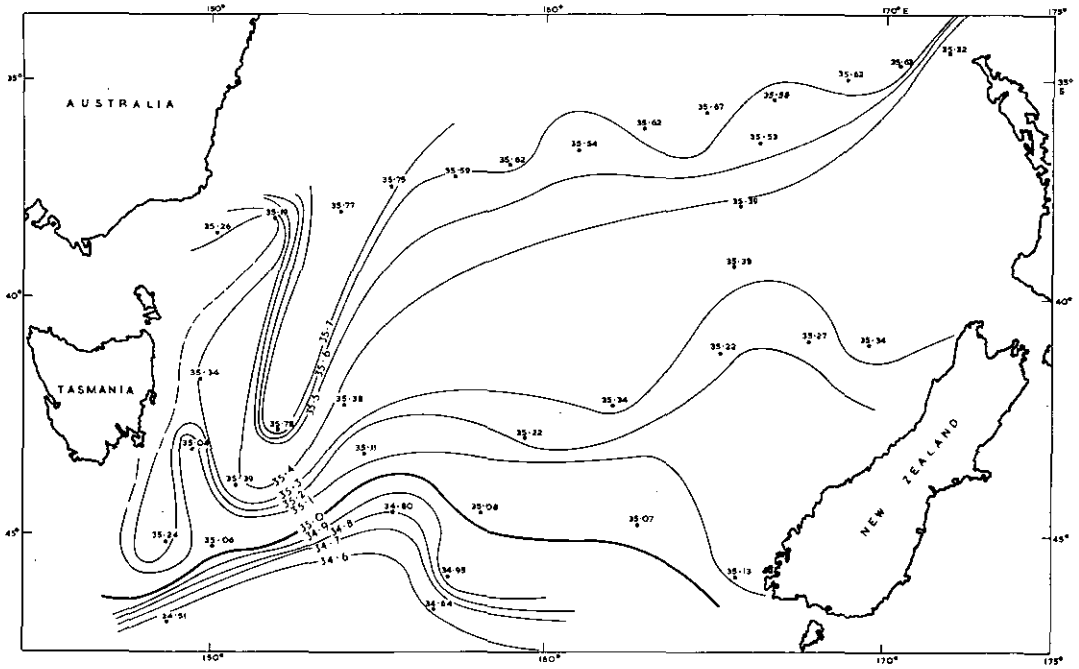
AUSTRALIA
TASMANIA
NEW ZEALAND

Fig. 6

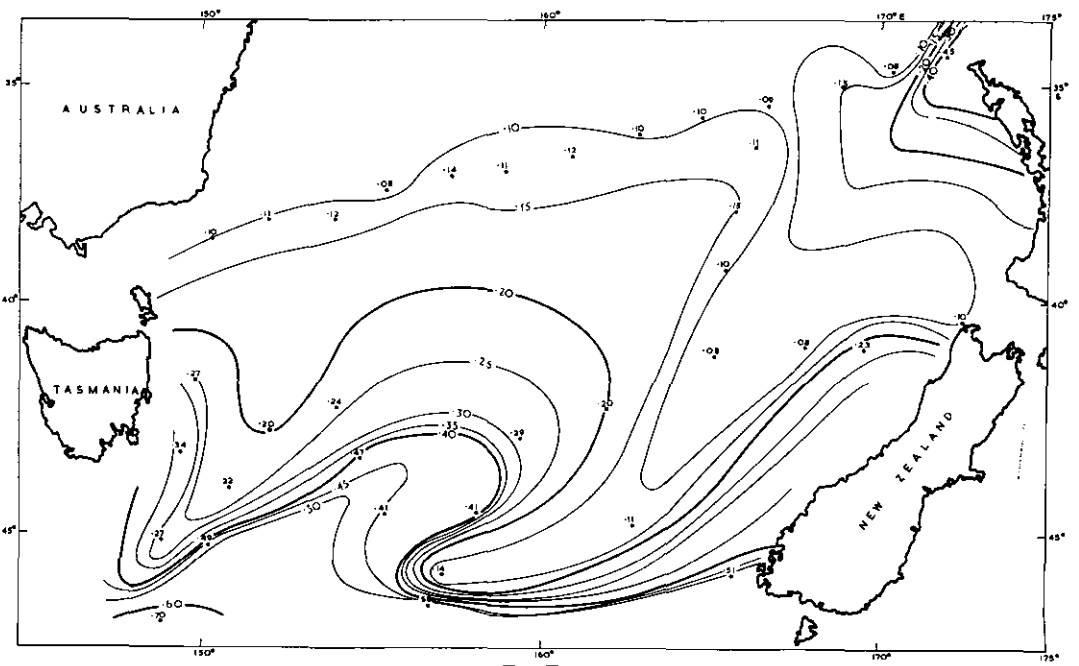
AUSTRALIA
TASMANIA
NEW ZEALAND

Fig. 7

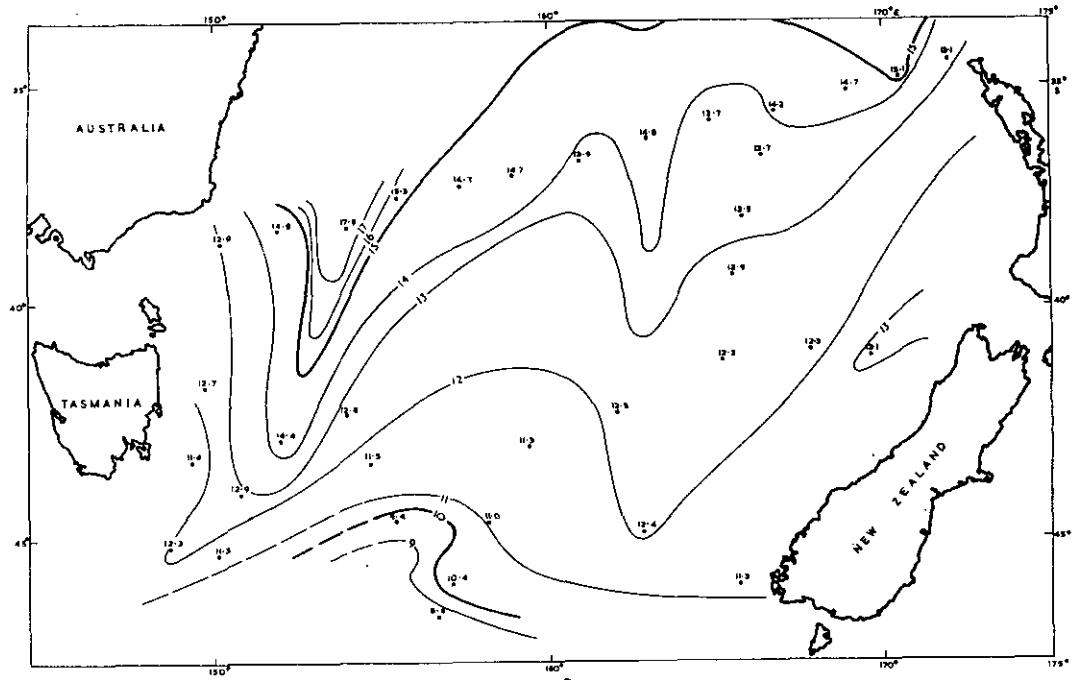
AUSTRALIA
TASMANIA
NEW ZEALAND

Fig. 8

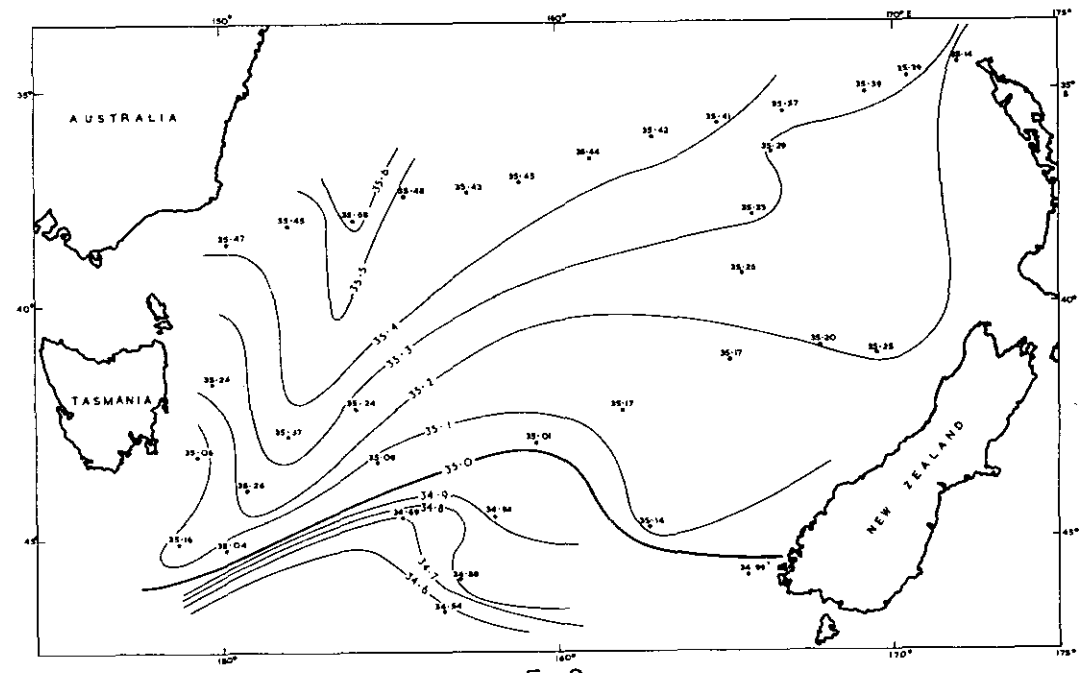
AUSTRALIA
TASMANIA
NEW ZEALAND

Fig. 9

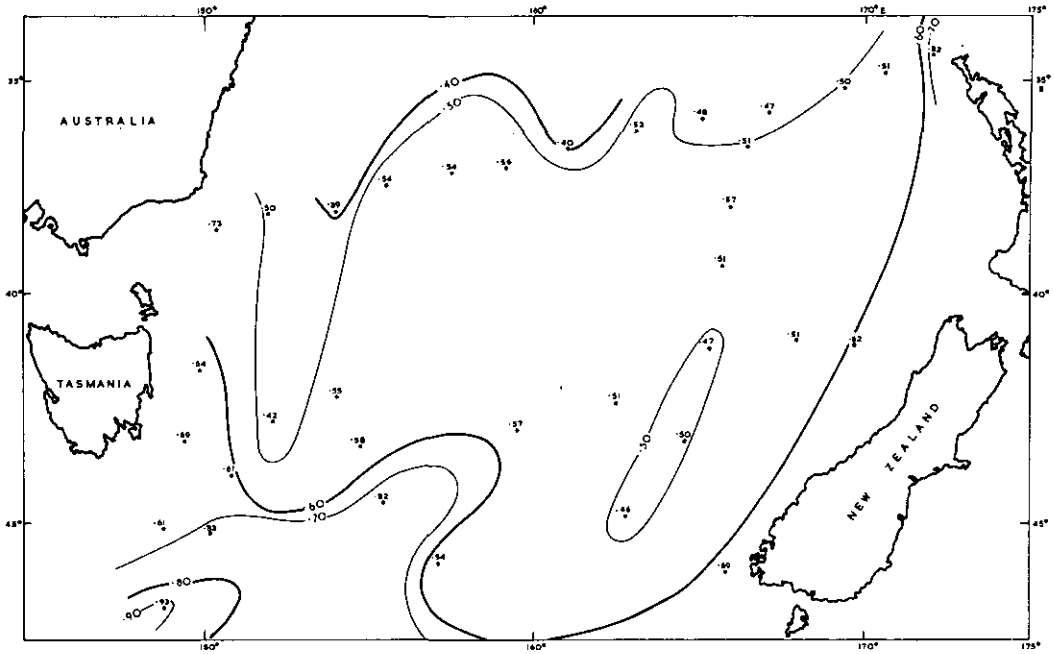
AUSTRALIA
TASMANIA
NEW ZEALAND
150°
160°
170° E
175°
35°
40°
45°
.40
.50
.60
.70
.80
.90

Fig. 10

PRIMARY PRODUCTION

Fig. 11 Daily rates of primary production, calculated for the columns under 1 metre square from 0-150 m depth in gC/day/m^2 for each ^{14}C station. Figures are in italics with station numbers above and time of sampling below.

Fig. 12 Vertical profiles of hourly rates of primary production at each ^{14}C station sampling times are given below the station number.

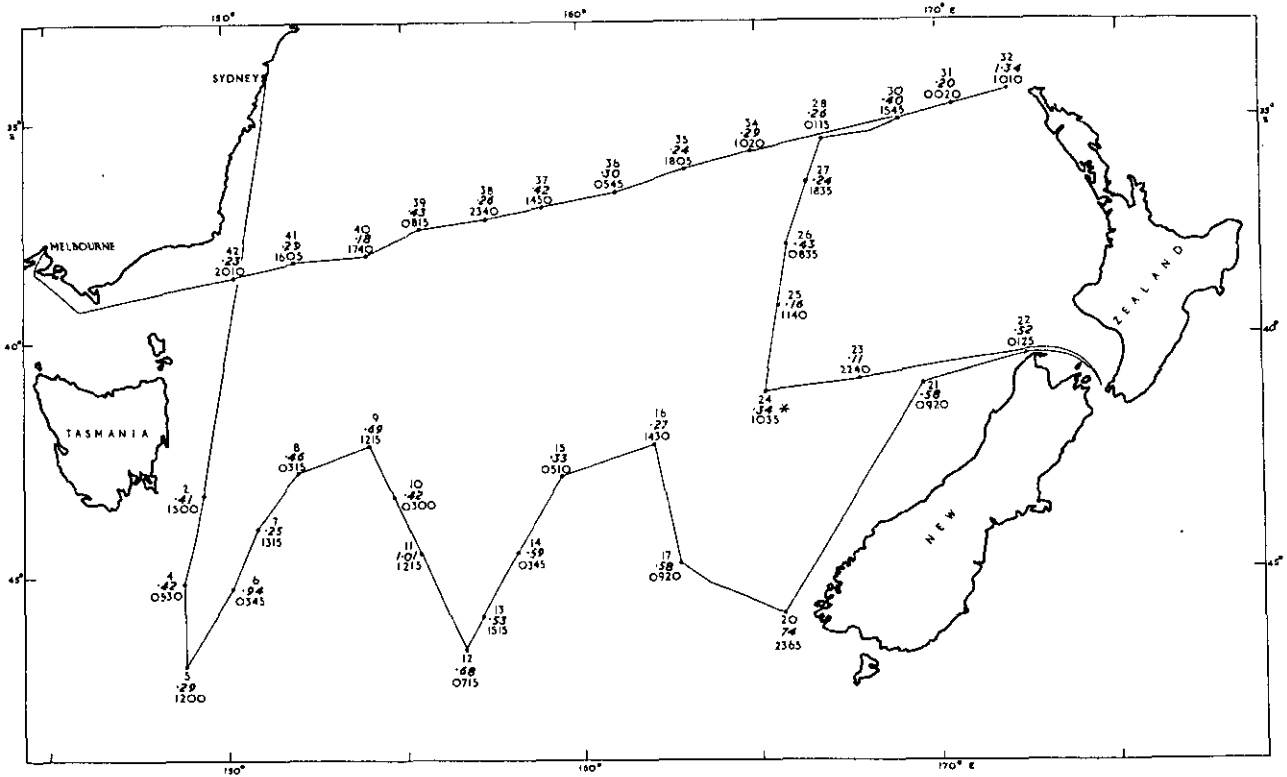
180°
160°
170° E
150°
160°
170° E
35°
40°
45°
SYDNEY
MELBOURNE
TASMANIA
NEW ZEALAND
1 ·41 1500
2 ·42 0530
3 ·29 1200
4 ·94 0345
5 ·25 1315
6 ·46 0315
7 ·69 1215
8 ·42 0300
9 1·01 1215
10 ·68 0715
11 ·53 1515
12 ·59 0345
13 ·33 0510
14 ·27 1430
15 ·58 0920
16 ·74 2365
17 ·34 * 1035
18 ·11 2340
19 ·58 0920
20 ·52 0125
21 ·78 1140
22 ·45 0835
23 ·24 1835
24 ·26 0115
25 ·40 1545
26 ·20 0020
27 1·34 1010
28 ·29 1020
29 ·24 1805
30 ·30 0545
31 ·40 1450
32 ·43 0815
33 ·28 2340
34 ·78 1740
35 ·29 1605
36 ·27 2010

Fig. 11

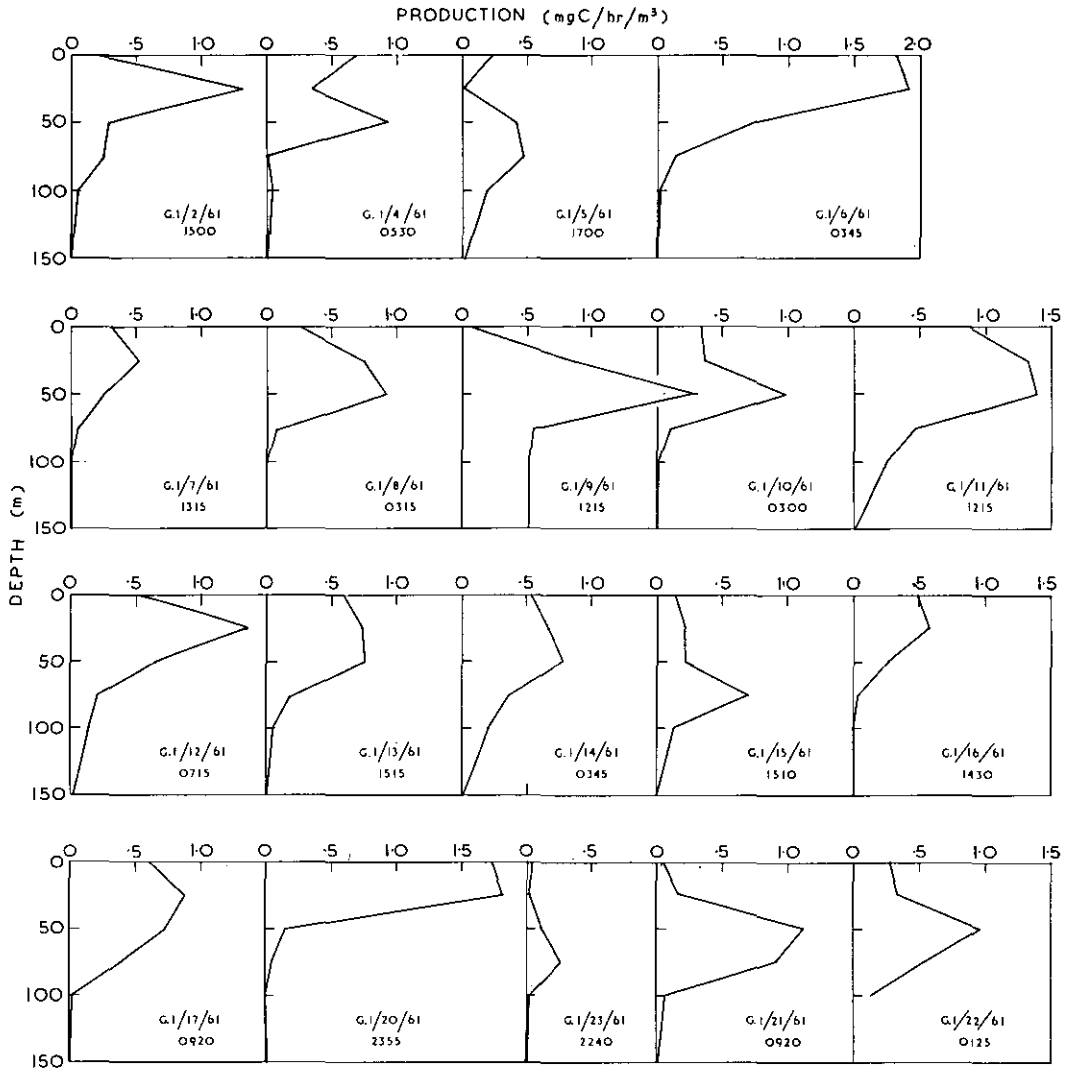
PRODUCTION (mgC/hr/m³)
DEPTH (m)
G.1/2/61 1500
G.1/4/61 0530
G.1/5/61 1700
G.1/6/61 0345
G.1/7/61 1315
G.1/8/61 0315
G.1/9/61 1215
G.1/10/61 0300
G.1/11/61 1215
G.1/12/61 0715
G.1/13/61 1515
G.1/14/61 0345
G.1/15/61 1510
G.1/16/61 1430
G.1/17/61 0920
G.1/20/61 2355
G.1/23/61 2240
G.1/21/61 0920
G.1/22/61 0125

Fig. 12

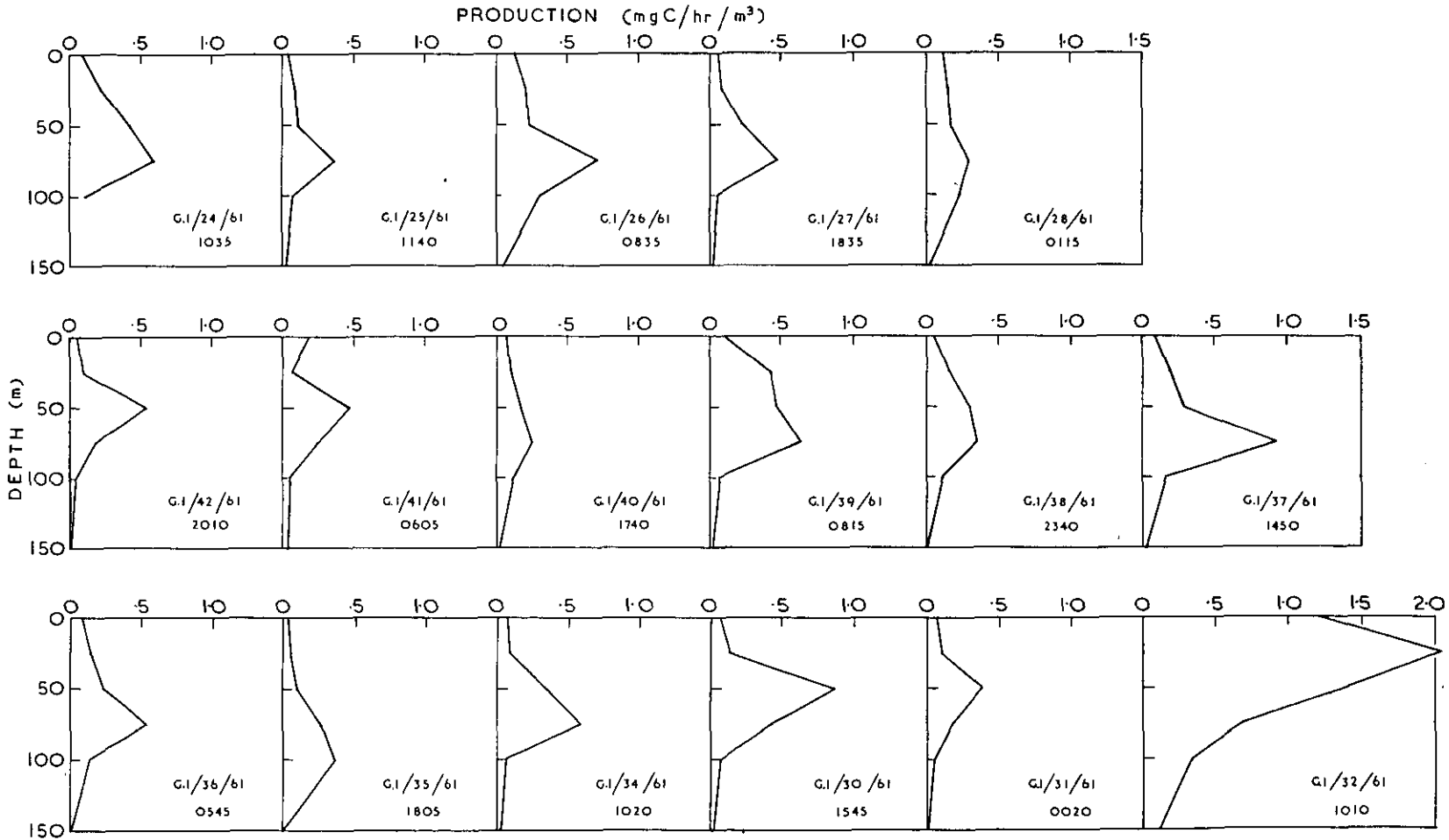
PRODUCTION (mg C/hr/m³)
DEPTH (m)
0
·5
1·0
1·5
2·0
50
100
150
G.1/24/61
1035
G.1/25/61
1140
G.1/26/61
0835
G.1/27/61
1835
G.1/28/61
0115
G.1/42/61
2010
G.1/41/61
0605
G.1/40/61
1740
G.1/39/61
0815
G.1/38/61
2340
G.1/37/61
1450
G.1/36/61
0545
G.1/35/61
1805
G.1/34/61
1020
G.1/30/61
1545
G.1/31/61
0020
G.1/32/61
1010

Fig. 12

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.