OCEANOGRAPHICAL OBSERVATIONS
IN THE INDIAN OCEAN IN 1962
H.M.A.S. *DIAMANTINA*
Cruise Dm 1/62

OCEANOGRAPHICAL CRUISE REPORT NO. 14

DIVISION OF FISHERIES AND OCEANOGRAPHY
COMMONWEALTH SCIENTIFIC AND INDUSTRIAL
RESEARCH ORGANIZATION, AUSTRALIA 1964

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MELBOURNE, 1964

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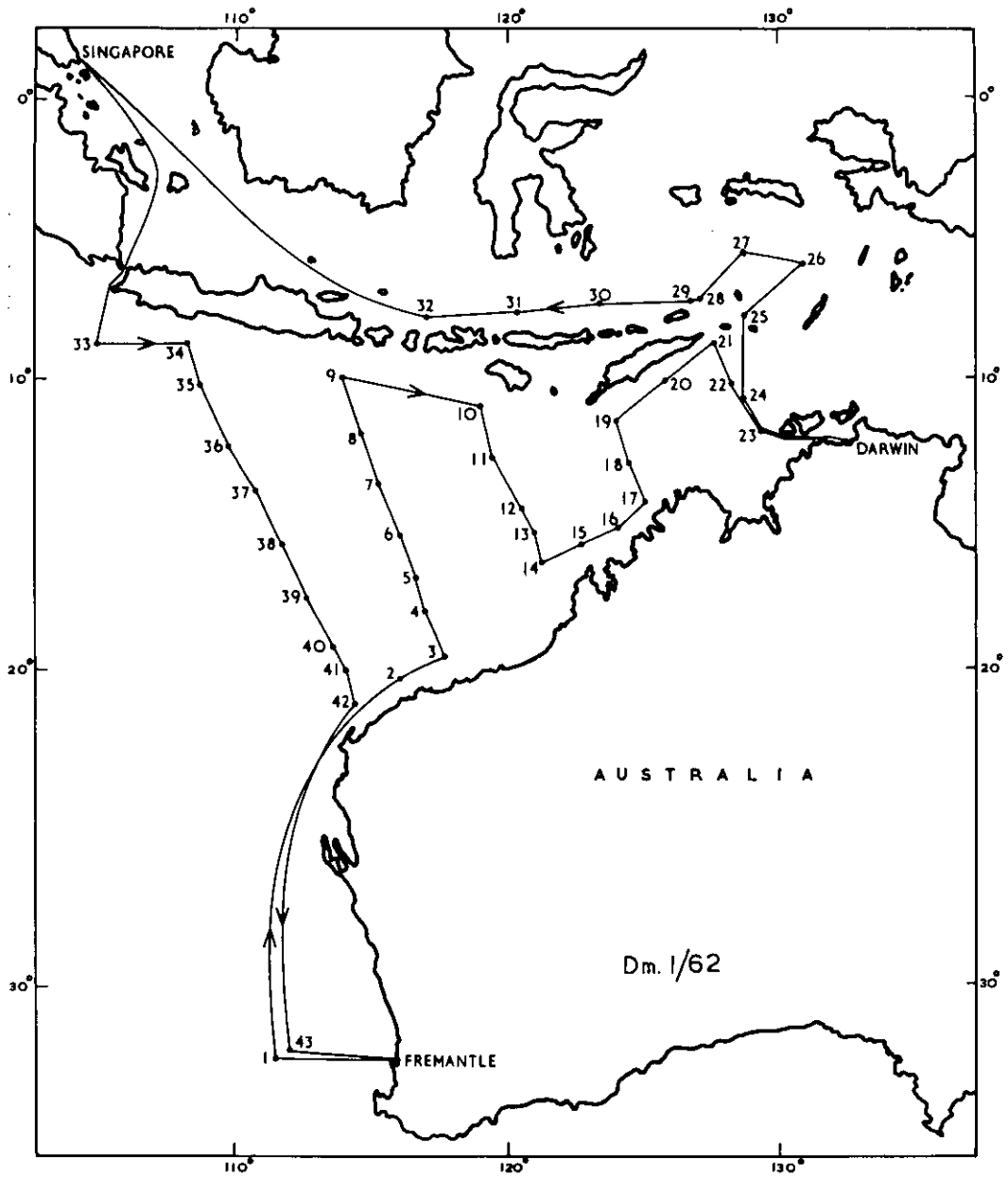

Fig. 1. - Track Chart

OCEANOGRAPHICAL CRUISE REPORT

No. 14

Oceanographical Observations in the Indian Ocean in 1962

H.M.A.S. DIAMANTINA

Cruise Dm 1/62

February 12 - March 25, 1962

I. INTRODUCTION

Data are recorded for the first cruise in 1962 of H.M.A.S. Diamantina, Royal Australian Navy frigate, in the south-east Indian Ocean.

Objectives

The cruise was planned to compare the region's hydrological structure and general biological features during the cruise period with those found on previous cruises. It was also planned to determine the total organic matter in the euphotic zone and to investigate long and short wave radiation in its relation to the energy budget of the ocean.

Itinerary

The cruise commenced at Fremantle on February 12 and worked four lines of stations in the region off north-west Australia, to Darwin. The cruise left Darwin March 2, worked a line of stations in the Banda and Java Seas to Singapore, thence south via Sunda Strait and worked a line of stations to North-West Cape, thence to Fremantle (Fig. 1).

Personnel

B. Newell (Cruise Leader 12/2/62-25/2/62)
D. Rochford (Cruise Leader 2/3/62-25/3/62)
F. Davies
N. Dyson

K. Fleming
J. Klye
C. Middleton
J. Stevenson (Division of Meteorological Physics)

The analyses of hydrological samples made in the ship's laboratory were carried out by Messrs Davies, Fleming and Klye, and the samples returned to Cronulla were analysed by Messrs Davies, Klye and Walker. The primary production samples were taken and incubated aboard by Mr Dyson, and the counts were made at Cronulla by Mr Scott. The samples for pigment determination were taken aboard by Mr Dyson, and the analyses were done at Cronulla by Mr Wootton. Counts of phytoplankton were made aboard by Mr Middleton, and the identifications were made at Cronulla by Mr E.J.F. Wood. The zooplankton samples were weighed at Cronulla by Mr D.J. Tranter.

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

II. WORK ACCOMPLISHED

Bathythermograph casts were made at 29 stations. The following samples were collected:

sub-surface hydrology	42 stations
primary production	42 stations
pigments	32 stations
zooplankton	23 stations
phytoplankton	39 stations

Table 1 shows the work done at each station.

TABLE 1

WORK DONE AT EACH STATION

Station Number	BT	Hydrology Deep	Primary Production	Pig-ments	Zoo-plankton	Phyto-plankton
1		+	+	+		+
2		+	+	+		+
3		+	+	+		+
4		+	+	+	+	+
5	+	+	+	+	+	+
6	+	+	+	+	+	+
7	+	+	+	+	+	+
8	+	+	+	+		+
9	+	+	+	+	+	+
10	+	+	+	+	+	+
11	+	+	+	+	+	+
12	+	+	+	+	+	+
13	+	+	+	+		+
14		+	+	+		
15		+	+	+		
16		+	+	+		+
17		+	+	+		+
18		+	+	+		
19	+	+	+	+		+
20	+	+	+	+		+
21	+	+	+	+		+
22		+	+	+		+
23		+	+	+		+
24		+	+	+		+
25	+	+	+	+		+
26	+	+	+	+	+	+
27	+	+	+	+		+
28	+	+	+	+	+	+
29*						
30	+	+	+	+	+	+
31	+	+	+	+	+	+
32	+	+	+	+	+	+

TABLE 1 Cont'd...

Station Number	BT	Hydrology Deep	Primary Production	Pig-ments	Zoo-plankton	Phyto-plankton
33	+	+	+	+	+	+
34	+	+	+		+	+
35	+	+	+		+	+
36	+	+	+		+	+
37	+	+	+		+	+
38	+	+	+		+	+
39	+	+	+		+	+
40	+	+	+		+	+
41	+	+	+		+	+
42		+	+			+
43	+	+	+		+	+

BT Bathythermograms
* This station was used for testing thermometers

III. METHOD 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° and unprotected thermometers with a range of -2° to 30°, or -4° to 60°. The accuracy of the temperatures is considered to be ± 0.03. The readings are recorded in degrees Celsius.

Bathythermograph.- A 900 ft bathythermograph was used at the stations indicated in Table 1. A photograph of each slide is 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 sigma-t given by the U.S. Hydrographic Office (1955).

2. Chemistry

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

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

Oxygen Saturation.- The saturation values were calculated by computer 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. At air temperatures less than 25° analyses were carried out in batches of 10; readings were commenced within 10 minutes of adding reagents, and completed within 10 minutes. At air temperatures greater than 25° batches of six were analysed; readings were commenced within 5 minutes of adding reagents and completed within 7 minutes. Each batch was compared with a distilled water blank and a 0.65 µg at./l standard in a Hilger Spekker absorptiometer using 4 cm cells and Ilford 608 filters. Each week a complete check was made using standards up to 3.25 µg at./l. Results are given as µg at.P/l without any correction for salt error and are precise to ± 10% for

values less than 0.5 µg at./l and ± 5% for higher values. If it is wished to correct for salt effects, the results given should be multiplied by 1.15.

Total Phosphorus.- 100 ml samples were drawn from the Nansen bottles into 150 ml Pyrex conical flasks, 0.2 ml of 72% perchloric acid was added, and digestion at 200°-250° 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, and 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 taken at sea were stored in plastic bottles and preserved with 2 drops of saturated $HgCl_2$. Nitrate was determined at Cronulla by the strychnidine method (Rochford 1947). The reagent was prepared by the addition of 0.64 g strychnidine to a litre of nitrate-free sulphuric acid. 5 ml of this reagent were added, with minimum agitation, to 5 ml sea water or standard nitrate solution. The standards were made up in a mixture of equal volumes of artificial sea water and nitrate-free sulphuric acid. The standards and samples were shaken to distribute the reagent, and the colour developed for 2 hours. The solutions were read in a UNICAM SP 600 spectrophotometer at a wavelength of 530 mµ using a 5 mm cell. Samples with an extinction 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

Water samples were aliquots of those taken in a 5 l plastic sampler for pigment measurements. Incubation was carried out

in a light bath at 1100 ft candles in 300 ml Pyrex bottles. The treatment of samples and calculation of results were as in Dyson, Jitts, and Scott (1965).

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 gel. The analyses were carried out at Cronulla using the method given by Humphrey (1960), except that 4 cm spectrophotometer cells were used.

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 5000 g in a continuous centrifuge (Davis 1957); each 5 l sample took 15 min. The residue in the cup was carefully washed into a graduated tube and diluted to 10 ml with sea water.

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 (Table 3).

6. Zooplankton

The samples were taken with a modified Clarke-Bumpus sampler carrying a net of No. 4 nylon (mesh aperture 260 μ). Average volume filtered was 22 m^3. Samples were weighed at Cronulla using the method described in Tranter (1962).

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IV. DATA SHEETS AND TABLES

The data were listed on an I.B.M. 1401. An explanation of the headings for each set of data sheets is given at the beginning of the relevant part.

DATA

PART 1

HYDROLOGY

DEEP STATIONS

EXPLANATION OF HEADINGS

Part 1 Hydrology - Deep Stations

STATION — Gives the station identification, for example, Dml/24/62 signifies the 24th station worked by Diamantina in 1962, on her 1st cruise for that year.

DATE — Given as day/month/year.

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

TABLE 2

CODE FOR TIME ZONES

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

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

LATITUDE LONGITUDE — Given in degrees and minutes.

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

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

WIND DIR. SP. — 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, 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 given in millibars.
WIRE ANGLES CAST 1 CAST 2	Wire angles are measured at the surface and expressed in degrees for each cast. An asterisk indicates that the wire angle was not measured.
CAST	The cast number corresponding to the wire angle is shown.
DEPTH	Actual sampling depth, given in metres.
TEMPERATURE	Sea temperatures recorded in °C.
SALINITY	Given in parts per thousand.
OXYGEN	Given in ml/l.
INORG. P, TOTAL P and NITRATE	Given in µg at./l.
***	Indicates no data available

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 1/62	13/ 2/62	0900 H	32 02 S	111 31 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
4755	15.6	19.4	14	03	16	*	*	*	01	3	*	*	1010.2	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	22.20	35.764	24.76	4.57	99	0.10	0.26	00.4
2	23	***	35.817	***	***	***	0.10	***	***
2	46	21.30	35.880	25.10	5.01	107	0.07	0.30	00.0
2	69	***	35.843	***	***	***	0.20	***	***
2	92	17.16	35.805	26.11	4.90	97	0.20	0.32	00.0
2	113	16.21	35.749	26.29	5.29	103	0.26	***	00.4
2	135	15.24	35.661	26.45	5.14	98	0.26	***	01.7
2	180	13.95	35.472	26.58	5.35	99	0.39	0.49	03.7
2	226	12.69	35.268	26.68	5.37	97	0.49	***	02.6
2	271	11.57	35.088	26.76	5.14	91	0.62	0.69	08.3
2	362	9.81	34.829	26.87	5.47	93	0.82	***	11.7
2	452	9.19	34.740	26.90	5.52	92	0.94	1.10	15.6
2	632	7.98	34.581	26.97	5.15	83	1.20	1.36	22.6
2	724	6.58	34.486	27.09	4.71	74	1.43	***	***
2	814	5.32	34.434	27.21	4.60	70	1.63	1.75	28.6
2	905	4.54	34.412	27.28	4.67	70	1.78	***	***
2	996	4.00	34.429	27.35	4.09	60	1.84	2.09	30.6

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 2/62	15/ 2/62	2013 H	20 23 S	116 04 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
37	25.0	27.8	06	05	16	*	*	4	*	*	04	1	1004.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.04	35.390	22.70	4.28	102	0.17	0.36	00.0
1	10	27.93	35.392	22.73	4.39	104	0.17	0.36	00.4
1	20	27.92	35.388	22.73	4.27	102	0.17	0.39	00.0
1	30	27.92	35.389	22.73	4.39	104	0.17	0.62	00.0

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 3/62	16/ 2/62	0810 H	19 36 S	117 52 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
59	25.0	28.9	11	03	16	*	*	*	03	0	03	1	1007.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.43	35.184	22.41	4.35	104	0.13	0.78	00.6
1	10	28.39	35.189	22.43	4.39	105	0.13	0.49	00.9
1	20	28.38	35.189	22.43	4.07	97	0.17	0.94	00.6
1	30	26.16	35.123	23.10	3.98	92	0.32	1.14	00.7
1	40	25.87	35.102	23.17	3.95	91	0.36	0.84	01.3
1	50	25.85	35.103	23.18	***	***	0.32	0.46	01.2

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 4/62	16/ 2/62	1730 H	17 58 S	117 08 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
1928	24.4	28.9	35	01	16	*	*	*	*	*	32	0	1004.5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.62	34.989	22.20	4.31	103	0.10	0.26	00.0
2	23	***	34.979	***	***	***	0.13	***	***
2	47	27.87	34.958	22.43	4.46	106	0.10	0.26	00.0
2	70	***	34.870	***	***	***	0.20	***	***
2	94	22.99	35.008	23.96	4.10	90	0.26	0.62	00.9
2	118	22.32	35.104	24.23	4.07	88	0.39	***	01.6
2	141	21.89	35.138	24.37	3.74	80	0.36	***	03.1
2	189	17.62	34.967	25.36	2.90	58	0.81	1.01	11.3
2	237	14.74	34.847	25.92	2.68	47	1.14	***	15.4
2	285	12.52	34.760	26.32	2.42	43	1.20	1.56	11.8
2	382	10.58	34.833	26.74	3.40	59	1.14	***	13.6
2	479	9.00	34.713	26.91	3.35	56	1.49	2.07	12.5
2	674	6.81	34.626	27.17	2.40	38	1.91	2.35	17.4
2	772	6.07	34.623	27.27	2.22	34	2.00	***	15.6
1	870	5.68	34.635	27.33	2.16	33	2.13	2.13	18.6
1	967	5.23	34.626	27.37	2.13	32	2.13	***	19.5
1	1065	4.88	34.630	27.42	2.18	33	2.13	2.16	20.7
1	1163	***	34.634	***	2.20	***	2.03	***	15.9
1	1260	4.26	34.642	27.50	2.26	34	2.03	2.26	15.0
1	1358	3.93	34.656	27.54	2.43	36	2.09	***	15.9
1	1456	3.57	34.672	27.59	2.52	37	2.07	2.22	20.5
1	1847	2.61	34.721	27.72	3.08	44	2.01	2.22	18.9

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 5/62	17/ 2/62	0243 H	16 48 S	116 43 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
2195	24.4	27.2	35	02	16	*	*	*	*	*	31	0	1007.5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	27.48	34.580	22.27	4.55	107	0.13	0.30	00.0
2	25	***	34.576	***	***	***	0.17	***	***
2	50	26.52	34.603	22.59	4.61	107	0.17	0.30	00.4
2	75	***	34.742	***	***	***	0.56	***	***
2	99	23.29	35.017	23.88	4.08	90	0.26	0.30	00.1
2	123	22.69	35.167	24.17	3.93	86	0.39	***	00.4
2	148	22.33	35.196	24.29	3.74	81	0.33	***	01.9
2	197	18.90	35.279	25.28	3.48	71	0.45	0.72	07.9
2	247	15.94	35.254	25.97	4.04	78	0.75	***	09.9
2	296	13.17	35.082	26.44	3.00	55	0.84	0.97	13.2
2	394	10.66	34.903	26.78	4.13	71	1.01	***	14.5
2	493	9.00	34.728	26.93	4.16	69	1.30	1.30	16.1
2	690	6.68	34.627	27.19	2.40	38	2.01	1.97	22.7
2	788	6.01	34.626	27.28	2.14	33	2.16	***	***
1	887	5.85	34.628	27.30	2.16	33	2.20	2.13	21.9
1	985	5.27	34.629	27.37	2.20	33	2.26	***	***
1	1084	4.95	34.629	27.41	2.26	34	2.26	2.13	20.5
1	1183	4.80	34.632	27.43	2.23	34	2.20	***	***
1	1281	4.43	34.668	27.50	2.46	35	2.20	2.10	21.6
1	1380	4.25	34.699	27.55	2.54	36	2.20	***	***
1	1478	3.96	34.674	27.56	2.65	37	2.20	2.10	20.7
1	1970	2.86	34.731	27.71	3.22	44	2.13	2.07	18.4

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 6/62	17/ 2/62	1138 H	15 18 S	116 08 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
5577	27.8	29.4	29	01	16	*	*	*	*	*	24	2	1005.5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
3	0	28.49	34.483	21.87	4.40	100	0.17	0.32	00.0
3	25	***	34.477	***	***	***	0.20	***	***
3	50	27.53	34.431	22.14	4.44	104	0.20	0.26	00.0
3	75	***	34.475	***	***	***	0.49	***	***
3	100	23.58	34.501	23.41	3.40	75	0.56	0.72	05.7
3	125	21.50	34.539	24.03	3.32	71	0.81	***	08.2
3	150	20.04	34.563	24.44	2.86	59	0.84	***	10.0
3	200	16.78	34.701	25.36	2.79	54	1.10	1.17	12.5
3	250	13.63	34.566	25.95	2.47	45	1.40	***	17.6
3	300	11.88	34.546	26.28	2.35	41	1.52	1.56	16.9
2	388	10.78	34.804	26.68	3.07	53	1.52	***	15.5
2	485	9.07	34.712	26.90	3.34	56	1.52	1.56	18.8
2	672	6.59	34.619	27.20	2.16	32	2.13	2.09	25.7
2	780	6.06	34.623	27.27	2.02	31	2.26	***	***
2	880	5.58	34.627	27.33	2.07	32	2.26	2.20	24.1
2	980	5.09	34.623	27.39	2.13	32	2.29	***	***
2	1080	4.71	34.626	27.43	2.18	33	2.29	2.32	25.7
1	1115	4.72	34.627	27.43	2.12	32	2.20	***	***
1	1210	4.41	34.599	27.45	2.54	38	1.84	1.84	17.1
1	1307	4.10	34.638	27.51	2.28	34	2.26	***	***
1	1402	3.84	***	***	***	***	***	***	***
1	1882	2.70	***	***	***	***	***	***	***
1	2360	2.06	34.721	27.77	3.10	43	1.65	1.65	16.2
1	2840	1.76	34.721	27.79	3.08	43	2.16	2.01	24.5
1	3320	1.49	34.733	27.82	3.77	52	2.07	2.09	21.4
1	3800	1.28	34.729	27.83	3.22	44	2.13	2.09	21.8
1	4278	1.18	34.728	27.84	4.05	55	2.01	1.88	***
1	4757	1.20	34.734	27.84	4.15	57	2.01	1.94	22.1
1	5236	1.20	34.732	27.84	4.32	59	1.97	2.01	22.9

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 7/62	18/ 2/62	0145 H	13 29 S	115 23 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
5486	24.4	27.2	28	03	16	*	*	*	*	*	29	2	1005.8	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	27.61	34.635	22.27	4.50	106	0.20	0.33	00.0
2	25	***	34.618	***	***	***	0.17	***	***
2	50	26.96	34.601	22.42	4.65	103	0.17	0.30	00.0
2	75	***	34.683	***	***	***	0.20	***	***
2	99	21.49	34.522	24.00	3.42	70	0.69	0.84	12.1
2	124	19.76	34.605	24.54	2.71	56	0.91	***	15.2
2	147	18.44	34.655	24.92	2.76	56	0.91	***	19.2
2	196	14.57	34.566	25.75	2.50	47	1.33	1.37	26.8
2	245	12.93	34.596	26.11	2.38	43	1.37	***	28.8
2	295	12.33	34.825	26.41	2.80	50	1.14	1.37	25.0
2	393	10.20	34.798	26.78	3.36	57	1.27	***	24.0
2	491	8.70	34.687	26.94	3.36	55	1.46	1.56	30.0
2	688	7.83	34.627	27.03	2.10	34	1.97	2.07	35.1
2	785	7.15	34.618	27.12	1.96	31	2.04	***	***
2	883	5.66	34.618	27.32	1.98	30	2.04	2.23	37.5
2	982	5.11	34.606	27.37	2.12	32	2.07	***	***
2	1080	4.75	34.605	27.41	2.14	32	2.13	2.26	38.7
1	1178	4.45	34.620	27.46	2.28	34	2.13	***	***
1	1276	4.18	34.622	27.49	2.30	34	2.13	2.23	38.7
1	1374	3.87	34.640	27.54	2.37	35	2.13	***	***
1	1473	3.56	34.663	27.58	2.54	37	2.13	2.23	40.2
1	1962	2.50	34.727	27.73	3.04	43	2.04	2.17	38.1
1	2453	2.00	34.728	27.78	3.51	49	1.94	2.07	36.6
1	2944	1.67	34.730	27.80	3.72	52	2.01	2.11	38.1
1	3437	1.37	34.722	27.82	4.01	55	2.01	2.04	38.7
1	3930	1.24	34.716	27.82	***	***	1.81	2.01	39.0
1	4424	1.19	34.714	27.82	4.41	60	1.81	1.94	36.0
1	4919	1.22	34.716	27.82	4.35	60	1.81	2.01	38.1
1	5216	1.20	34.719	27.83	4.40	60	1.81	1.94	34.5

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 8/62	18/ 2/62	1710 H	11 40 S	114 41 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
4572	25.0	26.7	30	06	16	*	*	*	*	*	30	4	1005.5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.52	34.443	21.83	4.56	109	0.17	0.30	00.0
2	25	28.16	34.563	22.04	***	***	0.17	***	***
2	50	27.80	34.631	22.20	4.50	106	0.17	0.32	00.0
2	75	24.75	34.768	23.26	***	***	0.49	***	***
2	100	21.70	34.487	23.93	3.08	66	0.72	0.91	08.9
2	125	19.36	34.600	24.64	2.65	54	0.91	***	12.6
2	150	17.66	34.604	25.07	2.54	48	1.01	***	14.1
2	200	14.02	34.585	25.88	2.35	43	1.24	1.52	18.6
2	250	12.44	34.601	26.22	1.95	35	1.52	***	21.0
2	300	10.91	34.581	26.49	2.02	35	1.59	1.75	22.6
2	400	9.47	34.660	26.80	2.06	35	1.69	***	25.2
2	500	8.18	34.632	26.98	2.38	39	1.78	1.97	26.9
2	700	6.68	34.606	27.17	2.12	33	2.01	2.17	27.0
2	800	5.96	34.597	27.26	2.09	32	2.04	***	***
2	900	5.48	34.610	27.33	2.13	33	2.07	2.17	29.9
2	1000	4.94	34.602	27.39	2.24	34	2.11	***	***
2	1100	4.64	34.606	27.43	2.22	33	2.13	2.32	30.0
1	1142	4.64	34.612	27.43	2.26	34	2.13	***	***
1	1237	4.35	34.629	27.48	2.33	35	2.13	2.26	29.4
1	1333	3.97	34.652	27.53	2.46	36	2.01	***	***
1	1439	3.66	34.722	27.62	2.43	36	2.11	2.26	30.7
1	1910	2.48	34.729	27.74	3.06	43	2.07	2.17	29.4
1	2400	1.97	34.733	27.78	3.42	48	2.01	2.04	30.3
1	2873	1.66	34.737	27.82	3.82	51	2.04	2.10	28.7
1	3358	1.40	34.725	27.82	4.08	56	1.91	2.07	28.0
1	3843	1.16	34.715	27.83	4.40	60	1.88	1.94	26.4
1	4134	1.16	34.714	27.83	4.50	62	1.88	1.93	24.3

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 9/62	19/ 2/62	0442 H	09 59 S	113 58 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
3109	24.4	27.2	21	02	16	*	*	*	*	*	21	2	1008.8	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	27.80	34.626	22.20	4.43	101	0.10	0.26	00.0
2	25	27.70	34.631	22.24	***	***	0.17	***	***
2	50	27.59	34.592	22.24	4.55	107	0.17	0.30	00.0
2	75	24.42	34.622	23.25	***	***	0.26	***	***
2	100	22.08	34.628	23.93	3.28	70	0.65	0.78	07.0
2	125	19.03	34.609	24.73	2.49	51	1.04	***	12.2
2	150	17.38	34.602	25.14	2.46	47	1.04	***	10.1
2	200	14.38	34.640	25.85	2.20	41	1.37	1.44	16.1
2	250	11.74	34.602	26.35	3.85	68	1.56	***	20.5
2	300	10.51	34.598	26.57	2.09	34	1.56	1.69	18.1
2	400	9.30	34.645	26.81	2.02	34	1.71	***	15.5
2	500	8.29	34.646	26.97	1.93	32	1.91	1.94	15.3
2	700	6.70	34.643	27.20	1.88	30	2.07	2.07	16.6
2	800	5.85	34.616	27.29	2.02	31	2.10	***	***
1	890	5.39	34.603	27.34	3.00	44	2.17	2.20	***
1	990	5.25	34.624	27.37	2.14	33	2.20	***	***
1	1088	4.75	34.610	27.42	2.27	34	2.13	2.17	17.2
1	1187	4.98	34.620	27.40	2.12	32	2.20	***	***
1	1286	5.99	34.640	27.52	2.35	35	2.20	2.17	17.7
1	1385	3.74	34.662	27.57	2.40	34	2.20	***	***
1	1484	3.30	34.694	27.64	2.64	37	2.17	2.17	18.0
1	1978	2.29	34.735	27.76	3.22	45	2.04	2.06	22.8
1	2473	1.88	34.727	27.80	3.51	47	2.04	2.04	22.8
1	2968	1.71	34.720	27.79	3.64	51	1.97	2.04	18.0

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 10/62	20/ 2/62	0608 H	10 51 S	119 13 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
3794	25.3	27.8	21	04	16	*	*	*	*	*	21	2	1008.5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.39	34.324	21.78	4.40	105	0.20	0.30	00.5
2	25	28.13	34.323	21.86	***	***	0.20	***	***
2	49	27.87	34.434	22.03	4.49	106	0.17	0.35	00.2
2	74	25.83	34.488	22.72	***	***	0.30	***	***
2	98	23.78	34.555	23.39	3.42	76	0.58	0.72	06.1
2	123	21.45	34.533	24.04	2.90	62	0.84	***	09.6
2	144	19.03	34.676	24.79	2.33	47	1.01	***	12.5
2	196	14.99	34.643	25.72	2.58	48	1.27	1.33	13.8
2	245	12.81	34.548	26.10	2.40	43	1.49	***	15.2
2	294	11.32	34.547	26.38	2.32	40	1.49	1.56	18.7
2	392	9.30	34.569	26.75	2.22	37	1.75	***	18.7
2	491	8.28	34.609	26.95	2.30	38	1.84	1.94	20.5
2	688	6.62	34.626	27.20	1.98	31	2.10	***	20.2
2	787	5.74	34.598	27.29	2.12	33	2.17	2.26	***
2	886	5.36	34.593	27.33	2.18	33	2.17	***	21.6
2	985	4.89	34.605	27.40	2.24	34	2.20	2.13	***
1	1084	4.55	34.603	27.43	2.26	34	2.20	***	22.5
1	1183	4.24	34.610	27.47	2.32	34	2.20	2.26	***
1	1283	4.06	34.620	27.50	2.36	35	2.20	***	28.2
1	1382	3.71	34.669	27.57	2.45	36	2.17	2.26	***
1	1482	3.39	34.674	27.61	2.59	38	2.17	***	17.9
1	1981	2.40	34.733	27.75	3.16	45	2.17	2.20	20.7
1	2480	1.94	34.729	27.78	3.46	48	2.10	2.20	20.2
1	2979	1.67	34.723	27.80	3.76	52	2.04	2.20	17.9
1	3478	1.34	34.719	27.82	3.96	13	2.01	2.03	18.4
1	3978	1.11	34.713	27.83	4.35	59	1.91	1.97	19.8

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 11/62	20/ 2/62	1902 H	12 29 S	119 35 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
4389	25.6	27.8	21	02	16	*	*	*	21	0	21	0	1009.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.42	34.438	21.86	4.55	108	0.13	0.26	00.0
2	24	28.32	34.436	21.89	***	***	0.17	***	***
2	49	28.21	34.421	21.91	4.44	105	0.17	0.32	00.0
2	74	26.37	34.542	22.59	***	***	0.36	***	***
2	98	24.53	34.537	23.15	3.58	80	0.39	0.55	02.5
2	122	21.63	34.488	23.95	3.18	68	0.73	***	10.9
2	147	19.18	34.528	24.63	2.84	58	0.88	***	13.6
2	195	16.16	34.568	25.40	2.82	54	1.10	1.14	15.9
2	244	13.47	***	***	2.76	***	1.37	***	19.3
2	294	11.74	34.560	26.32	2.32	41	1.43	1.49	23.0
2	392	9.36	34.559	26.73	2.24	37	1.65	***	23.0
2	489	8.24	34.595	26.94	2.32	38	1.78	1.91	24.5
2	685	6.80	34.587	27.14	2.14	34	1.97	2.07	25.7
2	783	6.06	34.589	27.24	2.12	33	2.04	***	28.2
2	880	5.57	34.592	27.31	2.15	33	2.06	2.17	25.6
2	971	5.05	34.595	27.37	2.24	34	2.13	***	***
2	1077	4.72	34.604	27.42	2.26	34	2.10	2.10	26.3
1	1149	4.37	34.621	27.47	2.29	33	2.13	***	***
1	1245	4.15	34.619	27.49	2.33	34	2.17	2.17	27.6
1	1340	3.79	34.638	27.55	2.40	34	2.13	***	***
1	1434	3.52	34.668	27.59	2.48	36	2.10	2.10	30.4
1	1915	2.53	34.719	27.72	3.10	44	2.07	2.10	25.9
1	2395	2.02	34.731	27.78	3.43	48	1.97	1.59	28.9
1	2877	1.68	34.725	27.80	3.74	52	1.97	2.04	26.8
1	3363	1.40	34.725	27.82	4.03	55	1.94	2.01	26.8
1	3853	1.15	34.717	27.83	4.29	59	1.85	1.97	23.9
1	4150	1.12	34.705	27.82	4.36	60	1.88	1.86	27.1

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 12/62	21/ 2/62	0608 H	14 19 S	120 33 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
2560	26.7	28.3	18	01	16	*	*	*	21	0	21	0	1008.2	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	27.55	34.415	22.12	4.46	105	0.10	0.30	00.0
2	25	27.29	34.409	22.20	***	***	0.17	***	***
2	50	27.03	34.444	22.31	4.40	102	0.13	0.26	00.0
2	75	25.07	34.528	22.99	***	***	0.39	***	***
2	99	23.11	34.648	23.66	3.51	77	0.52	0.62	00.0
2	124	21.08	34.601	24.19	3.01	63	0.81	***	07.8
2	149	19.51	34.707	24.69	2.74	56	0.84	***	10.1
2	198	14.87	34.652	25.75	2.38	45	1.24	1.30	15.9
2	248	12.53	34.640	26.23	2.47	44	1.46	***	17.5
2	297	10.79	34.611	26.53	2.36	41	1.49	1.62	21.8
2	397	9.02	34.607	26.83	2.42	40	1.68	***	22.8
2	496	8.10	34.600	26.97	2.30	37	1.88	1.94	24.8
2	695	6.39	34.597	27.21	2.16	34	2.10	2.10	29.3
2	794	5.87	34.607	27.28	2.14	33	2.10	***	29.8
1	887	5.47	34.606	27.33	2.23	34	2.13	2.10	31.1
1	986	***	34.601	***	2.26	***	2.17	***	***
1	1085	4.69	34.621	27.43	2.25	34	2.17	2.23	28.6
1	1183	4.34	34.617	27.47	2.35	35	2.19	***	***
1	1282	4.10	34.626	27.50	2.26	33	2.19	2.23	30.9
1	1381	3.73	34.646	27.55	2.50	37	2.17	***	***
1	1480	3.42	34.672	27.61	2.62	38	2.17	2.18	30.9
1	1978	2.37	34.751	27.76	3.24	46	2.07	2.13	29.3

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 13/62	21/ 2/62	1321 H	15 08 S	121 00 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
375	27.8	30.3	21	03	16	*	*	7	21	0	18	1	1005.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.29	34.417	21.88	4.52	102	0.10	0.36	00.6
1	25	***	34.407	***	***	***	0.20	***	***
1	50	27.21	34.360	22.19	4.36	102	0.17	0.32	00.6
1	75	***	34.511	***	***	***	0.17	***	***
1	100	23.35	34.703	23.63	3.66	80	0.17	0.62	05.4
1	125	21.74	34.519	23.95	3.09	66	0.78	***	14.0
1	150	20.32	34.594	24.39	2.84	59	0.82	***	16.0
1	200	15.67	34.643	25.57	2.60	50	1.17	1.31	22.2
1	250	14.78	34.622	25.75	2.48	46	1.33	***	25.6
1	300	11.43	34.571	26.38	2.24	39	1146	1.56	39.6

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 14/62	21/ 2/62	1910 H	16 15 S	121 16 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
62	27.2	28.3	17	02	16	*	*	7	17	0	21	1	1006.2	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.08	34.717	22.18	4.65	110	0.17	0.36	00.0
1	10	27.98	34.707	22.20	4.50	107	0.17	0.49	00.0
1	20	27.47	34.630	22.30	4.52	99	0.17	0.49	00.0
1	30	26.20	34.613	22.70	4.15	95	0.30	0.52	00.7
1	40	25.54	34.631	22.92	3.83	87	0.43	0.58	02.4
1	50	25.07	34.633	23.06	3.82	86	0.49	0.58	04.0

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 15/62	22/ 2/62	0237 H	15 31 S	122 44 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
73	26.1	28.9	33	02	16	*	*	7	33	0	24	1	1006.2	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	27.93	34.833	22.31	4.70	111	0.17	0.46	00.0
1	10	27.85	34.831	22.34	4.65	110	0.17	0.36	00.6
1	20	26.90	34.835	22.65	4.62	108	0.20	0.43	00.5
1	30	24.66	34.722	23.26	3.64	82	0.56	0.78	04.4
1	40	24.32	34.696	23.34	3.37	75	0.62	0.78	06.0
1	50	24.32	34.689	23.33	3.42	76	0.62	0.78	06.1
1	60	24.31	34.694	23.35	3.42	74	0.62	0.78	05.8

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 16/62	22/ 2/62	0956 H	15 00 S	124 12 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
55	26.1	28.9	01	02	16	*	*	7	01	0	*	*	1005.8	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.60	34.640	21.95	4.35	104	0.26	0.39	00.6
1	10	28.44	34.638	22.00	4.60	110	0.26	0.39	00.4
1	20	28.10	34.663	22.13	4.14	98	0.30	0.46	00.0
1	30	26.98	34.723	22.54	3.71	86	0.49	0.58	01.3
1	40	26.34	34.717	22.74	3.49	81	0.62	0.72	03.1
1	50	26.40	34.719	22.72	3.50	81	0.78	1.01	03.2

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 17/62	22/ 2/62	1737 H	14 00 S	125 15 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
57	26.1	28.9	02	03	16	*	*	7	*	*	*	*	1004.5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.46	34.473	21.87	4.66	111	0.20	0.39	00.0
1	10	28.38	34.477	21.90	4.82	115	0.17	0.39	00.4
1	20	28.33	34.548	21.97	4.74	113	0.17	0.39	00.4
1	30	27.50	34.719	22.36	4.59	103	0.26	0.43	00.0
1	40	25.53	34.735	23.00	3.52	80	0.62	0.78	03.4
1	50	25.53	34.733	23.00	3.43	78	0.65	0.75	03.7

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 18/62	23/ 2/62	0026 H	12 39 S	124 39 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
71	26.1	27.8	02	02	16	*	*	7	*	*	*	*	1004.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.10	34.594	22.08	4.81	114	0.17	0.36	00.0
1	10	27.94	34.596	22.13	4.75	112	0.17	0.36	00.7
1	20	27.96	34.601	22.13	4.65	110	0.17	0.36	00.0
1	30	27.96	34.608	22.13	4.65	110	0.20	***	00.0
1	40	27.64	34.640	22.26	4.56	107	0.17	***	00.4
1	50	26.95	34.625	22.46	4.51	100	0.26	0.39	02.4
1	60	26.04	***	***	4.12	***	0.36	0.49	02.0

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 17 19/62	23/ 2/62	0755 H	11 12 S	124 07 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
914	27.2	30.0	32	02	16	*	*	7	32	0	20	1	1005.1	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INCRG. P	TOTAL P	NITRATE
1	0	28.93	34.444	21.69	4.37	105	0.13	0.32	***
1	25	***	34.444	***	***	***	0.20	***	00.0
1	50	28.03	34.556	22.07	4.22	100	0.20	0.36	***
1	75	***	34.505	***	***	***	0.36	***	00.0
1	100	24.25	34.502	23.21	2.86	64	0.69	0.81	06.1
1	125	22.42	34.505	23.74	3.08	66	0.72	***	06.3
1	150	18.69	34.572	24.79	2.82	57	0.88	***	07.7
1	200	16.18	34.577	25.40	2.90	56	1.01	1.10	09.7
1	250	13.34	34.553	26.00	2.67	49	1.31	***	15.4
1	300	11.70	34.550	26.32	2.41	42	1.37	1.33	16.6
1	400	9.34	34.559	26.74	2.28	38	1.62	***	18.6
1	500	8.33	34.568	26.91	2.19	36	1.84	1.88	20.0
1	700	6.59	34.585	27.16	2.28	34	1.94	1.97	24.9
1	800	6.08	34.585	27.24	2.30	36	1.94	***	23.7
1	900	5.49	34.594	27.32	2.28	35	1.94	2.17	30.0

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 20/62	23/ 2/62	1909 H	10 00 S	125 55 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
1646	25.6	28.9	*	*	16	*	*	7	*	*	14	1	1003.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.83	34.485	21.76	4.46	107	0.17	0.32	00.0
2	23	***	34.509	***	***	***	0.17	***	***
2	46	28.58	34.505	21.85	4.44	99	0.20	0.36	00.0
2	69	***	34.503	***	***	***	0.20	***	***
2	92	27.52	34.566	22.25	4.01	94	0.30	0.39	03.1
2	113	23.29	34.495	23.49	3.32	73	0.58	***	06.9
2	135	19.30	34.558	24.63	2.88	59	0.81	***	09.6
2	181	16.90	34.588	25.24	2.86	56	1.00	1.17	13.7
2	230	14.77	34.574	25.71	2.68	50	1.20	***	16.6
2	276	13.05	34.556	26.06	2.48	45	1.24	1.43	19.2
2	370	10.16	34.558	26.60	2.29	39	1.63	***	23.4
2	465	8.86	34.564	26.82	2.24	37	1.75	1.75	24.8
2	655	6.92	34.573	27.11	2.16	34	1.90	2.01	27.3
2	752	5.99	34.583	27.25	2.23	34	1.97	***	***
1	802	5.84	34.587	27.27	2.18	34	1.97	2.13	30.0
1	894	5.32	34.594	27.34	2.28	35	2.00	***	***
1	985	4.98	34.601	27.39	2.24	32	2.04	2.10	31.8
1	1076	4.68	34.603	27.42	2.24	34	2.10	***	***
1	1168	4.45	34.612	27.45	2.32	35	2.04	2.10	30.9
1	1262	4.02	34.623	27.51	2.36	35	2.17	***	***
1	1356	3.82	34.632	27.53	2.42	35	2.13	2.01	30.3

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 21/62	24/ 2/62	0710 H	08 55 S	127 46 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
2103	26.7	28.9	19	02	16	*	*	7	*	*	*	*	1004.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.48	34.372	21.79	4.33	103	0.17	0.32	00.0
2	25	***	34.380	***	***	***	0.20	***	***
2	50	28.36	34.401	21.85	4.36	99	0.17	0.36	00.0
2	75	***	34.474	***	***	***	0.39	***	***
2	99	24.36	34.428	23.12	3.31	74	0.58	0.75	07.2
2	124	21.02	34.516	24.14	2.75	58	0.81	***	09.5
2	148	19.47	34.544	24.57	2.51	49	0.95	***	11.9
2	197	17.28/	34.580	25.14	2.64	52	1.01	1.17	13.0
2	247	14.17	34.572	25.84	2.64	49	1.24	***	18.2
2	296	12.09	34.550	26.24	2.40	43	1.37	1.56	20.0
2	395	9.36	34.527	26.71	2.32	39	1.68	***	28.5
2	496	7.93	34.559	26.96	2.18	34	1.82	2.04	28.8
2	691	6.67	34.568	27.15	2.18	34	1.91	2.13	30.3
2	790	5.78	34.577	27.27	2.15	33	2.01	***	***
1	884	5.59	34.580	27.29	2.22	34	2.04	2.39	30.3
1	982	5.14	34.593	27.36	2.26	34	2.04	***	***
1	1080	4.70	34.599	27.41	2.30	34	2.10	2.23	31.2
1	1178	4.45	34.607	27.45	2.32	35	2.10	***	***
1	1277	4.03	34.613	27.50	2.32	34	2.10	2.26	31.2
1	1375	3.70	34.626	27.54	2.38	35	2.17	***	***
1	1473	3.58	34.642	27.57	2.42	35	2.17	2.30	31.5
1	1966	2.83	34.707	27.69	2.82	40	2.10	2.24	30.3

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 22/62	24/ 2/62	1515 H	10 07 S	128 25 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
***	26.7	29.4	24	02	16	*	*	8	*	*	*	*	1002.4	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.96	34.412	21.66	4.55	109	0.20	0.39	00.0
1	10	28.45	34.434	21.84	4.50	107	0.17	0.32	00.0
1	20	28.32	34.510	21.94	4.31	102	0.17	0.39	00.0
1	30	27.58	34.459	22.15	4.21	99	0.26	0.43	00.0
1	40	27.24	34.453	22.25	3.90	91	0.32	0.46	00.1
1	50	27.09	34.466	22.31	3.82	89	0.39	0.56	00.2
1	60	26.50	34.475	22.49	3.58	79	0.49	0.69	00.2

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 23/62	2/ 3/62	1616 H	11 29 S	129 19 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
55	26.7	29.4	29	05	16	*	*	*	28	0	*	*	1005.5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.99	34.736	21.89	4.57	105	0.20	0.36	00.0
1	10	28.96	34.736	21.90	4.35	100	0.17	0.39	00.0
1	20	28.94	34.733	21.90	4.36	100	0.17	0.32	00.0
1	30	28.85	34.735	21.94	4.30	104	0.17	0.32	00.0
1	40	28.85	34.735	21.94	4.23	102	0.17	0.58	00.0
1	50	28.87	34.741	21.93	4.25	102	0.17	0.32	00.0

STATION	DATE	TIME	LATITUDE	LONGITUDE
OM 1/ 24/62	2/ 3/62	2148 H	10 31 S	128 50 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
250	25.6	28.9	28	04	16	*	*	7	27	0	25	0	1010.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.48	34.578	21.94	4.64	111	0.20	0.39	00.0
1	10	28.41	34.568	21.96	4.60	110	0.17	0.39	00.0
1	20	28.22	34.567	22.02	4.27	101	0.17	0.39	00.0
1	30	27.97	34.568	22.10	4.04	96	0.27	0.46	00.0
1	40	27.68	34.564	22.19	3.66	86	0.36	0.52	02.7
1	50	27.57	34.564	22.23	3.46	81	0.46	0.62	06.8
1	60	27.36	34.560	22.29	3.22	75	0.50	0.62	08.7

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 25/62	3/ 3/62	1544 H	07 45 S	128 50 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
280	26.1	29.2	29	04	16	*	*	7	29	0	28	0	1010.5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.25	34.084	21.65	4.40	104	0.20	0.26	00.0
2	25	***	34.026	***	***	***	0.17	***	***
2	50	27.43	34.157	21.97	4.35	102	0.17	0.30	00.0
2	75	***	34.305	***	***	***	0.49	***	***
2	100	23.26	34.468	23.48	3.22	70	0.69	0.72	06.5
2	125	20.55	34.584	24.32	2.92	61	0.91	***	09.4
2	150	18.68	34.575	24.80	2.78	56	1.01	***	09.5
2	200	15.82	34.593	25.49	2.60	50	1.27	1.24	16.6
2	250	14.40	34.609	25.81	2.38	43	1.40	***	16.0
2	300	12.72	34.571	26.14	2.28	41	1.46	1.49	19.8
2	400	9.34	34.526	26.71	2.24	37	1.71	***	22.4
2	500	8.21	34.536	26.90	2.23	36	1.94	1.88	27.6
2	700	6.47	34.565	27.17	2.19	34	2.10	1.94	30.3
2	800	5.85	34.585	27.27	2.12	33	2.18	***	***
2	900	5.18	34.588	27.35	2.20	33	2.18	2.10	31.2
2	1000	4.81	34.595	27.40	2.23	34	2.18	***	***
2	1100	4.40	34.603	27.45	2.26	34	2.13	2.17	28.2
1	1174	4.23	34.597	27.46	2.28	34	2.26	***	***
1	1271	4.00	34.603	27.49	2.25	33	2.23	2.17	31.2
1	1370	3.84	34.607	27.51	2.28	33	2.26	***	***
1	1467	3.78	34.609	27.52	2.27	33	2.26	2.17	30.0
1	1959	3.25	34.609	27.57	2.30	33	2.26	2.17	28.5
1	2450	3.11	34.616	27.59	2.32	33	2.17	2.17	30.0
1	2941	3.08	34.613	27.59	2.31	33	2.36	2.20	28.5
1	3431	3.12	34.613	27.59	2.30	33	2.29	2.26	30.3
1	3628	3.10	34.617	27.59	2.18	31	2.29	2.20	31.5

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 26/62	4/ 3/62	0700 H	05 57 S	130 53 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
6675	26.1	27.8	30	04	16	*	*	7	*	*	28	1	1011.2	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.17	34.256	21.80	4.21	100	0.13	0.30	00.9
2	24	28.15	34.221	21.78	***	***	0.20	***	***
2	48	28.12	34.249	21.81	4.23	100	0.13	0.32	00.8
2	72	25.54	34.176	22.58	***	***	0.26	***	***
2	96	22.95	34.460	23.56	3.24	71	0.58	0.69	07.1
2	121	21.42	34.531	24.04	3.41	72	0.81	***	10.7
2	145	19.87	34.552	24.47	2.78	57	0.81	***	15.2
2	193	16.78	34.572	25.26	2.47	48	1.07	1.17	17.0
2	241	14.44	34.585	25.79	2.23	42	1.37	***	20.8
2	289	11.83	34.599	26.33	2.14	38	1.46	1.56	22.0
2	386	9.23	34.584	26.78	2.13	36	1.78	***	24.6
2	482	8.29	34.589	26.93	2.20	36	1.88	1.82	30.0
2	676	6.69	34.577	27.15	2.18	34	2.00	2.13	28.2
2	869	5.20	34.590	27.35	2.15	33	2.10	2.26	32.1
2	1063	4.80	34.596	27.40	2.18	33	2.17	2.26	33.3
2	1257	4.10	34.601	27.48	2.23	33	2.17	2.29	33.3
2	1452	3.71	34.601	27.53	2.30	32	2.20	2.39	32.7
1	1940	3.24	34.613	27.58	2.28	33	2.20	2.32	31.5
1	2429	3.13	34.611	27.58	2.24	31	2.23	2.43	31.8
1	2920	3.05	34.617	27.60	2.26	32	2.20	2.36	32.1
1	3412	3.11	34.617	27.59	2.25	32	2.20	2.39	31.8
1	3904	3.20	34.615	27.58	2.35	34	2.23	2.39	32.1
1	4395	3.24	34.615	27.58	2.24	32	2.20	2.44	31.2
1	4887	3.27	34.615	27.57	2.28	33	2.20	2.39	32.1
1	5380	3.36	34.616	27.56	2.26	31	2.20	2.39	32.1
1	5872	3.40	34.616	27.56	2.02	29	2.29	2.36	32.1
1	6365	3.50	34.617	27.55	2.23	32	2.26	2.39	31.2

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 27/62	4/ 3/62	2024 H	05 29 S	128 50 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
4480	25.6	28.3	27	03	16	*	*	*	26	0	*	*	1009.5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.39	34.114	21.62	4.38	104	0.17	0.27	00.0
2	24	***	34.147	***	***	***	0.20	***	***
2	48	28.19	34.100	21.68	4.39	104	0.17	0.30	00.0
2	72	***	34.044	***	***	***	0.36	***	***
2	97	27.67	34.147	21.88	4.14	97	0.39	0.36	00.7
2	121	23.03	34.530	23.59	3.11	68	0.72	***	08.0
2	145	20.99	34.581	24.20	2.87	60	0.82	***	09.5
2	193	18.69	34.620	24.83	2.77	56	0.95	1.10	15.4
2	241	13.74	34.569	25.93	2.43	45	1.33	***	20.2
2	289	12.06	34.567	26.26	2.25	40	1.37	1.63	21.0
2	386	9.61	34.546	26.68	2.26	38	1.65	***	24.8
2	482	8.50	34.569	26.88	2.21	36	1.78	1.94	23.4
2	676	6.78	34.589	27.15	2.18	34	1.88	2.07	30.0
2	773	6.07	34.583	27.24	2.07	32	1.97	***	***
2	870	5.40	34.589	27.32	2.24	34	2.07	2.13	29.7
2	967	4.82	34.601	27.40	2.27	34	2.04	***	***
2	1065	4.54	34.604	27.44	2.29	34	2.07	2.29	***
1	1163	4.36	34.609	27.46	2.31	34	2.10	***	***
1	1260	4.15	34.613	27.48	2.27	34	2.10	2.26	31.8
1	1358	3.94	34.613	27.51	2.27	33	2.10	***	***
1	1456	3.75	34.617	27.53	2.23	33	2.10	2.24	33.9
1	1945	3.29	34.619	27.58	2.43	35	2.17	2.29	31.2
1	2437	3.13	34.623	27.59	2.31	33	2.13	2.36	32.1
1	2929	3.07	34.623	27.60	2.32	33	2.13	2.26	31.8
1	3423	3.10	34.625	27.60	2.43	35	2.13	2.36	31.8
1	3918	3.13	34.625	27.60	2.35	32	2.13	2.36	31.2
1	4315	3.19	34.625	27.59	2.42	35	2.17	2.36	32.7

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 28/62	5/ 3/62	1313 H	07 19 S	127 11 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
4846	27.2	30.6	26	03	16	8	7	7	*	*	28	1	1010.1	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.56	34.308	21.71	4.40	105	0.20	0.30	01.3
2	25	***	34.407	***	***	***	0.20	***	***
2	49	26.84	34.297	22.26	4.24	98	0.29	0.43	01.4
2	74	***	34.330	***	***	***	0.52	***	***
2	99	23.39	34.436	23.41	3.28	72	0.58	0.65	01.2
2	123	21.07	34.526	24.13	3.02	64	0.78	***	10.0
2	148	18.98	34.607	24.75	2.83	57	0.91	***	10.0
2	197	15.95	34.585	25.46	2.74	53	1.14	1.24	13.4
2	246	13.49	34.550	25.96	2.67	49	1.33	***	18.8
2	295	11.32	34.519	26.36	2.46	43	1.46	1.56	24.8
2	396	7.52	34.560	26.71	2.26	38	1.71	***	26.8
2	492	8.02	34.550	26.94	2.19	36	1.88	2.01	30.0
2	690	6.31	34.563	27.19	2.22	35	2.04	2.13	34.7
2	788	5.78	34.574	27.27	2.20	34	2.13	***	***
2	887	5.44	34.581	27.31	2.21	34	2.13	2.23	33.9
2	986	5.01	34.590	27.37	2.22	34	2.17	***	***
2	1085	4.56	34.601	27.43	2.28	34	2.17	2.26	45.3
1	1176	4.12	34.610	27.49	2.24	33	2.20	***	***
1	1275	3.95	34.611	27.50	2.32	34	2.24	2.30	34.5
1	1374	3.74	34.613	27.53	2.24	33	2.20	***	***
1	1472	3.68	34.617	27.54	2.23	33	2.24	2.26	34.5
1	1966	3.28	34.619	27.58	2.35	34	2.26	2.36	34.8
1	2460	3.13	34.623	27.59	2.34	34	2.24	2.36	33.0
1	2955	3.08	34.625	27.60	2.36	34	2.26	2.30	35.1
1	3450	3.11	34.623	27.60	2.45	35	2.26	2.36	35.1
1	3945	3.13	34.623	27.59	2.30	33	2.26	2.36	34.8
1	4440	3.21	34.623	27.59	2.44	35	2.26	2.30	33.0

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 30/62	6/ 3/62	0948 H	07 27 S	123 27 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
3383	26.1	29.4	14	01	16	8	1	8	*	*	*	*	1010.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-I	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.04	33.480	21.26	4.54	107	0.13	0.26	01.3
2	25	27.82	33.602	21.42	***	***	0.20	***	***
2	50	27.60	33.819	21.66	4.45	104	0.17	0.36	01.0
2	75	25.60	34.104	22.50	***	***	0.44	***	***
2	99	23.45	34.406	23.37	3.32	73	0.44	0.68	04.3
2	123	21.16	34.487	24.08	3.17	67	0.78	***	09.4
2	148	17.50	34.552	24.57	3.02	62	0.78	***	10.3
2	197	15.71	34.574	25.50	3.00	55	1.01	1.10	14.3
2	246	13.06	34.518	26.03	2.83	51	1.24	***	16.4
2	295	10.91	34.483	26.41	2.48	43	1.46	1.46	24.8
2	393	8.65	34.480	26.79	2.22	37	1.78	***	29.2
2	482	7.45	34.514	26.99	2.19	35	1.94	2.07	25.8
2	689	6.11	34.562	27.21	2.14	33	2.07	2.20	29.0
2	788	5.58	34.583	27.30	2.20	34	2.07	***	***
2	872	5.12	34.587	27.36	2.08	31	2.17	2.23	***
1	973	4.70	34.607	27.42	2.21	33	2.17	***	***
1	1070	4.40	34.598	27.45	2.28	34	2.20	2.26	30.3
1	1168	4.18	34.601	27.47	2.19	32	2.26	***	***
1	1265	4.07	34.607	27.49	2.26	33	2.30	2.32	33.3
1	1363	3.79	34.607	27.52	2.30	34	2.26	***	***
1	1460	3.63	34.613	27.54	2.24	33	2.26	2.26	***
1	1947	3.34	34.621	27.57	2.23	32	2.26	2.36	***
1	2433	3.15	34.618	27.59	2.41	35	2.30	2.36	***
1	2920	3.09	34.618	27.60	2.35	32	2.30	2.36	***
1	3115	3.07	34.620	27.60	2.36	34	2.26	2.36	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 31/62	7/ 3/62	0518 H	07 45 S	120 19 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
4755	25.6	28.9	00	00	16	8	1	7	*	*	*	*	1012.3	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.43	32.715	20.56	4.44	104	0.10	0.23	01.1
2	24	***	32.942	***	***	***	0.13	***	***
2	48	27.07	33.621	21.65	4.15	92	0.20	0.36	01.2
2	72	***	34.171	***	***	***	0.43	***	***
2	96	24.09	34.273	23.09	3.47	77	0.46	0.62	03.5
2	118	20.93	34.523	24.17	3.26	69	0.69	***	06.3
2	135	18.67	34.593	24.81	3.13	63	0.75	***	10.0
2	190	14.11	34.535	25.82	2.86	53	1.14	1.21	16.0
2	238	12.22	34.488	26.17	2.81	50	1.33	***	20.0
2	275	11.03	34.476	26.38	2.58	45	1.37	1.49	21.8
2	370	9.25	34.491	26.70	2.24	37	1.68	***	28.0
2	475	7.92	34.500	26.91	2.26	37	1.84	1.88	30.2
2	666	6.46	34.533	27.15	2.09	33	2.04	2.17	30.6
2	762	5.57	34.553	27.28	2.12	32	2.10	***	***
2	859	5.07	34.563	27.34	2.10	32	2.20	2.24	32.8
2	955	4.65	34.578	27.40	2.18	33	2.20	***	***
2	1058	4.26	34.590	27.45	2.12	31	2.20	2.39	24.2
1	1149	3.95	34.599	27.49	2.15	32	2.23	***	***
1	1247	3.86	34.605	27.51	2.14	31	2.26	2.43	34.5
1	1344	3.72	34.607	27.52	2.16	32	2.23	***	***
1	1442	3.66	34.611	27.53	2.08	30	2.26	2.32	34.5
1	1930	3.38	34.611	27.56	2.22	32	2.26	2.43	34.8
1	2423	3.27	34.615	27.57	2.24	32	2.23	2.36	35.1
1	2918	3.26	34.626	27.58	2.18	32	2.26	2.36	34.8
1	3415	3.34	34.615	27.57	2.19	30	2.20	2.39	30.0
1	3913	3.35	34.616	27.57	2.08	30	2.26	2.43	34.5
1	4412	3.44	34.617	27.56	2.23	32	2.26	2.36	36.0

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 32/62	8/ 3/62	0230 H	08 00 S	116 15 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
***	23.9	26.1	14	03	16	9	6	5	*	*	*	*	1010.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.63	32.485	20.32	4.48	106	0.10	0.20	02.8
2	25	***	32.535	***	***	***	0.13	***	***
2	50	27.50	32.868	20.98	4.09	95	0.20	0.36	05.0
2	75	***	34.216	***	***	***	0.52	***	***
2	100	22.78	34.403	23.57	3.40	74	0.62	0.72	05.5
2	125	21.04	34.467	24.10	3.33	70	0.65	***	08.4
2	150	17.57	34.557	25.06	3.13	62	0.88	***	12.0
2	200	14.30	34.532	25.78	2.48	46	1.10	1.24	16.2
2	250	12.73	34.497	26.08	2.80	50	1.24	***	21.4
2	300	11.10	34.476	26.37	2.58	45	1.40	1.52	24.8
2	400	9.43	34.468	26.65	2.45	41	1.62	***	29.2
2	500	7.31	34.506	27.01	2.20	35	1.88	2.06	35.7
2	700	5.88	34.544	27.23	2.05	32	2.04	2.26	33.9
2	800	5.37	34.558	27.30	2.01	31	2.13	***	***
1	888	5.06	34.569	27.35	2.01	30	2.17	2.29	19.8
1	987	4.67	34.573	27.40	1.98	30	2.23	***	***
1	1086	4.14	34.590	27.47	2.02	30	2.26	2.38	39.9
1	1184	3.91	34.597	27.50	2.08	31	2.26	***	***
1	1283	3.80	34.600	27.51	2.03	30	2.23	2.36	37.2
1	1382	3.74	34.603	27.52	2.12	31	2.26	2.43	34.5

STATION	DATE	TIME	LATITUDE	LONGITUDE
OM 1/ 33/62	17/ 3/62	1436 H	08 54 S	104 53 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
5943	26.1	28.3	16	03	16	8	2	7	*	*	16	2	1009.6	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.58	34.260	21.67	4.45	106	0.13	0.32	00.6
2	25	***	***	***	***	***	0.20	***	***
2	50	27.91	34.488	22.06	4.35	103	0.27	0.43	00.5
2	75	***	34.581	***	***	***	0.27	***	***
2	100	23.55	34.596	23.49	3.43	76	0.58	0.72	05.0
2	125	21.88	34.851	24.16	3.30	71	0.65	***	07.8
2	150	18.26	34.756	25.02	2.62	53	1.04	***	16.8
2	200	12.67	34.610	26.18	2.26	41	1.56	1.69	24.6
2	250	11.18	34.624	26.47	2.07	36	1.71	***	27.9
2	300	10.44	34.668	26.64	1.95	33	1.69	1.88	28.5
2	400	9.49	34.750	26.86	1.98	33	1.81	***	30.0
2	500	8.23	34.705	27.03	1.85	30	2.04	2.07	30.3
2	700	6.67	34.673	27.23	1.77	28	2.17	2.26	31.5
2	800	6.07	34.655	27.29	1.87	29	2.20	***	***
2	900	5.61	34.637	27.34	1.95	30	2.20	2.29	32.7
2	1000	5.06	34.640	27.40	2.01	30	2.26	***	***
2	1100	4.64	34.643	27.46	2.14	32	2.26	2.32	34.2
1	1165	4.60	34.672	27.48	2.09	31	2.26	***	***
1	1261	4.30	34.690	27.53	2.16	32	2.26	2.32	30.3
1	1359	3.97	34.705	27.59	2.34	33	2.30	***	***
1	1455	3.78	34.725	27.62	2.39	33	2.26	2.31	32.7
1	1940	2.58	34.739	27.74	3.04	43	2.17	2.24	32.7
1	2425	1.96	34.742	27.79	3.54	49	2.10	2.13	31.8
1	2910	1.64	34.730	27.81	3.79	53	2.07	2.11	31.5
1	3395	1.40	34.724	27.82	4.03	55	1.97	2.10	32.7
1	3880	1.18	34.719	27.83	4.26	58	1.94	2.07	31.2
1	4365	1.16	34.715	27.83	4.41	60	1.85	2.04	32.7
1	4850	1.19	34.716	27.83	4.37	60	1.91	2.04	31.5

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 34/62	18/ 3/62	1020 H	08 53 S	108 12 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
3292	26.1	28.9	06	01	16	1	2	7	*	*	*	*	1012.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INCRG. P	TOTAL P	NITRATE
2	0	28.75	34.522	21.81	4.49	107	0.20	0.32	01.4
2	25	***	34.491	***	***	***	0.20	***	***
2	50	24.84	34.731	23.21	4.06	91	0.43	0.58	03.0
2	75	***	34.747	***	***	***	1.17	***	***
2	100	17.48	34.839	25.29	1.95	39	1.27	1.29	14.5
2	125	16.69	34.858	25.50	1.89	37	1.40	***	19.4
2	150	15.05	34.675	25.73	2.26	43	1.33	***	18.2
2	200	12.17	34.559	26.23	2.38	42	1.49	1.69	22.8
2	250	11.01	34.561	26.45	2.24	39	1.68	***	27.9
2	300	10.43	34.621	26.60	2.05	35	1.75	1.75	29.1
2	400	9.48	34.703	26.83	1.93	32	1.82	***	37.5
2	500	8.22	34.673	27.00	1.95	32	2.04	2.17	34.8
2	700	7.06	34.680	27.18	1.79	28	2.10	2.17	31.5
2	800	6.28	34.654	27.27	1.88	29	2.17	***	***
1	880	5.47	34.623	27.34	2.10	32	2.17	2.29	34.8
1	978	5.01	34.630	27.40	2.10	32	2.26	***	***
1	1076	5.00	34.694	27.45	1.95	29	2.26	2.36	33.9
1	1174	4.50	34.673	27.49	2.16	32	2.26	***	***
1	1271	4.26	34.672	27.52	2.21	33	2.26	2.39	34.8
1	1370	4.09	34.688	27.55	2.22	33	2.23	***	***
1	1467	3.81	34.689	27.58	2.28	33	2.20	2.26	35.1
1	1959	2.57	34.735	27.73	3.04	43	2.17	2.17	32.7
1	2449	2.05	34.734	27.77	3.38	45	2.10	2.13	30.0
1	2941	1.84	34.730	27.79	3.57	50	2.07	2.13	36.0

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 35/62	18/ 3/62	1935 H	10 13 S	108 46 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
***	25.6	28.9	15	03	16	8	1	7	00	2	15	0	1009.6	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.81	34.421	21.71	4.43	106	0.13	0.36	00.7
2	24	***	34.512	***	***	***	0.13	***	***
2	48	26.49	34.692	22.67	4.60	106	0.13	0.32	00.4
2	72	***	34.723	***	***	***	0.39	***	***
2	95	20.42	34.899	24.59	2.88	60	0.78	0.88	01.9
2	120	18.11	34.786	25.10	2.37	47	1.07	***	02.9
2	145	16.45	34.768	25.48	2.10	41	1.21	***	03.2
2	190	13.53	34.657	26.04	2.12	39	1.49	1.63	04.8
2	238	12.15	34.668	26.32	1.99	35	1.56	***	04.8
2	285	11.38	34.754	26.52	1.79	31	1.49	1.82	05.4
2	382	9.81	34.695	26.77	2.00	34	1.78	***	28.1
2	479	8.72	34.715	26.96	2.04	34	1.88	1.94	30.6
2	673	7.01	34.685	27.19	1.69	26	2.13	2.17	32.1
2	868	5.75	34.652	27.33	1.89	29	2.17	2.39	34.8
2	965	5.07	34.624	27.39	2.06	31	2.17	***	***
2	1062	4.84	34.628	27.42	2.18	33	2.24	2.36	33.9
2	1160	4.60	34.630	27.45	2.14	32	2.24	***	***
1	1275	4.25	34.653	27.51	2.26	34	2.17	2.29	35.7
1	1471	3.80	34.692	27.58	2.36	35	2.13	2.20	33.3
1	1962	2.64	34.744	27.74	2.42	34	2.13	2.17	34.8
1	2463	2.06	34.746	27.79	3.38	47	2.04	2.13	33.0
1	2943	1.71	34.727	27.80	3.70	51	1.97	2.07	33.9
1	3434	1.39	34.732	27.82	3.96	55	1.94	2.07	32.1
1	3945	1.21	34.720	27.83	4.25	58	1.94	2.04	33.0
1	4415	1.18	34.719	27.83	4.34	59	1.91	2.04	32.1
1	4905	1.19	34.718	27.83	4.40	60	1.85	2.04	31.8
1	5396	1.26	34.717	27.82	4.45	61	1.88	1.94	32.1
1	5887	1.33	34.716	27.82	4.30	59	1.88	1.97	31.8
1	6379	1.37	34.717	27.81	4.45	61	1.91	1.94	32.1

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 36/62	19/ 3/62	1012 H	12 10 S	109 50 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
3658	27.0	29.7	12	04	16	8	3	7	*	*	12	2	1010.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.54	34.782	22.07	4.50	108	0.13	0.34	00.1
2	25	***	34.793	***	***	***	0.13	***	***
2	50	25.51	34.734	22.99	4.57	99	0.20	0.36	00.1
2	75	***	34.705	***	***	***	0.56	***	***
2	100	20.62	34.915	24.55	3.19	67	0.69	0.84	08.2
2	125	18.07	34.909	25.20	3.32	66	0.95	***	11.0
2	150	15.41	34.736	25.70	2.10	40	1.27	***	19.4
2	200	13.42	34.674	26.07	2.10	38	1.46	1.54	23.4
2	250	12.22	34.674	26.31	2.02	36	1.59	***	25.2
2	300	11.13	34.697	26.54	2.05	36	1.59	1.49	23.8
2	400	10.02	34.774	26.79	1.95	33	1.75	***	30.0
2	500	8.31	34.634	26.96	2.22	36	1.84	1.94	30.6
2	700	6.97	34.655	27.17	1.87	30	2.07	2.20	31.5
2	800	6.23	34.652	27.27	1.85	29	2.17	***	***
1	891	5.76	34.637	27.32	1.92	30	2.13	2.17	34.8
1	990	4.64	34.624	27.44	2.08	31	2.17	***	***
1	1089	***	34.621	***	2.18	***	2.20	2.20	34.8
1	1188	4.36	34.620	27.47	2.22	33	2.20	***	***
1	1287	4.14	34.637	27.50	2.26	33	2.17	2.20	35.1
1	1386	3.82	34.656	27.55	2.40	35	2.20	***	***
1	1485	3.63	34.674	27.59	2.43	35	2.20	2.26	36.9
1	1980	2.53	34.738	27.74	3.08	42	2.10	2.07	33.9
1	2475	2.03	34.735	27.78	3.41	48	2.07	2.07	32.1
1	2970	1.65	34.723	27.80	3.71	51	2.04	2.07	33.0

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 37/62	19/ 3/62	2030 H	13 41 S	110 44 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
***	27.2	28.9	13	03	16	8	5	7	*	*	13	2	1011.8	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.74	34.509	21.80	4.44	106	0.13	0.27	***
2	24	***	34.670	***	***	***	0.20	***	***
2	48	24.82	34.679	23.17	4.48	101	0.23	0.36	***
2	72	***	34.800	***	***	***	0.43	***	***
2	97	20.67	34.831	24.47	3.16	66	0.72	0.84	***
2	122	19.45	34.891	24.84	3.02	62	0.81	***	***
2	146	17.57	34.898	25.33	2.64	51	1.04	***	***
2	194	14.17	34.655	25.90	2.50	46	1.33	1.40	***
2	243	12.88	34.634	26.15	2.44	44	1.40	***	***
2	291	11.52	34.652	26.43	2.33	41	1.49	1.59	***
2	387	9.81	34.710	26.78	2.74	46	1.59	***	***
2	485	8.84	34.677	26.91	2.68	44	1.71	1.78	***
2	678	6.97	34.635	27.16	1.96	31	2.17	2.13	***
2	775	6.32	34.626	27.24	1.95	30	2.17	***	***
2	872	5.80	34.627	27.30	1.92	30	2.20	2.17	***
2	968	5.36	34.622	27.36	2.06	31	2.29	***	***
2	1065	4.93	34.629	27.41	2.09	32	2.20	2.29	***
1	1175	4.48	34.634	27.47	2.16	32	2.26	***	***
1	1273	4.14	34.647	27.51	2.26	33	2.24	2.26	***
1	1370	3.78	34.652	27.55	2.40	35	2.20	***	***
1	1468	3.55	34.667	27.59	2.50	36	2.26	2.24	***
1	1958	2.50	34.724	27.73	3.01	43	2.13	2.20	***
1	2447	1.79	34.736	27.79	3.42	46	2.04	2.13	***
1	2936	1.64	34.724	27.80	3.76	50	2.04	2.17	***
1	3425	1.37	34.719	27.82	4.02	55	1.97	2.10	***
1	3915	1.20	34.717	27.83	4.22	58	1.94	2.04	***
1	4404	1.17	34.714	27.81	4.25	56	1.91	2.01	***
1	4893	1.17	34.715	27.83	4.42	58	1.84	2.01	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 38/62	20/ 3/62	0918 H	15 32 S	111 40 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
5121	27.2	28.3	10	04	16	8	4	7	16	0	16	0	1013.8	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.52	34.721	22.04	4.50	107	0.13	0.27	00.6
2	25	***	34.841	***	***	***	0.13	***	***
2	50	26.73	34.739	22.63	4.64	108	0.13	0.27	00.5
2	75	***	34.902	***	***	***	0.13	***	***
2	100	22.86	35.004	24.00	4.37	95	0.32	0.50	02.6
2	125	20.27	34.836	24.58	3.14	65	0.78	***	10.5
2	150	19.53	35.031	24.93	3.17	65	0.72	***	09.9
2	200	15.80	34.916	25.75	2.88	53	1.04	1.14	18.8
2	250	13.51	34.937	26.26	2.95	52	1.21	***	19.4
2	300	12.12	34.990	26.58	3.41	58	1.10	1.24	18.8
2	400	10.34	34.884	26.83	4.35	72	1.10	***	19.2
2	500	8.36	34.668	26.98	3.78	59	1.52	1.65	27.3
2	700	6.58	34.644	27.22	2.07	31	2.10	2.17	32.1
2	800	5.96	34.639	27.30	1.98	29	2.13	***	***
2	900	5.52	34.639	27.36	2.00	29	2.17	2.36	32.7
2	1000	5.11	34.634	27.40	2.05	30	2.20	***	***
2	1100	4.81	34.634	27.45	2.16	31	2.20	2.40	33.3
1	1172	4.47	34.633	27.47	2.18	31	2.13	***	***
1	1270	4.11	34.644	27.50	2.29	32	2.17	2.29	33.3
1	1367	3.86	34.656	27.56	2.38	33	2.20	***	***
1	1465	3.54	34.670	27.60	2.62	36	2.10	2.29	33.3
1	1954	2.49	34.727	27.74	3.12	42	2.04	2.13	32.7
1	2442	1.97	34.731	27.79	3.52	47	2.01	2.17	31.5
1	2930	1.62	34.731	27.80	3.80	51	2.04	2.20	31.5
1	3419	1.36	34.717	27.80	4.05	53	1.94	2.07	33.0
1	3907	1.22	34.716	27.80	4.28	56	1.94	2.07	31.2
1	4395	1.17	34.716	27.81	4.28	56	1.88	2.07	32.1
1	4884	1.17	34.713	27.81	4.40	58	1.85	2.04	31.5

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 39/62	20/ 3/62	2247 H	17 25 S	112 35 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
***	27.2	28.3	12	03	16	8	4	*	*	*	15	2	1009.9	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	28.67	34.718	21.98	4.48	107	0.13	0.32	01.5
2	25	***	34.728	***	***	***	0.13	***	***
2	49	25.47	34.679	22.98	4.72	107	0.23	0.46	00.6
2	74	***	34.748	***	***	***	0.65	***	***
2	98	18.93	34.733	24.85	2.68	54	0.97	1.21	15.6
2	122	17.44	34.818	25.29	2.70	53	1.04	***	15.4
2	147	17.11	34.979	25.49	2.88	57	0.97	***	14.2
2	197	14.22	34.724	25.95	2.45	45	1.33	1.44	21.9
2	246	13.19	34.915	26.31	2.98	54	1.21	***	20.1
2	295	11.93	34.949	26.58	3.39	60	1.14	1.27	20.4
2	392	9.85	34.805	26.85	4.02	68	1.24	***	22.2
2	490	8.22	34.658	26.99	3.56	58	1.59	1.75	23.7
2	688	6.46	34.615	27.21	2.16	34	2.10	2.26	34.2
2	785	5.84	34.613	27.29	2.10	32	2.17	***	***
1	850	5.70	34.623	27.31	2.02	31	2.17	2.26	33.0
1	947	5.22	34.619	27.37	2.07	31	2.17	***	***
1	1042	4.91	34.619	27.41	2.16	33	2.17	2.29	34.2
1	1138	4.59	34.621	27.44	2.18	33	2.17	***	***
1	1232	4.27	34.644	27.50	2.22	33	2.17	2.36	31.5
1	1330	4.03	***	***	2.34	***	2.20	***	***
1	1425	3.76	34.652	27.56	2.47	36	2.17	2.29	34.3
1	1907	2.56	34.711	27.72	3.10	44	2.10	2.20	32.7
1	2395	2.03	34.731	27.78	3.42	48	2.04	2.13	32.7
1	2884	1.71	34.724	27.80	3.74	52	1.97	2.10	37.2
1	3380	1.54	34.719	27.80	3.98	55	1.94	2.07	29.7
1	3877	1.20	34.715	27.82	4.22	58	1.91	2.07	30.9

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 40/62	21/ 3/62	1115 H	19 11 S	113 34 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
1280	25.6	28.3	17	04	16	*	*	7	17	0	17	4	1011.5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.74	34.970	22.15	4.48	108	0.10	0.25	00.7
1	25	***	34.972	***	***	***	0.13	***	***
1	48	26.91	34.756	22.58	4.70	109	0.17	0.36	00.0
1	74	***	34.867	***	***	***	0.32	***	***
1	96	22.43	34.960	24.09	3.63	79	0.56	0.60	03.9
1	120	21.61	35.078	24.41	3.72	79	0.52	***	04.0
1	144	20.25	35.108	24.80	3.42	71	0.69	***	05.5
1	192	18.65	35.337	25.39	3.66	74	0.69	0.77	05.7
1	239	16.25	35.197	25.86	3.34	65	0.91	***	09.8
1	287	14.09	34.926	26.13	3.49	65	1.17	1.31	13.8
1	382	11.43	34.900	26.64	3.42	60	1.17	***	14.6
1	476	10.30	34.800	26.76	3.86	66	1.27	1.44	14.6
1	664	7.25	34.618	27.10	2.97	47	1.82	1.84	14.6
1	758	5.99	34.581	27.24	2.66	41	2.04	***	***
1	851	5.53	34.616	27.33	2.05	31	2.17	2.20	17.2

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 41/62	21/ 3/62	1745 H	20 00 S	114 48 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
***	25.6	28.3	17	04	16	8	6	7	*	*	17	4	1009.8	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	28.51	35.028	22.27	4.52	108	0.13	0.30	00.0
1	25	***	35.016	***	***	***	0.13	***	***
1	50	25.81	35.070	23.17	4.54	104	0.20	0.36	00.0
1	75	***	35.035	***	***	***	0.36	***	***
1	99	22.63	35.051	24.10	3.70	80	0.50	0.58	04.7
1	124	21.57	35.070	24.41	3.56	76	0.58	***	07.0
1	149	20.21	35.120	24.82	3.34	70	0.69	***	07.9
1	198	17.34	35.075	25.51	3.05	60	0.95	1.01	10.7
1	248	14.95	35.136	26.11	3.25	61	1.04	***	17.0
1	298	12.45	34.884	26.43	2.84	51	1.30	1.40	18.8
1	396	11.62	35.059	26.73	4.93	87	0.81	***	13.2
1	495	9.19	34.717	26.89	5.25	88	1.14	1.17	24.0
1	694	6.35	34.579	27.20	3.02	47	1.94	2.04	30.0
1	793	5.87	34.605	27.28	2.40	37	2.13	***	***
1	892	5.44	34.622	27.35	2.15	33	2.20	2.26	31.8

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 42/62	22/ 3/62	0115 H	21 55 S	114 34 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
***	28.3	26.7	17	04	16	*	*	7	*	*	23	2	1009.2	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	27.54	35.047	22.60	4.59	108	0.13	0.27	00.0
1	25	27.50	35.052	22.62	4.53	107	0.17	0.27	00.0
1	50	26.76	34.634	22.54	4.70	109	0.20	0.30	00.0
1	75	25.18	34.898	23.23	4.53	103	0.27	0.39	00.0
1	100	23.51	34.907	23.74	4.00	88	0.43	0.52	03.7
1	125	22.25	34.630	23.89	3.78	81	0.52	0.62	05.1
1	150	21.55	35.083	24.43	3.71	79	0.62	0.72	05.6
1	200	18.58	35.061	25.19	3.16	64	0.84	0.95	07.6

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 43/62	24/ 3/62	0510 H	31 54 S	112 00 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2
4846	16.7	20.6	18	05	16	4	2	7	18	0	18	2	1013.0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	21.72	35.849	24.96	5.10	110	0.10	0.33	00.0
2	25	***	35.851	***	***	***	0.10	***	***
2	49	21.70	35.854	24.97	5.04	108	0.10	0.30	00.0
2	75	***	35.769	***	***	***	0.20	***	***
2	98	18.32	35.782	25.81	4.93	100	0.26	0.39	01.3
2	122	17.54	35.801	26.02	5.01	100	0.26	***	01.7
2	147	16.54	35.765	26.23	5.05	99	0.26	***	01.5
2	197	15.10	35.631	26.45	5.44	103	0.32	0.46	01.4
2	246	13.92	35.455	26.57	5.30	98	0.46	***	02.7
2	295	12.78	35.291	26.68	5.40	98	0.56	0.69	04.0
2	393	10.70	34.953	26.81	5.65	98	0.75	***	13.2
2	492	9.70	34.778	26.85	5.66	95	0.95	1.04	12.2
2	689	8.23	34.593	26.94	5.11	83	1.17	1.31	16.2
2	788	6.92	34.482	27.04	4.79	76	1.49	***	***
2	887	5.35	34.410	27.19	4.47	68	1.67	1.88	20.0
2	986	4.33	34.402	27.30	4.31	64	1.85	***	***
2	1085	3.97	34.461	27.38	3.82	56	1.94	2.09	26.1
1	1153	***	34.488	***	3.72	***	1.97	***	***
1	1250	3.36	34.518	27.49	3.56	52	1.97	2.17	27.0
1	1348	3.22	34.570	27.54	3.42	49	1.97	***	***
1	1445	3.10	34.591	27.57	3.53	51	2.01	2.13	29.1
1	1933	2.47	34.693	27.71	3.65	52	2.01	2.13	25.5
1	2422	2.06	34.731	27.77	3.83	54	1.97	2.07	23.7
1	2914	1.71	34.731	27.80	4.16	58	1.88	2.01	24.9
1	3408	1.42	34.725	27.82	4.31	59	1.88	2.04	25.8
1	3904	1.24	34.721	27.83	4.36	60	1.88	1.97	24.9
1	4402	1.17	34.718	27.83	4.57	63	1.85	2.04	***

DATA

PART 2

PRIMARY PRODUCTION

EXPLANATION OF HEADINGS

Part 2 Primary Production

STATION	Gives the station identification, for example Dml/2/62 signifies the 2nd station worked by Diamantina in 1962, on her 1st cruise for that year.
DATE	Given as day/month/year.
TIME	Given in Zone Time (Table 2, p.14).
LATITUDE LONGITUDE	Given in degrees and minutes.
INCUBATION METHOD	Artificial constant light incubation.
^{14}C STOCK	Stock number used.
ACTIVITY CPM	Activity of ^{14}C stock used, recorded in counts per minute.
BACKGROUND	Background count is recorded in counts per minute.
DEPTH	Depth of sampling in metres.
LIGHT	The counts per minute of the filters from the duplicate clear bottles.
MEAN	The mean of the two Light Counts. If the difference between this mean and the light counts is more than 50% of the mean, it is considered aberrant, and the symbol "N" placed after it. However, it is used for calculations of production.

DARK	The counts per minute of the filter from the dark bottle. If the Dark Count is more than 50 cpm and also more than 10% of the mean light count, it is considered aberrant, is not used, and the symbol "B" placed after it.
DARK USED	This is usually the same as the Dark Count. If the Dark Count is aberrant the mean of all the dark counts for samples from that station is used (Symbol "E"). If all the Dark Counts are aberrant, an arbitrary value of 20 cpm is used (Symbol "F").
NETT	The difference between MEAN and DARK USED. If this is negative the symbol "G" is placed after it and for further calculations the value is assumed to be zero.
INC. PER.	Incubation period.
PRODUCTION A	The calculated rate of production in mg of carbon per hour per cubic metre.
PRODUCTION B	The integrated production under one square metre from the surface to the given depth in g of carbon per day per square metre. A day has been taken to equal 10 hours.
**	Indicates no data

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 1/62	13/ 2/62	0315 G	32 03 S	111 31 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	355	422	389	21	21	368	04.00	00.25	00.00
25	428	438	433	56 B	32 E	401	04.00	00.27	00.07
50	297	302	300	32	32	268	04.00	00.18	00.12
75	230	219	225	49	49	176	04.00	00.12	00.16
100	111	95	103	65 B	32 E	71	04.00	00.05	00.18
150	40	41	41	29	29	12	04.00	00.01	00.20

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 2/62	15/ 2/62	2200 H	20 23 S	116 04 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	2447	2120	2284	83	83	2201	04.00	01.51	00.00
10	2361	2344	2353	73	73	2280	04.00	01.56	00.15
20	1509	1758	1634	129	129	1505	04.00	01.03	00.28
30	1731	1814	1773	75	75	1698	04.00	01.16	00.39

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 3/62	16/ 2/62	0800 H	19 36 S	117 52 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	1950	1853	1902	139	139	1763	04.00	01.21	00.00
10	2535	2670	2603	75	75	2528	04.00	01.73	00.15
20	2913	2701	2807	98	98	2709	04.00	01.85	00.33
30	1513	1350	1432	161	161	1271	04.00	00.87	00.46
40	1098	1102	1100	263 B	118 E	982	04.00	00.67	00.54
50	1104	1052	1078	274 B	118 E	960	04.00	00.66	00.61

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 4/62	16/ 2/62	1730 H	19 36 S	117 52 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	229	207	218	84 B	37 E	181	04.00	00.12	00.00
25	160	140	150	90 B	37 E	113	04.00	00.08	00.03
50	120	107	114	103 B	37 E	77	04.00	00.05	00.04
75	117	108	113	59 B	37 E	76	04.00	00.05	00.05
100	101	104	103	52 B	37 E	66	04.00	00.05	00.07
150	41	49	45	37	37	8	04.00	00.01	00.08

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 5/62	17/ 2/62	0130 H	16 48 S	116 43 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	398	376	387	140 B	20 F	367	04.00	00.25	00.00
25	333	318	326	118 B	20 F	306	04.00	00.21	00.06
50	539	528	534	81 B	20 F	514	04.00	00.35	00.13
75	182	182	182	118 B	20 F	162	04.00	00.11	00.19
100	132	123	128	90 B	20 F	108	04.00	00.07	00.21
150	570	561	566	516 B	20 F	546	04.00	00.37	00.32

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 6/62	17/ 2/62	1130 H	15 18 S	116 08 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	433	451	442	178 B	20 F	422	04.00	00.29	00.00
25	593	523	558	92 B	20 F	538	04.00	00.37	00.08
50	573	560	567	118 B	20 F	547	04.00	00.37	00.18
75	157	149	153	101 B	20 F	133	04.00	00.09	00.23
100	140	127	134	121 B	20 F	114	04.00	00.08	00.25
150	126	167	147	183 B	20 F	127	04.00	00.09	00.30

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 7/62	18/ 2/62	0130 H	13 29 S	115 23 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	322	276	299	62 B	20 F	279	04.00	00.19	00.00
25	164	184	174	101 B	20 F	154	04.00	00.11	00.04
50	218	209	214	160 B	20 F	194	04.00	00.13	00.07
75	207	250	229	135 B	20 F	209	04.00	00.14	00.10
100	62	76	69	145 B	20 F	49	04.00	01.03	00.12
150	132	164	148	147 B	20 F	128	04.00	00.09	00.15

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 8/62	18/ 2/62	1515 H	11 40 S	114 41 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	679	370	525 N	167 B	20 F	505	04.00	00.35	00.00
25	478	480	479	70 B	20 F	459	04.00	00.31	00.08
50	300	339	320	185 B	20 F	300	04.00	00.21	00.15
75	165	217	191	61 B	20 F	171	04.00	00.12	00.19
100	55	47	51	79 B	20 F	31	04.00	00.02	00.21
150	87	109	98	174 B	20 F	78	04.00	00.05	00.22

N DUPLICATE VALUES ABERRANT
B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 9/62	19/ 2/62	0330 H	09 59 S	113 59 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	378	**	**	48	48	330	04.00	00.23	00.00
25	461	432	447	111 B	48 E	399	04.00	00.27	00.06
50	386	416	401	79 B	48 E	353	04.00	00.24	00.13
75	452	387	420	97 B	48 E	372	04.00	00.25	00.19
100	101	68	85	95 B	48 E	37	04.00	00.03	00.22
150	82	76	79	114 B	48 E	31	04.00	00.02	00.24

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 10/62	20/ 2/62	0600 H	10 51 S	119 14 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	580	641	611	74 B	33 E	578	04.25	00.37	00.00
25	892	665	779	33	33	746	04.25	00.48	00.11
50	444	455	450	237 B	33 E	417	04.25	00.27	00.20
75	681	684	683	227 B	33 E	650	04.25	00.42	00.29
100	253	92	173 N	119 B	33 E	140	04.25	00.09	00.35
150	221	124	173 N	158 B	33 E	140	04.25	00.09	00.40

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED
N DUPLICATE VALUES ABERRANT

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 11/62	20/ 2/62	1700 H	12 29 S	119 35 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	241	250	246	88 B	5 E	241	04.10	00.16	00.00
25	221	218	220	5	5	215	04.10	00.14	00.04
50	277	199	238	132 B	5 E	233	04.10	00.16	00.08
75	145	168	157	95 B	5 E	152	04.10	00.10	00.11
100	68	92	80	190 B	5 E	75	04.10	00.05	00.13
150	120	116	118	125 B	5 E	113	04.10	00.08	00.16

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 12/62	21/ 2/62	0600 H	14 20 S	120 33 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	637	581	609	86 B	43 E	566	04.41	00.35	00.00
25	702	700	701	43	43	658	04.41	00.41	00.10
50	434	468	451	82 B	43 E	408	04.41	00.25	00.18
75	257	276	267	235 B	43 E	224	04.41	00.14	00.23
100	64	70	67	95 B	43 E	24	04.41	00.01	00.25
150	101	126	114	152 B	43 E	71	04.41	00.04	00.26

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 13/62	21/ 2/62	1320 H	15 09 S	121 00 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	590	638	614	38	38	576	04.00	00.39	00.00
25	689	692	691	60	60	631	04.00	00.43	00.10
50	938	877	908	119 B	49 E	859	04.00	00.59	00.23
75	113	89	101	96 B	49 E	52	04.00	00.04	00.31
100	83	89	86	169 B	49 E	37	04.00	00.03	00.32
150	113	132	123	235 B	49 E	74	04.00	00.05	00.34

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 14/62	21/ 2/62	1900 H	16 15 S	121 16 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	1034	965	1000	369 B	123 E	877	04.00	00.60	00.00
10	1271	1226	1249	116	116	1133	04.00	00.78	00.07
20	1194	1060	1127	111	111	1016	04.00	00.70	00.14
30	1623	1278	1451	143	143	1308	04.00	00.89	00.22
40	1370	1280	1325	220 B	123 E	1202	04.00	00.82	00.31
50	1176	1143	1160	233 B	123 E	1037	04.00	00.71	00.38

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 15/62	22/ 2/62	0230 H	15 31 S	122 44 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	666	619	643	168 B	20 F	623	04.25	00.40	00.00
10	728	546	637	187 B	20 F	617	04.25	00.40	00.04
20	742	573	658	138 B	20 F	638	04.25	00.41	00.08
30	552	665	609	166 B	20 F	589	04.25	00.38	00.12
40	618	584	601	314 B	20 F	581	04.25	00.37	00.16
60	624	595	610	145 B	20 F	590	04.25	00.38	00.23

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 16/62	22/ 2/62	0955 H	15 00 S	124 12 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	3340	3385	3363	156	156	3207	04.00	02.19	00.00
10	3918	3751	3835	73	73	3762	04.00	02.57	00.24
20	5930	6605	6268	96	96	6172	04.00	04.22	00.58
30	6178	6038	6108	107	107	6001	04.00	04.11	00.99
40	2792	3004	2898	104	104	2794	04.00	01.91	01.30
50	2644	3268	2956	155	155	2801	04.00	01.92	01.49

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 17/62	22/ 2/62	1730 H	14 00 S	125 15 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	414	437	426	188 B	142 E	284	04.00	00.19	00.00
10	399	438	419	246 B	142 E	277	04.00	00.19	00.02
20	377	350	364	189 B	142 E	222	04.00	00.15	00.04
30	590	641	616	214 B	142 E	474	04.00	00.32	00.06
40	1397	1413	1405	142	142	1263	04.00	00.86	00.12
50	522	567	545	360 B	142 E	403	04.00	00.28	00.18

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 18/62	23/ 2/62	0015 H	12 39 S	124 39 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	618	**	**	167 B	57 E	561	04.00	00.38	00.00
10	487	443	465	133 B	57 E	408	04.00	00.28	00.03
20	440	436	438	133 B	57 E	381	04.00	00.26	00.06
30	707	765	736	57	57	679	04.00	00.46	00.10
40	763	814	789	176 B	57 E	732	04.00	00.50	00.14
60	601	607	604	264 B	57 E	547	04.00	00.37	00.23

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 19/62	23/ 2/62	0800 H	11 12 S	124 07 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	725	733	729	111 B	20 F	709	04.00	00.49	00.00
25	919	929	924	101 B	20 F	904	04.00	00.62	00.14
50	959	936	948	180 B	20 F	928	04.00	00.63	00.30
75	208	248	228	207 B	20 F	208	04.00	00.14	00.39
100	87	106	97	141 B	20 F	77	04.00	00.05	00.42
150	731	759	745	346 B	20 F	725	04.00	00.50	00.55

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 20/62	23/ 2/62	1900 H	10 00 S	125 55 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	257	263	260	224 B	20 F	240	04.00	00.16	00.00
25	388	396	392	182 B	20 F	372	04.00	00.25	00.05
50	518	484	501	98 B	20 F	481	04.00	00.33	00.12
75	389	429	409	284 B	20 F	389	04.00	00.27	00.20
100	272	425	349	348 B	20 F	329	04.00	00.23	00.26
150	217	278	248	241 B	20 F	228	04.00	00.16	00.36

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 21/62	24/ 2/62	0700 I	08 55 S	127 46 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	1262	1202	1232	166 B	82 E	1150	04.00	00.79	00.00
25	1240	1254	1247	216 B	82 E	1165	04.00	00.80	00.20
50	1174	1471	1323	82	82	1241	04.00	00.85	00.41
75	246	242	244	197 B	82 E	162	04.00	00.11	00.53
100	200	197	199	128 B	82 E	117	04.00	00.08	00.55
150	221	195	208	104 B	82 E	126	04.00	00.09	00.59

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 22/62	24/ 2/62	1515 I	10 07 S	128 25 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	905	900	903	282 B	20 F	883	04.00	00.60	00.00
10	1278	1134	1206	234 B	20 F	1186	04.00	00.81	00.07
20	1496	1378	1437	166 B	20 F	1417	04.00	00.97	00.16
30	1308	1363	1336	200 B	20 F	1316	04.00	00.90	00.25
40	720	750	735	142 B	20 F	715	04.00	00.49	00.32
60	557	498	528	226 B	20 F	508	04.00	00.35	00.41

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 23/62	2/ 3/62	1615 I	11 29 S	129 19 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	2989	3388	3189	85	85	3104	04.00	02.12	00.00
10	4650	3867	4259	134	134	4125	04.00	02.82	00.25
20	2429	2561	2495	155	155	2340	04.00	01.60	00.47
30	2982	2841	2912	212	212	2700	04.00	01.85	00.64
40	2285	2138	2212	125	125	2087	04.00	01.43	00.80
50	2523	2924	2724	153	153	2571	04.00	01.76	00.96

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 24/62	2/ 3/62	2145 I	10 31 S	128 51 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	972	976	974	132 B	20 F	954	04.00	00.65	00.00
10	1151	1069	1110	157 B	20 F	1090	04.00	00.75	00.07
20	1118	1156	1137	167 B	20 F	1117	04.00	00.76	00.15
30	1550	1737	1644	209 B	20 F	1624	04.00	01.11	00.24
40	1508	1372	1440	274 B	20 F	1420	04.00	00.97	00.34
60	1128	1384	1256	205 B	20 F	1236	04.00	00.85	00.53

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 25/62	3/ 3/62	1215 I	07 45 S	128 50 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	1086	1045	1066	229 B	127 E	939	04.00	00.64	00.00
25	1289	1336	1313	131	131	1182	04.00	00.81	00.18
50	1548	1620	1584	123	123	1461	04.00	01.00	00.41
75	348	324	336	197 B	127 E	209	04.00	00.14	00.55
100	208	269	239	156 B	127 E	112	04.00	00.08	00.58
150	136	137	137	110 B	127 E	10	04.00	00.01	00.60

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 26/62	4/ 3/62	0400 I	05 57 S	130 53 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	738	789	764	178 B	20 F	744	04.00	00.51	00.00
25	680	783	732	126 B	20 F	712	04.00	00.49	00.13
50	681	682	682	78 B	20 F	662	04.00	00.45	00.24
75	482	462	472	114 B	20 F	452	04.00	00.31	00.34
100	151	125	138	155 B	20 F	118	04.00	00.08	00.39
150	225	237	231	247 B	20 F	211	04.00	00.14	00.44

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 27/62	4/ 3/62	1830 I	05 29 S	128 51 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	349	368	359	121 B	24 E	335	04.00	00.23	00.00
25	315	272	294	24	24	270	04.00	00.18	00.05
50	360	379	370	167 B	24 E	346	04.00	00.24	00.10
75	381	396	389	95 B	24 E	365	04.00	00.25	00.17
100	156	139	148	123 B	24 E	124	04.00	00.08	00.21
150	199	184	192	233 B	24 E	168	04.00	00.11	00.25

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 28/62	5/ 3/62	1100 H	07 19 S	127 11 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	1334	1210	1272	111	111	1161	04.00	00.79	00.00
25	1437	1465	1451	164 B	120 E	1331	04.00	00.91	00.21
50	1769	1794	1782	130	130	1652	04.00	01.13	00.47
75	704	785	745	89 B	120 E	625	04.00	00.43	00.66
100	112	135	124	120 B	120 E	4	04.00	00.00	00.72
150	102	115	109	97 B	120 E	- 11 G	04.00	00.00	00.72

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED
G NEGATIVE VALUE, ASSUMED ZERO

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 30/62	6/ 3/62	0800 H	07 27 S	123 27 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	1671	1660	1666	386 B	266 E	1400	04.00	00.98	00.00
25	2759	2658	2709	266	266	2443	04.00	01.67	00.33
50	662	645	654	187 B	266 E	388	04.00	00.27	00.57
75	228	232	230	146 B	266 E	- 36 G	04.00	00.00	00.61
100	206	159	183	93 B	266 E	- 83 G	04.00	00.00	00.61
150	82	87	85	81 B	266 E	- 181 G	04.00	00.00	00.61

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED
G NEGATIVE VALUE, ASSUMED ZERO

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 31/62	7/ 3/62	0500 H	07 45 S	120 20 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	1189	1018	1104	190 B	20 F	1084	04.00	00.74	00.00
25	934	911	923	140 B	20 F	903	04.00	00.62	00.17
50	1324	1409	1367	191 B	20 F	1347	04.00	00.92	00.36
75	244	246	245	123 B	20 F	225	04.00	00.15	00.50
100	151	136	144	211 B	20 F	124	04.00	00.08	00.53
150	180	169	175	155 B	20 F	155	04.00	00.11	00.57

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 32/62	8/ 3/62	0215 H	07 57 S	117 08 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM		DARK USED CPM		NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	648	737	693	285	B	20	F	673	03.50	00.53	00.00
25	339	343	341	150	B	20	F	321	03.50	00.25	00.10
50	369	338	354	116	B	20	F	334	03.50	00.26	00.16
75	232	193	213	90	B	20	F	193	03.50	00.15	00.21
100	152	151	152	121	B	20	F	132	03.50	00.10	00.24
150	129	140	135	125	B	20	F	115	03.50	00.09	00.29

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 33/62	17/ 3/62	1430 G	08 55 S	104 53 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	513	456	485	194 B	20 F	465	04.00	00.32	00.00
25	738	675	707	181 B	20 F	687	04.00	00.47	00.10
50	606	568	587	190 B	20 F	567	04.00	00.39	00.21
75	199	239	219	135 B	20 F	199	04.00	00.14	00.27
100	220	243	232	165 B	20 F	212	04.00	00.15	00.31
150	230	217	224	210 B	20 F	204	04.00	00.14	00.38

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 34/62	18/ 3/62	1130 G	08 54 S	108 12 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	771	770	771	310 B	20 F	751	04.00	00.51	00.00
25	1347	1224	1286	171 B	20 F	1266	04.00	00.87	00.17
50	1121	790	956	372 B	20 F	936	04.00	00.64	00.36
75	350	241	296	156 B	20 F	276	04.00	00.19	00.47
100	375	195	285 N	140 B	20 F	265	04.00	00.18	00.51
150	194	149	172	129 B	20 F	152	04.00	00.10	00.58

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED
N DUPLICATE VALUES ABERRANT

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 35/62	18/ 3/62	1930 G	10 13 S	108 46 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM		DARK CPM		DARK USED CPM		NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	217	203	210		72	B	20	F	190	04.00	00.13	00.00
25	124	156	140		74	B	20	F	120	04.00	00.08	00.03
50	139	131	135		92	B	20	F	115	04.00	00.08	00.05
75	171	123	147		58	B	20	F	127	04.00	00.09	00.07
100	180	88	134	N	67	B	20	F	114	04.00	00.08	00.09
150	94	121	108		61	B	20	F	88	04.00	00.06	00.12

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED
N DUPLICATE VALUES ABERRANT

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 36/62	19/ 3/62	1000 G	12 10 S	109 50 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	746	**	**	41	41	705	04.00	00.48	00.00
25	704	735	720	38	38	682	04.00	00.47	00.12
50	790	807	799	51	51	748	04.00	00.51	00.24
75	199	159	179	47	47	132	04.00	00.09	00.32
100	158	60	109 N	41	41	68	04.00	00.05	00.33
150	410	**	**	76 B	43 E	367	04.00	00.25	00.41

N DUPLICATE VALUES ABERRANT
B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 37/62	19/ 3/62	2015 G	13 41 S	110 44 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	235	179	207	67 B	36 E	171	04.00	00.12	00.00
25	372	329	351	50 B	36 E	315	04.00	00.22	00.04
50	254	288	271	41	41	230	04.00	00.16	00.09
75	140	202	171	36	36	135	04.00	00.09	00.12
100	164	102	133	33	33	100	04.00	00.07	00.14
150	58	45	52	53 B	36 E	16	04.00	00.01	00.16

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 38/62	20/ 3/62	0900 G	15 32 S	111 40 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	1047	997	1022	30	30	992	04.10	00.66	00.00
25	1111	1139	1125	47	47	1078	04.10	00.72	00.17
50	826	828	827	43	43	784	04.10	00.52	00.33
75	753	660	707	45	45	662	04.10	00.44	00.45
100	156	138	147	48	48	99	04.10	00.07	00.51
150	151	75	113 N	88 B	42 E	71	04.10	00.05	00.54

N DUPLICATE VALUES ABERRANT
B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 39/62	20/ 3/62	2230 H	17 25 S	112 35 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	198	159	179	35	35	144	04.00	00.10	00.00
25	180	231	206	47	47	159	04.00	00.11	00.03
50	213	237	225	75 B	41 E	184	04.00	00.13	00.06
75	68	78	73	56 B	41 E	32	04.00	00.02	00.08
100	47	42	45	90 B	41 E	4	04.00	00.00	00.08
150	29	38	34	60 B	41 E	- 7 G	04.00	00.00	00.08

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED
G NEGATIVE VALUE, ASSUMED ZERO

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 40/62	21/ 3/62	1100 H	19 11 S	113 35 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	694	477	586	94 B	67 E	519	04.00	00.36	00.00
25	591	803	697	78 B	67 E	630	04.00	00.43	00.10
50	829	794	812	67	67	745	04.00	00.51	00.22
75	150	410	280 N	77 B	67 E	213	04.00	00.15	00.30
100	38	41	40	100 B	67 E	- 27 G	04.00	00.00	00.32
150	123	271	197 N	108 B	67 E	130	04.00	00.09	00.33

B ABERRANT VALUE, NOT USED
E MEAN NON-ABERRANT DARK USED
N DUPLICATE VALUES ABERRANT
G NEGATIVE VALUE, ASSUMED ZERO

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 41/62	21/ 3/62	1730 H	20 00 S	114 04 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	217	229	223	121 B	20 F	203	04.00	00.14	00.00
25	194	205	200	90 B	20 F	180	04.00	00.12	00.03
50	197	208	203	79 B	20 F	183	04.00	00.13	00.06
75	175	166	171	90 B	20 F	151	04.00	00.10	00.09
100	120	155	138	104 B	20 F	118	04.00	00.08	00.12
150	108	87	98	62 B	20 F	78	04.00	00.05	00.15

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 42/62	22/ 3/62	0115 H	21 35 S	114 34 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	289	270	280	61 B	40 E	240	04.25	00.15	00.00
25	218	308	263	116 B	40 E	223	04.25	00.14	00.04
50	359	419	389	46	46	343	04.25	00.22	00.08
75	336	554	445	68 B	40 E	405	04.25	00.26	00.14
100	249	93	171 N	35	35	136	04.25	00.09	00.19
150	78	90	84	188 B	40 E	44	04.25	00.03	00.22

B ABERRANT VALUE. NOT USED
E MEAN NON-ABERRANT DARK USED
N DUPLICATE VALUES ABERRANT

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 43/62	24/ 3/62	0515 I	31 54 S	112 00 E

INCUBATION METHOD	PERIOD	14C STOCK	ACTIVITY CPM	BACKGROUND
ARTIFICIAL CONSTANT LIGHT	4 HOURS	10	8.97 MILLION	10 CPM

DEPTH M	LIGHT CPM	LIGHT CPM	MEAN CPM	DARK CPM	DARK USED CPM	NETT CPM	INC. PER. HOURS	PRODUCTION A MG.C/HR./CU.M.	PRODUCTION B G.C/DAY/SQ.M.
0	465	441	453	162 B	20 F	433	04.00	00.30	00.00
25	422	412	417	59 B	20 F	397	04.00	00.27	00.07
50	394	378	386	403 B	20 F	366	04.00	00.25	00.14
75	140	137	139	75 B	20 F	119	04.00	00.08	00.18
100	85	73	79	93 B	20 F	59	04.00	00.04	00.19
150	162	**	**	226 B	20 F	142	04.00	00.10	00.23

B ABERRANT VALUE, NOT USED
F ARBITRARY DARK USED

DATA

PART 3

PIGMENTS

EXPLANATION OF HEADINGS

Part 3 Pigments

STATION	Gives the station identification, for example, Dml/24/62 signifies the 24th station worked by Diamantina in 1962, on her 1st cruise for that year.
DATE	Given as day/month/year.
TIME	Given in Zone Time (Table 2, p.14).
LATITUDE LONGITUDE	Given in degrees and minutes.
DEPTH	Actual sampling depth given in metres.
CHLOROPHYLL A B C	A and B given in mg/m^3. C given in $MSPU/m^3$.
ASTACIN NON-ASTACIN	Given in $MSPU/m^3$.

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 1/62	13/ 2/62	0240 H	32 03 S	111 31 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
25	0.05	0.04	0.31	0.06	0.01
50	0.06	0.04	0.27	0.06	0.01
75	0.07	0.04	0.32	0.08	0.01
100	0.14	0.05	0.36	0.09	- 0.01
150	0.05	0.01	0.11	0.07	0.00

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 2/62	15/ 2/62	2200 H	20 23 S	116 04 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.30	0.10	0.51	0.08	0.02
10	0.37	0.10	0.59	0.09	0.03
20	0.42	0.09	0.58	0.11	0.02
30	0.27	0.07	0.24	0.06	0.03

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 3/62	16/ 2/62	0805 H	19 36 S	117 52 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.08	0.04	0.33	0.07	0.01
10	0.14	0.10	0.63	0.10	- 0.02
20	0.12	0.06	0.38	0.06	0.02
30	0.15	0.05	0.38	0.05	0.03
40	0.21	0.08	0.41	0.07	0.03
50	0.23	0.09	0.48	0.08	0.02

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 4/62	16/ 2/62	1725 H	17 59 S	117 08 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.02	0.02	0.10	0.04	0.01
25	0.07	0.06	0.39	0.06	0.00
50	0.06	0.05	0.31	0.07	0.00
75	0.10	0.05	0.23	0.04	0.03
100	0.10	0.05	0.23	0.04	0.02
150	0.02	0.01	0.11	0.02	0.03

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 5/62	17/ 2/62	0130 H	16 48 S	116 43 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.02	0.02	0.10	0.04	0.01
25	0.02	0.03	0.17	0.05	- 0.01
50	0.13	0.05	0.37	0.09	- 0.00
75	0.12	0.08	0.46	0.07	0.00
100	0.06	0.05	0.25	0.05	0.02
150	0.06	0.05	0.46	0.08	- 0.02

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 6/62	17/ 2/62	1130 H	15 19 S	116 08 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.03	0.03	0.14	0.04	0.01
25	0.03	0.02	0.21	0.05	0.01
50	0.28	0.08	0.71	0.09	0.00
75	0.22	0.10	0.59	0.07	0.03
100	0.10	0.08	0.48	0.07	0.01
150	0.06	0.05	0.33	0.06	0.00

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 7/62	18/ 2/62	0120 H	13 29 S	115 23 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.05	0.05	0.32	0.07	0.00
25	0.06	0.03	0.29	0.07	0.00
50	0.04	0.04	0.09	0.03	0.01
75	0.16	0.08	0.46	0.09	0.01
100	0.11	0.06	0.39	0.07	0.03
150	0.05	0.05	0.29	0.07	0.01

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 8/62	18/ 2/62	1530 H	11 40 S	114 41 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.04	0.03	0.24	0.05	0.01
25	0.04	0.03	0.20	0.05	0.02
50	0.08	0.07	0.43	0.08	- 0.00
75	0.04	0.03	0.24	0.06	0.01
100	0.07	0.03	0.30	0.06	- 0.00
150	0.05	0.05	0.35	0.08	- 0.02

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 9/62	19/ 2/62	0315 H	09 59 S	113 59 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.02	0.02	0.13	0.02	0.02
25	0.02	0.02	0.12	0.04	0.02
50	0.07	0.07	0.42	0.09	- 0.02
75	0.08	0.04	0.25	0.05	0.02
100	0.12	0.06	0.34	0.05	0.03
150	0.07	0.07	0.31	0.08	- 0.03

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 10/62	20/ 2/62	0600 H	10 51 S	119 14 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.02	0.03	0.21	0.03	0.01
25	0.04	0.03	0.20	0.03	0.01
50	0.05	0.04	0.33	0.05	0.02
75	0.10	0.05	0.29	0.03	0.04
100	0.11	0.08	0.41	0.08	0.01
150	0.03	0.03	0.22	0.03	0.01

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 11/62	20/ 2/62	1700 H	12 29 S	119 35 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.02	0.01	0.08	0.02	0.02
25	0.04	0.03	0.21	0.05	0.02
50	0.07	0.04	0.37	0.07	- 0.01
75	0.12	0.08	0.33	0.06	0.02
100	0.15	0.09	0.48	0.08	0.02
150	0.04	0.03	0.26	0.05	- 0.00

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 12/62	21/ 2/62	0600 H	14 20 S	120 33 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.05	0.05	0.29	0.05	0.01
25	0.02	0.02	0.09	0.03	0.01
50	0.07	0.04	0.33	0.07	- 0.02
75	0.17	0.08	0.47	0.07	0.03
100	0.06	0.04	0.29	0.04	0.02
150	0.03	0.04	0.21	0.05	0.01

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 13/62	21/ 2/62	1325 H	15 09 S	121 00 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.04	0.05	0.31	0.05	0.01
25	0.02	0.03	0.21	0.02	0.02
50	0.15	0.09	0.56	0.07	0.04
75	0.17	0.11	0.59	0.09	0.01
100	0.12	0.10	0.56	0.09	0.00
150	0.04	0.02	0.23	0.04	0.02

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 14/62	21/ 2/62	1900 H	16 15 S	121 16 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.06	0.03	0.18	0.03	0.02
10	0.11	0.06	0.39	0.05	- 0.01
20	0.09	0.03	0.15	0.04	0.02
30	0.33	0.12	0.66	0.09	0.03
40	0.17	0.06	0.47	0.08	0.00
50	0.13	0.05	0.48	0.10	- 0.02

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 15/62	22/ 2/62	0230 H	15 31 S	122 44 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.06	0.03	0.18	0.03	0.04
10	0.06	0.04	0.26	0.05	0.01
20	0.07	0.03	0.17	0.05	0.02
30	0.08	0.04	0.30	0.06	0.01
40	0.08	0.04	0.30	0.06	0.02
60	0.05	0.03	0.19	0.05	0.01

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 16/62	22/ 2/62	0950 H	15 00 S	124 12 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.12	0.06	0.40	0.08	- 0.03
10	0.12	0.05	0.38	0.06	0.01
20	0.17	0.06	0.29	0.05	0.03
30	0.30	0.11	0.53	0.07	0.03
40	0.30	0.06	0.46	0.07	0.03
50	0.52	0.16	0.99	0.17	0.00

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 17/62	22/ 2/62	1730 H	14 00 S	125 15 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.06	0.04	0.29	0.06	0.01
10	0.04	0.02	0.17	0.05	0.01
20	0.09	0.06	0.40	0.08	- 0.00
30	0.10	0.06	0.39	0.07	0.00
40	0.25	0.07	0.47	0.05	0.04
50	0.04	0.03	0.20	0.04	0.01

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 18/62	23/ 2/62	0015 H	12 39 S	124 39 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.06	0.05	0.28	0.06	0.01
10	0.03	0.02	0.21	0.04	0.01
20	0.04	0.02	0.31	0.06	0.01
30	0.08	0.05	0.31	0.06	0.01
40	0.13	0.06	0.42	0.06	0.02
60	0.13	0.07	0.29	0.05	0.02

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 19/62	23/ 2/62	0840 H	11 13 S	124 07 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.07	0.04	0.34	0.06	0.01
25	0.09	0.07	0.43	0.08	- 0.01
50	0.16	0.06	0.30	0.04	0.04
75	0.13	0.06	0.40	0.07	0.03
150	0.04	0.02	0.36	0.06	0.01

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 20/62	23/ 2/62	1900 H	10 00 S	125 55 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.05	0.04	0.23	0.05	0.02
25	0.15	0.07	0.42	0.08	0.03
50	0.11	0.04	0.30	0.05	0.03
75	0.09	0.04	0.35	0.06	0.02
100	0.11	0.07	0.45	0.07	0.01
150	0.04	0.03	0.32	0.05	0.04

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 21/62	24/ 2/62	0700 I	08 55 S	127 46 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.11	0.06	0.41	0.08	0.00
25	0.09	0.05	0.28	0.06	0.01
50	0.09	0.05	0.31	0.06	0.02
75	0.19	0.11	0.55	0.09	0.03
100	0.12	0.08	0.34	0.06	0.02
150	0.08	0.06	0.39	0.07	- 0.00

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 22/62	24/ 2/62	1515 I	10 07 S	128 25 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.02	0.02	0.09	0.03	0.02
10	0.04	0.03	0.20	0.03	0.01
20	0.11	0.07	0.43	0.07	0.01
30	0.15	0.07	0.33	0.05	0.03
40	0.15	0.08	0.36	0.05	0.03
60	0.14	0.07	0.45	0.07	0.01

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 23/62	2/ 3/62	1615 I	11 29 S	129 19 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.29	0.12	0.77	0.13	0.02
10	0.29	0.07	0.60	0.11	0.02
20	0.31	0.06	0.47	0.09	0.03
30	0.33	0.08	0.55	0.09	0.04
40	0.40	0.07	0.64	0.11	0.03
50	0.29	0.08	0.59	0.09	0.03

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 24/62	2/ 3/62	2145 I	10 31 S	128 51 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.13	0.03	0.26	0.06	0.02
10	0.13	0.05	0.34	0.07	0.01
20	0.19	0.06	0.38	0.07	0.04
30	0.84	0.07	0.99	0.12	0.17
40	0.76	0.07	0.94	0.13	0.13
60	0.49	0.07	0.72	0.12	0.06

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 25/62	3/ 3/62	1215 I	07 45 S	128 50 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.08	0.06	0.41	0.08	0.01
25	0.12	0.08	0.50	0.09	- 0.01
50	0.27	0.11	0.72	0.12	0.02
75	0.20	0.07	0.54	0.09	0.04
100	0.13	0.08	0.58	0.09	0.01
150	0.08	0.04	0.44	0.08	- 0.00

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 26/62	4/ 3/62	0400 I	05 57 S	130 53 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.08	0.05	0.35	0.07	0.00
25	0.07	0.05	0.32	0.08	- 0.00
50	0.09	0.06	0.40	0.08	0.00
75	0.21	0.08	0.42	0.08	0.04
100	0.08	0.04	0.23	0.04	0.04
150	0.06	0.04	0.27	0.06	0.01

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 27/62	4/ 3/62	1830 I	05 29 S	128 51 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.06	0.04	0.30	0.06	0.02
25	0.07	0.04	0.34	0.07	- 0.00
50	0.09	0.05	0.30	0.07	0.02
75	0.20	0.07	0.51	0.07	0.04
100	0.08	0.06	0.36	0.06	0.03
150	0.07	0.05	0.38	0.08	0.00

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 28/62	5/ 3/62	1050 H	07 19 S	127 12 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.08	0.05	0.35	0.08	- 0.01
25	0.10	0.05	0.52	0.08	- 0.00
50	0.30	0.12	0.75	0.10	0.03
75	0.19	0.18	0.55	0.08	0.00
100	0.09	0.05	0.31	0.05	0.03
150	0.06	0.05	0.40	0.07	0.00

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 30/62	6/ 3/62	0820 H	07 27 S	123 27 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.12	0.06	0.37	0.08	0.01
25	0.29	0.08	0.59	0.12	0.01
50	0.19	0.05	0.38	0.04	0.05
75	0.06	0.04	0.24	0.04	0.01
100	0.04	0.03	0.13	0.04	0.01
150	0.03	0.02	0.14	0.03	0.02

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 31/62	7/ 3/62	0445 H	07 45 S	120 20 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.06	0.03	0.13	0.04	0.03
25	0.08	0.06	0.42	0.07	0.00
50	0.19	0.08	0.55	0.10	0.01
75	0.15	0.05	0.49	0.07	0.03
100	0.06	0.03	0.31	0.06	0.00
150	0.06	0.04	0.35	0.07	- 0.00

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 32/62	8/ 3/62	0210 H	07 57 S	117 08 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.04	0.05	0.32	0.06	0.01
25	0.08	0.05	0.45	0.08	- 0.00
50	0.17	0.07	0.51	0.08	0.02
75	0.15	0.05	0.45	0.06	0.05
100	0.09	0.05	0.37	0.07	0.00
150	0.07	0.05	0.44	0.09	- 0.01

STATION	DATE	TIME	LATITUDE	LONGITUDE
DM 1/ 33/62	17/ 3/62	1430 G	08 55 S	104 53 E

DEPTH	CHLOROPHYLL A	CHLOROPHYLL B	CHLOROPHYLL C	ASTACIN	NON-ASTACIN
0	0.06	0.05	0.34	0.06	0.00
25	0.08	0.06	0.43	0.08	- 0.00
50	0.16	0.09	0.55	0.09	0.01
75	0.20	0.09	0.39	0.04	0.08
100	0.15	0.09	0.45	0.07	0.04

DATA

PART 4

PHYTOPLANKTON

TABLE 3

OCCURRENCE OF DINOFLAGELLATES

Numbers refer to stations at which each organism was found

Amphisolenia astragalus 6.
A. bidinatata 2, 3, 7, 10, 12, 13, 17, 21, 23, 26.
A. clavipes 1.
A. globifera 6, 7, 19.
A. rectangulata 10.

Ceratium arictinum 16, 21.
C. breve 10, 16, 21.
C. buceros 5, 10, 11, 13, 17, 19, 24, 25, 26.
C. candelabrum 1, 3, 22, 23.
C. carriense 3, 16, 17.
C. contortum 7, 12, 13, 19, 23, 24, 26.
C. contrarium 16, 19, 23.
C. dens 22, 24.
C. extensum 2, 10, 22, 26.
C. falcatiforme 10.
C. falcatum 17.
C. furca 1, 2, 3, 4, 5, 8, 10, 11, 12, 13, 16, 17, 20, 21, 22, 23, 24, 25, 26.
C. fusus 1, 2, 3, 7, 8, 9, 10, 11, 12, 13, 16, 17, 19, 20, 21, 22, 23, 26.
C. gibberum 5, 6, 16, 19, 21, 22, 24, 25, 26.
C. gravidum 7, 22.
C. hexacanthum 3.
C. horridum 3, 11.
C. humile 23.
C. inflatum 3, 17, 22.
C. inflexum 24.
C. karsteni 24.
C. kofoidi 17.
C. limulus 25.
C. macroceros 1, 2, 7, 8, 10, 16, 17, 22, 23, 24.
C. massiliense 13, 17, 20.
C. pentagonum 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 16, 17, 19, 20, 21, 22, 24, 25, 26.

DATA

PART 5

ZOOPLANKTON BIOMASS

Dml/62

OBLIQUE HAULS: CLARKE-BUMPUS
200-0 m

STATION	DATE	TIME	LATITUDE	LONGITUDE	DEPTH m	VOLUME FILTERED m^3	BIOMASS mg/m^3
4	16/2/62	1908	17°58.5'S.	117°08'E.	1920	26.8	105
5	17/2/62	0335	16°48'S.	116°43'E.	2195	21.5	106
6		1509	15°18'S.	116°08'E.	5577	23.1	100
7	18/2/62	0509	13°29'S.	115°23'E.	5486	20.5	108
10	20/2/62	0838	10°51'S.	119°13.8'E.	3840	25.9	68
11		1948	12°29'S.	119°35'E.	4572	20.7	83
12	21/2/62	0740	14°19.5'S.	120°33'E.	2560	19.8	64
26	4/3/62	0758	5°57'S.	130°53'E.	6584	7.0	73
28	5/3/62	1409	7°19'S.	127°11.5'E.	4755	22.1	86
31	7/3/62	0810	7°45'S.	120°19.6'E.	4755	23.6	77
32	8/3/62	0405	7°57'S.	117°08'E.	1500	14.0	122
33	17/3/62	1749	8°54.8'S.	104°53'E.	5650	15.5	117
34	18/3/62	1223	8°53.8'S.	108°12'E.	3292	26.8	176
35		2302	10°13'S.	108°46'E.	6401	17.7	99
36	19/3/62	1207	12°10'S.	109°50'E.	3292	11.5	136
37		2311	13°41'S.	110°44'E.	5486	28.4	150
38	20/3/62	1203	15°32'S.	111°40'E.	5212	22.4	74
39		0056	17°25'S.	112°35'E.	4389	26.4	97
40	21/3/62	1205	19°11'S.	113°34'E.	1097	19.2	71
41		1830	20°00'S.	114°4.8'E.	1097	25.0	54
43	24/3/62	0741	31°54'S.	112°00'E.	4846	41.4	52

OCEANOGRAPHICAL CRUISE REPORTS

1. Oceanographical observations in the Indian Ocean in 1959. H.M.A.S. *Diamantina* Cruises Dm1/59 and Dm2/59.
2. Oceanographical observations in the Indian Ocean in 1960. H.M.A.S. *Diamantina* Cruise Dm1/60.
3. Oceanographical observations in the Indian Ocean in 1960. H.M.A.S. *Diamantina* Cruise Dm2/60.
4. Oceanographical observations in the Indian Ocean in 1960. H.M.A.S. *Diamantina* Cruise Dm3/60.
5. Oceanographical observations in the Pacific Ocean in 1960. H.M.A.S. *Gascoyne* Cruise G1/60 and G2/60.
6. Oceanographical observations in the Pacific Ocean in 1960. H.M.A.S. *Gascoyne* Cruise G3/60.
7. Oceanographical observations in the Indian Ocean in 1961. H.M.A.S. *Diamantina* Cruise Dm1/61.
8. Oceanographical observations in the Pacific Ocean in 1961. H.M.A.S. *Gascoyne* Cruise G1/61.
9. Oceanographical observations in the Indian Ocean in 1961. H.M.A.S. *Diamantina* Cruise Dm2/61.
11. Oceanographical observations in the Indian Ocean in 1961. H.M.A.S. *Diamantina* Cruise Dm3/61.
14. Oceanographical observations in the Indian Ocean in 1962. H.M.A.S. *Diamantina* Cruise Dm1/62.