

OCEANOGRAPHICAL OBSERVATIONS
IN THE INDIAN OCEAN IN 1960
H.M.A.S. *DIAMANTINA*
Cruise Dm 1/60

OCEANOGRAPHICAL CRUISE REPORT

NO. 2

DIVISION OF FISHERIES AND OCEANOGRAPHY
COMMONWEALTH SCIENTIFIC AND INDUSTRIAL
RESEARCH ORGANIZATION, AUSTRALIA 1962

OCEANOGRAPHICAL CRUISE REPORT

No. 2

CORRIGENDA

- p.10. line 6. read "counts were made aboard by Mr B.D. Scott and the determinations of species of phytoplankton were made at the Cronulla laboratory by Mr E.J.F. Wood.
- p.12. line 6. MAX. SAMP. DEPTH Not given for this cruise.
- p.12. line 22. No atmospheric pressure readings were made on this cruise.
- p.12. line 33. Add "A blank denotes 0 m."
- p.13. line 14. MAX. SAMP. DEPTH after "....10 metres" add "and is in 10 m units."
- p.13. line 17. for "recorded" read "designated"
- p.13. line 22. after "....in metres" add "a blank denotes 0 m."
- p.14. line 3. RATE OF PRODUCTION
A B
After "B is given in $g^C/day/m^2$ " add "to 2 decimal places. A day has been taken to be equal to 10 hours. The value of each depth is the value from the surface to that depth."
- p.14. line 8. Add a new heading
DEPTH Given in m. A blank denotes 0 m.
- p.14. SONIC DEPTH The accounting machine frequently omits 0 at the end of a series of figures. The following corrections are given for this item throughout this section.

SONIC DEPTH p.17. 3900, p.23. 1280,
 p.26. 4300, p.29. 5400,
 p.30. 2140, p.31. 3840,
 p.34. 5750, p.36. 4800,
 p.66. 5440.

p.68. Add "1" in DOUBTFUL column for 1807 m
 depth.

pp.79-92. SONIC DEPTH The accounting machine has
 omitted a "0" at the end of the sonic
 depth figures on pp.79 and 81. Where
 sonic depths were not recorded on the
 cards the machine has printed 9999.
 Where this figure occurs on pp.79, 80,
 82, 84, 86 and 90, it should be deleted.

LIGHT DARK Sometimes the machine has
 COUNT COUNT left a blank in the units
 column instead of printing
 a nought.

p.79. NET Station 6, 100 m. Replace "190"
 COUNT by "180."

pp.95-108. The arrows indicating the positions of
 decimal points should be disregarded.
 The values are always to 2 decimal places,
 i.e. 2 = 0.02, 14 = 0.14, 112 = 1.12

$2^* = -0.02$, $14^* = -0.14$, $112^* = -1.12$

p.95. Station 6. Discard all values for the sample
 from 75 m.

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H.M.A.S. DIAMANTINA

Cruise Dm 1/60

COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH

ORGANIZATION, AUSTRALIA

MELBOURNE, 1962

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When citing this report, abbreviate as follows:
C.S.I.R.O. Aust. Oceanogr. Cruise Rep. No. 2.

OCEANOGRAPHICAL CRUISE REPORT

No. 2

Oceanographical Observations in the Indian Ocean in 1960

H.M.A.S. Diamantina

Cruise Dm 1/60

I. INTRODUCTION

In this volume data are recorded from the first cruise in 1960 of H.M.A.S. Diamantina, Royal Australian Navy frigate, which undertakes oceanographic cruises in the Indian Ocean.

II. METHODS OF COLLECTION AND ANALYSIS OF SAMPLES

1. Physics

See C.S.I.R.O. Aust. (1962).

2. Chemistry

Salinity.- Salinity for Stations 62-114 was measured on board with an inductive salinometer (Brown and Hamon 1961) giving results with an accuracy of $\pm 0.005\%$. 200 duplicate samples were checked at Cronulla on a second inductive salinometer of the same design. The inductive salinometer was unserviceable for samples from Stations 1-61 and a temperature-salinity meter (Hamon 1956) was used.

Dissolved Oxygen.- See C.S.I.R.O. Aust. (1962).

Oxygen Saturation.- See C.S.I.R.O. Aust. (1962).

Inorganic Phosphate.- See C.S.I.R.O. Aust. (1962).

3. Primary Production

See C.S.I.R.O. Aust. (1962).

4. Pigments

See C.S.I.R.O. Aust. (1962).

5. Phytoplankton

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

Quantitative Examination.- All counts were made with a Petroff Hausser bacterial counting chamber. If the count was more than five per field, four fields were counted; if the count was less than five per field, ten fields were counted.

Total particles were counted with ordinary illumination.

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

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

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

6. Zooplankton

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

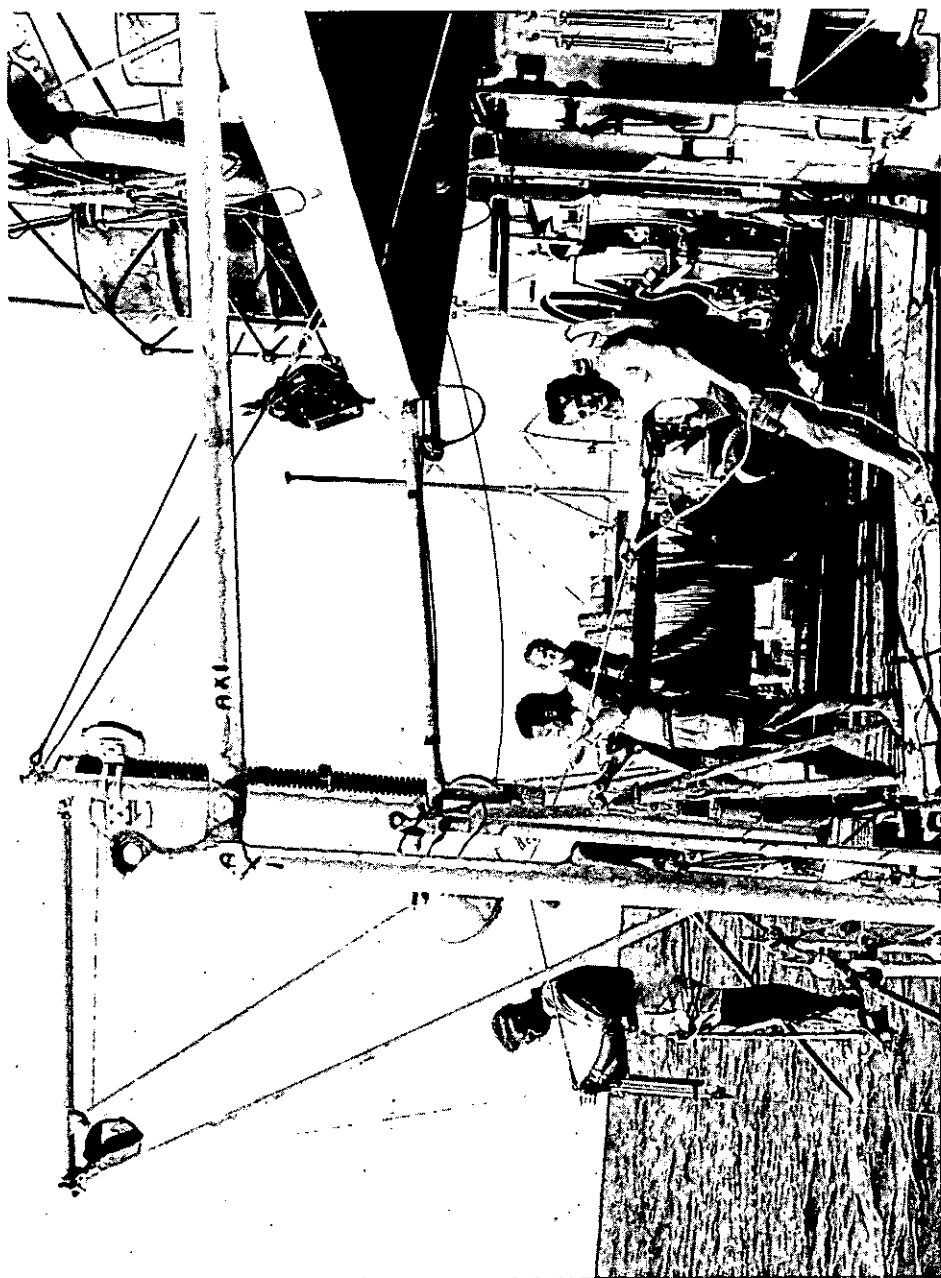


Fig. 1.- Nansen Water Bottle Sampling

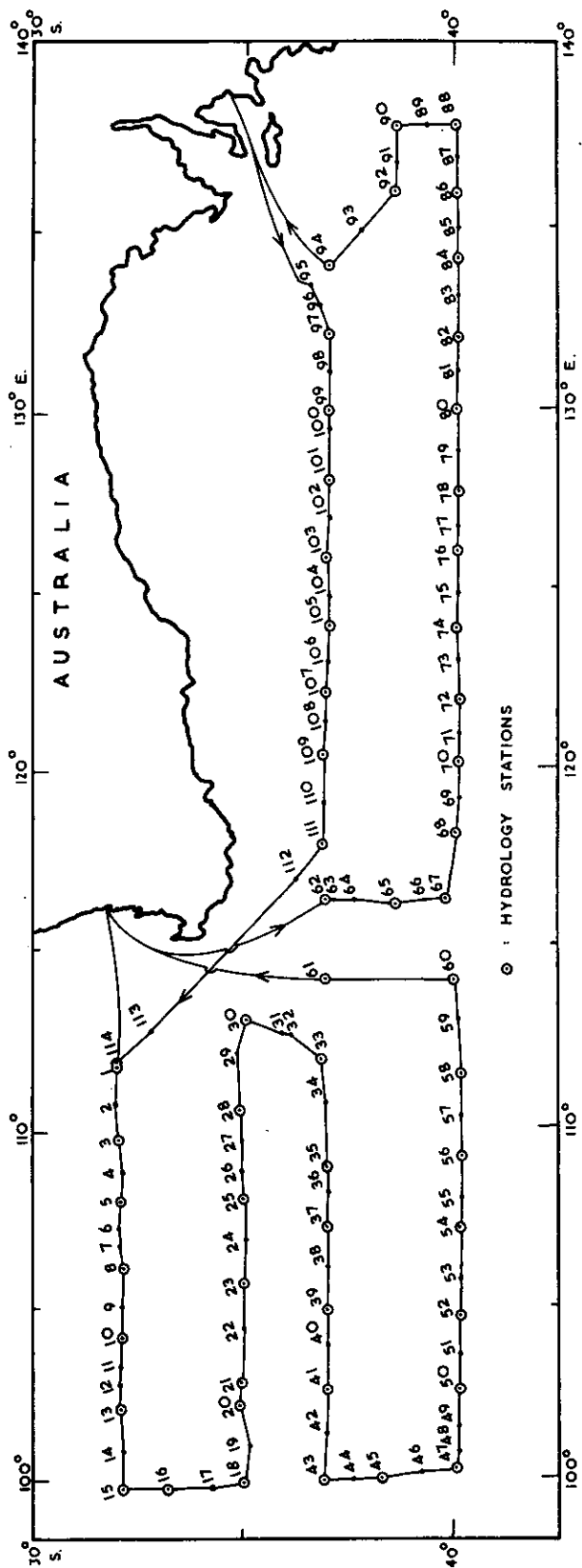


Fig. 2

The hauls were oblique from 200 m to the surface and 400 m to 200 m. Depths were estimated from wire angle and are only approximate. The speed of tow was 2-4 knots and the wire was recovered at about 10 metres per minute. The period of tow averaged half an hour and the volume filtered 14 m³.

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

REFERENCES

- Brown, N.L., and Hamon B.V. (1961).- An inductive salinometer.
Deep-Sea Res. 8: 65-75.
- C.S.I.R.O. Aust. (1962).- Oceanographical observations in the Indian Ocean in 1959. H.M.A.S. Diamantina.
Cruises Dm 1/59, Dm 2/59.
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- Davis, P.S. (1957).- A method for the determination of chlorophyll in sea-water.
C.S.I.R.O. Aust. Div. Fish. Oceanogr. Rep. No. 7.
- Hamon, B.V. (1956).- A portable temperature-chlorinity bridge for estuarine investigations and sea-water analysis.
J. Sci. Instrum. 33: 329-333.
- Tranter, D.J. (1961).- A method for determining zooplankton volumes.
J. Cons. Int. Explor. Mer. 25: 272-8.

III. CRUISE Dm 1/60

Objective

This cruise was planned to provide a series of oceanographical sections from the eastern Bight region to 100°E to supplement and link data from Discovery II and Ob meridional sections at the limits of this area.

Itinerary

On this cruise 114 stations were occupied (Fig. 2). The cruise commenced at Fremantle on February 2, 1960, occupied the reference station and then a series of stations west to 100°E. Three sections south of this line were worked and the ship returned to Fremantle on February 18. She left Fremantle again on March 1 travelled south to 40°S and worked a section to 137°E, travelled then to Adelaide, did a section west, occupied the reference station, and returned to Fremantle on March 23. Bathythermograph casts were made at 109 stations. Primary production, pigment, and zooplankton samples were taken at 27 stations and quantitative phytoplankton samples at 75 stations. Surface hydrology samples were taken at 108 surface stations. At 56 of these surface stations, deep hydrology casts were also made (Table 1).

TABLE 1

WORK DONE AT EACH STATION

Station Number	BT	Hydrology		Primary Prod.	Pigments	Phytoplankton		Zoo-plankton
		Surface	Deep			1	2	
1	+	+	+	+	+	+	+	+
2	+	+				+		
3	+	+	+			+		
4	+	+				+		
5	+	+	+			+		
6	+	+		+	+	+	+	+
7		+				+		
8	+	+				+		
9	+	+				+		
10	+	+	+			+		
11	+	+		+	+	+	+	+

- Phytoplankton
1. Tows with Hardy Indicator for qualitative examination
 2. Sampling for quantitative examination

Station Number	BT	Hydrology		Primary		Phytoplankton		Zoo- plankton
		Surface	Deep	Prod.	Pigments	1	2	
12	+	+				+		
13	+	+	+			+		
14	+	+				+		
15	+	+	+			+		
16	+	+	+	+	+	+	+	+
17	+	+				+		
18	+	+	+			+		
19	+	+				+		
20	+	+	+	+	+	+	+	+
21	+	+	+			+		
22	+					+		
23		+	+	+	+	+	+	+
24	+	+				+		
25	+	+	+			+		
26	+	+				+		
27	+	+		+	+	+	+	+
28	+	+	+			+		
29	+	+				+		
30	+	+	+					
31	+	+				+		
32				+	+		+	+
33	+	+	+			+		
34	+							
35	+	+	+			+		
36	+	+				+		
37	+	+	+			+		
38	+	+				+		
39	+	+	+	+	+	+	+	+
40	+	+				+		
41	+	+	+			+		
42	+	+				+		
43	+	+	+	+	+	+	+	+
44	+	+				+		
45	+	+	+			+		
46	+	+				+		
47	+	+	+			+		
48				+	+		+	+
49	+	+						

* Hydrology - 1100 m to 5500 m only

Station Number	BT	Hydrology		Primary Prod.	Pigments	Phytoplankton		Zoo-plankton
		Surface	Deep			1	2	
50	+	+	+			+		
51	+	+				+		
52	+	+	+			+		
53	+	+		+	+		+	+
54	+	+	+			+		
55	+	+				+		
56	+	+	+			+		
57	+	+				+		
58	+	+	+	+	+	+	+	+
59	+	+				+		
60	+	+	+			+		
61	+	+	+	+	+	+		+
62	+	+	+			+		
63	+	+		+	+	+	+	+
64	+	+						
65	+	+	+			+		
66	+	+				+		
67	+	+	+			+		
68	+	+	+	+	+	+	+	+
69	+	+				+		
70	+	+	+			+		
71	+	+				+		
72	+	+	+	+	+	+	+	+
73	+							
74	+	+	+			+		
75	+	+				+		
76	+	+	+			+		
77	+	+				+		
78	+	+	+	+	+	+	+	+
79	+	+				+		
80	+	+	+			+		
81	+	+				+		
82	+	+	+	+	+	+	+	+
83	+					+		
84	+	+	+			+		
85	+	+				+		
86	+	+	+	+	+	+	+	+
87	+	+				+		
88	+	+	+			+		
89	+	+				+		

Station Number	BT	Hydrology		Primary Prod.	Pigments	Phytoplankton		Zoo-plankton
		Surface	Deep			1	2	
90	+	+	+			+		
91	+	+						
92	+	+	+	+	+	+	+	+
93	+	+				+		
94	+	+	+			+		
95	+	+		+	+	+	+	+
96	+	+				+		
97	+	+	+			+		
98	+	+				+		
99	+	+	+			+		
100	+	+		+	+		+	+
101	+	+	+			+		
102	+	+				+		
103	+	+	+			+		
104	+	+		+	+	+	+	+
105	+	+	+			+		
106	+	+				+		
107	+	+	+			+		
108	+	+				+		
109	+	+	+	+	+	+	+	+
110	+	+				+		
111	+	+	+	+	+	+		+
112	+	+						
113		+						
114	+	+	+	+	+	+	+	+

Scientific Personnel

A.D. Crooks (2/2/60 - 18/2/60) Cruise Leader
 R.M. Davies (1/3/60 - 23/3/60) Cruise Leader
 R. Bradley
 F. Davies
 S. Rahman (2/2/60 - 18/2/60)
 B.D. Scott

The analyses of hydrological samples were done in the ship's laboratory by Messrs Bradley and Davies.

The primary production samples were taken and processed aboard, and the counts were made at the Cronulla laboratory by Mr B.D. Scott. The samples for pigment determination were taken and filtered aboard by Mr B.D. Scott and the analyses were done in the Cronulla laboratory by Mr M. Wootton. The counts and the determinations of species of phytoplankton were made by Mr E.J.F. Wood. The zooplankton samples were weighed and the species determined in the Cronulla laboratory by Mr C. Irving.

The data were processed under the direction of Mr A.D. Crooks by Misses L. Lalor and F. Luce and Mrs Wood. The plots were prepared for publication by Mr R. Breach and Miss J. Elder and the master sheets were typed by Mrs D. Schmitzer.

IV.. DATA SHEETS AND TABLES

The data sheets for Cruise Dm 1/60 are arranged in six parts. Part 1 contains the hydrology data for deep stations. Part 2 gives the temperature and salinity data from surface sampling. Part 3 gives primary production data. Part 4 gives data on pigments. Part 5 gives quantitative and qualitative data for phytoplankton. Part 6 gives the quantitative zooplankton data.

Explanation of Headings on Data Sheets

The following notes are supplied to help explain the headings used on the data sheets.

<u>Part 1</u>	<u>Hydrology - Deep Stations</u>
<u>Part 2</u>	<u>Hydrology - Surface Sampling</u>

SHIP	All cruises aboard <u>Diamantina</u> are designated by the letters Dm or the figures 11.
CRUISE	The letters Dm are followed by the number of the cruise and the year. Cruise numbers are allotted each year beginning with 1 for the first cruise.
STATION	Stations are numbered consecutively for each ship for each year.

TIME Given in Local Mean 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	Time Zone (hrs)	Code
07°31'E - 22°30'E	-1	A
22°31'E - 37°30'E	-2	B
37°31'E - 52°30'E	-3	C
52°31'E - 67°30'E	-4	D
67°31'E - 82°30'E	-5	E
82°31'E - 97°30'E	-6	F
97°31'E - 112°30'E	-7	G
112°31'E - 127°30'E	-8	H
127°31'E - 142°30'E	-9	I
142°31'E - 157°30'E	-10	K
157°31'E - 172°30'E	-11	L
172°31'E - 180°	-12	M
180° - 172°30'W	+12	Y
172°31'W - 157°30'W	+11	X
157°31'W - 142°30'W	+10	W
142°31'W - 127°30'W	+9	V
127°31'W - 112°30'W	+8	U
112°31'W - 97°30'W	+7	T
97°31'W - 82°30'W	+6	S
82°31'W - 67°30'W	+5	R
67°31'W - 52°30'W	+4	Q
52°31'W - 37°30'W	+3	P
37°31'W - 22°30'W	+2	O
22°31'W - 07°30'W	+1	N
07°31'W - 07°30'E	0	Z

LATITUDE	LONGITUDE	The position of each station is given in degrees and minutes.
SONIC DEPTH		Given in metres, measured at standard sound velocity of 800 fm (1463 m) per second.
MAX. SAMP. DEPTH		Maximum sampling depth is given to the nearest 100 m.
AIR TEMP. WET DRY		Air temperatures are recorded from wet and dry bulb thermometers in centigrade degrees and tenths.
WIND DIR. SPEED		Wind direction and speed are coded using Tables 8 and 9 in U.S. Hydrogr. Office (1955).
ANEM. HEIGHT		The average height of the anemometer above sea level is given in metres.
CLOUD TYPE AMT.		Cloud type and amount are coded using Tables 2 and 3 in U.S. Hydrogr. Office (1955).
VIS.		Visibility is coded using Table 4 in U.S. Hydrogr. Office (1955).
SEA DIR. AMT.		Sea direction and amount are coded using Tables 5 and 8 in U.S. Hydrogr. Office (1955).
SWELL DIR. AMT.		Sea swell direction and amount are coded using Tables 6 and 8 in U.S. Hydrogr. Office (1955).
ATMOS. PRESSURE		Atmospheric pressure is recorded in millibars, neglecting first figure of the hundreds, so that 994 millibars is recorded as 94 and 1006 as 06.
WIRE ANGLES CAST 1 CAST 2		Wire angles are measured at the surface and expressed in degrees for each cast. No more than two wire angles are recorded; if there is a third cast, the shallow cast angle is neglected.
CAST		The cast numbers (corresponding to the wire angles) are shown.
DEPTH		Actual sampling depth given in metres.
TEMP.		Sea temperatures are recorded in degrees centigrade.
S ‰		Salinities are recorded in parts per thousand.
σ_t		Sigma-t

O ₂	Oxygen is given in ml/l.
O ₂ % SAT.	Oxygen percentage saturation.
INORG. P	Inorganic phosphate values are given in μg at./l.
DOUBTFUL	A figure in this column indicates that the values for certain properties are doubtful or have been interpolated. The properties are designated by the following numbers:- 1. temperature, 2. salinity, 3. temperature and salinity, 4. oxygen, 5. inorganic phosphate, 6. oxygen and inorganic phosphate, 7. depth.

Part 3 Primary Production

MAX. SAMP. DEPTH	Maximum sampling depth is given to the nearest 10 metres.
DIST. FROM COAST	Distance from nearest land is given in miles.
METHOD OF INCUBATION	Method of incubation on this cruise was by light bath and is recorded by a zero.
STOCK NUMBER	Number of C ¹⁴ stock used.
STOCK ACTIVITY	The activity of C ¹⁴ stock used is recorded in millions of counts/min.
BACKGROUND	Background count is recorded in counts/min.
DEPTH	Depth of sampling is given in metres.
LIGHT COUNT	The counts/min of the filter from the clear bottle.
DARK COUNT	The counts/min of the filter from the dark bottle.
NET COUNT	The difference between the light and dark counts.

DATA

PART 1

HYDROLOGY

DEEP STATIONS

SHIP		CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE		LONGITUDE				
11		1	1	60	2	03	0500 G	3200 S		11150 E				
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES	
		WET	↓	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.		DIR.	AMT.
390		183	194	19	5	16	6	5	9	17	2	17	1	5
CAST	DEPTH	TEMP. ↓	S %	σ _t ↓	O ₂ ↓	O ₂ % SAT.	INORG. ↓	DOUBTFUL						
2		2082	35900	25260	505	102	8							
2	25	2080	35900	25270	505	103	8							
2	50	2063	35900	25320	505	102	10							
2	74	2044	35900	25360	511	103	10							
2	97	1847	35900	25760	524	103	16							
2	142	1646	35710	26210	524	98	29							
2	182	1473	35500	26430	520	94	36							
2	228	1364	35370	26560	530	94	44							
2	272	1238	35170	26660	545	94	55							
2	368	1024	34850	26810	545	89	83							
2	464	914	34720	26900	543	87	101							
1	626	774	34540	26970	505	78	124							
1	798	503	34430	27250	436	63	178							
1	972	405	34490	27400	372	52	196							
1	1150	369	34560	27490	336	47	218							
1	1330	293	34580	27580	344	47	205							
1	1780	255	34700	27700	363	49	205							
1	2240	215	34720	27760	369	50	218							
1	2700	184	34720	27790	396	53	213							
1	3170	156	34720	27810	417	55	201							

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
------	--------	---------	------	-------	-----	------	----------	-----------

11	1	3	60	2	03	1830	G	3202	S	10950	E								
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.		SEA		SWELL		ATMOS. PRESSURE		WIRE ANGLES	
		WET	↓	DRY	↓	DIR.	SPEED	HEIGHT	TYPE	AMT.	DIR.	AMT.	DIR.	AMT.	DIR.	AMT.	↑	CAST 1.	CAST 2.
3650		172	189			16	5	16	7	8	2	16	1	19	4				

CAST	DEPTH	TEMP.	S‰	σ _t	O ₂	O ₂ % SAT.	INORG. P	DOUBTFUL
------	-------	-------	----	----------------	----------------	-----------------------	----------	----------

2		1947	35990	25670	531	105	12	
2	23	1944	35990	25680	525	104	12	2
2	47	1897	35970	25790	528	104	12	2
2	71	1765	35840	26010	548	105	12	
2	93	1645	35710	26210	540	1010	16	
2	140	1435	35470	26480	538	97	32	2
2	186	1334	35340	26600	538	95	41	
2	232	1235	35180	26670	545	94	53	2
2	276	1156	35050	26730	551	93	67	
2	364	1010	34840	26820	555	91	83	2
2	459	936	34740	26880	545	87	94	
2	560	872	34670	26920	542	86	110	2
1	650	795	34580	26970	545	84	130	
1	830	504	34420	27230	440	63	182	
1	1010	400	34490	27400	355	50	211	
1	1200	341	34540	27490	353	49	214	
1	1366	280	34600	27600	351	48	214	
1	1650	244	34700	27710	363	49	214	
1	2320	208	34720	27750	360	51	209	
1	2790	177	34720	27790	411	55	200	2

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
------	--------	---------	------	-------	-----	------	----------	-----------

11		1		5	60	2	04	0430	3203 S	108 2 E									
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.		SEA		SWELL		ATMOS. PRESSURE		WIRE ANGLES	
		WET	↓	DIR.	SPEED	HEIGHT	TYPE	AMT	DIR.	AMT.	DIR.	AMT.	DIR.	AMT.	DIR.	AMT.	↓	CAST 1.	CAST 2.

CAST	DEPTH	TEMP.	S%	σ _t	O ₂ ↓	O ₂ % SAT.	INORG. TP	DOUBTFUL
2		1970	35970	25600	519	104	14	
2	24	1964	35980	25620	523	104	12	
2	49	1895	35980	25800	534	103	12	
2	74	1859	35930	25850	534	103	12	
2	98	1788	35880	25990	548	106	14	
2	140	1616	35680	26260	548	102	16	
2	186	1447	35480	26460	531	96	32	
2	232	1307	35280	26610	534	93	46	
2	276	1206	35120	26690	545	93	60	
2	370	993	34830	26850	543	88	90	
2	464	896	34700	26910	541	86	100	
2	555	838	34630	26940	531	83	119	
2	645	736	34510	27000	526	80	131	
1	824	475	34420	27260	443	63	181	
1	1010	371	34470	27410	363	53	199	
1	1190	325	34540	27510	359	50	199	
1	1375	297	34610	27590	353	48	202	
1	1840	223	34700	27720	377	51	188	
1	2310	205	34720	27760	360	51	190	
1	2785	175	34730	27790	411	55	192	
1	3360	145	34730	27810	431	57	190	

SHIP		CRUISE	STATION	YEAR	MONTH	DAY	TIME		LATITUDE		LONGITUDE				
11		1	8	60	2	05	1630 G		3210 S		106 4 E				
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM HEIGHT	CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.			CAST 1.	CAST 2.
161 183 17 6 16 16 8 8 13 2 16 1															
CAST	DEPTH	TEMP.	S ‰		σ _t		O ₂ ↓	O ₂ % SAT.	INORG. ↓ P		DOUBTFUL				
2	25	1993	35930	35930	25510	524	105	10							
2	50	1920	35930	35930	25700	534	106	12							
2	75	1820	35880	35880	25910	539	104	12							
2	99	1794	35840	35840	25940	543	105	12							
2	146	1590	35640	35640	26300	566	103	17							
2	192	1450	35520	35520	26490	532	96	36							
2	236	1326	35320	35320	26600	545	96	43							
2	280	1208	35100	35100	26680	545	93	48							
2	366	1060	34900	34900	26790	548	90	77							
2	460	957	34780	34780	26880	548	88	82							
2	560	899	34670	34670	26890	543	86	96							
1	660	809	34610	34610	26950	532	79	108							
1	860	583	34450	34450	27160	459	68	164							
1	1040	403	34420	34420	27350	405	57	184							
1	1205	338	34510	34510	27480	366	51	191							
1	1385	302	34580	34580	27570	351	48	206							
1	1840	248	34700	34700	27710	359	49	201							
1	2310	209	34740	34740	27770	378	51	194							
1	2785	174	34740	34740	27800	399	53	186							
1	3265	148	34740	34740	27820	428	57	184							
1	3750	114	34740	34740	27850	449	59	182							
1	4237	102	34730	34730	27860	462	60	182							
1	4726	99	34730	34730	27860	467	61	184							

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11	1	10	60	2	05	0400	G	3210	S	104	6	E			
SONIC DEPTH	AIR TEMP.		WIND	ANEM.	HEIGHT	CLOUD		VIS.	SEA		SWELL		ATMOS. PRESSURE	WIRE ANGLES	
	WET	DRY				TYPE	AMT		DIR.	AMT.	DIR.	AMT.		CAST 1.	CAST 2.
1303	161	183	14	6	16	6	4	6	14	4	18	4			

CAST	DEPTH	TEMP.	S‰	O ₂ ↓	O ₂ ↓	O ₂ % SAT.	INORG. pP	DOUBTFUL
2	1850	35640	25650	540	105	17		
2	25	1850	35690	25690	538	105	19	
2	50	1772	35820	25990	548	105	17	
2	75	1620	35700	26260	570	106	19	
2	96	1529	35550	26350	565	103	17	
2	144	1426	35480	26510	555	100	29	
2	190	1343	35370	26600	540	95	38	
2	235	1273	35260	26660	555	96	46	
2	279	1188	35120	26720	555	94	51	
2	368	1071	34940	26790	555	92	75	
2	462	1000	34830	26840	555	90	79	
2	558	937	34740	26880	552	88	91	
1	658	892	34680	26900	543	86	101	
1	858	715	34490	27010	502	76	139	
1	1004	452	34420	27290	439	63	175	
1	1194	365	34470	27410	377	53	192	
1	1370	324	34560	27530	351	48	201	
1	1820	265	34650	27650	348	47	204	
1	2285	222	34720	27740	377	51	196	
1	2750	188	34760	27810	421	56	184	
1	3220	153	34760	27850	443	59	184	
1	3688	124	34700	27809	446	59	184	
1	4154	104	34728	27861	455	60	192	
1	4620	102	34734	27866	455	60	189	

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE				LONGITUDE			
11		1		13		60		2		05		1700		3209 S				102 E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND	ANEM.	CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE		WIRE ANGLES							
		WET	DRY			TYPE	AMT.		DIR.	AMT.		DIR.	AMT.	CAST 1.	CAST 2.						
3475																					
CAST	DEPTH	TEMP.		S‰		σ _t		O ₂ ↓		O ₂ % SAT.		INORG. P		DOUBTFUL							
2		2030		36050		25500		520		105		13									
	25	2025		36060		25530		516		104		13									
2	49	1952		35010		25680		530		106		13									
2	74	1924		35000		25740		532		106		13									
2	97	1873		35930		25810		526		103		15									
2	146	1711		35800		26110		534		102		17									
2	191	1597		35710		26340		509		94		29									
2	238	1508		35560		26400		505		92		35									
2	284	1367		35390		26560		509		90		52									
2	380	1057		34950		26840		530		87		82									
2	448			34710		26930		520		83		111									
2	556	723		34550		27050		471		72		147									
1	608	611		34460		27120		440		65		167									
1	770	473		34440		27280		393		56		191									
1	942	426		34520		27400		327		46		206									
1	1108	383		34580		27490		302		42		211									
1	1275	349		34610		27550		311		43		214									
1	1724	272		34700		27690		337		46		206									
1	2180	226		34720		27750		380		51		199									

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SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE				LONGITUDE					
11		1		15		60		2		06		0330		G		3210		S		09945		E	
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.		SEA		SWELL		ATMOS. PRESSURE		WIRE ANGLES					
		WET	DRY	DIR.	SPEED	HEIGHT	TYPE	AMT.	DIR.	AMT.	DIR.	AMT.	DIR.	AMT.	CAST 1.	CAST 2.							
128																							
		17.2		19.4		14		4		16		6		8		5		14		2		16.4	
CAST	DEPTH	TEMP.		S‰		σ _t		O ₂ †		O ₂ % SAT.		INORG. †P		DOUBTFUL									
2		2082		36060		25370		518		105		14											
2	25	2038		36050		25480		518		103		16											
2	45	1851		35800		25770		552		108		16											
2	73	1652		35700		26180		555		104		16											
2	96	1614		35700		26280		557		104		16											
2	143	1483		35600		26480		535		97		29											
2	187	1415		35510		26560		532		95		34											
2	240	1304		35310		26640		535		94		43											
2	274	1243		35230		26700		544		94		50											
2	360	1137		35060		26770		574		96		66											
2	537	979		34840		26890		552		89		88											
1	724	844		34640		26940		518		81		110											
1	912	606		34460		27130		455		67		156											
1	1100	423		34460		27350		391		55		188											

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE				LONGITUDE			
11		1		16		60		2		06		1000		3312 S				09945 E			
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND	ANEM.	CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE	WIRE ANGLES								
		WET	DRY			TYPE	AMT.		DIR.	AMT.			DIR.	AMT.	CAST 1.	CAST 2.					
4572																		11 1		0 1	
CAST	DEPTH	TEMP.		S‰		O ₂		O ₂ ↓		% SAT.		INORG. ↑		DOUBTFUL							
2		2091		35960		25290		527		107		14									
2	24	2048		35900		25350		530		107		16									
2	48	1741		35680		25950		568		109		16									
2	72	1578		35640		26310		576		106		18									
2	96	1470		35550		26470		596		108		24									
2	144	1349		35390		26600		555		98		41									
2	192	1248		35240		26700		548		94		49									
2	242	1187		35120		26720		558		95		61									
2	291	1152		35070		26740		550		93		65									
2	387	1063		34940		26800		555		92		79									
2	481	990		34880		26890		548		89		87									
2	560	966		34810		26880		555		90		93									
1	655	897		34720		26920		539		86		109									
1	810	699		34520		27060		485		73		143									

SHIP		CRUISE	STATION	YEAR	MONTH	DAY	TIME		LATITUDE		LONGITUDE			
11		1	13	60	2	06	2300		3503 S		09550 E			
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED		TYPE	AMT		DIR.	AMT.		CAST 1.	CAST 2.
439														
CAST	DEPTH	TEMP.	S‰		σ _t	O ₂		O ₂ % SAT.		INORG. P		DOUBTFUL		
2		1999	35830		25420	522		105		17				
2	25	1976	35820		25470	526		105		17				
2	49	1719	35600		25950	570		108		19				
2	73	1509	35470		26330	566		103		21				
2	97	1400	35390		26500	566		101		30				
2	146	1337	35350		26600	549		96		41				
2	190	1257	35230		26680	541		93		52				
2	236	1181	35110		26730	539		92		63				
2	287	1150	35050		26740	546		92		69				
2	380	1063	34920		26800	560		93		80				
2	475	1004	34870		26870	554		90		88				
2	562	953	34790		26890	551		89		98				
1	668	879	34680		26920	530		84		112				
1	850	677	34500		27070	475		72		144				
1	1020	455	34400		27280	424		60		176				
1	1214	361	34480		27430	370		52		196				
1	1395	324	34360		27540	350		48		202				
1	1850	261	34680		27690	352		48		198				
1	2310	221	34740		27760	402		54		176				
1	2766	180	34750		27810	430		57		176				
1	3220	137	34750		27840	439		58		176				
1	3690	107	34710		27830	452		59		183				
1	4180	98	34710		27840	452		59		183				

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
11		1		20		60		2		07		1000		G 3455 S		102 2 E	
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE	WIRE ANGLES		
		WET ↓	DRY ↓	DIR.	SPEED	HEIGHT	TYPE	AMT.	DIR.		AMT.	CAST 1.			CAST 2.		
430		172 194		26 1		16 8		4 2		26 1		21 1					
CAST	DEPTH	TEMP. ↓		S% ↓		O ₂ ↓		O ₂ ↓		% SAT.		INORG. ↓				DOUBTFUL	
2		1920		35510		25380		539		106		24				2	
2	24	1750		35360		25690		568		108		31					
2	48	1671		35560		26040		576		108		21					
2	71	1477		35490		26400		595		108		23					
2	95	1410		35480		26540		543		97		33					
2	142	1329		35350		26620		535		94		44					
2	187	1230		35180		26690		548		94		53					
2	232	1157		35080		26750		552		93		65					
2	278	1132		35020		26750		568		95		67					
2	375	1062		34920		26790		546		90		84					
2	474	999		34840		26850		560		91		91					
2	572	960		34790		26870		548		88		100					
1	652	904		34720		26910		543		86		106					
1	832	747		34540		27000		480		74		146					
1	1010	493		34400		27230		438		63		184					
1	1190	380		34430		27370		398		56		205					
1	1375	329		34520		27490		363		50		205					
1	1830	268		34660		27660		351		48		205					
1	2290	224		34740		27750		391		53		196					
1	2754	186		34750		27790		420		56		189					
1	3215	139		34750		27840		436		58		192					
1	3675	110		34730		27840		458		60		192					

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
11		1		21		60		2		07		1650		3459 S		10242 E	
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND	ANEM. HEIGHT	CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES					
		WET	DRY			DIR.	AMT.		DIR.	AMT.		CAST. 1.	CAST. 2.				
6857														10			
CAST	DEPTH	TEMP.		S‰		σ _t		O ₂		O ₂ % SAT.		INORG. P		DOUBTFUL			
2		1972		35920		25550		510		102		15					
2	24	1880		35860		25750		534		105		15					
2	48	1796		35820		25920		536		103		15					
2	72	1573		35590		26290		556		103		17					
2	94	1491		35560		26440		552		100		17					
2	137	1391		35440		26550		536		95		34					
2	178	1343		35360		26590		536		95		41					
2	263	1202		35020		26620		545		93		56					
2	443	1006		34820		26810		552		90		84					
1	634	896		34690		26900		530		84		106					
1	820	755		34520		26980		482		74		124					
1	998	512		34410		27210		440		64		163					
1	1180	404		34460		27360		386		54		184					
1	1365	336		34550		27500		355		49		186					
1	1625	254		34660		27670		350		47		193					
1	2285	226		34730		27750		380		51		180					
1	2746	189		34750		27800		409		55		180					
1	3210	151		34730		27820		431		57		178					
1	3695	117		34730		27840		446		59		180					
1	4280	95		34710		27840		458		60		180					
1	4750	96		34710		27840		446		58		186					
1	5230	99		34710		27830		432		56		184					
1	5720	106		34710		27830		444		58		186					
1	6110	111		34710		27830		451		59		184					

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
11		1		23		60		2		08		1020		3500		10548	
SONIC DEPTH		MAX SAMP. DEPTH		AIR TEMP.		WIND		ANEM.		CLOUD		VIS.		SEA		ATMOS. PRESSURE	
				WET		DIR.		SPEED		TYPE		AMT		DIR.		SWELL	
				↓		20		2		8		8		28		1	
6210		172		103		20		2		8		8		28		1	
CAST		DEPTH		TEMP.		S‰		σ _t		O ₂		O ₂ % SAT.		INORG. P		DOUBTFUL	
				↓		↓		↓		↓		↓		↓		↓	
2	2	1926		35950		25700		531		105		11					
2	2	1897		35920		25750		528		104		11					
2	2	1844		35900		25870		524		102		13					
2	2	1743		35800		26040		534		102		13					
2	2	1641		35710		26220		540		101		15					
2	2	1431		35470		26490		561		101		28					
2	2	1341		35350		26590		531		93		44					
2	2	1202		35130		26710		543		93		54					
2	2	986		34800		26840		549		89		94					
1	1	870		34660		26920		524		83		116					
1	1	684		34500		27060		470		71		152					
1	1	528		34430		27210		444		64		160					
1	1	408		34440		27350		401		56		184					
1	1	330		34520		27480		349		48		191					
1	1	253		34660		27680		352		48		196					
1	1	226		34730		27750		357		48		198					
1	1	196		34750		27790		371		50		196					
1	1	169		34750		27820		392		52		196					
1	1	141		34750		27840		423		56		191					
1	1	119		34740		27860		441		58		191					
1	1	101		34740		27860		445		58		189					
1	1	99		34740		27860		434		57		189					
1	1	103		34730		27850		448		59		191					

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
11		1		25		60		2		09		0110 G		3458 S		108 3 E	
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES				
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.		DIR.	AMT.	CAST 1.	CAST 2.	
540		103 186		31 4		15 7		8 6		31 1		22 1					
CAST	DEPTH	TEMP.		S‰		σ _t		O ₂		O ₂ % SAT.		INORG. μP		DOUBTFUL			
2		1813		35710		25800		547		106		17					
2	24	1786		35810		25940		538		104		15					
2	49	1682		35710		26130		540		102		17					
2	73	1660		35710		26180		546		103		17					
2	98	1507		35540		26390		565		103		23					
2	148	1401		35450		26540		546		98		33					
2	192	1288		35270		26640		546		95		47					
2	240	1202		35120		26700		555		95		56					
2	286	1136		35000		26730		555		93		67					
2	379	1040		34880		26800		547		90		83					
2	470	977		34820		26880		555		90		92					
2	563	939		34750		26890		547		88		101					
1	680	882		34680		26920		536		85		104					
1	854	703		34520		27050		484		73		143					
1	1015	460		34410		27280		430		61		175					
1	1200	364		34440		27400		396		55		198					
1	1385	324		34550		27520		349		48		201					
1	1850	260		34680		27690		349		47		194					
1	2315	222		34750		27780		379		51		177					
1	2775	185		34750		27810		414		55		182					
1	3250	150		34750		27830		423		56		180					
1	3705	117		34740		27850		441		58		177					
1	4180	97		34720		27850		451		59		182					

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 28 60 2 09 1500 G 3454 S 11034 E

SONIC SAMP DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		SWELL DIR.	SWELL DIR.	AMT.	ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.					CAST 1.	CAST 2.

214 144 169 22 5 16 7 8 3 22 2 24 1

CAST	DEPTH	TEMP.	S‰	σ _t	O ₂ ↓	O ₂ % SAT.	INORG. P	DOUBTFUL
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2	25	1832	35850	25860	533	104	16	
2	49	1820	35860	25900	540	105	16	
2	73	1691	35620	26040	528	100	17	
2	96	1565	35560	26290	505	108	20	
2	140	1462	35510	26460	554	100	22	
2	190	1362	35400	26590	544	97	35	
2	240	1277	35270	26660	553	96	44	
2	290	1192	35100	26700	569	96	52	
2	380	1137	35000	26730	568	95	65	
2	460	1008	34860	26860	565	92	85	
2	542	940	34790	26900	568	91	93	
1	628	905	34720	26910	553	88	104	
1	806	854	34660	26940	538	85	110	
1	990	653	34510	27110	470	70	152	
1	1176	423	34430	27330	422	60	182	
1	1360	353	34520	27460	378	52	195	
1	1625	309	34560	27550	370	51	197	
1		254	34700	27700	359	49	195	

2

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 30 60 2 10 0145 H 3500 S 113 E

SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		ATMOS. PRESSURE ↑	WIRE ANGLES	
		WET ↓	DRY ↑	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.		CAST 1.	CAST 2.

384 150 172 23 4 16 7 9 6 23 2 24 4

CAST	DEPTH	TEMP. ↓	S‰ ↓	σ _t ↓	O ₂ ↓	O ₂ % SAT.	INORG. ↑	DOUBTFUL
2		1983	35910	25520	520	104	9	
2	23	1973	35910	25550	511	102	9	
2	46	1812	35820	25890	523	101	12	
2	65	1693	35630	26040	532	104	15	
2	93	1665	35710	26170	535	101	15	
2	140	1551	35600	26340	548	101	20	
2	188	1353	35320	26540	548	97	41	
2	237	1170	35040	26690	500	95	58	
2	286	1125	35020	26760	576	96	65	
2	383	978	34810	26860	550	89	91	
2	481	918	34750	26910	564	90	100	
2	560	883	34740	26950	552	87	107	
1	645	845	34640	26940	539	84	118	
1	835	645	34630	27210	466	70	159	
1	1020	422	34430	27330	441	62	186	
1	1193	342	34500	27460	398	55	195	
1	1380	301	34570	27550	372	51	197	
1	1844	249	34700	27710	369	50	195	
1	2290	230	34750	27760	378	51	191	
1	2760	183	34750	27800	404	54	184	
1	3243	153	34740	27820	436	58	182	

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE				LONGITUDE			
11		1		33		60		2		10		1700 G		3653 S				11155 E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		SWELL		ATMOS. PRESSURE	WIRE ANGLES						
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.	DIR.	AMT.		CAST 1.	CAST 2.					
5224 117 156 22 4 16 7 8 3 22 3 22 4																					
CAST	DEPTH	TEMP		S‰		σ _t		O ₂ ↓		O ₂ % SAT.		INORG. ↓ P		DOUBTFUL							
1		1605		35400		26070															
1	1065	465		34370		27230		447		64		182									
1	1230	348		34440		27400		434		60		191									
1	1365	312		34530		27510		384		53		202									
1	1840	264		34690		27690		373		51		202									
1	2295	223		34740		27760		387		52		196									
1	2775	187		34750		27800		429		57		187									
1	3235	151		34750		27830		441		58		187									
1	3705	123		34750		27850		454		60		189									
1	4185	98		34750		27860		464		61		189									
1	4640	87		34730		27860		473		62		178									
1	5120	95		34730		27860		476		62		184									

SHIP		CRUISE	STATION	YEAR	MONTH	DAY	TIME		LATITUDE		LONGITUDE					
11		1	35	60	2	11	09	30	G	37 00	S	108 58	E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE		WIRE ANGLES	
		WET	DRY	DIR.	SPEED		TYPE	AMT		DIR.	AMT.		DIR.	AMT.	CAST 1.	CAST 2.
5304																
		139	144	27	5	15	7	8	8	27	2	22	1			
CAST	DEPTH	TEMP.	S‰		σ _t		O ₂		O ₂ % SAT.	INORG. μP		DOUBTFUL				
2		1744	35860		26090		543		104		13					
2	24	1740	35890		26110		543		104		13					
2	47	1738	35860		26110		543		104		13					
2	71	1705	35830		26150		540		103		13					
2	95	1657	35770		26240		549		103		13					
2	141	1492	35540		26440		535		97		23					
2	184	1378	35400		26550		543		96		35					
2	227	1275	35220		26630		540		94		44					
2	272	1217	35130		26670		549		94		51					
2	365	1051	34910		26800		560		92		76					
2	460	952	34820		26910		551		89		90					
2	558	924	34750		26910		568		91		98					
1	617	897	34740		26940		560		89		103					
1	781	814	34620		26970		526		82		124					
1	936	610	34460		27130		461		68		165					
1	1114	417	34430		27340		417		59		194					
1	1276	259	34500		27440		382		53		194					
1	1736	274	34660		27650		360		49		196					
1	2190	235	34730		27740		373		50		199					
1	2650	199	34770		27800		395		53		192					
1	3114	158	34770		27840		430		57		187					
1	3582	131	34740		27840		444		58		185					

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11	1	37	60	2	11	1030	3700 S	10712 E						
SONIC DEPTH	AIR TEMP.		WIND		ANEM.	CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE	WIRE ANGLES	
	WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.			DIR.	AMT.
575	150	167	28	5	16	6	5	8	27	3	25	1		

CAST	DEPTH	TEMP.	S‰	σ _t	O ₂ ↓	O ₂ % SAT.	INORG. ↑P	DOUBTFUL
2		17.85	35.800	25.940	5.35	103	14	
2	24	17.60	35.780	25.990	5.40	103	14	
2	48	17.55	35.780	26.000	5.43	104	17	
2	70	16.90	35.780	26.160	5.51	104	17	
2	92	16.46	35.770	26.260	5.60	105	17	
2	138	14.38	35.530	26.520	5.45	97	26	
2	183	13.60	35.400	26.590	5.60	99	34	
2	226	12.95	35.270	26.630	5.63	98	44	
2	270	12.05	35.160	26.730	5.60	96	51	
2	354	10.96	34.980	26.780	5.46	91	71	
2	440	10.04	34.860	26.860	5.55	90	80	
2	528	9.48	34.790	26.890	5.57	90	91	
1	617	9.14	34.730	26.900	5.24	84	198	
1	800	7.84	34.540	26.990	5.02	78	127	
1	1013	5.43	34.490	27.230	4.70	68	163	
1	1180	4.02	34.430	27.350	4.23	59	184	
1	1360	3.31	34.480	27.450	3.98	55	204	
1	1810	2.68	34.680	27.670	3.54	48	206	
1	2264	2.30	34.750	27.760	3.76	51	194	
1	2728	1.92	34.770	27.810	4.20	56	185	
1	3176	1.54	34.770	27.860	4.38	58	185	
1	3652	1.18	34.760	27.870	4.48	59	184	
1	4122	.94	34.750	27.880	4.64	61	187	
1	4595	.93	34.740	27.880	4.73	62	192	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11		1	39	60	2	12	0730	G	3700	S	10452	E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD	VIS.	SEA		SWELL		ATMOS. PRESSURE	WIRE ANGLES	
		WET	↓	DRY	↓				DIR.	AMT.	DIR.	AMT.		DIR.	AMT.

4572	156	161	26	5	16	7	9	7	26	3	26	4
CST	DEPTH	TEMP.	%	σ_t	O ₂	O ₂	% SAT.	INORG.	DOUBTFUL			

2		1644	35330	25930	555	104	27		
2	21	1640	35350	25950	558	104	27		
2	42	1635	35360	25970	558	104	27		
2	63	1366	35120	26440	616	115	43		
2	86	1244	35100	26600	592	102	49		
2	130	1138	34980	26710	583	98	65		
2	175	1140	35040	26750	561	94	65		
2	220	1101	34970	26770	566	94	72		
2	266	1087	34970	26800	576	96	74		
2	358	1040	34890	26810	561	92	80		
2	450	1001	34860	26860	569	91	87		
2	540	980	34820	26870	569	91	92		
1	666	923	34760	26910	536	86	104		
1	842	735	34550	27040	484	74	140		
1	1012	509	34410	27230	459	66	171		
1	1200	378	34410	27370	431	60	186		
1	1372	321	34510	27500	375	52	197		
1	1515	268	34680	27690	352	48	186		
1	2276	233	34750	27770	394	53	178		
1	2727	192	34760	27810	423	57	177		
1	3182	145	34760	27840	438	58	177		
1	3654	111	34740	27850	453	59	181		
1	4121	94	34740	27870	465	61	179		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 41 60 2 12 1930 G 3700 S 10220 E

SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		SWELL		ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.	DIR.	AMT.		CAST 1.	CAST 2.

460 120 150 19 3 16 6 9 6 19 3 21 4

CAST	DEPTH	TEMP.	S ₀₀	O _t	O ₂	O ₂	O ₂	INORG.	DOUBTFUL
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2		1856	35830	25780	529	103	16		
2	25	1854	35830	25790	523	102	16		
2	49	1821	35820	25860	526	102	16		
2	72	1543	35580	26340	592	109	18		
2	96	1425	35450	26490	546	98	25		
2	143	1332	35360	26620	546	96	41		
2	190	1264	35230	26650	522	90	47		
2	238	1191	35120	26710	538	92	58		
2	286	1131	35030	26750	534	90	67		
2	384	1019	34880	26850	546	89	84		
2	482	963	34820	26900	536	86	88		
1	666	871	34690	26940	534	84	107		
1	842	683	34510	27060	475	72	140		
1	995	453	34430	27170	431	61	173		
1	1184	369	34470	27410	394	55	196		
1	1368	327	34610	27500	352	49	202		
1	1628	263	34720	27710	346	47	194		
1	2291	219	34760	27700	307	52	186		
1	2754	184	34770	27830	419	56	186		
1	3220	151	34770	27850	436	58	179		
1	3682	120	34730	27840	446	59	182		
1	4143	98	34730	27050	459	60	184		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 43 50 2 13 0830 G 3.655 S 09957 E

SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND DIR.	SPEED	ANEM. HEIGHT	CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY				TYPE	AMT.		DIR.	AMT.		CAST 1.	CAST 2.

4572 128 156 22 2 15 7 8 7 22 1 24 1

CAST	DEPTH	TEMP.	S‰	σ _t	O ₂ ↓	O ₂ % SAT.	INORG. ↑	DOUBTFUL
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2		1733	35200	25610	538	102	28	
2	25	1620	35200	25800	552	103	30	
2	45	1617	35290	25950	576	107	28	
2	73	1401	35320	26450	560	103	32	
2	96	1293	35240	26610	566	99	44	
2	146	1237	35180	26670	536	92	55	
2	195	1176	35120	26740	529	90	62	
1	243	1141	35060	26770	546	92	66	
2	292	1106	34990	26770	555	93	72	
2	388	1053	34930	26820	510	84	76	
2	481	1005	34880	26870	540	87	870	
1	661	923	34730	26900	536	86	98	
1	838	778	34590	27000	496	77	132	
1	1008	542	34410	27190	459	67	165	
1	1188	392	34390	27320	437	61	190	
1	1370	330	34500	27490	382	53	198	
1	1824	271	34670	27660	354	48	198	
1	2265	228	34760	27770	405	55	185	
1	2740	185	34770	27830	431	58	183	
1	3196	138	34760	27850	444	59	188	
1	3657	108	34740	27850	446	58	190	
1	4110	95	34730	27860	461	60	190	

2

1

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11	1	45	60	2	13	1930	G	3821	S	100	E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		CLOUD	VIS.	SEA		SWELL		ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED			DIR.	AMT.	DIR.	AMT.		CAST 1.	CAST 2.
4389		156	161	30	5	16	8	4	6	21	1			

CST	DEPTH	TEMP.	S‰	O ₂ ↓	O ₂ ↓	O ₂ % SAT.	INORG. ↓	DOUBTFUL
2		1669	35350	25080	561	106	23	
2	24	1642	35340	25940	540	101	23	
2	47	1563	35350	26120	559	103	23	
2	69	1479	35450	26380	570	103	25	
2	93	1388	35450	26560	552	98	30	
2	130	1365	35450	26620	526	93	34	
2	184	1349	35450	26650	549	97	36	
2	228	1338	35420	26650	536	94	39	
2	270	1330	35390	26650	555	98	42	
2	366	1144	35080	26770	531	89	66	
2	464	899	34730	26930	520	83	102	
1	645	710	34540	27060	487	74	141	
1	806	526	34440	27220	444	64	173	
1	984	398	34440	27360	423	59	192	
1	1164	342	34470	27450	382	53	204	
1	1333	311	34560	27550	352	48	204	
1	1769	259	34700	27710	365	50	197	
1	2209	222	34770	27800	415	56	186	
1	2649	180	34770	27830	419	56	186	
1	3106	141	34770	27860	446	59	186	
1	3547	109	34760	27870	460	64	186	

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
11		1		47		50		2		14		0530		4.007 S		10014 E	
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE	WIRE ANGLES		
		WET	DRY	DIR.	SPEED	HEIGHT	TYPE	AMT.	DIR.		AMT.	DIR.			AMT.	CAST 1.	CAST 2.
4300																	
CAST	DEPTH	TEMP.		S%		σ _t		O ₂ ↓		O ₂ % SAT.		INORG. ↑P		DOUBTFUL			
2		1336		35040		26350		595		104		45					
2	25	1307		34970		26390		563		102		50					
2	49	1301		34970		26390		570		99		50					
2	74	1229		34930		26500		566		100		58					
2	98	1168		34930		26610		574		97		62					
2	146	1076		34930		26790		541		89		71					
2	190	1050		34890		26790		552		91		73					
2	232	1034		34890		26820		563		96		75					
2	274	1034		34890		26820		549		90		75					
2	370	1000		34860		26860		562		92		81					
2	470	967		34820		26890		558		93		83					
1	644	884		34680		26910		559		89		102					
1	817	712		34520		27050		472		72		138					
1	998	497		34400		27240		466		67		164					
1	1176	374		34430		27380		444		62		180					
1	1363	314		34490		27480		394		54		182					
1	1807	258		34660		27670		382		52		180					
1	2275	229		34770		27790		429		58		170					
1	2731	181		34780		27840		444		59		170					
1	3196	136		34770		27870		450		59		174					
1	3660	105		34730		27840		461		60		174					

SHIP		CRUISE	STATION		YEAR	MONTH	DAY	TIME		LATITUDE		LONGITUDE		
11		1	50		60	2	14	1730 G		4010 S		10230 E		
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM.	CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED		HEIGHT	TYPE		AMT.	DIR.		AMT.	CAST 1.
4572		150 156		30 6		16	7	2	2	30	2	26	1	
CAST	DEPTH	TEMP.	S ‰		σ _t	O ₂	O ₂	% SAT.	INORG.	DOUBTFUL				
2		1440	34990		26110	582		104	44					
2	24	1388	34970		26200	544		96	44					
2	48	1380	34980		26230	544		96	44					
2	72	1271	34970		26450	570		99	53					
2	96	1148	34960		26680	540		91	64					
2	144	1088	34970		26790	508		98	68					
2	191	1058	34930		26810	573		94	72					
2	236	1042	34920		26840	568		97	74					
2	281	1037	34900		26840	570		93	76					
2	375	1007	34880		26870	540		88	81					
2	473	977	34830		26890	520		84	85					
1	650	877	34710		26950	576		91	105					
1	825	703	34550		27080	579		88	139					
1	1005	491	34430		27260	576		83	170					
1	1180	369	34400		27360	446		62	189					
1	1367	312	34500		27490	397		55	187					
1	1830	256	34700		27710	372		51	187					
1	2290	224	34780		27800	412		56	174					
1	2610	185	34790		27840	438		58	174					
1	3204	135	34780		27860	446		59	177					
1	3662	103	34780		27900	454		59	181					

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11		1		52	60		2	15		0330		G	4010		S	10440		E
SONIC DEPTH	MAX SAMP. DEPTH	AIR		TEMP. ↓	WIND		ANEM.	CLOUD		VIS.	SEA		SWELL	AMT.	DIR.	AMT.	WIRE CAST 1.	ANGLES CAST 2.
		WET	↓		DIR.	SPEED		TYPE	AMT.		DIR.	AMT.						
4572		150	150		30	5	16	7	4	7	30	1	28	1				

CAST	DEPTH	TEMP. ↓	S% ↓	σ _t ↓	O ₂ ↓	O ₂ % SAT.	INORG. P	DOUBTFUL
2	1390	1390	34990	26210	574	102	47	
2	23	1340	34980	26310	598	105	47	
2	47	1339	34980	26310	566	103	47	
2	70	1207	35080	26650	539	92	60	
2	94	1170	35080	26720	551	93	65	
2	140	1127	35040	26770	520	87	67	
2	185	1098	34990	26790	546	91	72	
2	228	1069	34940	26790	561	93	76	
2	273	1053	34900	26790	551	91	76	
2	377	1015	34870	26850	574	94	82	
2	470	999	34870	26870	565	92	87	
1	664	917	34750	26910	542	86	102	
1	833	736	34570	27050	484	74	136	
1	1007	529	34430	27200	461	67	167	
1	1184	386	34430	27360	435	61	184	
1	1364	325	34490	27460	396	55	200	
1	1620	263	34660	27660	362	49	188	
1	2275	229	34760	27780	399	54	182	
1	2740	188	34790	27830	442	59	171	
1	3190	139	34780	27870	448	59	160	
1	3660	103	34780	27900	452	59	180	
1	4120	89	34730	27860	465	61	178	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 54 60 2 15 1500 G 4010 S 107 G E

SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.	DIR.	AMT.	CAST 1.	CAST 2.

4572 139 144 25 2 16 1 9 9 25 1 28 1

CAST	DEPTH	TEMP.	S%	σ _t	O ₂ ↓	O ₂ % SAT.	INORG. ↓	DOUBTFUL
2	1340	1340	34950	26290	608	107	45	
2	23	1305	34950	26350	614	107	45	
2	47	1287	34980	26410	595	103	47	
2	71	1278	34980	26440	611	106	47	
2	95	1162	34940	26630	590	100	69	
2	144	1029	34960	26810	611	100	80	
2	189	1013	34860	26840	611	100	82	
2	236	1007	34840	26840	590	96	82	
2	283	1005	34840	26840	598	98	84	
2	300	981	34830	26860	590	96	89	
2	480	943	34790	26900	590	95	98	
1	640	863	34720	26970	536	85	116	
1	830	681	34520	27080	484	73	144	
1	1000	492	34420	27250	461	66	175	
1	1172	374	34420	27370	452	63	191	
1	1342	323	34500	27470	402	55	200	
1	1790	261	34670	27670	374	51	188	
1	2245	229	34780	27790	417	56	179	
1	2700	188	34790	27830	448	60	176	
1	3145	142	34790	27870	455	60	182	
1	3615	103	34760	27890	465	61	184	
1	4070	91	34740	27870	475	62	184	

SHIP		CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE		LONGITUDE					
11		1	56	60	2	16	0200	G	4010	S	10914 E				
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED	HEIGHT	TYPE	AMT	DIR.		AMT.	DIR.		AMT.	CAST 1.
4206	45	144	150	24	5	16	3	9	9	24	1	22	1		
CAST	DEPTH	TEMP	S‰		O _t	O ₂	O ₂ ↓	O ₂ % SAT.	INORG. ↑	DOUBTFUL					
2		1376	35040		26280	567		100	42						
2	25	1371	35040		26290	591		104	42						
2	49	1353	35060		26340	567		100	42						
2	73	1340	35040		26350	587		103	44						
2	97	1230	35060		26590	591		101	58						
2	146	1157	35060		26740	567		96	63						
2	191	1103	34980		26770	578		96	74						
2	231	1073	34920		26780	584		97	77						
2	272	1051	34920		26810	569		97	81						
2	367	1016	34880		26850	520		85	88						
2	466	983	34850		26890	550		89	95						
1	678	911	34730		26900	534		85	107						
1	852	709	34550		27070	479		73	140						
1	1016	509	34420		27230	457		66	171						
1	1195	389	34420		27360	435		61	189						
1	1372	313	34490		27480	402		55	198						
1	1822	264	34680		27680	360		49	194						
1	2285	223	34760		27780	394		53	187						
1	2748	183	34770		27830	425		57	183						
1	3215	147	34770		27860	447		59	183						
1	3678	106	34750		27880	460		60	185						
1	4144	91	34720		27850	473		62	105						

SHIP		CRUISE	STATION	YEAR	MONTH	DAY	TIME		LATITUDE		LONGITUDE			
11		1	58	60	2	16	1200	G	4010	S	11129	E		
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.		DIR.	AMT.
4938														
6 5 16 5 9 9 6 2 8 1														
CAST	DEPTH	TEMP.	S‰		σ _t		O ₂	O ₂ % SAT.	INORG. P		DOUBTFUL			
2		1384	35100		26310		568	101	40					
2	23	1390	35200		26370		592	105	36					
2	45	1390	35270		26420		539	96	34					
2	67	1388	35270		26430		559	99	31					
2	89	1340	35220		26490		583	103	40					
2	134	1159	35020		26700		592	100	63					
2	175	1087	34950		26780		549	91	69					
2	225	1051	34890		26790		547	90	74					
2	272	1032	34880		26820		563	92	78					
2	367	996	34860		26870		581	95	85					
2	464	964	34820		26900		563	91	92					
1	861	627	34530		27160		481	72	141					
1	1080	462	34460		27270		454	65	178					
1	1248	327	34420		27410		429	59	189					
1	1415	303	34320		27520		385	53	200					
1	1588	282	34600		27600		375	51	205					
1	1760	269	34660		27670		364	50	205					
1	2207	230	34750		27770		392	53	189					
1	2654	190	34780		27840		412	55	189					
1	3107	154	34780		27860		444	59	180					
1	3565	113	34750		27850		459	60	185					
1	4047	85	34740		27870		465	61	189					
1	4530	87	34740		27870		470	61	185					

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 60 60 2 17 1230 H 4000 S 114 E

SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		SWELL		ATMOS. PRESSURE ↓	WIRE ANGLES	
		WET ↓	DRY ↓	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.	DIR.	AMT.		CAST 1.	CAST 2.
4752		144	150	05	0	10	6	6	0	5	1	22	1			

4752 144 150 05 6 16 6 6 6 6 6 5 1 22 1

CAST	DEPTH	TEMP.	S‰	O _t	O ₂	O ₂	O ₂	INORG.	DOUBTFUL
		↓	↓	↓	↓	↑	% SAT.	↓P	
2		1344	35.000	26320	552	552	97	39	
2	24	1324	35.010	26300	590	590	103	39	
2	47	1264	34.950	26440	596	596	103	41	
2	70	1226	34.900	26480	587	587	101	50	
2	92	1174	34.850	26540	590	590	100	58	
2	137	1055	34.850	26700	564	564	96	69	
2	183	1040	34.850	26780	564	564	93	69	
2	228	1019	34.850	26820	552	552	90	74	
2	272	969	34.820	26850	560	560	94	80	
2	462	936	34.770	26900	555	555	89	91	
2	657	861	34.690	26950	534	534	84	104	
1	852	764	34.580	27020	467	467	75	131	
1	1027	533	34.440	27210	460	460	67	165	
1	1195	395	34.410	27350	435	435	61	185	
1	1372	315	34.470	27460	410	410	56	195	
1	1616	262	34.660	27670	378	378	51	198	
1	2263	229	34.760	27790	364	364	52	189	
1	2724	189	34.780	27840	432	432	58	180	
1	3185	137	34.770	27870	447	447	59	178	
1	3646	100	34.750	27880	456	456	60	187	
1	4113	75	34.740	27880	460	460	60	197	
1	4393	75	34.720	27860	474	474	62	185	

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE				LONGITUDE			
11		1		61		60		2		17		1500 H		3656 S				114 4 E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR		TEMP.		WIND		ANEM.		CLOUD		VIS.	SEA		SWELL		ATMOS. PRESSURE	WIRE ANGLES			
		WET	↓	↓	↓	DIR.	SPEED	HEIGHT	TYPE	AMT.	↓		DIR.	AMT.	DIR.	AMT.		CAST 1.	CAST 2.		
5486																					
CAST	DEPTH	TEMP		S‰		σ _t		O ₂		O ₂		% SAT.		INORG. P		DOUBTFUL					
2		1726		35.520		25.370		5.52		10.5		2.0									
2	25	1686		35.520		25.970		5.59		10.5		1.6									
2	50	1672		35.560		26.040		5.59		10.5		1.6									
2	75	1576		35.490		26.200		5.74		10.6		1.6									
2	90	1472		35.380		26.340		5.50		9.9		2.2									
2	135	1340		35.250		26.520		5.32		9.4		3.8									
2	180	1207		35.090		26.660		5.37		9.2		5.2									
2	226	1155		35.070		26.750		5.50		9.3		5.6									
2	267	1065		34.890		26.770		5.74		9.5		6.9									
2	361	1047		34.810		26.740		5.74		9.4		8.5									
2	450	942		34.770		26.890		5.68		9.1		9.2									
2	540	915		34.730		26.900		5.47		8.7		9.9									
1	631	872		34.690		26.940		5.20		8.2		11.0									
1	812	731		34.540		27.020		4.93		7.5		13.9									
1	992	509		34.420		27.240		4.63		6.7		17.7									
1	1190	346		34.420		27.400		4.19		5.8		18.7									
1	1360	308		34.500		27.500		3.72		5.1		20.0									
1	1803	253		34.670		27.690		3.60		4.9		20.5									
1	2245	222		34.730		27.780		3.79		5.1		19.8									
1	2686	185		34.780		27.840		3.65		5.1		18.9									
1	3133	149		34.780		27.860		4.20		5.6		19.9									
1	3594	123		34.770		27.890		4.35		5.7		18.9									
1	4051	101		34.750		27.880		4.47		5.9		19.1									
1	4519	82		34.730		27.870		4.53		5.9		19.1									
1	5080	95		34.730		27.860		4.62		6.0		1.89									

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
11		1		62		60		3		04		0303		3656 S		11615 E	
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.	SEA		SWELL		ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED	HEIGHT	TYPE	AMT.	DIR.		AMT.	DIR.	AMT.	CAST 1.		CAST 2.	
5303																	
CAST	DEPTH	TEMP.		S %		O ₂		O ₂		O ₂		INORG.		DOUBTFUL			
		TEMP.		S %		O ₂		O ₂		O ₂		INORG.		DOUBTFUL			
2		1574	35350	26100	578	106	25										
2	23	1571	35350	26100	566	104	25										
2	45	1572	35350	26100	569	103	25										
2	69	1553	35307	26110	556	102	27										
2	92	1430	35272	26340	556	101	34										
2	138	1252	35098	26590	555	96	52										
2	183	1157	34990	26680	575	97	61										
2	227	1108	34945	26730	581	97	67										
2	268	1048	34867	26780	555	91	74										
2	362	940	34729	26860	575	92	94										
2	450	899	34701	26900	575	91	101										
2	554	876	34654	26900	572	90	108										
1	614	858	34634	26910	572	90	110										
1	784	771	34517	26950	506	78	140										
1	960	552	34399	27160	468	68	174										
1	1154	383	34415	27370	435	61	195										
1	1336	313	34497	27490	393	54	201										
1	1794	273	34662	27660	390	53	199										
1	2257	219	34733	27760	396	53	192										
1	2717	186	34748	27810	415	55	188										
1	3185	157	34752	27840	435	58	188										
1	3645	134	34741	27850	453	60	185										

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE				LONGITUDE			
11		1		65		60		3		04		1815		3033 S				11012 E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.		SEA		SWELL		ATMOS. PRESSURE		WIRE ANGLES			
		WET	DRY	DIR.	SPEED	HEIGHT		TYPE	AMT.			DIR.	AMT.	DIR.	AMT.	CAST 1.	CAST 2.				
5029		106	144	24	3	16	7	6	4	21	2	20	4	10	10						
CAST	DEPTH	TEMP.		S ‰		σ _t		O ₂ ‰		O ₂ % SAT.		INORG. ‰		DOUBTFUL							
2	2	1676		35579		26040		545		103		18									
2	24	1672		35575		26050		546		103		18									
2	46	1670		35507		26060		553		104		18									
2	69	1562		35437		26200		543		100		25									
2	92	1508		35461		26330		534		97		25									
2	139	1415		35374		26450		535		96		43									
2	184	1263		35165		26610		553		96		45									
2	225	1197		35086		26680		553		94		52									
2	276	1146		35016		26720		561		94		58									
2	371	1030		34851		26800		556		91		76									
2	463	951		34764		26870		577		93		87									
2	638	896		34788		26950		559		89		87									
1	790	834		34607		26940		535		84		119							2		
1	967	678		34402		27040		471		71		156							2		
1	1144	462		34382		27250		465		65		167							1		
1	1318	361		34438		27400		415		57		197							1		
1	1762	269		34526		27640		377		51		195							1		
1	2212	246		34709		27720		390		53		195							1		
1	2670	200		34748		27800		402		54		188									
1	3128	169		34748		27820		427		57		188									
1	3587	141		34745		27840		434		57		188									
1	4050	118		34737		27850		481		63		175									

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SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
J 1		1		67		60		3		05		0315 H		3952 S		11622 E	
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE		WIRE ANGLES	
		WET	DRY	DIR.	SPEED	HEIGHT	TYPE	AMT.	DIR.		AMT.	DIR.		AMT.	CAST 1.	CAST 2.	
4801																	
CAST	DEPTH	TEMP.		S°		O _t		O ₂		O ₂ % SAT.		INORG. P		DOUBTFUL			
2		139.6		35.0	39	26.2	40	5.6	1	100		3.6					
2	25	139.3		35.0	35	26.2	40	5.7	5	102		3.8					
2	50	139.2		35.0	43	26.2	40	5.5	1	98		3.8					
2	75	139.1		35.0	35	26.2	40	5.5	8	99		4.0					
2	100	133.2		35.1	81	26.4	80	5.6	5	99		4.5					
2	150	117.7		35.0	00	26.6	50	5.6	5	96		6.1					
2	200	109.4		34.9	37	26.7	50	5.6	1	97		6.5					
2	250	103.3		34.8	51	26.7	90	5.3	5	88		7.4					
2	300	98.6		34.7	96	26.8	40	5.6	6	92		8.1					
2	400	92.6		34.7	21	26.8	80	5.6	1	90		9.4					
2	500	88.6		34.6	81	26.9	00	5.3	8	85		9.9					
2	600	85.8		34.6	30	26.9	10	5.2	9	83		10.8					
1	672	83.4		34.6	07	26.9	40	5.4	7	86		12.3					
1	860	66.6		34.4	93	27.0	70	5.3	4	80		14.9					
1	1061	46.7		34.4	07	27.2	70	4.6	5	66		18.6					
1	1222	35.8		34.4	26	27.4	00	4.3	1	60		19.3					
1	1404	30.2		34.4	93	27.4	90	3.9	2	54		20.0					
1	1861	25.7		34.6	62	27.6	70	3.7	4	51		19.0					
1	2320	22.0		34.7	41	27.7	70	3.9	8	54		18.8					
1	2788	18.0		34.7	52	27.8	10	4.2	4	57		18.1					
1	3263	13.5		34.7	45	27.8	50	4.4	3	58		18.3					
1	3744	10.8		34.7	33	27.8	50	4.4	8	59		18.6					
1	4208	8.5		34.7	17	27.8	50	4.6	8	61		18.3					

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME		LATITUDE			LONGITUDE					
11	1	68	60	5	05	1130	H	4001	S	1184	E					
SONIC SAMP. DEPTH	AIR WET ↓	TEMP.		WIND		ANEM.		VIS.	CLOUD		SEA		SWELL	ATMOS. PRESSURE ↓	WIRE ANGLES	
		DRY ↓		DIR.	SPEED	HEIGHT			TYPE	AMT.	DIR.	AMT.			CAST 1.	CAST 2.
4561	120	144	29	6	16		6	7	6	6	29	2	23	1		5

CAST	DEPTH	TEMP.	S ⁰ / ₁₀₀	O ₂	O ₂	O ₂	O ₂	O ₂	INORG.	DOUBTFUL
2		1466	35275	26270	574	104	31			
2	24	1458	35272	26280	574	103	31			
2	40	1456	35299	26300	574	103	31			
2	73	1478	35370	26310	554	100	29			
2	97	1354	35256	26490	542	96	38			
2	145	1210	35059	26640	542	93	54			
2	194	1131	34988	26720	557	93	61			
2	242	1072	34898	26770	561	92	69			
2	290	1012	34824	26810	564	92	78			
2	484	908	34701	26890	571	91	94			
1	676	827	34607	26950	530	83	114			
1	860	676	34470	27050	523	79	151			
1	1042	440	34391	27270	437	62	183			
1	1225	346	34438	27400	405	56	199			
1	1410	296	34521	27520	372	51	197			
1	1679	249	34685	27700	363	49	197			
1	2348	215	34741	27770	390	52	190			
1	2816	183	34748	27810	411	55	188			
1	3308	149	34748	27840	427	56	186			
1	3805	122	34737	27850	448	59	183			

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE				LONGITUDE					
11		1		70		60		3		05		2130		H		4.005 S				120 7 E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.		SEA		SWELL		ATMOS. PRESSURE		WIRE ANGLES					
		WET	DRY	DIR.	SPEED	HEIGHT		TYPE	AMT.			DIR.	AMT.	DIR.	AMT.			CAST 1.	CAST 2.				
4983		139	144	29	11	16		7	9			29	2	24	4			10					
CAST	DEPTH	TEMP		S‰		σ _t		O ₂		O ₂ % SAT.		INORG. P		DOUBTFUL									
2		1480		35224		26190		571		103		25											
2	23	1473		35228		26200		565		102		27											
2	47	1472		35228		26210		548		99		27											
2	71	1471		35232		26210		554		100		27											
2	95	1466		35240		26240		536		97		27											
2	144	1316		35193		26510		534		93		40											
2	194	1184		35012		26640		532		92		56											
2	244	1125		34976		26720		548		92		61											
2	292	1076		34914		26760		548		92		74											
2	389	988		34824		26850		532		86		90											
2	487	912		34736		26910		534		85		103											
2	685	756		34540		26990		485		74		130											
1	837	643		34450		27070		455		68		153											
1	1015	456		34391		27260		448		64		174											
1	1168	353		34419		27390		425		59		193											
1	1346	307		34497		27520		384		53		204											
1	1811	258		34662		27680		360		49		204											
1	2280	221		34741		27760		369		50		188											
1	2750	186		34756		27820		407		54		188											
1	3228	150		34752		27840		430		57		183											
1	3714	111		34748		27860		451		59		186											
1	4187	83		34741		27880		455		59		186											
1	4658	82		34689		27840		465		60		183											

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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111 1 72 60 3 06 0630 H 4009 S 12150 E

SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		SWELL DIR. AMT.	ATMOS. PRESSURE ↑	WIRE ANGLES	
		WET ↓	DRY ↑	DIR.	SPEED		TYPE	AMT		DIR.	AMT.			CAST 1.	CAST 2.

5029 142 150 34 10 16 7 8 6 34 3 24 1

CAST	DEPTH	TEMP. ↓	S‰	σ _t ↓	O ₂ ↑	O ₂ % SAT.	INORG. μP	DOUBTFUL
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2		1418	34.831	26.030	5.81	104	39	
2	25	1416	34.835	26.040	5.75	102	42	
2	50	1412	34.831	26.040	5.63	100	42	
2	75	1260	34.792	26.310	5.76	99	56	
2	100	1142	34.831	26.580	5.74	97	62	
2	150	1042	34.796	26.740	5.56	91	74	
2	200	983	34.725	26.780	5.63	91	79	
2	250	950	34.721	26.820	5.75	91	88	
2	300	931	34.709	26.860	5.75	91	93	
2	400	895	34.662	26.880	5.71	91	100	
2	500	856	34.634	26.920	5.53	87	107	
2	600	853	34.607	26.910	5.34	84	111	
1	700	814	34.591	26.950	5.27	82	125	
1	896	614	34.454	27.120	4.56	68	158	
1	1074	434	34.383	27.290	4.50	64	186	
1	1263	346	34.438	27.410	4.09	57	202	
1	1454	300	34.532	27.540	3.78	52	204	
1	1934	252	34.689	27.710	3.61	49	193	
1	2424	213	34.752	27.800	3.94	53	190	
1	2912	178	34.776	27.840	4.19	56	188	
1	3402	137	34.752	27.850	4.35	57	190	
1	3900	112	34.752	27.860	4.47	59	190	
1	4401	78	34.741	27.880	4.67	61	188	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 74 60 3 06 1630 H 4003 S 12358 E

SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.	CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED	HEIGHT	TYPE	AMT.		DIR.	AMT.	DIR.	AMT.	CST 1.	CST 2.

5121 156 161 30 6 16 7 8 7 30 2 24 4 5

CAST	DEPTH	TEMP	S‰	σ _t	O ₂		O ₂ % SAT.	INORG. P	DOUBTFUL
					↑	↓			
2		1420	34840	26030	578		103	37	
2	25	1416	34830	26040	559		100	37	
2	50	1398	34830	26070	575		102	39	
2	75	1365	34810	26120	544		96	44	
2	100	1296	34800	26270	568		99	51	
2	150	1059	34760	26680	574		96	67	
2	200	1010	34750	26760	589		96	74	
2	250	966	34750	26840	559		90	81	
2	300	950	34730	26850	539		87	86	
2	400	890	34670	26900	549		87	100	
2	500	859	34640	26920	539		83	104	
2	700	835	34600	26930	532		83	114	
1	853	722	34520	27030	476		72	137	
1	1039	504	34450	27270	450		65	158	7
1	1203	373	34470	27420	441		62	179	7
1	1664	256	34650	27680	432		59	174	7
1	2330	221	34600	27660	403		54	185	7
1	2792	190	34710	27780	409		55	183	7
1	3256	159	34710	27790	419		56	165	7
1	3728	127	34750	27850	437		58	169	7
1	4192	94	34740	27870	450		59	169	7
1	4658	81	34740	27880	465		61	167	7

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
11		1		76		60		3		07		0145		H 4003 S		126 E	
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.	SEA		SWELL		ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED	HEIGHT	TYPE	AMT.	DIR.		AMT.	DIR.	AMT.	CAST 1.		CAST 2.	
5303																	
CAST	DEPTH	TEMP.		S‰		σ _t		O ₂		O ₂ % SAT.		INORG. P		DOUBTFUL			
2		139.8		34.840		26.080		5.68		101		37					
2	25	139.2		34.800		26.070		5.66		104		37					
2	50	138.4		34.790		26.070		5.59		99		39					
2	75	135.1		34.790		26.140		5.63		99		44					
2	100	114.9		34.770		26.530		5.80		97		60					
2	150	107.1		34.750		26.650		5.91		98		65					
2	200	102.3		34.710		26.710		5.98		99		67					
2	250	99.2		34.720		26.770		5.83		94		77					
2	300	96.8		34.720		26.800		5.68		92		81					
2	400	89.9		34.660		26.880		5.49		87		95					
2	500	86.8		34.630		26.900		5.70		90		100					
2	700	84.7		34.610		26.920		5.75		90		109					
1	875	74.9		34.500		26.970		4.90		75		135					
1	1064	49.1		34.410		27.250		4.53		65		160					
1	1218	38.8		34.390		27.340		4.29		60		183					
1	1401	31.2		34.470		27.470		3.97		55		195					
1	1860	25.2		34.660		27.680		3.73		51		195					
1	2324	22.0		34.720		27.750		3.75		50		188					
1	2790	18.8		34.740		27.810		4.03		54		188					
1	3262	16.6		34.740		27.820		4.32		57		181					
1	3746	13.0		34.730		27.830		4.44		58		183					
1	4235	10.0		34.720		27.850		4.47		58		183					
1	4724	8.4		34.710		27.860						183					

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 78 60 3 07 1100 I 4.003 S 12741 E

SONIC SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES	
	WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.		CAST 1.	CAST 2.

4984

CAST	DEPTH	TEMP.	S‰	σ _t	O ₂	O ₂ ↓	O ₂ % SAT.	INORG. P	DOUBTFUL
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2		1426	34.850	26.030	5.98		107	31	
2	24	1421	34.840	26.030	6.02		108	31	
2	49	1416	34.830	26.030	6.04		108	31	
2	74	1402	34.840	26.070	5.98		106	36	
2	99	1156	34.850	26.580	5.78		97	58	
2	149	1043	34.790	26.740	5.93		98	72	
2	198	990	34.750	26.790	5.95		97	75	
2	248	959	34.750	26.850	5.93		95	84	
2	298	934	34.720	26.870	5.78		93	91	
2	398	889	34.670	26.900	5.85		93	104	
2	498	853	34.630	26.920	5.36		84	108	
2	597	846	34.610	26.920	5.74		90	113	
1	666	803	34.570	26.950	5.41		84	129	
1	856	727	34.470	26.980	4.73		72	158	
1	1066	538	34.400	27.150	4.58		64	184	
1	1235	340	34.450	27.420	4.23		59	196	
1	1423	290	34.540	27.550	3.92		54	201	
1	1903	248	34.700	27.710	3.73		51	196	
1	2389	209	34.750	27.790	3.95		53	194	
1	2880	176	34.760	27.820	4.17		56	194	
1	3375	147	34.760	27.850	4.33		57	194	
1	3870	132	34.740	27.840	4.44		58	194	
1	4345	112	34.740	27.850	4.73		62	189	

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
11		1		82		60		3		08		0030		I 4.005 S		13159 E	
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES				
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.		CAST 1.	CAST 2.			
5577															5		
		150		200		32		8		16		5		7		8	
		32		8		16		5		7		8		32		2	
		22		1		22		1		22		1		22		1	
CAST	DEPTH	TEMP.		S ‰		O ₂ ‰		O ₂ ‰		O ₂ ‰		INORG. P		DOUBTFUL			
2		1457		34.840		25950		550		99		29					
2	25	1440		34.830		25980		559		100		31					
2	49	1424		34.830		26010		568		101		31					
2	74	1150		34.790		26540		547		92		67					
2	99	1042		34.810		26750		540		93		72					
2	149	996		34.790		26810		570		93		75					
2	198	974		34.760		26830		596		96		77					
2	247	931		34.700		26850		605		97		84					
2	296	916		34.690		26870		570		91		96					
2	394	864		34.630		26900		570		88		108					
2	490	837		34.610		26930		546		92		111					
2	674	747		34.510		26990		494		76		140					
1	884	568		34.430		27160		460		67		169					
1	1077	399		34.410		27350		450		63		183					
1	1265	323		34.480		27460		403		56		193					
1	1453	276		34.580		27600		388		53		200					
1	1933	242		34.720		27730		342		52		193					
1	2414	206		34.760		27800		345		52		188					
1	2896	178		34.760		27820		408		54		186					
1	3385	151		34.760		27850		432		57		183					
1	3877	126		34.760		27850		441		58		186					
1	4369	113		34.740		27850		454		60		188					
1	4848	95		34.720		27850		470		61		193					

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
11		1		84		60		3		08		1100		I 4007 S		13411 E	
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE	WIRE ANGLES		
		WET	DRY	DIR.	SPEED	HEIGHT	TYPE	AMT.	DIR.		AMT.	CAST 1.			CAST 2.		
5486																	
CAST	DEPTH	TEMP.		S‰		σ _t		O ₂		O ₂ % SAT.		INORG. μ		DOUBTFUL			
2		1586		35140		25910		564		104		22					
2	23	1584		35140		25920		541		99		22					
2	50	1580		35140		25920		541		99		22					
2	75	1346		34940		25260		524		92		41					
2	100	1253		35190		26650		528		91		46					
2	149	1188		35120		26720		514		87		51					
2	198	1042		34870		26790		524		86		67					
2	246	1002		34870		26870		556		91		67					
2	293	947		34720		26840		584		94		84					
2	482	864		34630		26910		550		87		108					
2	673	779		34540		26960		496		76		130					
2	866	584		34430		27140		432		64		166					
1	1052	411		34430		27340		432		61		188					
1	1244	320		34490		27470		403		57		197					
1	1434	274		34580		27600		373		51		202					
1	1910	233		34700		27720		379		51		200					
1	2381	200		34740		27780		395		53		197					
1	2853	174		34740		27810		403		54		183					
1	3336	150		34740		27830		429		57		179					
1	3818	129		34720		27830		441		58		190					
1	4312	104		34720		27840		441		58		190					
1	4808	90		34700		27840		454		59		188					
1	5305	95		34700		27840		468		61		183					

SHIP		CRUISE	STATION	YEAR	MONTH	DAY	TIME		LATITUDE		LONGITUDE				
11		1	86	60	3	09	0530	1	4003	S	136	E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.			CAST 1.	CAST 2.
5349															
CAST	DEPTH	TEMP	S%		O ₂ ↓		O ₂ ↓		O ₂ % SAT.		INORG. P		DOUBTFUL		
2		1534	34930		25860		561		102		22				
2	22	1527	34940		25880		575		105		22				
2	46	1517	35040		25980		547		99		22				
2	69	1317	35170		26500		542		95		35				
1	93	1263	35210		26650		559		97		42				
2	140	1216	35170		26710		559		96		45				
2	186	1156	35100		26770		552		93		50				
2	221	1082	34940		26750		584		97		65				
2	259	1006	34810		26810		575		94		72				
2	349	938	34720		26860		600		96		88				
2	439	888	34680		26910		555		88		102				
2	622	838	34600		26920		581		91		115				
1	889	648	34470		27090		465		70		158				
1	1083	424	34430		27340		449		64		181				
1	1273	336	34470		27450		405		56		198				
1	1460	299	34560		27560		390		53		203				
1	1927	248	34700		27710		363		52		200				
1	2399	205	34740		27780		393		53		193				
1	2880	174	34740		27820		418		56		193				
1	3370	151	34740		27820		437		58		188				
1	3862	124	34740		27830		443		58		191				
1	4351	114	34730		27840		455		60		191				

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE				LONGITUDE					
11		1		88		50		3		09		1600		I		4002 S				13750 E			
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE	WIRE ANGLES									
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.			CAS. I.	CAS. 2.								
5121																							
		117	133	25	13	16	9	8	7	25	3	25	1	10									
CAST	DEPTH	TEMP.		S‰		σ _t		O ₂ ↓		% SAT.		INORG. ↑P		DOUBTFUL									
2		1614	35130	25850	531	98	21																
2	25	1609	35130	25860	558	103	21																
2	50	1600	35120	25870	566	105	35																
2	75	1304	35080	26460	603	95	44																
2	99	1256	35200	26650	555	97	46																
2	149	1213	35180	26720	565	98	49																
2	195	1173	35120	26750	578	97	56																
2	248	1123	35040	26780	582	95	70																
2	298	1062	34920	26800	577	90	91																
2	397	967	34780	26950	558	88	116																
2	495	886	34680	26910	561	72	151																
2	684	815	34580	26940	565	64	174																
1	880	695	34490	27040	475	58	195																
1	1061	479	34420	27270	452	54	204																
1	1236	350	34460	27420	420	52	204																
1	1421	309	34550	27540	390	53	190																
1	1893	244	34700	27720	385	55	188																
1	2372	229	34740	27760	390	58	190																
1	2956	178	34750	27810	411	58	193																
1	3548	152	34740	27830	437	58	193																
1	3822	129	34740	27840	440	58	193																
1	4300	116	34730	27840	446	61	188																
1	4787	93	34730	27860	468																		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11	1	90	60	3	10	0100	I	3834	S	13750	E		
SONIC SAMP DEPTH	AIR		WIND	ANEM.		CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES	
	WET	DRY		DIR.	SPEED	HEIGHT	TYPE		AMT	DIR.		AMT.	CAST 1.
5381	133	144	21	10	16	7	8	8	21	2	23	1	

CAST	DEPTH	TEMP.	S %	O ₂	O ₂	O ₂	INORG.	DOUBTFUL
2		1687	35170	25700	549	100	20	
2	23	1684	35170	25710	552	104	20	
2	48	1626	35220	25890	566	105	18	
2	73	1402	35190	26340	597	106	22	
2	98	1294	35220	26600	555	97	38	
2	148	1268	35230	26650	540	94	40	
2	198	1204	35120	26700	533	91	45	
2	247	1153	35070	26750	567	96	52	
2	296	1093	34960	26770	562	93	61	
2	396	970	34780	26860	553	89	61	
2	494	891	34690	26910	549	87	83	
2	676	824	34600	26940	544	85	96	
1	847	712	34510	27040	472	72	133	
1	1011	480	34470	27300	443	64	170	
1	1191	358	34450	27400	418	58	190	
1	1372	316	34530	27510	387	53	203	
1	1828	246	34700	27710	378	51	198	
1	2290	212	34740	27770	378	51	193	
1	2752	183	34750	27810	402	54	190	
1	3220	156	34750	27840	428	57	188	
1	3703	129	34740	27840	435	57	190	
1	4194	117	34730	27840	437	57	190	

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE		
J 1		1		92		60		3		10		1000		3034 S		136.1 E		
SONIC DEPTH	MAX SAMP DEPTH	AIR		TEMP.	WIND		ANEM.		CLOUD		VIS.	SEA		SWELL		ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY		SPEED	HEIGHT	TYPE	AMT.	DIR.	AMT.		DIR.	AMT.	CAST 1.	CAST 2.			
5669																		
		139	144	23	6	16	6	8	8	23	2	22	4	4			5	
CAST	DEPTH	TEMP.		S‰		σ _t		O ₂		O ₂ % SAT.		INORG. P		DOUBTFUL				
2		1656		35120		25740		552		103		21						
2	24	1650		35120		25750		566		106		21						
2	49	1500		34980		25970		588		106		21						
2	73	1394		35160		26340		612		109		25						
2	98	1257		35190		26640		561		97		44						
2	147	1198		35130		26710		561		96		51						
2	196	1127		35040		26770		575		96		58						
2	246	1065		34950		26820		581		96		65						
2	294	1029		34870		26920		584		96		72						
2	494	885		34670		26900		570		90		104						
2	694	804		34590		26960		547		85		123						
1	886	669		34480		27070		465		70		153						
1	1081	426		34440		27340		439		62		185						
1	1273	308		34500		27500		405		56		195						
1	1462	276		34590		27600		380		52		195						
1	1941	233		34730		27750		380		51		195						
1	2416	214		34760		27790		393		53		195						
1	2882	176		34770		27830		405		54		195						
1	3346	148		34760		27850		431		57		193						
1	3803	132		34750		27850		446		59		185						
1	4259	109		34750		27860		456		60		193						
1	4752	94		34730		27860		465		61		190						

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE											
11		1		94		50		3		10		23121		3700 S		134 E											
SONIC. DEPTH	SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.		SEA		SWELL		ATMOS. PRESSURE		WIRE ANGLES									
		WET	DRY	DIR	SPEED	HEIGHT	TYPE	AMT	TYPE	AMT	% SAT	DIR	AMT	DIR	AMT	↓	↑	CAST 1	CAST 2								
5381		139		144		20		6		16		7		8		7		19		2		23		1			
CAS. 1	DEPTH	TEMP		S%		σ _t		O ₂		O ₂		INORG. P						DOUBTFUL									
2		1749		35340		25680		552		105		17															
2	25	1743		35340		25690		547		104		15															
2	50	1588		35220		25970		593		110		17															
2	75	1452		35440		26420		565		101		26															
2	100	1392		35390		26510		547		97		37															
2	150	1302		35280		26620		561		98		39															
2	200	1279		35260		26650		556		94		39															
2	250	1234		35210		26680		552		95		41															
2	300	1173		35090		26730		556		94		54															
2	400	1011		34850		26840		561		92		78															
2	500	912		34720		26900		552		88		95															
2	600	874		34650		26900		556		88		102															
1	687	842		34600		26910		552		87		114															
1	881	677		34490		27060		470		71		146															
1	1074	428		34450		27340		443		63		176															
1	1264	312		34500		27490		402		54		188															
1	1452	281		34570		27580		378		50		195															
1	1927	238		34700		27710		378		51		197															
1	2400	204		34740		27790		391		52		190															
1	2876	179		34740		27810		405		54		188															
1	3361	151		34740		27830		429		55		183															
1	3843	129		34720		27830		443		53		193															
1	4330	106		34720		27840		456		60		193															
1	4824	99		34720		27850		463		61		186															

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE				LONGITUDE							
11		1		97		60		3		17		1200		3659 S				132 7 E							
SONIC DEPTH	MAX SAMP. DEPTH	AIR		TEMP.		WIND		ANEM.		HEIGHT		CLOUD		VIS.		SEA		SWELL		ATMOS. PRESSURE		WIRE		ANGLES	
		WET	↓	↓	↓	DIR.	SPEED	DIR.	SPEED	↑	↑	TYPE	AMT.	↑	↑	DIR.	AMT.	DIR.	AMT.	↓	↓	CASE 1.	CASE 2.	CASE 1.	CASE 2.
		167		172		31		9		16		7		8		5		3		1		2		4	
5486																									
CAST	DEPTH	TEMP.		S‰		σ _t		O ₂		O ₂		% SAT.		INORG.		DOUBTFUL									
		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓									

2	24	1700	35240	25720	559	106	18										
2	49	1591	35230	25740	553	104	18										
2	74	1436	35060	25840	575	106	20										
2	98	1302	35080	26190	587	105	24										
2	147	1178	35090	26470	581	101	35										
2	195	1112	34990	26640	544	92	49										
2	244	1086	34930	26720	536	93	55										
2	292	1038	34940	26770	525	87	57										
2	391	947	34850	26790	560	92	65										
2	489	877	34750	26870	554	89	91										
2	680	800	34660	26910	540	85	91										
1	878	620	34560	26940	504	78	114										
1	1066	409	34450	27100	463	69	153										
1	1253	303	34420	27340	441	62	176										
1	1440	275	34490	27490	400	55	187										
1	1906	233	34580	27590	386	53	185										
1	2384	210	34700	27720	382	52	181										
1	2860	175	34740	27770	397	53	181										
1	3340	145	34750	27810	416	55	181										
1	3820	126	34740	27830	438	58	174										
1	4309	105	34740	27830	457	60	178										
1	4901	87	34730	27840	468	61	181										
			34720	27850	481	63	181										

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE				LONGITUDE			
11		1		99		60		3		18		0500		3659 S				130 E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.	SEA		SWELL		ATMOS. PRESSURE		WIRE ANGLES				
		WET	DRY	DIR.	SPEED	HEIGHT	TYPE	AMT.	DIR.		AMT.	DIR.	AMT.	CAST 1.	CAST 2.						
5669		161	172	30	3	16	7	8	8	30	2	29	1								
CAST	DEPTH	TEMP		S‰		σ _t		O ₂		O ₂ % SAT.		INORG. P		DOUBTFUL							
2		1708		35270		25720		542		103		22									
2	25	1703		35270		25740		546		103		22									
2	45	1697		35290		25760		555		105		22									
2	74	1529		35190		26070		547		100		24									
2	98	1383		35230		26410		578		103		32									
2	148	1288		35120		26530		547		98		45									
2	197	1205		35030		26620		564		96		48									
2	247	1149		34990		26700		569		96		56									
2	296	1115		34970		26740		538		90		67									
2	494	918		34700		26890		538		85		100									
2	688	836		34610		26930		545		85		115									
2	866	683		34480		27050		474		71		145									
2																					
1	1074	460		34420		27290		450		64		176									
1	1264	333		34480		27450		413		57		191									
1	1552	268		34550		27570		388		53		191									
1	1919	241		34700		27710		378		51		189									
1	2394	207		34750		27790		400		54		189									
1	2869	183		34750		27810		426		57		183									
1	3330	149		34760		27840		430		57		183									
1	3832	125		34750		27850		451		59		180									
1	4317	107		34720		27840		465		61		180									
1	4802	86		34710		27850		476		62		185									
1	5292	93		34710		27850		476		62		185									

SHIP		CRUISE	STATION		YEAR	MONTH	DAY	TIME		LATITUDE		LONGITUDE	
11		1	101		60	3	18	1700		1	3701 S	128 1 E	
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND	ANEM.	CLOUD		VIS.	SEA	SWELL	ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY			TYPE	AMT.					DIR.	AMT.
544													
CAST	DEPTH	TEMP.	S ‰		σ _t		O ₂ ‰	O ₂ % SAT.	INORG. μP		DOUBTFUL		
2		1706	35260		25720		553	105	22				
2	23	1677	35270		25800		569	107	22				
2	47	1638	35250		25880		569	106	24				
2	72	1615	35250		25940		572	106	24				
2	97	1432	35230		26310		569	102	32				
2	146	1321	35190		26510		547	96	43				
2	196	1218	35030		26600		569	97	50				
2	246	1126	34960		26720		559	94	63				
2	296	1073	34900		26760		559	93	71				
2	394	944	34720		26850		569	91	87				
2	491	892	34690		26900		557	88	97				
2	673	845	34620		26920		550	86	110				
1	861	692	34480		27030		471	71	149				
1	1042	461	34410		27270		454	65	181				
1	1242	322	34460		27450		416	57	194				
1	1437	290	34550		27550		389	53	199				
1	1908	238	34690		27700		345	52	194				
1	2377	212	34750		27790		403	54	187				
1	2845	175	34760		27820		413	55	187				
1	3325	150	34750		27830		442	58	185				
1	3813	127	34740		27840		444	58	183				
1	4308	109	34730		27840		463	61	187				
1	4804	88	34720		27850		470	61	187				

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE		
11		1		103		60		3		19		0300 H		3657 S		12553 E		
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.		SEA		SWELL		ATMOS. PRESSURE		
		WET	DRY	DIR.	SPEED	HEIGHT		TYPE	AMT.			DIR.	AMT.	DIR.	AMT.		CAST 1.	CAST 2.
5301		167	167	32	4	16	7	0	32	2	30	1						
CAST	DEPTH	TEMP	S‰	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂	O ₂
2		1652	35090	25720	575	107	22											
2	24	1642	35090	25750	569	106	20											
2	48	1576	35000	25820	571	105	25											
2	72	1497	35150	26110	564	102	29											
2	97	1423	35210	26320	564	101	31											
2	145	1278	35110	26540	550	95	47											
2	193	1204	35030	26630	560	96	52											
2	241	1155	34980	26680	558	93	58											
2	289	1061	34860	26750	564	93	74											
2	385	976	34800	26860	560	91	85											
2	480	902	34700	26900	547	87	96											
2	662	848	34620	26920	537	84												
1	863	681	34460	27030	476	72	114											
1	1054	448	34400	27280	454	65	153											
1	1235	312	34450	27450	420	58	186											
1	1433	283	34550	27560	392	54	202											
1	1910	239	34700	27720	385	54	200											
1	2384	212	34740	27770	410	55	188											
1	2860	175	34740	27820	415	55	190											
1	3340	147	34740	27830	441	58	188											
1	3820	128	34730	27840	454	60	186											
1	4298	104	34720	27850	470	62	188											
1	4774	92	34720	27850	480	63	200											

DOUBTFUL

3

SHIP		CRUISE	STATION	YEAR	MONTH	DAY	TIME		LATITUDE		LONGITUDE			
11		1	105	60	3	19	1430 H		3700 S		124 3 E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		ATMOS. PRESSURE ↓	WIRE ANGLES	
		WET ↓	DRY ↓	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.		CAST 1.	CAST 2.
5349														
CAST	DEPTH	TEMP. ↓	S‰ ↓		σ _t ↓		O ₂ ↓	O ₂ %	INORG. ↓P	DIR.	AMT.	DIR.	AMT.	DOUBTFUL
2		1655	35240		25830		569	106	22					
2	24	1640	35010		25700		590	110	29					
2	48	1468	34950		26010		596	107	34					
2	73	1335	34820		26200		595	104	49					
2	97	1370	35180		26400		569	101	38					
2	146	1308	35180		26540		559	98	40					
2	195	1172	34970		26640		572	97	56					
2	245	1110	34940		26730		564	94	65					
2	294	1074	34920		26780		545	90	74					
2	393	944	34740		26870		552	89	90					
2	491	898	34700		26910		556	88	101					
2	678	837	34610		26940		541	85	119					
1	828	738	34510		27000		497	76	137					
1	1002	522	34420		27220		460	67	174					
1	1182	352	34430		27400		435	60	190					
1	1343	306	34510		27510		397	55	199					
1	1807	205	34670		27690		385	52	197					
1	2281	217	34740		27770		397	53	192					
1	2759	181	34760		27820		413	55	192					
1	3236	155	34750		27840		438	58	190					
1	3700	135	34740		27840		448	59	189					
1	4160	110	34730		27840		463	61	192					
1	4620	94	34720		27850		477	62	190					

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
11		1		107		60		3		20		0030		H 3655 S		12214 E	
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.		SEA		SWELL		WIRE ANGLES	
		WET	DRY	DIR.	SPEED	HEIGHT		TYPE	AMT.			DIR.	AMT.	DIR.	AMT.	CAST 1.	CAST 2.
5052		128	144	24	5	16		7	6	7		24	2	26	1	10	5
CAST	DEPTH	TEMP.		S‰		σ _t		O ₂ †		O ₂ % SAT.		INORG. †p				DOUBTFUL	
2		1764		35430		25710		556		107		16					
2	25	1765		35440		25710		556		107		16					
2	49	1780		35580		25790		554		107		14					
2	73	1504		35160		26100		596		108		23					
2	98	1449		35240		26290		575		101		28					
2	140	1301		35160		26540		568		99		42					
2	197	1205		35030		26630		564		96		56					
2	246	1157		35020		26710		556		94		63					
2	295	1109		34960		26750		545		91		72					
2	392	977		34800		26860		550		89		91					
2	490	901		34690		26900		556		89		96					
2	685	834		34600		26930		540		84		123					
1	875	671		34440		27030		481		72		151					
1	1067	438		34430		27310		465		66		174					2
1	1268	414		34510		27410		435		61		179					3
1	1449	289		34600		27600		481		66		188					4
1	1907	239		34690		27710		392		53		197					
1	2374	214		34740		27770		403		54		190					
1	2855	178		34740		27810		415		55		193					
1	3332	144		34740		27830		451		60		188					4
1	3812	128		34730		27830		447		59		188					
1	4295	101		34720		27850		468		61		188					
1	4790	88		34720		27850		479		62		190					

2 3 4 4

SHIP		CRUISE	STATION	YEAR	MONTH	DAY	TIME		LATITUDE		LONGITUDE				
11		1	109	60	3	20	1100	H	3650	S	12022	E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		SWELL	ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.			DIR.	AMT.
5349															
CAST	DEPTH	TEMP.	S‰		σ _t		O ₂ ↓		O ₂ % SAT.		INORG. μP		DOUBTFUL		
2		1808	35670		25780		547		106		13				
2	24	1804	35660		25790		537		104		16				
2	48	1796	35670		25810		537		103		16				
2	73	1630	35520		26100		575		107		18				
2	97	1550	35510		26280		584		107		20				
2	147	1397	35340		26470		545		97		34				
2	197	1330	35250		26550		545		96		40				
2	247	1224	35100		26650		547		94		54				
2	297	1115	34930		26710		568		95		65				
2	394	1007	34840		26840		556		91		83				
2	493	900	34690		26900		556		88		99				
2	678	849	34610		26920		550		86		114				
1	875	700	34470		27010		485		73		148				
1	1067	466	34400		27250		454		65		181				
1	1259	332	34440		27420		422		58		195				
1	1441	291	34530		27540		389		53		201				
1	1910	245	34690		27700		385		52		197				
1	2394	214	34740		27770		400		54		197				
1	2874	178	34750		27810		426		57		105				
1	3346	148	34730		27820		439		58		105				
1	3820	126	34720		27830		455		60		185				
1	4299	107	34710		27830		470		62		188				
1	4779	90	34710		27830		476		62		188				

SHIP		CRUISE	STATION	YEAR	MONTH	DAY	TIME		LATITUDE		LONGITUDE			
11		1	111	60	3	21	11H		3650 S		11749 E			
SONIC DEPTH	MAX SAMP. DEPTH	AIR TEMP.		WIND		ANEM. HEIGHT	CLOUD		VIS.	SEA		ATMOS. PRESSURE	WIRE ANGLES	
		WET	DRY	DIR.	SPEED		TYPE	AMT.		DIR.	AMT.		CAST 1.	CAST 2.
4984		139	150	28	5	16	7	8	1	27	2	23	1	
CAST	DEPTH	TEMP.	S %		σ _t		O ₂ ↓	O ₂ % SAT.	INORG. ↓ P		DOUBTFUL			
2		1765	35700		25910		550	105	16					
2	24	1765	35700		25910		553	106	16					
2	47	1759	35700		25930		553	106	13					
2	71	1762	35700		25920		553	106	16					
2	96	1635	35590		26140		575	107	16					
2	145	1465	35450		26400		553	100	25					
2	194	1365	35290		26490		564	100	34					
2	243	1279	35170		26580		540	94	45					
2	292	1200	35070		26660		540	92	56					
2	387	1026	34870		26820		564	92	78					
2	484	923	34740		26900		571	91	94					
2	577	891	34680		26900		553	88	108					
1	675	872	34640		26900		556	88	112					
1	870	713	34500		27010		494	75	144					
1	1059	469	34400		27260		460	66	178					
1	1258	348	34440		27410		429	60	192					
1	1433	296	34530		27530		395	54	201					
1	1905	255	34690		27700		392	53	188					
1	2383	210	34740		27770		395	53	192					
1	2862	179	34750		27810		424	57	188					
1	3342	148	34740		27830		439	58	185					
1	3825	123	34740		27850		457	60	188					
1	4311	107	34740		27850		458	61	190					

SHIP		CRUISE		STATION		YEAR		MONTH		DAY		TIME		LATITUDE		LONGITUDE	
11		1		114		60		3		22		1200 G		3200 S		11150 E	
SONIC DEPTH	MAX SAMP DEPTH	AIR TEMP.		WIND		ANEM.		CLOUD		VIS.		SEA		SWELL		ATMOS. PRESSURE	
		WET	DRY	DIR.	SPEED	HEIGHT		TYPE	AMT.			DIR.	AMT.	DIR.	AMT.	CAST 1.	CAST 2.
4936		194		208		14		3		16		0		8		10	
CAST	DEPTH	TEMP		S‰		σ _t		O ₂ ↓		O ₂ % SAT.		INORG. ↑				DOUBTFUL	
2		2033		35930		25400		527	106		9						
2	24	2025		35940		25430		514	103		7						
2	49	2018		35940		25450		524	105		7						
2	73	1996		35960		25520		530	106		9						
2	97	1949		35960		25650		510	101		9						
2	146	1693		35750		26120		527	100		18						
2	195	1490		35520		26400		537	97		31						
2	244	1362		35350		26640		535	96		43						
2	293	1252		35190		26650		550	95		56						
2	390	1028		34870		26810		564	92		81						
2	405	935		34750		26890		553	89		96						
2	575	876		34650		26900		553	87		114						
1	653	544		34410		27180		460	67		169						
1	1041	390		34440		27370		400	56		194						
1	1228	355		34550		27490		343	48		208						
1	1409	318		34600		27570		350	48		205						
1	1863	247		34690		27700		373	51		198						
1	2332	219		34740		27760		378	51		198						
1	2999	178		34730		27800		400	53		198						
1	3268	148		34720		27820		423	56		198						
1	3736	130		34720		27830		435	57		190						
1	4203	114		34720		27840		447	59		196						
1	4695	106		34710		27830		465	61		196						

DATA

PART 2

HYDROLOGY

SURFACE SAMPLING

STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE	TEMP. ↓	‰ ↓
1	60	2	3	600G	3200S	11150E	2080	3590
2	60	2	3	1500G	3157S	11045E	2050	3590
3	60	2	3	1830G	3202S	10950E	1950	3599
4	60	2	4	100G	3208S	10855E	1980	3602
5	60	2	4	430G	3203S	10802E	1970	3597
6	60	2	4	1000G	3201S	10712E	1940	3600
7	60	2	4	1415G	3203S	10643E	1950	3602
8	60	2	4	1630G	3210S	10604E	1995	3595
9	60	2	4	2400G	3210S	10501E	1950	3600
10	60	2	5	400G	3210S	10406E	1850	3564
11	60	2	5	1000G	3203S	10318E	1930	3595
12	60	2	5	1410G	3203S	10245E	2070	3590
13	60	2	5	1700G	3209S	10200E	2030	3605
14	60	2	5	2330G	3210S	10053E	2080	3602
15	60	2	6	330G	3210S	9945E	2080	3606
16	60	2	6	1000G	3312S	9945E	2091	3596
17	60	2	6	1900G	3413S	9945E	2040	3566
18	60	2	6	2300G	3503S	9950E	2000	3583
19	60	2	7	600G	3509S	10100E	1990	3541
20	60	2	7	1000G	3455S	10202E	1920	3551
21	60	2	7	1650G	3459S	10242E	1970	3592
22	60	2	8	530G	3459S	10422E		
23	60	2	8	1000G	3500S	10548E	1930	3595
24	60	2	8	2100G	3500S	10656E	1950	3604
25	60	2	9	100G	3458S	10838E	1810	3571
26	60	2	9	600G	3456S	10856E	1850	3588
27	60	2	9	1000G	3455S	10945E	1790	3575
28	60	2	9	1520G	3454S	11034E	1830	3585
29	60	2	9	2210G	3451S	11205E	1850	3593
30	60	2	10	130H	3500S	11300E	1980	3591
31	60	2	10	900H	3550S	11240E	1720	3579
32	60	2	10	1000H	3602S	11236E	1725	
33	60	2	10	1700G	3653S	11155E	1605	
34	60	2	11	30G	3655S	11041E		
35	60	2	11	920G	3700S	10858E	1744	3586
36	60	2	11	1700G	3700S	10817E	1760	3566
37	60	2	11	1930G	3700S	10712E	1785	3580
38	60	2	12	300G	3700S	10602E	1670	3552
39	60	2	12	730G	3700S	10452E	1644	3533
40	60	2	12	1530G	3700S	10348E	1830	3573
41	60	2	12	1930G	3700S	10228E	1856	3583
42	60	2	13	330G	3658S	10119E	1780	3566
43	60	2	13	830G	3655S	9957E	1733	3520
44	60	2	13	1530G	3739S	9958E	1660	3521
45	60	2	13	1930G	3821S	10000E	1669	3535
46	60	2	14	G	3922S	10008E	1690	3516

STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE	TEMP. ↓	§% ↓
47	60	2	14	532G	4007S	10014E	1336	3504
48	60	2	14	1000G	4007S	10048E		
49	60	2	14	1400G	4007S	10127E	1420	3573
50	60	2	14	1730G	4010S	10230E	1440	3499
51	60	2	14	2330G	4010S	10334E	1510	3507
52	60	2	15	330G	4010S	10440E	1390	3499
53	60	2	15	1000G	4010S	10546E	1375	3579
54	60	2	15	1600G	4010S	10706E	1340	3495
55	60	2	15	2230G	4010S	10806E	1380	3593
56	60	2	16	200G	4010S	10914E	1376	3504
57	60	2	16	830G	4010S	11019E	1410	3506
58	60	2	16	1200G	4010S	11129E	1384	3510
59	60	2	16	2030H	4005S	11254E	1490	3522
60	60	2	17	1H	4000S	11400E	1344	3500
61	60	2	17	1500H	3656S	11404E	1726	3552
62	60	3	4	300H	3656S	11615E	1574	3535
63	60	3	4	930H	3703S	11615E	1590	3546
64	60	3	4	1415H	3735S	11617E	1635	3567
65	60	3	4	1815H	3833S	11612E	1676	3558
66	60	3	5	30H	3913S	11619E	1430	3482
67	60	3	5	315H	3951S	11622E	1396	3504
68	60	3	5	1200H	4001S	11804E	1466	3528
69	60	3	5	1830H	4004S	11906E	1400	3500
70	60	3	5	2130H	4005S	12007E	1480	3522
71	60	3	6	300H	4007S	12053E	1410	3479
72	60	3	6	630H	4009S	12158E	1418	3483
73	60	3	6	1400H	4007S	12306E		
74	60	3	6	1630H	4002S	12358E	1420	3484
75	60	3	6	2230H	4003S	12453E	1420	3485
76	60	3	7	145H	4003S	12633E	1398	3484
77	60	3	7	730H	4003S	12640E	1350	3478
78	60	3	7	1100I	4003S	12741E	1426	3485
79	60	3	7	1900I	4003S	12849E	1440	3594
80	60	3	7	2230I	4003S	13000E	1468	3487
81	60	3	8	600I	4003S	13103E	1525	3507
82	60	3	8	930I	4005S	13159E	1457	3484
83	60	3	8	1630I	4005S	13311E		3488
84	60	3	8	2030I	4007S	13411E	1586	3514
85	60	3	9	230I	4005S	13500E	1510	3496
86	60	3	9	530I	4003S	13559E	1534	3493
87	60	3	9	1330I	4002S	13657E	1610	3507
88	60	3	9	1600I	4002S	13750E	1614	3513
89	60	3	9	2200I	3917S	13750E	1635	3517
90	60	3	10	100I	3834S	13750E	1687	3517
91	60	3	10	700I	3834S	13651E	1635	3526
92	60	3	10	1000I	3834S	13600E	1656	3512

STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE	TEMP. ↓	S‰ ↓
93	60	3	10	1900I	3744S	13456E	1675	3526
94	60	3	10	2312I	3700S	13400E	1749	3534
95	60	3	17	1000I	3631S	13332E	1770	3530
96	60	3	17	1445I	3647S	13255E	1790	3535
97	60	3	17	1800I	3659S	13207E	1700	3524
98	60	3	18	100I	3659S	13106E	1680	3521
99	60	3	18	500I	3659S	13000E	1708	3527
100	60	3	18	1000I	3659S	12928E	1700	3525
101	60	3	18	1700I	3701S	12801E	1706	3526
102	60	3	18	2300H	3700S	12700E	1725	3521
103	60	3	19	300H	3657S	12553E	1652	3509
104	60	3	19	1000H	3659S	12451E	1720	3541
105	60	3	19	1430H	3700S	12403E	1655	3524
106	60	3	19	2100H	3657S	12305E	1675	3561
107	60	3	20	30H	3655S	12214E	1764	3543
108	60	3	20	700H	3653S	12121E	1780	3571
109	60	3	20	1100H	3650S	12022E	1808	3567
110	60	3	20	1930H	3650S	11901E	1740	3579
111	60	3	21	1H	3650S	11749E	1765	3570
112	60	3	21	700H	3609S	11657E		
113	60	3	22	800H	3242S	11241E	2000	3599
114	60	3	22	1200H	3200S	11150E	2033	3593

DATA

PART 3

PRIMARY PRODUCTION

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0001 60 2 03 930 G 3200 S 11150 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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390 16 27 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

	212	51	161	0400	0011	0000
25	293	30	263	0400	0018	0004
50	181	21	160	0400	0011	0007
75	104	47	57	0400	0004	0009
100	221	8	213	0400	0014	0011
150	5	12	38	0400	0003	0015

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0006 60 2 04 1030 G 3201 S 10712 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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9999 15 55 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

	9	22	71	0400	0005	0000
25	143	24	119	0400	0008	0001
50	145	19	126	0400	0008	0003
75	147	9	138	0400	0009	0005
100	19	10	190	0400	0012	0008
150	123	3	120	0400	0008	0013

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0011 60 2 05 1030 G 3203 S 10318 E

SONIC DEPTH	MAX SAMP DEPTH	DIST FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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9999 15 77 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	44	41	3	0400	0000	0000
50	62	13	49	0400	0003	0000
75	48	69	21 *	0400	0000	0000
100	66	13	53	0400	0004	0002
122	122	8	114	0400	0008	0003
150	67	5	62	0400	0004	0005

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0016 60 2 06 1030 G 3312 S 09945 E

SONIC DEPTH	MAX SAMP DEPTH	DIST FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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4572 15 97 0 6 9100 016

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	81	16	65	0400	0004	0000
50	102	15	87	0400	0006	0001
75	106	424	318 *	0400	0000	0002
100	156	11	145	0400	0010	0003
122	147	9	138	0400	0009	0006
150	33	10	23	0400	0002	0008

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0020 60 2 07 1030 G 3455 S 10202 E

SONIC DEPTH	MAX SAMP DEPTH	DIST FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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430 15 90 0 6 9100 016

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
25	25	14	11	0400	0001	0000
50	3	28	2	0400	0000	0000
75	87	34	53	0400	0004	0001
100	72	9	63	0400	0004	0001
150	47	29	18	0400	0001	0002
	18	19	1 *	0400	0000	0002

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0023 60 2 08 1030 G 3500 S 10548 E

SONIC DEPTH	MAX SAMP DEPTH	DIST FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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6218 15 67 0 6 9100 016

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
25	74	17	57	0400	0004	0000
50	42	11	31	0400	0002	0001
75	33	12	21	0400	0001	0001
100	67	12	55	0400	0004	0002
150	77	12	65	0400	0004	0003
	34	10	24	0400	0002	0004

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0027 60 2 09 1045 G 3455 S 10945 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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9999 15 48 0 6 9100 016

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	24	24	58	400	000	0000
50	72	14	47	0400	0004	0000
75	56	9	73	0400	0003	0001
100	85	12	30 *	0400	0005	0002
150	106	36	180	0400	0000	0003
	192	12		0400	0012	0006

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0032 60 2 10 1030 H 3602 S 11236 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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9999 15 25 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	124	23	101	0400	0007	0000
50	122	84	38	0400	0003	0001
75	102	5	97	0400	0007	0003
100	35	4	346	0400	0023	0007
150	141	17	124	0400	0008	0011
	36	77	41 *	0400	0000	0012

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	0035	60	2	11	1030 G	3700 S	10858 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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5394 15 45 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
	43	15	28	0400	0002	0000
25	88	12	76	0400	0005	0001
50	75	16	59	0400	0004	0002
75	93	22	71	0400	0005	0003
100	176	11	165	0400	0011	0005
150	219	10	209	0400	0014	0011

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	0039	60	2	12	1000 G	3700 S	10452 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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4572 15 66 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
	267	192	75	0400	0005	0000
25	39	18	372	0400	0025	0004
50	55	28	522	0400	0035	0012
75	157	9	148	0400	0010	0017
100	AA	9	79	0400	0005	0019
150	21	9	12	0400	0001	0020

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0043 60 2 13 1030 G 3655.5 09957 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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4572 15 95 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	139	17	122	0400	0008	0000
50	165	40	125	0400	0008	0002
75	207	12	195	0400	0013	0005
100	352	12	340	0400	0023	0009
150	142	11	131	0400	0009	0013
	22	20	2	0400	0000	0015

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0048 60 2 14 1030 G 4007 S 10048 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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9999 15 100 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	353	17	336	0400	0022	0000
50	535	16	519	0400	0035	0007
75	471	57	414	0400	0028	0015
100	21	33	177	0400	0012	0020
150	105	62	43	0400	0003	0023
	3	19	11	0400	0001	0023

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0053 60 2 15 1030 G 4010 S 10546 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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9999 15 70 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
25	96	29	67	0400	0005	0000
50	154	33	121	0400	0008	0002
75	138	15	123	0400	0008	0004
100	164	12	152	0400	0010	0006
150	9	11	79	0400	0005	0008
	31	17	14	0400	0001	0009

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0058 60 2 16 1230 G 4010 S 11129 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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4938 15 49 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
25	186	48	138	0400	0009	0000
50	296	18	278	0400	0019	0004
75	346	16	330	0400	0022	0009
100	344	12	332	0400	0022	0015
150	146	7	139	0400	0009	0019
	25	7	8	0400	0001	0020

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0061 60 2 17 1705 H 3656 S 11404 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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5486 15 23 0 6 9100 014

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	3	21	9	0400	0001	0000
50	35	19	16	0400	0001	0000
75	69	16	53	0400	0004	0001
100	104	8	96	0400	0006	0002
150	111	22	89	0400	0006	0003
	16	12	4	0400	0000	0005

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0063 60 3 04 945 H 3703 S 11615 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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9999 15 16 0 6 9100 014

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	477	16	461	0400	0031	0000
50	537	21	516	0400	0035	0008
75	489	16	473	0400	0032	0016
100	205	7	198	0400	0013	0022
150	77	18	59	0400	0004	0034
	16	8	8	0400	0001	0025

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0068 60 3 05 1130 H 4001 S 11804 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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4561 15 37 0 6 9100 014

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
25	303	19	284	0400	0019	0000
50	33	28	302	0400	0020	0005
75	286	19	267	0400	0018	0010
100	436	23	413	0400	0028	0015
150	73	23	50	0400	0003	0019
	16	17	1	* 0400	0000	0020

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0072 60 3 06 930 H 4009 S 12158 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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5029 15 46 0 6 9100 014

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
25	379	23	356	0400	0024	0000
50	382	23	359	0400	0024	0006
75	388	20	368	0400	0025	0012
100	343	20	323	0400	0022	0018
150	93	13	80	0400	0005	0022
	19	11	8	0400	0001	0023

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	0079	60	3	07	1100	4003. S	12741 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
4984	15	50	0	6	9100	014

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
25	845	20	825	0400	0049	0000
50	949	21	928	0400	0055	0013
75	1092	12	1080	0400	0064	0029
100	602	14	588	0400	0035	0041
150	84	13	71	0400	0004	0045
	24	10	14	0400	0001	0046

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	0082	60	3	08	1030	4005 S	13159 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
5577	15	45	0	6	9100	014

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
25	1148	49	1099	0400	0073	0000
50	1138	15	1123	0400	0075	0019
75	457	13	444	0400	0030	0031
100	82	11	71	0400	0005	0035
150	32	11	21	0400	0001	0036
	15	9	6	0400	0000	0037

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0086 60 3 09 045 I 4003 S 13600 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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5349 15 37 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
25	1349	32	1317	0400	0088	0000
50	1409	22	1387	0400	0093	0022
75	501	18	483	0400	0032	0038
100	126	14	112	0400	0008	0045
150	55	17	38	0400	0003	0044
	21	16	5	0400	0000	0045

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0092 60 3 10 1030 I 3834 S 13600 E

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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5669 15 25 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B
25	306	30	276	0400	0018	0000
50	353	20	333	0400	0022	0005
75	345	18	327	0400	0035	0012
100	342	11	331	0400	0022	0019
150	66	11	55	0400	0004	0023
	22	10	12	0400	0001	0024

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	0095	60	3	17	1030 I	3631 S	13332 E

9999 15 23 0 6 9100 014

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	196	13	183	0400	0012	0000
50	335	21	314	0400	0021	0004
75	229	18	211	0400	0014	0009
100	364	14	350	0400	0023	0014
150	98	16	82	0400	0006	0017
	24	7	17	0400	0001	0018

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	0100	60	3	18	1030 I	3659 S	12928 E

9999 15 40 0 6 9100 014

SONIC DEPTH	MAX. SAMP. DEPTH	DIST. FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	282	12	270	0400	0018	0000
50	38	10	370	0400	0025	0005
75	45	5	445	0400	0030	0012
100	222	4	218	0400	0015	0018
150	104	12	92	0400	0006	0020
	13	6	7	0400	0001	0022

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0104 60 3 19 1030 H 3657 S 12553 E

SONIC DEPTH	MAX SAMP. DEPTH	DIST FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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015

5381	15	25	0	6	9100	015
DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					1A	1B

25	335	40	295	0400	0020	0000
50	463	27	436	0400	0006	0006
75	338	11	327	0400	0022	0012
100	328	13	315	0400	0021	0017
150	107	75	32	0400	0002	0020
	27	14	13	0400	0001	0021

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0109 60 3 20 1100 H 3650 S 12022 E

SONIC DEPTH	MAX SAMP. DEPTH	DIST FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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015

5349	15	20	0	6	9100	015
DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					1A	1B

25	275	25	250	0400	0017	0000
50	382	28	354	0400	0024	0005
75	352	26	326	0400	0022	0011
100	513	15	498	0400	0033	0018
150	292	20	272	0400	0018	0025
	31	16	15	0400	0001	0029

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0111 60 3 21 15 H 3650 S 11749 E

SONIC DEPTH	MAX SAMP DEPTH	DIST FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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4934 15 15 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	103	30	73	0400	0005	0000
50	145	33	112	0400	0008	0002
75	128	30	98	0400	0007	0004
100	134	30	104	0400	0007	0005
150	209	29	180	0400	0012	0007
	68	24	44	0400	0003	0011

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 0114 60 3 22 1330 G 3200 S 11150 E

SONIC DEPTH	MAX SAMP DEPTH	DIST FROM COAST	METHOD OF INCUBATION	STOCK NUMBER	STOCK ACTIVITY	BACKGROUND
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4938 15 27 0 6 9100 015

DEPTH	LIGHT COUNT	DARK COUNT	NET COUNT	INCUBATION PERIOD	RATE OF PRODUCTION	
					A	B

25	248	25	223	0400	0015	0000
50	283	37	246	0400	0016	0004
75	28	43	237	0400	0016	0008
100	571	30	541	0400	0036	0014
150	427	20	407	0400	0027	0022
	32	21	11	0400	0001	0029

DATA

PART 4

PIGMENTS

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	1	60	2	03	930 G	3200 S	11150 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	2	2	22	6	2
50	5	6	49	10	2 *
75	8	5	34	7	
100	6	6	49	7	2 *
150	14	7	59	8	1
		9	49	6	4

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	6	60	2	04	1030 G	3201 S	10712 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	1	3	20	3	1
50	3	2	5	3	1
75	5	4	24	3	2
100	34	81	1038	9	33 *
150	6	3	41	5	1
	11	13	112	8	1 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 11 60 2 05 1030 G 3203 S 10318 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		

25	7	6	39	6	1
50	3	4	22	3	2
75	7	7	46	6	
100	10		28	3	1
150	11	13	90	5	8
	4	5	29	2	2

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 16 60 2 06 1030 G 3312 S 9945 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		

25	5	4	25	2	2
50	3	2	23	5	
75	12	11	68	5	1
100	8	8	29	8	1
150	9	6	39	3	3
				5	3

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	20	60	2	07	1030 G	3455 S	10202 E

DEPTH	CHLOROPHYLL				ASTACIN	NON ASTACIN
	a	b	c	c		
25	6	5	41	6		
50	3	3	20	3		
75	6	7	42	7		1
100	15	11	111	10		1 *
150	12	9	49	8		1 *
	9	5	34	7		1

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	23	60	2	08	1030 G	3500 S	10548 E

DEPTH	CHLOROPHYLL				ASTACIN	NON ASTACIN
	a	b	c	c		
25	7	5	45	7		
50	7	4	38	6		
75	9	7	54	10		2 *
100	9	6	26	7		2
150	9	4	28	4		1
	7	4	48	4		2

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	27	60	2	09	1045 G	3455 S	10945 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	3	2	15	3	1
50	4	5	30	6	1
75	8	8	39	5	1
100	10	6	53	10	1
150	12	8	51	9	1
	12	9	67	10	1

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	32	60	2	10	1030 H	3602 S	11236 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	4	3	32	6	1
50	8	6	51	8	1
75	10	8	61	8	1
100	11	8	49	7	3
150	9	6	40	5	
	10	7	71	6	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	35	60	2	11	1030 G	3700 S	10858 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	6	6	34	7	
50	4	6	37	7	
75	5	4	7	5	
100	6	3	55	5	1
150	7	6	39	5	1
	10	8	59	11	1 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	39	60	2	12	1000 G	3700 S	10452 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	14	6	54	7	3
50	19	14	76	12	2
75	18	12	82	11	1 *
100	13	9	59	8	1 *
150	8	8	48	7	1 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	43	60	2	13	1030 G	3655 S	9957 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	7	5	43	6	
50	7	8	51	7	1 *
75	8	6	53	8	1 *
100	12	9	57	7	2
150	4	5	19	3	2
	4	3	17	4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	48	60	2	14	1030 G	4007 S	10048 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	17	9	49	6	3
50	17	7	40	7	1
75	14	7	37	4	3
100	15	9	30	5	4
150	12	12	41	7	
	9	1	50	5	1

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	53	60	2	15	1030 G	4010 S	10546 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	12	7	48	9	
50	12	8	43	8	
75	18	10	67	1	6
100	9	7	70	7	2
150	15	9	73	9	1 *
				7	1

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	58	60	2	16	1230 G	4010 S	11129 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	17	12	91	12	2 *
50	14	9	62	10	1 *
75	9	7	23	3	3
100	14	4	34	6	4
150	17	10	64	8	2
	14	11	69	10	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	61	60	2	17	1705 H	3656 S	11404 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	5	6	51	6	1
50	9	8	49	8	
75	9	1	22	3	2
100	7	8	40	7	2
150	8	4	27	7	2
		5	32	4	4

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	63	60	3	04	945 H	3703 S	11615 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	15	11	82	12	1 *
50	18	10	69	10	1 *
75	20	9	75	10	1 *
100	20	12	68	12	1 *
150	16	10	78	10	2
	10	8	39	7	1 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	68	60	3	05	1130 H	4001 S	11804 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
17	13	92	12	2 *	
25	18	15	94	12	
50	19	10	71	8	1
75	9	6	41	7	
100	17	12	80	15	2 *
150	3	4	25	3	3

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	72	60	3	06	930 H	4009 S	12158 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	3	1	18	4	4
50	4	4	23	6	
75	5	4	34	5	2
100	7	9	29	5	1
150	15	8	57	9	1
	6	50	7		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	78	60	3	07	1100 I	4 003 S	127 41 E

DEPTH	CHLOROPHYLL				ASTACIN	NON ASTACIN
	a	b	c			
16	10	65	2	9		
18	11	71	10			
20	8	59	9	3		
10	8	53	9	1	*	
14	7	63	9	1	*	
10	2	47	6	1		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	82	60	3	08	1030 I	4 005 S	131 59 E

DEPTH	CHLOROPHYLL				ASTACIN	NON ASTACIN
	a	b	c			
17	11	70	11	1	*	
20	14	93	14	3	*	
16	9	47	7	3		
8	4	38	5			
9	1	44	4	4		
4	5	41	4	4		

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 86 60 3 09 845 I 4003 S 13600 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		

25	7	2	16	3	2
50	6	1*		1	4
75	21	9	66	8	3
100	10	2	54	5	2
150	12	6	44	8	1
	6	5	32	4	1

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 92 60 3 10 1030 I 3834 S 13600 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		

25	4	2	14	4	1
50	11	9	56	9	1*
75	12	1*	38	4	1
100	10	2	16	2	3
150	16	8	56	8	1
	5	4	24	4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	95	60	3	17	1030 I	3631 S	13332 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	14	13	91	15	4 *
50	6	2*	5	1	2
75	29	12	89	8	4
100	13	10	65	12	4
150	3	1*	2	1	3 *
					2

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	100	60	3	18	1030 I	3659 S	12928 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	8	3	35	5	2
50	8	1	45	3	
75	10	5	44	4	
100	19	11	74	9	
150	30	29	229	13	11 *
	9	8	91	6	4 *

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	104	60	3	19	1030 H	3657 S	12553 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	14	7	61	9	1 *
50	15	9	47	7	1
75	13	11	70	7	1 *
100	20	11	62	6	4
150	6		7	2	2
	7	3	22	4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
11	1	109	60	3	20	1100 H	3650 S	12022 E

DEPTH	CHLOROPHYLL			ASTACIN	NON ASTACIN
	a	b	c		
25	4	1	21	4	2
50	4	1 *	3	2	3
75	4		4	2	1
100	9	3	23	5	4
150	11	3	22	3	
	9	2	43	4	

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 1 114 60 3 22 1330 G 3200 S 11150 E

DEPTH	CHLOROPHYLL				ASTACIN	NON ASTACIN
	a	b	c	c		
25	20	17	106	19	10	
50	3	2	26	6	1	
75	7	4	40	4		
100	17	9	74	10	1	*
150	17	10	70	9	1	*
	5	2	42	7	1	*

DATA

PART 5

PHYTOPLANKTON

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 1 60 2 03 930 G 3200 S 11150 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
25	00000	5900	6740
50	00000	5300	6340
75	00000	5780	6080
100	00000	5300	6260
150	00000	5700	6300
		5000	6400

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 6 60 2 04 1030 G 3201 S 10712 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL	WITHOUT CHLOROPHYLL	
25	00000	5300	6400
50	00000	5300	6490
75	00000	5000	6180
100	00000	5000	6000
150	00000	5300	5850
		4700	5780

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 68 60 3 05 1130 H 4001 S 11804 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL ↓	
25	5300	6080	6650
50	05000	5850	6480
75	05000	5600	6480
100	00000	5600	6180
150	00000	5000	6180
	00000	5300	6040

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 72 60 3 06 930 H 4009 S 12158 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL ↓	
25	00000	5700	6080
50	00000	5480	6150
75	00000	5850	6180
100	00000	5480	6000
150	00000	5480	5900
	00000	5000	5000

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 11 60 2 05 1030 G 3203 S 10318 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL ↓	
25	00000	6180	6540
50	00000	6000	6600
75	00000	5480	6180
100	00000	5000	6000
150	00000	5000	6000
		4400	5850

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 16 60 2 06 1030 G 3312 S 9945 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL ↓	
25	00000	5850	6080
50	00000	6480	6650
75	00000	6180	6540
100	00000	6000	6180
150	00000	6080	6300
		5300	5900

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 20 60 2 07 1030 G 3455 S 10202 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	00000	5480	6000
50	00000	5780	6700
75	00000	6080	6400
100	00000	5850	6260
150	00000	5480	6180
		5000	6180

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 23 60 2 08 1030 G 3500 S 10548 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	00000	5300	5900
50	00000	5780	6150
75	00000	5900	6480
100	00000	5300	6080
150	00000	5300	5780
		5000	5780

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 27 60 2 09 1045 G 3455 S 10945 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	00000	5780	6180
50	00000	5000	6900
75	00000	5480	6360
100	00000	5900	6300
150	00000	5000	5850
	00000	5000	6080

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 32 60 2 10 1030 H 3602 S 11236 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	00000	5600	6260
50	00000	5780	6180
75	00000	5850	6400
100	00000	5600	6400
150	00000	5300	6230
	00000	5300	6180

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 35 60 2 11 1030 G 3700 S 10858 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL ↓	
25	00000	5700	6110
50	00000	5700	6200
75	00000	5600	5900
100	00000	5780	6150
150	00000	5000	5900
	00000	4700	5600

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 39 60 2 12 1000 G 3700 S 10452 E

DEPTH	ORGANISMS		TOTAL PARTICLES
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL ↓	
25	00000	5300	6000
50	00000	5850	6200
75	00000	5600	6300
100	00000	5300	6260
150	00000	5300	6180
	00000		4850

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 43 60 2 13 1030 G 3655 S 9957 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL ↓	
25	00000	5300	6000
50	00000	5780	6260
100	00000	5480	6180
150	00000	5480	6180
		4400	5900

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 48 60 2 14 1030 G 4007 S 10048 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL ↓	
25	00000	5850	6600
50	00000	6040	6480
75	00000	5480	6480
100	00000		6180
150	00000	5000	5900
		5000	5700

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 53 60 2 15 1030 G 4010 S 10546 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	5300	5850	6400
50	05300	5780	6340
75	05000	5300	6230
100	05000	5600	6230
150	05000	5000	5900
			5780

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 58 60 2 16 1230 G 4010 S 11129 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
	4000	5300	6200
25	04480	5600	6600
50	04480	5900	6450
75	04480	5480	6180
100	04480	5700	6260
150	04480	5300	5950

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 61 60 2 17 1705 H 3656 S 11404 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	00000	5780	6230
50	00000	5780	6300
75	00000	5600	6180
100	00000	5600	6080
150	00000	5000	6130
		5000	6000

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 63 60 3 04 945 H 3703 S 11615 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	5300	6080	6540
50	00000	5950	6540
75	05000	5780	6300
100	00000	5600	6300
150	05300	5000	6080
	00000	5300	6400

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 78 60 3 07 1100 I 4003 S 12741 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	00000	5850	6000
50	00000	5700	6080
75	00000	5700	6000
100	00000	5300	5950
150	00000	5300	6080
		4700	5780

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 82 60 3 08 1030 I 4005 S 13159 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	00000	5600	5900
50	00000	6080	6300
75	00000	5780	6300
100	00000	5300	6000
150	00000	5600	6080
		5480	5850

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 86 60 3 09 845 I 4003 S 13600 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	00000	5600	5900
		5700	6000
50	00000	6480	6200
75	00000	5000	5900
100	00000	5000	5900
150	00000	5480	6300

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 92 60 3 10 1030 I 3834 S 13600 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	00000	5600	6150
		5780	6200
50	00000	5780	6400
75	00000	5300	6300
100	00000	5600	6180
150	00000	5000	6080

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 95 60 3 17 1030 I 3631 S 13332 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	05300	5850	6150
50	00000	6110	6340
75	00000	5780	6080
100	00000	5480	6080
150	00000	5180	5900
		5300	6000

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 100 60 3 18 1030 I 3659 S 12928 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	00000	5780	5080
50	00000	5650	6180
75	00000	5780	6000
100	00000	6040	6000
150	00000	6080	6260
		5300	5900

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 104 60 3 19 1030 H 3657 S 12553 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	5000	5780	5900
	05480	5850	6080
50	00000	5900	6300
75	00000	5600	5780
100	00000	5000	5780
150	00000	5000	5950

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11 01 109 60 3 20 1100 H 3650 S 12022 E

DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
	5000	5950	6180
25	05000	5600	6040
50	00000	5300	5900
75	00000	5780	5900
100	00000	5300	6000
150	00000	5000	5780

SHIP	CRUISE	STATION	YEAR	MONTH	DAY	TIME	LATITUDE	LONGITUDE
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11	01	114	60	3	22	1330	G 3200 S	11150 E
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DEPTH	ORGANISMS		TOTAL PARTICLES ↓
	WITH CHLOROPHYLL ↓	WITHOUT CHLOROPHYLL	
25	00000	6080	6300
50	00000	6150	6400
75	00000	6000	6300
100	00000	5480	6080
150	00000	5000	6080
		4860	6000

TABLE 3

OCCURRENCE OF DIATOMS

Numbers refer to Stations at which organism was found

<u>Actinocyclus ehrenbergii</u>	63
<u>Asterolampra dallasiana</u>	3, 13, 14, 68
<u>A. grevillei</u>	9
<u>A. marylandica</u>	32
<u>Asteromphalus hookeri</u>	9
<u>Bacteriastrum comosum</u>	3, 14
<u>B. delicatulum</u>	3
<u>B. varians</u>	3, 9, 14, 37, 48
<u>Chaetoceros aequatoriale</u>	25, 54, 58, 68
<u>Ch. atlanticum</u>	37, 50, 54
<u>Ch. castracanei</u>	54
<u>Ch. coarctatum</u>	3, 14, 37
<u>Ch. concavicornis</u>	19, 20, 54, 58, 60
<u>Ch. convolutum</u>	50, 54
<u>Ch. criophilum</u>	19
<u>Ch. debile</u>	50, 54
<u>Ch. decipiens</u>	48
<u>Ch. denticulatum</u>	3
<u>Ch. dictyota</u>	54
<u>Ch. difficile</u>	74
<u>Ch. diversum</u>	3
<u>Ch. lorenzianum</u>	3
<u>Ch. messanense</u>	3, 14, 68
<u>Ch. neapolitanum</u>	3, 54, 60, 68
<u>Ch. pendulum</u>	14, 50, 54, 67, 68
<u>Ch. peruvianum</u>	3, 14, 54, 68
<u>Ch. vanheurckii</u>	9
<u>Climacodium frauenfeldianum</u>	48, 105, 108
<u>Corethron criophilum</u>	3, 54, 60
<u>Coscinodiscus centralis</u>	60
<u>Fragilaria granulata</u>	20, 54, 58, 60
<u>F. striatula</u>	18
<u>Fragilariopsis antarctica</u>	20
<u>Guinardia flaccida</u>	3
<u>Halosphaera viridis</u>	7, 8, 35, 54
<u>Hemiaulus hauckii</u>	3, 4, 13, 14, 23, 48
<u>H. sinensis</u>	3
<u>Mastigloia braunii</u>	58
<u>M. rostrata</u>	3, 35, 104
<u>Nitzschia longissima</u>	100
<u>N. pacifica</u>	54, 68

Nitzschia pelagica 20, 54
N. seriata 19, 43
Planktoniella formosa 14
P. sol 3, 37, 39, 51, 54, 55, 56, 57, 58, 60, 68, 72, 74, 76, 77, 78
P. valdiviae 39
Pleurosigma angulatum 68
Rhizosolenia alata 9, 14, 19, 20, 37, 39, 47, 50, 54, 61, 63, 68, 74, 76, 100
R. bergonii 3, 14, 20, 68
R. calcar avis 48
R. castracanei 3
R. hebetata 3, 6, 19, 60
R. setigera 94
R. styliformis 3, 13, 19, 20, 23, 54, 55, 61, 63, 68
Schroederella delicatula 3
Thalassiosira aestivalis 20
Th. antarctica 19, 54
Thalassiothrix frauenfeldii 3
Thal. longissima 14, 19, 20, 21, 38, 39, 40, 41, 42, 48, 49, 50, 54, 55, 56, 58, 59, 60, 68, 71, 74, 76, 77

TABLE 4

OCCURRENCE OF DINOFLAGELLATES

Numbers refer to Stations at which organism was found

Blepharocysta splendor maris 68
Ceratium arcticum 50, 54
C. arietinum 3, 7, 55, 84, 87, 96
C. belone 2
C. bucephalum 79, 80, 81, 86, 92
C. buceros 3, 6, 20, 36, 47, 53, 54, 57, 58, 59, 60, 65, 78, 90, 92, 93, 106, 107, 111
C. candelabrum 96, 97, 98, 102, 105, 106
Ceratium carriense 4, 28, 29, 39, 59, 78, 84, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 98, 105, 106, 109, 111

Ceratium concilians 90, 93, 94, 95, 97, 98, 102
C. contrarium 35, 106
C. declinatum 7
C. deflexum 106
C. euarquatum 3
C. extensum 6, 13, 38, 43, 54, 106
C. falcatifforme 6
C. furca 3, 13, 25, 32, 33, 35, 39, 46, 58, 59, 61, 63, 65, 69, 74, 77, 88, 93, 94, 96, 97, 98, 99, 101, 104, 105, 106, 107, 109, 110, 111
C. fusus 3, 6, 7, 13, 20, 28, 29, 33, 35, 38, 39, 43, 47, 50, 51, 54, 57, 58, 59, 61, 63, 68, 74, 76, 78, 86, 87, 88, 90, 92, 93, 95, 96, 105, 106, 107
C. gallicum 3, 25, 32, 33, 37, 39, 54, 60, 61, 65, 86, 87, 89, 90, 92, 93, 98, 101, 102, 106, 107
C. gravidum 98
C. hexacanthum 3, 6, 92, 106
C. incisum 3
C. karstenii 3, 28, 29, 36, 39, 61, 76, 84, 92, 93, 94, 95, 96, 97, 98, 99, 100, 105, 106, 107, 109, 110
C. kofoidi 33, 53, 59, 68, 72, 74, 88, 89
C. longirostrum 107
C. lunula 72, 76, 78, 92, 95, 101, 105
C. macroceros 44, 89, 106
C. massiliense 3, 6, 13, 25, 28, 32, 35, 39, 40, 41, 42, 46, 51, 53, 56, 57, 58, 61, 63, 65, 68, 72, 74, 76, 77, 78, 79, 81, 82, 84, 86, 87, 88, 93, 94, 96, 97, 98, 99, 100, 102
C. minutum 50, 53, 54, 55, 60, 75
C. pentagonum 20, 25, 33, 37, 39, 40, 51, 53, 54, 55, 56, 58, 59, 60, 63, 68, 72, 102, 105, 106
C. porrectum 50, 55
C. pulchellum 49, 72, 78, 79, 80, 96, 97, 98, 102
C. semipulchellum 76
C. setaceum 3, 7, 15
C. symmetricum 79
C. teres 11, 27, 90, 92, 94, 96
C. tripos 3, 39, 47, 71, 72, 76, 79, 99, 103, 106
Ceratocorys horrida 3, 7, 106
Cladopyxis caryophyllaceum 3
Dinophysis micropterygium 76
D. schroederi 68, 96
D. schuetti 68
D. tripos 78, 79, 80, 82, 84, 97
Diplopsalis minor 90

Exuviaella baltica 96, 100
E. marina 33
Goniaulax alaskensis 58, 96
G. apiculata 33
G. diegensis 58
G. digitale 33, 43, 93, 94, 96, 97, 105
G. fragilis 93, 94, 96
G. monacantha 58, 59, 60, 96
G. polyedra 99
G. polygramma 104
G. scrippsae 33, 105
G. spinifera 3, 35, 37, 72, 105
G. turbynei 7
Goniodoma polyedricum 33, 63, 79, 99, 100, 101, 105
Murrayella spinosa 20
Ornithocercus magnificus 92
O. quadratus 93, 94, 95, 96, 97, 100, 103
Oxytoxum caudatum 58
Oxy. challengeroides 68, 96
Oxy. compressum 95
Oxy. coronatum 20
Oxy. curvatum 20
Oxy. elegans 68
Oxy. milneri 20, 39, 50
Oxy. parvum 54, 68
Oxy. sceptrum 58
Oxy. scolopax 20, 68
Oxy. variable 68
Peridinium avellana 90
P. cerasus 58, 60
P. crassipes 33, 74, 78, 84
P. diabolus 74
P. divergens 33, 35, 63, 72, 79, 86, 88, 90, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 105, 107
P. excentricum 74
P. globulus 99, 101
P. granii 70, 84
P. oblongum 39, 43, 58, 75
P. oceanicum 65, 68, 78, 80, 104
P. pallidum 99, 101, 105
P. pedunculatum 50
P. pellucidum 46
P. roseum 72
P. steinii 20, 60, 68
P. tenuissimum 51, 58

Phalacroma argus 3, 92, 99

Ph. doryphorum 65, 68

Ph. favus 68

Ph. operculatum 58

Ph. ovum 68

Podolampas bipes 59, 60

Pod. palmipes 60, 68

Pod. spinifer 3, 51, 74, 76

Prorocentrum dentatum 20, 68

Pyrocystis biconica 8

Pyro. hamulus 13

Pyro. pseudonoctiluca 4, 6, 13, 46

Pyrophacus horologicum 2, 95, 107, 111

DATA

PART 6

ZOOPLANKTON

DIAMANTINA Dm 1/60		ZOOPLANKTON BIOMASS IN THE UPPER 200 m.			CLARKE BUMBUS OBLIQUE HAULS	
STATION	DATE	TIME	LATITUDE	LONGITUDE	VOLUME FILTERED	BIOMASS mg/m ³
1	3.2.60	1000	32°00'S.	111°50'E.	26.8	20
6	4.2.60	1000	32°01'S.	107°12'E.	18.0	16
12	5.2.60	1400	32°03'S.	102°45'E.	11.5	11
16	6.2.60	1400	33°12'S.	99°45'E.	10.8	13+(287)*
20	7.2.60	1355	34°55'S.	102°02'E.	10.7	12+(1635)*
27	8.2.60	1000	34°55'S.	109°45'E.	12.1	19
32	10.2.60	1000	36°02'S.	112°36'E.	21.8	16
35	11.2.60	1148	37°00'S.	108°58'E.	14.3	3
39	12.2.60	1130	37°00'S.	104°52'E.	13.5	7
43	13.2.60	1230	36°55'S.	99°57'E.	9.6	230*
48	14.2.60	1000	40°08'S.	100°48'E.	14.5	37
58	16.2.60	1600	40°10'S.	111°29'E.	15.5	8
53	15.2.60	1000	40°10'S.	105°46'E.	12.3	32
63	4.3.60	0845	37°03'S.	116°15'E.	11.6	16
68	5.3.60	1430	40°01'S.	118°04'E.	9.2	12
72	6.3.60	0930	40°09'S.	121°58'E.	11.9	15
78	7.3.60	1353	40°03'S.	127°41'E.	12.2	12
82	8.3.60	1239	40°05'S.	131°59'E.	11.7	17
86	9.3.60	0951	40°03'S.	136°00'E.	14.3	22
92	11.3.60	0138	38°34'S.	136°00'E.	14.1	10
95	17.3.60	1000	36°31'S.	133°32'E.	10.5	6
100	18.3.60	1000	36°59'S.	129°28'E.	11.6	22
104	19.3.60	1000	36°59'S.	124°51'E.	7.9	916*
109	20.3.60	1355	36°50'S.	120°22'E.	8.4	7
114	22.3.60	1507	32°00'S.	111°50'E.	9.3	4

DIAMANTINA Dm 1/60 ZOOPLANKTON BIOMASS IN 400-200 m. CLARKE BUMBUS OBLIQUE HAULS

STATION	DATE	TIME	LATITUDE	LONGITUDE	VOLUME FILTERED	BIOMASS mg/m ³
1	3.2.60	1000	32°00'S.	111°50'E.	30.4	10
6	4.2.60	1000	32°01'S.	107°12'E.	24.2	10
12	5.2.60	1400	32°03'S.	102°45'E.	16.4	11
16	6.2.60	1400	33°12'S.	99°45'E.	12.2	13
20	7.2.60	1355	34°55'S.	102°02'E.	12.8	28
27	8.2.60	1000	34°55'S.	109°45'E.	14.5	8
32	10.2.60	1000	36°02'S.	112°36'E.	27.9	14
35	11.2.60	1148	37°00'S.	108°58'E.	14.4	12
39	12.2.60	1130	37°00'S.	104°52'E.	17.1	13
43	13.2.60	1230	36°55'S.	99°57'E.	10.6	7
48	14.2.60	1000	40°08'S.	100°48'E.	16.4	12
53	15.2.60	1000	40°10'S.	105°46'E.	14.5	18
58	16.2.60	1600	40°10'S.	111°29'E.	15.5	15
63	4.3.60	0845	37°03'S.	116°15'E.	13.5	9
68	5.3.60	1430	40°01'S.	118°04'E.	12.0	11
72	6.3.60	0930	40°09'S.	121°58'E.	15.6	14
78	7.3.60	1353	40°03'S.	127°41'E.	15.6	14
82	8.3.60	1239	40°05'S.	131°59'E.	12.9	15
86	9.3.60	0951	40°03'S.	135°59'E.	21.9	20
92	10.3.60	0138	38°34'S.	136°00'E.	17.4	12
95	17.3.60	1000	36°31'S.	133°32'E.	11.9	7
100	18.3.60	1000	36°59'S.	129°28'E.	14.0	12
104	19.3.60	1000	36°59'S.	124°51'E.	7.7	12
109	20.3.60	1355	36°50'S.	120°22'E.	8.3	7
114	22.3.60	1507	32°00'S.	111°50'E.	9.3	7

V. FIGURES

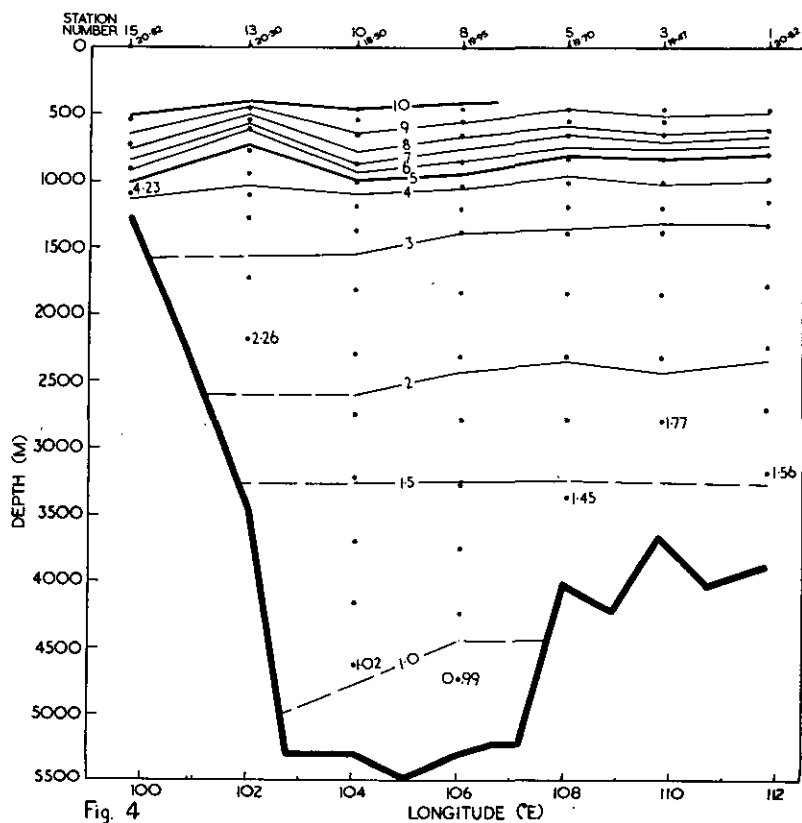
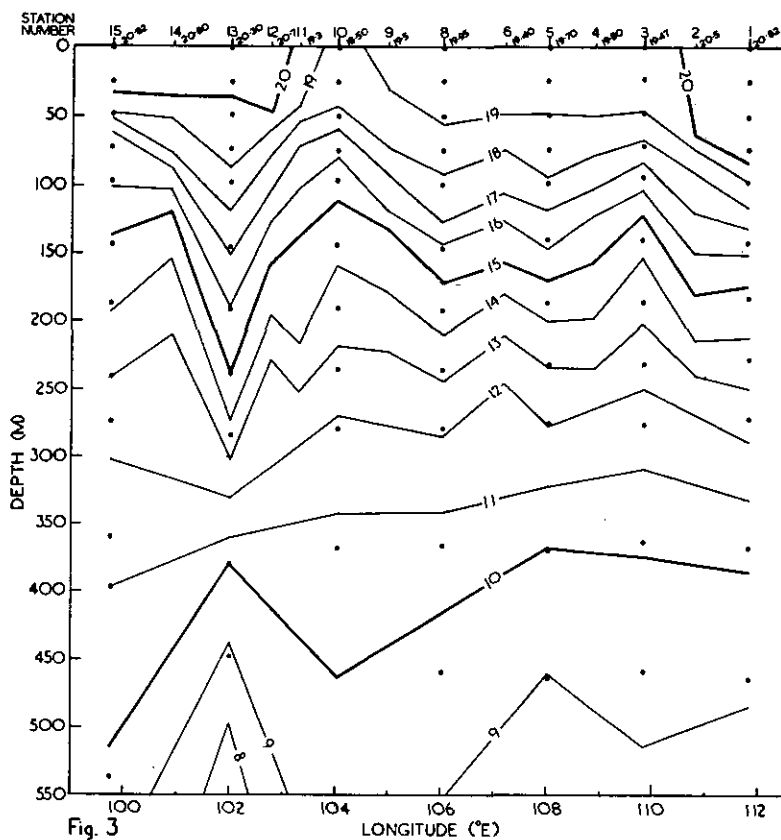
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|---------------|--|
| Figs. 3 - 20 | Hydrology - Vertical Sections |
| Figs. 21 - 26 | Hydrology - Horizontal Distribution
of Properties |
| Figs. 27 - 28 | Primary Production |

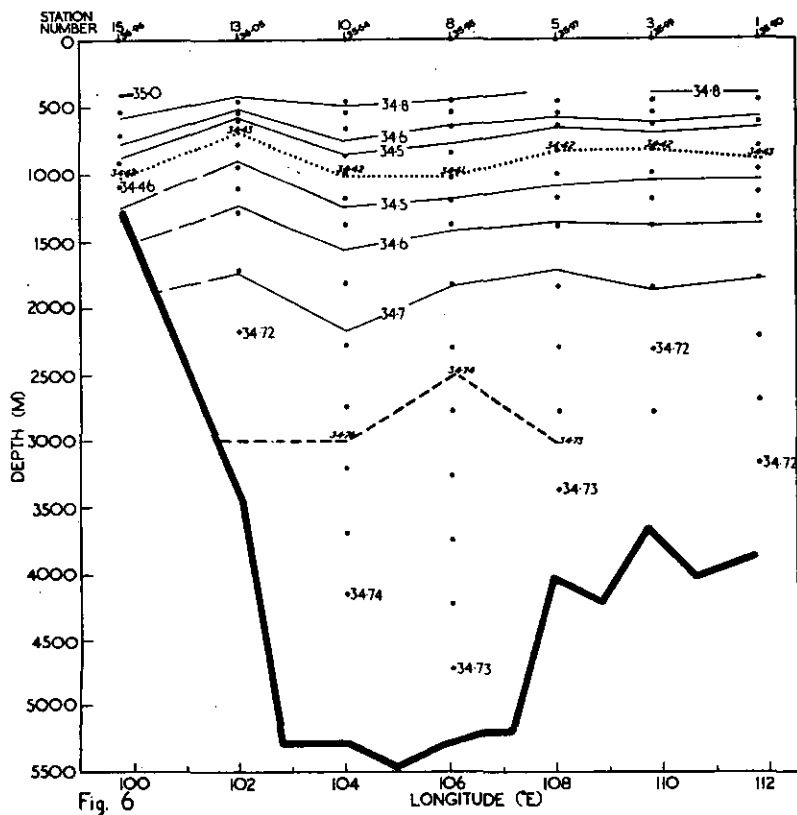
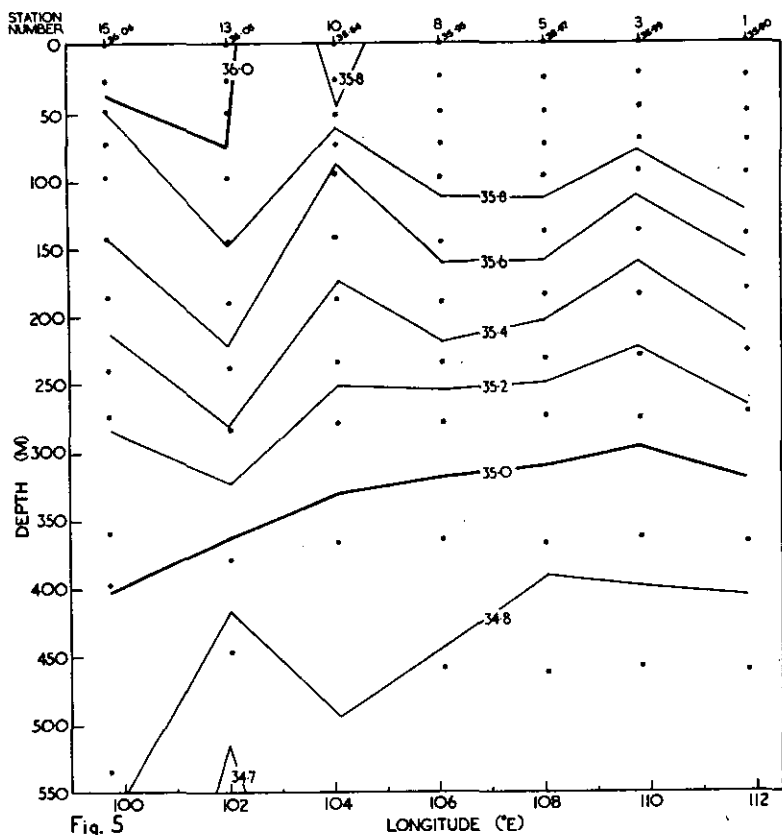
Figs. 3 - 20

VERTICAL SECTIONS

Vertical sections for temperature ($^{\circ}\text{C}$), salinity (‰), oxygen (ml/l) and inorganic phosphate ($\mu\text{g at./l}$) were prepared from the data in Section IV, and appear as Figures 3-20.

- Figs. 3-8 Vertical sections for the line of Stations 1-15. Degrees of longitude (S) indicated at bottom on section.
- Fig. 3 Temperature to 640 m depth.
- Fig. 4 Temperature 400 m to bottom.
- Fig. 5 Salinity to 640 m depth.
- Fig. 6 Salinity 400 m to bottom.
- Fig. 7 Oxygen concentration surface to bottom.
- Fig. 8 Inorganic phosphate surface to bottom.
- Figs. 9-14 Vertical sections for the line of Stations 47-60. Properties as for Figs. 3-8 above.
- Figs. 15-20 Vertical sections for the line of Stations 67-88. Properties as for Figs. 3-8 above.





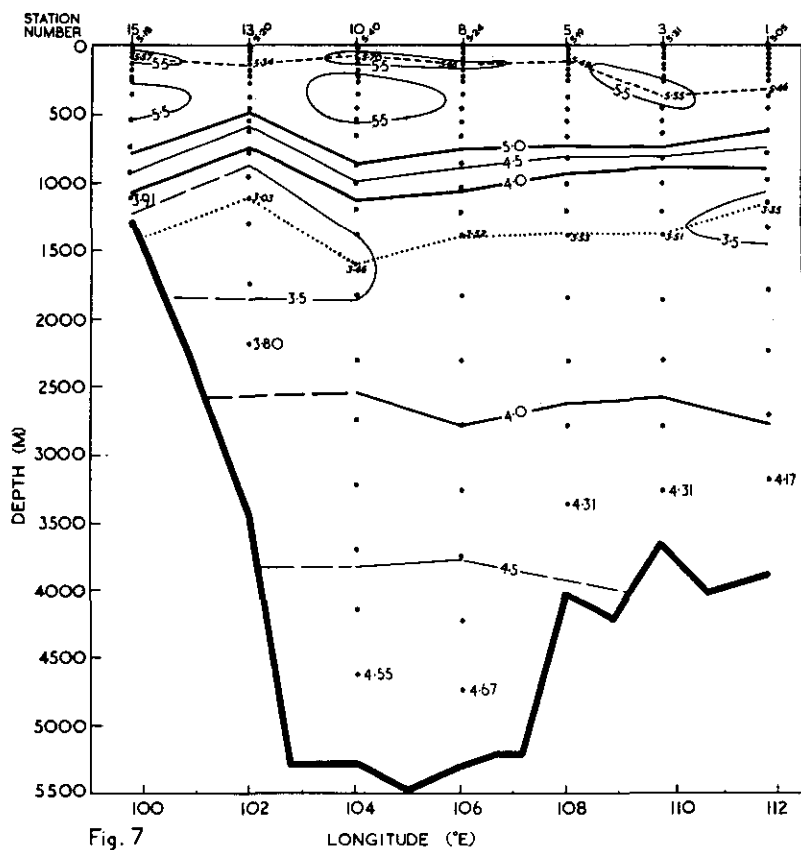


Fig. 7

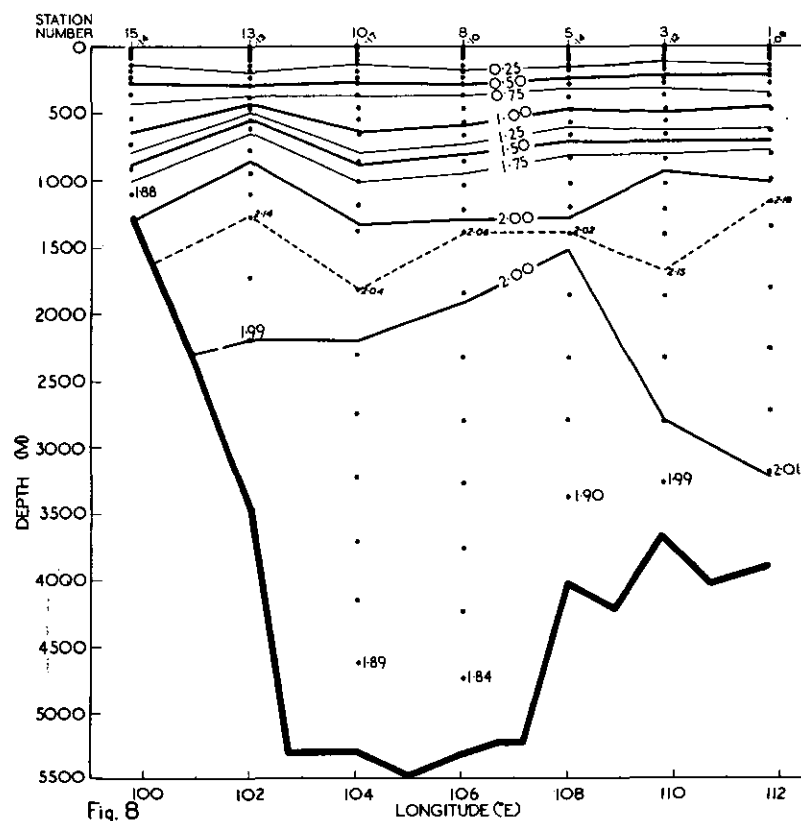
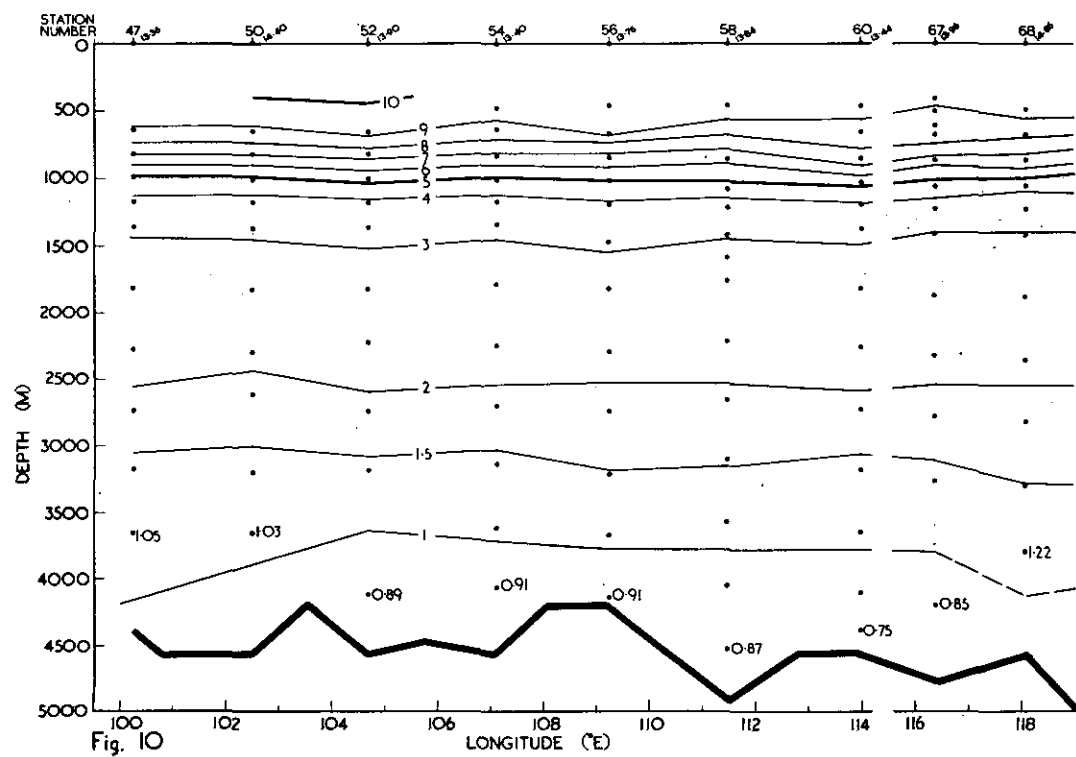
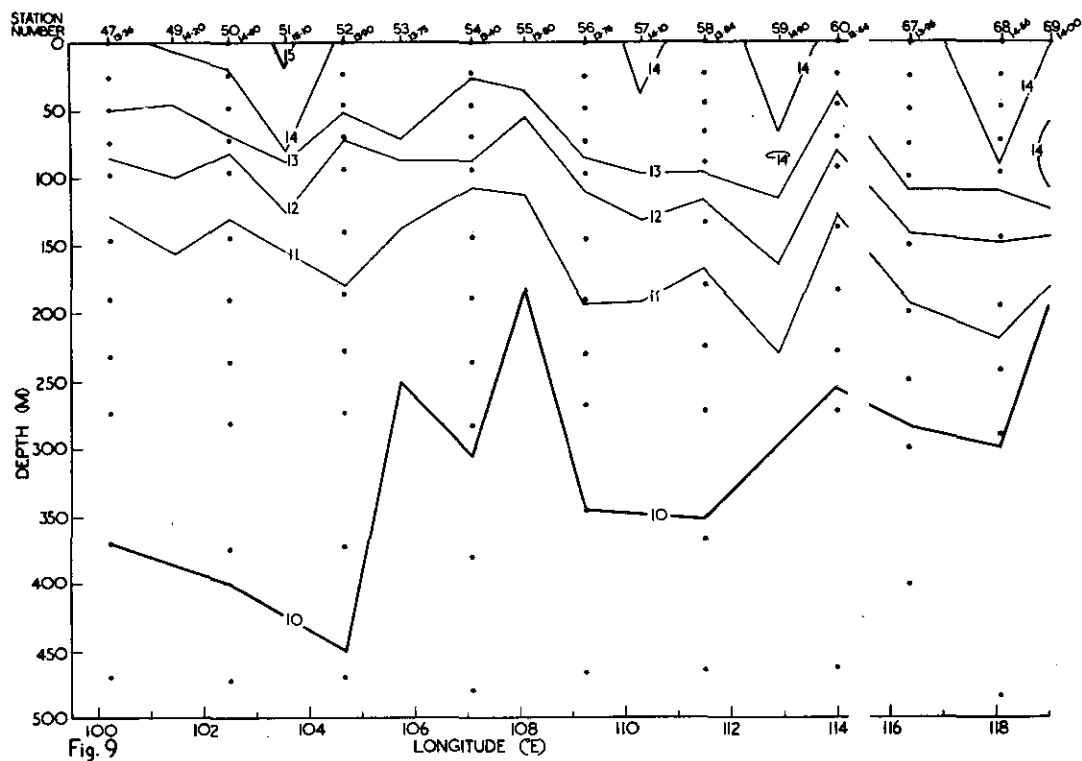


Fig. 8



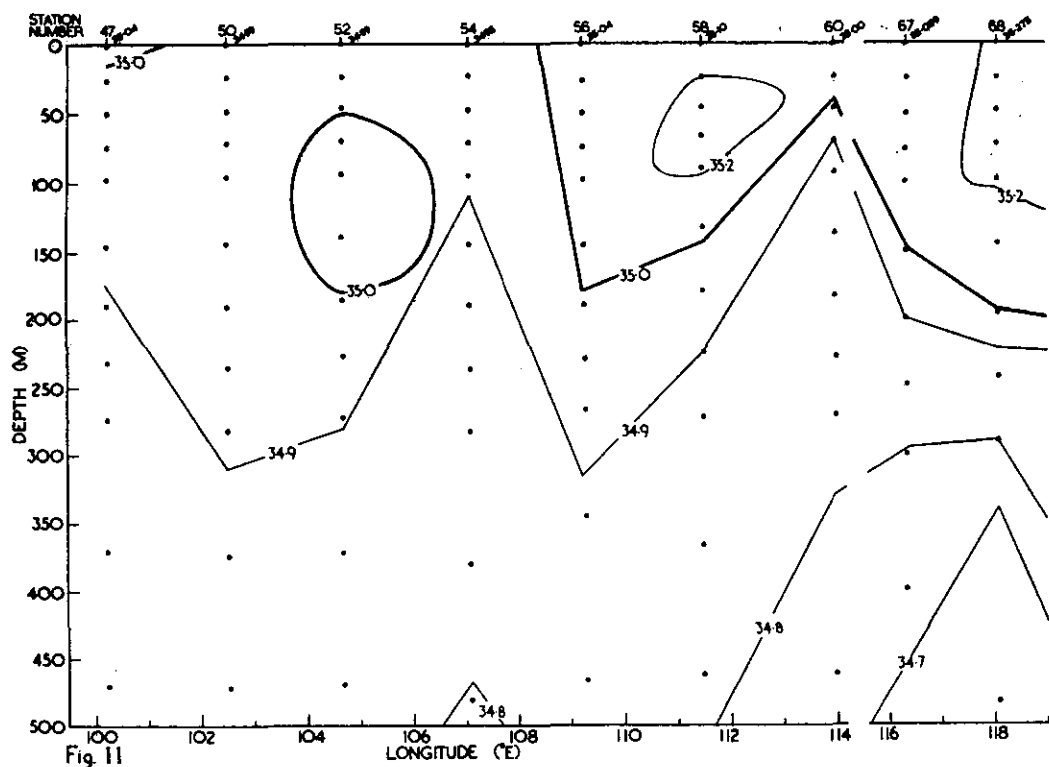


Fig. 11

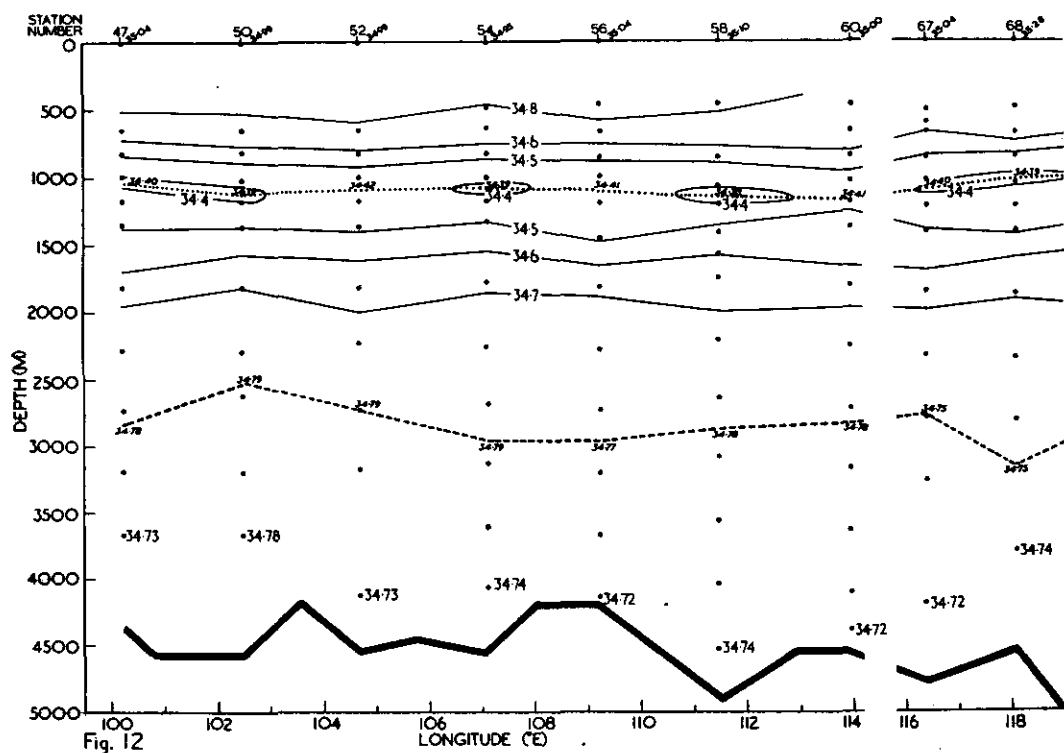


Fig. 12

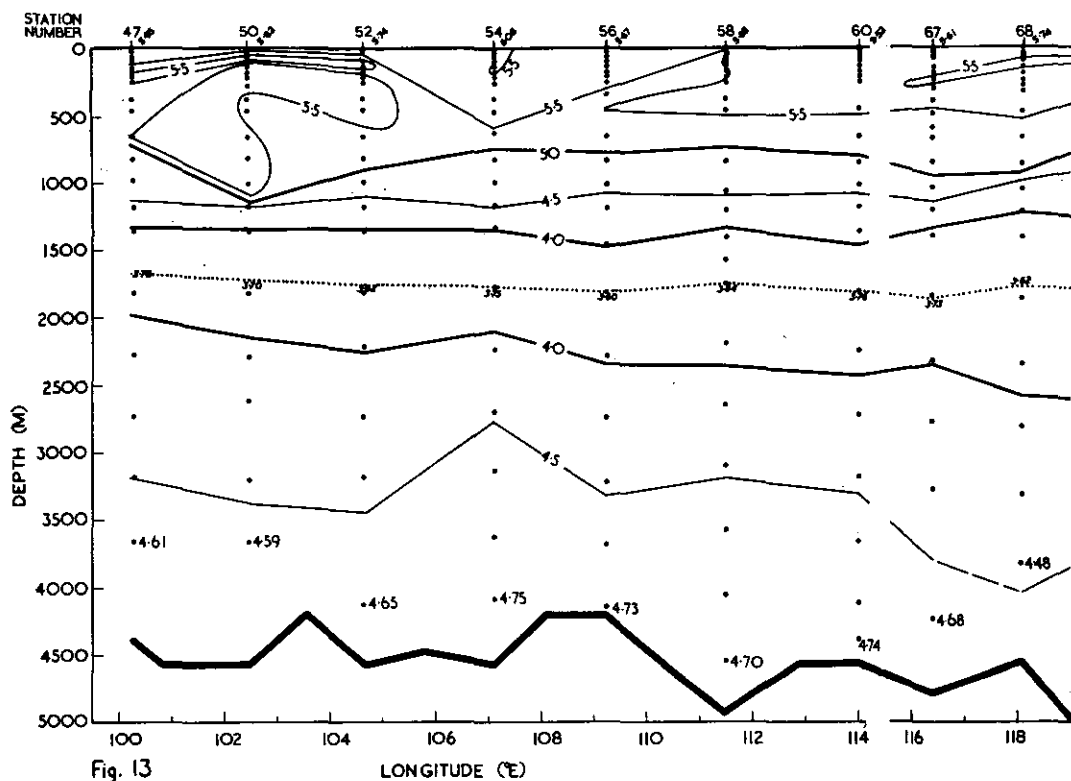


Fig. 13

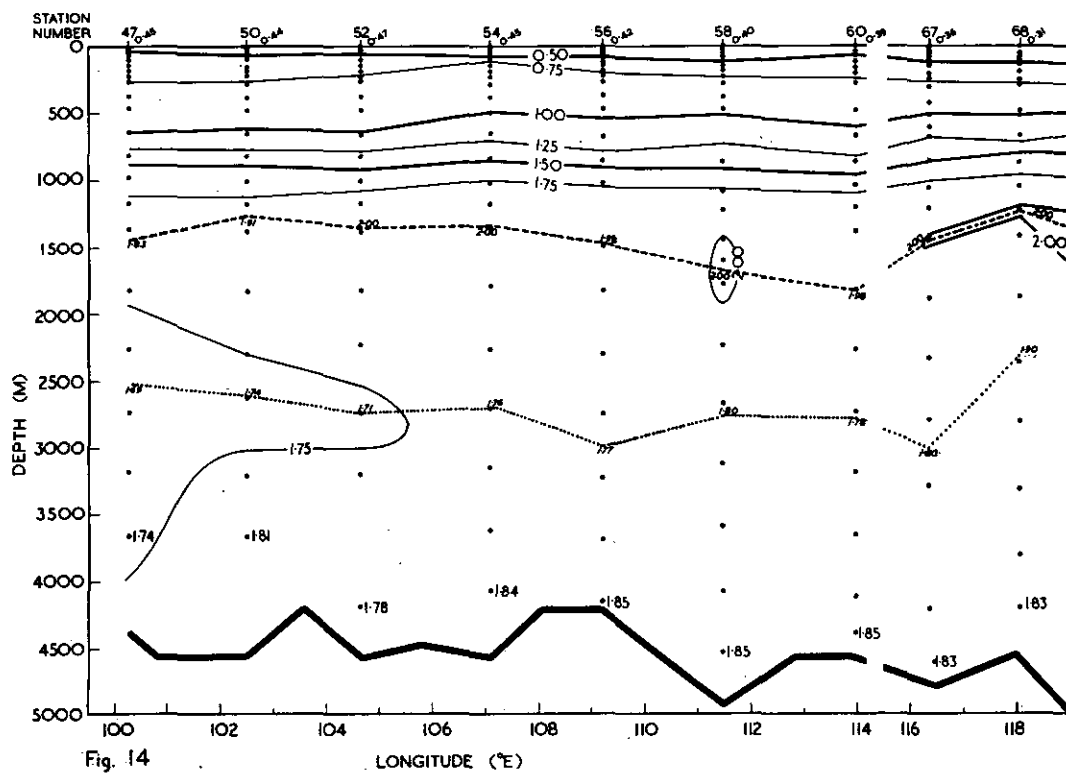


Fig. 14

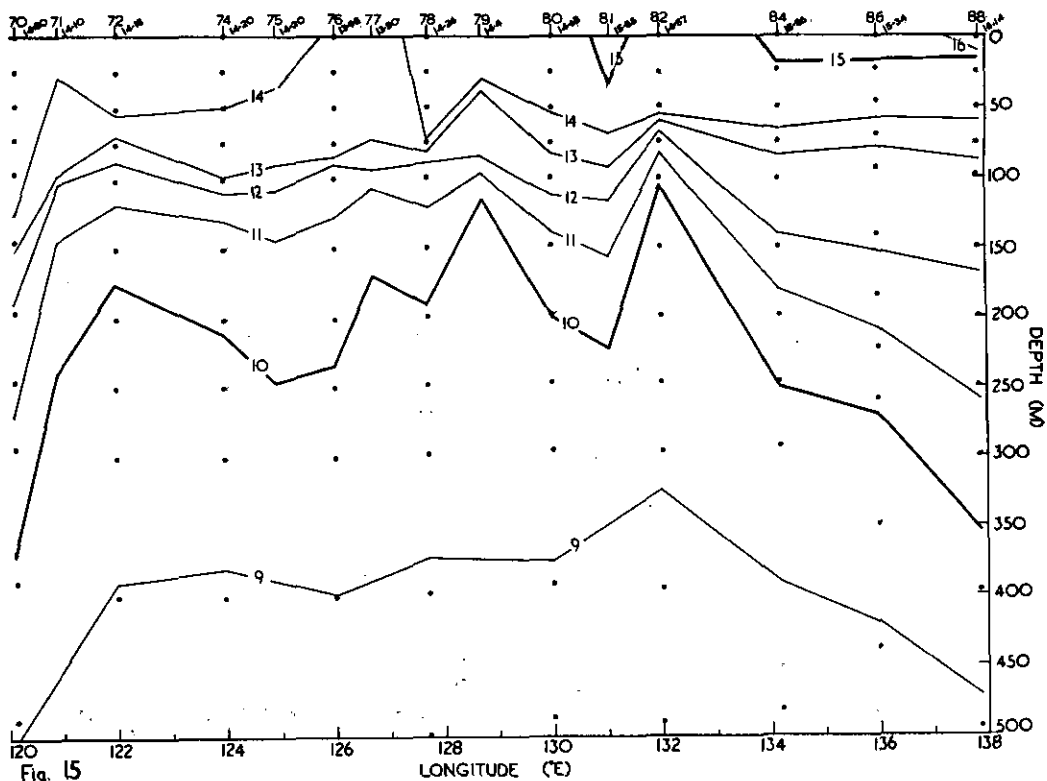


Fig. 15

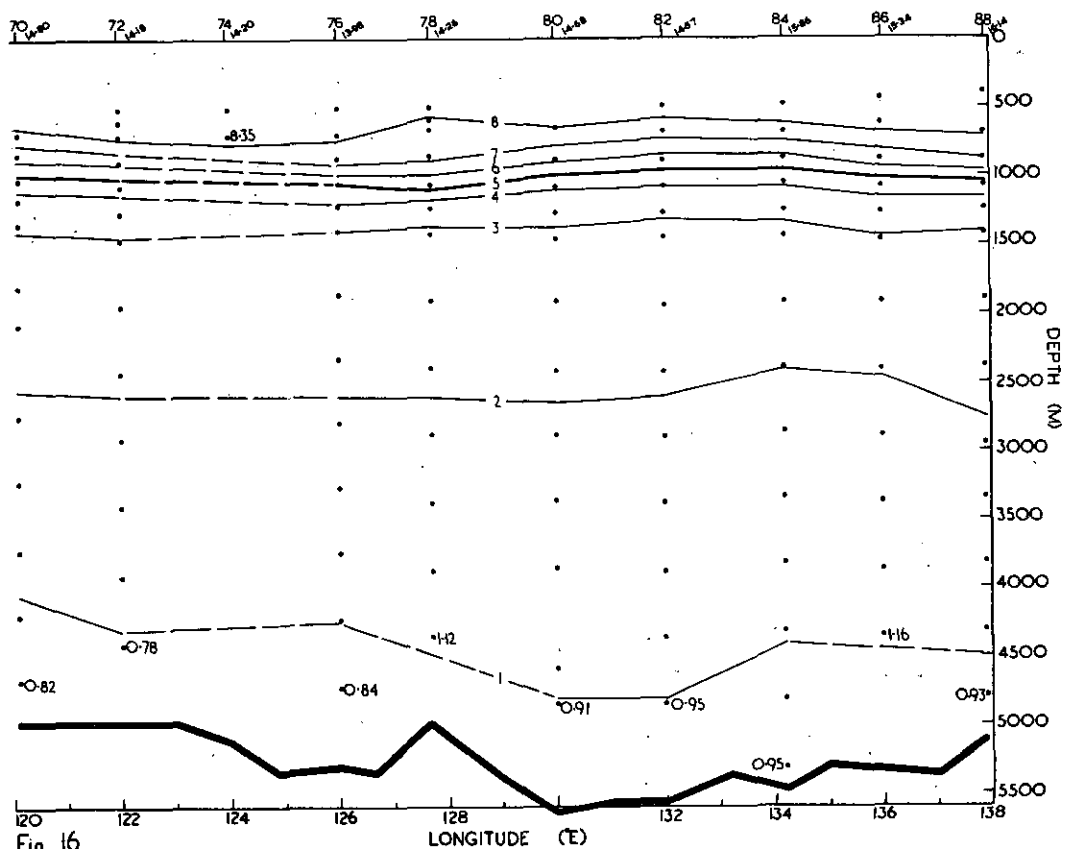
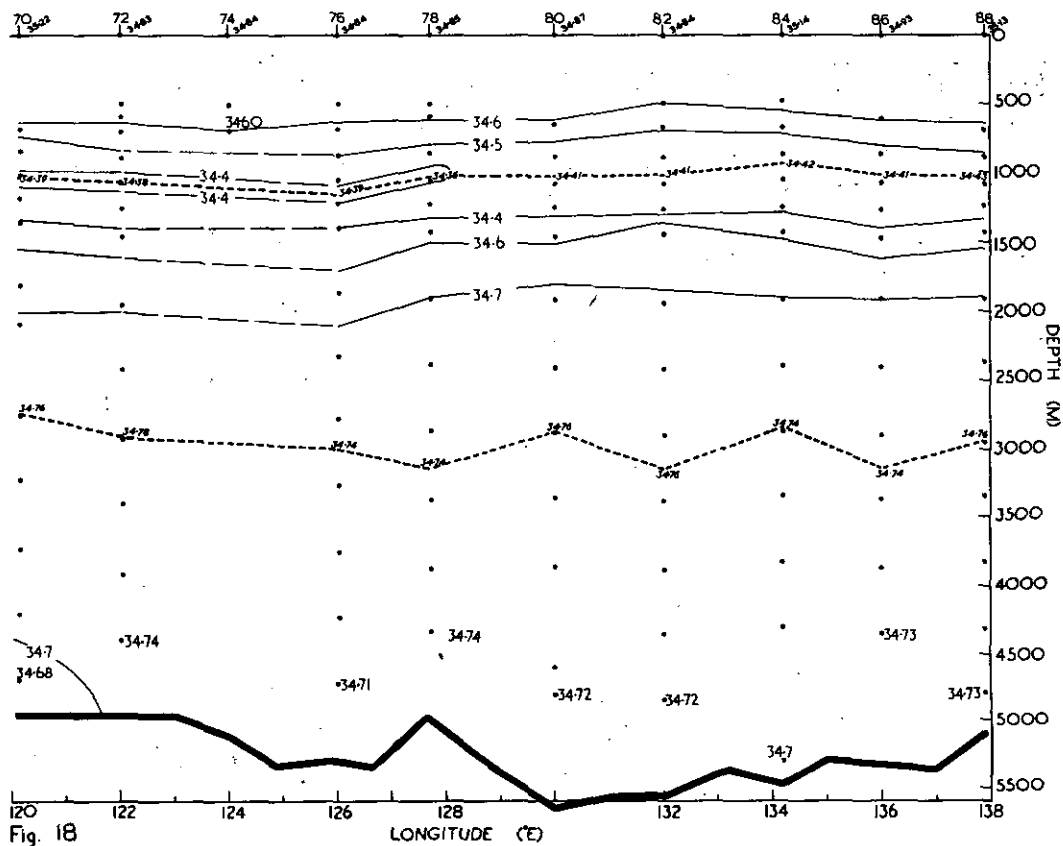
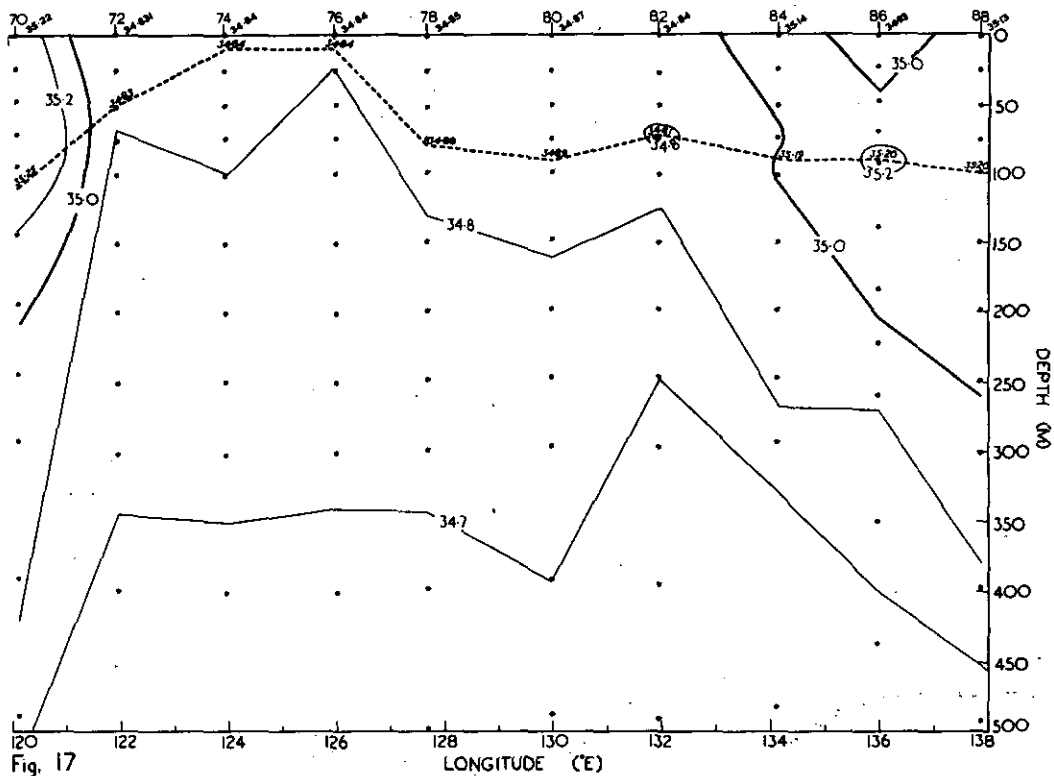


Fig. 16



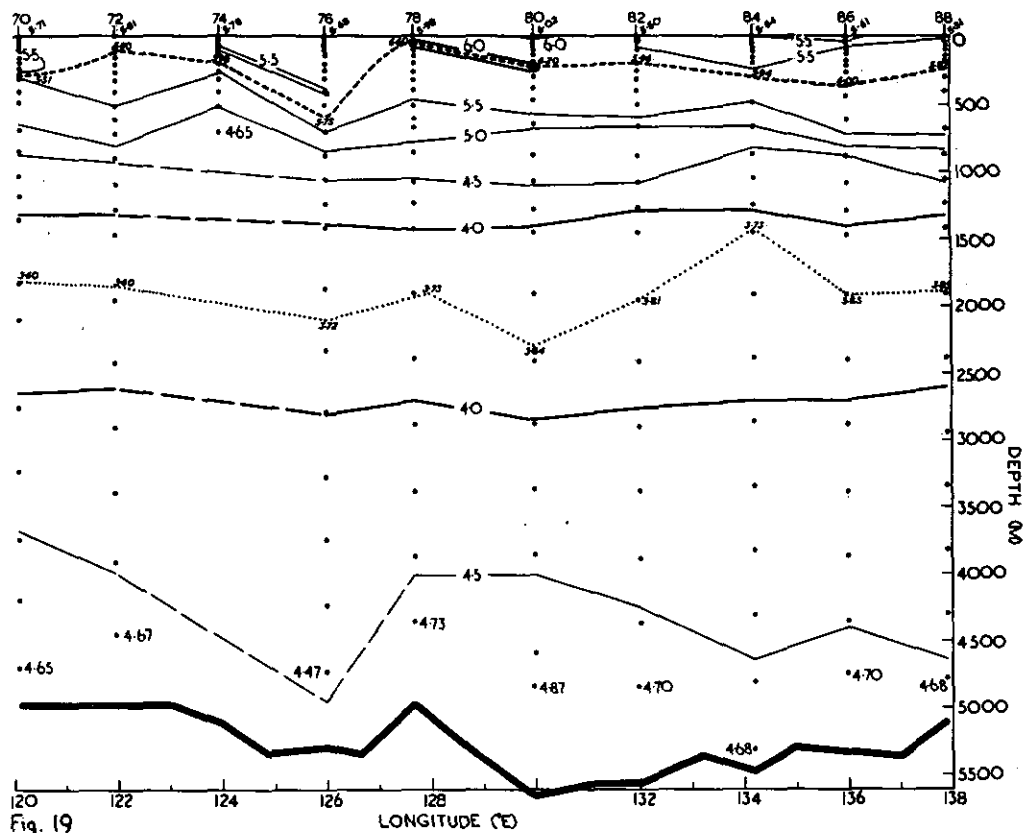


Fig. 19

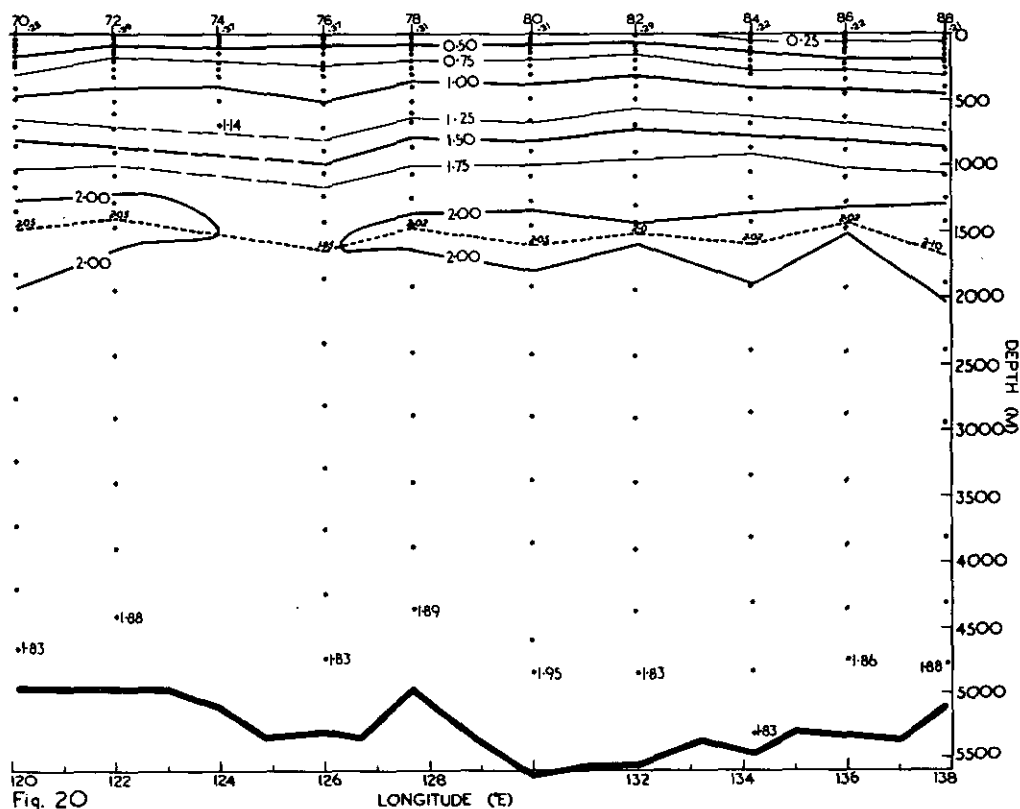


Fig. 20

Figs. 21 - 26

HORIZONTAL DISTRIBUTION OF PROPERTIES

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

Figs. 21-26	Horizontal distribution of properties	
Fig. 21A	Surface	Temperature
B		Salinity
Fig. 22A		Percentage oxygen saturation
B		Inorganic phosphate
Fig. 23A	250 m	Temperature
B		Salinity
Fig. 24A		Oxygen
B		Inorganic phosphate
Fig. 25		Nitrate - nitrogen
Fig. 26	Dynamic topography in dyn. cm. relative to 1750 decibars	

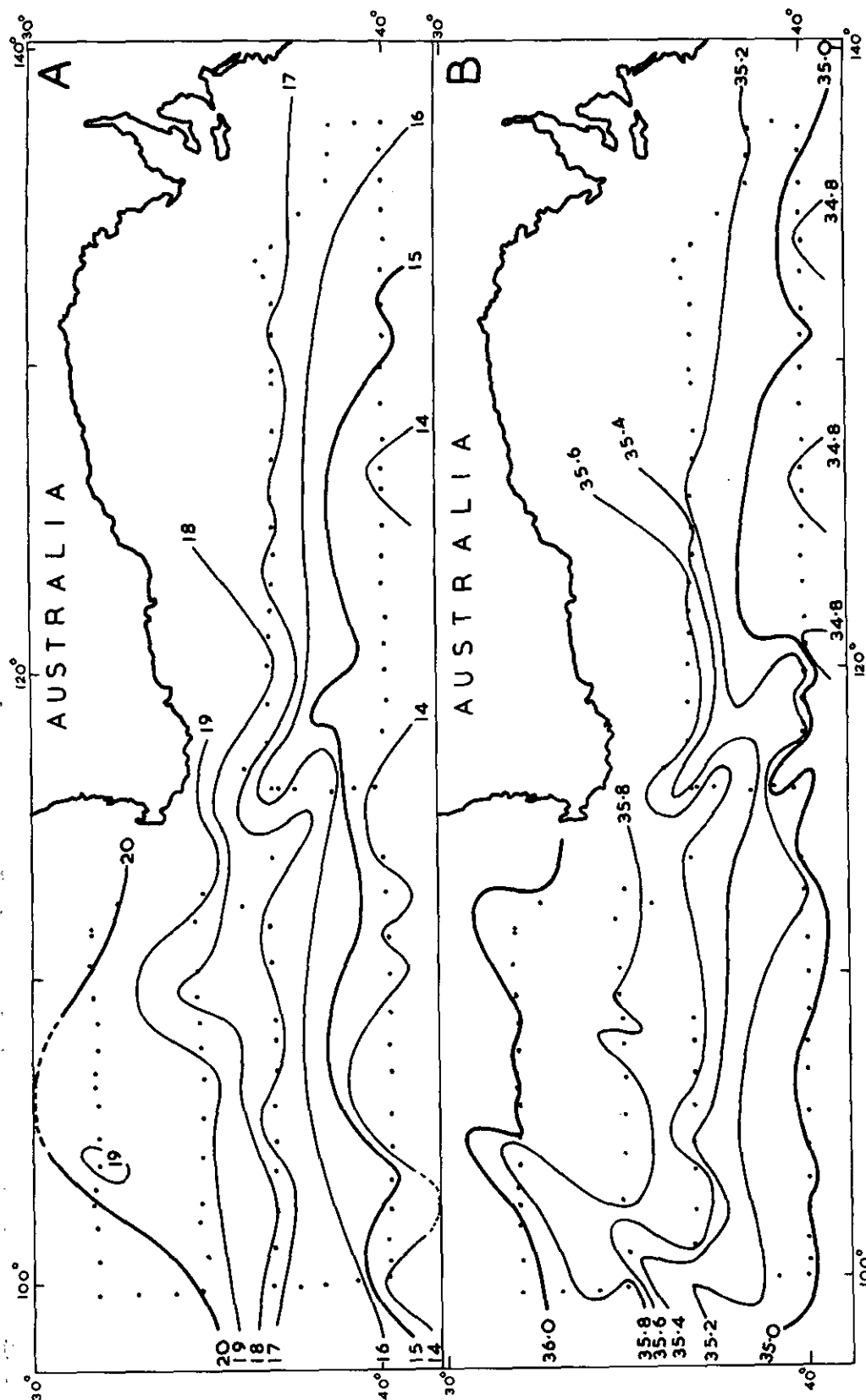


Fig 21

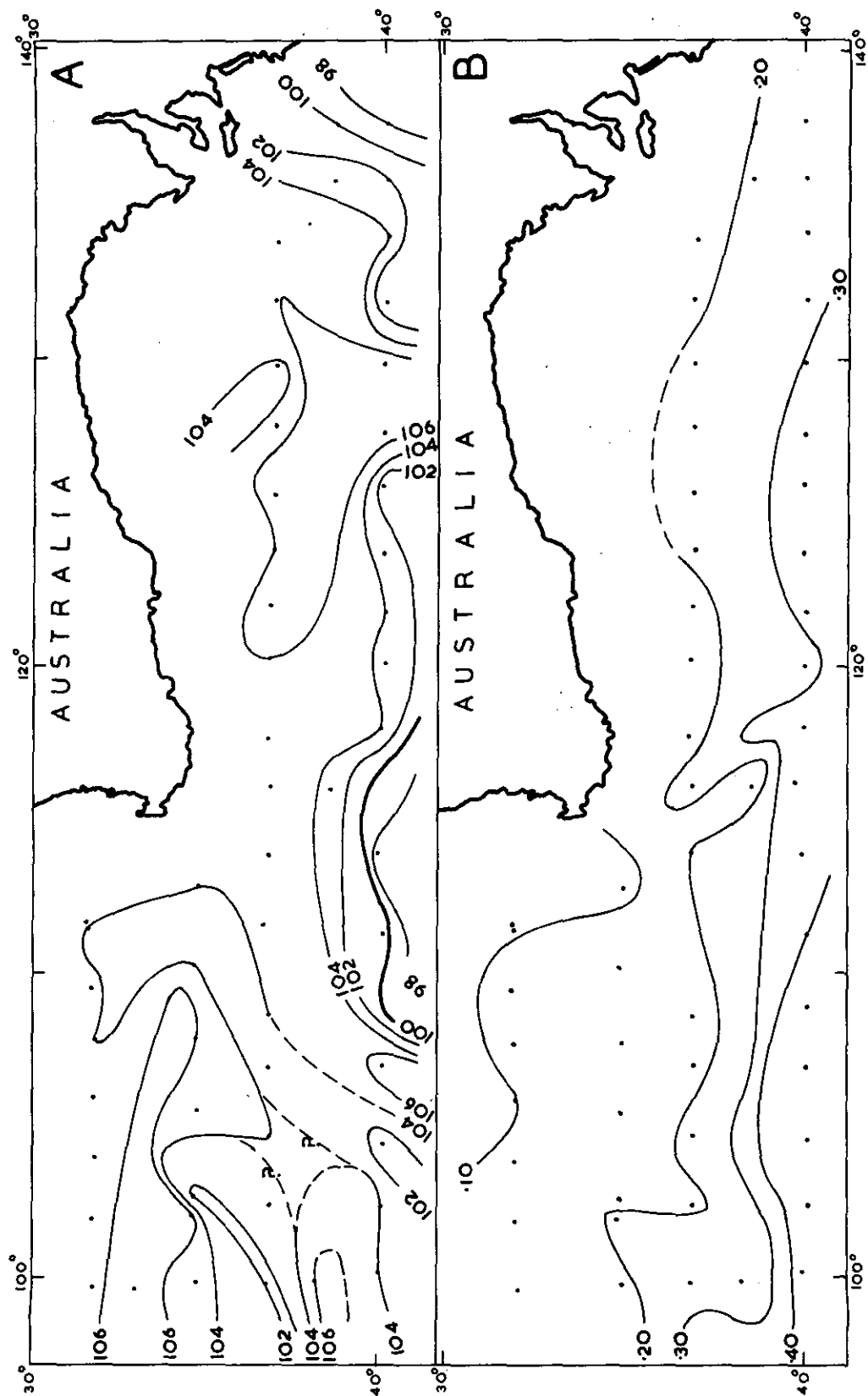


Fig. 22

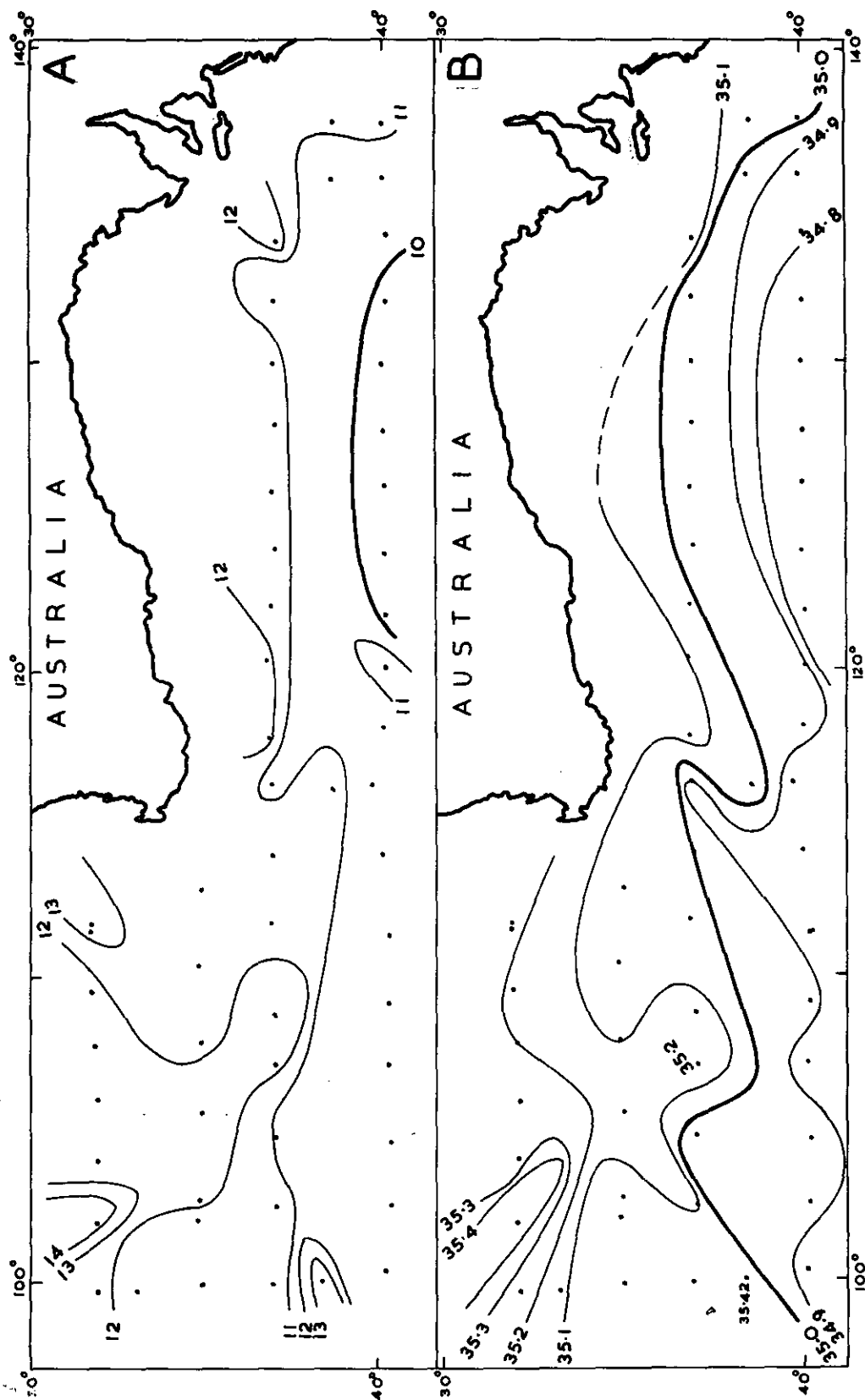


Fig. 23

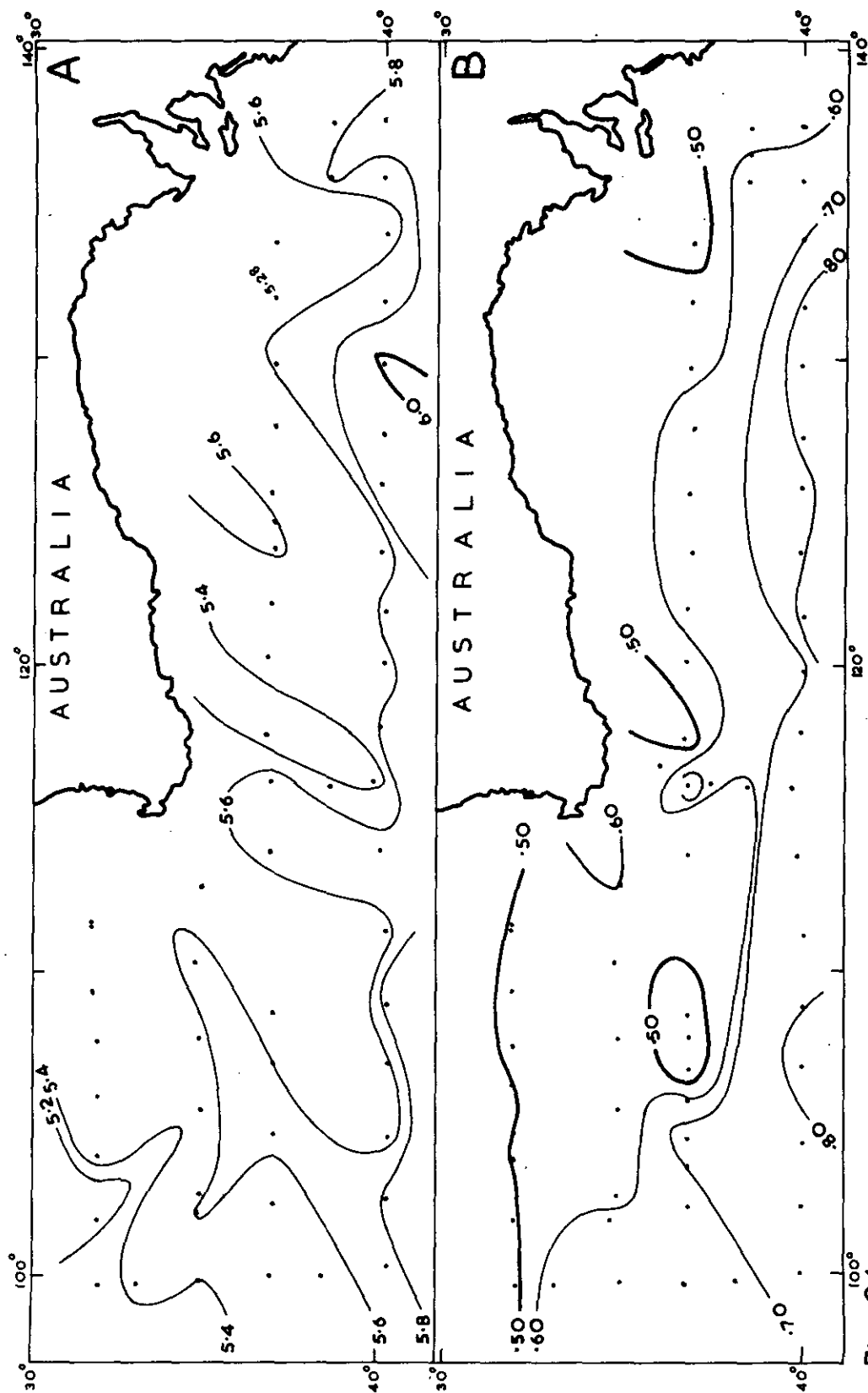


Fig. 24

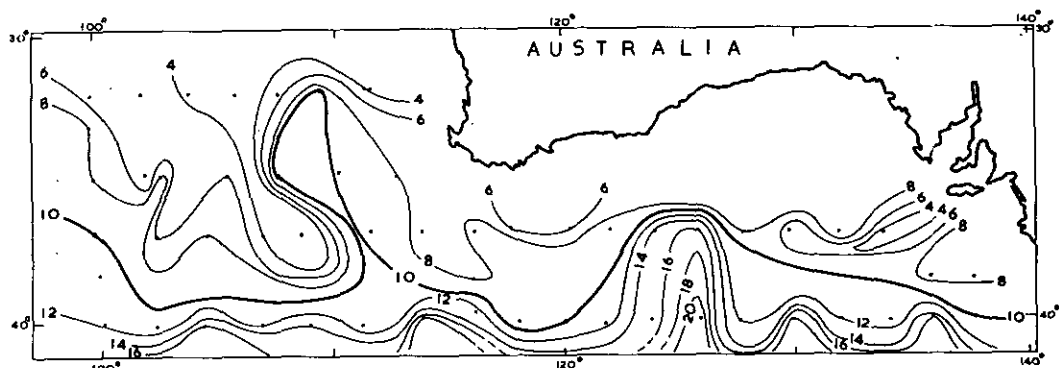


Fig. 25

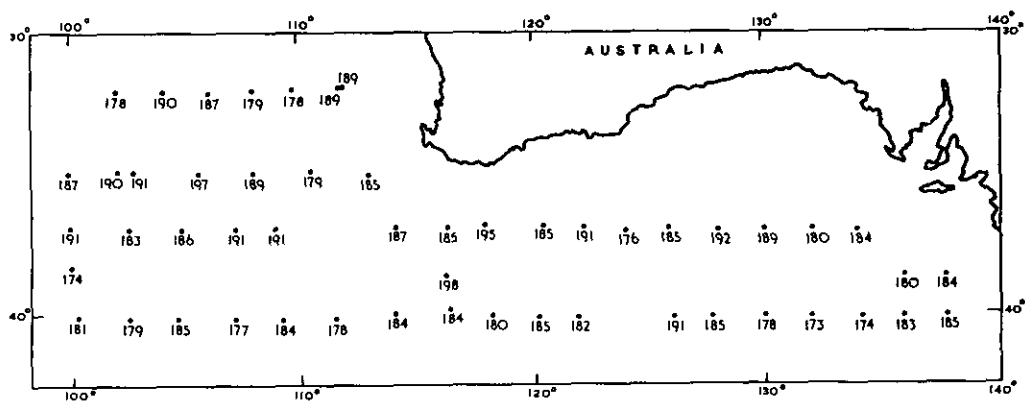


Fig. 26

Figs. 27 - 28

PRIMARY PRODUCTION

Fig. 27. Daily rates of primary production, calculated for the columns under 1 metre square from 0-100 m depth in gC/day/m^2 for each ^{14}C station. Figures are arranged with station number at the top, value in the centre, and the time of sampling at the bottom.

Fig. 28. Vertical profiles of hourly rates of primary production at each ^{14}C station. Sampling times are given below the station number.

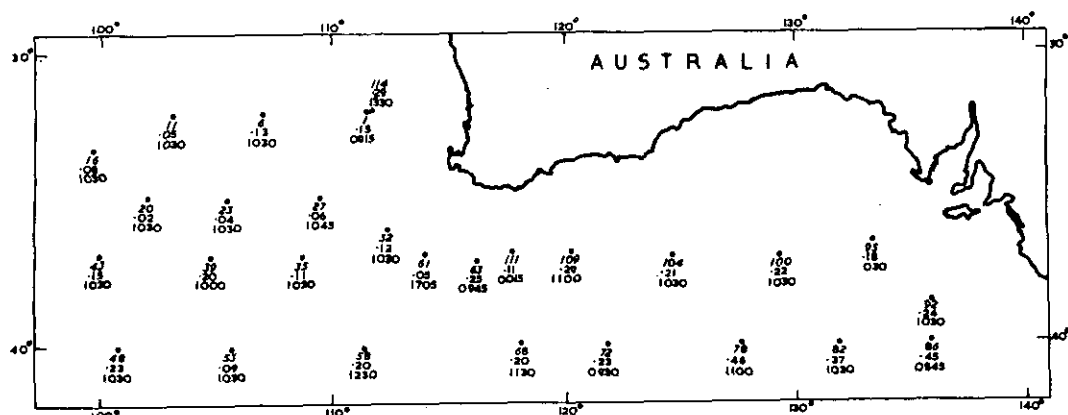


Fig. 27

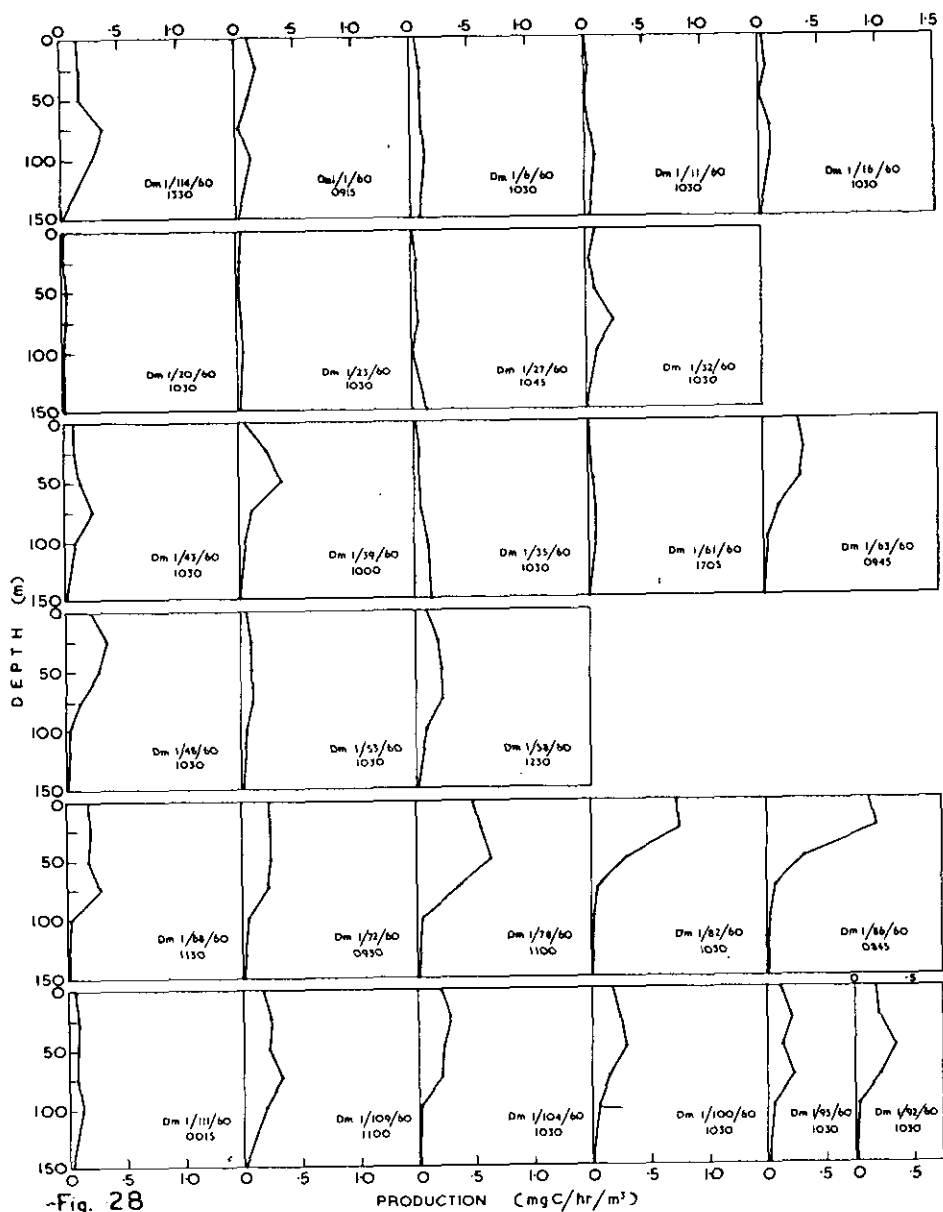


Fig. 28