OCEANOGRAPHICAL OBSERVATIONS
IN THE INDIAN OCEAN IN 1965
H.M.A.S. *GASCOYNE*
Cruise G 2/65

OCEANOGRAPHICAL CRUISE REPORT NO. 43

DIVISION OF FISHERIES AND OCEANOGRAPHY
COMMONWEALTH SCIENTIFIC AND INDUSTRIAL
RESEARCH ORGANIZATION, AUSTRALIA 1968

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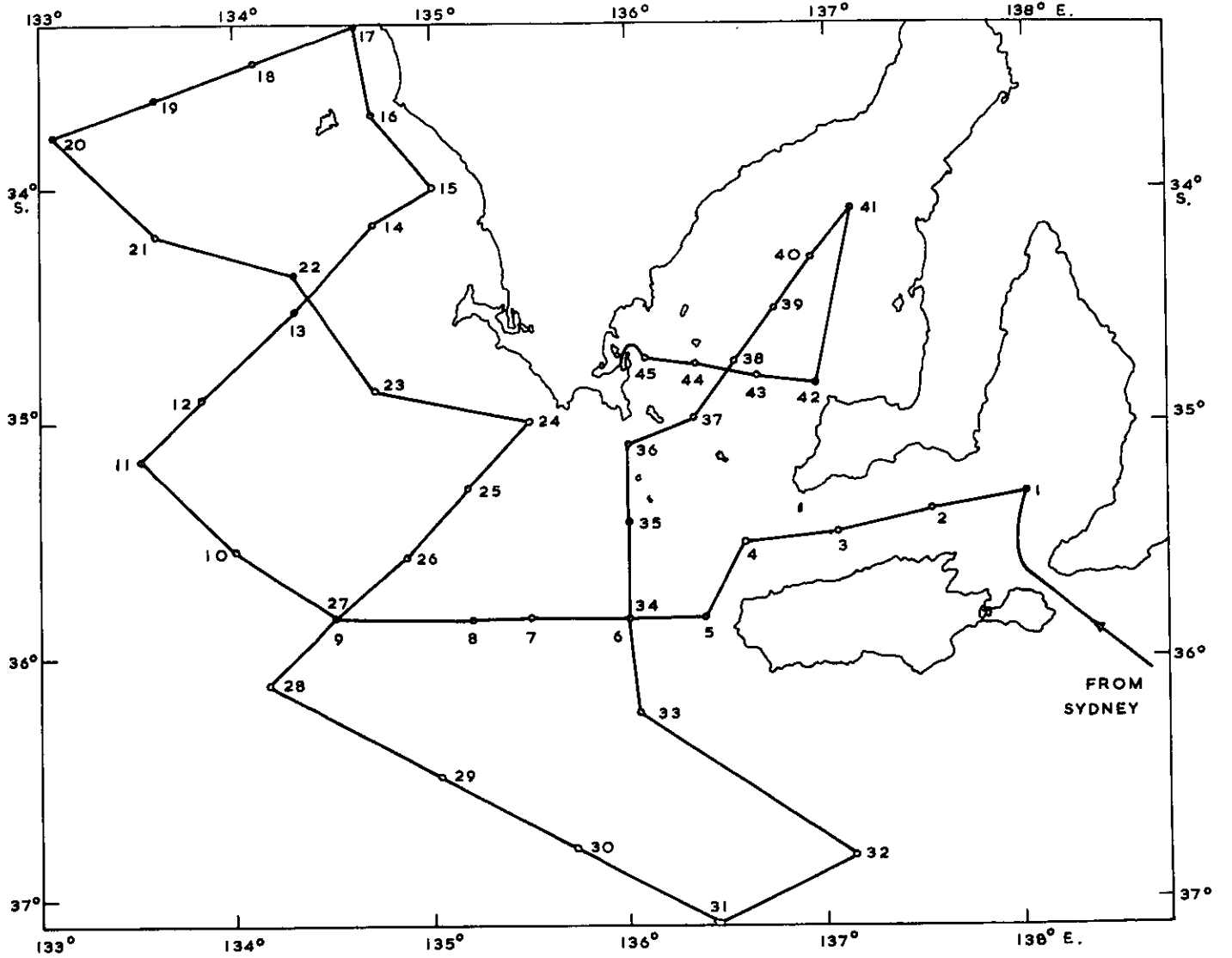

Fig. 1. Track chart

OCEANOGRAPHICAL CRUISE REPORT

No. 43

Oceanographical Observations in the Indian Ocean in 1965

H.M.A.S. Gascoyne

Cruise G2/65

February 1-9, 1965

I. INTRODUCTION

This report records the data collected during the second cruise in 1965 of H.M.A.S. Gascoyne, Royal Australian Navy oceanographical frigate.

Objective

To examine the physical and chemical environment of the South Australian fishing grounds during the tuna season.

Itinerary

The cruise left Sydney on February 1 and proceeded to South Australian waters where a series of stations was worked off Yorke and Eyre Peninsulas and in adjacent waters of the Great Australian Bight. The cruise ended at Port Lincoln on February 9 (Fig. 1).

Scientific Personnel

T.R. Cowper (Cruise Leader)
R. Bradley
L. Brown
J. Klye
J. Prothero

Salinity, oxygen, and inorganic phosphate determinations were made in the ship's laboratory by J. Klye and J. Prothero. The data were processed under the direction of W. Hedge, using computer programmes designed by A.D. Crooks. The track chart was prepared for publication by R. Breach.

II. WORK ACCOMPLISHED

Forty-five stations were worked (G2/1/65-G2/45/65). Surface and subsurface hydrology samples were collected at each station.

TABLE 1

WORK DONE AT EACH STATION

Stn No.	Hydrology Surface to Depth (m)	Stn No.	Hydrology Surface to Depth (m)
1	30	24	85
2	30	25	110
3	32	26	1400
4	75	27	1500
5	100	28	1500
6	110	29	1500
7	500	30	1500
8	1500	31	1500
9	1500	32	1500
10	1500	33	120
11	1100	34	100
12	100	35	95
13	75	36	75
14	65	37	40
15	60	38	40
16	40	39	40
17	40	40	30
18	63	41	15
19	60	42	40
20	90	43	40
21	85	44	35
22	75	45	15
23	100		

III. METHOD OF COLLECTION AND ANALYSIS OF SAMPLES

1. Physics

Temperature.—Water temperatures were taken with deep-sea reversing thermometers. Two protected thermometers were used at each depth, together with an unprotected thermometer on all but the upper six Nansen bottles. Differences between corrected protected thermometer readings were generally less than 0.03 degC, and the mean values listed in this cruise report are considered accurate to $\pm$ 0.03 degC.

Thermometric Depth.—Depth calculations were made by the second method described by La Fond (1951), plotting thermometric depth against the difference between thermometric and wire depths.

Depths are considered accurate to ± 5 m at depths less than 200 m, ± 10 m at depths between about 200 and 400 m, and about 2% at depths from 400 to 1500 m.

Sigma-t.—Sigma-t values were computed from temperature and salinity values, using the equations of Knudsen (La Fond 1951).

2. Chemistry

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

Dissolved Oxygen.—A version of the standard Winkler method was used to determine the amount of dissolved oxygen in the seawater samples. The version used is a modification of that described by Thompson and Robinson (1939) and differs in some respects from the revision by Jacobsen, Robinson, and Thompson (1950). Potassium iodate was used as the iodometric standard, and the reagents necessary to fix the oxygen in solution were used at different concentrations (Rochford 1963). Duplicate titrations were made on approximately every tenth sample. Saturation values, given as ml/l, were computed using the simpler of the equations given by Richards and Corwin (1956) -

$$O_2(\%\ \text{Satn.}) = \frac{O_2(\text{ml/l}) \times (33.5 + T^\circ C) \times 100}{332.4 - (1.854 \times S‰)}$$

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

Standard phosphate solutions were made up in distilled water. At air temperatures less than 25°C, analyses were carried out in batches of 10; readings were begun within 10 min of adding reagents and completed within 10 min. At air temperatures greater than 25°C, batches of 6 were analysed; readings were begun within 5 min of adding reagents and completed within 7 min. Each batch was compared with a distilled water blank and a 0.65 µg-atom/l standard in a Hilger Spekker absorptiometer using 4 cm cells and Ilford 608 filters. Each day a complete calibration was made using standards up to 3.25 µg-atom/l. Results are given as µg-atom/l with no correction for salt error and are precise to ± 10% for values less than 0.5 µg-atom/l and ± 5% for higher values. To correct for salt effects, the results given should be multiplied by 1.15.

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THOMPSON, T.G., and ROBINSON, R.J. (1939).—Notes on the determination of dissolved oxygen in seawater. J. mar. Res. 2, 1-8.

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IV. DATA SHEETS

The data were processed in a C.D.C. 3600 Computer. An explanation of the headings used is given at the beginning of the surface hydrology listing.

DATA

PART 1

HYDROLOGY

SURFACE SAMPLES

EXPLANATION OF HEADINGS

Parts 1 and 2	Hydrology
STATION	Gives the station identification. For example, G2/1/65 signifies the 1st station worked by Gascoyne in 1965, on her 2nd cruise for that year
DATE	Given as day/month/year
TIME	Given in Zone Time, and is the time at the beginning of the first cast. Zone Time throughout the cruise was Central Australian Standard Time, G.M.T. + $9\frac{1}{2}$ hr, Code J
LATITUDE LONGITUDE	Given in degrees and minutes
SONIC DEPTH	Given in metres, measured at standard sound velocity of 800 fm (1463 m) per second
AIR TEMP. WET DRY	Air temperatures recorded from wet and dry bulb thermometers in °C
WIND DIR. SP.	Wind direction and speed are coded using Tables 8 and 9 in U.S. Hydrogr. Office (1955)
ANEM. HEIGHT	The average height of the anemometer above sea level, given in metres
CLOUD TYPE AMT.	Cloud type and amount are coded using Tables 2 and 3 in U.S. Hydrogr. Office (1955)
VIS.	Visibility is coded using Table 4 in U.S. Hydrogr. Office (1955)
SEA DIR. AMT.	Sea direction and amount are coded using Tables 5 and 8 in U.S. Hydrogr. Office (1955)
SWELL DIR. AMT.	Sea swell direction and amount are coded using Tables 6 and 8 in U.S. Hydrogr. Office (1955)

WEA.	Weather is coded using Table 1 in U.S. Hydrogr. Office (1955)
BAROM. or ATMOS. PRESSURE	Atmospheric pressure given in millibars
WIRE ANGLES CAST 1 CAST 2 CAST 3	Wire angles are measured at the surface and expressed in degrees for each cast
CAST	The cast number corresponding to the wire angle is shown
DEPTH	Actual sampling depth, given in metres
TEMP.	Sea temperatures recorded in °C
SALINITY	Given in parts per thousand
SIGMA-T	Sigma-t to 2 decimal places
OXYGEN	Given in ml/l
OXYGEN % SAT.	Oxygen percentage saturation
INORG. P	Given in µg-atom/l

A blank, *, and *** indicate no data available

CRUISE	STATION NUMBER	YR.	MTH.	DAY	TIME Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND DN.	WIND AMT.	SEA DN.	SEA AMT.	SWELL DN.	SWELL AMT.	WEA.	VIS.	BAROM.
2	1	65	2	4	1712	J 35 18	S 138 00	E 19.4	36.15	15	4	15	3	14	1	00	8	1022.0
2	2	65	2	4	1917	J 35 22	S 137 32	E 19.2	35.80	16	6	16	4	18	4	01	7	1022.5
2	3	65	2	4	2117	J 35 27	S 137 03	E 19.3	35.97	16	5	16	3	16	1	00	7	1023.0
2	4	65	2	4	2310	J 35 31	S 136 35	E 18.9	36.20	15	4	13	3	15	1	01	7	1023.0
2	5	65	2	5	0114	J 35 50	S 136 22	E 17.4	35.72	13	4	15	3	15	1	01	8	1022.0
2	6	65	2	5	0304	J 35 50	S 136 00	E 17.8	35.60	12	4	13	3	13	1	21	8	1020.5
2	7	65	2	5	0514	J 35 50	S 135 28	E 18.0	35.61	11	4	10	3	14	1	01	8	1022.0
2	8	65	2	5	0644	J 35 50	S 135 12	E 17.5	35.46	13	5	13	3	13	1	01	8	1022.0
2	9	65	2	5	1033	J 35 50	S 134 30	E 17.5	35.45	10	4	10	3	12	4	01	8	1023.0
2	10	65	2	5	1347	J 35 33	S 134 00	E 17.6	35.38	10	3	10	3	12	4	01	8	1021.0
2	11	65	2	5	1718	J 35 09	S 133 30	E 18.9	35.85	10	3	12	2	12	1	01	8	1017.0
2	12	65	2	5	2014	J 34 54	S 133 50	E 18.7	35.91	13	5	13	3	12	1	01	8	1017.5
2	13	65	2	5	2305	J 34 31	S 134 18	E 18.0	35.59	13	4	13	3	10	1	01	8	1015.0
2	14	65	2	6	0128	J 34 10	S 134 42	E 17.3	35.72	12	3	12	2	13	1	01	8	1015.0
2	15	65	2	6	0303	J 34 00	S 135 00	E 17.7	35.75	15	3			14	1	01	8	1015.0
2	16	65	2	6	0513	J 33 40	S 134 42	E 16.7	35.70	14	1					01	8	1014.0
2	17	65	2	6	0715	J 33 18	S 134 36	E 17.8	35.88	14	1					01	8	1014.0
2	18	65	2	6	0928	J 33 28	S 134 06	E 18.2	35.79	16	1			19	1	01	8	1015.0
2	19	65	2	6	1203	J 33 36	S 133 35	E 18.6	35.76	18	2	18	2	18	1	01	8	1015.0
2	20	65	2	6	1433	J 33 46	S 133 05	E 19.2	35.83	19	3	16	2	15	1	01	8	1015.0
2	21	65	2	6	1803	J 34 12	S 133 36	E 18.6	35.67	16	4	16	4	14	1	01	8	1015.0
2	22	65	2	6	2205	J 34 23	S 134 18	E 18.0	35.59	17	3	17	3	19	1	01	7	1015.0
2	23	65	2	7	0055	J 34 53	S 134 42	E 18.0	35.66	17	4	17	3	18	1	01	7	1014.0
2	24	65	2	7	0428	J 35 00	S 135 30	E 17.0	35.83	17	4	16	2	18	1	13	7	1014.0
2	25	65	2	7	0632	J 35 17	S 135 10	E 17.8	35.64	16	3	16	2	16	1	03	7	1014.0
2	26	65	2	7	0847	J 35 34	S 134 50	E 18.5	35.72	16	2	16	2	14	1	01	7	1015.0
2	27	65	2	7	1140	J 35 50	S 134 30	E 17.8	35.47	16	2	16	2	15	1	01	7	1015.0
2	28	65	2	7	1432	J 36 06	S 134 10	E 17.8	35.46	16	2	14	2	14	1	01	7	1015.0
2	29	65	2	7	1935	J 36 29	S 135 02	E 17.6	35.38	15	2	15	2	16	1	01	8	1014.5
2	30	65	2	7	2347	J 36 47	S 135 43	E 17.4	35.42	16	2	16	2	18	1	01	7	1014.0
2	31	65	2	8	0350	J 37 05	S 136 26	E 17.1	35.38	18	3	18	1	18	1	01	7	1012.0
2	32	65	2	8	0753	J 36 49	S 137 08	E 17.3	35.38	16	3	16	2	15	1	03	5	1015.0
2	33	65	2	8	1320	J 36 14	S 136 03	E 17.4	35.42	15	1	18	1	20	1	01	7	1016.5
2	34	65	2	8	1522	J 35 51	S 135 59	E 17.7	35.47	17	1	15	1	20	1	01	7	1015.5
2	35	65	2	8	1723	J 35 25	S 136 00	E 18.4	36.07	18	4	18	3	14	1	01	7	1016.0
2	36	65	2	8	1857	J 35 07	S 136 00	E 18.7	36.31	17	3	10	2	19	1	01	8	1015.5
2	37	65	2	8	2036	J 35 00	S 136 20	E 19.0	36.42	17	4	17	3	19	1	01	7	1016.0
2	38	65	2	8	2207	J 34 45	S 136 33	E 20.0	36.85	16	4	16	3	17	1	00	7	1016.0
2	39	65	2	8	2338	J 34 31	S 136 44	E 20.8	37.13	17	4	17	3	18	1	01	8	1016.0
2	40	65	2	9	0106	J 34 18	S 136 55	E 21.1	37.21	16	3	16	3	18	1	01	8	1015.0

CRUISE	STATION NUMBER	YR.	MTH.	DAY	TIME Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND DN.	WIND AMT.	SEA DN.	SEA AMT.	SWELL DN.	SWELL AMT.	WEA.	VIS.	BAROM.
2	41	65	2	9	0238 J	34 04 S	137 07 E	21.5		19	3	19	3	18	1	01	8	1014.5
2	42	65	2	9	0628 J	34 51 S	136 56 E	20.3	36.99	19	2	18	2	19	1	01	7	1016.0
2	43	65	2	9	0746 J	34 49 S	136 39 E	20.1	36.88	18	2	18	2	18	1	01	7	1016.0
2	44	65	2	9	0902 J	34 46 S	136 22 E	19.7	36.62	18	3	18	2	18	1	01	7	1017.5
2	45	65	2	9	1014 J	34 44 S	136 05 E	19.4	36.39	18	3	18	2	16	1	01	7	1017.0

DATA

PART 2

HYDROLOGY

SUBSURFACE SAMPLES

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 1/65	4/ 2/65	1712 J	35 18 S	138 00 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
36	15.0	22.2	15	4	11	*	*	8	15	3	14	1	1022.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	19.44	36.148	25.80	5.04	97	0.15	***	***
1	8	19.47	36.168	25.81	5.15	99	0.13	***	***
1	18	19.47	36.183	25.82	5.14	99	0.12	***	***
1	30	19.62	36.451	25.99	4.95	95	0.17	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 2/65	4/ 2/65	1917 J	35 22 S	137 32 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
35	15.0	17.2	16	6	11	1	5	7	16	4	18	4	1022.5	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	19.23	35.798	25.59	5.14	98	0.06	***	***
1	10	19.21	35.794	25.59	5.19	99	0.11	***	***
1	20	19.22	35.794	25.59	5.14	98	0.07	***	***
1	30	19.23	35.794	25.59	5.18	99	0.12	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 3/65	4/ 2/65	2117 J	35 27 S	137 03 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
38	11.7	17.8	16	5	11	*	0	7	16	3	16	1	1023.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	19.31	35.967	25.70	5.16	99	0.06	***	***
1	10	19.28	35.984	25.72	5.07	97	0.07	***	***
1	20	19.18	36.005	25.76	5.12	98	0.04	***	***
1	32	19.13	36.012	25.78	5.12	98	0.06	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 4/65	4/ 2/65	2310 J	35 31 S	136 35 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
86	11.7	17.2	15	4	11	*	*	7	13	3	15	1	1023.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.89	36.201	25.98	5.25	100	0.08	***	***
1	10	18.88	36.204	25.99	5.19	98	0.11	***	***
1	20	18.85	36.235	26.02	5.18	98	0.05	***	***
1	30	18.73	36.241	26.06	5.05	96	0.07	***	***
1	40	17.62	36.080	26.21	5.28	98	0.15	***	***
1	50	14.74	35.666	26.56	5.25	91	0.37	***	***
1	75	14.71	35.657	26.56	5.25	91	0.32	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 5/65	5/ 2/65	0114 J	35 50 S	136 22 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
121	11.1	16.1	13	4	11	*	0	8	15	3	15	1	1022.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.42	35.720	25.98	5.47	101	0.08	***	***
1	10	17.40	35.720	25.99	5.51	101	0.11	***	***
1	20	17.32	35.735	26.02	5.51	101	0.11	***	***
1	30	17.08	35.695	26.05	5.54	101	0.13	***	***
1	40	15.70	35.532	26.24	5.63	100	0.13	***	***
1	50	15.40	35.626	26.38	5.51	97	0.20	***	***
1	75	14.18	35.531	26.58	5.15	89	0.30	***	***
1	100	14.08	35.510	26.58	5.15	88	0.59	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 6/65	5/ 2/65	0304 J	35 50 S	136 00 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
128	12.2	15.0	12	4	11	*	0	8	13	3	13	1	1020.5	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.79	35.601	25.80	5.42	100	0.10	***	***
1	10	17.72	35.594	25.81	5.37	99	0.12	***	***
1	20	17.71	35.594	25.82	5.34	99	0.12	***	***
1	30	17.71	35.594	25.82	5.41	100	0.12	***	***
1	40	17.71	35.594	25.82	5.34	99	0.13	***	***
1	50	15.26	35.366	26.21	5.74	101	0.14	***	***
1	75	14.31	35.437	26.48	5.37	93	0.23	***	***
1	100	14.11	35.439	26.52	5.38	92	0.29	***	***
1	110	14.10	35.435	26.52	5.38	92	0.30	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 7/65	5/ 2/65	0514 J	35 50 S	135 28 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
527	13.3	16.7	11	4	11	0	1	8	10	3	14	1	1022.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.99	35.609	25.76	5.42	101	0.12	***	***
1	25	17.97	35.609	25.76	5.43	101	0.14	***	***
1	50	15.63	35.312	26.09	5.92	105	0.14	***	***
1	75	13.47	35.173	26.45	5.97	101	0.23	***	***
1	100	13.18	35.190	26.52	5.61	94	0.32	***	***
1	150	12.90	35.309	26.67	5.52	92	0.39	***	***
1	200	12.99	35.377	26.71	5.53	93	0.35	***	***
1	300	11.88	35.175	26.77	5.58	91	0.50	***	***
1	500	9.13	34.708	26.89	5.52	85	0.94	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 8/65	5/ 2/65	0644 J	35 50 S	135 12 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
2103	13.9	17.2	13	5	11	1	1	8	13	3	13	1	1022.0	0	5	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	17.53	35.457	25.76	5.58	103	0.14	***	***
2	25	17.51	35.458	25.76	5.47	101	0.17	***	***
2	50	15.40	35.291	26.13	5.92	104	0.17	***	***
2	75	13.62	35.232	26.46	5.79	98	0.26	***	***
2	100	13.21	35.309	26.61	5.54	93	0.41	***	***
2	150	12.80	35.306	26.69	5.54	92	0.45	***	***
2	200	12.58	35.289	26.72	5.57	93	0.43	***	***
2	300	11.31	***	***	5.55	***	0.58	***	***
2	500	9.13	34.708	26.89	5.54	85	0.95	***	***
1	700	7.96	34.553	26.95	5.13	77	1.25	***	***
1	900	5.64	34.429	27.17	4.48	64	1.67	***	***
1	1100	3.53	34.450	27.42	4.11	55	1.81	***	***
1	1300	2.99	***	***	3.91	***	1.98	***	***
1	1500	2.65	34.605	27.62	3.82	51	2.04	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 9/65	5/ 2/65	1033 J	35 50 S	134 30 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
2743	12.2	15.6	10	4	11	8	3	8	10	3	12	4	1023.0	0	0	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.50	35.449	25.76	5.44	100	0.16	***	***
1	25	17.40	35.455	25.79	5.51	101	0.14	***	***
1	50	15.62	35.361	26.13	5.84	103	0.18	***	***
1	75	13.91	35.343	26.49	5.79	99	0.24	***	***
1	100	13.64	35.368	26.57	5.54	94	0.35	***	***
1	150	13.35	35.349	26.61	5.51	93	0.38	***	***
1	200	12.77	35.258	26.66	5.51	92	0.44	***	***
1	300	11.62	35.124	26.78	5.48	89	0.58	***	***
1	500	9.10	34.703	26.89	5.54	85	0.99	***	***
1	700	7.96	34.557	26.95	5.10	76	1.21	***	***
1	900	5.62	34.434	27.17	4.44	63	1.72	***	***
1	1100	3.67	34.432	27.39	4.20	57	1.94	***	***
1	1300	2.98	34.524	27.53	3.89	52	1.99	***	***
1	1500	2.69	34.591	27.61	3.80	50	1.99	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 10/65	5/ 2/65	1347 J	35 33 S	134 00 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
1902	18.3	18.9	10	3	11	*	1	8	10	3	12	4	1021.0	0	0	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	17.64	35.377	25.67	5.54	102	0.14	***	***
2	25	17.35	35.381	25.74	5.54	102	0.14	***	***
2	50	15.04	35.381	26.27	5.94	104	0.16	***	***
2	75	13.89	35.392	26.53	5.58	95	0.19	***	***
2	100	13.69	35.380	26.56	5.58	95	0.20	***	***
2	150	13.44	35.364	26.60	5.54	94	0.20	***	***
2	200	12.91	35.297	26.66	5.46	91	0.36	***	***
2	300	11.65	35.119	26.77	5.42	88	0.57	***	***
1	500	9.10	34.703	26.89	5.50	84	1.00	***	***
1	700	8.04	34.566	26.95	5.16	77	1.15	***	***
1	900*	5.56	34.421	27.17	4.44	63	1.62	***	***
1	1100*	4.61	34.425	27.29	4.18	58	1.87	***	***
1	1300	3.01	34.513	27.52	3.89	52	1.94	***	***
1	1500	2.65	34.599	27.62	3.79	50	2.00	***	***

* PROPERTY DOUBTFUL
\+ PROPERTY INTERPOLATED

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 11/65	5/ 2/65	1718 J	35 09 S	133 30 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
1189	15.0	23.3	10	3	11	1	1	8	12	2	12	1	1017.0	5	0	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	18.95	35.851	25.70	5.29	100	0.04	***	***
2	25	16.92	35.851	25.71	5.31	101	0.11	***	***
2	50	18.74	35.845	25.75	5.32	100	0.09	***	***
2	75	15.22	35.498	26.32	5.77	101	0.15	***	***
2	100	14.31	35.463	26.50	5.55	96	0.25	***	***
2	150	13.53	35.373	26.59	5.44	92	0.26	***	***
2	200	12.95	35.275	26.63	5.52	92	0.40	***	***
1	300	12.03	35.187	26.75	5.47	90	0.50	***	***
1	500	9.17	34.720	26.89	5.47	84	0.96	***	***
1	700	7.78	***	***	4.99	***	1.29	***	***
1	900	5.26	34.415	27.20	4.43	62	1.61	***	***
1	1100	3.43	34.450	27.43	4.08	55	1.95	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 12/65	5/ 2/65	2014 J	34 54 S	133 50 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
124	13.3	20.0	13	5	11	*	0	8	13	3	12	1	1017.5	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.74	35.809	25.72	5.38	102	0.07	***	***
1	10	18.74	35.812	25.73	5.35	101	0.07	***	***
1	20	18.76	35.811	25.72	5.34	101	0.07	***	***
1	30	18.63	35.822	25.76	5.38	101	0.07	***	***
1	40	18.60	35.827	25.77	5.37	101	0.09	***	***
1	50	18.59	35.817	25.77	5.35	101	0.10	***	***
1	75	15.65	35.611	26.32	5.45	97	0.18	***	***
1	100	15.53	35.632	26.36	5.11	90	0.26	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 13/65	5/ 2/65	2305 J	34 31 S	134 18 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
99	13.3	18.9	13	4	11	*	0	8	13	3	10	1	1015.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.98	35.594	25.75	5.43	101	0.11	***	***
1	10	17.97	35.614	25.77	5.45	101	0.14	***	***
1	20	17.96	35.656	25.80	5.45	101	0.09	***	***
1	30	17.76	35.648	25.84	5.49	102	0.11	***	***
1	40	17.34	35.648	25.95	5.54	102	0.15	***	***
1	50	16.97	35.739	26.11	5.73	104	0.11	***	***
1	75	15.73	35.767	26.42	5.03	89	0.23	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 14/65	6/ 2/65	0128 J	34 10 S	134 42 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
77	12.2	17.2	12	3	11	6	1	8	12	2	13	1	1015.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.34	35.722	26.00	5.67	104	0.08	***	***
1	10	17.24	35.722	26.03	5.67	104	0.09	***	***
1	20	17.21	35.724	26.04	5.67	104	0.07	***	***
1	30	17.09	35.721	26.06	5.66	103	0.10	***	***
1	40	16.03	35.646	26.25	5.67	101	0.14	***	***
1	50	15.26	35.570	26.37	5.40	95	0.24	***	***
1	65	15.25	35.571	26.38	5.35	94	0.20	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 15/65	6/ 2/65	0303 J	34 00 S	135 00 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
70	12.2	17.8	15	3	11	6	1	8	*	*	14	1	1015.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.66	35.748	25.95	5.46	101	0.08	***	***
1	10	17.55	35.748	25.97	5.46	101	0.09	***	***
1	20	17.33	35.752	26.03	5.53	101	0.08	***	***
1	30	15.47	35.590	26.34	5.59	99	0.16	***	***
1	40	15.31	35.571	26.36	5.48	96	0.18	***	***
1	50	15.29	35.571	26.37	5.38	95	0.20	***	***
1	60	15.24	35.571	26.38	5.40	95	0.20	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 16/65	6/ 2/65	0513 J	33 40 S	134 42 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
51	12.8	19.4	14	1	11	4	1	8	*	*	*	*	1014.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	16.69	35.704	26.15	5.48	99	0.14	***	***
1	10	16.52	35.704	26.19	5.50	99	0.14	***	***
1	20	16.50	35.701	26.19	5.52	100	0.19	***	***
1	30	15.47	35.601	26.35	5.63	99	0.15	***	***
1	40	15.41	35.592	26.35	5.61	99	0.15	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 17/65	6/ 2/65	0715 J	33 18 S	134 36 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
55	12.8	17.8	14	1	11	4	2	8	*	*	*	*	1014.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.78	35.878	26.02	5.35	99	0.14	***	***
1	10	17.70	35.879	26.04	5.34	99	0.14	***	***
1	20	17.70	35.878	26.04	5.37	99	0.15	***	***
1	30	17.17	35.803	26.11	5.37	98	0.15	***	***
1	40	16.21	35.724	26.27	5.17	93	0.23	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 18/65	6/ 2/65	0928 J	33 28 S	134 06 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
70	13.9	16.1	16	1	11	1	2	8	*	*	19	1	1015.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.20	35.790	25.84	5.55	104	0.14	***	***
1	10	18.05	35.789	25.88	5.47	102	0.10	***	***
1	20	17.87	35.776	25.92	5.48	102	0.12	***	***
1	30	17.73	35.761	25.94	5.41	100	0.13	***	***
1	40	16.04	35.648	26.25	5.50	98	0.13	***	***
1	50	15.87	35.640	26.29	5.40	96	0.17	***	***
1	63	15.85	35.638	26.29	5.41	96	0.15	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 19/65	6/ 2/65	1203 J	33 36 S	133 35 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
73	14.4	18.3	18	2	11	1	2	8	18	2	18	1	1015.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.60	35.757	25.72	5.38	101	0.12	***	***
1	10	18.26	35.753	25.80	5.40	101	0.13	***	***
1	20	18.24	35.752	25.81	5.46	102	0.12	***	***
1	30	18.13	35.758	25.84	5.40	101	0.13	***	***
1	40	18.07	35.747	25.84	5.43	101	0.14	***	***
1	50	17.89	35.745	25.89	5.48	102	0.14	***	***
1	60	16.15	35.788	26.34	5.25	94	0.24	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 20/65	6/ 2/65	1433 J	33 46 S	133 05 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
101	14.4	18.9	19	3	11	1	1	8	16	2	15	1	1015.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	19.25	35.826	25.61	5.37	102	0.05	***	***
1	10	19.05	35.827	25.66	5.32	101	0.10	***	***
1	20	18.86	35.863	25.73	5.37	102	0.07	***	***
1	30	18.78	35.808	25.71	5.40	102	0.08	***	***
1	40	18.66	35.809	25.74	5.44	103	0.08	***	***
1	50	18.75	35.801	25.71	5.38	102	0.12	***	***
1	75	15.83	35.712	26.35	4.96	88	0.25	***	***
1	90	15.81	35.710	26.35	4.91	87	0.24	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 21/65	6/ 2/65	1803 J	34 12 S	133 36 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
97	12.8	18.9	16	4	11	1	3	8	16	4	14	1	1015.0	5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.55	35.668	25.66	5.40	101	0.12	***	***
1	10	18.53	35.667	25.67	5.37	101	0.13	***	***
1	20	18.27	35.667	25.73	5.42	101	0.12	***	***
1	30	18.16	35.668	25.76	5.41	101	0.13	***	***
1	40	18.12	35.669	25.77	5.46	102	0.15	***	***
1	50	18.09	35.668	25.78	5.42	101	0.15	***	***
1	75	16.07	35.705	26.29	5.55	99	0.24	***	***
1	85	15.73	35.800	26.44	4.90	87	0.13	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 22/65	6/ 2/65	2205 J	34 23 S	134 18 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
101	12.2	18.3	17	3	11	1	6	7	17	3	19	1	1015.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.01	35.591	25.74	5.40	100	0.13	***	***
1	10	17.98	35.591	25.75	5.38	100	0.12	***	***
1	20	17.96	35.587	25.75	5.42	101	0.13	***	***
1	30	17.90	35.598	25.77	5.43	101	0.12	***	***
1	40	17.86	35.609	25.79	5.43	101	0.11	***	***
1	50	16.64	35.603	26.08	5.64	102	0.12	***	***
1	75	15.71	35.768	26.42	5.02	89	0.18	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 23/65	7/ 2/65	0055 J	34 53 S	134 42 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
113	11.7	17.2	17	4	11	*	*	7	17	3	18	1	1014.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.00	35.661	25.80	5.40	100	0.13	***	***
1	10	17.98	35.660	25.80	5.40	100	0.13	***	***
1	20	17.98	35.679	25.81	5.40	100	0.14	***	***
1	30	17.95	35.740	25.87	5.40	100	0.13	***	***
1	40	17.93	35.740	25.87	5.35	99	0.14	***	***
1	50	17.87	35.731	25.88	5.43	101	0.13	***	***
1	75	14.96	35.527	26.40	5.46	95	0.22	***	***
1	100	14.91	35.549	26.43	5.26	92	0.26	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 24/65	7/ 2/65	0428 J	35 00 S	135 30 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
95	11.7	17.2	17	4	11	8	8	7	16	2	18	1	1014.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	16.95	35.835	26.18	5.51	100	0.16	***	***
1	10	16.94	35.840	26.19	5.48	100	0.16	***	***
1	20	16.83	35.850	26.22	5.47	99	0.16	***	***
1	30	16.76	35.852	26.24	5.46	99	0.14	***	***
1	40	16.16	35.791	26.34	5.42	97	0.18	***	***
1	50	15.24	35.693	26.47	5.22	92	0.29	***	***
1	75	15.15	35.685	26.48	5.14	90	0.27	***	***
1	85	15.12	35.684	26.49	5.12	90	0.26	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 25/65	7/ 2/65	0632 J	35 17 S	135 10 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
126	12.2	17.8	16	3	11	8	7	7	16	2	16	1	1014.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.82	35.637	25.82	5.41	100	0.10	***	***
1	10	17.80	35.644	25.83	5.41	100	0.10	***	***
1	20	17.80	35.654	25.84	5.42	100	0.09	***	***
1	30	17.85	35.683	25.85	5.43	101	0.08	***	***
1	40	17.77	35.681	25.87	5.44	101	0.09	***	***
1	50	17.52	35.666	25.92	5.45	100	0.10	***	***
1	75	15.19	35.500	26.33	5.72	100	0.13	***	***
1	110	14.65	35.506	26.46	5.44	94	0.22	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 26/65	7/ 2/65	0847 J	35 34 S	134 50 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
1476	11.7	17.2	16	2	11	0	8	7	16	2	14	1	1015.0	0	0	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	18.46	35.721	25.73	5.34	100	0.08	***	***
2	25	18.42	35.683	25.71	5.36	100	0.09	***	***
2	50	17.53	35.518	25.80	5.50	101	0.09	***	***
2	75	14.85	35.372	26.31	5.93	103	0.13	***	***
2	100	14.04	35.350	26.47	5.84	100	0.18	***	***
2	150	13.53	35.374	26.59	5.49	93	0.29	***	***
2	200	13.20	35.339	26.63	5.46	92	0.33	***	***
2	300	12.12	35.188	26.73	5.42	89	0.50	***	***
1	500	9.29	34.737	26.89	5.50	85	0.95	***	***
1	700	7.70	34.540	26.98	4.93	73	1.27	***	***
1	900	5.12	34.417	27.22	4.43	62	1.73	***	***
1	1100	3.49	34.452	27.42	4.09	55	1.98	***	***
1	1300	2.99	34.524	27.53	3.89	52	2.01	***	***
1	1400	2.80	34.570	27.58	3.86	51	2.07	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 27/65	7/ 2/65	1140 J	35 50 S	134 30 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
2661	12.2	18.3	16	2	11	6	8	7	16	2	15	1	1015.0	5	0	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	17.78	35.471	25.70	5.46	101	0.12	***	***
2	25	17.68	35.461	25.72	5.46	101	0.12	***	***
2	50	15.64	35.447	26.19	5.81	103	0.20	***	***
2	75	14.14	35.371	26.46	5.78	99	0.20	***	***
2	100	13.59	35.345	26.56	5.54	94	0.30	***	***
2	150	13.16	35.284	26.60	5.54	93	0.37	***	***
2	200	12.53	35.182	26.65	5.55	92	0.39	***	***
2	300	11.32	35.040	26.77	5.42	88	0.61	***	***
1	500	9.12	34.706	26.89	5.50	84	1.00	***	***
1	700	7.93	34.552	26.95	5.07	76	1.25	***	***
1	900	5.02	34.423	27.24	4.40	61	1.63	***	***
1	1100	3.56	34.432	27.40	4.12	56	2.03	***	***
1	1300	2.97	34.520	27.53	3.89	52	1.96	***	***
1	1500	2.70	34.582	27.60	3.79	50	2.01	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 28/65	7/ 2/65	1432 J	36 06 S	134 10 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
3512	12.2	20.6	16	2	11	6	8	7	14	2	14	1	1015.0	5	5	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	17.78	35.463	25.70	5.46	101	0.13	***	***
2	25	17.58	35.439	25.73	5.48	101	0.13	***	***
2	50	15.51	35.318	26.12	5.93	105	0.20	***	***
2	75	13.88	35.264	26.43	5.87	100	0.22	***	***
2	100	13.49	35.319	26.56	5.56	94	***	***	***
2	150	12.80	35.238	26.64	5.51	92	***	***	***
2	200	12.18	35.139	26.68	5.52	91	0.46	***	***
2	300	11.04	35.027	26.81	5.39	87	0.66	***	***
1	500	9.00	34.682	26.89	5.49	84	1.03	***	***
1	700	7.91	34.553	26.96	5.08	76	1.24	***	***
1	900	5.72	34.429	27.16	4.45	63	1.60	***	***
1	1100	3.81	34.421	27.37	4.23	57	1.93	***	***
1	1300	3.05	34.500	27.50	3.93	52	1.99	***	***
1	1500	2.68	34.588	27.61	3.78	50	2.03	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 29/65	7/ 2/65	1935 J	36 29 S	135 02 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
4960	11.7	16.1	15	2	11	6	8	8	15	2	16	1	1014.5	0	0	0

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	17.61	35.376	25.67	5.49	101	0.20	***	***
2	25	17.21	35.342	25.75	5.55	101	0.17	***	***
2	50	14.86	35.286	26.24	5.94	103	0.17	***	***
2	75	14.13	35.252	26.37	5.82	100	0.21	***	***
2	100	13.32	35.296	26.58	***	***	0.30	***	***
2	150	12.77	35.275	26.67	5.58	93	0.39	***	***
2	200	12.30	35.228	26.73	5.55	92	0.45	***	***
2	300	11.25	35.063	26.80	5.45	88	0.65	***	***
1	500	9.06	34.701	26.89	5.52	85	0.98	***	***
1	900	5.45	34.423	27.19	4.46	63	1.67	***	***
1	1100	3.72	34.429	27.38	4.16	56	1.68	***	***
1	1300	2.98	34.513	27.52	3.87	52	1.77	***	***
1	1500	2.64	34.601	27.62	3.79	50	1.77	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 30/65	7/ 2/65	2347 J	36 47 S	135 43 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
4609	11.7	17.8	16	2	11	6	8	7	16	2	18	1	1014.0	*	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	17.41	35.416	25.75	5.55	102	0.14	***	***
2	25	17.47	35.449	25.76	5.52	101	0.16	***	***
2	50	15.35	35.287	26.13	5.88	103	0.14	***	***
2	75	13.83	35.239	26.43	5.74	98	0.21	***	***
2	100	13.35	35.311	26.58	5.60	95	0.30	***	***
2	150	12.92	35.343	26.69	5.52	92	0.39	***	***
2	200	12.62	35.311	26.73	5.54	92	0.42	***	***
2	300	11.58	35.137	26.79	5.49	89	0.58	***	***
1	500	9.24	34.728	26.89	5.49	85	0.99	***	***
1	700	8.02	34.559	26.95	5.13	77	1.26	***	***
1	900	5.60	34.428	27.17	4.42	63	1.72	***	***
1	1100	3.75	34.430	27.38	4.23	57	2.01	***	***
1	1300	3.02	34.511	27.52	3.92	52	2.14	***	***
1	1500	2.65	34.596	27.62	3.81	50	2.13	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 31/65	8/ 2/65	0350 J	37 05 S	136 26 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
4737	11.7	17.8	18	3	11	6	8	7	18	1	18	1	1012.0	0	0	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	17.06	35.375	25.81	5.55	101	0.09	***	***
2	25	17.08	35.403	25.82	5.55	101	0.12	***	***
2	50	14.19	35.458	26.52	5.76	99	0.14	***	***
2	75	13.99	35.476	26.58	5.32	91	0.29	***	***
2	100	13.79	35.447	26.60	5.39	92	0.33	***	***
2	150	13.26	35.376	26.65	5.43	92	0.33	***	***
2	200	13.00	35.356	26.69	5.49	92	0.35	***	***
2	300	12.17	35.249	26.77	5.57	92	0.44	***	***
1	500	9.42	34.761	26.88	5.48	85	0.94	***	***
1	700	8.09	34.564	26.94	5.17	78	1.20	***	***
1	900	5.86	34.437	27.15	4.43	63	1.67	***	***
1	1100	3.89	34.440	27.37	4.22	57	1.94	***	***
1	1300	3.03	34.507	27.51	3.95	53	2.09	***	***
1	1500	2.68	34.587	27.61	3.82	51	2.14	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 32/65	8/ 2/65	0753 J	36 49 S	137 08 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
1310	12.2	17.2	16	3	11	8	8	5	16	2	15	1	1015.0	0	0	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
2	0	17.26	35.378	25.76	5.55	101	0.11	***	***
2	25	17.22	35.382	25.77	5.52	101	0.35	***	***
2	50	16.09	35.337	26.00	5.73	102	0.11	***	***
2	75	13.59	35.271	26.50	5.66	96	0.26	***	***
2	100	13.34	35.340	26.60	5.45	92	0.34	***	***
2	150	12.91	35.316	26.67	5.49	92	0.37	***	***
2	200	12.71	35.308	26.71	5.52	92	0.41	***	***
2	300	11.90	35.187	26.77	5.58	91	0.47	***	***
1	500	9.17	34.717	26.89	5.53	85	0.92	***	***
1	700	7.86	34.550	26.96	5.57	83	0.72	***	***
1	900	5.38	34.425	27.20	4.43	62	1.67	***	***
1	1100	3.68	34.438	27.39	4.15	56	1.91	***	***
1	1300	2.93	34.530	27.54	3.90	52	1.91	***	***
1	1500	2.63	34.601	27.62	3.81	50	1.95	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 33/65	8/ 2/65	1320 J	36 14 S	136 03 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
137	12.2	17.2	15	1	11	6	5	7	18	1	20	1	1016.5	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.37	35.420	25.76	5.53	101	0.10	***	***
1	10	17.34	35.435	25.79	5.54	102	0.11	***	***
1	20	17.32	35.461	25.81	5.57	102	0.09	***	***
1	30	17.30	35.484	25.83	5.53	101	0.11	***	***
1	40	16.71	35.426	25.93	5.65	102	0.12	***	***
1	50	15.90	35.380	26.08	5.76	103	0.12	***	***
1	75	14.23	35.349	26.43	5.79	100	0.14	***	***
1	100	13.40	35.339	26.59	5.50	93	0.30	***	***
1	120	13.31	35.339	26.61	5.49	93	0.30	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 34/65	8/ 2/65	1522 J	35 51 S	135 59 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
128	14.4	22.2	17	1	11	6	7	7	15	1	20	1	1015.5	*	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.69	35.471	25.73	5.27	97	0.12	***	***
1	10	17.62	35.475	25.75	5.44	100	0.13	***	***
1	20	17.57	35.477	25.76	5.44	100	0.13	***	***
1	30	17.56	35.481	25.77	5.47	101	0.13	***	***
1	40	17.12	35.496	25.88	5.58	102	0.13	***	***
1	50	15.61	35.416	26.17	5.70	101	0.14	***	***
1	75	13.68	35.391	26.57	5.34	91	0.25	***	***
1	100	13.62	35.395	26.59	5.40	92	0.25	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 35/65	8/ 2/65	1723 J	35 25 S	136 00 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
106	18.3	24.4	18	4	11	8	1	7	18	3	14	1	1016.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.40	36.072	26.01	5.34	100	0.05	***	***
1	10	18.37	36.078	26.02	5.40	101	0.04	***	***
1	20	18.42	36.103	26.03	5.37	101	0.03	***	***
1	30	18.38	36.093	26.03	5.39	101	0.04	***	***
1	40	16.86	35.746	26.14	5.58	101	0.04	***	***
1	50	14.21	35.459	26.52	5.48	94	0.21	***	***
1	75	13.99	35.450	26.56	5.39	92	0.25	***	***
1	95	13.86	35.446	26.58	5.32	91	0.26	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
3 2/ 36/65	8/ 2/65	1857 J	35 07 S	136 00 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
91	16.1	22.2	17	3	11	6	1	8	10	2	19	1	1015.5	5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.68	36.312	26.12	5.31	100	0.07	***	***
1	10	18.58	36.304	26.14	5.32	100	0.08	***	***
1	20	18.53	36.294	26.15	5.32	100	0.12	***	***
1	30	18.21	36.257	26.20	5.34	100	0.10	***	***
1	40	16.87	35.978	26.31	5.35	97	0.14	***	***
1	50	15.88	35.804	26.41	5.29	94	0.20	***	***
1	75	15.58	35.747	26.43	5.29	94	0.21	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 37/65	8/ 2/65	2036 J	35 00 S	136 20 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
50	12.8	17.8	17	4	11	1	2	7	17	3	19	1	1016.0	5	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.98	36.419	26.13	5.24	100	0.04	***	***
1	10	19.00	36.421	26.13	5.29	101	0.04	***	***
1	20	18.98	36.419	26.13	5.28	101	0.07	***	***
1	30	18.99	36.434	26.14	5.29	101	0.05	***	***
1	40	19.07	36.529	26.19	5.26	100	0.07	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 38/65	8/ 2/65	2207 J	34 45 S	136 33 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
45	12.9	17.8	16	4	11	*	0	7	16	3	17	1	1016.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	19.99	36.854	26.20	5.17	101	0.03	***	***
1	10	19.99	36.857	26.20	5.16	100	0.04	***	***
1	20	19.99	36.858	26.20	5.09	99	0.04	***	***
1	30	20.00	36.862	26.20	5.15	100	0.06	***	***
1	40	20.00	36.860	26.20	5.09	99	0.04	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 39/65	8/ 2/65	2338 J	34 31 S	136 44 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
48	12.8	18.9	17	4	11	0	3	8	17	3	18	1	1016.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	20.84	37.132	26.18	5.01	99	0.03	***	***
1	10	20.84	37.133	26.18	5.00	99	0.03	***	***
1	20	20.86	37.134	26.17	5.00	99	0.03	***	***
1	30	20.87	37.138	26.17	5.00	99	0.03	***	***
1	40	20.84	37.163	26.20	4.95	98	0.03	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 40/65	9/ 2/65	0106 J	34 18 S	136 55 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
69	12.2	17.8	16	3	11	0	2	8	16	3	18	1	1015.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	21.14	37.212	26.16	5.09	101	0.01	***	***
1	10	21.08	37.212	26.17	5.14	102	0.01	***	***
1	20	21.09	37.260	26.21	5.06	101	0.01	***	***
1	30	21.21	37.501	26.36	5.00	100	0.02	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 41/65	9/ 2/65	0238 J	34 04 S	137 07 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
21	12.2	18.3	19	3	11	0	2	8	19	3	18	1	1014.5	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	21.53	***	***	4.93	***	0.02	***	***
1	10	21.50	***	***	4.96	***	***	***	***
1	15	21.50	***	***	4.96	***	0.02	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 42/65	9/ 2/65	0628 J	34 51 S	136 56 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
45	11.7	16.7	19	2	11	8	8	7	18	2	19	1	1016.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	20.34	36.992	26.21	5.03	99	0.13	***	***
1	10	20.34	36.989	26.20	5.15	101	0.19	***	***
1	20	20.35	36.989	26.20	5.09	100	0.17	***	***
1	30	20.36	36.984	26.20	5.14	101	0.19	***	***
1	40	20.36	36.985	26.20	5.09	100	0.17	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 43/65	9/ 2/65	0746 J	34 49 S	136 39 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
47	11.7	17.8	18	2	11	8	8	7	18	2	18	1	1016.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	20.08	36.880	26.19	5.16	101	0.10	***	***
1	10	20.09	36.880	26.19	5.06	99	0.11	***	***
1	20	20.08	36.880	26.19	5.22	102	0.10	***	***
1	30	20.09	36.877	26.19	5.06	99	0.11	***	***
1	40	20.09	36.879	26.19	5.18	101	0.12	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 44/65	9/ 2/65	0902 J	34 46 S	136 22 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
40	12.2	17.2	18	3	11	8	8	7	18	2	18	1	1017.5	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	19.67	36.616	26.10	4.89	94	0.11	***	***
1	10	19.66	36.611	26.10	5.18	100	0.13	***	***
1	20	19.84	36.726	26.14	5.18	100	0.11	***	***
1	30	19.88	36.758	26.15	5.13	100	0.11	***	***
1	35	19.88	36.758	26.15	5.18	101	0.12	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
G 2/ 45/65	9/ 2/65	1014 J	34 44 S	136 05 E

SONIC DEPTH	AIR TEMP. WET	AIR TEMP. DRY	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	CLOUD AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
20	12.2	17.2	18	3	11	8	8	7	18	2	16	1	1017.0	0	*	*

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	19.37	36.393	26.01	5.19	100	0.15	***	***
1	10	19.35	36.388	26.01	5.16	99	0.13	***	***
1	15	19.36	36.389	26.01	5.18	99	0.14	***	***

OCEANOGRAPHICAL CRUISE REPORTS

1. Oceanographical observations in the Indian Ocean in 1959. H.M.A.S. *Diamantina* Cruises Dm1/59 and Dm2/59.
2. Oceanographical observations in the Indian Ocean in 1960. H.M.A.S. *Diamantina* Cruise Dm1/60.
3. Oceanographical observations in the Indian Ocean in 1960. H.M.A.S. *Diamantina* Cruise Dm2/60.
4. Oceanographical observations in the Indian Ocean in 1960. H.M.A.S. *Diamantina* Cruise Dm3/60.
5. Oceanographical observations in the Pacific Ocean in 1960. H.M.A.S. *Gascoyne* Cruises G1/60 and G2/60.
6. Oceanographical observations in the Pacific Ocean in 1960. H.M.A.S. *Gascoyne* Cruise G3/60.
7. Oceanographical observations in the Indian Ocean in 1961. H.M.A.S. *Diamantina* Cruise Dm1/61.
8. Oceanographical observations in the Pacific Ocean in 1961. H.M.A.S. *Gascoyne* Cruise G1/61.
9. Oceanographical observations in the Indian Ocean in 1961. H.M.A.S. *Diamantina* Cruise Dm2/61.
10. Oceanographical observations in the Indian and Pacific Oceans in 1961. H.M.A.S. *Gascoyne* Cruise G2/61.
11. Oceanographical observations in the Indian Ocean in 1961. H.M.A.S. *Diamantina* Cruise Dm3/61.
12. Oceanographical observations in the Pacific Ocean in 1961. H.M.A.S. *Gascoyne* Cruise G3/61.
13. Oceanographical observations in the Pacific Ocean in 1962. H.M.A.S. *Gascoyne* Cruise G1/62.
14. Oceanographical observations in the Indian Ocean in 1962. H.M.A.S. *Diamantina* Cruise Dm1/62.
15. Oceanographical observations in the Indian Ocean in 1962. H.M.A.S. *Diamantina* Cruise Dm2/62.
16. Oceanographical observations in the Pacific and Indian Oceans in 1962. H.M.A.S. *Gascoyne* Cruises G2/62 and G3/62.
17. Oceanographical observations in the Indian Ocean in 1962. H.M.A.S. *Gascoyne* Cruise G4/62.
18. Oceanographical observations in the Indian Ocean in 1962. H.M.A.S. *Diamantina* Cruise Dm3/62.
19. Oceanographical observations in the Pacific Ocean in 1962. H.M.A.S. *Gascoyne* Cruise G5/62.
20. Oceanographical observations in the Indian Ocean in 1962. H.M.A.S. *Diamantina* Cruise Dm4/62.
21. Oceanographical observations in the Indian Ocean in 1963. H.M.A.S. *Gascoyne* Cruise G1/63.
22. Oceanographical observations in the Indian Ocean in 1963. H.M.A.S. *Gascoyne* Cruise G2/63.
23. Oceanographical observations in the Indian Ocean in 1963. H.M.A.S. *Diamantina* Cruise Dm1/63.
24. Oceanographical observations in the Indian Ocean in 1963. H.M.A.S. *Diamantina* Cruise Dm2/63.

OCEANOGRAPHICAL CRUISE REPORTS

(Continued)

25. Oceanographical observations in the Indian Ocean in 1963. H.M.A.S. *Diamantina* Cruise Dm3/63.

29. Oceanographical observations in the Pacific Ocean in 1963. H.M.A.S. *Gascoyne* Cruise G4/63.

31. Oceanographical observations in the Pacific Ocean in 1963. H.M.A.S. *Gascoyne* Cruise G5/63.

32. Oceanographical observations in the Pacific Ocean in 1964. H.M.A.S. *Gascoyne* Cruise G1/64.

34. Oceanographical observations in the Indian Ocean in 1964. H.M.A.S. *Gascoyne* Cruise G2/64.

35. Oceanographical observations in the Indian and Pacific Oceans in 1964. H.M.A.S. *Gascoyne* Cruise G3/64.

36. Oceanographical observations in the Indian Ocean in 1964. H.M.A.S. *Diamantina* Cruise Dm2/64.

39. Oceanographical observations in the Pacific Ocean in 1964. H.M.A.S. *Gascoyne* Cruise G4/64.

42. Oceanographical observations in the Pacific Ocean in 1964. H.M.A.S. *Gascoyne* Cruise G6/64.

43. Oceanographical observations in the Indian Ocean in 1965. H.M.A.S. *Gascoyne* Cruise G2/65.

46. Oceanographical observations in the Indian Ocean in 1965. H.M.A.S. *Gascoyne* Cruise G5/65.