

OCEANOGRAPHICAL STATION LIST

VOLUME 73

INVESTIGATIONS BY F.V. *DEGEI* IN
QUEENSLAND WATERS IN 1965

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

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When citing this station list, abbreviate as follows:
CSIRO Aust. Oceanogr. Stn List 73.

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VOLUME 73

Investigations by F.V. Degei
in Queensland Waters in 1965

I. INTRODUCTION

In July 1965 F.V. Degei was chartered by the Commonwealth and Queensland State Governments to undertake a survey for yellowfin tuna in Queensland coastal waters. This report records the hydrological data and some tuna trolling and tagging data collected during the seven cruises made by Degei during the charter period (Del/65-De7/65). Track charts and station positions are given in Figures 1-7.

II. WORK ACCOMPLISHED

Table 1 gives details of cruise dates, number of stations occupied, work done, and staff on each cruise. Twenty-seven yellowfin tuna were tagged on Cruise 1, and 12 on Cruise 2.

III. METHOD OF COLLECTION AND ANALYSIS OF SAMPLES

1. Physics

Temperature.—While the vessel was underway, sea-surface temperature was measured continuously by a thermograph. At each station a surface sampler, fitted with a thermometer graduated to 0.1 degC and accurate to ± 0.2 degC, was used. Subsurface temperatures were measured on Cruises 2-5 by deep-sea reversing-thermometers mounted in pairs in Nansen water-bottles attached to the hydrographic wire used to lower the bathythermograph. These temperatures are considered accurate to about ± 0.05 degC. Subsurface temperatures listed for Cruise 7 were read from BT slides and are considered accurate to about ± 0.3 degC.

Bathythermograph.—A 450-ft or a 900-ft bathythermograph was used, depending on the depth of water. Slides were digitized according to the method of the U.S. National Oceanographic Data Center (1964). The results were transferred to punched cards and computer listings are held at Cronulla.

Thermometric Depth.—Three of the four Nansen bottles used on Degei were fitted with unprotected reversing-thermometers. Calculations of their depth of reversal were made by the second method described by La Fond (1951), plotting thermometric depth

TABLE 1

DETAILS OF CRUISES AND WORK DONE

Cruise	Dates	Staff	Number of Stations Occupied	Hydrology		BT	Tuna Trolled and Poled			
				1	2		1	2	3	4
De1/65	July 30-Aug. 12	R. Bradley G. Bee* E. Schmidt	88	88	0	0	48	1	2	0
De2/65	Aug. 15-28	R. Bradley G. Bee* E. Schmidt	135	133	2	21	33	0	3	1
De3/65	Sept. 1-12	R. Bradley E. Schmidt G. White*	88	83	5	9	0	0	1	0
De4/65	Sept. 13-23	R. Bradley E. Schmidt G. White*	63	63	6	8	0	0	1	1
De5/65	Sept. 27-Oct. 12	R. Bradley E. Schmidt G. White*	142	142	3	28	0	1	14	6

TABLE 1 (Cont.)

Cruise	Dates	Staff	Number of Stations Occupied	Hydrology		BT	Tuna Trolled and Poled				
				1	2		1	2	3	4	
De6/65	Oct. 16-28	R. Bradley G. Bee* E. Schmidt	128	128	0	13	0	0	0	0	0
De7/65	Oct. 30-Nov. 3	R. Bradley E. Schmidt	45	45	3	12	0	0	0	0	0

* Department of Harbours and Marine, Queensland

Hydrology 1 Number of stations at which surface samples were collected
2 Number of stations at which subsurface samples were collected

BT Bathythermographs

Tuna Trolled and Poled
1 Yellowfin tuna 2 Striped tuna
3 Mackerel tuna 4 Dogtooth tuna

against the difference between thermometric and wire depths. Depths are considered accurate to about $\pm 8\%$.

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

2. Chemistry

Salinity.—A chlorinity-temperature meter of the conductivity type (Hamon 1956) was used at Cronulla to estimate chlorinity, which was subsequently converted to salinity by the relation -

$$\text{Salinity} = 0.03 + 1.805 \times \text{Chlorinity}$$

Salinities are considered accurate to $\pm 0.05\%$.

REFERENCES

- HAMON, B.V. (1956).—A portable temperature-chlorinity bridge for estuarine investigations and seawater analysis. J. scient. Instrum. 33, 329-33.
- LA FOND, E.C. (1951).—Processing oceanographic data. U.S. Navy Hydrogr. Off. Publ. No. 614.
- U.S. NATIONAL OCEANOGRAPHIC DATA CENTER (1964).—Manual for processing bathythermograph data. Part I Instructions for manually digitizing bathythermograph data. Publ. M-3. (U.S. Naval Oceanographic Office : Washington, D.C.)

IV. TRACK CHARTS

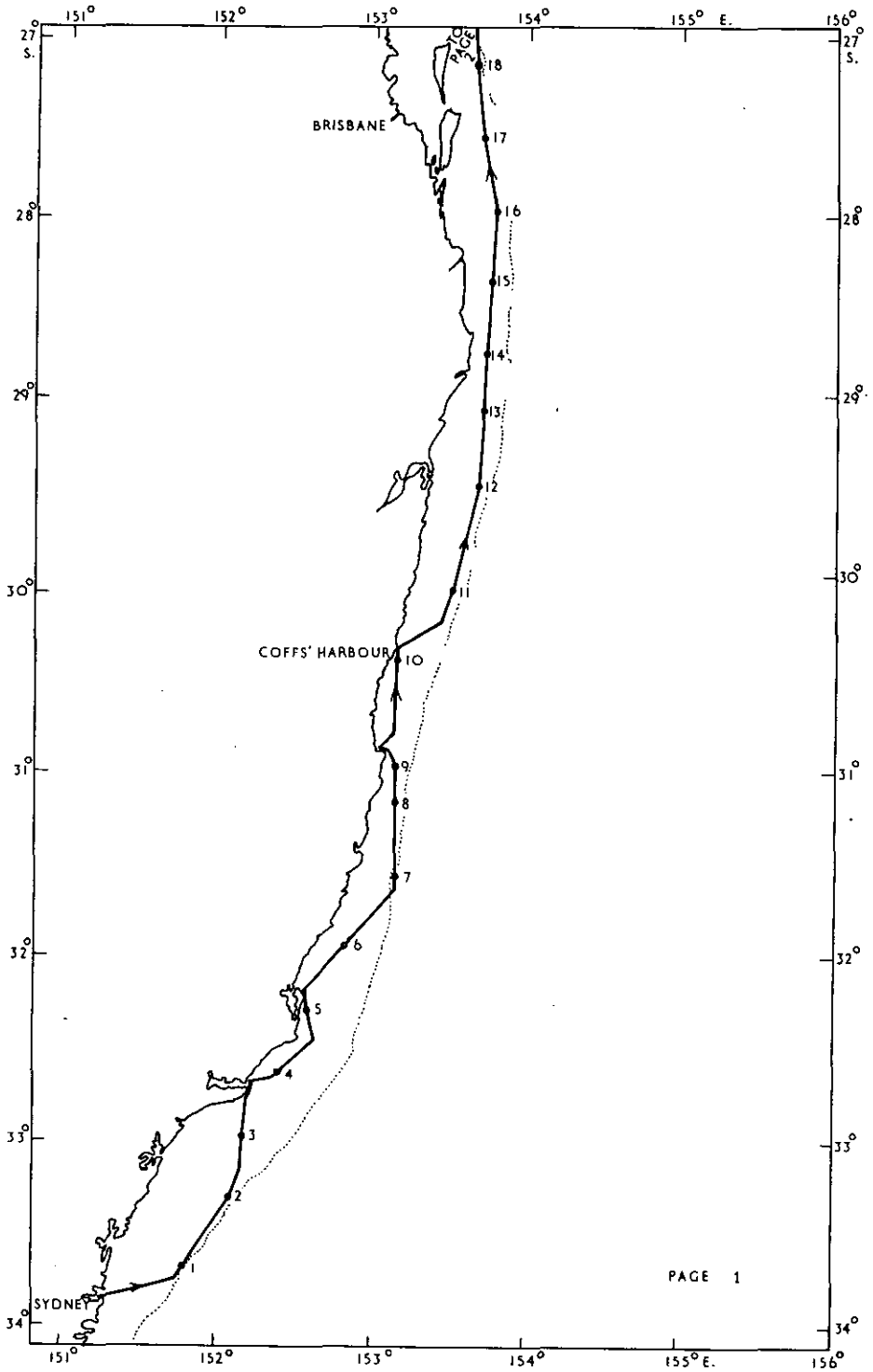


Fig. 1 (a)-Track chart Cruise De 1/65

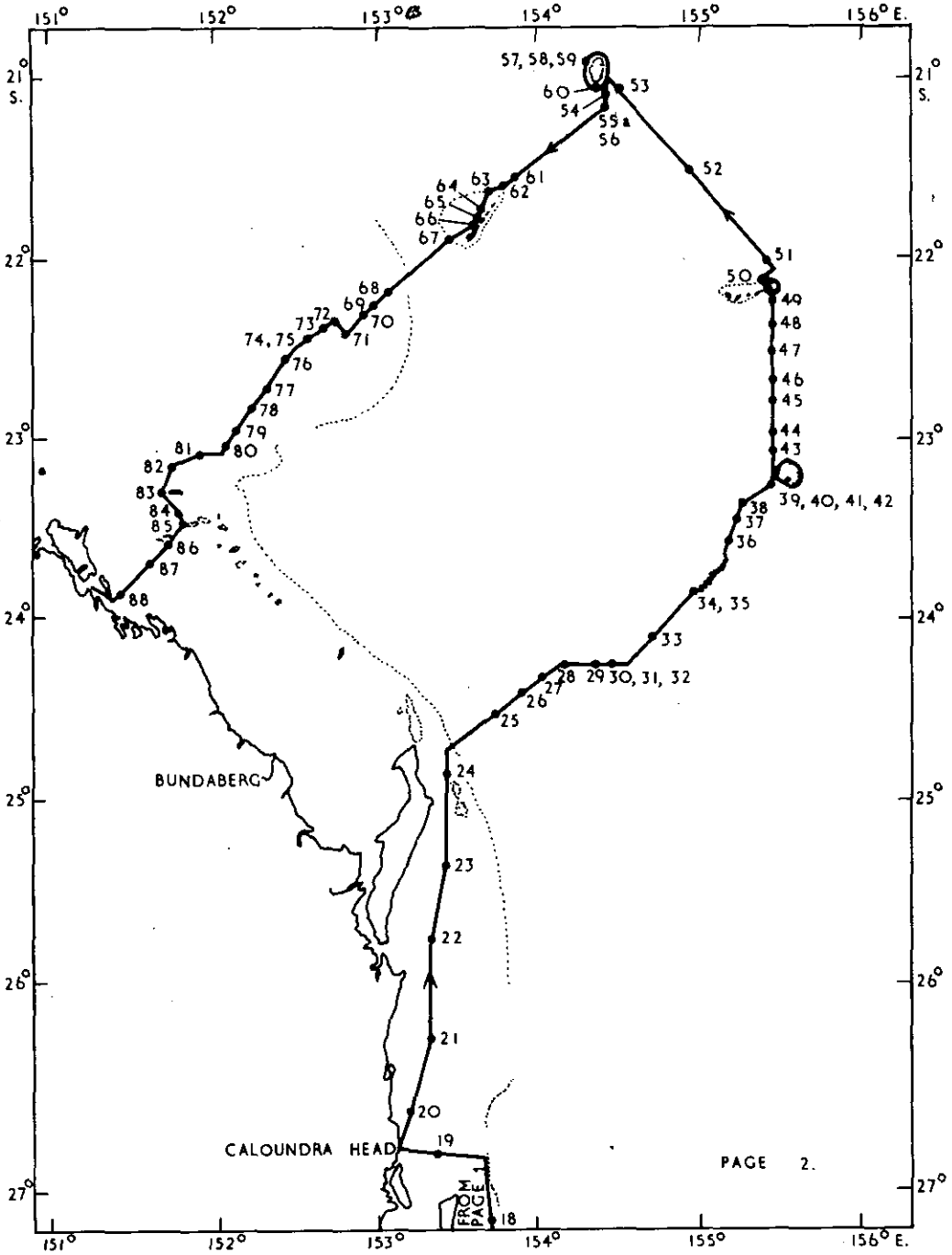


Fig. 1(b).-Track chart Cruise De 1/65

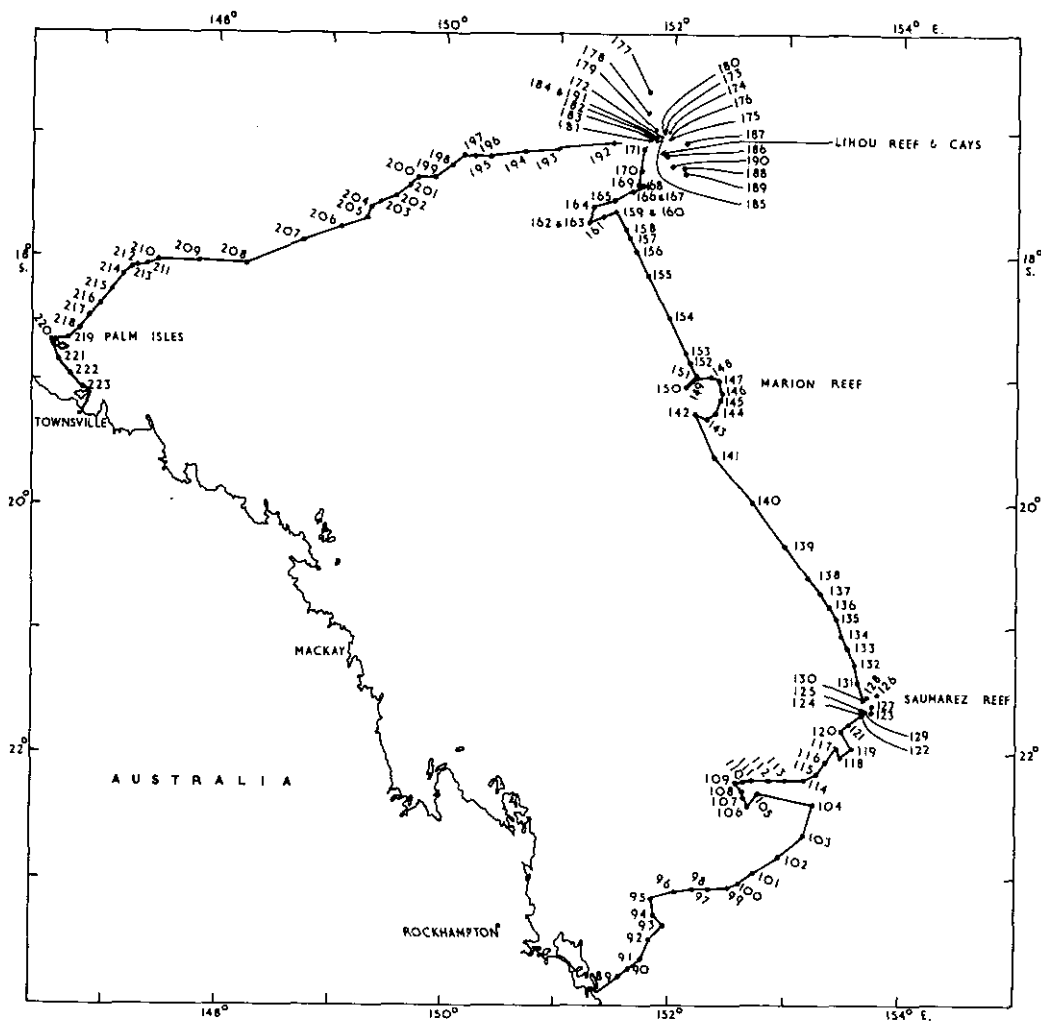


Fig. 2.- Track chart Cruise De 2/65

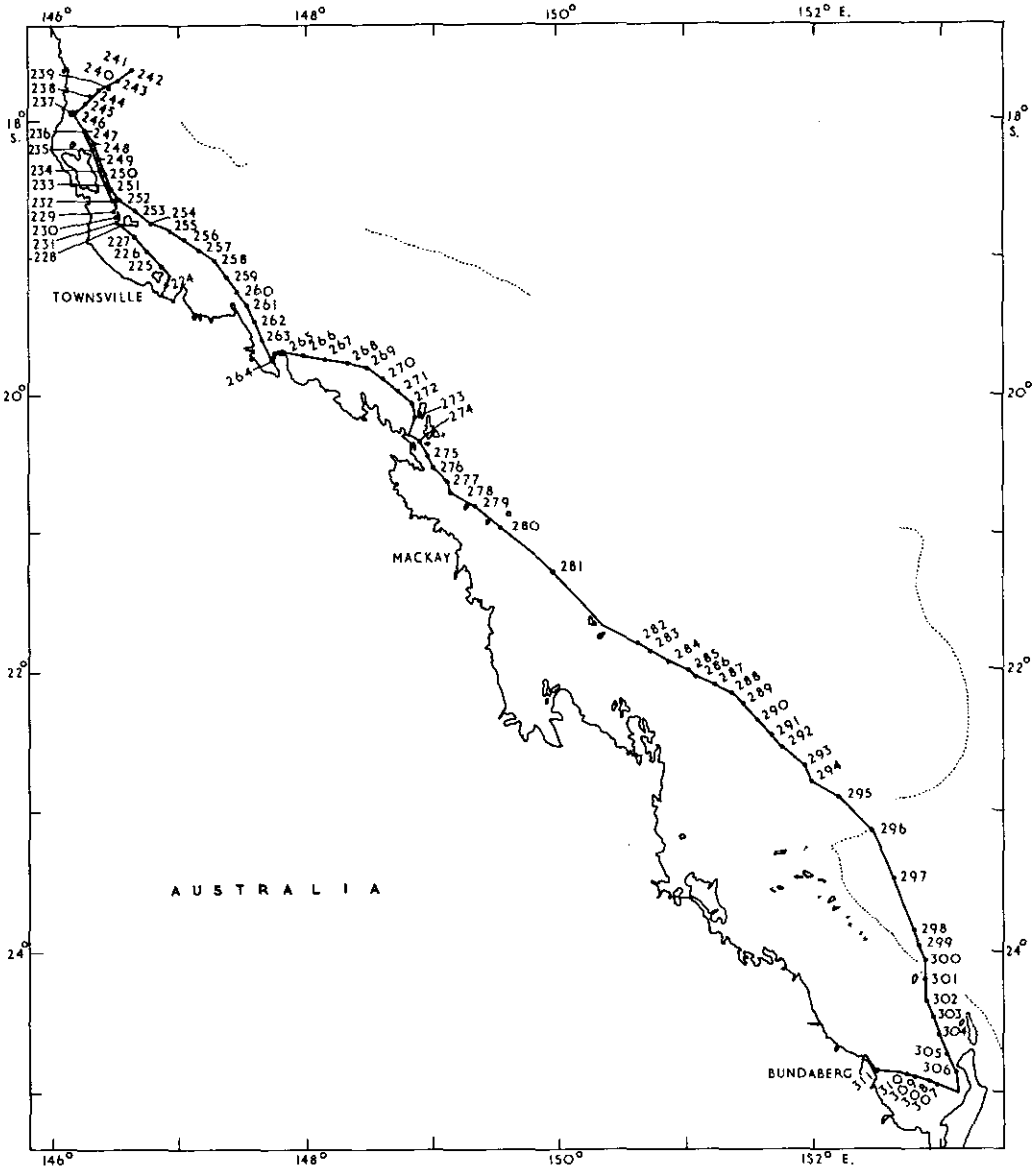


Fig. 3.- Track chart Cruise De 3/65

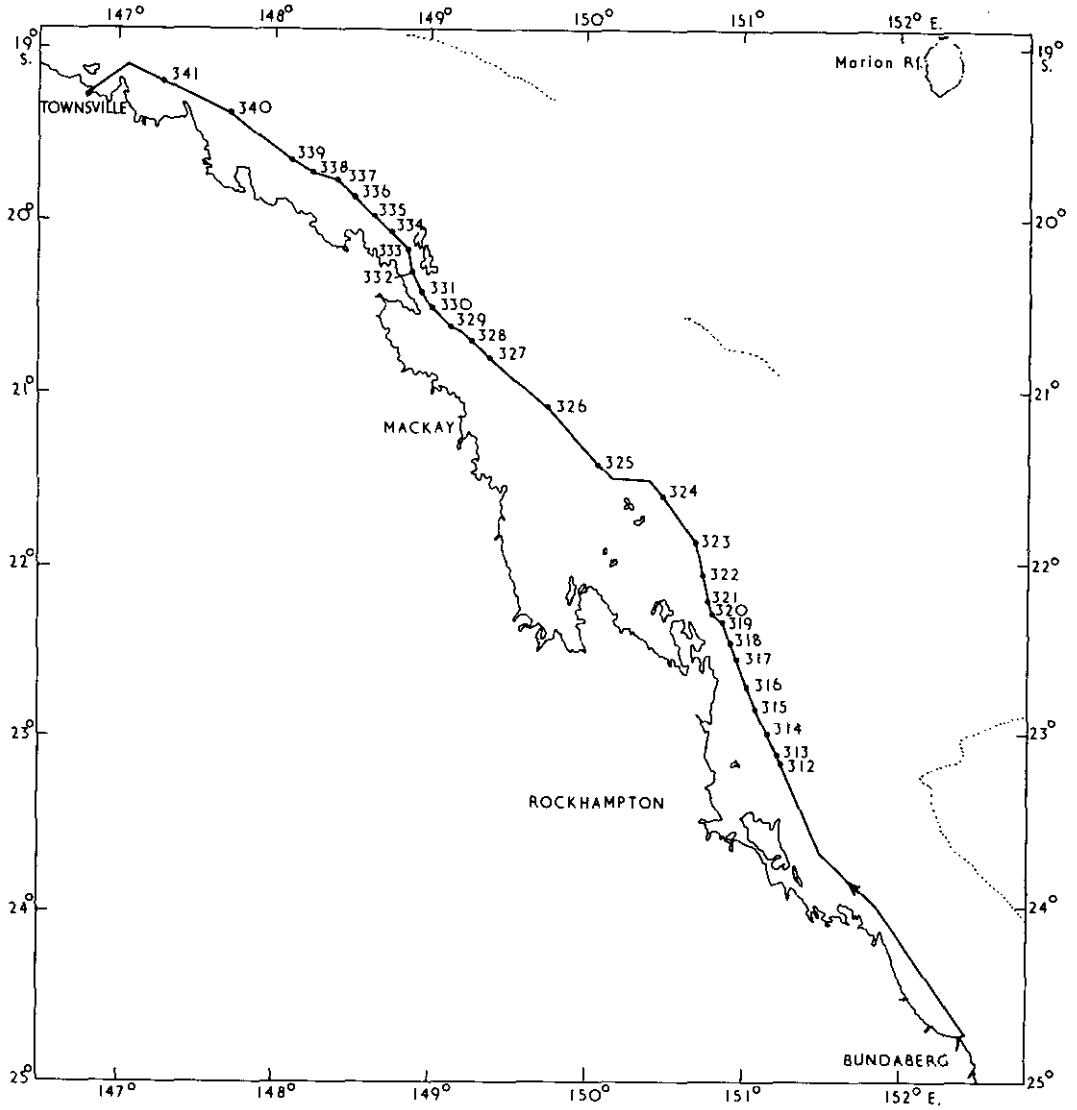


Fig. 4.-Track chart Cruise De 4/65

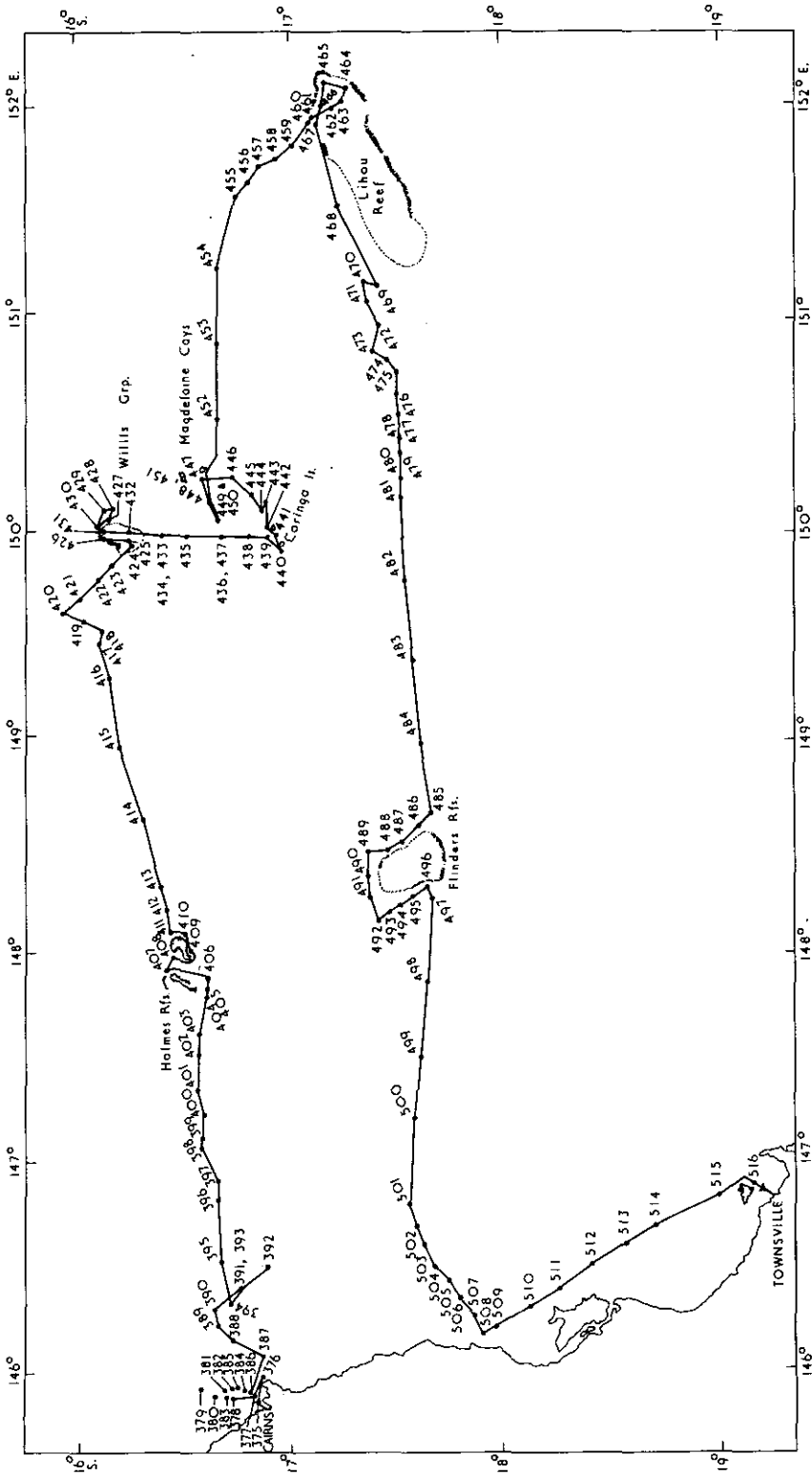


Fig. 5.—Track chart Cruise De 5/65

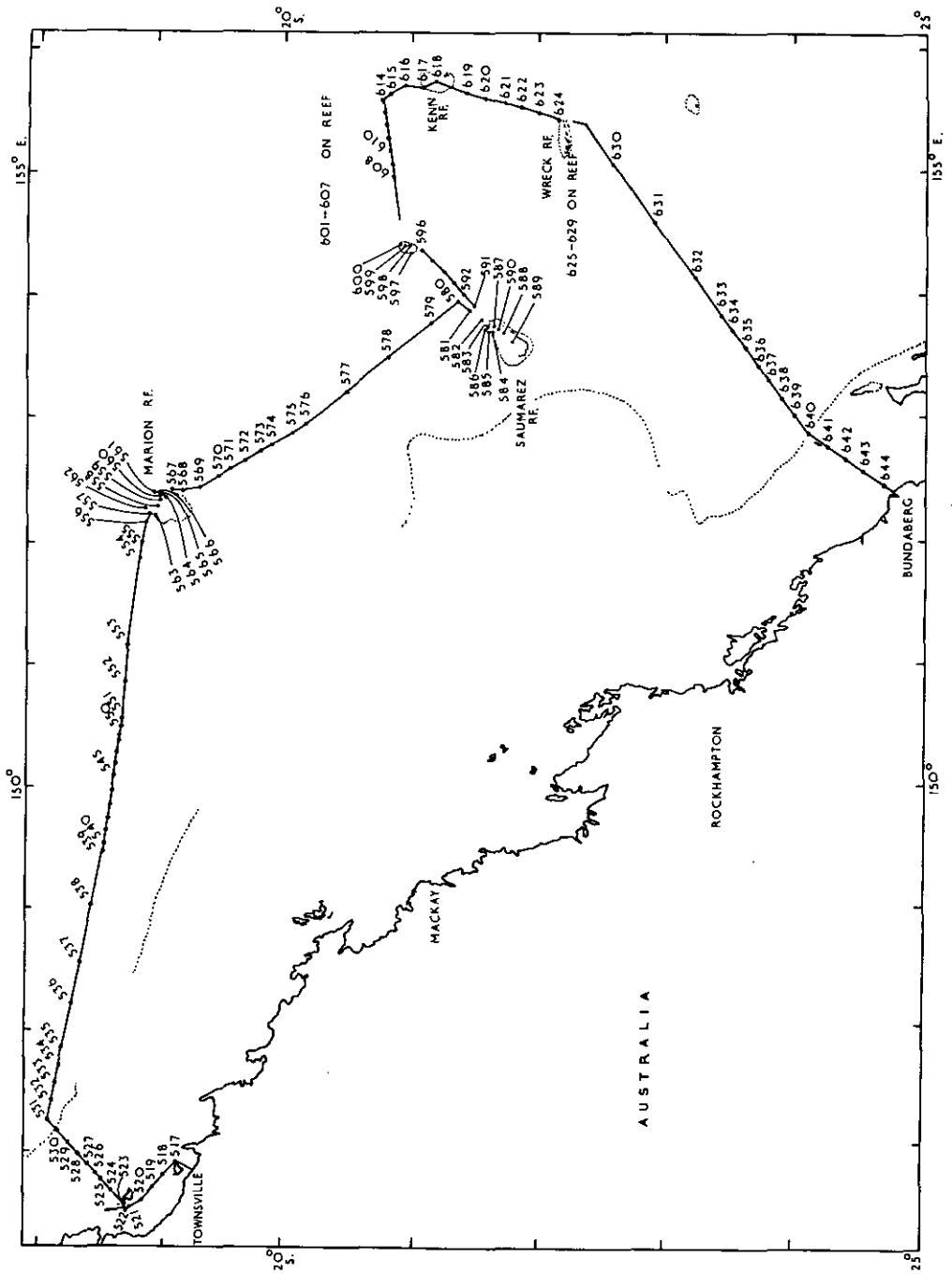


Fig. 6. - Track chart Cruise De 6/65

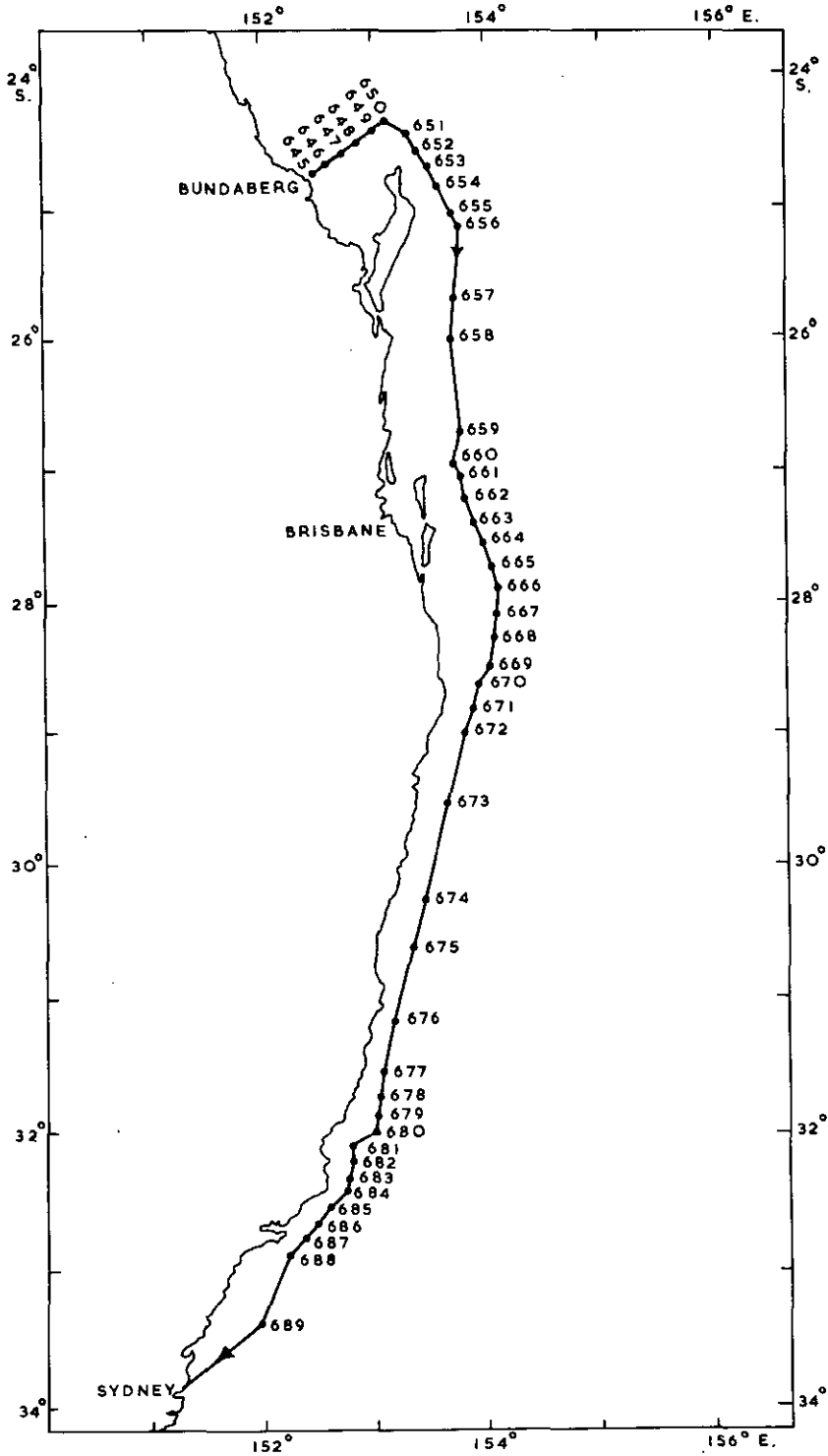


Fig. 7.- Track chart Cruise De 7/65

V. DATA

The data were processed in a C.D.C. 3600 Computer.

EXPLANATION OF HEADINGS

Parts 1 and 2Hydrology

STATION	Gives the station identification. For example, D2/147/65 signifies the 147th station worked by <u>Degei</u> in 1965, on her 2nd cruise for that year
DATE	Given as day/month/year
TIME	Given as Zone Time, and is the time at the beginning of the first cast. Zone Time in all cases was Eastern Australian Standard Time, GMT +10 hr, Code K
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. Navy Hydrogr. Office (1955)
CLOUD TYPE AMT.	Cloud type and amount are coded using Tables 2 and 3 in U.S. Navy Hydrogr. Office (1955)
WEA.	Weather is coded using Table 1 in U.S. Navy Hydrogr. Office (1955)
VIS.	Visibility is coded using Table 4 in U.S. Navy Hydrogr. Office (1955)
SEA DIR. AMT.	Sea direction and amount are coded using Tables 5 and 8 in U.S. Navy Hydrogr. Office (1955)

SWELL DIR. AMT.	Sea swell direction and amount are coded using Tables 6 and 8 in U.S. Navy Hydrogr. Office (1955)
BAROM. or ATMOS. PRESSURE	Atmospheric pressure given in millibars
CAST	Gives the cast number
DEPTH	Sampling depth given in metres
TEMP.	Sea temperature 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

*, ***, or a blank indicates no data available

DATA

PART 1

HYDROLOGY

SURFACE SAMPLES

VESSEL	CRUISE	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER									DN.	DN.	DN.	AMT.	AMT.	
T2	1	1	65	7	30	0900	K 33	40 S 151	44 E 18.8	35.68						1027.8
T2	1	2	65	7	30	1200	K 33	18 S 152	03 E 18.7	35.73						1027.8
T2	1	3	65	7	30	1500	K 32	55 S 152	10 E 19.4	35.77						1027.8
T2	1	4	65	7	31	0900	K 32	38 S 152	24 E 17.9							1027.8
T2	1	5	65	7	31	1200	K 32	17 S 152	57 E 17.8	35.55		1	13	02	7	1027.8
T2	1	6	65	8	1	0900	K 31	59 S 152	52 E 19.3	35.53		1	13	02	7	1027.8
T2	1	7	65	8	1	1200	K 31	34 S 153	09 E 20.1	35.64		1	07	03	7	1024.0
T2	1	8	65	8	1	1500	K 31	09 S 153	11 E 19.9	35.55		1	07	21	6	1024.0
T2	1	9	65	8	1	1800	K 30	41 S 153	03 E 19.0	35.46		0	07	01	7	1023.0
T2	1	10	65	8	2	0900	K 30	22 S 153	10 E 18.7	35.46		0	13	02	7	1021.3
T2	1	11	65	8	3	0900	K 29	55 S 153	28 E 18.8	35.05		0	14	02	7	1018.3
T2	1	12	65	8	3	1200	K 29	30 S 153	59 E 20.3	35.59		0	14	02	7	1018.3
T2	1	13	65	8	3	1500	K 29	05 S 153	42 E 20.5	35.59		0	14	02	7	1017.6
T2	1	14	65	8	3	1800	K 28	45 S 153	45 E 20.4	35.55		1	14	00	7	1017.6
T2	1	15	65	8	3	2100	K 28	22 S 153	45 E 20.5	35.61		1	14	00	7	1017.6
T2	1	16	65	8	4	0001	K 27	57 S 153	45 E 20.3			1	14	00	7	1017.6
T2	1	17	65	8	4	0300	K 27	33 S 153	21 E 19.7	35.57		1	14	00	7	1017.6
T2	1	18	65	8	4	0600	K 27	09 S 153	36 E 20.8	35.59		1	09	00	7	1017.6
T2	1	19	65	8	4	0920	K 26	51 S 153	21 E 19.3	35.59		1	00	01	7	1019.0
T2	1	20	65	8	4	1800	K 26	38 S 153	16 E 19.3	35.53		1	00	02	7	1017.6
T2	1	21	65	8	4	2100	K 26	13 S 153	19 E 19.7	35.52		0	00	00	7	1017.6
T2	1	22	65	8	5	0001	K 25	44 S 153	22 E 20.6	35.57		0	00	02	7	1017.6
T2	1	23	65	8	5	0300	K 25	19 S 153	25 E 21.5	35.55		0	00	00	7	1017.6
T2	1	24	65	8	5	0615	K 24	53 S 153	46 E 21.4	35.53		07	07	50	7	1017.6
T2	1	25	65	8	5	0900	K 24	34 S 153	46 E 21.7	35.46		07	07	50	7	1017.6
T2	1	26	65	8	5	1000	K 24	24 S 153	54 E 21.9	35.50		07	07	50	7	1017.3
T2	1	27	65	8	5	1100	K 24	23 S 154	01 E 21.9	35.50		07	07	50	7	1016.9
T2	1	28	65	8	5	1200	K 24	17 S 154	08 E 21.7	35.46		07	07	50	7	1016.3
T2	1	29	65	8	5	1300	K 24	20 S 154	21 E 21.5	35.52		07	07	20	7	1015.9
T2	1	30	65	8	5	1400	K 24	15 S 154	26 E 21.6	35.50		07	07	20	7	1014.6
T2	1	31	65	8	5	1525	K 24	15 S 154	26 E 21.7	35.50		05	05	20	7	1014.6
T2	1	32	65	8	5	1600	K 24	15 S 154	26 E 21.7	35.44		05	05	20	7	1014.6
T2	1	33	65	8	5	1700	K 24	08 S 154	42 E 21.8	35.50		05	05	20	7	1014.6
T2	1	34	65	8	5	1800	K 23	51 S 154	57 E 21.8	35.08		05	05	20	7	1014.6
T2	1	35	65	8	5	1900	K 23	51 S 154	57 E 21.8	35.25		05	05	20	7	1015.6
T2	1	36	65	8	6	0600	K 23	33 S 153	09 E 21.7	35.46		05	05	20	7	1016.6
T2	1	37	65	8	6	0700	K 23	27 S 153	09 E 21.5	35.52		05	05	20	7	1016.6
T2	1	38	65	8	6	0800	K 23	22 S 153	17 E 21.6	35.39		05	05	20	7	1016.6
T2	1	39	65	8	6	0900	K 23	17 S 153	24 E 21.5	35.32		05	05	20	7	1016.6
T2	1	40	65	8	6	1700	K 23	17 S 153	24 E 21.6	35.32		05	05	20	7	1016.6

VESSEL	CRUISE	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SHELL	WEA.	VIS.	BAROM.
		NUMBER									DN.	DN.	DN.	DN.	DN.	DN.
T2	1	41	65	8	7	0650	K 23	17 S	155	24 E	21.7	35.52	05	3	05	1017.3
T2	1	42	65	8	7	0800	K 23	17 S	155	24 E	21.7	35.50	05	3	05	1017.6
T2	1	43	65	8	7	0900	K 23	08 S	155	28 E	21.8	35.48	05	3	05	1017.9
T2	1	44	65	8	7	1000	K 22	08 S	155	28 E	21.6	35.48	05	3	05	1017.6
T2	1	45	65	8	7	1100	K 22	40 S	155	28 E	22.1	35.44	05	3	05	1017.6
T2	1	46	65	8	7	1200	K 22	40 S	155	28 E	22.4	35.44	05	3	05	1017.6
T2	1	47	65	8	7	1300	K 22	31 S	155	28 E	22.4	35.48	05	3	05	1015.9
T2	1	48	65	8	7	1400	K 22	23 S	155	28 E	22.4	35.48	05	3	05	1015.9
T2	1	49	65	8	7	1510	K 22	14 S	155	28 E	22.4	35.44	05	3	05	1015.6
T2	1	50	65	8	7	1800	K 22	02 S	155	22 E	22.4	35.46	05	4	05	1015.6
T2	1	51	65	8	7	1900	K 22	01 S	155	17 E	22.4	35.53	05	4	05	1015.6
T2	1	52	65	8	7	2300	K 21	39 S	154	55 E	22.7	35.50	09	4	09	1015.6
T2	1	53	65	8	8	0810	K 21	03 S	154	30 E	22.4	35.50	05	1	05	1017.6
T2	1	54	65	8	8	0900	K 21	08 S	154	25 E	22.5	35.53	03	2	03	1017.3
T2	1	55	65	8	8	1000	K 21	08 S	154	25 E	22.6	35.52	03	2	03	1017.3
T2	1	56	65	8	8	1100	K 21	08 S	154	25 E	22.9	35.46	03	2	03	1016.6
T2	1	57	65	8	8	1215	K 20	57 S	154	21 E	23.2	35.52	14	1	14	1016.6
T2	1	58	65	8	8	1200	K 20	57 S	154	21 E	22.9	35.52	07	1	07	1016.6
T2	1	59	65	8	8	1400	K 20	57 S	154	21 E	22.9	35.53	09	2	09	1015.2
T2	1	60	65	8	8	1510	K 20	57 S	154	24 E	22.8	35.43	18	4	18	1017.3
T2	1	61	65	8	10	0900	K 21	31 S	153	43 E	22.8	35.43	16	4	16	1016.3
T2	1	62	65	8	10	1000	K 21	40 S	153	41 E	22.9	35.41	14	4	14	1016.3
T2	1	63	65	8	10	1100	K 21	37 S	153	47 E	22.8	35.41	14	4	14	1016.3
T2	1	64	65	8	10	1200	K 21	44 S	153	42 E	23.0	35.41	14	4	14	1015.9
T2	1	65	65	8	10	1300	K 21	47 S	153	48 E	22.9	35.41	14	4	14	1015.2
T2	1	66	65	8	10	1400	K 21	42 S	153	36 E	22.7	35.44	14	4	14	1015.2
T2	1	67	65	8	10	1700	K 22	12 S	153	29 E	22.7	35.44	14	4	14	1014.9
T2	1	68	65	8	11	0600	K 22	16 S	153	04 E	22.1	35.44	14	4	14	1015.6
T2	1	69	65	8	11	0700	K 22	14 S	153	00 E	21.9	35.46	14	4	14	1015.6
T2	1	70	65	8	11	0600	K 22	19 S	152	57 E	21.6	35.46	14	4	14	1015.6
T2	1	71	65	8	11	0900	K 22	25 S	152	49 E	21.1	35.59	14	4	14	1016.6
T2	1	72	65	8	11	0930	K 22	28 S	152	46 E	22.1	35.59	14	4	14	1017.6
T2	1	73	65	8	11	1000	K 22	29 S	152	46 E	22.9	35.59	14	4	14	1017.6
T2	1	74	65	8	11	1100	K 22	26 S	152	40 E	21.0	35.59	14	4	14	1017.6
T2	1	75	65	8	11	1200	K 22	27 S	152	36 E	20.7	35.61	14	4	14	1016.9
T2	1	76	65	8	11	1300	K 22	38 S	152	21 E	20.6	35.62	14	4	14	1016.6
T2	1	77	65	8	11	1400	K 22	45 S	152	21 E	20.7	35.64	14	4	14	1016.3
T2	1	78	65	8	11	1500	K 22	52 S	152	15 E	21.7	35.66	14	4	14	1016.3
T2	1	79	65	8	11	1600	K 22	57 S	152	09 E	20.4	35.66	14	4	14	1016.3
T2	1	80	65	8	11	1700	K 23	02 S	152	03 E	20.3	35.66	14	4	14	1016.3

VESEL CRUISE	STATION	YR.	MTM.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	HEA.	VIS.	BAROM.
	NUMBER									DN.	DN.	DN.	AMT.	AMT.	
T2	81	65	8	11	1800	K 23	07 S 151	55 E 20.4	35.61	14	1	14	02	7	1016.3
T2	82	65	8	11	1900	K 23	11 S 151	45 E 20.4	35.62	14	1	14	02	7	1017.3
T2	83	65	8	12	0700	K 23	20 S 151	41 E 19.5	35.68	16	1	16	02	7	1017.6
T2	84	65	8	12	0800	K 23	24 S 151	40 E 20.1		16	1	16	02	7	1019.0
T2	85	65	8	12	0900	K 23	26 S 151	50 E 20.0	35.68	16	1	16	02	7	1019.0
T2	86	65	8	12	1000	K 23	34 S 151	46 E 18.8	35.84	16	1	16	02	7	1019.3
T2	87	65	8	12	1100	K 23	43 S 151	47 E 18.5	35.88	16	1	16	02	7	1019.3
T2	88	65	8	12	1200	K 23	51 S 151	37 E 18.6	35.90	16	1	16	02	7	1019.3
T2	89	65	8	12	1300	K 23	59 S 151	39 E 19.2	35.89	16	1	16	02	7	1018.6
T2	90	65	8	15	1200	K 23	44 S 151	54 E 19.8	36.02	05	0	99	01	7	1020.0
T2	91	65	8	15	1300	K 23	37 S 151	44 E 20.1	35.68	05	0	99	02	7	1019.3
T2	92	65	8	15	1400	K 23	29 S 151	49 E 21.1	35.66	05	0	99	02	7	1018.6
T2	93	65	8	17	1000	K 23	23 S 151	54 E 20.9	35.64	36	1	36	02	7	1018.3
T2	94	65	8	17	1100	K 23	16 S 151	51 E 20.8	35.62	36	1	36	02	7	1015.9
T2	95	65	8	17	1200	K 23	10 S 151	52 E 20.9	35.64	36	1	36	02	7	1015.6
T2	96	65	8	17	1300	K 23	06 S 152	52 E 21.2	35.64	36	1	36	02	7	1015.6
T2	97	65	8	17	1400	K 23	05 S 152	52 E 21.9	35.52	36	1	36	02	7	1015.6
T2	98	65	8	17	1500	K 23	05 S 152	50 E 21.9	35.55	36	1	36	02	7	1014.2
T2	99	65	8	17	1600	K 23	04 S 152	50 E 21.4	35.59	36	1	36	02	7	1014.2
T2	100	65	8	17	1700	K 23	01 S 152	56 E 21.1	35.75	36	1	36	02	7	1014.2
T2	101	65	8	17	1800	K 22	57 S 152	43 E 20.9	35.64	36	1	36	02	7	1014.2
T2	102	65	8	17	2100	K 22	49 S 152	47 E 22.5	35.46	36	1	36	02	7	1014.2
T2	103	65	8	18	0001	K 22	40 S 153	50 E 22.5	35.44	36	1	36	02	7	1014.2
T2	104	65	8	18	0300	K 22	24 S 153	53 E 22.5	35.46	34	1	34	02	7	1014.2
T2	105	65	8	18	0600	K 22	21 S 152	46 E 21.1	35.62	34	1	34	02	7	1014.2
T2	106	65	8	18	0700	K 22	25 S 152	41 E 21.1	35.62	27	1	00	02	7	1015.6
T2	107	65	8	18	0800	K 22	25 S 152	58 E 20.9	35.62	27	1	00	02	7	1015.6
T2	108	65	8	18	0900	K 22	22 S 152	55 E 21.2	35.66	27	1	00	02	7	1015.9
T2	109	65	8	18	1030	K 22	18 S 152	58 E 21.6	35.61	23	1	00	02	7	1015.9
T2	110	65	8	18	1100	K 22	14 S 152	52 E 21.2	35.64	18	1	00	02	7	1015.6
T2	111	65	8	18	1200	K 22	14 S 152	42 E 20.9	35.64	18	1	00	02	7	1015.6
T2	112	65	8	18	1300	K 22	14 S 152	52 E 21.6	35.59	18	1	00	02	7	1015.6
T2	113	65	8	18	1400	K 22	14 S 153	53 E 21.2	35.53	18	1	00	02	7	1014.9
T2	114	65	8	18	1500	K 22	13 S 153	50 E 21.8	35.53	14	4	14	01	7	1014.2
T2	115	65	8	18	1600	K 22	10 S 153	51 E 23.0	35.46	14	4	14	01	7	1013.5
T2	116	65	8	18	1700	K 22	03 S 153	26 E 23.0	35.52	14	4	14	02	7	1013.9
T2	117	65	8	18	1800	K 21	06 S 153	26 E 23.0	35.59	14	4	14	02	7	1013.9
T2	118	65	8	19	0700	K 21	03 S 153	27 E 23.0	35.46	14	4	14	02	7	1015.9
T2	119	65	8	19	0800	K 21	05 S 153	27 E 22.9	35.46	14	4	14	02	7	1016.3
T2	120	65	8	19	0900	K 21	02 S 153	27 E 22.9	35.44	14	4	14	02	7	1016.3

VESSEL	CRUISE NUMBER	STATION NUMBER	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND DN, AMT.	SEA DN, AMT.	SWELL DN, AMT.	WEA.	VIS.	BAROM.					
T2	2	121	65	8	19	1000	K 21	46 S	153	53 E	22.9	35.48	14	1	14	1	09	1	02	7	1016.3
T2	2	122	65	8	19	1100	K 21	40 S	153	39 E	23.1	35.44	14	1	14	0	09	1	02	7	1016.3
T2	2	123	65	8	19	1200	K 21	37 S	153	44 E	23.2	35.48	14	1	14	0	09	1	02	7	1016.3
T2	2	124	65	8	19	1310	K 21	40 S	153	59 E	23.3	35.48	14	1	00	0	99	0	03	7	1015.2
T2	2	125	65	8	19	1400	K 21	37 S	153	48 E	23.1	35.44	14	1	00	0	99	0	01	7	1014.6
T2	2	126	65	8	19	1600	K 21	31 S	153	40 E	22.9	35.50	14	1	00	0	99	0	02	7	1014.2
T2	2	127	65	8	20	0800	K 21	37 S	153	46 E	22.9	35.44	05	1	00	0	99	0	02	7	1014.2
T2	2	128	65	8	20	0900	K 21	37 S	153	42 E	23.0	35.44	34	2	34	1	99	0	02	7	1014.9
T2	2	129	65	8	20	1000	K 21	40 S	153	40 E	23.0	35.43	34	2	34	1	99	0	02	7	1014.9
T2	2	130	65	8	20	1100	K 21	32 S	153	40 E	23.0	35.44	34	2	34	1	99	0	02	7	1013.5
T2	2	131	65	8	20	1200	K 21	25 S	153	37 E	23.1	35.44	34	2	34	1	99	0	02	7	1013.2
T2	2	132	65	8	20	1300	K 21	17 S	153	35 E	23.2	35.53	34	2	34	1	99	0	02	7	1012.2
T2	2	133	65	8	20	1400	K 21	10 S	153	32 E	23.2	35.44	34	2	34	1	99	0	02	7	1012.2
T2	2	134	65	8	20	1510	K 21	02 S	153	28 E	23.2	35.68	34	4	34	1	99	0	02	7	1011.2
T2	2	135	65	8	20	1600	K 20	35 S	153	26 E	23.2	35.48	34	3	34	1	99	0	03	7	1011.2
T2	2	136	65	8	20	1700	K 20	48 S	153	22 E	23.2	35.43	34	2	34	1	99	0	02	7	1011.5
T2	2	137	65	8	20	1805	K 20	42 S	153	17 E	23.2	35.43	34	2	34	1	99	0	02	7	1011.9
T2	2	138	65	8	20	1900	K 20	35 S	153	10 E	23.1	35.46	34	2	34	1	99	0	02	7	1012.2
T2	2	139	65	8	20	2100	K 20	21 S	152	08 E	23.1	35.48	34	2	34	1	99	0	02	7	1012.2
T2	2	140	65	8	21	0001	K 19	38 S	152	40 E	23.1	35.43	34	2	34	1	99	0	02	7	1011.9
T2	2	141	65	8	21	0300	K 19	36 S	152	21 E	22.9	35.46	34	4	34	2	99	0	02	7	1010.5
T2	2	142	65	8	21	0700	K 19	15 S	152	10 E	23.1	35.46	32	4	32	2	99	0	02	7	1010.8
T2	2	143	65	8	21	0800	K 19	17 S	152	17 E	23.1	35.46	29	3	29	1	99	0	02	7	1010.8
T2	2	144	65	8	21	0900	K 19	15 S	152	21 E	23.1	35.46	29	3	29	1	99	0	02	7	1011.5
T2	2	145	65	8	21	1000	K 19	10 S	152	24 E	23.1	35.44	29	3	29	1	99	0	02	7	1011.5
T2	2	146	65	8	21	1100	K 19	06 S	152	25 E	23.1	35.61	29	2	29	1	99	0	02	7	1011.5
T2	2	147	65	8	21	1230	K 19	00 S	152	24 E	23.2	35.48	29	2	29	1	99	0	02	7	1011.2
T2	2	148	65	8	21	1300	K 18	36 S	152	19 E	23.2	35.46	29	4	29	1	99	0	02	7	1010.8
T2	2	149	65	8	21	1400	K 18	39 S	152	13 E	23.2	35.48	29	4	29	1	99	0	02	7	1010.5
T2	2	150	65	8	21	1500	K 18	02 S	152	07 E	23.2	35.46	29	4	29	1	99	0	02	7	1009.6
T2	2	151	65	8	21	1600	K 18	36 S	152	12 E	23.2	35.50	29	4	29	1	99	0	02	7	1009.8
T2	2	152	65	8	21	1700	K 18	31 S	152	09 E	23.3	35.50	29	4	29	1	99	0	02	7	1009.8
T2	2	153	65	8	21	1830	K 18	46 S	152	07 E	23.2	35.52	32	3	32	3	99	1	00	7	1010.2
T2	2	154	65	8	21	2100	K 18	28 S	151	37 E	23.1	35.39	39	1	39	1	99	1	00	7	1010.8
T2	2	155	65	8	22	0010	K 18	11 S	151	48 E	23.2	35.53	32	1	32	1	99	1	00	7	1011.2
T2	2	156	65	8	22	0300	K 17	34 S	151	39 E	23.2	35.46	32	1	32	1	99	1	00	7	1010.8
T2	2	157	65	8	22	0630	K 17	30 S	151	37 E	23.3	35.44	27	1	27	1	99	1	06	7	1011.9
T2	2	158	65	8	22	0700	K 17	44 S	151	34 E	23.2	35.40	29	1	29	1	99	1	02	7	1011.9
T2	2	159	65	8	22	0800	K 17	36 S	151	30 E	23.2	35.48	19	1	19	0	99	0	02	7	1011.9
T2	2	160	65	8	22	0900	K 17	36 S	151	30 E	23.2	35.59	19	1	19	0	99	0	02	7	1011.9

VESSEL	CRUISE	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	VIS.	BAROM.	
		NUMBER									DN.	AMT.	DN.	AMT.		
T2	2	161	65	8	22	1000	K 17	40 S 151	24 E 23.9	35.48	19	1	99	0	99	1012.9
T2	2	162	65	8	22	1110	K 17	43 S 151	17 E 23.7	35.48	99	1	99	0	99	1012.5
T2	2	163	65	8	22	1115	K 17	43 S 151	17 E 24.0	35.46	99	1	99	0	99	1012.5
T2	2	164	65	8	22	1200	K 17	34 S 151	22 E 24.4	35.44	99	1	99	0	99	1012.2
T2	2	165	65	8	22	1300	K 17	31 S 151	30 E 23.9	35.41	99	1	99	0	99	1012.2
T2	2	166	65	8	22	1400	K 17	27 S 151	39 E 24.3	35.43	99	1	99	0	99	1011.2
T2	2	167	65	8	22	1530	K 17	22 S 151	39 E 24.4	35.46	99	1	99	0	99	1010.8
T2	2	168	65	8	22	1700	K 17	22 S 151	47 E 23.9	35.44	99	1	99	0	99	1010.8
T2	2	169	65	8	22	1800	K 17	22 S 151	45 E 24.5	35.48	99	1	99	0	99	1010.8
T2	2	170	65	8	23	0705	K 17	17 S 151	43 E 23.4	35.46	07	1	99	0	99	1014.2
T2	2	171	65	8	23	0920	K 17	08 S 151	44 E 23.9	35.39	07	1	99	0	99	1014.2
T2	2	172	65	8	23	1100	K 17	00 S 151	56 E 24.2	35.41	07	1	99	0	99	1014.9
T2	2	173	65	8	23	1225	K 16	54 S 151	58 E 23.4	35.46	25	1	99	0	99	1014.2
T2	2	174	65	8	23	1300	K 16	56 S 151	59 E 24.9	35.46	25	1	99	0	99	1013.2
T2	2	175	65	8	23	1400	K 17	01 S 152	01 E 23.4	35.43	25	1	99	0	99	1012.5
T2	2	176	65	8	23	1500	K 17	01 S 152	00 E 23.4	35.46	25	1	99	0	99	1012.5
T2	2	177	65	8	24	0700	K 16	40 S 151	47 E 23.3	35.52	12	3	99	3	99	1014.9
T2	2	178	65	8	24	0800	K 16	47 S 151	49 E 23.4	35.66	12	5	99	3	99	1015.6
T2	2	179	65	8	24	0900	K 16	56 S 151	52 E 23.2	35.48	12	5	99	2	99	1015.9
T2	2	180	65	8	24	1000	K 16	58 S 151	54 E 23.3	35.46	12	5	99	2	99	1015.9
T2	2	181	65	8	24	1200	K 17	02 S 151	49 E 23.5	35.39	17	3	99	1	99	1015.2
T2	2	182	65	8	24	1315	K 17	01 S 151	50 E 23.4	35.43	17	3	99	1	99	1014.2
T2	2	183	65	8	24	1400	K 17	02 S 151	51 E 23.4	35.44	17	4	99	0	99	1013.9
T2	2	184	65	8	25	0900	K 17	01 S 151	52 E 23.2	35.48	14	5	99	1	99	1015.9
T2	2	185	65	8	25	1000	K 17	02 S 151	53 E 23.2	35.42	14	4	99	1	99	1015.9
T2	2	186	65	8	25	1100	K 17	11 S 151	59 E 23.3	35.41	14	4	99	1	99	1015.6
T2	2	187	65	8	25	1200	K 17	04 S 152	07 E 23.2	35.52	09	4	99	1	99	1014.2
T2	2	188	65	8	25	1300	K 17	15 S 152	06 E 23.5	35.50	09	4	99	1	99	1012.9
T2	2	189	65	8	25	1400	K 17	18 S 152	06 E 23.3	35.48	09	4	99	1	99	1012.9
T2	2	190	65	8	25	1500	K 17	14 S 152	00 E 23.3	35.46	09	3	99	1	99	1012.5
T2	2	191	65	8	25	1615	K 17	01 S 151	52 E 23.3	35.44	09	3	99	1	99	1012.5
T2	2	192	65	8	26	0001	K 17	04 S 151	28 E 23.4	35.44	34	2	99	1	99	1012.5
T2	2	193	65	8	26	0300	K 17	06 S 151	00 E 23.6	35.43	34	2	99	1	99	1010.8
T2	2	194	65	8	26	0610	K 17	08 S 150	32 E 23.5	35.43	34	2	99	1	99	1010.8
T2	2	195	65	8	26	0700	K 17	09 S 150	24 E 23.3	35.43	34	2	99	1	99	1011.5
T2	2	196	65	8	26	0800	K 17	09 S 150	14 E 23.6	35.44	00	0	99	1	99	1011.5
T2	2	197	65	8	26	0900	K 17	09 S 150	14 E 23.7	35.39	34	1	99	1	99	1012.5
T2	2	198	65	8	26	1000	K 17	10 S 150	05 E 23.7	35.46	34	1	99	1	99	1012.9
T2	2	199	65	8	26	1100	K 17	18 S 149	54 E 23.8	35.35	99	1	99	1	99	1012.9
T2	2	200	65	8	26	1230	K 17	21 S 149	45 E 24.4	35.39	99	1	99	1	99	1012.2

VESSEL	CRUISE NUMBER	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND DN.	SEA DN.	SWELL DN.	WEA.	VIS.	BAROM.			
T2	201	2	65	8	26	1300	K 17	24 S 149	41 E 24.3	35.43	99	1	99	0	99	0	01	7	1011.5
T2	202	2	65	8	26	1400	K 17	28 S 149	33 E 24.4	35.43	99	1	99	0	99	0	02	7	1010.8
T2	203	2	65	8	26	1500	K 17	32 S 149	25 E 24.7	35.39	99	1	99	0	99	0	03	7	1010.5
T2	204	2	65	8	26	1600	K 17	35 S 149	21 E 24.8	35.39	99	1	02	1	02	1	02	7	1010.2
T2	205	2	65	8	26	1700	K 17	40 S 149	19 E 24.1	35.39	99	1	02	1	02	1	02	7	1010.2
T2	206	2	65	8	26	1830	K 17	44 S 149	05 E 23.9	35.39	27	1	27	0	02	1	02	7	1010.2
T2	207	2	65	8	26	2100	K 17	53 S 148	45 E 23.2	35.43	32	1	99	1	99	1	02	7	1011.2
T2	208	2	65	8	27	0030	K 18	02 S 148	14 E 23.8	35.37	32	1	99	0	99	0	00	7	1011.2
T2	209	2	65	8	27	0300	K 18	01 S 147	50 E 23.8	35.37	32	1	99	0	99	0	00	7	1010.8
T2	210	2	65	8	27	0630	K 18	01 S 147	30 E 24.2	35.64	32	1	99	0	99	0	02	7	1011.2
T2	211	2	65	8	27	0700	K 18	02 S 147	24 E 24.2	35.50	32	1	99	0	99	0	02	7	1011.5
T2	212	2	65	8	27	0800	K 18	03 S 147	19 E 24.2	35.28	18	1	99	0	99	0	02	7	1011.9
T2	213	2	65	8	27	0900	K 18	04 S 147	17 E 24.5	35.50	18	2	18	1	99	0	01	7	1013.5
T2	214	2	65	8	27	1000	K 18	10 S 147	12 E 24.4	35.28	18	2	18	1	99	0	02	7	1013.9
T2	215	2	65	8	27	1100	K 18	17 S 147	06 E 23.8	35.41	18	2	18	1	99	0	03	7	1013.2
T2	216	2	65	8	27	1200	K 18	22 S 147	00 E 23.6	35.43	18	3	18	2	99	0	03	7	1012.5
T2	217	2	65	8	27	1300	K 18	34 S 146	49 E 23.2	35.52	14	3	14	3	99	1	01	7	1012.5
T2	218	2	65	8	27	1400	K 18	38 S 146	44 E 23.2	35.50	14	4	14	3	14	1	02	7	1012.5
T2	219	2	65	8	27	1500	K 18	40 S 146	43 E 23.0	35.61	14	3	14	1	14	1	02	7	1012.2
T2	220	2	65	8	28	0700	K 18	41 S 146	34 E 23.9	35.57	14	1	99	0	02	7	02	7	1012.2
T2	221	2	65	8	28	1000	K 18	50 S 146	38 E 22.8	35.71	14	3	14	3	09	1	02	7	1013.2
T2	222	2	65	8	28	1100	K 18	57 S 146	44 E 22.8	35.70	14	3	14	2	09	1	02	7	1014.6
T2	223	2	65	8	28	1210	K 19	03 S 146	50 E 23.1	35.68	14	3	14	2	09	1	02	7	1013.5
T2	224	2	65	8	28	1300	K 19	11 S 146	53 E 22.4	36.13	14	3	14	2	27	1	02	7	1015.2
T2	225	2	65	8	28	1400	K 19	14 S 146	51 E 22.2	35.82	14	3	14	2	27	1	02	7	1015.2
T2	226	2	65	8	28	1500	K 19	17 S 146	48 E 22.3	35.77	14	3	14	2	27	1	01	7	1015.2
T2	227	2	65	8	28	1600	K 18	20 S 146	44 E 22.5	35.79	14	3	14	2	27	1	02	7	1014.2
T2	228	2	65	8	28	1700	K 18	25 S 146	32 E 22.8	35.82	14	3	14	1	99	0	02	7	1014.2
T2	229	2	65	8	28	1800	K 18	32 S 146	28 E 22.8	35.75	14	3	14	1	99	0	03	7	1012.5
T2	230	2	65	8	28	1900	K 18	41 S 146	30 E 22.5	35.71	14	4	14	3	15	1	03	7	1015.2
T2	231	2	65	8	28	2000	K 18	42 S 146	50 E 22.5	35.71	14	3	14	2	15	1	03	7	1015.2
T2	232	2	65	8	28	2100	K 18	54 S 146	29 E 22.5	35.51	14	2	14	1	99	0	02	7	1015.9
T2	233	2	65	8	28	2200	K 18	28 S 146	27 E 22.7	35.81	14	2	14	2	09	1	02	7	1015.2
T2	234	2	65	8	28	2300	K 18	20 S 146	23 E 22.8	35.86	14	2	14	2	09	1	02	7	1014.2
T2	235	2	65	8	28	2400	K 18	12 S 146	19 E 22.8	35.75	14	2	14	2	14	1	02	7	1013.2
T2	236	2	65	8	28	2500	K 18	04 S 146	15 E 22.9	35.71	14	2	14	2	14	1	02	7	1013.2
T2	237	2	65	8	28	2600	K 17	57 S 146	11 E 23.2	35.52	14	2	14	1	14	1	02	7	1013.2
T2	238	2	65	8	28	2700	K 17	49 S 146	19 E 22.7	35.52	14	4	14	1	14	1	03	7	1015.9
T2	239	2	65	8	28	2800	K 17	46 S 146	23 E 23.2	35.43	14	4	14	1	14	1	02	7	1015.9
T2	240	2	65	8	28	2900	K 17	41 S 146	31 E 23.9	35.55	14	4	14	1	14	1	01	7	1015.9

VESEL CRUISE STATION	YR.	MT.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	REMARK
									DN.	AMT.	DN.	AMT.		
T2	65	3	3	1200	K 17	37 S 146	38 E 24.1	35.32	14	5	14	03	7	1014.6
T2	65	3	3	1300	K 17	37 S 146	38 E 24.2	35.34	18	4	14	01	7	1013.9
T2	65	3	3	1400	K 17	41 S 146	31 E 23.9	35.43	18	5	14	03	7	1013.2
T2	65	3	3	1500	K 17	46 S 146	23 E 23.1	35.53	16	4	14	01	7	1012.5
T2	65	3	3	1600	K 17	52 S 146	17 E 22.9	35.50	16	4	14	02	7	1012.5
T2	65	3	4	0900	K 17	57 S 146	11 E 22.9	35.79	14	5	14	03	7	1016.6
T2	65	3	4	1000	K 18	03 S 146	16 E 22.9	35.75	15	6	14	03	7	1016.6
T2	65	3	4	1100	K 18	09 S 146	20 E 22.7	35.71	16	6	14	02	7	1015.9
T2	65	3	4	1200	K 18	16 S 146	23 E 22.7	35.70	18	6	14	01	7	1015.6
T2	65	3	4	1300	K 18	23 S 146	25 E 22.6	35.82	18	6	14	01	7	1015.9
T2	65	3	4	1400	K 18	30 S 146	28 E 22.6	35.79	11	6	14	02	7	1014.6
T2	65	3	5	0700	K 18	35 S 146	31 E 22.6	35.79	14	5	14	02	7	1015.9
T2	65	3	5	0800	K 18	39 S 146	39 E 22.6	35.59	14	5	14	02	7	1016.6
T2	65	3	5	0900	K 18	44 S 146	47 E 22.6	35.61	14	5	14	01	7	1016.9
T2	65	3	5	1000	K 18	48 S 146	55 E 22.6	35.61	16	5	14	03	7	1016.9
T2	65	3	5	1100	K 18	52 S 147	02 E 22.6	35.61	16	4	14	02	7	1016.6
T2	65	3	5	1200	K 18	56 S 147	10 E 22.6	35.59	16	4	14	02	7	1016.6
T2	65	3	5	1300	K 19	01 S 147	17 E 22.6	35.57	16	4	14	03	7	1016.6
T2	65	3	5	1400	K 19	08 S 147	22 E 22.3	35.64	16	4	14	03	7	1014.6
T2	65	3	5	1500	K 19	15 S 147	27 E 22.3	35.73	16	4	16	01	7	1014.2
T2	65	3	5	1600	K 19	20 S 147	32 E 22.2	35.84	16	4	16	02	7	1012.5
T2	65	3	5	1700	K 19	28 S 147	36 E 22.1	35.79	16	5	15	02	7	1012.5
T2	65	3	5	1800	K 19	36 S 147	39 E 22.1	35.68	09	4	09	02	7	1012.5
T2	65	3	6	0700	K 19	44 S 147	44 E 21.9	35.82	14	3	14	02	7	1014.2
T2	65	3	6	0800	K 19	41 S 147	49 E 22.0	35.77	14	4	14	01	7	1015.6
T2	65	3	6	0900	K 19	43 S 147	59 E 21.9	35.73	14	4	14	02	7	1015.9
T2	65	3	6	1000	K 19	45 S 148	09 E 21.9	35.66	14	4	14	03	7	1016.6
T2	65	3	6	1100	K 19	46 S 148	19 E 21.9	35.73	14	4	14	03	7	1015.9
T2	65	3	6	1200	K 19	48 S 148	29 E 22.0	35.66	14	4	14	02	7	1014.6
T2	65	3	6	1300	K 19	53 S 148	36 E 22.1	35.62	14	3	14	03	7	1013.9
T2	65	3	6	1400	K 19	58 S 148	43 E 22.0	35.62	14	3	14	03	7	1014.6
T2	65	3	6	1500	K 20	03 S 148	50 E 22.0	35.61	14	3	14	03	7	1013.9
T2	65	3	7	0700	K 20	09 S 148	52 E 21.7	35.71	18	1	99	02	7	1013.2
T2	65	3	7	1200	K 20	20 S 148	54 E 22.2	35.66	32	1	99	03	7	1010.8
T2	65	3	8	1300	K 20	27 S 148	58 E 21.6	35.84	36	2	99	01	7	1010.2
T2	65	3	8	1400	K 20	31 S 149	00 E 21.6	35.97	09	3	92	01	7	1010.2
T2	65	3	8	1500	K 20	37 S 149	08 E 21.3	35.84	05	3	05	02	7	1010.2
T2	65	3	8	1600	K 20	42 S 149	15 E 21.7	35.73	05	2	09	02	7	1010.2
T2	65	3	8	1700	K 20	48 S 149	22 E 21.5	35.81	05	2	09	02	7	1010.2
T2	65	3	8	1800	K 20	58 S 149	32 E 21.2	36.04	05	3	09	02	7	1010.8

VESSEL	CRUISE	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.					
		NUMBER								DN, AMT.	DN, AMT.	DN, AMT.	DN, AMT.								
T2	3	281	65	9	9	0001	K 21	17 S	149	58 E	21.3	35.82	05	2	05	1	09	1	00	7	1012.5
T2	3	282	65	9	9	0600	K 21	49 S	150	57 E	21.0	35.61	32	2	32	1	14	1	02	7	1012.9
T2	3	283	65	9	9	0700	K 21	52 S	150	63 E	20.8	35.86	32	2	32	1	14	1	02	7	1013.9
T2	3	284	65	9	9	0800	K 21	56 S	150	52 E	20.9	35.86	36	2	36	1	14	1	02	7	1014.9
T2	3	285	65	9	9	0900	K 22	00 S	151	01 E	21.0	35.88	36	2	36	1	14	1	02	7	1015.2
T2	3	286	65	9	9	1000	K 22	02 S	151	05 E	21.6	35.81	02	1	05	1	14	1	02	7	1015.2
T2	3	287	65	9	9	1100	K 22	06 S	151	14 E	21.9	35.82	99	0	99	0	14	1	02	7	1014.9
T2	3	288	65	9	9	1230	K 22	10 S	151	27 E	21.9	35.79	34	1	05	1	14	1	02	7	1013.5
T2	3	289	65	9	9	1300	K 22	14 S	151	27 E	21.9	35.79	34	1	05	1	14	1	02	7	1013.2
T2	3	290	65	9	9	1400	K 22	21 S	151	34 E	22.6	35.77	34	1	99	0	14	1	02	7	1012.5
T2	3	291	65	9	9	1515	K 22	28 S	151	41 E	22.4	35.79	34	1	99	0	14	1	02	7	1012.5
T2	3	292	65	9	9	1600	K 22	32 S	151	45 E	22.6	35.79	36	1	05	1	09	1	02	7	1012.5
T2	3	293	65	9	9	1700	K 22	40 S	151	52 E	22.3	35.68	02	2	02	1	11	1	02	7	1012.5
T2	3	294	65	9	9	1830	K 22	47 S	151	59 E	21.8	35.73	09	2	02	1	11	1	02	7	1013.2
T2	3	295	65	9	9	2115	K 22	54 S	152	12 E	21.4	35.61	04	2	04	2	11	1	02	7	1014.2
T2	3	296	65	9	10	0030	K 23	07 S	152	28 E	22.1	35.52	05	3	04	2	05	1	02	7	1014.6
T2	3	297	65	9	10	0330	K 23	29 S	152	38 E	21.7	35.50	05	3	04	2	05	1	02	7	1014.2
T2	3	298	65	9	10	0535	K 23	51 S	152	47 E	21.9	35.39	34	3	36	2	05	1	02	7	1014.2
T2	3	299	65	9	10	0700	K 23	57 S	152	50 E	22.0	35.39	34	3	34	2	05	1	02	7	1016.3
T2	3	300	65	9	10	0800	K 24	03 S	152	53 E	21.9	35.48	34	2	34	2	05	1	02	7	1017.3
T2	3	301	65	9	10	0900	K 24	12 S	152	53 E	21.8	35.52	25	2	35	2	07	1	01	7	1017.6
T2	3	302	65	9	10	1000	K 24	20 S	152	53 E	21.7	35.52	32	2	32	2	05	1	01	7	1017.6
T2	3	303	65	9	10	1100	K 24	28 S	152	55 E	21.7	35.52	29	2	29	1	02	1	01	7	1016.9
T2	3	304	65	9	10	1200	K 24	36 S	152	59 E	21.9	35.57	29	1	29	1	02	1	02	7	1016.6
T2	3	305	65	9	10	1300	K 24	44 S	153	03 E	20.9	35.70	29	1	29	1	02	1	02	7	1015.9
T2	3	306	65	9	10	1400	K 24	52 S	153	07 E	20.8	35.68	29	1	99	0	34	1	02	7	1015.6
T2	3	307	65	9	12	0730	K 24	56 S	152	58 E	20.1	35.73	14	1	99	0	32	1	02	7	1015.6
T2	3	308	65	9	12	0800	K 24	58 S	152	55 E	20.5	35.73	14	1	99	0	32	1	02	7	1015.6
T2	3	309	65	9	12	1030	K 24	53 S	152	48 E	20.9	35.82	07	1	99	0	05	1	02	7	1015.9
T2	3	310	65	9	12	1100	K 24	52 S	152	44 E	20.8	35.82	07	1	99	0	05	1	02	7	1016.3
T2	3	311	65	9	12	1300	K 24	51 S	152	30 E	21.9	35.82	02	2	02	1	36	1	02	7	1016.3
T2	4	312	65	9	14	0730	K 23	11 S	151	14 E	20.7	35.82	02	2	02	1	20	1	02	7	1016.2
T2	4	313	65	9	14	0800	K 23	09 S	151	13 E	20.9	35.70	20	2	20	2	20	1	02	7	1013.2
T2	4	314	65	9	14	0900	K 22	00 S	151	09 E	20.9	35.71	25	4	25	3	11	1	02	7	1014.2
T2	4	315	65	9	14	1000	K 22	51 S	151	05 E	21.1	35.73	25	4	25	3	11	1	02	7	1014.2
T2	4	316	65	9	14	1100	K 22	43 S	151	01 E	20.9	35.93	27	3	27	3	10	1	02	7	1014.2
T2	4	317	65	9	14	1215	K 22	34 S	150	58 E	21.5	35.77	16	2	18	2	10	1	02	7	1012.9
T2	4	318	65	9	14	1300	K 22	28 S	150	56 E	21.6	35.77	02	2	18	2	10	1	02	7	1012.9
T2	4	319	65	9	14	1400	K 22	20 S	150	52 E	21.6	35.79	09	2	14	2	09	1	02	7	1011.9
T2	4	320	65	9	14	1510	K 22	12 S	150	48 E	21.6	35.81	10	2	14	2	10	1	02	7	1011.5

VESSEL	CRUISE	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER									DN, AMT.	DN, AMT.	UN, AMT.			
T2	4	321	65	9	14	1600	K 22	07 S 150	46 E 21.5	35.85	02	4	99	02	7	1011.9
T2	4	322	65	9	14	1700	K 21	58 S 150	44 E 21.1	35.90	02	4	99	02	7	1012.2
T2	4	323	65	9	14	1814	K 21	52 S 150	41 E 21.8	35.84	07	4	99	02	7	1012.9
T2	4	324	65	9	14	2100	K 21	36 S 150	28 E 21.8	35.82	32	3	99	02	7	1013.5
T2	4	325	65	9	15	0001	K 21	25 S 150	04 E 21.5	35.93	36	3	99	02	7	1013.9
T2	4	326	65	9	15	0300	K 21	05 S 149	45 E 21.8	35.75	35	2	00	02	7	1013.9
T2	4	327	65	9	15	0600	K 20	48 S 149	22 E 22.0	35.86	00	0	00	02	7	1015.2
T2	4	328	65	9	15	0700	K 20	42 S 149	15 E 22.0	35.82	00	0	00	02	7	1015.2
T2	4	329	65	9	15	0800	K 20	37 S 149	07 E 21.8	35.86	00	0	05	02	7	1015.6
T2	4	330	65	9	15	0900	K 20	31 S 149	00 E 22.2	35.82	16	1	16	02	7	1015.9
T2	4	331	65	9	15	1000	K 20	25 S 148	56 E 22.1	35.77	20	1	99	01	7	1015.9
T2	4	332	65	9	15	1100	K 20	18 S 148	53 E 22.6	35.73	20	1	99	02	7	1015.9
T2	4	333	65	9	15	1200	K 20	10 S 148	51 E 22.9	35.75	20	1	99	02	7	1015.9
T2	4	334	65	9	15	1300	K 20	05 S 148	44 E 23.5	35.81	07	1	99	01	7	1015.2
T2	4	335	65	9	15	1400	K 19	59 S 148	38 E 23.5	35.79	36	3	09	01	7	1012.9
T2	4	336	65	9	15	1500	K 19	53 S 148	30 E 23.7	35.86	36	3	09	02	7	1012.5
T2	4	337	65	9	15	1600	K 19	47 S 148	24 E 23.7	35.84	36	3	07	01	7	1012.2
T2	4	338	65	9	15	1700	K 19	44 S 148	14 E 23.6	35.85	06	3	05	02	7	1012.5
T2	4	339	65	9	15	1800	K 19	39 S 148	06 E 23.6	35.85	06	3	07	02	7	1012.5
T2	4	340	65	9	15	2100	K 19	23 S 147	43 E 23.5	35.70	36	3	99	02	7	1013.2
T2	4	341	65	9	16	0001	K 19	12 S 147	17 E 23.5	35.79	36	3	99	02	7	1013.9
T2	4	342	65	9	17	1100	K 19	06 S 146	56 E 24.0	35.97	11	1	36	00	7	1013.9
T2	4	343	65	9	17	1200	K 18	59 S 147	01 E 24.0	35.86	11	1	99	02	7	1014.2
T2	4	344	65	9	17	1300	K 18	52 S 147	06 E 24.4	35.81	07	1	99	02	7	1012.9
T2	4	345	65	9	17	1400	K 18	45 S 147	11 E 24.9	35.85	05	1	18	02	7	1012.5
T2	4	346	65	9	17	1500	K 18	37 S 147	16 E 24.9	35.85	05	1	00	02	7	1012.5
T2	4	347	65	9	17	1600	K 18	32 S 147	16 E 25.2	35.82	05	1	00	02	7	1011.5
T2	4	348	65	9	17	1700	K 18	21 S 147	17 E 24.8	35.43	01	1	23	02	7	1011.5
T2	4	349	65	9	17	1811	K 18	11 S 147	18 E 24.8	35.41	01	1	05	02	7	1011.2
T2	4	350	65	9	17	2100	K 18	04 S 147	29 E 25.0	35.43	01	1	05	02	7	1011.5
T2	4	351	65	9	18	0016	K 17	56 S 147	41 E 24.2	35.39	04	2	05	02	7	1013.9
T2	4	352	65	9	18	0300	K 17	49 S 147	52 E 24.3	35.46	15	1	99	02	7	1013.9
T2	4	353	65	9	18	0618	K 17	42 S 148	03 E 24.1	35.53	11	1	99	02	7	1012.9
T2	4	354	65	9	18	0800	K 17	42 S 148	16 E 24.0	35.52	11	3	16	02	7	1015.9
T2	4	355	65	9	18	0900	K 17	42 S 148	16 E 24.0	35.52	11	5	99	02	7	1015.9
T2	4	356	65	9	18	1000	K 17	35 S 148	19 E 24.1	35.52	11	4	99	02	7	1015.9
T2	4	357	65	9	18	1100	K 17	33 S 148	25 E 24.0	35.52	11	4	99	02	7	1015.9
T2	4	358	65	9	18	1200	K 17	33 S 148	31 E 24.1	35.55	11	5	99	01	7	1015.9
T2	4	359	65	9	21	1000	K 17	35 S 148	31 E 24.1	35.55	16	4	99	02	7	1015.2
T2	4	360	65	9	21	1100	K 17	35 S 148	29 E 24.2	35.52	16	4	99	02	7	1017.3

VESSEL	CRUISE	STATION	YR.	MT.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA		WELL	WEA.	VIS.	BAROM.		
												DN.	AMT.					DN.	AMT.
T2	4	361	65	9	21	1200	K 17	39 S 148	26 E 241.2	35.59	14	4	14	3	99	0	02	7	1016.3
T2	4	362	65	9	21	1300	K 17	43 S 148	26 E 241.0	35.61	14	4	14	3	99	0	02	7	1015.9
T2	4	363	65	9	21	1400	K 17	57 S 148	30 E 241.1	35.57	14	4	14	3	99	1	03	7	1014.9
T2	4	364	65	9	21	1500	K 17	38 S 148	30 E 241.1	35.57	14	4	14	3	99	1	01	7	1014.2
T2	4	365	65	9	21	1600	K 17	43 S 148	26 E 241.0	35.64	16	5	15	3	99	1	02	7	1014.2
T2	4	366	65	9	22	1700	K 17	41 S 148	23 E 241.0	34.57	14	5	14	3	14	1	03	7	1014.9
T2	4	367	65	9	22	1800	K 17	42 S 148	18 E 241.0	35.35	14	5	14	3	14	1	01	7	1015.2
T2	4	368	65	9	22	2100	K 17	29 S 147	28 E 231.0	35.34	14	5	14	3	14	1	02	7	1016.9
T2	4	369	65	9	23	0001	K 17	17 S 147	35 E 231.2	35.34	09	5	09	3	09	1	00	7	1014.6
T2	4	370	65	9	23	0300	K 17	05 S 147	33 E 241.2	35.50	07	6	09	3	09	1	00	7	1016.3
T2	4	371	65	9	23	0700	K 16	48 S 146	43 E 241.2	35.32	09	4	09	3	11	1	02	7	1016.3
T2	4	372	65	9	23	0800	K 16	44 S 146	37 E 241.2	35.39	14	6	09	3	10	1	02	7	1017.6
T2	4	373	65	9	23	0900	K 16	44 S 146	37 E 241.2	35.32	14	5	14	3	99	0	03	7	1014.6
T2	4	374	65	9	23	1500	K 16	51 S 145	24 E 241.0	35.52	14	5	14	3	99	1	00	7	1014.6
T2	5	375	65	9	27	1730	K 16	51 S 145	49 E 231.8	35.41	14	5	14	3	09	1	00	7	1014.6
T2	5	376	65	9	27	1800	K 16	52 S 145	28 E 231.9	35.46	14	4	14	3	09	1	02	7	1014.6
T2	5	377	65	9	28	0900	K 16	50 S 145	22 E 231.6	35.46	14	3	14	1	09	1	03	7	1015.9
T2	5	378	65	9	29	0800	K 16	43 S 145	22 E 231.6	35.46	14	2	16	2	14	1	00	7	1015.6
T2	5	379	65	9	29	0900	K 16	43 S 145	25 E 231.9	35.44	14	1	16	2	14	1	01	7	1015.6
T2	5	380	65	9	29	1000	K 16	36 S 145	22 E 231.9	35.39	16	3	16	2	14	1	02	7	1015.6
T2	5	381	65	9	29	1100	K 16	41 S 145	54 E 241.1	35.44	14	4	14	3	14	1	02	7	1015.2
T2	5	382	65	9	29	1200	K 16	43 S 145	25 E 241.1	35.44	16	4	14	3	14	1	02	7	1014.2
T2	5	383	65	9	29	1300	K 16	43 S 145	25 E 241.1	35.44	14	4	14	3	14	1	02	7	1013.9
T2	5	384	65	9	29	1400	K 16	47 S 145	24 E 241.1	35.66	14	4	14	3	14	1	02	7	1012.9
T2	5	385	65	9	29	1500	K 16	45 S 145	23 E 241.2	35.43	14	4	14	3	14	1	02	7	1012.9
T2	5	386	65	9	29	1600	K 16	48 S 145	23 E 241.2	35.46	14	3	14	2	14	1	02	7	1012.9
T2	5	387	65	9	30	0900	K 16	52 S 146	04 E 241.1	35.39	14	2	14	3	03	1	00	7	1014.2
T2	5	388	65	9	30	1000	K 16	44 S 146	09 E 241.4	35.36	14	2	14	2	05	1	02	7	1014.2
T2	5	389	65	9	30	1100	K 16	39 S 146	13 E 241.5	35.34	14	2	14	2	09	1	02	7	1012.5
T2	5	390	65	9	30	1200	K 16	40 S 146	18 E 241.6	35.33	14	3	14	2	09	1	01	7	1011.5
T2	5	391	65	9	30	1300	K 16	46 S 146	24 E 241.7	35.30	14	3	14	2	09	1	01	7	1010.8
T2	5	392	65	9	30	1400	K 16	53 S 146	00 E 241.8	35.34	14	3	14	2	09	1	01	7	1010.5
T2	5	393	65	9	30	1500	K 16	46 S 146	24 E 241.9	35.39	14	1	14	2	09	1	01	7	1010.5
T2	5	394	65	9	30	1600	K 16	42 S 146	19 E 241.9	35.34	14	1	14	2	09	1	01	7	1010.5
T2	5	395	65	10	1	0323	K 16	42 S 146	32 E 241.4	35.30	09	1	99	0	99	1	00	7	1010.2
T2	5	396	65	10	1	0600	K 16	39 S 146	20 E 241.9	35.30	07	1	99	0	07	1	00	7	1011.9
T2	5	397	65	10	1	0700	K 16	39 S 146	25 E 241.4	35.20	07	1	99	0	07	1	01	7	1011.9
T2	5	398	65	10	1	0800	K 16	35 S 147	07 E 241.2	35.39	99	0	99	0	07	1	02	7	1012.2
T2	5	399	65	10	1	1000	K 16	35 S 147	04 E 241.6	35.39	99	0	99	1	07	1	02	7	1011.9
T2	5	400	65	10	1	1100	K 16	35 S 147	14 E 241.8	35.30	36	1	36	1	07	1	02	7	1011.2

VESEL CRUISE	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.					
	NJHEB									DN, AMT,	DN, AMT,	DN, AMT,								
T2	401	55	10	1	1200	K 16	33 S	147 W	21 E	25.2	35.52	36	2	36	1	07	1	02	7	1009.8
T2	402	55	10	1	1300	K 16	33 S	147 W	31 E	25.4	35.52	36	1	36	1	07	1	02	7	1009.1
T2	403	55	10	1	1400	K 16	33 S	147 W	41 E	25.4	35.52	36	1	36	1	07	1	02	7	1008.8
T2	404	55	10	1	1500	K 16	32 S	147 W	48 E	25.6	35.52	26	2	25	1	14	1	02	7	1007.8
T2	405	55	10	2	0500	K 16	32 S	147 W	50 E	24.2	35.52	32	3	32	3	99	0	00	7	1011.9
T2	406	55	10	2	1000	K 16	32 S	147 W	53 E	24.3	35.54	32	3	32	2	99	0	01	7	1011.5
T2	407	55	10	2	1100	K 16	25 S	147 W	55 E	24.2	35.54	32	3	32	2	99	1	02	7	1010.8
T2	408	55	10	2	1200	K 16	28 S	147 W	58 E	24.6	35.59	32	3	32	2	99	0	01	7	1009.8
T2	409	65	10	2	1500	K 16	32 S	148 W	01 E	24.9	35.59	32	3	32	2	99	0	01	7	1009.1
T2	410	65	10	2	1500	K 16	31 S	148 W	05 E	24.7	35.50	32	2	25	2	02	1	01	7	1008.1
T2	411	65	10	2	1600	K 16	27 S	148 W	06 E	24.4	35.50	27	3	25	2	02	1	01	7	1008.1
T2	412	65	10	2	1700	K 16	26 S	148 W	12 E	24.6	35.52	27	2	27	2	02	1	01	7	1007.8
T2	413	65	10	2	1800	K 16	24 S	148 W	19 E	24.6	35.52	99	0	99	2	02	1	02	7	1008.5
T2	414	65	10	2	2100	K 16	19 S	148 W	38 E	25.1	35.28	27	2	99	1	99	1	01	7	1009.5
T2	415	65	10	3	0001	K 16	13 S	148 W	58 E	25.0	35.28	07	3	99	1	99	1	03	7	1009.5
T2	416	65	10	3	0300	K 16	08 S	149 W	17 E	25.0	35.21	05	3	05	1	99	1	00	7	1009.1
T2	417	65	10	3	0610	K 16	05 S	149 W	28 E	24.8	35.17	02	4	02	3	99	1	00	7	1010.5
T2	418	65	10	3	0730	K 16	06 S	149 W	31 E	25.3	35.16	02	4	02	2	03	1	01	7	1010.5
T2	419	65	10	3	0900	K 16	01 S	149 W	33 E	25.1	35.16	36	2	02	2	03	1	01	7	1011.9
T2	420	65	10	3	1030	K 15	55 S	149 W	35 E	24.9	35.23	99	0	02	2	03	1	01	7	1011.9
T2	421	65	10	3	1100	K 16	00 S	149 W	41 E	25.2	35.25	99	1	05	1	05	1	01	7	1011.5
T2	422	65	10	3	1200	K 16	05 S	149 W	46 E	24.8	35.23	27	1	05	1	09	1	02	7	1010.8
T2	423	65	10	3	1300	K 16	10 S	149 W	51 E	26.2	35.25	27	1	09	1	09	1	02	7	1009.8
T2	424	65	10	3	1400	K 16	15 S	149 W	56 E	26.4	35.25	27	1	09	1	09	1	01	7	1009.5
T2	425	65	10	4	0400	K 16	14 S	149 W	57 E	24.9	35.25	05	2	05	3	09	1	00	7	1013.5
T2	426	65	10	4	1000	K 16	09 S	149 W	58 E	24.9	35.26	05	3	05	3	09	1	02	7	1013.5
T2	427	65	10	4	1100	K 16	08 S	150 W	02 E	25.1	35.26	07	3	08	3	09	1	02	7	1012.9
T2	428	65	10	4	1200	K 16	07 S	150 W	04 E	25.2	35.26	11	3	07	3	09	1	03	7	1012.5
T2	429	65	10	4	1300	K 16	07 S	150 W	05 E	25.6	35.25	11	2	07	2	09	1	01	7	1012.5
T2	430	65	10	4	1400	K 16	07 S	150 W	01 E	25.4	35.25	13	1	09	2	06	1	01	7	1011.9
T2	431	65	10	4	1500	K 16	09 S	150 W	03 E	25.4	35.21	10	3	11	2	09	0	01	7	1010.8
T2	432	65	10	4	1600	K 16	16 S	150 W	03 E	24.9	35.24	10	2	10	2	09	0	02	7	1010.8
T2	433	65	10	5	0527	K 16	25 S	149 W	58 E	24.7	35.25	07	3	07	2	09	0	00	7	1012.9
T2	434	65	10	5	0700	K 16	25 S	149 W	58 E	24.8	35.25	07	3	07	2	09	0	00	7	1012.9
T2	435	65	10	5	0800	K 16	32 S	149 W	58 E	24.8	35.25	07	3	07	2	09	0	01	7	1012.9
T2	436	65	10	5	0921	K 16	42 S	149 W	58 E	24.8	35.25	06	2	06	2	09	0	02	7	1014.2
T2	437	65	10	5	1000	K 16	42 S	149 W	58 E	25.0	35.25	06	2	06	2	09	0	02	7	1014.2
T2	438	65	10	5	1100	K 16	49 S	149 W	58 E	24.9	35.25	05	2	05	2	07	1	03	7	1014.6
T2	439	65	10	5	1200	K 16	55 S	149 W	58 E	25.0	35.25	06	2	06	2	09	0	03	7	1014.6
T2	440	65	10	5	1300	K 16	59 S	149 W	54 E	25.0	35.23	06	2	06	2	09	0	03	7	1013.5

VESSEL	CRUISE NUMBER	STATION NUMBER	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND DN.	SEA DN.	SWELL DN.	WEA.	VIS.	BAROM.
T2	5	441	65	10	5	1400	K 16	28 S 149	28 E 251.1	35.23	3	06	09	02	7	1012.9
T2	5	442	65	10	5	1500	K 16	25 S 150	01 E 251.1	35.121	05	07	07	01	7	1012.5
T2	5	443	65	10	5	1600	K 16	24 S 150	07 E 251.1	35.35	05	07	07	02	7	1012.5
T2	5	444	65	10	6	0800	K 16	23 S 150	05 E 24.8	35.25	06	5	06	01	7	1015.9
T2	5	445	65	10	6	0900	K 16	20 S 150	10 E 24.8	35.21	09	4	09	03	7	1016.6
T2	5	446	65	10	6	1000	K 16	44 S 150	16 E 24.9	35.25	09	5	09	01	7	1016.3
T2	5	447	65	10	6	1100	K 16	36 S 150	15 E 24.6	35.32	09	3	09	02	7	1015.9
T2	5	448	65	10	6	1200	K 16	38 S 150	03 E 25.5	35.28	09	3	09	01	7	1015.6
T2	5	449	65	10	6	1300	K 16	40 S 150	08 E 25.0	35.19	14	3	09	01	7	1014.9
T2	5	450	65	10	6	1400	K 16	40 S 150	03 E 24.9	35.30	10	4	05	02	7	1014.6
T2	5	451	65	10	6	1500	K 16	38 S 150	08 E 25.0	35.29	14	4	05	02	7	1013.9
T2	5	452	65	10	6	2100	K 16	40 S 150	32 E 24.5	35.35	14	4	00	07	7	1017.3
T2	5	453	65	10	7	0001	K 16	40 S 150	53 E 24.1	35.37	14	4	09	00	7	1015.9
T2	5	454	65	10	7	0300	K 16	40 S 151	14 E 24.0	35.32	14	5	09	00	7	1013.9
T2	5	455	65	10	7	0700	K 16	44 S 151	35 E 24.5	35.26	14	5	09	02	7	1015.9
T2	5	456	65	10	7	0800	K 16	49 S 151	59 E 24.5	35.28	14	4	09	01	7	1016.9
T2	5	457	65	10	7	0900	K 16	52 S 151	43 E 24.5	35.28	14	4	09	02	7	1016.3
T2	5	458	65	10	7	1000	K 17	02 S 151	46 E 24.6	35.23	14	4	09	02	7	1016.3
T2	5	459	65	10	7	1100	K 17	07 S 151	54 E 24.6	35.23	14	4	09	02	7	1015.9
T2	5	460	65	10	8	0900	K 17	08 S 151	56 E 24.2	35.28	11	3	09	00	7	1015.6
T2	5	461	65	10	8	1000	K 17	13 S 152	00 E 24.4	35.39	11	3	11	00	7	1015.9
T2	5	462	65	10	8	1100	K 17	16 S 152	02 E 24.0	35.25	10	3	11	02	7	1015.9
T2	5	463	65	10	8	1200	K 17	17 S 152	05 E 24.6	35.26	10	3	11	02	7	1015.2
T2	5	464	65	10	8	1300	K 17	10 S 152	07 E 24.2	35.24	14	2	16	02	7	1014.2
T2	5	465	65	10	8	1400	K 17	10 S 152	01 E 24.4	35.34	14	2	14	02	7	1013.5
T2	5	466	65	10	8	1500	K 17	07 S 151	55 E 24.4	35.32	14	2	14	02	7	1012.9
T2	5	467	65	10	8	0300	K 17	14 S 151	52 E 24.4	35.38	14	3	11	02	7	1012.9
T2	5	468	65	10	9	0600	K 17	25 S 151	09 E 24.1	35.34	12	4	11	00	7	1014.2
T2	5	469	65	10	9	0700	K 17	20 S 151	11 E 24.1	35.22	12	4	11	02	7	1014.6
T2	5	470	65	10	9	0800	K 17	22 S 151	05 E 24.1	35.25	12	4	12	02	7	1015.2
T2	5	471	65	10	9	0900	K 17	26 S 150	58 E 24.2	35.25	12	3	11	02	7	1015.2
T2	5	472	65	10	9	1000	K 17	24 S 150	51 E 24.2	35.29	12	3	11	01	7	1015.2
T2	5	473	65	10	9	1100	K 17	26 S 150	49 E 24.2	35.34	12	3	11	01	7	1014.6
T2	5	474	65	10	9	1200	K 17	30 S 150	45 E 24.2	35.34	12	3	11	02	7	1014.2
T2	5	475	65	10	9	1300	K 17	30 S 150	59 E 24.2	35.33	12	3	11	02	7	1014.2
T2	5	476	65	10	9	1400	K 17	30 S 150	53 E 24.3	35.35	12	3	11	02	7	1013.2
T2	5	477	65	10	9	1500	K 17	31 S 150	27 E 24.3	35.30	08	3	11	01	7	1012.5
T2	5	478	65	10	9	1600	K 17	31 S 150	22 E 24.4	35.41	02	3	11	01	7	1012.2
T2	5	480	65	10	9	1700	K 17	31 S 150	15 E 24.5	35.32	03	2	11	02	7	1012.9

VESSE.	CRUISE	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.							
		NUMBER									DN.	DN.	DN.										
T2	5	481	65	10	9	1800	K 17	31 S	150	09 E	24.6	35.55	07	3	07	2	07	1	07	1	03	7	1012.9
T2	5	482	65	10	9	2100	K 17	33 S	149	46 E	24.3	35.39	99	1	99	1	14	1	14	1	03	7	1014.2
T2	5	483	65	10	10	0001	K 17	35 S	149	23 E	24.6	35.30	12	1	99	1	06	1	06	1	00	7	1013.5
T2	5	484	65	10	10	0300	K 17	37 S	148	59 E	24.9	35.32	05	2	05	1	07	1	07	1	00	7	1011.9
T2	5	485	65	10	10	0600	K 17	40 S	148	35 E	24.9	35.28	05	2	05	1	07	1	07	1	00	7	1012.9
T2	5	486	65	10	10	0700	K 17	36 S	148	34 E	24.8	35.28	07	3	99	1	07	1	07	1	02	7	1013.5
T2	5	487	65	10	10	0800	K 17	32 S	148	32 E	24.9	35.35	05	2	05	1	07	1	07	1	02	7	1014.2
T2	5	488	65	10	10	0900	K 17	24 S	148	24 E	24.9	35.28	03	2	05	1	07	1	07	1	02	7	1014.6
T2	5	489	65	10	10	1000	K 17	22 S	148	28 E	25.1	35.26	08	3	05	3	07	1	07	1	02	7	1014.6
T2	5	490	65	10	10	1100	K 17	22 S	148	21 E	25.3	35.28	04	2	07	2	11	1	11	1	02	7	1014.2
T2	5	491	65	10	10	1200	K 17	23 S	148	15 E	25.3	35.46	08	1	08	1	11	1	11	1	01	7	1013.9
T2	5	492	65	10	10	1300	K 17	25 S	148	09 E	25.3	35.34	08	1	08	1	11	1	11	1	01	7	1012.9
T2	5	493	65	10	10	1400	K 17	28 S	148	11 E	25.0	35.37	08	2	08	2	07	1	07	1	03	7	1012.9
T2	5	494	65	10	10	1500	K 17	31 S	148	13 E	25.1	35.46	08	3	08	2	07	1	07	1	03	7	1011.9
T2	5	495	65	10	10	1600	K 17	35 S	148	16 E	25.2	35.37	10	3	09	2	07	1	07	1	01	7	1012.2
T2	5	496	65	10	10	1700	K 17	40 S	148	19 E	24.7	35.34	10	2	09	2	05	1	05	1	02	7	1012.5
T2	5	497	65	10	10	1800	K 17	39 S	148	15 E	24.7	35.34	10	2	09	2	02	1	02	1	01	7	1012.9
T2	5	498	65	10	10	2100	K 17	39 S	147	52 E	24.7	35.32	03	2	07	1	02	1	02	1	01	7	1014.2
T2	5	499	65	10	11	0001	K 17	37 S	147	30 E	24.7	35.30	08	3	99	1	08	1	08	1	00	7	1012.9
T2	5	500	65	10	11	0300	K 17	35 S	147	08 E	24.6	35.35	08	2	08	1	08	1	08	1	00	7	1012.2
T2	5	501	65	10	11	0600	K 17	34 S	146	48 E	24.2	35.41	08	2	07	2	07	2	07	2	00	7	1013.2
T2	5	502	65	10	11	0700	K 17	38 S	146	42 E	24.7	35.55	08	2	08	1	07	1	07	1	02	7	1013.2
T2	5	503	65	10	11	0800	K 17	38 S	146	36 E	24.7	35.37	05	2	05	1	07	1	07	1	02	7	1014.2
T2	5	504	65	10	11	0900	K 17	41 S	146	31 E	24.7	35.48	05	2	99	1	09	1	09	1	01	7	1014.6
T2	5	505	65	10	11	1000	K 17	44 S	146	26 E	24.9	35.43	05	1	99	1	09	1	09	1	01	7	1014.9
T2	5	506	65	10	11	1100	K 17	48 S	146	21 E	25.0	35.35	10	2	99	1	09	1	09	1	02	7	1014.9
T2	5	507	65	10	11	1200	K 17	52 S	146	16 E	25.3	35.46	10	2	99	0	99	0	99	0	05	7	1014.2
T2	5	508	65	10	11	1300	K 17	55 S	146	10 E	25.8	35.37	08	2	08	3	09	0	09	0	02	7	1013.5
T2	5	509	65	10	12	0900	K 17	58 S	146	13 E	25.2	35.46	10	4	10	3	09	0	09	0	02	7	1013.9
T2	5	510	65	10	12	1000	K 18	08 S	146	19 E	25.1	35.30	10	4	10	3	09	0	09	0	02	7	1013.9
T2	5	511	65	10	12	1100	K 18	14 S	146	24 E	25.0	35.43	10	3	10	3	11	1	11	1	02	7	1013.9
T2	5	512	65	10	12	1200	K 18	25 S	146	30 E	25.0	35.61	10	3	10	3	09	0	09	0	01	7	1015.6
T2	5	513	65	10	12	1300	K 18	34 S	146	36 E	24.9	35.46	10	3	10	3	11	1	11	1	02	7	1014.6
T2	5	514	65	10	12	1400	K 18	43 S	146	42 E	25.0	35.48	10	3	10	3	10	3	10	3	02	7	1014.6
T2	5	515	65	10	12	1600	K 18	59 S	146	50 E	25.1	35.73	10	3	10	3	11	1	11	1	01	7	1014.6
T2	5	516	65	10	12	1700	K 19	09 S	146	54 E	25.6	36.45	11	4	13	4	09	0	09	0	01	7	1014.6
T2	6	517	65	10	16	1000	K 19	07 S	146	24 E	25.1	36.38	07	3	07	3	07	1	07	1	02	7	1016.6
T2	6	518	65	10	16	1100	K 19	01 S	146	48 E	25.0	36.11	07	3	07	2	07	1	07	1	02	7	1016.6
T2	6	519	65	10	16	1200	K 18	26 S	146	42 E	24.9	35.82	07	3	07	2	07	1	07	1	01	7	1015.9
T2	6	520	65	10	16	1300	K 18	20 S	146	36 E	24.9	35.77	09	3	09	2	09	1	09	1	02	7	1015.2

VESSEL	CRUISE	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WVA.	VIS.	BAROM.	
		NUMBER									DN, AMT,	DN, AMT,	DN, AMT,				
T2	6	521	65	10	16	1400	K 18	44 S 146	51 E 25.2	35.52	07	3	07	1	99	1	1014.6
T2	6	522	65	10	16	1600	K 18	43 S 146	51 E 25.1	35.51	07	3	07	1	99	1	1013.9
T2	6	523	65	10	17	1000	K 18	42 S 146	54 E 25.1	35.70	03	2	99	1	99	1	1014.9
T2	6	524	65	10	18	0700	K 18	36 S 146	40 E 24.7	35.61	04	2	04	1	99	1	1011.9
T2	6	525	65	10	18	0800	K 18	31 S 146	45 E 24.2	35.55	04	2	04	1	99	1	1011.9
T2	6	526	65	10	18	0900	K 18	29 S 146	48 E 24.2	35.44	04	2	04	1	99	1	1012.2
T2	6	527	65	10	18	1000	K 18	24 S 146	54 E 24.6	35.41	04	2	04	1	99	1	1012.5
T2	6	528	65	10	18	1100	K 18	20 S 146	59 E 24.9	35.35	04	2	04	1	99	1	1012.9
T2	6	529	65	10	18	1200	K 18	15 S 147	09 E 25.8	35.35	36	1	07	1	07	2	1012.9
T2	6	530	65	10	18	1300	K 18	10 S 147	10 E 25.6	35.35	36	1	07	1	07	2	1012.5
T2	6	531	65	10	18	1400	K 18	05 S 147	16 E 25.2	35.35	04	2	04	1	99	1	1010.8
T2	6	532	65	10	18	1500	K 18	07 S 147	25 E 25.4	35.35	04	2	04	1	99	1	1010.8
T2	6	533	65	10	18	1600	K 18	09 S 147	34 E 25.4	35.39	09	2	99	1	99	1	1010.5
T2	6	534	65	10	18	1700	K 18	11 S 147	42 E 24.9	35.34	09	2	09	1	09	1	1010.5
T2	6	535	65	10	18	1800	K 18	12 S 147	51 E 25.2	35.39	07	3	99	1	07	2	1010.8
T2	6	536	65	10	18	2100	K 18	17 S 148	13 E 24.7	35.39	07	3	07	2	07	1	1011.5
T2	6	537	65	10	19	0001	K 18	21 S 148	34 E 24.6	35.34	05	2	05	2	07	1	1011.5
T2	6	538	65	10	19	0300	K 18	27 S 149	01 E 24.6	35.34	07	2	07	1	07	1	1010.8
T2	6	539	65	10	19	0630	K 18	32 S 149	28 E 24.2	35.43	07	2	07	1	07	1	1012.5
T2	6	540	65	10	19	0700	K 18	32 S 149	31 E 24.2	35.39	07	2	07	1	07	1	1012.9
T2	6	541	65	10	19	0800	K 18	33 S 149	38 E 24.3	35.39	07	2	07	1	07	1	1012.9
T2	6	542	65	10	19	0900	K 18	34 S 149	44 E 24.2	35.37	09	2	09	1	09	1	1013.5
T2	6	543	65	10	19	1000	K 18	35 S 149	51 E 24.6	35.39	09	2	09	1	09	1	1013.9
T2	6	544	65	10	19	1100	K 18	37 S 149	58 E 24.5	35.41	09	2	09	1	09	1	1013.9
T2	6	545	65	10	19	1200	K 18	38 S 150	06 E 24.2	35.39	09	1	09	1	09	1	1012.5
T2	6	546	65	10	19	1300	K 18	39 S 150	11 E 25.1	35.37	07	2	07	1	09	1	1012.5
T2	6	547	65	10	19	1400	K 18	40 S 150	17 E 25.0	35.37	07	2	07	1	09	1	1011.5
T2	6	548	65	10	19	1500	K 18	40 S 150	22 E 25.1	35.41	07	2	07	1	09	1	1011.2
T2	6	549	65	10	19	1600	K 18	41 S 150	25 E 24.6	35.41	07	2	07	1	09	1	1010.8
T2	6	550	65	10	19	1700	K 18	42 S 150	34 E 24.6	35.43	07	1	07	1	09	1	1011.2
T2	6	551	65	10	19	1800	K 18	42 S 150	34 E 24.2	35.41	06	1	06	1	06	1	1012.2
T2	6	552	65	10	19	2100	K 18	43 S 150	52 E 24.2	35.30	07	3	07	2	07	1	1013.5
T2	6	553	65	10	20	0001	K 18	46 S 151	14 E 24.2	35.32	07	3	07	1	07	1	1012.5
T2	6	554	65	10	20	0600	K 18	51 S 151	33 E 24.4	35.35	07	3	07	1	07	1	1012.5
T2	6	555	65	10	20	0700	K 18	52 S 152	00 E 24.0	35.34	07	3	07	2	07	1	1013.9
T2	6	556	65	10	20	0800	K 18	54 S 152	09 E 24.0	35.35	07	3	07	2	07	1	1014.2
T2	6	557	65	10	20	0900	K 18	56 S 152	14 E 23.8	35.41	07	3	07	2	07	1	1014.6
T2	6	558	65	10	20	1000	K 19	00 S 152	17 E 24.0	35.41	07	3	07	2	07	1	1015.2
T2	6	559	65	10	20	1100	K 19	04 S 152	22 E 23.9	35.39	07	3	07	2	07	1	1014.9
T2	6	560	65	10	20	1200	K 19	04 S 152	23 E 24.3	35.39	07	3	07	2	07	1	1014.2

VESSEL	CRUISE NUMBER	STATION NUMBER	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND DN. ART.	SEA DN. ART.	SPELL DN. ART.	WEA.	VIS.	BAROM.
T2	6	561	65	10	20	1300	K 18	58 S	152 E	24.2	35.39	07	3	07	7	1013.2
T2	6	562	65	10	20	1405	K 18	55 S	152 E	24.4	35.39	07	2	07	7	1013.2
T2	6	563	65	10	20	1500	K 18	58 S	152 E	24.4	35.41	07	2	07	7	1013.2
T2	6	564	65	10	20	1600	K 19	05 S	152 E	24.2	35.43	07	2	07	7	1013.2
T2	6	565	65	10	21	0700	K 19	03 S	152 E	23.7	35.41	07	2	07	7	1014.6
T2	6	566	65	10	21	0800	K 19	00 S	152 E	23.9	35.50	07	3	07	7	1015.9
T2	6	567	65	10	21	0900	K 19	06 S	152 E	23.9	35.41	07	3	07	7	1015.9
T2	6	568	65	10	21	1000	K 19	11 S	152 E	24.0	35.35	07	3	07	7	1016.3
T2	6	569	65	10	21	1100	K 19	20 S	152 E	24.3	35.55	07	3	07	7	1016.3
T2	6	570	65	10	21	1200	K 19	29 S	152 E	24.2	35.39	14	3	04	7	1015.6
T2	6	571	65	10	21	1300	K 19	35 S	152 E	24.2	35.39	14	3	04	7	1014.6
T2	6	572	65	10	21	1400	K 19	42 S	152 E	24.2	35.39	14	3	04	7	1014.6
T2	6	573	65	10	21	1500	K 19	49 S	152 E	24.3	35.52	16	3	05	7	1014.2
T2	6	574	65	10	21	1600	K 19	54 S	152 E	24.2	35.41	16	3	05	7	1014.2
T2	6	575	65	10	21	1700	K 20	03 S	152 E	24.4	35.41	14	3	04	7	1014.2
T2	6	576	65	10	21	1800	K 20	10 S	152 E	24.3	35.35	14	4	14	7	1014.9
T2	6	577	65	10	21	1900	K 20	29 S	153 E	24.3	35.35	14	4	14	7	1014.9
T2	6	578	65	10	22	0001	K 20	49 S	153 E	24.0	35.39	11	3	08	7	1015.9
T2	6	579	65	10	22	0300	K 21	09 S	153 E	24.3	35.37	12	4	12	7	1014.2
T2	6	580	65	10	22	0430	K 21	21 S	153 E	24.1	35.35	12	4	12	7	1014.6
T2	6	581	65	10	22	0610	K 21	26 S	153 E	23.9	35.35	12	4	12	7	1014.6
T2	6	582	65	10	22	0700	K 21	34 S	153 E	24.3	35.39	12	4	12	7	1015.6
T2	6	583	65	10	22	0800	K 21	36 S	153 E	23.9	35.39	12	4	12	7	1016.6
T2	6	584	65	10	22	0900	K 21	38 S	153 E	24.0	35.39	12	4	12	7	1017.6
T2	6	585	65	10	22	1000	K 21	37 S	153 E	24.0	35.35	16	3	16	7	1017.6
T2	6	586	65	10	22	1100	K 21	39 S	153 E	24.3	35.43	16	3	16	7	1017.6
T2	6	587	65	10	22	1200	K 21	44 S	153 E	24.4	35.41	16	3	16	7	1016.3
T2	6	588	65	10	22	1300	K 21	44 S	153 E	24.4	35.41	16	3	16	7	1015.9
T2	6	589	65	10	22	1400	K 21	48 S	153 E	24.1	35.37	11	3	11	7	1016.3
T2	6	590	65	10	22	1500	K 21	40 S	153 E	24.1	35.35	11	3	11	7	1016.6
T2	6	591	65	10	23	0600	K 21	29 S	153 E	23.9	35.37	11	3	11	7	1017.9
T2	6	592	65	10	23	0700	K 21	24 S	153 E	24.1	35.35	11	3	11	7	1017.9
T2	6	593	65	10	23	0800	K 21	19 S	154 E	23.8	35.39	11	3	11	7	1018.3
T2	6	594	65	10	23	0900	K 21	14 S	154 E	23.7	35.42	11	3	11	7	1018.3
T2	6	595	65	10	23	1000	K 21	04 S	154 E	23.6	35.43	11	3	11	7	1018.6
T2	6	596	65	10	23	1100	K 21	04 S	154 E	23.6	35.43	11	3	11	7	1017.9
T2	6	597	65	10	23	1200	K 20	38 S	154 E	24.1	35.41	11	3	11	7	1017.6
T2	6	598	65	10	24	0900	K 20	38 S	154 E	23.8	35.43	12	4	12	7	1018.3
T2	6	599	65	10	24	1000	K 20	36 S	154 E	23.7	35.43	12	4	12	7	1018.3
T2	6	600	65	10	24	1100	K 20	34 S	154 E	23.7	35.43	11	3	11	7	1017.9

VESSEL	CRUISE NUMBER	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND		SEA		SMELL	VIS.	BAROM.
											DN.	AMT.	DN.	AMT.			
T2	6	601	65	10	25	0800	K 20	57 S 154	24 E 23.0	35.41	11	3	11	2	99	1	1017.6
T2	6	602	65	10	25	0900	K 21	00 S 154	21 E 23.0	35.39	11	4	11	3	13	1	1017.6
T2	6	603	65	10	25	1000	K 20	56 S 154	21 E 23.7	35.41	11	3	11	2	09	1	1017.3
T2	6	604	65	10	25	1100	K 20	54 S 154	25 E 23.9	35.41	11	4	11	3	09	1	1016.9
T2	6	605	65	10	25	1200	K 20	59 S 154	25 E 23.9	35.43	11	4	11	3	09	1	1016.3
T2	6	606	65	10	25	1300	K 21	02 S 154	24 E 23.9	35.39	11	4	11	3	09	1	1015.9
T2	6	607	65	10	25	1400	K 20	56 S 154	24 E 24.0	35.39	11	4	11	3	09	1	1016.3
T2	6	608	65	10	26	0600	K 20	51 S 154	27 E 23.0	35.32	12	5	12	3	09	1	1016.3
T2	6	609	65	10	26	0700	K 20	50 S 155	03 E 23.2	35.39	12	5	12	3	12	1	1016.9
T2	6	610	65	10	26	0800	K 20	50 S 155	03 E 23.3	35.44	12	5	12	3	12	1	1017.3
T2	6	611	65	10	26	0900	K 20	49 S 155	16 E 23.1	35.20	12	4	12	3	12	1	1017.3
T2	6	612	65	10	26	1000	K 20	48 S 155	22 E 23.2	35.43	12	4	12	3	12	1	1016.9
T2	6	613	65	10	26	1100	K 20	47 S 155	28 E 23.2	35.46	12	4	12	3	12	1	1016.6
T2	6	614	65	10	26	1200	K 20	46 S 155	35 E 23.3	35.23	12	5	12	4	12	1	1016.3
T2	6	615	65	10	26	1300	K 20	49 S 155	38 E 23.0	35.39	12	5	12	4	12	1	1015.9
T2	6	616	65	10	26	1400	K 20	57 S 155	42 E 23.0	35.35	12	4	12	3	12	1	1015.2
T2	6	617	65	10	26	1600	K 21	04 S 155	41 E 23.2	35.41	12	5	12	4	12	1	1014.9
T2	6	618	65	10	26	0700	K 21	25 S 155	35 E 23.2	35.44	12	4	12	3	12	1	1014.9
T2	6	619	65	10	27	0600	K 21	25 S 155	35 E 23.2	35.44	12	4	12	3	09	1	1015.9
T2	6	620	65	10	27	0700	K 21	35 S 155	35 E 23.2	35.44	12	4	12	3	09	1	1016.6
T2	6	621	65	10	27	0800	K 21	43 S 155	33 E 23.8	35.43	09	4	09	3	09	1	1016.3
T2	6	622	65	10	27	0900	K 21	51 S 155	30 E 23.8	35.43	09	4	09	3	09	1	1017.3
T2	6	623	65	10	27	1000	K 22	00 S 155	28 E 23.8	35.41	09	4	09	3	09	1	1016.9
T2	6	624	65	10	27	1100	K 22	09 S 155	25 E 24.1	35.41	09	4	09	3	09	1	1016.9
T2	6	625	65	10	27	1200	K 22	11 S 155	18 E 24.2	35.43	09	4	09	3	09	1	1015.9
T2	6	626	65	10	27	1300	K 22	11 S 155	18 E 24.2	35.43	09	3	09	3	09	1	1015.9
T2	6	627	65	10	27	1400	K 22	09 S 155	12 E 24.1	35.43	09	3	09	2	09	1	1015.6
T2	6	628	65	10	27	1500	K 22	09 S 155	12 E 24.1	35.44	09	3	09	3	09	1	1015.2
T2	6	629	65	10	27	1600	K 22	11 S 155	18 E 24.0	35.37	09	3	09	3	09	1	1014.9
T2	6	630	65	10	27	1700	K 22	34 S 155	03 E 23.8	35.41	09	3	09	2	09	1	1017.3
T2	6	631	65	10	28	0001	K 22	52 S 154	39 E 24.3	35.39	11	3	09	2	09	1	1017.3
T2	6	632	65	10	28	0400	K 23	13 S 154	07 E 24.0	35.41	11	3	09	3	09	1	1015.9
T2	6	633	65	10	28	0600	K 23	25 S 153	50 E 23.0	35.38	11	2	09	1	09	1	1017.3
T2	6	634	65	10	28	0700	K 23	31 S 153	43 E 24.2	35.41	27	2	99	1	09	1	1017.9
T2	6	635	65	10	28	0900	K 23	47 S 153	35 E 24.0	35.37	32	3	36	1	09	1	1018.6
T2	6	636	65	10	28	0900	K 23	43 S 153	26 E 24.1	35.36	32	2	36	1	09	1	1018.6
T2	6	637	65	10	28	1000	K 23	49 S 153	19 E 23.8	35.39	32	2	36	1	09	1	1018.3
T2	6	638	65	10	28	1100	K 23	55 S 153	10 E 24.0	35.41	09	1	09	1	09	1	1018.3
T2	6	639	65	10	28	1200	K 24	00 S 153	01 E 24.0	35.43	09	1	09	1	09	1	1017.6
T2	6	640	65	10	28	1300	K 24	06 S 152	52 E 24.4	35.41	09	1	09	1	09	1	1017.6

VESSEL	CRUISE	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.
		NUMBER								DN. AMT.	DN. AMT.	DN. AMT.	DN. AMT.			
12	6	641	65	10	28	1400	K 24	15 S 152	46 E 23.8	35.52	09	2	09	1	09	1016.6
12	6	642	65	10	28	1500	K 24	23 S 152	40 E 23.5	35.73	09	2	09	1	09	1015.9
12	6	643	65	10	28	1600	K 24	32 S 152	35 E 23.7	35.82	09	2	09	1	09	1015.9
12	6	644	65	10	28	1700	K 24	40 S 152	28 E 24.1		09	2	09	1	09	1015.9
12	7	645	65	10	30	0600	K 24	45 S 152	26 E 24.3	35.99	03	2	03	1	03	1015.9
12	7	646	65	10	30	0700	K 24	40 S 152	34 E 23.5	35.79	03	2	03	1	03	1016.3
12	7	647	65	10	30	0800	K 24	35 S 152	43 E 23.5	35.71	03	2	03	1	03	1016.3
12	7	648	65	10	30	0900	K 24	30 S 152	51 E 23.8	35.70	03	1	03	1	03	1016.9
12	7	649	65	10	30	1000	K 24	25 S 153	00 E 23.8	35.61	09	2	09	1	09	1017.3
12	7	650	65	10	30	1100	K 24	20 S 153	08 E 24.2	35.46	09	2	09	1	09	1015.9
12	7	651	65	10	30	1200	K 24	25 S 153	18 E 24.6	35.52	09	2	09	1	09	1015.9
12	7	652	65	10	30	1300	K 24	32 S 153	25 E 25.2	35.46	09	1	09	1	09	1014.9
12	7	653	65	10	30	1400	K 24	41 S 153	30 E 25.7	35.50	09	1	09	1	09	1014.2
12	7	654	65	10	30	1500	K 24	49 S 153	36 E 25.9	35.73	09	1	09	0	05	1013.9
12	7	655	65	10	30	1700	K 25	01 S 153	42 E 25.1	35.43	09	1	09	0	05	1014.1
12	7	656	65	10	30	1810	K 25	08 S 153	45 E 25.8	35.52	09	1	09	0	05	1014.2
12	7	657	65	10	30	2100	K 25	41 S 153	43 E 23.2	35.48	99	1	99	1	99	1014.9
12	7	658	65	10	31	0001	K 26	00 S 153	41 E 23.5	35.46	35	2	35	1	99	1013.9
12	7	659	65	10	31	0330	K 26	42 S 153	46 E 23.5	35.42	32	4	32	1	99	1011.5
12	7	660	65	10	31	0600	K 26	58 S 153	43 E 23.7	35.43	30	4	30	1	99	1012.5
12	7	661	65	10	31	0700	K 27	02 S 153	45 E 23.5	35.46	30	4	30	1	99	1012.9
12	7	662	65	10	31	0800	K 27	13 S 153	49 E 23.8	35.41	30	4	30	1	99	1015.9
12	7	663	65	10	31	0900	K 27	24 S 153	54 E 23.6	35.43	30	4	30	1	99	1012.2
12	7	664	65	10	31	1000	K 27	33 S 153	57 E 23.8	35.44	30	4	30	1	99	1010.5
12	7	665	65	10	31	1100	K 27	44 S 154	02 E 23.8	35.39	30	4	30	1	99	1007.5
12	7	666	65	10	31	1200	K 27	54 S 154	05 E 23.8	35.43	33	4	33	1	99	1008.5
12	7	667	65	10	31	1300	K 28	06 S 154	04 E 24.0	35.41	33	4	33	1	99	1007.5
12	7	668	65	10	31	1400	K 28	18 S 154	03 E 23.9	35.35	35	4	35	1	99	1006.1
12	7	669	65	10	31	1500	K 28	30 S 154	02 E 23.9	35.35	35	4	35	1	99	1005.4
12	7	670	65	10	31	1600	K 28	38 S 153	57 E 22.6	35.32	35	5	35	1	99	1004.4
12	7	671	65	10	31	1700	K 28	50 S 153	54 E 22.4	35.32	35	5	35	1	99	1004.1
12	7	672	65	10	31	1800	K 29	33 S 153	49 E 22.5	35.33	35	5	35	1	99	1003.0
12	7	673	65	10	31	2100	K 29	33 S 153	38 E 23.1	35.48	35	4	35	1	99	1000.7
12	7	674	65	11	1	0001	K 30	16 S 153	28 E 21.9	35.48	18	3	99	1	99	1001.4
12	7	675	65	11	1	0300	K 30	37 S 153	20 E 22.1	35.43	19	4	19	1	99	1015.9
12	7	676	65	11	2	0500	K 31	08 S 153	12 E 22.0	35.32	18	4	18	1	99	1015.9
12	7	677	65	11	2	0600	K 31	42 S 153	05 E 22.7	35.33	05	1	99	1	99	1016.3
12	7	678	65	11	2	0700	K 31	42 S 153	03 E 22.6	35.33	09	1	99	1	99	1016.3
12	7	679	65	11	2	0800	K 31	50 S 153	01 E 20.2	35.23	09	1	99	1	99	1016.3
12	7	680	65	11	2	0900	K 31	58 S 152	59 E 20.4	35.33	09	1	99	1	99	1016.3

VESSEL	CRUISE	STATION	YR.	MTH.	DAY	TIME	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BARCH.	
		NUMBER									DN. AMT.	DN. AMT.	DN. AMT.				
T2	7	681	65	11	2	1000	K 32	05 S 152	49 E 20.9		09	2	09	1	17	1	1016.3
T2	7	682	65	11	2	1100	K 32	11 S 152	50 E 20.3	35.33	06	3	06	2	17	1	1015.6
T2	7	683	65	11	2	1200	K 32	19 S 152	47 E 20.3	35.33	06	3	06	2	17	1	1014.9
T2	7	684	65	11	2	1300	K 32	24 S 152	47 E 20.5	35.33	06	4	06	3	17	1	1014.2
T2	7	685	65	11	2	1500	K 32	32 S 152	37 E 20.8	35.33	01	4	01	3	17	1	1012.5
T2	7	686	65	11	2	1600	K 32	39 S 152	31 E 20.8	35.35	01	4	01	3	17	1	1011.9
T2	7	687	65	11	2	1700	K 32	46 S 152	23 E 20.9	35.35	35	4	35	3	17	1	1011.9
T2	7	688	65	11	2	1800	K 32	53 S 152	16 E 20.7	35.35	35	4	35	3	17	1	1012.2
T2	7	689	65	11	2	2100	K 33	23 S 151	58 E 19.1	35.32	35	4	35	3	99	1	1012.5

DATA
PART 2
HYDROLOGY
SUBSURFACE SAMPLES

STATION D 2/ 147/65 DATE 21/ 8/65 TIME 1230 K LATITUDE 19 00 S LONGITUDE 152 24 E

SONIC AIR TEMP. WIND DIR. SP. ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DEPTH WET DRY DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3

293 21.7 23.4 29 2 * 8 6 7 29 1 99 0 1011.2 * * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 23.17 35.480 24.27 4.60 94 *** ***
 1 110 23.00 35.430 24.28 4.49 92 *** ***
 1 230 20.30 35.640 25.19 3.66 71 *** ***

STATION D 2/ 162/65 DATE 22/ 8/65 TIME 1110 K LATITUDE 17 43 S LONGITUDE 151 17 E

SONIC AIR TEMP. WIND DIR. SP. ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DEPTH WET DRY DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3

450 19.8 23.4 99 1 * 8 2 7 99 0 99 0 1012.5 * * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 23.65 35.480 24.13 4.64 96 *** ***
 1 280 18.37 35.550 25.62 3.77 71 *** ***

STATION DATE TIME LATITUDE LONGITUDE
 D 3/ 285/65 9/ 9/65 0900 K 22 00 S 151 01 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DEPTH WET DRY DIR. SP. HEIGHT TYPE AMT. VIS. SEA DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3

65 21.0 22.6 36 1 * 0 0 0 7 05 1 14 1 1015.2 * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT, INORG. P TOTAL P NITRATE

1 0 20.98 35.880 25.19 4.99 98 *** ***

1 20 20.24 35.840 25.36 5.07 99 *** ***

1 36 19.68 35.910 25.56 4.92 95 *** ***

1 50 19.66 35.950 25.59 4.91 94 *** ***

STATION DATE TIME LATITUDE LONGITUDE
 D 3/ 288/65 9/ 9/65 1230 K 22 10 S 151 22 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DEPTH WET DRY DIR. SP. HEIGHT TYPE AMT. VIS. SEA DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3

65 20.6 22.9 34 1 * 0 0 0 7 05 1 14 1 1013.5 * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT, INORG. P TOTAL P NITRATE

1 0 21.48 35.790 24.98 5.02 100 *** ***

1 14 20.38 35.810 25.30 5.02 98 *** ***

1 26 20.06 35.750 25.34 4.95 96 *** ***

1 61 20.04 35.750 25.34 4.94 96 *** ***

STATION	DATE	TIME	LATITUDE		LONGITUDE			
D 3/ 291/65	9/ 9/65	1515 K	22	28 S	151	41 E		
SONIC AIR TEMP.	WIND DIR, SP.	CLOUD TYPE AMT.	VIS. SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3		
DEPTH WET DRY	DIR, SP.							
76 20.6 22.9	34 1	* 4 1	7 99 0	14 1	1012.5	* * *		
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT,	INORG. P	TOTAL P	NITRATE
1 0	22.39	35,790	24.73	4.96	100	***	***	***
1 21	20.77	35,790	25.18	4.83	95	***	***	***
1 32	20.58	35,750	25.20	4.99	98	***	***	***
1 70	20.34	35,770	25.28	4.83	94	***	***	***

STATION	DATE	TIME	LATITUDE		LONGITUDE			
D 3/ 294/65	9/ 9/65	1830 K	22	47 S	151	59 E		
SONIC AIR TEMP.	WIND DIR, SP.	CLOUD TYPE AMT.	VIS. SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3		
DEPTH WET DRY	DIR, SP.							
76 20.7 21.4	09 2	* 0 0	7 02 1	11 1	1013.2	* * *		
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT,	INORG. P	TOTAL P	NITRATE
1 0	21.81	35,730	24.84	5.01	100	***	***	***
1 20	21.18	35,590	24.91	4.86	96	***	***	***
1 47	21.08	35,610	24.96	4.73	93	***	***	***
1 70	21.09	35,590	24.94	4.84	95	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 D 3/ 298/65 10/ 9/65 0535 K 23 51 S 152 47 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DEPTH WET DRY DIR. SP. HEIGHT TYPE AMT. VIS. SEA DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3

387 18.9 22.0 34 3 * 4 3 7 36 2 05 1 1015.9 * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 21.84 35.390 24.58 5.64 113 *** ***
 1 20 21.77 35.440 24.64 4.83 96 *** ***
 1 240 17.90 35.920 25.71 3.43 64 *** ***
 1 270 15.23 35.370 26.22 4.19 74 *** ***

STATION DATE TIME LATITUDE LONGITUDE
 D 4/ 317/65 14/ 9/65 1230 K 22 34 S 150 58 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DEPTH WET DRY DIR. SP. HEIGHT TYPE AMT. VIS. SEA DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3

52 16.4 22.1 16 2 * 0 0 7 18 2 10 1 1012.9 * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 21.53 35.770 24.95 5.10 102 *** ***
 1 20 21.05 35.770 25.08 5.12 101 *** ***
 1 30 20.58 35.790 25.23 5.12 100 *** ***
 1 43 20.15 35.860 25.40 5.06 98 *** ***

STATION	DATE	TIME	LATITUDE		LONGITUDE				
E 4/ 320/65	14/ 9/65	1520 K	22	12 S	150	48 E			
SONIC AIR TEMP.	WIND DIR, SP.	WIND DIR, SP.	CLOUD TYPE AMT.	ANEM. HEIGHT	VIS. DIR, AMT.	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3
56	17.5 21.8 10 2	*	0 0	*	7 14 2	10 1	1011.5	*	* *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE	
1	0 21.59	35.810	24.97	5.05	101	***	***	***	
1	16 20.46	35.790	25.26	5.05	99	***	***	***	
1	23 20.23	35.820	25.34	5.11	99	***	***	***	
1	52 20.20	35.820	25.35	5.07	98	***	***	***	

STATION	DATE	TIME	LATITUDE		LONGITUDE				
D 4/ 323/65	14/ 9/65	1830 K	21	52 S	150	41 E			
SONIC AIR TEMP.	WIND DIR, SP.	WIND DIR, SP.	CLOUD TYPE AMT.	ANEM. HEIGHT	VIS. DIR, AMT.	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3
62	18.0 21.6 07 4	*	0 0	*	7 99 3	14 1	1012.9	*	* *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE	
1	0 21.79	35.840	24.93	5.02	101	***	***	***	
1	33 21.18	35.750	25.03	4.93	98	***	***	***	
1	41 20.77	35.860	25.23	4.94	97	***	***	***	
1	57 20.71	35.880	25.26	4.95	97	***	***	***	

STATION	DATE	TIME	LATITUDE		LONGITUDE	
D 4/ 349/65	17/ 9/65	1800 K	18	11 S	147	18 E
SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES						
DEPTH KEY DRY DIR. SP. HEIGHT TYPE AMT.	VIS. SEA DIR. AMT. DIR. AMT. PRESSURE	CAST1 CAST2 CAST3				
261 21.4 24.2 01 1	* 0 0 7 99 1 05 1 1011.5	* * *				
CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE						
1 0 25.04 35.430 23.67 4.78 101 *** ***						
1 50 24.05 35.410 23.96 4.13 86 *** ***						
1 100 22.90 35.700 24.51 3.49 71 *** ***						
1 150 20.84 35.730 25.11 3.48 68 *** ***						

STATION	DATE	TIME	LATITUDE		LONGITUDE	
D 4/ 351/65	18/ 9/65	0001 K	17	56 S	147	41 E
SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES						
DEPTH KEY DRY DIR. SP. HEIGHT TYPE AMT.	VIS. SEA DIR. AMT. DIR. AMT. PRESSURE	CAST1 CAST2 CAST3				
*** 22,3 23,6 15 1	* 4 1 7 99 1 99 1 1013,9	* * *				
CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE						
1 0 24.23 35.460 23.94 4.73 99 *** ***						
1 106 23.40 35.430 24.16 4.44 91 *** ***						
1 205 19.38 35.730 25.50 3.67 70 *** ***						
1 270 17.16 35.610 25.96 3.60 69 *** ***						

STATION	DATE	TIME	LATITUDE		LONGITUDE									
D 4/ 353/65	18/ 9/65	0610 K	17	42 S	148	03 E								
SONIC AIR TEMP.	WIND DIR.	SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS. DIR.	SEA DIR.	AMT.	SWELL DIR.	AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	GAST3
*** 21.1	23.8	14	3	*	4	4	7	14	3	16	1	1015.2	*	* *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE						
1	0	35.500	24.00	4.87	102	***	***	***						
1	68	35.500	24.13	4.61	95	***	***	***						
1	162	35.750	24.92	3.62	72	***	***	***						
1	240	***	***	***	***	***	***	***						

STATION	DATE	TIME	LATITUDE		LONGITUDE									
D 5/ 395/65	1/10/65	0300 K	16	40 S	146	32 E								
SONIC AIR TEMP.	WIND DIR.	SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS. DIR.	SEA DIR.	AMT.	SWELL DIR.	AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	GAST3
*** 21.6	23.5	09	1	*	9	0	7	99	0	99	1	1010.2	*	* *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE						
1	0	35.300	23.77	4.66	98	***	***	***						
1	70	35.280	23.80	4.60	96	***	***	***						
1	150	35.640	24.83	3.35	67	***	***	***						
1	270	35.370	25.80	3.72	68	***	***	***						

STATION	DATE	TIME	LATITUDE		LONGITUDE	
D 5/ 433/65	5/10/65	0600 K	16	25 S	149	58 E
SONIC AIR TEMP. WIND DIR. SP. ANEM. CLOUD VIS. SEA SWELL ATMOS. WIRE ANGLES						
DEPTH WET DRY	DIR. SP.	DIR.	SP.	DIR. AMT.	DIR. AMT.	PRESSURE CAST1 CAST2 CAST3
604	21.2 23.8	07	3	4 1	7 07 2	99 0 1012.9 * * *
CAST DEPTH TEMP, SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE						
1	0	24.70		35.250	23.64	4.58 96 ***
1	70	24.36		35.250	23.74	4.58 96 ***
1	170	22.07		35.550	24.64	3.50 70 ***

STATION	DATE	TIME	LATITUDE		LONGITUDE	
D 5/ 436/65	5/10/65	0900 K	16	42 S	149	58 E
SONIC AIR TEMP. WIND DIR. SP. ANEM. CLOUD VIS. SEA SWELL ATMOS. WIRE ANGLES						
DEPTH WET DRY	DIR. SP.	DIR.	SP.	DIR. AMT.	DIR. AMT.	PRESSURE CAST1 CAST2 CAST3
***	21.1 24.8	06	2	0 0	7 06 2	99 0 1014.6 * * *
CAST DEPTH TEMP, SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE						
1	0	24.81		35.250	23.61	4.72 100 ***
1	70	23.85		35.250	23.90	4.59 95 ***
1	175	22.48		35.480	24.47	3.75 76 ***
1	270	18.54		35.480	25.52	3.81 72 ***

STATION DATE TIME LATITUDE LONGITUDE
 D 7/ 660/65 31/10/65 0630 K 26 58 S 153 43 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DEPTH WET DRY DIR. SP. HEIGHT TYPE AMT. VIS. SEA DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 234 20.0 22.4 30 4 * 4 1 7 30 4 * * 1012.5 * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 23.70 35.430 24.08 *** *** ***
 1 135 22.50 35.970 24.53 *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 D 7/ 663/65 31/10/65 0900 K 27 24 S 153 54 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DEPTH WET DRY DIR. SP. HEIGHT TYPE AMT. VIS. SEA DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 432 20.7 23.7 30 4 * 0 0 7 30 3 30 1 1015.9 * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 23.60 35.430 24.10 *** *** ***
 1 135 23.00 35.590 24.40 *** *** ***

STATION	DATE	TIME	LATITUDE		LONGITUDE							
D 7/ 666765	31/10/65	1200 K	27	54 S	154	05 E						
SONIC AIR TEMP.	WIND	ANEM.	CLOUD	VIS.	SEA	SHELL	ATMOS.	WIRE ANGLES				
DEPTH MET DRY	DIR. SP.	HEIGHT	TYPE AMT.	DIR. AMT.	DIR. AMT.	DIR. AMT.	PRESSURE	CAST1 CAST2 CAST3				
549 21.2 24.0 33 4	*	0	0	7	33	3	30	1	1008.5	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE			
1	0	23.80	35.430	24.05	***	***	***	***	***			
1	135	23.20	35.570	24.33	***	***	***	***	***			

OCEANOGRAPHICAL STATION LISTS

1. Hydrological and planktological observations by F.R.V. *Warreen* in south-eastern Australian waters, 1938-39
2. Hydrological and planktological observations by F.R.V. *Warreen* in south-eastern Australian waters, 1940-42
3. Hydrological and planktological observations by F.R.V. *Warreen* in south-western Australian waters, 1947-50
4. Onshore hydrological investigations in eastern Australia, 1942-50
5. Estuarine hydrological investigations in eastern Australia, 1940-50. Queensland: Nerang and Coomera Rivers, Moreton Bay and Brisbane River, Logan River, Dunwich Oyster Lease; New South Wales: Richmond River, Clarence River, Macleay River, Hastings River, Manning River, Port Stephens, Tilligerry Creek, Hawkesbury River
6. Estuarine hydrological investigations in eastern Australia, 1940-50. New South Wales: Middle Harbour and Port Jackson, Georges River-Botany Bay
7. Estuarine hydrological investigations in eastern Australia, 1940-50. New South Wales: Port Hacking, Lake Illawarra, Shoalhaven River, Jervis Bay, Clyde River, Moruya River, Tuross River, Wagonga Inlet; Victoria: Port Phillip; Tasmania: Tamar River, Derwent River, Huon River, D'Entrecasteaux Channel, Pittwater, Lake Dobson (freshwater), Penna Dam (freshwater)
8. Hydrological investigations in south-western Australia, 1944-50
9. Records of twenty-four hourly hydrological observations at selected stations in eastern Australian estuarine systems, 1942-50. Queensland: Logan River; New South Wales: Richmond River, Clarence River, Macleay River, Hastings River, Manning River, Port Stephens, Hawkesbury River, Georges River, Port Hacking, Clyde River, Tuross River; Tasmania: Tamar River, Derwent River
10. Records of twenty-four hourly hydrological observations at Shell Point, Georges River, New South Wales, 1942-50
11. Analyses of bottom deposits in eastern Australia, 1946-50
12. Estuarine hydrological investigations in eastern and south-western Australia, 1951
13. Analysis of bottom deposits in eastern and south-western Australia, 1951 and records of twenty-four hourly hydrological observations at selected stations in eastern Australian estuarine systems, 1951
14. Onshore hydrological investigations in eastern and south-western Australia, 1951
15. Estuarine hydrological investigations in eastern and south-western Australia, 1952
16. Analysis of bottom deposits in eastern and south-western Australia, 1952 and records of twenty-four hourly hydrological observations at selected stations in eastern Australian estuarine systems, 1952
17. Onshore hydrological investigations in eastern and south-western Australia, 1952
18. Onshore hydrological investigations in eastern and south-western Australia, 1953
19. Onshore planktological investigations in eastern Australia, 1945-54
20. Surface sampling in the Tasman Sea, 1953
21. Estuarine hydrological investigations in eastern and south-western Australia, 1953
22. Further onshore planktological investigations in eastern Australia, 1945-54
23. Planktological investigations made by F.R.V. *Derwent Hunter* in eastern Australian waters, 1952-54
24. Onshore hydrological investigations in eastern and south-western Australia, 1954
25. Surface sampling in the Tasman Sea, 1954
26. Estuarine hydrological investigations in eastern and south-western Australia, 1954
27. Onshore and oceanic hydrological investigations in eastern and south-western Australia, 1955
28. Surface sampling in the Tasman and Coral Seas, 1955
29. Estuarine hydrological investigations in eastern and south-western Australia, 1955
30. Onshore and oceanic hydrological investigations in eastern and south-western Australia, 1956
31. Surface sampling in the Tasman and Coral Seas and the south-eastern Indian Ocean, 1956
32. Estuarine hydrological investigations in eastern and south-western Australia, 1956
33. Coastal hydrological investigations in eastern and south-western Australia, 1957
34. Coastal hydrological investigations at Port Hacking, New South Wales, 1957
35. Coastal hydrological investigations at Eden, New South Wales, 1957

OCEANOGRAPHICAL STATION LISTS

(Continued)

36. Surface sampling in the Tasman and Coral Seas, 1957
37. Hydrological investigations from F.R.V. *Derwent Hunter*, 1957
38. Coastal hydrological investigations in the New South Wales tuna fishing area, 1958
39. Surface sampling in the Coral and Tasman Seas, 1958
40. Coastal hydrological investigations in south-eastern Australia, 1958
41. Oceanic investigations in eastern Australian waters, F.R.V. *Derwent Hunter*, 1958
42. Coastal investigations at Port Hacking, New South Wales, 1958
43. Oceanic investigations in eastern Australia, H.M.A. Ships *Queenborough*, *Quickmatch*, and *Warrego*, 1958
44. Oceanic observations in Antarctic waters, M.V. *Magga Dan*, 1959
45. Coastal hydrological investigations in eastern Australia, 1959
46. Coastal hydrological investigations in the New South Wales tuna fishing area, 1959
47. Coastal investigations at Port Hacking, New South Wales, 1959
48. Oceanic investigations in eastern Australian waters, F.R.V. *Derwent Hunter*, 1959
49. Coastal hydrological sampling Rottneest Island, W.A., and Port Moresby, Papua, during the I.G.Y. (1957-58), and surface sampling in the Tasman and Coral Seas, 1959
50. Surface sampling in the Coral and Tasman Seas, 1960
51. Coastal hydrological investigations in eastern Australia, 1960
52. Coastal investigations at Port Hacking, New South Wales, 1960
53. Coastal hydrological investigations in the New South Wales tuna fishing area, 1960
54. Investigations by F.R.V. *Derwent Hunter* on the eastern Australian tuna grounds in 1961
55. Investigations by F.R.V. *Weerutta* on the South Australian tuna grounds in 1961
56. Investigations by F.R.V. *Marelda* on the eastern Australian tuna grounds in 1961
57. Investigations by F.V. *Estelle Star* in Western Australian waters in 1961
58. Temperature observations from Australian tuna fishing vessels in 1961
59. Investigations by F.R.V. *Derwent Hunter* on the eastern Australian tuna grounds in 1962
60. Investigations by F.R.V. *Investigator* on the South Australian tuna grounds in 1962
61. Investigations by F.R.V. *Marelda* on the eastern Australian tuna grounds in 1962
62. Investigations by F.V. *Estelle Star* in Western Australian waters in 1962
63. Temperature and salinity observations from Australian tuna fishing vessels in 1962
64. Investigations by F.R.V. *Investigator* on the South Australian tuna grounds in 1963
65. Investigations by F.R.V. *Marelda* on the eastern Australian tuna grounds in 1963
66. Temperature and salinity observations from Australian tuna fishing vessels in 1963
67. Investigations by F.R.V. *Investigator* on the South Australian tuna grounds in 1964
68. Investigations by F.R.V. *Marelda* on the eastern Australian tuna grounds in 1964
69. Temperature and salinity observations from Australian tuna fishing vessels in 1964
70. Investigations by F.R.V. *Investigator* on the South Australian tuna grounds in 1965
71. Investigations by F.V. *Estelle Star* in South Australian and New South Wales waters in 1965
72. Investigations by F.R.V. *Marelda* on the eastern Australian tuna grounds in 1965
73. Investigations by F.V. *Degei* in Queensland waters in 1965
74. Temperature and salinity observations from Australian tuna fishing vessels in 1965
75. Investigations by F.V. *Degei* in New South Wales, South, and Western Australian waters in 1966
76. Investigations by F.V. *Estelle Star* in South and Western Australian waters in 1966
77. Temperature and salinity observations from Australian tuna fishing vessels in 1966
78. Drift bottle releases and recoveries in Bass Strait and adjacent waters, 1958-1962
79. Drift bottle releases and recoveries in Western Australia, 1956-1957
80. Investigations by F.R.V. *Lancelin* in Western Australian waters in 1963