

OCEANOGRAPHICAL STATION LIST

VOLUME 56

INVESTIGATIONS BY F.R.V. *MARELDA* ON THE
EASTERN AUSTRALIAN TUNA GROUNDS IN 1961

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

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MELBOURNE, 1968

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VOLUME 56

Investigations by F.R.V. Marelda
on the Eastern Australian Tuna Grounds in 1961

I. INTRODUCTION

This report records the data collected during the 1961 cruises of F.R.V. Marelda (M1/61-M17/61).

These cruises were planned to investigate hydrological conditions on the tuna grounds and to troll and tag tuna. Track charts and station positions are given in Figures 1-13. There are no track charts for Cruises M4-7/61. On Cruise M4/61, a section off Port Hacking was worked. Cruise M5/61 was planned to tag tuna between Sydney and Port Stephens. Cruises M6 and M7/61 concerned the Port Hacking 50 and 100 m stations only.

Marelda is a 36-ft wooden fishing vessel built in 1946 and converted for research in 1955. She is powered by a 48 hp Gardner diesel engine with an auxiliary Coventry Victor diesel of 5 hp, and is equipped with a magnetic compass, a radio transmitter with four transmitting frequencies, and a Kelvin Hughes Fisherman's Asdic. Marelda has two hydraulic drum winches of 4 hp with 1,000 m of wire on each.

II. WORK ACCOMPLISHED

Table 1 gives details of time, number of stations worked and numbers of tuna trolled and tagged for each cruise. On all cruises, the work was carried out by Mr R. Greig.

III. METHOD OF COLLECTION AND ANALYSIS OF SAMPLES

1. Physics

Temperature.—Water temperatures were taken with deep-sea reversing thermometers. On Cruises 1-7, temperatures are considered accurate to ± 0.2 degC., whilst on Cruises 8-17, temperatures are considered accurate to ± 0.1 degC.

Depth of Samples.—Wire angles were usually small (less than 5 degrees). From Cruise 8 onwards, an unprotected thermometer was used on each of the two deepest bottles of the cast. From their readings depths are considered accurate to about $\pm 7\%$.

TABLE 1

DETAILS OF CRUISES AND WORK DONE

Cruise	Dates	Number of Stations Occupied	Hydrology		Tuna Trolled			Tuna Tagged			
			1	2	1	2	3	4	5	1	2
M1/61	Feb.14-22	1	1	1	16	7	17	14	5		
M2/61	Feb.28-Mar.30	12	12	11	112	4	33	110	4		
M3/61	Apr.12-14					6	11	4	6		
M4/61	May 3	5	5	5							
M5/61	May 10-15										2
M6/61	May 17	2	2	2							
M7/61	May 24	1	1	1							
M8/61	June 2-17	25	25	25							1
M9/61	July 13-30	13	13	13			1	1			
M10/61	Aug. 8-13	20	20	15							
M11/61	Aug.16-19	23	23	15							
M12/61	Aug.23-Sept.1	24	24	15							
M13/61	Sept.13-20	24	24	15				1	4	1	
M14/61	Sept.26-Oct.2	23	23	15			4	59			
M15/61	Oct. 7-19	24	24	19			3	53	2	3	
M16/61	Oct.28-Nov.30	41	41	31			1	13	18	19	5
M17/61	Dec. 2-18	11	11	11			2	24	57	2	

Hydrology 1 Number of stations at which surface samples were taken

2 Number of stations at which subsurface samples were taken

Tuna trolled and tagged 1 Southern bluefin 2 Yellowfin 3 Albacore 4 Striped 5 Mackerel tuna

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 about $\pm 0.05\%$.

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) -

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

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IV. TRACK CHARTS

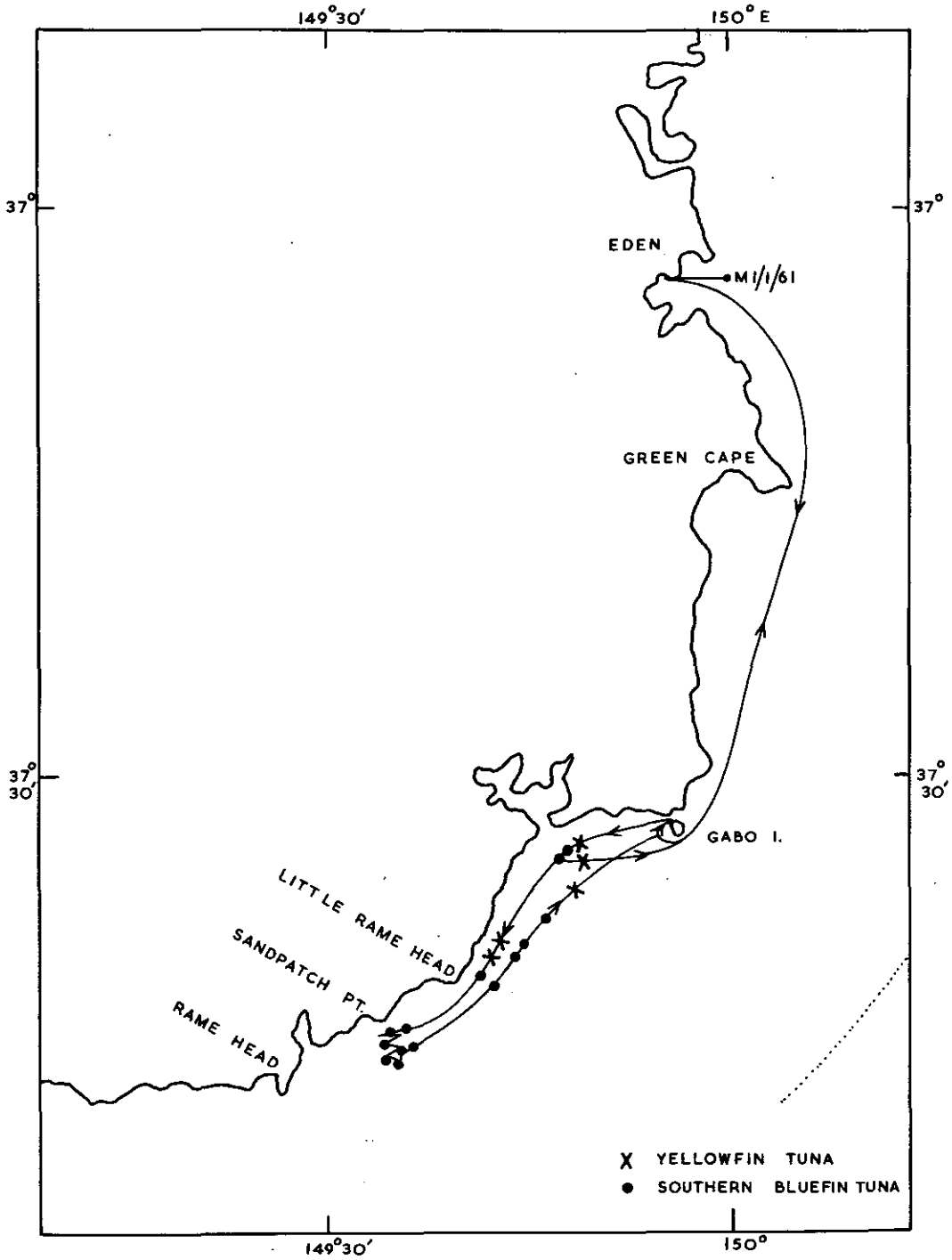


Fig. 1.- Track chart Cruise M 1/61

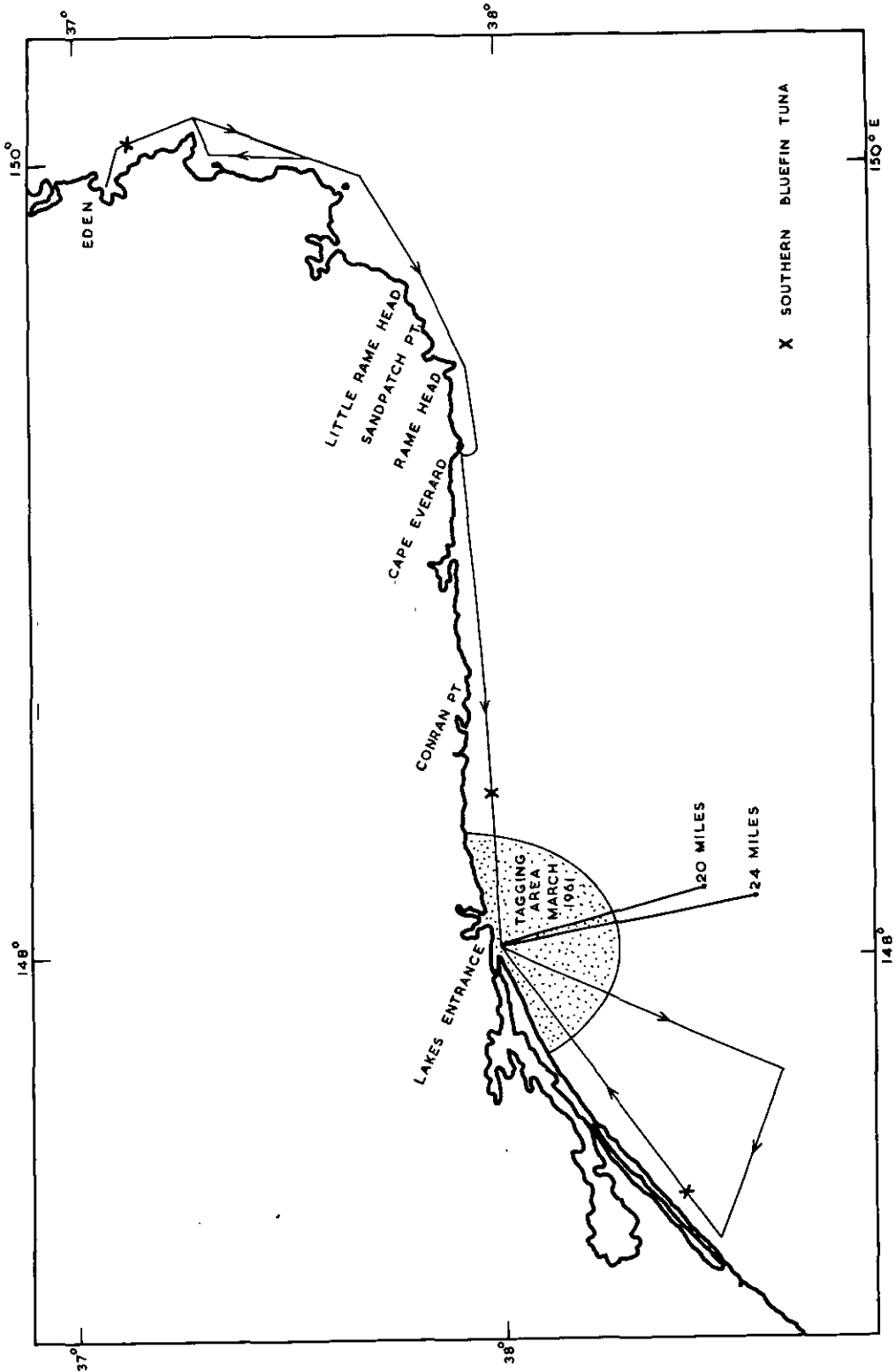


Fig. 2.- Track chart Cruise M 2/61

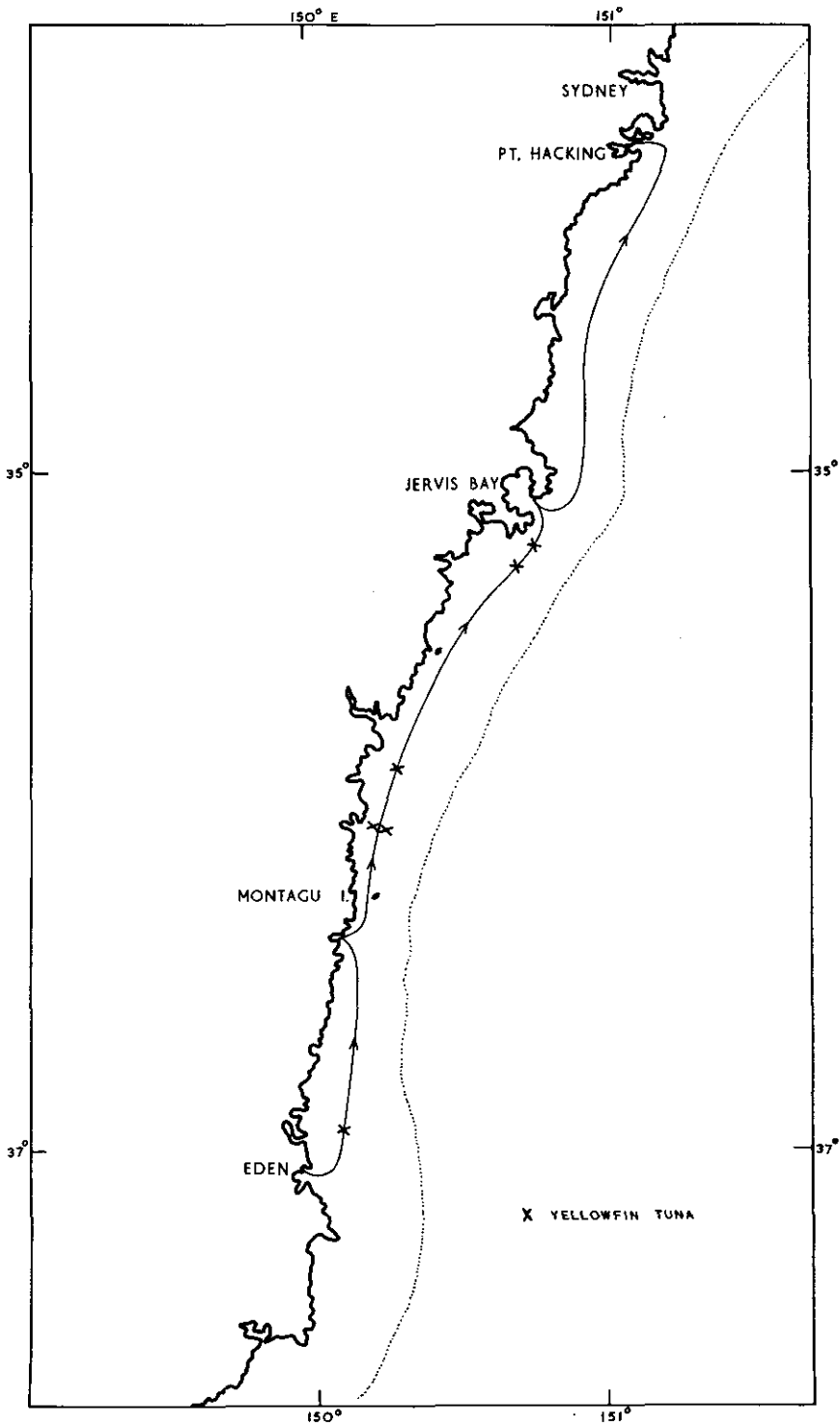


Fig. 3.- Track chart Cruise M 3/61

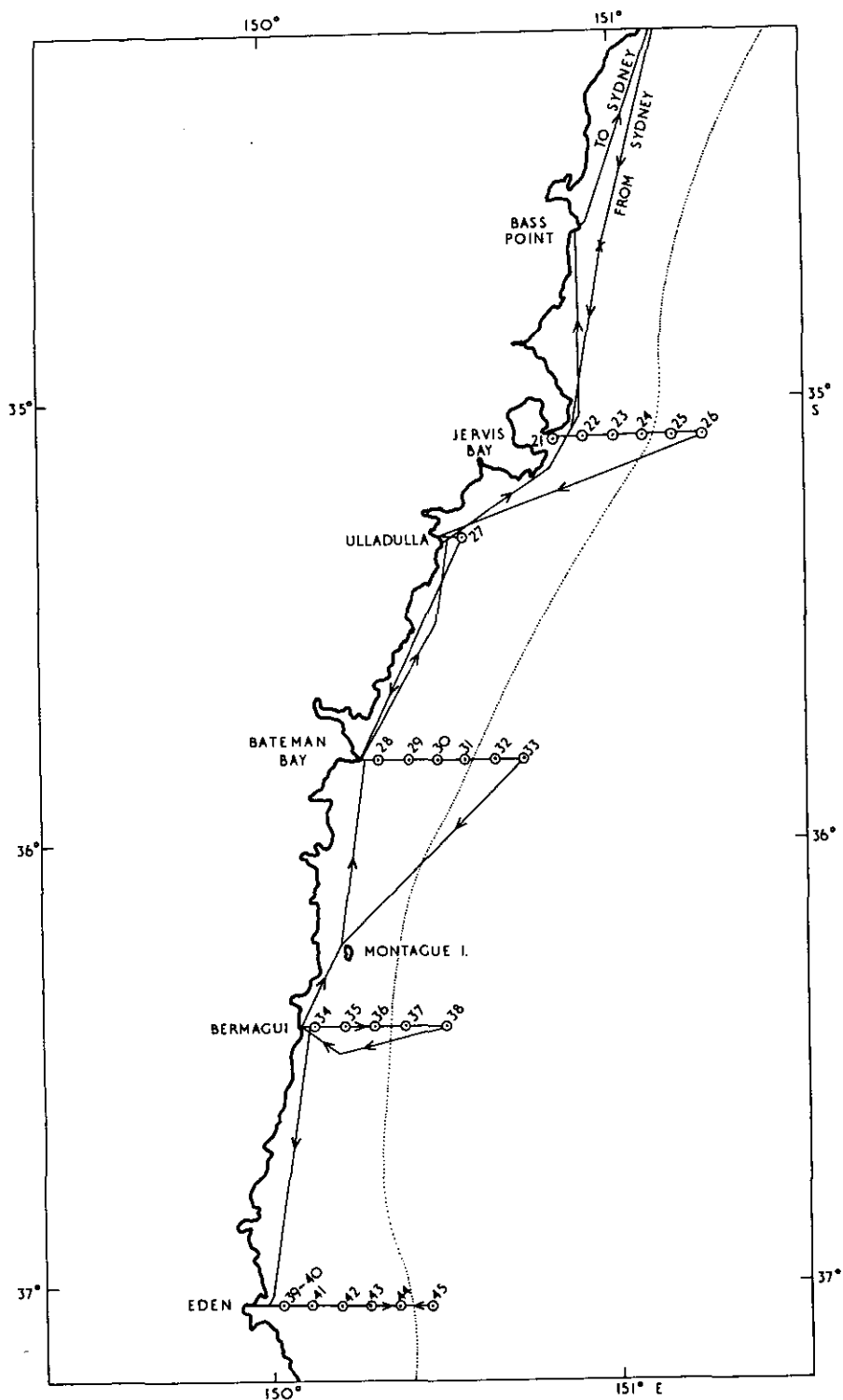


Fig. 4.- Track chart Cruise M B/61

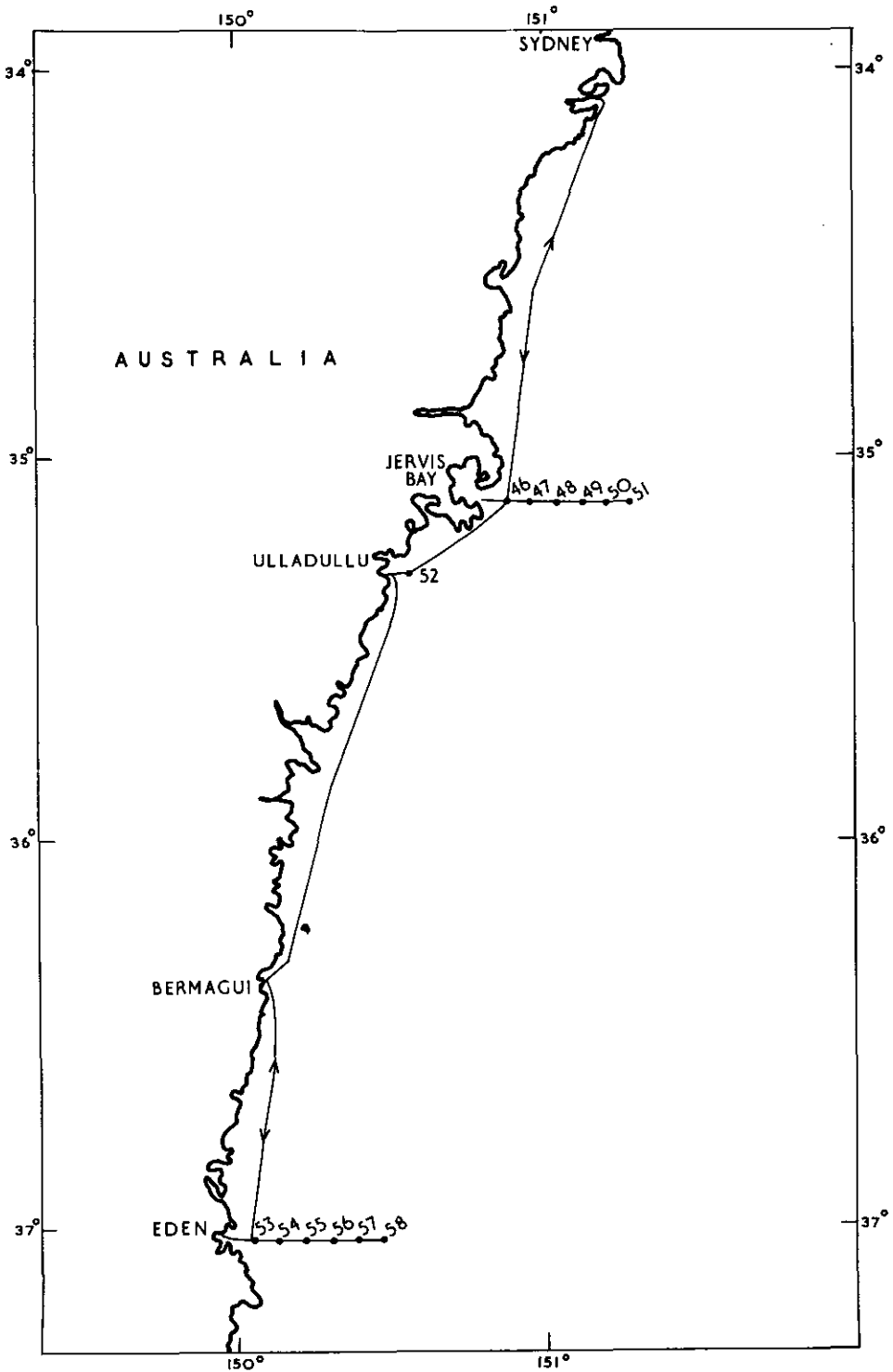


Fig. 5.- Track chart Cruise M 9/61

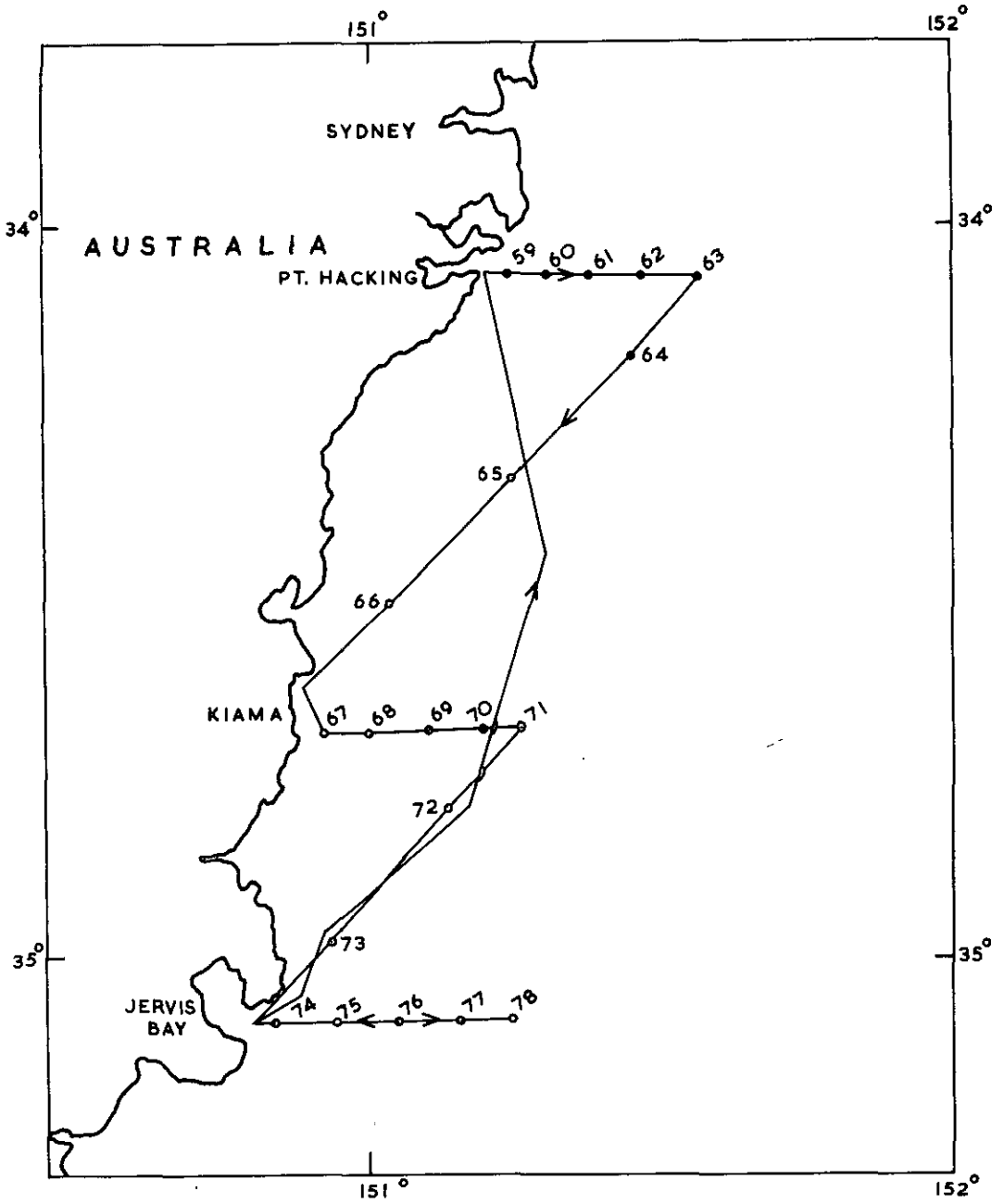


Fig. 6.- Track chart Cruise M 10/61

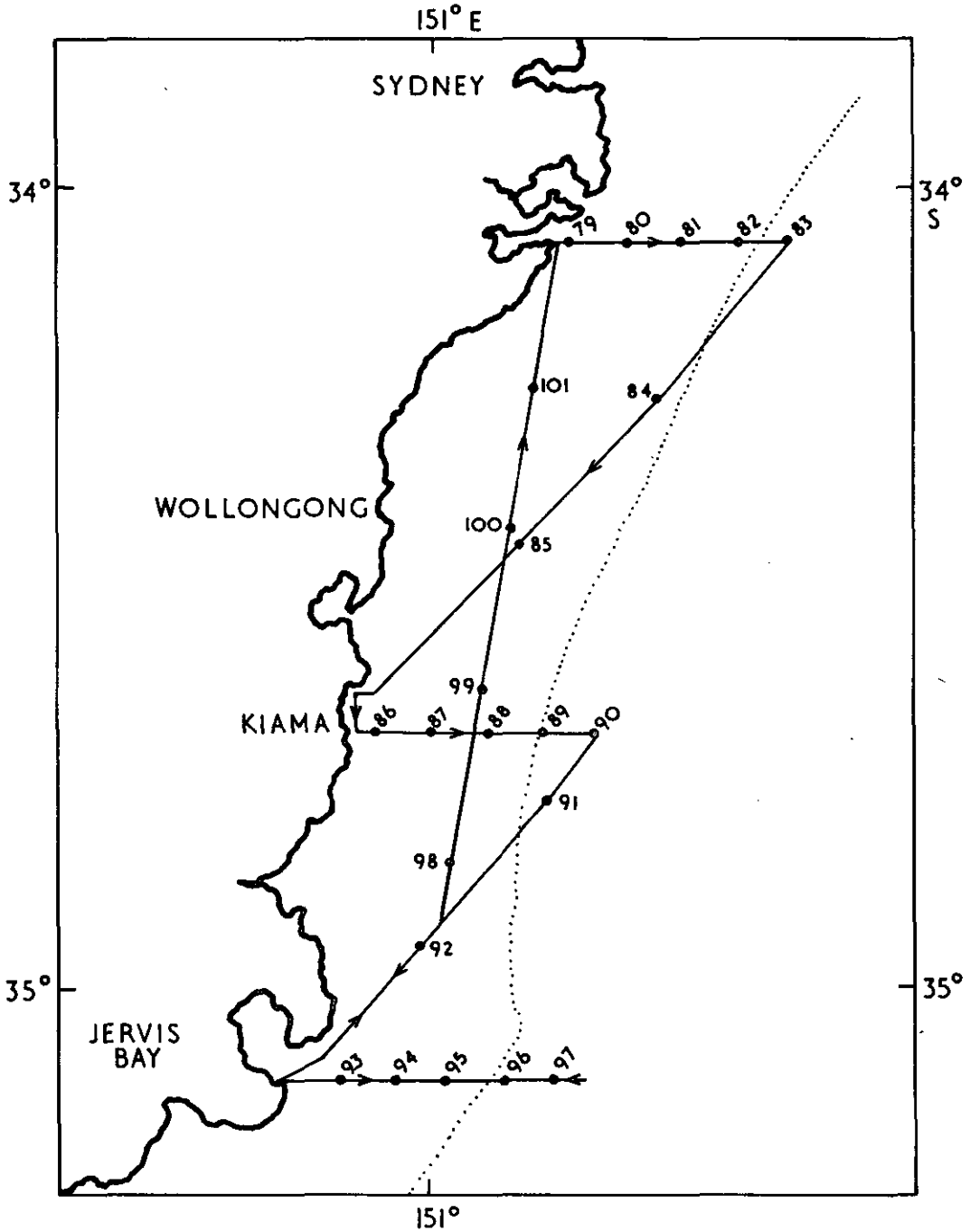


Fig. 7.- Track chart Cruise M 11/61

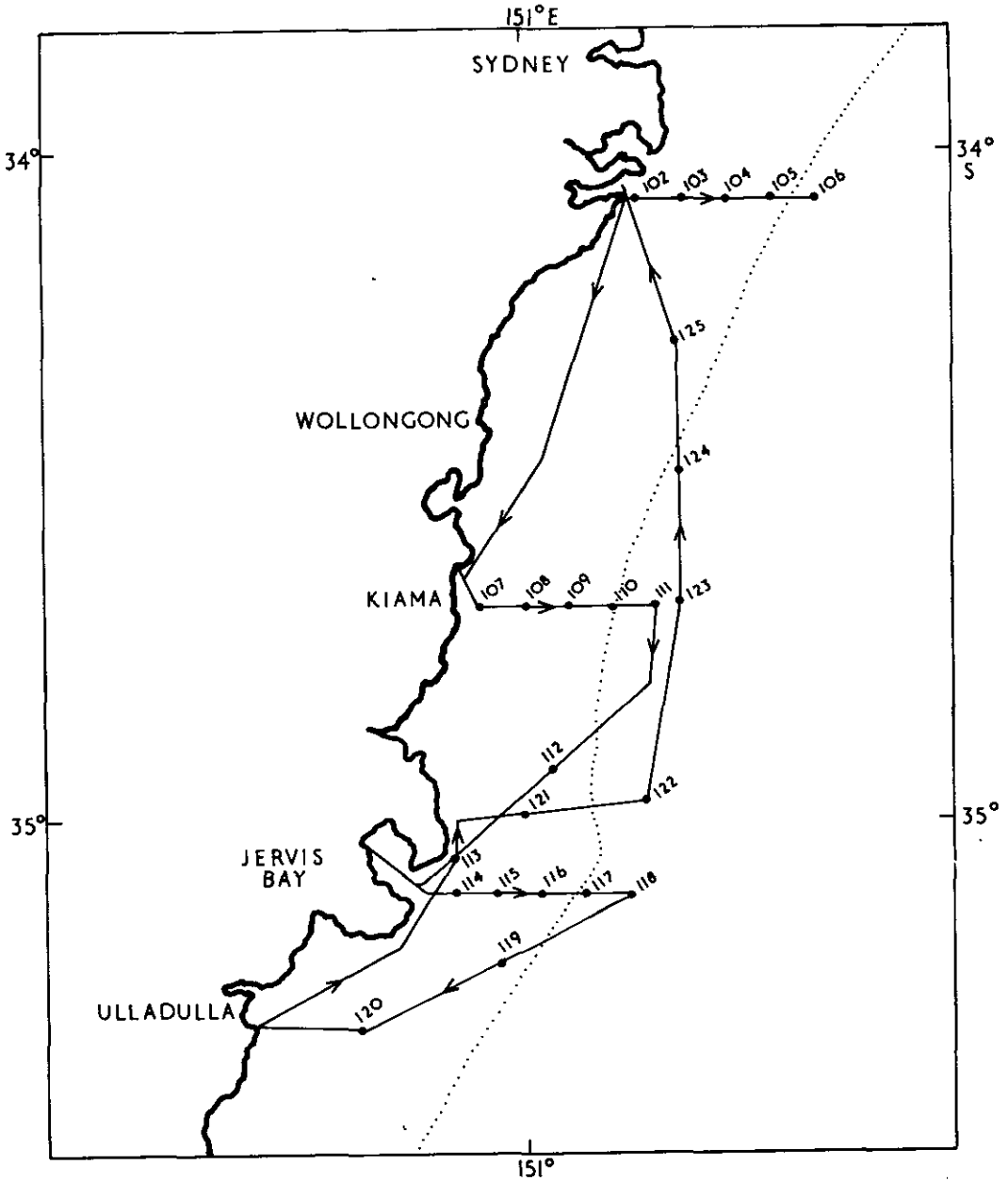


Fig. 8- Track chart Cruise M 12/61

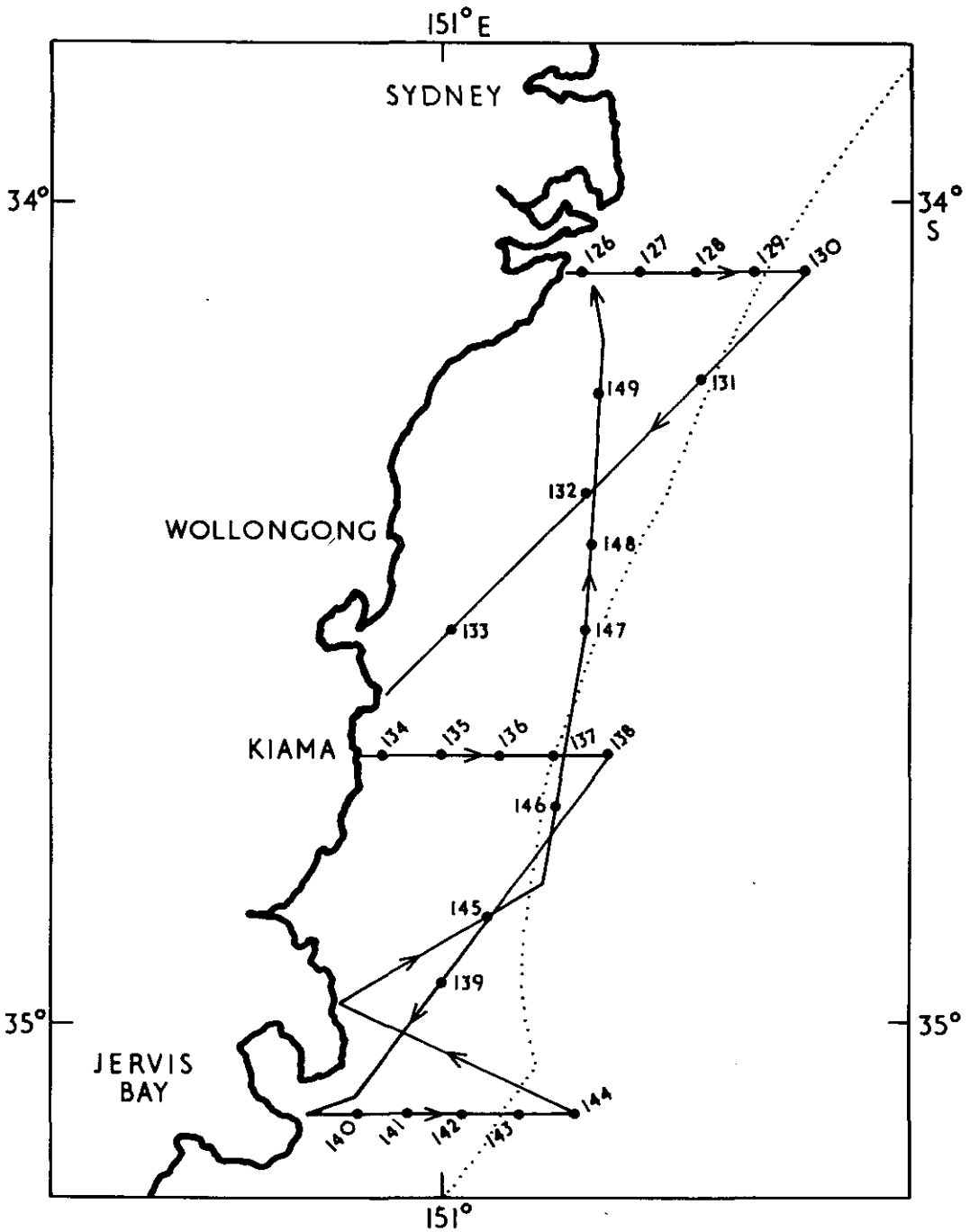


Fig. 9: Track chart Cruise M 13/61

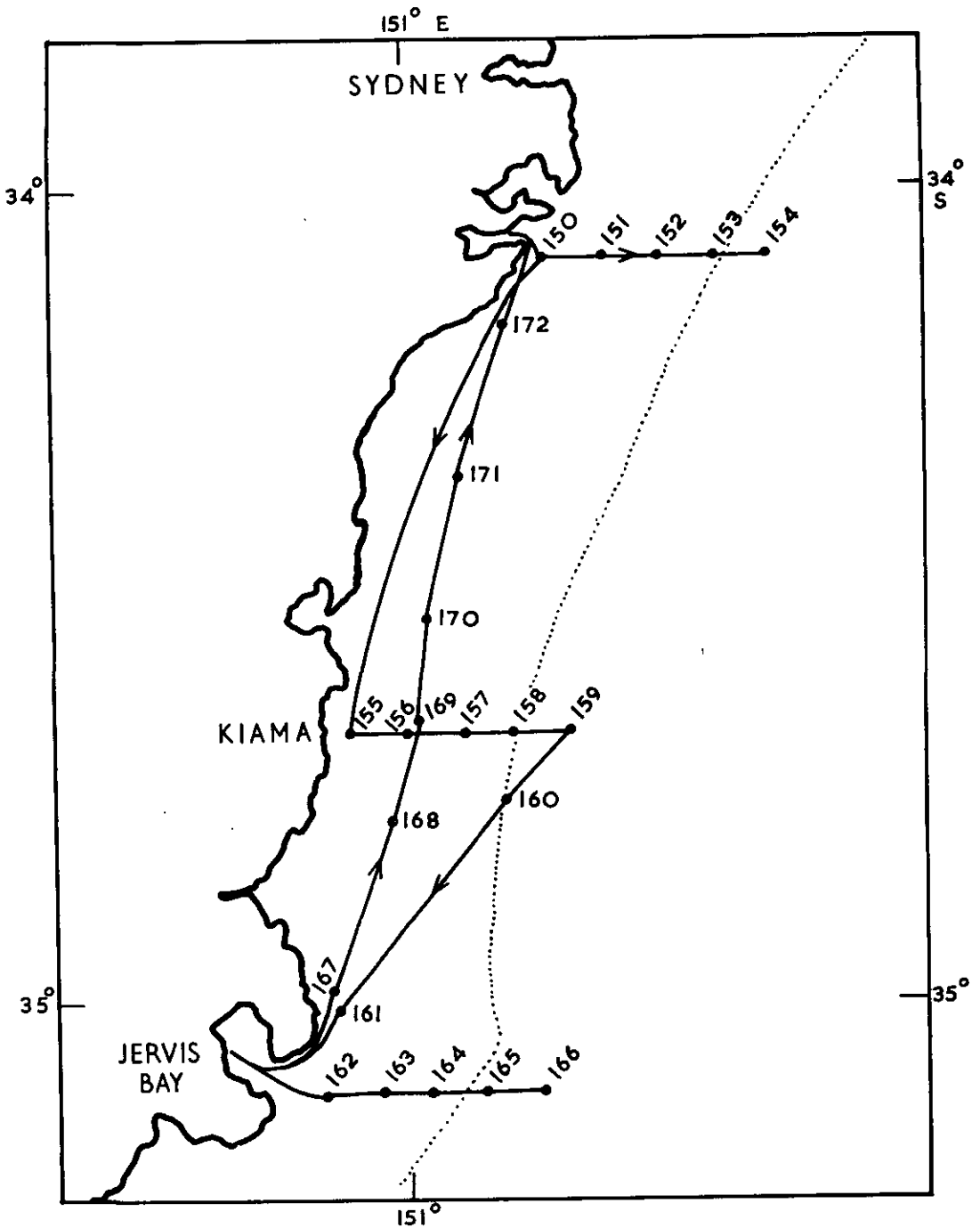


Fig. 10.- Track chart Cruise M 14/61

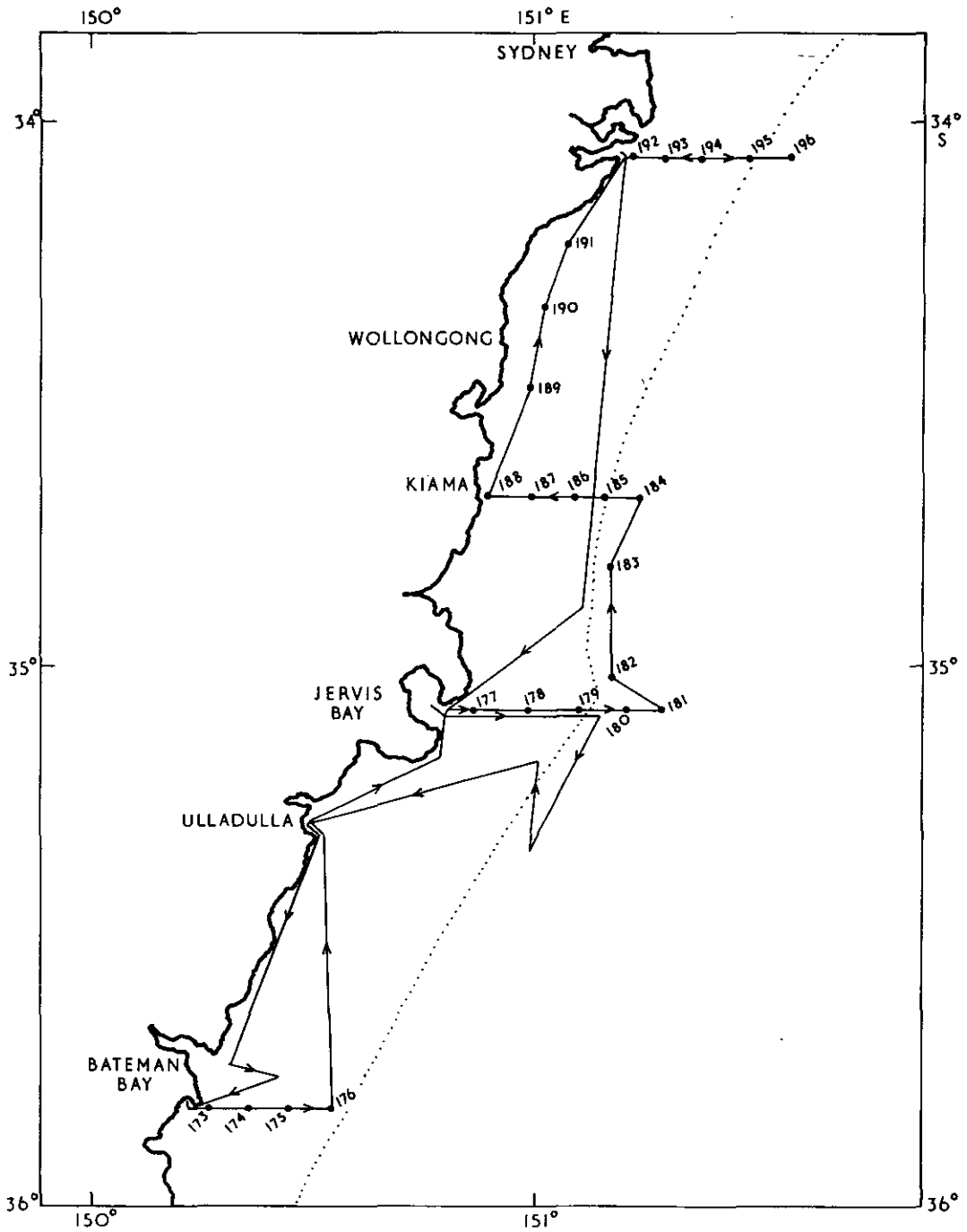


Fig. 11.- Track chart Cruise M 15/61

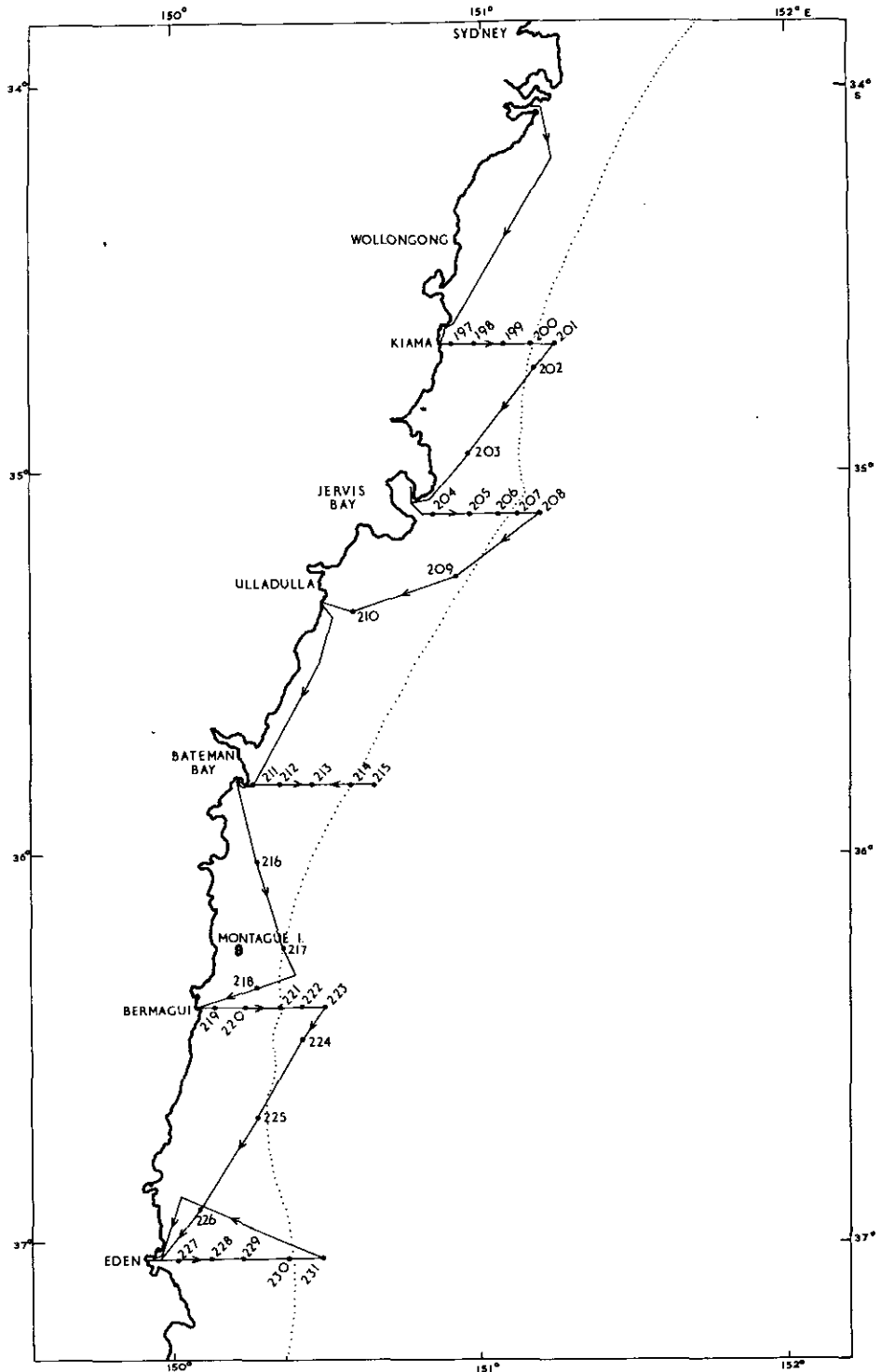
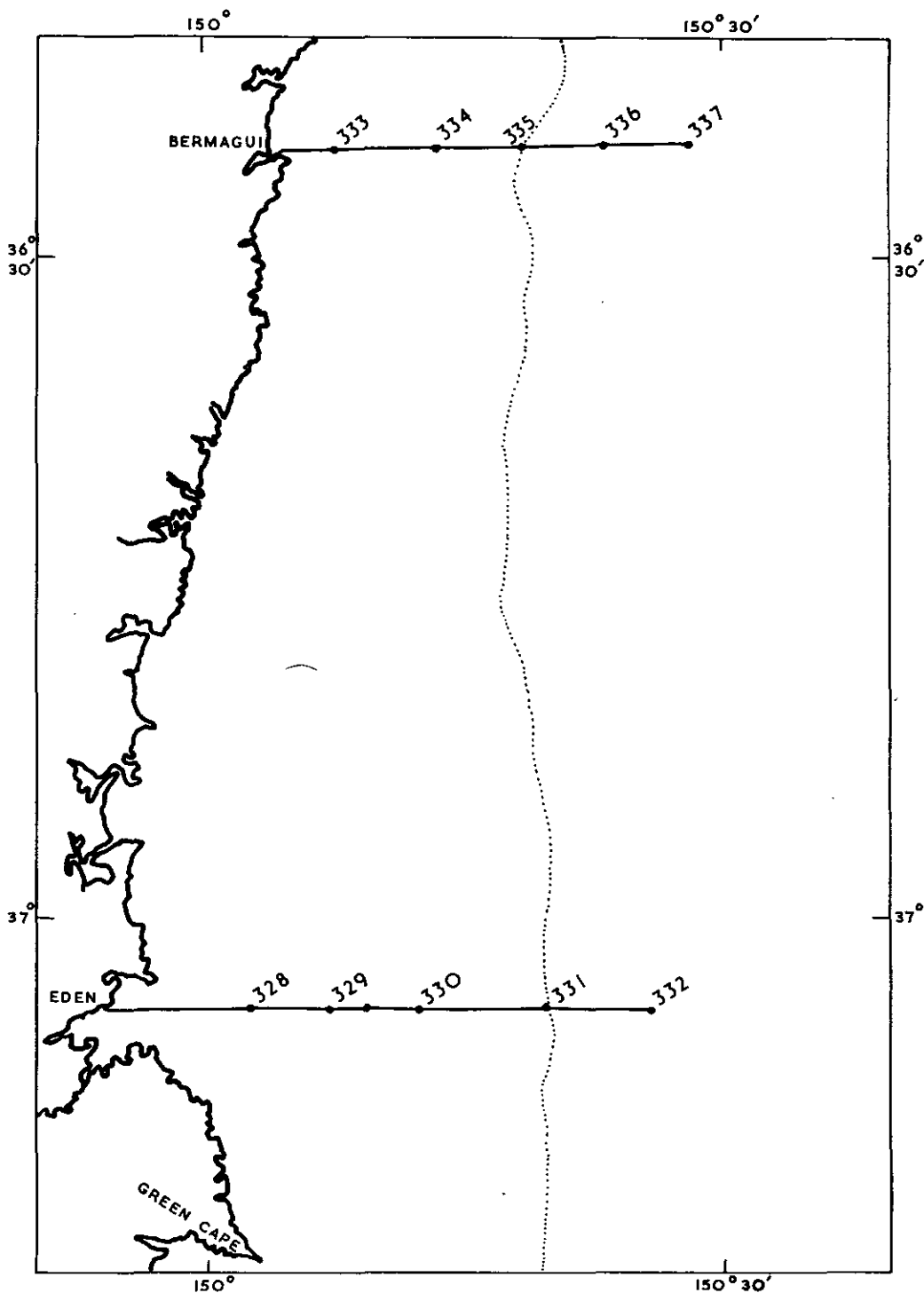


Fig. 12:- Track chart Cruise M 16/61



13. Track chart Cruise M 17/61

V. DATA SHEETS

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

DATA
PART 1
HYDROLOGY
SURFACE SAMPLES

EXPLANATION OF HEADINGS

Parts 1 and 2Hydrology

STATION	Gives the station identification. For example, M1/1/61 signifies the 1st station worked by <u>Marelda</u> in 1961, on her 1st cruise for that year
DATE	Given as day/month/year
TIME	Given in Zone Time, and is the time at the beginning of the first cast. 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
WIND DIR. SP.	Wind direction and speed are coded using Tables 8 and 9 in U.S. Hydrogr. Office (1955)
WEA.	Weather is coded using Table 1 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)
BAROM. and ATMOS. PRESSURE	Atmospheric pressure given in millibars
CAST	Gives the cast number
DEPTH	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

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

VESSE -	CRUISE	STATION	YR.	MTH.	DAY	TIME	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.	SAMPLING			
	NUMBER	NUMBER							DN. AMT.	DN. AMT.	DN. AMT.	DN. AMT.				METHOD			
38	8	41	61	6	12	0825	K 37	04 S 150	35.64	23	3	1	14	2	01	8	1034.0	1	
38	8	42	61	6	12	0925	K 37	04 S 150	35.71	23	3	1	14	2	01	8	1034.0	1	
38	8	43	61	6	12	1020	K 37	04 S 150	35.62	20	2	2	14	2	01	8	1034.0	1	
38	8	44	61	6	12	1120	K 37	04 S 150	35.77	20	2	2	14	2	01	8	1034.0	1	
38	8	45	61	6	12	1230	K 37	04 S 150	35.77	20	2	2	14	2	01	8	1034.0	1	
38	9	46	61	7	14	0705	K 35	07 S 150	35.68	27	3	27	1	14	1	01	7	1017.0	1
38	9	47	61	7	14	0800	K 35	07 S 151	35.64	27	3	27	1	14	1	01	7	1017.0	1
38	9	48	61	7	14	0855	K 35	07 S 151	35.62	27	3	27	1	14	1	01	7	1017.0	1
38	9	49	61	7	14	0955	K 35	07 S 151	35.71	27	4	27	1	14	1	01	7	1016.0	1
38	9	50	61	7	14	1115	K 35	07 S 151	35.70	27	4	27	1	14	1	01	7	1016.0	1
38	9	51	61	7	14	1230	K 35	07 S 151	35.68	27	4	27	1	14	1	01	7	1016.0	1
38	9	52	61	7	15	0745	K 37	04 S 150	35.64	23	6	23	1	14	4	02	7	1020.0	1
38	9	53	61	7	25	0745	K 37	04 S 150	35.23	27	2	27	1	14	2	03	7	1016.0	1
38	9	54	61	7	25	0835	K 37	04 S 150	35.46	27	2	27	1	14	2	03	7	1016.0	1
38	9	55	61	7	25	0930	K 37	04 S 150	35.52	27	3	27	1	14	2	03	7	1017.0	1
38	9	56	61	7	25	1025	K 37	04 S 150	35.48	27	3	27	1	14	2	03	7	1017.0	1
38	9	57	61	7	25	1115	K 37	04 S 150	35.64	27	2	27	1	14	2	03	7	1016.0	1
38	9	58	61	7	25	1225	K 37	04 S 150	35.64	27	2	27	1	14	2	03	7	1016.0	1
38	10	59	61	8	8	0730	K 34	05 S 151	35.66	32	2	32	1	09	2	01	6	1026.0	1
38	10	60	61	8	8	0815	K 34	05 S 151	35.66	32	2	32	1	09	2	01	6	1026.0	1
38	10	61	61	8	8	0915	K 34	05 S 151	35.70	32	2	32	1	09	2	01	6	1026.0	1
38	10	62	61	8	8	1005	K 34	05 S 151	35.70	32	2	32	1	09	2	01	6	1026.0	1
38	10	63	61	8	8	1110	K 34	05 S 151	35.66	32	2	32	1	09	2	01	6	1026.0	1
38	10	64	61	8	8	1245	K 34	10 S 151	35.66	32	1	32	1	09	2	01	6	1024.0	1
38	10	65	61	8	8	1445	K 34	20 S 151	35.66										1
38	10	66	61	8	8	1645	K 34	30 S 151	35.66										1
38	10	67	61	8	9	0630	K 34	40 S 150	35.61	36	3	04	3	04	1	02	7	1015.0	1
38	10	68	61	8	9	0715	K 34	40 S 151	35.68	36	3	04	3	04	1	02	7	1015.0	1
38	10	69	61	8	9	0805	K 34	40 S 151	35.68	36	3	04	3	04	1	02	7	1015.0	1
38	10	70	61	8	9	0900	K 34	40 S 151	35.71	36	3	04	3	04	1	02	7	1015.0	1
38	10	71	61	8	9	1010	K 34	40 S 151	35.75	36	3	04	3	04	1	02	7	1015.0	1
38	10	72	61	8	9	1245	K 34	46 S 151	35.64										1
38	10	73	61	8	9	1445	K 34	58 S 150	35.64	05	2	05	4	02	7	1029.0	1		
38	10	74	61	8	12	0910	K 35	07 S 150	35.62	05	2	05	4	02	7	1029.0	1		
38	10	75	61	8	12	1000	K 35	07 S 150	35.62	05	2	05	4	02	7	1029.0	1		
38	10	76	61	8	12	1045	K 35	07 S 151	35.61	05	2	05	4	02	7	1028.0	1		
38	10	77	61	8	12	1145	K 35	07 S 151	35.61	05	2	05	4	02	7	1028.0	1		
38	10	78	61	8	12	1300	K 35	07 S 151	35.66	05	2	05	4	02	7	1027.0	1		
38	10	79	61	8	16	0700	K 34	05 S 151	35.59	32	2	32	1	04	2	06	1018.0	1	
38	11	80	61	8	16	0750	K 34	05 S 151	35.55	32	2	32	1	04	2	06	1018.0	1	

VESSEL	CRUISE NUMBER	STATION	YR.	MTH.	DAY	TIME	Z	LONGITUDE	TEMP.	SALINITY	WIND UN. AMT.	SEA DN. AMT.	SWELL UN. AMT.	WEA.	VIS.	BAROM.	SAMPLING METHOD
38	11	81	61	8	16	0840	K 34	05 S 151	23 E 16.0	35.66	2	32	1	04	1	1016.0	1
38	11	82	61	8	16	0940	K 34	05 S 151	28 E 17.1	35.62	2	32	1	04	1	1016.0	1
38	11	83	61	8	16	1030	K 34	05 S 151	33 E 17.5	35.62	2	32	1	04	1	1016.0	1
38	11	84	61	8	16	1245	K 34	13 S 151	20 E 15.7	35.70	3	32	2	04	1	1014.0	1
38	11	85	61	8	16	1445	K 34	25 S 151	06 E 15.8	35.66	3	36	1	04	1	1013.0	1
38	11	86	61	8	17	0620	K 34	40 S 150	55 E 14.9	35.53	2	32	1	04	2	1009.0	1
38	11	87	61	8	17	0705	K 34	40 S 151	00 E 15.2	35.59	2	32	1	04	2	1008.0	1
38	11	88	61	8	17	0750	K 34	40 S 151	05 E 15.7	35.66	2	32	1	04	2	1010.0	1
38	11	89	61	8	17	0835	K 34	40 S 151	10 E 15.6	35.61	2	32	2	04	2	1010.0	1
38	11	90	61	8	17	0935	K 34	40 S 151	15 E 16.4	35.70	2	32	2	04	2	1010.0	1
38	11	91	61	8	17	1045	K 34	43 S 151	11 E 16.4	35.61	2	32	2	04	2	1010.0	1
38	11	92	61	8	17	1245	K 34	55 S 151	03 E 15.3	35.62	2	24	2	04	2	1009.0	1
38	11	93	61	8	18	0620	K 35	07 S 150	52 E 15.3	35.61	2	23	3	14	2	1010.0	1
38	11	94	61	8	18	0710	K 35	07 S 150	57 E 16.2	35.68	2	23	3	14	2	1010.0	1
38	11	95	61	8	18	0755	K 35	07 S 151	02 E 16.5	35.64	2	23	3	14	2	1010.0	1
38	11	96	61	8	18	0850	K 35	07 S 151	07 E 16.5	35.64	2	23	3	14	2	1010.0	1
38	11	97	61	8	18	1005	K 35	07 S 151	12 E 16.4	35.66	2	27	3	15	1	1010.0	1
38	11	98	61	8	19	0645	K 34	50 S 151	01 E 15.9	35.62	2	27	3	15	2	1011.0	1
38	11	99	61	8	19	0845	K 34	36 S 151	04 E 15.7	35.68	2	27	3	15	2	1011.0	1
38	11	100	61	8	19	1045	K 34	25 S 151	08 E 15.3	35.62	2	27	3	15	2	1011.0	1
38	11	101	61	8	19	1245	K 34	14 S 151	10 E 17.0	35.68	0	09	1	15	3	1011.0	1
38	11	102	61	8	23	0700	K 34	05 S 151	13 E 15.9	35.61	2	27	2	18	2	1012.0	1
38	12	103	61	8	23	0750	K 34	05 S 151	18 E 16.8	35.61	2	27	2	18	2	1012.0	1
38	12	104	61	8	23	0840	K 34	05 S 151	23 E 17.0	35.62	2	27	2	18	2	1012.0	1
38	12	105	61	8	23	0950	K 34	05 S 151	28 E 17.1	35.61	2	27	2	18	2	1012.0	1
38	12	106	61	8	23	1040	K 34	05 S 151	33 E 17.2	35.64	2	27	2	18	2	1012.0	1
38	12	107	61	8	29	0610	K 34	40 S 150	55 E 14.8	33.89	1	18	1	14	2	1007.0	1
38	12	108	61	8	29	0700	K 34	40 S 151	00 E 15.5	35.43	1	18	1	14	2	1007.0	1
38	12	109	61	8	29	0750	K 34	40 S 151	05 E 15.4	35.61	1	18	1	14	2	1007.0	1
38	12	110	61	8	29	0840	K 34	40 S 151	10 E 15.8	35.50	1	18	2	14	2	1007.0	1
38	12	111	61	8	29	0940	K 34	40 S 151	15 E 16.0	35.53	1	18	2	14	2	1006.0	1
38	12	112	61	8	29	1045	K 34	55 S 151	03 E 15.5	29.99	2	23	3	14	2	1003.0	1
38	12	113	61	8	30	0440	K 35	07 S 150	52 E 15.0	34.58	2	25	3	09	2	1005.0	1
38	12	114	61	8	30	0640	K 35	07 S 150	52 E 15.0	35.25	2	27	3	09	2	1005.0	1
38	12	115	61	8	30	0730	K 35	07 S 150	57 E 15.1	35.07	2	27	3	09	2	1006.0	1
38	12	116	61	8	30	0815	K 35	07 S 151	02 E 15.4	35.26	2	27	3	09	2	1006.0	1
38	12	117	61	8	30	0910	K 35	07 S 151	07 E 15.3	35.35	2	27	3	09	2	1006.0	1
38	12	118	61	8	30	1025	K 35	07 S 151	12 E 15.3	35.57	2	23	3	09	2	1006.0	1
38	12	119	61	8	30	1245	K 35	13 S 150	57 E 15.5	35.44	2	23	3	14	2	1006.0	1
38	12	120	61	8	30	1445	K 35	19 S 150	42 E 15.6	35.50	2	23	3	14	2	1006.0	1

VESSE	CRUISE NUMBER	STATION NUMBER	YR.	MTH.	DAY	TIME	Z	LATITUDE	LONGITUDE	TEMP.	SALINITY	WIND DN.	AMT.	SEA DN.	AMT.	SMELL DN.	AMT.	WEA.	VIS.	BAROM.	SAMPLING METHOD
58	12	121	61	9	1	0645	K 55	00 S 151	00 E 14.7	34.94	27	2	27	1	14	2	02	7	1017.0	1	
58	12	122	61	9	1	0845	K 34	58 S 151	14 E 15.9	35.37	00	0	14	1	14	2	02	7	1017.0	1	
58	12	123	61	9	1	1045	K 34	40 S 151	18 E 15.9	35.57	00	0	00	0	14	2	03	7	1017.0	1	
58	12	124	61	9	1	1245	K 34	28 S 151	17 E 16.3	35.53	00	0	00	0	14	2	02	7	1016.0	1	
58	12	125	61	9	1	1445	K 34	17 S 151	16 E 16.7	35.48	04	3	04	1	14	2	02	7	1013.0	1	
58	13	126	61	9	13	0700	K 34	05 S 151	13 E 15.2	35.26	18	3	18	2	14	2	02	7	1027.0	1	
58	13	127	61	9	13	0745	K 34	05 S 151	18 E 16.1	35.55	18	3	18	2	14	2	02	7	1027.0	1	
58	13	128	61	9	13	0835	K 34	05 S 151	23 E 16.5	35.53	18	3	18	2	14	2	02	7	1027.0	1	
58	13	129	61	9	13	0955	K 34	05 S 151	28 E 16.6	35.61	14	3	14	2	14	2	02	7	1027.0	1	
58	13	130	61	9	13	1050	K 34	05 S 151	33 E 16.7	35.61	14	3	14	2	14	2	02	7	1027.0	1	
58	13	131	61	9	13	1245	K 34	13 S 151	24 E 16.7	35.62	18	2	18	2	14	2	02	7	1026.0	1	
58	13	132	61	9	13	1445	K 34	21 S 151	13 E 16.0	35.53	18	2	18	2	14	2	02	7	1024.0	1	
58	13	133	61	9	13	1645	K 34	01 S 151	01 E 16.7	35.50	18	1	18	1	14	2	02	7	1024.0	1	
58	13	134	61	9	14	0610	K 34	40 S 150	55 E 15.3	35.26	33	3	33	2	14	2	02	6	1020.0	1	
58	13	135	61	9	14	0655	K 34	40 S 151	00 E 16.1	35.55	33	3	33	2	14	2	02	6	1020.0	1	
58	13	136	61	9	14	0745	K 34	40 S 151	05 E 16.1	35.53	33	3	33	2	14	2	02	6	1020.0	1	
58	13	137	61	9	14	0830	K 34	40 S 151	10 E 16.2	35.57	33	3	33	2	14	2	02	6	1020.0	1	
58	13	138	61	9	14	0930	K 34	40 S 151	15 E 16.5	35.57	33	3	33	2	14	2	02	6	1020.0	1	
58	13	139	61	9	14	1245	K 34	57 S 151	00 E 15.8	35.64	36	4	36	3	14	2	03	7	1019.0	1	
58	13	140	61	9	19	0710	K 35	07 S 150	52 E 14.9	35.21	22	2	22	1	14	2	02	6	1029.0	1	
58	13	141	61	9	19	0810	K 35	07 S 150	57 E 16.2	35.53	22	2	22	1	14	2	02	6	1029.0	1	
58	13	142	61	9	19	0910	K 35	07 S 151	02 E 16.5	35.61	22	2	22	1	14	2	02	6	1029.0	1	
58	13	143	61	9	19	1000	K 35	07 S 151	07 E 16.6	35.62	22	2	22	2	14	2	02	6	1029.0	1	
58	13	144	61	9	19	1120	K 35	07 S 151	12 E 16.6	35.62	22	2	22	2	14	2	80	6	1029.0	1	
58	13	145	61	9	20	0645	K 34	52 S 151	04 E 15.8	35.21	32	1	32	1	14	2	02	6	1023.0	1	
58	13	146	61	9	20	0845	K 34	44 S 151	10 E 16.5	35.21	32	1	32	1	14	2	02	6	1023.0	1	
58	13	147	61	9	20	1045	K 34	32 S 151	13 E 16.9	35.41	32	0	32	0	14	2	02	6	1023.0	1	
58	13	148	61	9	20	1245	K 34	25 S 151	15 E 16.5	35.41	36	2	36	1	14	2	02	6	1023.0	1	
58	13	149	61	9	20	1445	K 34	14 S 151	13 E 16.8	35.62	36	4	36	2	14	2	02	6	1022.0	1	
58	14	150	61	9	26	0640	K 34	05 S 151	13 E 16.0	35.41	23	3	23	1	14	2	01	6	1015.0	1	
58	14	151	61	9	26	0730	K 34	05 S 151	18 E 16.5	35.41	23	3	23	1	14	2	01	6	1015.0	1	
58	14	152	61	9	26	0820	K 34	05 S 151	23 E 17.5	35.62	23	3	23	1	14	2	01	6	1015.0	1	
58	14	153	61	9	26	0925	K 34	05 S 151	28 E 18.4	35.59	23	4	23	2	14	2	01	6	1015.0	1	
58	14	154	61	9	26	1030	K 34	05 S 151	33 E 18.9	35.62	23	4	23	2	14	2	01	6	1015.0	1	
58	14	155	61	9	26	0540	K 34	40 S 150	55 E 15.4	35.12	36	3	36	2	14	2	01	6	1026.0	1	
58	14	156	61	9	26	0625	K 34	40 S 151	00 E 16.5	35.55	36	3	36	2	14	2	01	6	1026.0	1	
58	14	157	61	9	26	0720	K 34	40 S 151	05 E 16.7	35.57	36	4	36	3	14	2	01	6	1026.0	1	
58	14	158	61	9	26	0805	K 34	40 S 151	10 E 17.8	35.62	36	4	36	3	14	2	02	6	1025.0	1	
58	14	159	61	9	26	0900	K 34	40 S 151	15 E 18.1	35.64	36	4	36	3	14	2	02	6	1025.0	1	
58	14	160	61	9	26	1045	K 34	47 S 151	08 E 16.7	35.55	36	4	36	3	14	2	02	6	1023.0	1	

VESSE-	CRUISE	STATION	YM.	MIN.	DAY	TIME	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.	SAMPLING			
NUMBER										DN, AMT,	DN, AMT,	DN, AMT,				METHOD			
38	14	161	61	9	28	1245	K 35	00 S 150	35.35	36	4	36	3	14	2	02	6	1022.0	1
38	14	162	61	9	29	0550	K 35	07 S 150	35.34	27	2	27	1	14	1	01	7	1019.0	1
38	14	163	61	9	29	0645	K 35	07 S 150	35.50	27	2	27	1	14	1	01	7	1019.0	1
38	14	164	61	9	29	0730	K 35	07 S 151	35.61	27	1	27	1	14	1	01	7	1021.0	1
38	14	165	61	9	29	0815	K 35	07 S 151	35.61	27	1	27	1	14	1	01	7	1021.0	1
38	14	166	61	9	29	0945	K 35	07 S 151	35.64	00	0	00	0	14	1	01	7	1020.0	1
38	14	167	61	10	2	0645	K 35	00 S 150	35.30	27	1	27	1	09	2	01	6	1016.0	1
38	14	168	61	10	2	0845	K 34	47 S 150	35.64	04	1	00	0	09	2	02	6	1019.0	1
38	14	169	61	10	2	1045	K 34	39 S 151	35.46	09	2	09	1	09	2	02	6	1019.0	1
38	14	170	61	10	2	1245	K 34	32 S 151	35.55	04	2	04	2	09	2	02	6	1019.0	1
38	14	171	61	10	2	1445	K 34	21 S 151	35.55	04	3	04	2	09	2	02	6	1018.0	1
38	14	172	61	10	2	1645	K 34	12 S 151	35.46	04	3	04	2	04	2	01	6	1018.0	1
38	15	173	61	10	10	0620	K 35	50 S 150	35.10	32	1	36	2	04	2	01	6	1018.0	1
38	15	174	61	10	10	0702	K 35	50 S 150	35.37	36	4	36	2	04	2	01	6	1018.0	1
38	15	175	61	10	10	0755	K 35	50 S 150	35.50	36	4	36	2	04	2	01	6	1018.0	1
38	15	176	61	10	10	0850	K 35	50 S 150	35.55	36	4	36	2	04	2	01	6	1018.0	1
38	15	177	61	10	12	0515	K 35	07 S 150	35.33	27	1	27	1	04	2	01	7	1009.0	1
38	15	178	61	10	12	0605	K 35	07 S 150	35.37	24	2	24	1	04	2	01	7	1010.0	1
38	15	179	61	10	12	0650	K 35	07 S 151	35.48	24	2	24	1	04	2	01	7	1010.0	1
38	15	180	61	10	12	0740	K 35	07 S 151	35.53	24	2	24	1	04	2	01	7	1010.0	1
38	15	181	61	10	12	0850	K 35	07 S 151	35.66	24	2	24	1	04	2	01	7	1011.0	1
38	15	182	61	10	12	1045	K 35	02 S 151	35.66	24	2	24	1	04	2	01	7	1010.0	1
38	15	183	61	10	12	1245	K 34	53 S 151	35.71	09	2	00	0	04	2	01	7	1010.0	1
38	15	184	61	10	12	1410	K 34	40 S 151	35.68	09	2	09	1	04	2	01	7	1009.0	1
38	15	185	61	10	12	1505	K 34	40 S 151	35.64	09	2	09	1	04	2	01	7	1009.0	1
38	15	186	61	10	12	1640	K 34	40 S 151	35.64	09	2	09	1	04	2	01	7	1009.0	1
38	15	187	61	10	12	1730	K 34	40 S 151	35.55	09	2	09	1	04	2	01	7	1009.0	1
38	15	188	61	10	12	1845	K 34	29 S 151	35.41	09	2	09	1	04	2	01	7	1010.0	1
38	15	189	61	10	13	0645	K 34	16 S 151	35.32	36	1	00	0	14	2	01	6	1013.0	1
38	15	190	61	10	13	0845	K 34	09 S 151	35.46	36	2	36	1	14	2	02	6	1022.0	1
38	15	191	61	10	13	1045	K 34	05 S 151	35.46	18	1	18	1	09	2	02	6	1022.0	1
38	15	192	61	10	13	1245	K 34	05 S 151	35.46	18	1	18	1	09	2	02	6	1022.0	1
38	15	193	61	10	13	1445	K 34	05 S 151	35.60	18	1	18	1	09	2	02	6	1022.0	1
38	15	194	61	10	13	1645	K 34	05 S 151	35.70	18	1	18	1	09	2	02	6	1022.0	1
38	15	195	61	10	13	1845	K 34	05 S 151	35.64	18	1	18	1	09	2	02	6	1022.0	1
38	15	196	61	10	13	2045	K 34	05 S 151	35.61	18	2	18	2	09	2	02	6	1017.0	1
38	16	197	61	10	29	0910	K 34	40 S 150	35.52	00	0	00	0	14	2	02	6	1017.0	1
38	16	198	61	10	29	0520	K 34	40 S 150	35.59	34	4	34	2	14	2	02	6	1017.0	1
38	16	199	61	10	29	0610	K 34	40 S 150	35.50	34	4	34	2	14	2	02	6	1017.0	1
38	16	200	61	10	29	0715	K 34	40 S 150	35.50	34	4	34	2	14	2	02	6	1017.0	1
38	16	201	61	10	29	0815	K 34	40 S 150	35.55	36	4	36	2	14	2	02	6	1017.0	1

VESSEL	CRUISE NUMBER	STATION	YR.	MTH.	DAY	TIME	LONGITUDE	TEMP.	SALINITY	WIND DN.	SEA DN.	SWELL DN.	WEA.	VIS.	BAROM.	SAMPLING METHOD		
38	16	201	61	10	29	0925	K 34	40 S 151	35.61	36	4	36	3	14	2	U2	6	1017.0
38	16	202	61	10	29	1045	K 34	45 S 151	35.59	36	4	36	3	14	2	U2	6	1017.0
38	16	203	61	10	29	1245	K 34	58 S 151	35.59	36	4	36	3	14	2	U2	6	1012.0
38	16	204	61	10	31	0530	K 35	07 S 150	35.52	00	0	00	0	14	1	U2	6	1010.0
38	16	205	61	10	31	0625	K 35	07 S 150	35.59	36	2	36	2	14	1	U2	6	1010.0
38	16	206	61	10	31	0725	K 35	07 S 151	35.64	36	2	36	2	14	1	U2	6	1010.0
38	16	207	61	10	31	0820	K 35	07 S 151	35.68	36	2	36	2	14	1	U2	6	1010.0
38	16	208	61	10	31	0945	K 35	07 S 151	35.70	36	2	36	2	14	1	U2	6	1010.0
38	16	209	61	10	31	1245	K 35	17 S 150	35.66	36	3	36	2	14	1	U2	6	1010.0
38	16	210	61	10	31	1445	K 35	21 S 150	35.66	36	4	36	3	14	1	U2	6	1009.0
38	16	211	61	11	1	0920	K 35	50 S 150	35.50	04	1	04	1	04	3	U3	6	1007.0
38	16	212	61	11	1	1005	K 35	50 S 150	35.64	04	2	04	2	04	3	U2	6	1007.0
38	16	213	61	11	1	1055	K 35	50 S 150	35.64	04	2	04	2	04	3	U2	6	1007.0
38	16	214	61	11	1	1210	K 35	50 S 150	35.64	04	3	04	3	04	3	U3	6	1006.0
38	16	215	61	11	1	1315	K 35	50 S 150	35.62	04	3	04	3	04	3	U3	6	1006.0
38	16	216	61	11	2	0645	K 36	04 S 150	35.57	00	0	00	0	04	3	U3	6	1012.0
38	16	217	61	11	2	0845	K 36	15 S 150	35.64	00	0	25	1	04	3	U3	6	1014.0
38	16	218	61	11	2	1045	K 36	22 S 150	35.53	36	2	36	1	04	3	U3	6	1014.0
38	16	219	61	11	3	0520	K 36	25 S 150	35.34	00	0	04	2	04	3	U2	6	1016.0
38	16	220	61	11	3	0610	K 36	25 S 150	35.50	00	0	04	2	04	3	U2	6	1016.0
38	16	221	61	11	3	0710	K 36	25 S 150	35.61	34	2	34	1	04	3	U3	6	1017.0
38	16	222	61	11	3	0805	K 36	25 S 150	35.62	34	1	34	1	04	3	U3	6	1017.0
38	16	223	61	11	3	0915	K 36	25 S 150	35.62	34	1	34	1	04	3	U3	6	1017.0
38	16	224	61	11	3	1045	K 36	31 S 150	35.55	00	0	00	0	04	3	U2	6	1017.0
38	16	225	61	11	3	1245	K 36	41 S 150	35.55	00	0	00	0	04	3	U2	6	1017.0
38	16	226	61	11	3	1445	K 36	56 S 150	35.12	00	0	00	0	04	3	U2	6	1016.0
38	16	227	61	11	4	0530	K 37	04 S 150	35.21	24	2	24	1	04	2	U3	6	1019.0
38	16	228	61	11	4	0620	K 37	04 S 150	35.30	18	2	18	2	04	2	U3	6	1019.0
38	16	229	61	11	4	0735	K 37	04 S 150	35.59	18	2	18	2	04	2	U3	6	1019.0
38	16	230	61	11	4	0850	K 37	04 S 150	35.57	18	2	18	2	04	2	U3	6	1019.0
38	16	231	61	11	4	0955	K 37	04 S 150	35.59	18	2	18	2	04	2	U3	6	1019.0
38	16	232	61	11	26	0540	K 37	04 S 150	35.59	16	3	16	2	04	2	U3	6	1019.0
38	16	233	61	11	28	0625	K 37	04 S 150	34.11	18	1	18	1	09	2	U2	7	1021.0
38	16	234	61	11	28	0715	K 37	04 S 150	35.37	18	2	18	1	09	2	U2	7	1023.0
38	16	235	61	11	28	0805	K 37	04 S 150	35.55	18	2	18	1	09	2	U2	7	1023.0
38	16	236	61	11	28	0910	K 37	04 S 150	35.26	14	1	14	1	09	2	U2	7	1023.0
38	16	237	61	11	28	1010	K 37	04 S 150	34.99	14	1	14	1	09	2	U2	7	1023.0
38	17	238	61	12	7	0645	K 37	04 S 150	35.26	00	0	14	1	09	2	U1	7	1014.0
38	17	239	61	12	7	0735	K 37	04 S 150	35.46	34	1	34	1	09	2	U1	7	1013.0
38	17	240	61	12	7	0825	K 37	04 S 150	35.52	34	1	34	1	09	2	U1	7	1013.0

VESSE--		CRUISE	STATION	YR.	MO.	DAY	TIME	LONGITUDE	TEMP.	SALINITY	WIND	SEA	SWELL	WEA.	VIS.	BAROM.	SAMPLING	
		NUMBER	NUMBER								DN.	DN.	DN.				METHOD	
38	17	241	61	12	7	0940	K 37	04 S 150	18 E 19.6	35.64	34	2	09	2	02	7	1012.0	1
38	17	242	61	12	7	1035	K 37	04 S 150	23 E 19.8	35.68	36	3	09	2	01	7	1011.0	1
38	17	243	61	12	9	0505	K 36	25 S 150	09 E 18.3	35.12	23	1	06	2	01	7	1009.0	1
38	17	244	61	12	9	0555	K 36	25 S 150	13 E 18.7	35.16	23	1	06	2	01	7	1009.0	1
38	17	245	61	12	9	0655	K 36	25 S 150	18 E 18.8	35.25	18	1	06	2	01	7	1010.0	1
38	17	246	61	12	9	0750	K 36	25 S 150	23 E 19.5	35.70	18	1	06	2	01	7	1010.0	1
38	17	247	61	12	9	0905	K 36	25 S 150	28 E 19.5	35.68	14	1	06	2	01	7	1010.0	1
38	17	248	61	12	21	0820	K 37	04 S 150	02 E 16.5	35.68	18	3	06	2	01	7	1010.0	1

DATA
PART 2
HYDROLOGY
SUBSURFACE SAMPLES

STATION X 1/ 1/61 DATE 18/ 2/61 TIME 0630 K LATITUDE 37 04 S LONGITUDE 150 03 E

SONIC DEPTH	AIR TEMP.	WIND DIR.	SP.	WIND ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR.	SEA DIR.	AMT.	SWELL DIR.	AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2	WIRE ANGLES CAST3
***	***	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
CST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN %	SAT.	INORG. P	TOTAL P	NITRATE						
1	0	20.30	35.990	25.15	5.18	101	***	***	***	***						
1	10	19.10	35.570	25.45	5.35	102	***	***	***	***						
1	20	18.30	35.350	25.97	5.07	91	***	***	***	***						
1	30	18.30	35.340	26.40	4.45	77	***	***	***	***						
1	40	18.00	35.340	26.47	4.42	76	***	***	***	***						
1	50	18.00	35.340	26.47	4.56	78	***	***	***	***						

STATION X 2/ 2/61 DATE 19/ 3/61 TIME 0710 K LATITUDE 37 58 S LONGITUDE 148 01 E

SONIC DEPTH	AIR TEMP.	WIND DIR.	SP.	WIND ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR.	SEA DIR.	AMT.	SWELL DIR.	AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2	WIRE ANGLES CAST3
***	***	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
CST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN %	SAT.	INORG. P	TOTAL P	NITRATE						
1	0	18.90	35.440	25.43	***	***	***	***	***	***						
1	10	18.20	35.480	25.61	***	***	***	***	***	***						
1	20	18.20	35.480	25.61	***	***	***	***	***	***						
1	30	18.00	35.460	25.64	***	***	***	***	***	***						

STATION DATE TIME LATITUDE LONGITUDE
 N 2/ 3/61 9/ 3/61 0800 K 38 02 S 148 03 E

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

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CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 18.50 35.440 25.50 *** *** * * * * * * *
 1 10 18.50 35.480 25.53 *** *** * * * * * * *
 1 20 17.80 35.480 25.71 *** *** * * * * * * *
 1 30 17.40 35.430 25.77 *** *** * * * * * * *
 1 40 16.90 35.450 25.89 *** *** * * * * * * *

STATION DATE TIME LATITUDE LONGITUDE
 N 2/ 4/61 9/ 3/61 0855 K 38 05 S 148 06 E

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

*** ** * * * * * * * * * * * * * * * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 18.40 35.480 25.56 *** *** * * * * * * *
 1 10 *** 35.500 *** *** * * * * * * *
 1 20 17.80 35.480 25.71 *** *** * * * * * * *
 1 30 16.90 35.440 25.89 *** *** * * * * * * *
 1 45 16.30 35.410 26.01 *** *** * * * * * * *

STATION N 2/ 5/61 DATE 9/ 3/61 TIME 0950 K LONGITUDE 148 08 E

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

*** ** *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.20	35.520	25.64	***	***	***	***	***
1	10	17.70	35.480	25.73	***	***	***	***	***
1	20	17.00	35.500	25.92	***	***	***	***	***
1	30	16.30	35.520	26.10	***	***	***	***	***
1	40	15.80	35.500	26.20	***	***	***	***	***
1	50	15.70	35.500	26.22	***	***	***	***	***

STATION N 2/ 6/61 DATE 9/ 3/61 TIME 1045 K LONGITUDE 148 10 E

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

*** ** *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.70	35.480	25.73	***	***	***	***	***
1	10	17.00	35.450	25.88	***	***	***	***	***
1	20	17.00	35.430	25.86	***	***	***	***	***
1	30	16.30	35.480	26.29	***	***	***	***	***
1	40	15.20	35.520	26.35	***	***	***	***	***
1	50	15.20	35.520	26.35	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE					
M 2/ 7/61	17/ 3/61	0700 K	37 58 S	148 01 E					
SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES DEPTH MET DRY DIR. SP. HEIGHT TYPE AMT. VIS. SEA DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3									
***	***	*	*	*					
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	19.40	34.490	24.55	***	***	***	***	***
1	10	18.60	35.480	25.51	***	***	***	***	***
1	20	18.10	35.550	25.69	***	***	***	***	***
1	30	17.70	35.550	25.78	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE					
M 2/ 8/61	17/ 3/61	0745 K	38 02 S	148 03 E					
SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES DEPTH MET DRY DIR. SP. HEIGHT TYPE AMT. VIS. SEA DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3									
***	***	*	*	*					
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.80	35.390	25.39	***	***	***	***	***
1	10	18.60	35.480	25.51	***	***	***	***	***
1	20	18.30	35.520	25.64	***	***	***	***	***
1	30	17.30	35.520	25.86	***	***	***	***	***
1	40	16.40	35.570	26.11	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE				
M 2/ 11/61	17/ 3/61	1000 K	38 13 S	148 10 E				
SONIC AIR TEMP.	WIND DIR. SP.	CLOUD	SWELL	ATMOS.	WIRE ANGLES			
DEPTH WET DRY	DIR. SP.	HEIGHT TYPE AMT.	DIR. AMT.	PRESSURE	CAST1 CAST2 CAST3			
***	***	**	*	*	*			
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	19.60	25.42	***	***	***	***	***
1	10	19.10	25.52	***	***	***	***	***
1	20	18.50	25.60	***	***	***	***	***
1	30	17.40	25.84	***	***	***	***	***
1	40	14.90	26.42	***	***	***	***	***
1	50	14.90	26.40	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE				
M 2/ 12/61	17/ 3/61	1045 K	38 16 S	148 13 E				
SONIC AIR TEMP.	WIND DIR. SP.	CLOUD	SWELL	ATMOS.	WIRE ANGLES			
DEPTH WET DRY	DIR. SP.	HEIGHT TYPE AMT.	DIR. AMT.	PRESSURE	CAST1 CAST2 CAST3			
***	***	**	*	*	*			
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.80	25.47	***	***	***	***	***
1	10	18.40	25.66	***	***	***	***	***
1	20	18.30	25.68	***	***	***	***	***
1	30	15.70	26.23	***	***	***	***	***
1	40	14.90	26.40	***	***	***	***	***
1	50	14.80	26.42	***	***	***	***	***

STATION N 4/ 13/61 DATE 3/ 5/61 TIME 0730 K LATITUDE 34 05 S LONGITUDE 151 13 E

SONIC DEPTH	AIR TEMP.	WIND DIR, SP.	WIND ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS, DIR, AMT.	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE	CAST1	CAST2	CAST3
60	***	35	1	*	*	*	*	*	*	*	*	*
GAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE			
1	0	19.10	35,730	25.57	***	***	***	***	***			
1	10	19.10	35,770	25.60	***	***	***	***	***			
1	20	19.00	35,750	25.61	***	***	***	***	***			
1	30	18.50	35,680	25.69	***	***	***	***	***			
1	40	18.10	35,620	25.74	***	***	***	***	***			
1	50	17.30	35,620	25.81	***	***	***	***	***			

STATION N 4/ 14/61 DATE 3/ 5/61 TIME 0825 K LATITUDE 34 05 S LONGITUDE 151 18 E

SONIC DEPTH	AIR TEMP.	WIND DIR, SP.	WIND ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS, DIR, AMT.	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE	CAST1	CAST2	CAST3
120	***	35	1	*	*	*	*	*	*	*	*	*
GAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE			
1	0	19.70	35,730	25.42	***	***	***	***	***			
1	10	19.80	35,770	25.42	***	***	***	***	***			
1	20	19.70	35,770	25.45	***	***	***	***	***			
1	30	19.60	35,750	25.46	***	***	***	***	***			
1	40	19.70	35,750	25.43	***	***	***	***	***			
1	50	18.30	35,660	25.72	***	***	***	***	***			
1	75	16.80	35,530	25.99	***	***	***	***	***			
1	100	15.80	35,440	26.15	***	***	***	***	***			
1	120	14.80	35,390	26.33	***	***	***	***	***			

STATION DATE TIME LATITUDE LONGITUDE
 N 4/ 17/61 3/ 5/61 1130 K 34 05 S 151 33 E

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

311	***	**	**	*	*	*	*	*	*	*	*	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE					
1	0	20.10	35.730	25.31	***	***	***	***	***					
1	25	20.00	35.770	25.37	***	***	***	***	***					
1	50	18.80	35.710	25.63	***	***	***	***	***					
1	75	16.40	35.530	26.08	***	***	***	***	***					
1	100	15.10	35.440	26.31	***	***	***	***	***					
1	150	14.10	35.370	26.47	***	***	***	***	***					
1	200	12.70	35.160	26.60	***	***	***	***	***					
1	300	10.90	34.920	26.75	***	***	***	***	***					

42

STATION DATE TIME LATITUDE LONGITUDE
 N 6/ 18/61 17/ 5/61 0730 K 34 05 S 151 13 E

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

60	***	*	*	*	*	*	*	*	*	*	*	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE					
1	0	18.20	35.710	25.78	5.13	96	***	***	***					
1	10	18.20	35.750	25.81	5.13	96	***	***	***					
1	20	18.20	35.770	25.83	***	***	***	***	***					
1	30	18.20	35.770	25.83	5.13	96	***	***	***					
1	40	18.20	35.710	25.78	5.11	95	***	***	***					
1	50	18.20	35.750	25.81	5.13	96	***	***	***					

STATION DATE TIME LATITUDE LONGITUDE
 N 8/ 21/61 3/ 6/61 0635 K 35 07 S 150 52 E

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

105 ***	***	32	2	*	*	*	*	8	32	1	05	1	1020.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT,	INORG. P	TOTAL P	NITRATE							
1	0	17.82	35.700	25.87	4.84	90	***	***	***							
1	10	17.85	35.680	25.85	4.88	90	***	***	***							
1	20	17.86	35.680	25.85	5.08	94	***	***	***							
1	30	17.88	35.680	25.84	5.10	95	***	***	***							
1	40	17.86	35.680	25.85	5.10	95	***	***	***							
1	50	17.83	35.680	25.85	5.08	94	***	***	***							
1	75	17.78	35.680	25.86	4.91	91	***	***	***							
1	100	17.31	35.480	26.06	4.31	77	***	***	***							

STATION DATE TIME LATITUDE LONGITUDE
 N 8/ 22/61 3/ 6/61 0740 K 35 07 S 150 57 E

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

132 ***	***	32	2	*	*	*	*	6	32	1	05	1	1020.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT,	INORG. P	TOTAL P	NITRATE							
1	0	18.25	35.700	25.76	5.23	98	***	***	***							
1	10	18.23*	35.730	25.79	5.25	98	***	***	***							
1	20	18.21	35.730	25.80	5.27	98	***	***	***							
1	30	18.23*	35.750	25.81	5.25	98	***	***	***							
1	40	18.24	35.710	25.77	5.22	98	***	***	***							
1	50	17.90*	35.710	25.86	5.27	98	***	***	***							
1	75	17.56	35.680	25.92	5.19	96	***	***	***							
1	125	17.31	35.590	25.91	5.08	93	***	***	***							

* PROPERTY DOUBTFUL
 * PROPERTY INTERPOLATED

STATION DATE TIME LATITUDE LONGITUDE
 # 8/ 23/61 0835 K 35 07 S 151 02 E

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

104 *** ** 32 2 * * * 8 32 1 05 1 1020.0 * * * *

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

1	0	18.13	35.750	25.83	5.13	96	***	***	***	***
1	10	18.16	35.750	25.82	***	***	***	***	***	***
1	20	18.26	35.750	25.80	5.13	96	***	***	***	***
1	30	18.21	35.750	25.81	5.13	96	***	***	***	***
1	40	18.28	35.750	25.79	5.19	97	***	***	***	***
1	50	18.25*	35.750	25.80	5.19	97	***	***	***	***
1	75	18.22	35.750	25.81	5.19	97	***	***	***	***
1	100	17.65	35.660	25.88	4.94	91	***	***	***	***
1	140	16.41	35.530	26.08	4.79	86	***	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 # 8/ 24/61 0950 K 35 07 S 151 07 E

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

702 *** ** 27 1 * * * 8 27 1 05 1 1020.0 * * * *

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

2	0	18.57	35.790	25.75	5.01	94	***	***	***	***
1	25	18.53	35.840	25.80	5.02	94	***	***	***	***
1	50	18.47	35.790	25.73	4.91	93	***	***	***	***
1	75	18.70	35.790	25.72	5.06	96	***	***	***	***
1	100	18.58	35.790	25.75	5.05	95	***	***	***	***
1	150	18.24	35.750	25.81	4.62	86	***	***	***	***
1	200	16.68	35.480	25.98	4.29	78	***	***	***	***
1	300	15.02	35.440	26.32	4.46	78	***	***	***	***
1	500	11.24	34.960	26.72	4.68	75	***	***	***	***

* PROPERTY DOUTRFUL
 * PROPERTY INTERPOLATED

STATION DATE TIME LATITUDE LONGITUDE
 P 8/ 25/61 3/ 6/61 1110 K 35 07 S 191 12 E

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

549 *** ** 27 1 * * * * 8 27 1 05 1 1020.0 * * * * *

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

2	0	18.67	35.790	25.73	5.12	97	***	***	***
1	25	18.58	35.790	25.75	5.02	94	***	***	***
1	50	18.58	35.790	25.75	5.02	94	***	***	***
1	75	18.60	35.790	25.74	5.08	96	***	***	***
1	100	18.60	35.910*	25.84	5.08	96	***	***	***
1	150	18.62	35.770	25.73	5.02	95	***	***	***
1	200	17.36	35.620	25.92	4.40	81	***	***	***
1	300	15.63	35.430	26.18	4.40	78	***	***	***
1	500	11.32	34.940	26.69	4.54	73	***	***	***

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STATION DATE TIME LATITUDE LONGITUDE
 P 8/ 26/61 3/ 6/61 1225 K 35 07 S 151 17 E

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

549 *** ** 27 1 * * * * 8 27 1 05 1 1020.0 * * * * *

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

1	0	18.80	35.840	25.73	5.13	97	***	***	***
1	25	18.55	35.820	25.78	5.08	96	***	***	***
1	50	18.58	35.840	25.79	5.08	96	***	***	***
1	75	18.60	35.810	25.76	4.79	90	***	***	***
1	100	18.61	35.810	25.76	4.96	93	***	***	***
1	150	18.55	35.810	25.77	4.85	91	***	***	***
1	200	17.33	35.610	25.92	4.43	81	***	***	***
1	300	15.82	35.480	26.17	4.57	81	***	***	***
1	500	11.45	35.030	26.74	4.62	75	***	***	***

* PROPERTY DOUBTFUL
 † PROPERTY INTERPOLATED

STATION	DATE	TIME	LATITUDE		LONGITUDE			
N 8/ 27/61	4/ 6/61	0630 K	35	22 S	150	32 E		
SONIC AIR TEMP.	WIND DIR. SP.	WIND DIR. SP.	WIND DIR. SP.	WIND DIR. SP.	WIND DIR. SP.	WIND DIR. SP.		
DEPTH NET DRY	ANEM. HEIGHT	CLOUD TYPE AMT.	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3		
64 *** ** 23 3	* * *	* * *	7 27 2 09 1	1023.0	*	* * *		
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1 0	17.74	35.680	25.87	5.10	94	***	***	***
1 10	17.83	35.710	25.88	5.13	95	***	***	***
1 20	17.80	35.710	25.88	5.19	96	***	***	***
1 30	17.65	35.680	25.90	5.13	95	***	***	***
1 40	16.68	35.530	26.01	4.60	83	***	***	***
1 50	15.83	35.440	26.14	4.43	79	***	***	***

STATION	DATE	TIME	LATITUDE		LONGITUDE			
N 8/ 28/61	8/ 6/61	1215 K	35	50 S	150	18 E		
SONIC AIR TEMP.	WIND DIR. SP.	WIND DIR. SP.	WIND DIR. SP.	WIND DIR. SP.	WIND DIR. SP.	WIND DIR. SP.		
DEPTH NET DRY	ANEM. HEIGHT	CLOUD TYPE AMT.	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3		
64 *** ** 27 3	* * *	* * *	7 08 2 14 5	1011.0	*	* * *		
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1 0	16.87	35.300	25.79	5.25	95	***	***	***
1 10	17.23	35.610	25.95	5.19	95	***	***	***
1 20	17.14	35.610	25.97	5.19	95	***	***	***
1 30	16.71	35.530	26.01	4.79	87	***	***	***
1 40	***	35.460	***	4.48	***	***	***	***
1 50	14.03	35.440	26.10	4.46	80	***	***	***

STATION		DATE		TIME		LATITUDE		LONGITUDE				
R/ 29/61		8/ 6/61		1305 K		35 50 S		150 23 E				
SONIC DEPTH	AIR TEMP. WIND DIR, SP.	WIND DIR, SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2	CAST3
104	***	27	3	*	*	7	08	2	14	5	1011.0	* * *
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN	% SAT.	INORG. P	TOTAL P	NITRATE		
1	0	17.74	35.640	25.84	5.08		94	**	***	***		
1	10	17.72	35.640	25.65	5.13		95	***	***	***		
1	20	17.71	35.640	25.85	5.08		94	***	***	***		
1	30	17.77	35.640	25.84	5.08		94	***	***	***		
1	40	17.73	35.640	25.85	***		***	***	***	***		
1	50	17.74	35.640	25.84	5.08		94	***	***	***		
1	75	17.74	35.640	25.84	5.02		93	***	***	***		
1	100	17.72	35.640	25.85	5.02		93	***	***	***		

STATION		DATE		TIME		LATITUDE		LONGITUDE				
R/ 30/61		8/ 6/61		1355 K		35 50 S		150 28 E				
SONIC DEPTH	AIR TEMP. WIND DIR, SP.	WIND DIR, SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2	CAST3
130	***	27	3	*	*	7	08	2	14	5	1011.0	* * *
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN	% SAT.	INORG. P	TOTAL P	NITRATE		
1	0	18.18	35.700	25.78	4.94		92	***	***	***		
1	10	18.22	35.700	25.77	5.02		94	***	***	***		
1	20	18.24	35.710	25.77	4.91		92	***	***	***		
1	30	18.21	35.710	25.78	4.91		92	***	***	***		
1	40	18.21+	35.710	25.78	4.91		92	***	***	***		
1	50	18.21	35.710	25.78	4.94		92	***	***	***		
1	75	18.22	35.700	25.77	4.85		91	***	***	***		
1	100	18.23	35.700	25.77	4.96		93	***	***	***		
1	125	18.24	35.700	25.77	4.79		89	***	***	***		

* * PROPERTY DOUBTFUL
* * PROPERTY INTERPOLATED

STATION DATE TIME LATITUDE LONGITUDE
 M 8/ 31/61 8/ 6/61 1450 K 35 50 S 150 33 E

SONIC AIR TEMP. WIND. ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 WIRE ANGLES
 DIR. SP. HEIGHT TYPE AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 126 *** ** 34 4 * * * * 7 08 2 14 5 1009.0 * * * *

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

1	0	18.33	35.710	25.75	5.08	95	***	***	***	***
1	10	18.36	35.810	25.82	4.94	93	***	***	***	***
1	20	18.41	35.810	25.81	4.91	92	***	***	***	***
1	30	18.39	35.810	25.81	4.85	91	***	***	***	***
1	40	18.42	35.810	25.80	5.02	94	***	***	***	***
1	50	18.41	35.770	25.78	4.85	91	***	***	***	***
1	75	18.37	35.770	25.79	5.02	94	***	***	***	***
1	100	18.37	35.770	25.79	4.96	93	***	***	***	***
1	125	18.41	35.770	25.78	4.71	88	***	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 M 8/ 32/61 8/ 6/61 1545 K 35 50 S 150 38 E

SONIC AIR TEMP. WIND. ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 WIRE ANGLES
 DIR. SP. HEIGHT TYPE AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 914 *** ** 34 4 * * * * 7 08 2 14 5 1009.0 * * * *

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

1	0	18.38	35.790	25.80	***	***	***	***	***	***
1	25	18.44	35.810	25.80	5.08	95	***	***	***	***
1	50	18.43	35.790	25.79	5.02	94	***	***	***	***
1	75	18.43	35.790	25.79	4.94	93	***	***	***	***
1	100	18.47	35.790	25.78	5.02	94	***	***	***	***
1	150	18.44	35.790	25.79	4.77	90	***	***	***	***
1	200	***	35.830	***	4.23	***	***	***	***	***
1	300	***	35.350	***	4.51	***	***	***	***	***
1	500	9.42	34.700	26.84	4.77	74	***	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 N 8/ 33/61 8/ 6/61 1655 K 35 50 S 150 43 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 549 *** ** 34 4 * * * 7 08 2 14 5 1009.0 * * * *

CST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 1A.46 35.750 25.75 4.61 87 *** ** **
 1 25 1A.47 35.810 25.79 4.34 *** ** **
 1 50 1A.45 35.820 25.80 4.74 89 *** ** **
 1 75 1A.46 35.840 25.81 4.85 91 *** ** **
 1 100 1A.53 35.770* 25.75 5.02 94 *** ** **
 1 150 1A.43 ** ** ** ** ** *** ** **
 1 200 1A.98 35.970 25.97 4.46 81 *** ** **
 1 300 *** 35.320 *** 4.43 *** ** **
 1 500 10.65 34.860 26.76 4.40 *** ** **

STATION DATE TIME LATITUDE LONGITUDE
 N 8/ 34/61 9/ 6/61 0810 K 36 25 S 150 09 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 56 *** ** 27 2 * * * 7 27 1 14 5 1011.0 * * * *

CST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 17.39 35.590 25.89 5.33 98 *** ** **
 1 10 17.43 35.590 25.88 5.07 93 *** ** **
 1 20 17.39 35.610 25.91 5.33 98 *** ** **
 1 30 17.07 35.570 25.95 4.81 88 *** ** **
 1 40 1A.88 35.570 26.00 4.93 90 *** ** **
 1 50 1A.80 35.570 26.02 4.47 81 *** ** **

* PROPERTY DOUBTFUL
 * PROPERTY INTERPOLATED

STATION DATE TIME LATITUDE LONGITUDE
 N 8/ 35/61 9/ 6/61 0900 K 36 25 S 150 14 E

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

119 *** ** 27 2 * * * * 7 27 1 14 5 1011.0 * * * *

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

1	0	14.95	35.930	25.95	5.30	96	***	***	***
1	10	14.94	35.930	25.95	5.24	95	***	***	***
1	20	16.95	35.930	25.95	4.44	81	***	***	***
1	30	16.99	35.930	25.94	4.67	85	***	***	***
1	40	17.00	35.930	25.94	5.04	92	***	***	***
1	50	14.94	35.930	25.94	5.01	91	***	***	***
1	75	16.90	35.930	25.96	4.59	83	***	***	***
1	100	14.82	35.930	25.98	4.50	82	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 N 8/ 36/61 9/ 6/61 1005 K 36 25 S 150 14 E

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

165 *** ** 18 4 * * * * 7 18 3 14 5 1013.0 * * * *

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

1	0	14.10	35.790	25.87	5.07	95	***	***	***
1	25	14.11	35.790	25.87	5.30	99	***	***	***
1	50	14.12	35.750	25.83	5.41	101	***	***	***
1	75	14.11	35.750	25.84	5.16	96	***	***	***
1	100	17.97	35.730	25.86	5.33	99	***	***	***
1	125	17.81	35.730	25.80	5.27	98	***	***	***
1	150	17.85	35.730	25.89	5.30	98	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 M 8/ 37/61 9/ 6/61 1055 K 36 25 S 150 24 E

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

883 *** 18 4 * * * * 7 18 3 14 5 1013.0 * * * *

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

1	0	18.37		35.810	25.82	4.89	92	***	***	***	***
1	25	18.41		35.810	25.81	4.74	89	***	***	***	***
1	50	18.41		35.810	25.81	5.02	94	***	***	***	***
1	75	18.42		35.770	25.77	4.82	90	***	***	***	***
1	100	18.41		35.770	25.78	5.02	94	***	***	***	***
1	150	18.39		35.770	25.78	4.79	90	***	***	***	***
1	200	***		35.640	***	4.62	***	***	***	***	***
1	300	13.06		35.210	26.56	4.40	74	***	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 M 8/ 38/61 9/ 6/61 1200 K 36 25 S 150 29 E

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

883 *** 18 4 * * * * 7 18 3 14 5 1013.0 * * * *

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

1	0	18.36		35.790	25.80	5.02	94	***	***	***	***
1	25	18.37		35.820	25.83	4.91	92	***	***	***	***
1	50	18.40		35.770	25.78	5.02	94	***	***	***	***
1	75	18.36		35.770	25.79	4.94	93	***	***	***	***
1	100	18.43		35.770	25.77	4.94	93	***	***	***	***
1	150	18.41		35.770	25.78	4.96	93	***	***	***	***
1	200	18.85		35.970	26.00	4.88	89	***	***	***	***
1	300	***		35.480	***	4.40	***	***	***	***	***
1	500	10.30		34.850	26.80	4.62	73	***	***	***	***

STATION P 8/ 39/61 DATE 12/ 6/61 TIME 0730 K LATITUDE 37 04 S LONGITUDE 150 03 E

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

55 *** ** 23 3 * * * 8 * 1 14 2 1034.0 * * * *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.26	35.620	25.95	5.13	94	***	***	***
1	10	17.33	35.640	25.94	5.10	94	***	***	***
1	20	17.31	35.610	25.92	5.20	95	***	***	***
1	30	16.73	35.610	26.06	4.94	90	***	***	***
1	40	16.67	35.610	26.08	4.60	83	***	***	***
1	50	16.70	35.610	26.07	4.68	85	***	***	***

STATION P 8/ 40/61 DATE 12/ 6/61 TIME 0730 K LATITUDE 37 04 S LONGITUDE 150 03 E

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

55 *** ** 23 3 * * * 8 * 1 14 2 1034.0 * * * *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.26	35.660	25.98	5.67	104	***	***	***
1	10	17.33	35.640	25.94	5.30	97	***	***	***
1	20	17.01	35.270	25.97	5.13	93	***	***	***
1	30	16.73	35.570	26.03	5.30	96	***	***	***
1	40	16.67	35.610	26.08	5.30	96	***	***	***
1	50	16.70	35.610	26.07	5.13	93	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE
R/ 41/61	12/ 6/61	0925 K	37 04 S	150 08 E
SONIC AIR TEMP. WIND ANEM. SWELL ATMOS. WIRE ANGLES				
DEPTH MET DRY DIR. SP.	DIR. SP.	DIR. AMT.	DIR. AMT.	PRESSURE CAST1 CAST2 CAST3
85 *** ** 23 3	*	*	14 2	1034.0 * * *
CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE				
1 0	17.43	35.640	25.92	4.84 *** ** *
1 10	17.44	35.640	25.92	4.70 *** ** *
1 20	17.47	35.640	25.91	5.53 *** ** *
1 30	17.45	35.620	25.90	5.38 *** ** *
1 40	17.43	35.640	25.92	5.44 *** ** *
1 50	17.33	35.640	25.94	5.50 *** ** *
1 70	14.71	35.570	26.04	4.73 *** ** *

STATION	DATE	TIME	LATITUDE	LONGITUDE
R/ 42/61	12/ 6/61	0925 K	37 04 S	190 13 E
SONIC AIR TEMP. WIND ANEM. SWELL ATMOS. WIRE ANGLES				
DEPTH MET DRY DIR. SP.	DIR. SP.	DIR. AMT.	DIR. AMT.	PRESSURE CAST1 CAST2 CAST3
112 *** ** 23 3	*	*	14 2	1034.0 * * *
CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE				
1 0	17.77	35.710	25.89	5.36 *** ** *
1 10	17.75	35.710	25.90	5.38 *** ** *
1 20	17.62	35.700	25.92	5.21 *** ** *
1 30	17.51	35.640	25.90	5.27 *** ** *
1 40	17.40	35.640	25.93	5.18 *** ** *
1 50	17.18	35.640	25.93	5.24 *** ** *
1 75	14.66	35.570	26.05	4.87 *** ** *
1 90	14.06	35.500	26.13	4.56 *** ** *

STATION N 8/ 43/61 DATE 12/ 6/61 TIME 1020 K LATITUDE 37 04 S LONGITUDE 150 18 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 WET DRY DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 171 *** *** 20 2 * * * 8 * 2 14 2 1034.0 * * * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT, INORG. P TOTAL P NITRATE
 1 0 17.26 35.620 25.94 5.44 100 *** ***
 1 10 17.30 35.620 25.94 5.50 101 *** ***
 1 20 17.30 35.620 25.93 5.21 96 *** ***
 1 30 17.27 35.620 25.94 5.01 92 *** ***
 1 40 17.15 35.620 25.97 5.21 95 *** ***
 1 50 17.11 35.590 25.96 4.98 91 *** ***
 1 75 16.77 35.590 26.04 5.04 91 *** ***
 1 100 14.80 35.590 26.03 5.10 93 *** ***

STATION N 8/ 44/61 DATE 12/ 6/61 TIME 1120 K LATITUDE 37 04 S LONGITUDE 150 23 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 WET DRY DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 859 *** *** 20 2 * * * 8 * 2 14 2 1034.0 * * * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT, INORG. P TOTAL P NITRATE
 2 0 18.26 35.770 25.81 5.04 94 *** ***
 1 25 18.27 35.770 25.81 4.67 87 *** ***
 1 50 18.31 35.770 25.80 5.21 98 *** ***
 1 75 18.30 35.710 25.76 5.27 99 *** ***
 1 100 18.32 35.790 25.81 5.30 99 *** ***
 1 125 18.15 35.730 25.81 5.24 98 *** ***
 1 150 *** 35.680 25.81 5.16 *** ***
 1 175 17.36 35.640 25.94 4.98 91 *** ***

STATION DATE TIME LATITUDE LONGITUDE
 N 8/ 45/61 12/ 6/61 1240 K 37 04 S 150 28 E

SONIC AIR TEMP. WIND ANEM. CLOUD SEA SWELL ATMOS. WIRE ANGLES
 DEPTH MET DRY DIR. SP. HEIGHT TYPE AMT. VIS. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 *** *** ** 20 2 * * * 8 * * 2 14 2 1034.0 * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 18.37 35.770 25.79 5.07 95 *** ***
 1 25 18.34 35.790 25.81 5.10 *** ***
 1 50 18.30 35.750 25.79 5.44 102 *** ***
 1 75 18.31 35.750 25.79 5.30 *** ***
 1 100 18.35 35.750 25.78 5.16 *** 97 ***
 1 150 18.33 35.750 25.78 5.01 94 *** ***
 1 200 17.06 35.590 25.97 4.90 *** 89 ***
 1 300 13.79 35.320 26.50 5.01 *** 85 ***
 1 500 10.44 34.870 26.79 4.98 *** 79 ***

STATION DATE TIME LATITUDE LONGITUDE
 N 9/ 46/61 14/ 7/61 0705 K 35 07 S 150 52 E

SONIC AIR TEMP. WIND ANEM. CLOUD SEA SWELL ATMOS. WIRE ANGLES
 DEPTH MET DRY DIR. SP. HEIGHT TYPE AMT. VIS. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 109 *** ** 27 3 * * * 7 27 1 14 1 1017.0 * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 18.98 35.680 26.29 5.55 99 *** ***
 1 10 16.00 35.660 26.27 5.27 94 *** ***
 1 20 16.00 35.680 26.29 5.38 96 *** ***
 1 30 16.03 35.700 26.30 5.15 *** 92 ***
 1 40 16.01 35.700 26.30 5.24 94 *** ***
 1 50 15.98 35.680 26.29 5.41 97 *** ***
 1 75 14.16 35.430 26.50 5.01 *** 86 ***
 1 100 14.00 35.350 26.46 5.01 *** 86 ***

STATION	DATE	TIME	LATITUDE		LONGITUDE	
M 9/ 47/61	14/ 7/61	0800 K	35	07 S	150	57 E
SONIC AIR TEMP.	WIND DIR. SP.	WIND ANEM. HEIGHT	CLOUD TYPE AMT.	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE
DEPTH WET DRY	*** ** 27 3	*	*	*	1017.0	CAST1 CAST2 CAST3
132	*** ** 27 3	*	*	*	1017.0	* * *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P
1	15.99	35.640	26.26	5.35	96	***
1	15.99	35.640	26.26	5.38	96	***
1	14.00	35.640	26.26	5.24	94	***
1	15.96*	35.660	26.28	5.30	95	***
1	15.92	35.620	26.26	5.12	91	***
1	15.70	35.620	26.31	5.24	93	***
1	15.49	35.610	26.35	5.04	89	***
1	15.22	35.520	26.34	5.01	88	***
1	13.96	35.410	26.53	4.92	84	***
						TOTAL P NITRATE

STATION	DATE	TIME	LATITUDE		LONGITUDE	
M 9/ 48/61	14/ 7/61	0855 K	35	07 S	151	02 E
SONIC AIR TEMP.	WIND DIR. SP.	WIND ANEM. HEIGHT	CLOUD TYPE AMT.	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE
DEPTH WET DRY	*** ** 27 3	*	*	*	1017.0	CAST1 CAST2 CAST3
164	*** ** 27 3	*	*	*	1017.0	* * *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P
1	15.77	35.620	26.29	5.18	92	***
1	15.75	35.620	26.30	5.38	96	***
1	15.74	35.620	26.30	5.24	93	***
1	15.66	35.620	26.32	5.24	93	***
1	15.67	35.620	26.32	4.81	85	***
1	15.49	35.620	26.36	5.33	94	***
1	15.33	35.700	26.46	5.18	91	***
1	14.93	35.620	26.48	5.18	91	***
1	13.83	35.440	26.58	5.22	89	***
						TOTAL P NITRATE

* PROPERTY DOUBTFUL
+ PROPERTY INTERPOLATED

STATION N 9/ 49761 DATE 14/ 7/61 TIME 0955 K LATITUDE 35 07 S LONGITUDE 151 07 E

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

702 *** ** 27 4 * * * * 7 27 3 14 1 1016.0 * * * *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	16.22	35.710	26.26	5.09	91	***	***	***
1	25	16.15	35.700	26.27	5.09	91	***	***	***
1	50	16.11	35.680	26.26	5.01	90	***	***	***
1	75	15.69	35.660	26.34	5.18	92	***	***	***
1	100	15.57	35.640	26.35	5.01	89	***	***	***
1	150	15.44	35.640	26.39	5.21	92	***	***	***
1	200	14.60	35.900	26.46	5.04	87	***	***	***
1	300	12.32	35.210	26.71	4.60	76	***	***	***
1	500	8.97	34.760	26.95	4.58	70	***	***	***

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STATION N 9/ 50761 DATE 14/ 7/61 TIME 1115 K LATITUDE 35 07 S LONGITUDE 151 12 E

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

549 *** ** 27 4 * * * * 7 27 3 14 1 1016.0 * * * *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	16.49	35.700	26.19	5.04	91	***	***	***
1	25	16.47	35.700	26.19	4.98	90	***	***	***
1	50	16.41	35.700	26.21	5.06	91	***	***	***
1	75	16.27	35.700	26.24	5.04	91	***	***	***
1	100	16.01	35.660	26.27	5.18	93	***	***	***
1	150	15.63	35.660	26.36	5.21	92	***	***	***
1	200	14.93	35.530	26.41	5.12	89	***	***	***
1	300	11.90	35.120	26.72	4.43	72	***	***	***
1	500	8.59	34.670	26.94	4.63	70	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 M 9/ 51/61 14/ 7/61 1230 K 35 07 S 151 17 E

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

545 *** ** 27 4 * * * 7 27 3 14 1 1015.0 * * *

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

1 0 16.61 35.680 26.15 5.09 92 *** *** ***
 1 25 16.60 35.680 26.15 5.01 91 *** *** ***
 1 50 16.60 35.620 26.10 4.46 81 *** *** ***
 1 75 16.52 35.620 26.12 4.29 77 *** *** ***
 1 100 16.05 35.620 26.23 4.60 82 *** *** ***
 1 150 15.63 35.610 26.32 4.40 78 *** *** ***
 1 200 14.77 35.500 26.43 4.17 73 *** *** ***
 1 300 12.10 35.140 26.70 4.46 73 *** *** ***
 1 500 8.88 34.880 27.06 4.17 64 *** *** ***

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STATION DATE TIME LATITUDE LONGITUDE
 M 9/ 52/61 15/ 7/61 1040 K 35 16 S 150 33 E

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

64 *** ** 23 6 * * * 7 23 4 14 4 1020.0 * * *

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

1 0 15.30 *** *** *** *** ***
 1 10 15.60 *** *** *** *** ***
 1 20 15.56 *** *** *** *** ***
 1 30 15.53 *** *** *** *** ***
 1 40 15.51 *** *** *** *** ***
 1 50 15.53 *** *** *** *** ***

STATION N 9/ 53/61 DATE 25/ 7/61 TIME 0745 K LATITUDE 37 04 S LONGITUDE 150 03 E

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

71 *** ** 27 2 * * * 7 27 1 14 2 1016.0 * * *

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

1 0 13.35 35.230 26.52 100 *** *** ***

1 10 13.45 35.390 26.62 98 *** *** ***

1 20 13.31 35.440 26.69 95 *** *** ***

1 30 13.21 35.440 26.71 95 *** *** ***

1 40 13.21 35.460 26.72 92 *** *** ***

1 50 13.22 35.460 26.72 92 *** *** ***

STATION N 9/ 54/61 DATE 25/ 7/61 TIME 0835 K LATITUDE 37 04 S LONGITUDE 150 08 E

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

70 *** ** 27 2 * * * 7 27 1 14 2 1016.0 * * *

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

1 0 13.74 35.460 26.62 92 *** *** ***

1 10 13.70 35.460 26.62 95 *** *** ***

1 20 13.62 35.430 26.62 90 *** *** ***

1 30 13.48 35.430 26.65 89 *** *** ***

1 40 13.41 35.440 26.67 93 *** *** ***

1 50 13.42 35.430 26.66 91 *** *** ***

1 70 13.39 35.500 26.72 90 *** *** ***

STATION P 9/ 55/61 DATE 25/ 7/61 TIME 0930 K LATITUDE 37 04 S LONGITUDE 150 13 E

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

112 ***	***	27	3	*	*	*	*	7	27	1	14	2	1017.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE							
1	0	14.33	35.520	26.54	5.47	94	***	***	***							
1	10	14.34	35.520	26.53	5.50	95	***	***	***							
1	20	14.31	35.520	26.54	5.27	91	***	***	***							
1	30	14.35	35.520	26.53	5.35	92	***	***	***							
1	40	13.93	35.500	26.61	5.29	90	***	***	***							
1	50	13.47	35.480	26.69	5.58	95	***	***	***							
1	75	13.36	35.430	26.67	5.50	93	***	***	***							
1	90	13.38	35.460	26.69	5.55	94	***	***	***							

STATION P 9/ 56/61 DATE 25/ 7/61 TIME 1025 K LATITUDE 37 04 S LONGITUDE 150 18 E

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

171 ***	***	27	3	*	*	*	*	7	27	1	14	2	1017.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE							
1	0	14.43	35.480	26.48	5.09	88	***	***	***							
1	10	14.24	35.410	26.47	5.32	92	***	***	***							
1	20	14.20	35.500	26.55	5.58	96	***	***	***							
1	30	14.13	35.460	26.53	5.32	91	***	***	***							
1	40	14.08	35.590	26.64	5.50	94	***	***	***							
1	50	13.99	35.520	26.61	5.41	93	***	***	***							
1	75	13.63	35.390	26.88	5.04	86	***	***	***							
1	100	13.48	35.460	26.67	5.38	91	***	***	***							

STATION DATE TIME LATITUDE LONGITUDE
 N 9/ 57/61 25/ 7/61 1115 K 37 04 S 150 23 E

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

859 *** ** 27 2 * * * * 7 27 1 14 2 1016.0 * * * * *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	15.62	35.640	26.34	5.27	93	***	***	***
1	25	15.38	35.620	26.38	4.81	85	***	***	***
1	50	15.40	35.620	26.38	5.12	90	***	***	***
1	75	15.34	35.610	26.38	4.78	84	***	***	***
1	100	14.80	35.610	26.50	4.86	85	***	***	***
1	125	14.39	35.500	26.51	5.24	90	***	***	***
1	150	13.05	35.460	26.57	5.18	89	***	***	***
1	175	13.70	35.460	26.62	4.98	85	***	***	***
1	200	13.63	35.460	26.64	5.18	88	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 N 9/ 58/61 25/ 7/61 1225 K 37 04 S 150 28 E

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

*** ** 27 2 * * * * 7 27 1 14 2 1016.0 * * * * *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	15.47	35.640	26.29	5.24	93	***	***	***
1	25	15.47	35.590	26.25	3.06	90	***	***	***
1	50	15.84	35.590	26.25	5.21	93	***	***	***
1	75	15.69	35.610	26.31	5.27	94	***	***	***
1	100	15.67	35.590	26.30	5.01	89	***	***	***
1	150	14.30	35.590	26.38	5.12	90	***	***	***
1	200	13.48	35.320	26.96	4.29	73	***	***	***
1	300	12.84	35.340	26.71	4.43	74	***	***	***
1	500	8.52	34.670	26.96	4.23	64	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 N 10/ 59/61 8/ 8/61 0730 K 34 05 S 151 13 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
 62 *** ** 32 2 * * * 6 32 1 09 2 1026.0 * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INDRG. P TOTAL P NITRATE
 1 0 15.00 35.660 26.50 *** ** ** ** **

1 25 15.10 35.660 26.48 *** ** ** ** *
 1 50 15.04 35.700 26.52 *** ** ** ** *

STATION DATE TIME LATITUDE LONGITUDE
 N 10/ 60/61 8/ 8/61 0815 K 34 05 S 151 18 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
 128 *** ** 32 2 * * * 6 32 1 09 2 1026.0 * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INDRG. P TOTAL P NITRATE
 1 0 15.22 35.660 26.45 *** ** ** ** *
 1 25 15.20 35.660 26.45 *** ** ** ** *
 1 50 15.18 35.660 26.46 89 5.08 *** ** ** ** *
 1 75 15.19 35.660 26.46 *** ** ** ** *
 1 100 15.09 35.620 26.45 89 5.10 *** ** ** ** *

STATION DATE TIME LATITUDE LONGITUDE
 P 10/ 61/61 8/ 8/61 0915 K 34 05 S 151 23 E

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

139 *** ** 32 2 * * * 6 32 1 09 2 1026.0 * * *

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

1 0 15.42 35,700 26.44 *** *** **

1 25 15.40 35,680 26.42 *** *** **

1 50 15.36 35,680 26.43 *** *** **

1 75 15.39 35,680 26.43 *** *** **

1 100 15.19 35,680 26.47 *** *** **

STATION DATE TIME LATITUDE LONGITUDE
 P 10/ 62/61 8/ 8/61 1005 K 34 05 S 151 28 E

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

150 *** ** 32 2 * * * 6 32 1 09 2 1026.0 * * *

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

1 0 15.39 35,700 26.44 *** *** **

1 25 15.42 35,700 26.44 *** *** **

1 50 15.39 35,700 26.44 5.36 95 *** *** **

1 75 15.30 35,710 26.47 *** *** **

1 100 15.31 35,700 26.46 5.33 94 *** *** **

1 150 14.83 35,620 26.50 *** *** **

STATION DATE TIME LATITUDE LONGITUDE
 P 10/ 68/61 9/ 8/61 0715 K 34 40 S 151 00 E

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

119 *** ** 36 3 * * * 7 04 3 04 1 1015.0 * * * *

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

1 0 15.17 35.680 26.47 *** ** ** **

1 25 15.11 35.680 26.49 *** ** ** **

1 50 15.08 35.680 26.50 5.27 92 *** ** ** **

1 75 15.09 35.680 26.49 *** ** ** **

1 100 13.82 35.460 26.60 5.02 86 *** ** ** **

STATION DATE TIME LATITUDE LONGITUDE
 P 10/ 69/61 9/ 8/61 0805 K 34 40 S 151 05 E

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

139 *** ** 36 3 * * * 7 04 3 04 1 1015.0 * * * *

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

1 0 15.87 35.680 26.32 *** ** ** **

1 25 15.45 35.680 26.41 *** ** ** **

1 50 15.30 35.680 26.45 *** ** ** **

1 75 15.26 35.660 26.44 *** ** ** **

1 100 15.11 35.680 26.49 *** ** ** **

STATION	DATE	TIME	LATITUDE	LONGITUDE
N 10/ 70/61	9/ 8/61	0900 K	34 40 S	151 10 E
SONIC AIR TEMP, WIND ANEM, CLOUD	VIS, SEA SWELL	ATMOS,	WIRE ANGLES	
DEPTH WET DRY DIR, SP, HEIGHT TYPE AMT.	DIR, AMT, DIR, AMT, PRESSURE	CAST1 CAST2 CAST3		
*** *** 36 3 * * * * *	7 04 3 04 1 1019.0	* * *	* * *	
CASST DEPTH TEMP, SALINITY SIGMA-T	OXYGEN OXYGEN % SAT, INORG, P	TOTAL P	NITRATE	
1 0 16.30 35.710 26.24	***	***	***	
1 25 16.30 35.710 26.24	***	***	***	
1 50 16.26 35.710 26.25	5.25	94	***	
1 75 15.56 35.660 26.37	***	***	***	
1 100 14.76 35.520 26.44	4.77	83	***	
1 150 14.09 35.500 26.57	***	***	***	
1 200 13.65 35.410 26.60	4.94	84	***	

STATION	DATE	TIME	LATITUDE	LONGITUDE
N 10/ 71/61	9/ 8/61	1010 K	34 40 S	151 15 E
SONIC AIR TEMP, WIND ANEM, CLOUD	VIS, SEA SWELL	ATMOS,	WIRE ANGLES	
DEPTH WET DRY DIR, SP, HEIGHT TYPE AMT.	DIR, AMT, DIR, AMT, PRESSURE	CAST1 CAST2 CAST3		
357 *** *** 36 3 * * * * *	7 04 3 04 1 1019.0	* * *	* * *	
CASST DEPTH TEMP, SALINITY SIGMA-T	OXYGEN OXYGEN % SAT, INORG, P	TOTAL P	NITRATE	
1 0 17.12 35.750 26.08	***	***	***	
1 25 17.14 35.750 26.07	***	***	***	
1 50 16.38 35.680 26.20	***	***	***	
1 75 16.11 35.710 26.29	***	***	***	
1 100 15.67 35.640 26.33	***	***	***	
1 150 15.40 35.610 26.37	***	***	***	
1 200 14.29 35.530 26.55	***	***	***	
1 300 11.69 35.100 26.74	***	***	***	

STATION DATE TIME LATITUDE LONGITUDE
 # 10/ 74/61 12/ 8/61 0910 K 35 07 S 150 52 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

110 *** 05 2 * * * 7 * * * 05 4 1029.0 * * *
 CAST DEPTH TEMP, SALINITY SIGMA-T OXYGEN OXYGEN % SAT, INCRG. P TOTAL P NITRATE
 1 0 16.23 35.620 26.19 *** ** ** **
 1 25 16.11 35.620 26.22 *** ** ** **
 1 50 15.15 35.620 26.43 *** ** ** **
 1 75 14.88 35.620 26.49 *** ** ** **
 1 100 14.21 35.520 26.56 *** ** ** **

STATION DATE TIME LATITUDE LONGITUDE
 # 10/ 75/61 12/ 8/61 1000 K 35 07 S 150 57 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

132 *** 05 2 * * * 7 * * * 05 4 1029.0 * * *
 CAST DEPTH TEMP, SALINITY SIGMA-T OXYGEN OXYGEN % SAT, INCRG. P TOTAL P NITRATE
 1 0 15.57 35.620 26.34 *** ** ** **
 1 25 15.50 35.640 26.37 *** ** ** **
 1 50 15.43 35.640 26.39 5.13 *** ** ** **
 1 75 15.40 35.640 26.39 *** ** ** **
 1 100 15.09 35.570 26.41 5.10 *** ** ** **

STATION DATE TIME LATITUDE LONGITUDE
 P 10/ 76/61 12/ 8/61 1045 K 35 07 S 151 02 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

155 *** ** 05 2 * * * * 7 * * 05 4 1029.0 * * * *

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

1 0 16.42 35.610 26.14 *** **

1 25 15.66 35.610 26.31 *** **

1 50 15.58 35.640 26.35 *** **

1 75 15.37 35.620 26.39 *** **

1 100 15.18 35.590 26.40 *** **

1 150 13.87 33.410 26.55 *** **

STATION DATE TIME LATITUDE LONGITUDE
 P 10/ 77/61 12/ 8/61 1145 K 35 07 S 151 07 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

580 *** ** 05 2 * * * * 7 * * 05 4 1028.0 * * * *

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

1 0 17.06 35.640 26.01 *** **

1 25 16.97 35.640 26.03 *** **

1 50 16.58 35.640 26.12 83 *** **

1 75 16.00 35.640 26.26 *** **

1 100 15.49 35.610 26.35 83 *** **

1 150 15.02 35.570 26.43 *** **

1 200 13.10 35.340 26.65 71 *** **

1 300 11.59 35.050 26.72 70 *** **

1 500 8.70 34.700 26.95 69 *** **

STATION	DATE	TIME	LATITUDE	LONGITUDE			
P 10/ 78/61	12/ 8/61	1300 K	35 07 S	151 12 E			
SONIC AIR TEMP.	WIND DIR. SP.	CLOUD	ANEM. HEIGHT	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3
DEPTH WET DRY	*** ** 05 2	** *	** *	** *	7 05 2	05 4	1027.0 * * *
1006 *** ** 05 2							
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P NITRATE
1 0	17.49	35.660	25.92	**	***	***	***
1 25	16.80	35.660	26.09	***	***	***	***
1 50	16.07	35.590	26.20	***	***	***	***
1 75	15.80	35.610	26.28	***	***	***	***
1 100	15.48	35.590	26.34	***	***	***	***
1 150	13.77	35.280	26.47	***	***	***	***
1 200	13.16	35.280	26.59	***	***	***	***
1 300	10.88	34.960	26.79	***	***	***	***

70

STATION	DATE	TIME	LATITUDE	LONGITUDE			
P 11/ 79/61	16/ 8/61	0700 K	34 05 S	151 13 E			
SONIC AIR TEMP.	WIND DIR. SP.	CLOUD	ANEM. HEIGHT	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3
DEPTH WET DRY	*** ** 32 2	** *	** *	** *	6 32 1	04 2	1018.0 * * *
62 *** ** 32 2							
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P NITRATE
1 0	15.09	35.590	26.42	***	***	***	***
1 25	15.09	35.620	26.45	***	***	***	***
1 50	14.98	35.620	26.47	***	***	***	***

STATION 11/ 80761 DATE 16/ 8/61 TIME 0750 K LATITUDE 34 05 S LONGITUDE 151 18 E

SONIC AIR TEMP. WIND ANEM. CLOUD VIS. SEA SWELL ATMOS. WIRE ANGLES
 WIND DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 128 *** ** 32 2 * * * 6 32 1 04 2 1018.0 * * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 15.42 35.550 26.32 *** *** ***
 1 25 15.40 35.610 26.37 *** *** ***
 1 50 15.26 35.620 26.41 4.71 *** *** ***
 1 75 15.10 35.620 26.45 *** *** ***
 1 100 15.04 35.610 26.45 5.22 *** *** ***

STATION 11/ 81761 DATE 16/ 8/61 TIME 0840 K LATITUDE 34 05 S LONGITUDE 151 23 E

SONIC AIR TEMP. WIND ANEM. CLOUD VIS. SEA SWELL ATMOS. WIRE ANGLES
 WIND DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 137 *** ** 32 2 * * * 6 32 1 04 1 1018.0 * * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 15.97 35.660 26.28 *** *** ***
 1 25 15.20 35.640 26.44 *** *** ***
 1 50 15.09 35.620 26.45 *** *** ***
 1 75 14.94 35.610 26.47 *** *** ***
 1 100 14.88 35.610 26.49 *** *** ***

STATION P 11/ 82/61 DATE 16/ 8/61 TIME 0940 K LATITUDE 34 05 S LONGITUDE 151 28 E

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

154 *** ** 32 2 * * * 6 32 1 04 1 1018.0 * * *

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

1 0 17.15 35.620 25.97 *** ** ** **

1 25 14.10 35.610 26.21 *** ** ** **

1 50 15.83 35.680 26.33 3.79 67 *** ** ** **

1 75 15.51 35.660 26.38 *** ** ** **

1 100 15.22 35.640 26.43 9.13 *** ** ** **

1 150 14.95 35.620 26.48 4.88 *** ** ** **

STATION P 11/ 83/61 DATE 16/ 8/61 TIME 1030 K LATITUDE 34 05 S LONGITUDE 151 33 E

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

357 *** ** 32 2 * * * 6 32 1 04 1 1016.0 * * *

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

1 0 17.51 35.620 25.89 *** ** ** **

1 25 14.91 35.620 26.03 *** ** ** **

1 50 16.44 35.660 26.17 *** ** ** **

1 75 15.85 35.610 26.27 *** ** ** **

1 100 15.22 35.570 26.38 *** ** ** **

1 150 15.20 35.660 26.45 *** ** ** **

1 200 13.73 35.410 26.58 *** ** ** **

1 300 12.01 35.160 26.73 *** ** ** **

STATION	DATE	TIME	LATITUDE	LONGITUDE					
P 11/ 86/61	17/ 8/61	0620 K	34 40 S	150 59 E					
SONIC AIR TEMP.	WIND	ANEM.	CLOUD						
DEPTH MET DRY	DIP, SP.	HEIGHT	TYPE AMT.						
60 *** **	32 2	*	*	*					
	VIS.	SEA	SWELL	ATMOS.					
	DIR. AMT.	DIR. AMT.	DIR. AMT.	PRESSURE					
	6	32 1	04 2	1008.0					
CST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	14.89	35.930	26.42	***	***	***	***	***
1	25	14.71	35.920	26.48	***	***	***	***	***
1	50	14.29	35.920	26.55	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE					
P 11/ 87/61	17/ 8/61	0705 K	34 40 S	151 00 E					
SONIC AIR TEMP.	WIND	ANEM.	CLOUD						
DEPTH MET DRY	DIP, SP.	HEIGHT	TYPE AMT.						
115 *** **	32 2	*	*	*					
	VIS.	SEA	SWELL	ATMOS.					
	DIR. AMT.	DIR. AMT.	DIR. AMT.	PRESSURE					
	6	32 1	04 2	1008.0					
CST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	15.23	35.990	26.39	***	***	***	***	***
1	25	15.19	35.990	26.40	***	***	***	***	***
1	50	***	35.970	***	5.47	***	***	***	***
1	75	14.49	35.930	26.51	***	***	***	***	***
1	100	14.28	35.920	26.55	4.80	83	***	***	***

STATION M 11/ 88/61 DATE 17/ 8/61 TIME 0750 K LATITUDE 34 40 S LONGITUDE 151 05 E

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

139 *** ** 12 2 * * * * 6 32 1 04 2 1010.0 * * * *

CST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT, INCRG, P TOTAL P NITRATE

1 0 15.73 35.660 26.34 *** ** ** ** **

1 25 15.60 35.640 26.34 *** ** ** ** * * *

1 50 15.33 35.610 26.39 *** ** ** ** * * *

1 75 15.13 35.590 26.42 *** ** ** ** * * *

1 100 14.87 35.590 26.47 *** ** ** ** * * *

STATION M 11/ 89/61 DATE 17/ 8/61 TIME 0835 K LATITUDE 34 40 S LONGITUDE 151 10 E

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

179 *** ** 12 4 * * * * 6 32 2 04 2 1010.0 * * * *

CST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT, INCRG, P TOTAL P NITRATE

1 0 15.40 35.610 26.33 *** ** ** ** * * *

1 25 15.57 35.620 26.34 *** ** ** ** * * *

1 50 15.44 35.610 26.36 5.25 *** ** ** ** * * *

1 75 14.58 35.530 26.49 *** ** ** ** * * *

1 100 14.06 35.430 26.52 4.88 *** ** ** ** * * *

1 150 13.78 35.300 26.59 4.46 *** ** ** ** * * *

STATION P 11/ 94/61 DATE 18/ 8/61 TIME 0710 K LATITUDE 35 07 S LONGITUDE 150 57 E

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

132 ***	***	23	3	*	*	6	23	3	14	2	1010.0	*	*	*
CAS	T	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE					
1	0	14.18	35.680	26.25	***	***	***	***	***					
1	25	15.91	35.660	26.29	***	***	***	***	***					
1	50	15.48	35.640	26.38	4.91	87	***	***	***					
1	75	15.10	35.590	26.42	***	***	***	***	***					
1	100	14.40	35.500	26.51	4.63	80	***	***	***					

STATION P 11/ 95/61 DATE 18/ 8/61 TIME 0755 K LATITUDE 35 07 S LONGITUDE 151 02 E

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

155 ***	***	23	3	*	*	6	23	3	14	2	1010.0	*	*	*
CAS	T	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE					
1	0	14.41	35.640	26.16	***	***	***	***	***					
1	25	16.37	35.640	26.17	***	***	***	***	***					
1	50	15.29	35.530	26.33	***	***	***	***	***					
1	75	14.71	35.530	26.46	***	***	***	***	***					
1	100	14.36	35.530	26.53	***	***	***	***	***					
1	150	13.15	35.300	26.61	***	***	***	***	***					

STATION DATE TIME LATITUDE LONGITUDE
 M 11/ 96/61 18/ 8/61 0850 K 35 07.S 151 07 E

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

656 *** ** 23 3 * * * 6 23 3 14 2 1010.0 * * * *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN	% SAT.	INORG. P	TOTAL P	NITRATE
1	0	14.52	35.640	26.14	***	***	***	***	***	***
1	25	16.38	35.700	26.22	***	***	***	***	***	***
1	50	15.98	35.660	26.28	4.97	89	***	***	***	***
1	75	15.28	35.590	26.38	***	***	***	***	***	***
1	100	15.15	35.590	26.41	4.94	87	***	***	***	***
1	150	13.60	35.320	26.54	4.46	76	***	***	***	***
1	200	12.61	35.170	26.62	4.41	73	***	***	***	***
1	300	10.62	34.920	26.80	4.43	70	***	***	***	***
1	500	8.40	34.670	26.97	4.35	66	***	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 M 11/ 97/61 18/ 8/61 1005 K 35 07 S 151 12 E

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

1024 *** ** 18 3 * * * 6 18 3 14 2 1010.0 * * * *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN	% SAT.	INORG. P	TOTAL P	NITRATE
1	0	14.45	35.660	26.17	***	***	***	***	***	***
1	25	14.47	35.660	26.16	***	***	***	***	***	***
1	50	14.01	35.640	26.25	***	***	***	***	***	***
1	75	15.69	35.640	26.33	***	***	***	***	***	***
1	100	***	35.620	***	***	***	***	***	***	***
1	150	13.96	35.370	26.50	***	***	***	***	***	***
1	200	12.48	35.160	26.64	***	***	***	***	***	***
1	300	11.10	35.010	26.78	***	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE				
N 12/ 102/61	23/ 8/61	0700 K	34 05 S	151 13 E				
SONIC AIR TEMP, WIND	ANEM, CLOUD	VIS, SEA	SWELL	ATMOS,	WIRE ANGLES			
DEPTH MET DRY DIR, SP,	HEIGHT TYPE AMT,	DIR, AMT,	DIR, AMT,	PRESSURE	CAST1 CAST2 CAST3			
73 *** ** 27 3	* * *	7 27 2	18 2	1012.0	* * *			
CAST DEPTH	TEMP,	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT,	INORG. P	TOTAL P	NITRATE
1	0 15.86	35.610	26.27	***	***	***	***	***
1	25 15.30	35.640	26.42	***	***	***	***	***
1	50 14.79	35.590	26.49	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE				
N 12/ 103/61	23/ 8/61	0750 K	34 05 S	151 18 E				
SONIC AIR TEMP, WIND	ANEM, CLOUD	VIS, SEA	SWELL	ATMOS,	WIRE ANGLES			
DEPTH MET DRY DIR, SP,	HEIGHT TYPE AMT,	DIR, AMT,	DIR, AMT,	PRESSURE	CAST1 CAST2 CAST3			
128 *** ** 27 3	* * *	7 27 2	18 2	1012.0	* * *			
CAST DEPTH	TEMP,	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT,	INORG. P	TOTAL P	NITRATE
1	0 14.81	35.610	26.05	***	***	***	***	***
1	25 14.81	35.590	26.03	***	***	***	***	***
1	50 15.97	35.620	26.25	4.88	87	***	***	***
1	75 14.82*	35.520*	26.43	***	***	***	***	***
1	100 15.07*	35.620	26.45	5.14	90	***	***	***

* PROPERTY DOUBTFUL
+ PROPERTY INTERPOLATED

STATION	DATE	TIME	LATITUDE	LONGITUDE				
F 12/ 104/61	23/ 8/61	0840 K	34 05 S	151 23 E				
SONIC AIR TEMP.	WIND DIR. SP.	WIND DIR. SP.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES			
DEPTH MET DRY ***	27 3	* *	18 2	1012.0	CAST1 CAST2 CAST3			
139 ***	27 3	* *	18 2	1012.0	* * *			
CASST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.02	35,620	26.00	***	***	***	***
1	25	17.00	35,610	26.00	***	***	***	***
1	50	16.39	35,570	26.11	***	***	***	***
1	75	15.63	35,660	26.36	***	***	***	***
1	100	14.66	35,480	26.43	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE				
F 12/ 105/61	23/ 8/61	0950 K	34 05 S	151 28 E				
SONIC AIR TEMP.	WIND DIR. SP.	WIND DIR. SP.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES			
DEPTH MET DRY ***	27 3	* *	18 2	1012.0	CAST1 CAST2 CAST3			
157 ***	27 3	* *	18 2	1012.0	* * *			
CASST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.13	35,610	25.97	***	***	***	***
1	25	17.14	35,590	25.95	***	***	***	***
1	50	14.43	35,520	26.07	76	***	***	***
1	75	16.97	35,520	26.17	***	***	***	***
1	100	15.22	35,500	26.33	77	***	***	***
1	150	13.51	35,350	26.58	***	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 # 12/ 106/61 23/ 8/61 1040 K 34 05 S 151 33 E

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

311 *** ** 27 3 * * * * 7 27 2 18 2 1012.0 * * * *

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

1 0 17.17 35.640 25.98 *** *** *** ***

1 25 17.09 35.640 26.00 *** *** *** ***

1 50 17.09 35.610 25.99 *** *** *** ***

1 75 16.95 35.610 26.25 *** *** *** ***

1 100 16.06 35.520 26.38 *** *** *** ***

1 150 14.13 35.480 26.55 *** *** *** ***

1 200 13.29 35.340 26.62 *** *** *** ***

1 300 11.70 35.100 26.74 *** *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 # 12/ 107/61 29/ 8/61 0610 K 34 40 S 150 55 E

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

35 *** ** 18 2 * * * * 7 18 1 14 2 1007.0 * * * *

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

1 0 14.79 33.890 25.18 *** *** *** ***

1 25 15.15 35.440 26.30 *** *** *** ***

1 50 15.09 35.530 26.38 *** *** *** ***

STATION M 12/ 108/61 DATE 29/ 8/61 TIME 0700 K LATITUDE 34 40 S LONGITUDE 191 00 E

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

117 *** ** 18 2 * * * 7 16 1 14 2 1007.0 * * * *

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

1 0 15.49 35.430 26.21 *** *** ***

1 25 15.32 35.520 26.32 *** *** ***

1 50 15.30 35.520 26.32 5.40 *** *** ***

1 75 15.31 35.530 26.33 *** *** ***

1 100 14.49 35.500 26.49 5.12 *** *** ***

STATION M 12/ 109/61 DATE 29/ 8/61 TIME 0750 K LATITUDE 34 40 S LONGITUDE 191 05 E

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

139 *** ** 18 2 * * * 7 18 1 14 2 1007.0 * * * *

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

1 0 15.42 35.610 26.37 *** *** ***

1 25 15.31 35.970 26.36 *** *** ***

1 50 15.29 35.970 26.36 *** *** ***

1 75 14.10 35.970 26.41 *** *** ***

1 100 14.28 35.500 26.53 *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 N 12/ 110/61 29/ 8/61 0840 K 34 40 S 151 10 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 WET DRY DIR, SP. HEIGHT TYPE AMT. DIR, AMT. DIR, AMT. PRESSURE CAST1 CAST2 CAST3
 183 *** ** 18 2 * * * * 7 16 1 14 2 1007.0 * * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN CXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 15.80 35.500 26.20 *** *** *** ***
 1 25 15.47 35.610 26.35 *** *** *** ***
 1 50 15.30 35.610 26.39 5.07 *** *** *** ***
 1 75 14.77 35.590 26.50 *** *** *** ***
 1 100 14.69 35.570 26.50 5.01 *** *** *** ***
 1 150 13.98 35.440 26.55 *** *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 N 12/ 111/61 29/ 8/61 0940 K 34 40 S 151 15 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 WET DRY DIR, SP. HEIGHT TYPE AMT. DIR, AMT. DIR, AMT. PRESSURE CAST1 CAST2 CAST3
 366 *** ** 18 2 * * * * 7 18 2 14 2 1006.0 * * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN CXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 14.02 35.930 26.17 *** *** *** ***
 1 25 15.99 35.530 26.18 *** *** *** ***
 1 50 15.34 35.530 26.32 *** *** *** ***
 1 75 15.16 35.920 26.36 *** *** *** ***
 1 100 14.74 35.500 26.43 *** *** *** ***
 1 150 13.50 35.430 26.58 *** *** *** ***
 1 200 12.70 35.300 26.70 *** *** *** ***
 1 300 10.40 34.920 26.84 *** *** *** ***

STATION P 12/ 114/61 DATE 30/ 8/61 TIME 0640 K LATITUDE 35 07 S LONGITUDE 150 52 E

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

110 *** ** 27 3 * * * 7 27 1 09 2 1005.0 * * *

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

1 0 15.03 35.250 26.18 *** **

1 25 15.16 35.430 26.29 *** **

1 50 15.06 35.500 26.36 *** **

1 75 14.64 35.480 26.44 *** **

1 100 13.72 35.370 26.55 *** **

STATION P 12/ 115/61 DATE 30/ 8/61 TIME 0730 K LATITUDE 35 07 S LONGITUDE 150 57 E

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

132 *** ** 27 3 * * * 7 27 1 09 2 1005.0 * * *

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

1 0 15.12 35.070 26.02 *** **

1 25 15.32 35.900 26.30 *** **

1 50 15.30 35.500 26.31 93 *** **

1 75 14.69 35.520 26.46 *** **

1 100 13.92 35.390 26.52 84 *** **

STATION DATE TIME LATITUDE LONGITUDE
 P 12/ 116/61 30/ 8/61 0815 K 35 07 S 151 02 E

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

161 *** ** 27 4 * * * 7 27 2 09 2 1006.0 * * *

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

1 0 15.39 35.260 26.10 *** *** ***

1 25 15.53 35.570 26.31 *** *** ***

1 50 15.37 35.570 26.35 *** *** ***

1 75 15.18 35.570 26.39 *** *** ***

1 100 14.94 35.530 26.41 *** *** ***

1 150 11.63 35.030 26.70 *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 P 12/ 117/61 30/ 8/61 0910 K 35 07 S 151 07 E

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

640 *** ** 27 4 * * * 7 27 2 09 2 1006.0 * * *

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

1 0 15.32 35.530 26.33 *** *** ***

1 25 15.34 35.550 26.34 *** *** ***

1 50 15.36 35.570 26.35 *** 95 *** ***

1 75 15.20 35.570 26.38 *** *** ***

1 100 15.17 35.570 26.39 5.15 *** *** ***

1 150 14.09 35.440 26.53 *** *** ***

1 200 17.06 35.300 26.63 *** 76 *** ***

1 300 11.42 35.030 26.74 *** 63 *** ***

1 500 9.24 34.760 26.91 4.49 *** ***

STATION P 12/ 118/61 DATE 30/ 8/61 TIME 1025 K LATITUDE 35 07 S LONGITUDE 151 12 E

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

1244 *** *** 23 3 * * * 7 23 3 09 2 1006.0 * * * * *

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

1 0 15.28 35.570 26.37 *** ** ** ** **

1 25 15.23 35.620 26.42 *** ** ** ** * * *

1 50 15.20 35.590 26.40 *** ** ** ** * * *

1 75 15.17 35.970 26.39 *** ** ** ** * * *

1 100 14.90 35.550 26.44 *** ** ** ** * * *

1 150 14.58 35.550 26.51 *** ** ** ** * * *

1 200 13.61 35.350 26.52 *** ** ** ** * * *

1 300 11.91 35.120 26.72 *** ** ** ** * * *

STATION P 13/ 126/61 DATE 13/ 9/61 TIME 0700 K LATITUDE 34 05 S LONGITUDE 151 13 E

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

60 *** *** 18 3 * * * 7 18 2 14 2 1027.0 * * * * *

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

1 0 15.19 35.260 26.15 *** ** ** ** * * *

1 25 14.96 35.260 26.20 *** ** ** ** * * *

1 50 14.91 35.300 26.24 *** ** ** ** * * *

STATION N 13/ 127/61 DATE 13/ 9/61 TIME 0745 K LATITUDE 34 05 S LONGITUDE 151 18 E

SONIC DEPTH	AIR TEMP. WET DRY	WIND DIR. SP.	WIND DIR. SP.	CLOUD TYPE AMT.	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3	
128 ***	*** 18 3	*	*	*	7 18 2	14 2	1027.0	* * *	
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	16.10	35.550	26.17	***	***	***	***	***
1	25	14.06	35.550	26.18	***	***	***	***	***
1	50	15.17	35.350	26.22	4.99	87	***	***	***
1	75	15.20	35.460	26.30	***	***	***	***	***
1	100	15.00	35.530	26.40	4.77	83	***	***	***

STATION N 13/ 128/61 DATE 13/ 9/61 TIME 0835 K LATITUDE 34 05 S LONGITUDE 151 23 E

SONIC DEPTH	AIR TEMP. WET DRY	WIND DIR. SP.	WIND DIR. SP.	CLOUD TYPE AMT.	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3	
137 ***	*** 16 3	*	*	*	7 18 2	14 2	1027.0	* * *	
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	14.47	35.930	26.06	***	***	***	***	***
1	25	14.42	35.970	26.11	***	***	***	***	***
1	50	14.36	35.970	26.12	***	***	***	***	***
1	75	15.79	35.950	26.24	***	***	***	***	***
1	100	14.77	35.480	26.41	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE									
M 13/ 129/61	13/ 9/61	0955 K	34 05 S	151 28 E									
SONIC AIR TEMP.	WIND DIR.	SP.	CLOUD	ANEM. HEIGHT	VIS.	SEA DIR.	AMT.	SWELL DIR.	AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
DEPTH	***	***	14	3	*	*	*	14	2	14	2	*	*
127	***	***	14	3	*	*	*	14	2	1027.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE				
1	0	16.61	35.610	26.09	***	***	***	***	***				
1	25	16.42	35.640	26.11	***	***	***	***	***				
1	50	16.57	35.570	26.07	5.15	93	***	***	***				
1	75	16.53	35.590	26.10	***	***	***	***	***				
1	100	15.27	35.500	26.31	4.48	79	***	***	***				
1	150	13.26	35.300	26.59	***	***	***	***	***				

STATION	DATE	TIME	LATITUDE	LONGITUDE									
M 13/ 130/61	13/ 9/61	1050 K	34 05 S	151 33 E									
SONIC AIR TEMP.	WIND DIR.	SP.	CLOUD	ANEM. HEIGHT	VIS.	SEA DIR.	AMT.	SWELL DIR.	AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	CAST2	CAST3
DEPTH	***	***	14	3	*	*	*	14	2	1027.0	*	*	*
311	***	***	14	3	*	*	*	14	2	1027.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE				
1	0	16.72	35.610	26.07	***	***	***	***	***				
1	25	16.69	35.610	26.07	***	***	***	***	***				
1	50	16.63	35.620	26.09	***	***	***	***	***				
1	75	16.67	35.610	26.08	***	***	***	***	***				
1	100	16.00	35.550	26.19	***	***	***	***	***				
1	150	14.23	35.390	26.46	***	***	***	***	***				
1	200	12.75	35.210	26.62	***	***	***	***	***				
1	300	10.99	34.960	26.77	***	***	***	***	***				

STATION DATE TIME LATITUDE LONGITUDE
 M 13/ 134/61 14/ 9/61 0610 K 34 40 S 190 55 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 WET DRY DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 64 *** ** 33 3 * * * * 6 33 2 14 2 1020.0 * * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 15.32 35.260 26.12 *** *** *** ***
 1 25 15.40 35.410 26.22 *** *** *** ***
 1 50 14.63 35.410 26.39 *** *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 M 13/ 135/61 14/ 9/61 0655 K 34 40 S 191 00 E

SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 WET DRY DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 119 *** ** 33 3 * * * * 6 33 2 14 2 1020.0 * * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 16.07 35.550 26.17 *** *** *** ***
 1 25 16.07 35.550 26.17 *** *** *** ***
 1 50 16.00 35.550 26.19 87 *** *** *** ***
 1 75 15.49 35.920 26.28 *** *** *** ***
 1 100 14.16 35.430 26.50 79 *** *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 # 13/ 136/61 14/ 9/61 0745 K 34 40 S 151 05 E

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

137 *** ** 33 3 * * * * 6 33 2 14 2 1020.0 * * * * *

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

1 0 14.05 35.530 26.16 *** ** * * * * *
 1 25 16.04 35.550 26.18 *** ** * * * * *
 1 50 15.98 35.550 26.19 *** ** * * * * *
 1 75 15.24 35.520 26.36 *** ** * * * * *
 1 100 14.67 35.500 26.45 *** ** * * * * *

STATION DATE TIME LATITUDE LONGITUDE
 # 13/ 137/61 14/ 9/61 0830 K 34 40 S 151 10 E

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

177 *** ** 33 3 * * * * 6 33 2 14 2 1020.0 * * * * *

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

1 0 14.18 35.570 26.16 *** ** * * * * *
 1 25 16.18 35.570 26.16 *** ** * * * * *
 1 50 15.01 35.550 26.19 *** ** * * * * *
 1 75 15.37 35.500 26.29 *** ** * * * * *
 1 100 14.98 35.480 26.36 *** ** * * * * *
 1 150 13.70 35.320 26.51 *** ** * * * * *

STATION DATE TIME LATITUDE LONGITUDE
 M 13/ 138/61 14/ 9/61 0930 K 34 40 S 151 15 E
 SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DEPTH KET DRY DIR. SP. HEIGHT TYPE AMT. VIS. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 320 *** ** 33 4 * * * 7 33 3 14 2 1019.0 * * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 16.93 35.640 26.13 *** ** * * * * *
 1 25 16.54 35.640 26.13 *** ** * * * * *
 1 50 16.53 35.620 26.12 *** ** * * * * *
 1 75 16.53 35.610 26.11 *** ** * * * * *
 1 100 15.40 35.530 26.29 *** ** * * * * *
 1 150 14.45 35.440 26.45 *** ** * * * * *
 1 200 13.06 35.250 26.59 *** ** * * * * *
 1 300 11.13 34.960 26.74 *** ** * * * * *

90

STATION DATE TIME LATITUDE LONGITUDE
 M 13/ 140/61 19/ 9/61 0710 K 35 07 S 150 52 E
 SONIC AIR TEMP. WIND ANEM. CLOUD SWELL ATMOS. WIRE ANGLES
 DEPTH KET DRY DIR. SP. HEIGHT TYPE AMT. VIS. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 110 *** ** 22 2 * * * 6 22 1 14 2 1029.0 * * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 14.92 35.210 26.17 *** ** * * * * *
 1 25 15.01 35.350 26.26 *** ** * * * * *
 1 50 14.98 35.350 26.26 *** ** * * * * *
 1 75 14.72 35.390 26.35 *** ** * * * * *
 1 100 14.44 35.440 26.45 *** ** * * * * *

STATION DATE TIME LATITUDE LONGITUDE
 # 13/ 141/61 19/ 9/61 0810 K 35 07 S 150 57 E

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

132 *** ** 2 2 * * * 6 22 1 14 2 1029.0 * * *

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

1 0 14.23 35.530 26.12 *** *** ***

1 25 16.22 35.550 26.14 *** *** ***

1 50 16.03 35.520 26.16 94 *** *** ***

1 75 15.25 35.460 26.29 *** *** ***

1 100 14.42 35.440 26.46 83 *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 # 13/ 142/61 19/ 9/61 0910 K 35 07 S 151 02 E

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

174 *** ** 2 2 * * * 6 22 1 14 2 1029.0 * * *

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

1 0 16.47 35.610 26.12 *** *** ***

1 25 16.42 35.610 26.14 *** *** ***

1 50 16.22 35.550 26.14 *** *** ***

1 75 15.67 35.530 26.25 *** *** ***

1 100 14.90 35.460 26.37 *** *** ***

1 150 13.21 35.250 26.56 *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 M 13/ 143/61 19/ 9/61 1000 K 35 07 S 151 07 E

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

732 *** ** 22 2 * * * 6 22 2 14 2 1029.0 * * *

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

1 0 16.96 35.620 26.11 *** *** ***

1 25 16.54 35.620 26.12 *** *** ***

1 50 16.95 35.620 26.11 85 *** *** ***

1 75 16.31 35.570 26.13 *** *** ***

1 100 15.40 35.500 26.29 4.74 *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 M 13/ 144/61 19/ 9/61 1120 K 35 07 S 151 12 E

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

1061 *** ** 22 2 * * * 6 22 2 14 2 1029.0 * * *

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

1 0 16.62 35.620 26.10 *** *** ***

1 25 16.56 35.620 26.11 *** *** ***

1 50 16.94 35.620 26.12 *** *** ***

1 75 16.56 35.620 26.11 *** *** ***

1 100 15.48 35.460 26.24 *** *** ***

1 150 14.74 35.460 26.40 *** *** ***

1 200 13.08 35.170 26.53 *** *** ***

1 300 11.40 35.010 26.73 *** *** ***

STATION P 14/ 150/61 DATE 26/ 9/61 TIME 0640 K LATITUDE 34 05 S LONGITUDE 151 13 E

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

68 *** ** 23 3 * * * 6 23 1 14 2 1015.0 * * *

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

1 0 16.03 35.410 26.07 *** *** ***

1 25 15.83 35.410 26.12 *** *** ***

1 50 15.38 35.430 26.24 *** *** ***

STATION P 14/ 151/61 DATE 26/ 9/61 TIME 0730 K LATITUDE 34 05 S LONGITUDE 151 18 E

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

128 *** ** 23 3 * * * 6 23 1 14 2 1015.0 * * *

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

1 0 16.47 35.410 25.97 *** *** ***

1 25 16.43 35.410 25.98 *** *** ***

1 50 16.22 35.920 26.12 4.99 89 *** *** ***

1 75 15.15 35.480 26.33 *** *** ***

1 100 14.46 35.410 26.42 3.86 67 *** *** ***

STATION		DATE		TIME		LATITUDE		LONGITUDE						
M 14/ 154761		26/ 9/61		1030 K		34 05 S		151 33 E						
SONIC AIR TEMP.	WIND DIR, SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2					
DEPTH	NET DRY	NET DRY	NET DRY	NET DRY	NET DRY	NET DRY	NET DRY	NET DRY	NET DRY					
311	***	23	4	*	*	6	23	3	14	2	1015.0	*	*	*
CAS	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT,	INORG. P	TOTAL P	NITRATE					
1	0	18.87	35.620	25.55	***	***	***	***	***					
1	25	18.15	35.590	25.70	***	***	***	***	***					
1	50	16.78	35.590	26.04	***	***	***	***	***					
1	75	15.78	35.500	26.20	***	***	***	***	***					
1	100	14.75	35.350	26.31	***	***	***	***	***					
1	150	13.83	35.280	26.46	***	***	***	***	***					
1	200	13.24	35.250	26.56	***	***	***	***	***					
1	300	10.99	34.960	26.77	***	***	***	***	***					

STATION		DATE		TIME		LATITUDE		LONGITUDE						
M 14/ 155761		28/ 9/61		0540 K		34 40 S		150 55 E						
SONIC AIR TEMP.	WIND DIR, SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2					
DEPTH	NET DRY	NET DRY	NET DRY	NET DRY	NET DRY	NET DRY	NET DRY	NET DRY	NET DRY					
62	***	36	3	*	*	6	36	2	14	2	1026.0	*	*	*
CAS	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT,	INORG. P	TOTAL P	NITRATE					
1	0	15.41	35.120	25.99	***	***	***	***	***					
1	25	15.60	35.350	26.12	***	***	***	***	***					
1	50	14.89	35.390	26.31	***	***	***	***	***					

STATION DATE TIME LATITUDE LONGITUDE
 P 14/ 156/61 28/ 9/61 0625 K 34 40 S 151 00 E

SONIC DEPTH	AIR TEMP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.
117	***	***	36	3	*	*	*	6	36	2	14	2	1026.0	*	*	*	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN	% SAT.	INORG. P	TOTAL P	NITRATE									
1	0	16.45	35.550	26.08	***	***	***	***	***	***									
1	25	16.42	35.550	26.09	***	***	***	***	***	***									
1	50	15.18	35.390	26.25	4.96	87	***	***	***	***									
1	75	14.68	35.390	26.36	***	***	***	***	***	***									
1	100	14.37	35.370	26.41	4.30	74	***	***	***	***									

STATION DATE TIME LATITUDE LONGITUDE
 P 14/ 157/61 28/ 9/61 0720 K 34 40 S 151 05 E

SONIC DEPTH	AIR TEMP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.
134	***	***	36	4	*	*	*	6	36	3	14	2	1025.0	*	*	*	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN	% SAT.	INORG. P	TOTAL P	NITRATE									
1	0	16.72	35.570	26.04	***	***	***	***	***	***									
1	25	16.43	35.550	26.09	***	***	***	***	***	***									
1	50	15.97	35.530	26.18	***	***	***	***	***	***									
1	75	15.37	35.480	26.28	***	***	***	***	***	***									
1	100	14.32	35.410	26.45	***	***	***	***	***	***									

STATION M 14/ 158/61 DATE 28/ 9/61 TIME 0805 K LATITUDE 34 40 S LONGITUDE 151 10 E

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

172 *** ** 36 4 * * * * 6 36 3 14 2 1025.0 * * * *

CST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	17.75	35.620	25.83	***	***	***	***	***
1	25	16.62	35.530	26.03	***	***	***	***	***
1	50	16.19	35.520	26.12	5.14	92	***	***	***
1	75	15.67	35.500	26.23	***	***	***	***	***
1	100	14.91	35.460	26.36	4.55	79	***	***	***
1	150	14.17	35.410	26.49	***	***	***	***	***

STATION M 14/ 159/61 DATE 28/ 9/61 TIME 0900 K LATITUDE 34 40 S LONGITUDE 151 15 E

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

311 *** ** 36 4 * * * * 6 36 3 14 2 1025.0 * * * *

CST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.11	35.640	25.75	***	***	***	***	***
1	25	17.90	35.610	25.78	***	***	***	***	***
1	50	16.79	35.570	26.02	***	***	***	***	***
1	75	16.90	35.570	26.09	***	***	***	***	***
1	100	14.14	35.530	26.14	***	***	***	***	***
1	150	14.93	35.500	26.39	***	***	***	***	***
1	200	13.33	35.210	26.51	***	***	***	***	***
1	300	12.05	35.120	26.69	***	***	***	***	***

STATION P 14/ 162/61 DATE 29/ 9/61 TIME 0550 K LATITUDE 35 07 S LONGITUDE 150 52 E

SONIC DEPTH	AIR TEMP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	CLOUD AMT.	SEA DIR.	SEA AMT.	VIS.	ATMOS. PRESSURE	SWELL DIR.	SWELL AMT.	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
106	***	27	2	*	*	*	*	*	7	27	1	14	1	1019.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE								
1	0	15.43	35.340	26.16	***	***	***	***	***	***	***	***	***	***	***	***	***
1	25	15.41	35.340	26.16	***	***	***	***	***	***	***	***	***	***	***	***	***
1	50	15.23	35.390	26.24	***	***	***	***	***	***	***	***	***	***	***	***	***
1	75	14.49	35.410	26.42	***	***	***	***	***	***	***	***	***	***	***	***	***
1	100	13.97	35.370	26.50	***	***	***	***	***	***	***	***	***	***	***	***	***

STATION P 14/ 163/61 DATE 29/ 9/61 TIME 0645 K LATITUDE 35 07 S LONGITUDE 150 57 E

SONIC DEPTH	AIR TEMP.	WIND DIR.	WIND SP.	WIND DIR.	WIND SP.	CLOUD AMT.	SEA DIR.	SEA AMT.	VIS.	ATMOS. PRESSURE	SWELL DIR.	SWELL AMT.	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
132	***	27	2	*	*	*	*	*	7	27	1	14	1	1019.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE								
1	0	16.19	35.500	26.11	***	***	***	***	***	***	***	***	***	***	***	***	***
1	25	16.16	35.530	26.13	***	***	***	***	***	***	***	***	***	***	***	***	***
1	50	15.78	35.460	26.17	4.94	88	***	***	***	***	***	***	***	***	***	***	***
1	75	14.94	35.410	26.32	***	***	***	***	***	***	***	***	***	***	***	***	***
1	100	13.96	35.370	26.50	4.17	71	***	***	***	***	***	***	***	***	***	***	***

STATION M 14/ 164/61 DATE 29/ 9/61 TIME 0730 K LATITUDE 35 07 S LONGITUDE 151 02 E

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

170 *** **	27 1 *	* *	7 27 1 14 1	1021.0	*	*	*	
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN X SAT.	INORG. P	TOTAL P	NITRATE
1	0	35.610	25.99	***	***	***	***	***
1	25	35.570	26.08	***	***	***	***	***
1	50	35.570	26.11	***	***	***	***	***
1	75	35.550	26.22	***	***	***	***	***
1	100	35.460	26.30	***	***	***	***	***
1	150	35.300	26.55	***	***	***	***	***

STATION M 14/ 165/61 DATE 29/ 9/61 TIME 0815 K LATITUDE 35 07 S LONGITUDE 151 07 E

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

750 *** **	27 1 *	* *	7 27 1 14 1	1021.0	*	*	*	
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN X SAT.	INORG. P	TOTAL P	NITRATE
1	0	35.610	25.97	***	***	***	***	***
1	25	35.610	26.05	***	***	***	***	***
1	50	35.570	26.06	5.63	102	***	***	***
1	75	35.570	26.13	***	***	***	***	***
1	100	35.550	26.25	4.94	88	***	***	***
1	150	***	***	***	***	***	***	***
1	200	35.320	26.55	4.91	83	***	***	***
1	300	35.230	26.70	5.20	86	***	***	***
1	900	35.100	26.85	5.20	84	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 # 14/ 160/61 29/ 9/61 0945 K 35 07 S 151 12 E

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

1170 *** ** 00 0 * * * 7 00 0 14 1 1020.0 * * *

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

1 0 17.91 35.640 25.80 *** ** ** **

1 25 14.99 35.610 26.00 *** ** ** **

1 50 16.74 35.610 26.06 *** ** ** **

1 75 16.06 35.570 26.19 *** ** ** **

1 100 15.60 35.520 26.26 *** ** ** **

1 150 15.15 35.500 26.35 *** ** ** **

1 200 14.75 35.440 26.47 *** ** ** **

1 300 12.50 35.140 26.69 *** ** ** **

STATION DATE TIME LATITUDE LONGITUDE
 # 15/ 173/61 10/10/61 0620 K 35 50 S 150 18 E

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

58 *** ** 32 1 * * * 6 36 2 04 2 1018.0 * * *

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

1 0 14.19 35.100 25.80 *** ** ** **

1 25 14.70 35.410 26.37 *** ** ** **

1 50 13.60 35.340 26.54 *** ** ** **

STATION	DATE	TIME	LATITUDE		LONGITUDE		
M 15/ 174/61	10/10/61	0705 K	35	50 S	150	23 E	
SONIC AIR TEMP.	WIND DIR. SP.	WIND ANEM. HEIGHT	CLOUD TYPE AMT.	VIS. DIR. AMT.	SEA SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES. CAST1 CAST2 CAST3
119 *** **	36 4 *	36 4 *	*	6 36 2 *	04 2 *	1018.0	* * *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P NITRATE
1 0	14.82	35.370	25.86	***	***	***	***
1 25	14.20	35.530	26.13	***	***	***	***
1 50	15.09	35.410	26.29	***	***	***	***
1 75	14.47	35.520	26.51	***	***	***	***
1 100	13.24	35.320	26.61	***	***	***	***

STATION	DATE	TIME	LATITUDE		LONGITUDE		
M 15/ 175/61	10/10/61	0755 K	35	50 S	150	28 E	
SONIC AIR TEMP.	WIND DIR. SP.	WIND ANEM. HEIGHT	CLOUD TYPE AMT.	VIS. DIR. AMT.	SEA SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES. CAST1 CAST2 CAST3
132 *** **	36 4 *	36 4 *	*	6 36 2 *	04 2 *	1018.0	* * *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P NITRATE
1 0	17.46	35.500	25.81	***	***	***	***
1 25	16.59	35.500	26.01	***	***	***	***
1 50	15.55	35.460	26.22	***	***	***	***
1 75	14.79	35.460	26.39	***	***	***	***
1 100	14.00	35.370	26.49	***	***	***	***

STATION M 15/ 176/61 DATE 10/10/61 TIME 0850 K LATITUDE 35 50 S LONGITUDE 150 33 E

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

141 *** ** 30 4 * * * * 6 36 2 04 2 1018.0 * * * * *

CST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN X SAT. INORG. P TOTAL P NITRATE

1 0 18.38 35.550 25.62 *** *** *** *** ***

1 25 18.11 35.590 25.71 *** *** *** *** ***

1 50 16.11 35.460 26.09 *** *** *** *** ***

1 75 15.35 35.480 26.28 *** *** *** *** ***

1 100 14.65 35.460 26.42 *** *** *** *** ***

STATION M 15/ 177/61 DATE 12/10/61 TIME 0515 K LATITUDE 35 07 S LONGITUDE 150 52 E

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

110 *** ** 27 1 * * * * 7 27 1 04 2 1009.0 * * * * *

CST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN X SAT. INORG. P TOTAL P NITRATE

1 0 15.62 35.330 26.04 *** *** *** *** ***

1 25 14.46 35.370 26.39 *** *** *** *** ***

1 50 14.07 35.370 26.48 *** *** *** *** ***

1 75 13.69 35.350 26.54 *** *** *** *** ***

1 100 12.71 35.300 26.70 *** *** *** *** ***

STATION	DATE	TIME	LATITUDE	LONGITUDE										
M 15/ 178/61	12/10/61	0605 K	35 07 S	150 57 E										
SONIC AIR TEMP.	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2	WIRE ANGLES CAST3
132 ***	***	24	2	*	*	7	24	1	04	2	1010.0	*	*	*
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE						
1	0	35.370	26.04	***	***	***	***	***						
1	25	35.438	26.21	***	***	***	***	***						
1	50	35.440	26.26	***	***	***	***	***						
1	75	35.440	26.26	***	***	***	***	***						
1	100	35.520	26.42	***	***	***	***	***						

STATION	DATE	TIME	LATITUDE	LONGITUDE										
M 15/ 179/61	12/10/61	0650 K	35 07 S	151 02 E										
SONIC AIR TEMP.	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2	WIRE ANGLES CAST3
170 ***	***	24	2	*	*	7	24	1	04	2	1010.0	*	*	*
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE						
1	0	35.480	25.56	***	***	***	***	***						
1	25	35.570	25.59	***	***	***	***	***						
1	50	35.410	25.99	***	***	***	***	***						
1	75	35.390	26.16	***	***	***	***	***						
1	100	35.460	26.35	***	***	***	***	***						
1	150	35.190	26.68	***	***	***	***	***						

STATION DATE TIME LATITUDE LONGITUDE
 P 15/ 180/61 12/10/61 0740 K 35 07 S 151 07 E

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

841 *** ** 24 2 * * * 7 24 1 04 2 1010.0 * * * * *

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

1 0 18.82 35.530 25.49 *** *** *** ***

1 25 18.82 35.640 25.57 *** *** *** ***

1 50 18.76 35.610 25.57 *** *** *** ***

1 75 18.15 35.700* 25.79 *** *** *** ***

1 100 17.76 35.590 25.80 *** *** *** ***

1 150 16.32 *** 16.32 *** *** *** ***

1 200 14.10 35.390 26.49 *** *** *** ***

1 300 11.31 35.080 26.80 *** *** *** ***

1 500 9.03 34.720 26.91 *** *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 P 15/ 181/61 12/10/61 0850 K 35 07 S 151 12 E

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

1463 *** ** 24 2 * * * 7 24 1 04 2 1011.0 * * * * *

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

1 0 19.62 35.660 25.38 *** *** *** ***

1 25 19.51 35.660 25.41 *** *** *** ***

1 50 17.99 35.610 25.78 *** *** *** ***

1 75 17.08 35.590 25.96 *** *** *** ***

1 100 16.28 35.520 26.10 *** *** *** ***

1 150 16.47 35.550 26.31 *** *** *** ***

1 200 15.39 35.590 26.36 *** *** *** ***

1 300 12.34 35.160 26.66 *** *** *** ***

* PROPERTY DOUBTFUL
 * PROPERTY INTERPOLATED

STATION	DATE	TIME	LATITUDE	LONGITUDE					
N 15/ 184/61	12/10/61	1410 K	34 40 S	151 15 E					
SONIC AIR TEMP.	WIND DIR, SP.	WIND ANEM, HEIGHT	CLOUD TYPE	AMT.	VIS. DIR, AMT.	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3
DEPTH WET DRY	09 2	** * *	* * *	* * *	7 09 1	04 2	1009.0	* * *	* * *
329 ***									
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE	
1 0	19.60	35.680	25.40	***	***	***	***	***	
1 25	19.12	35.660	25.51	***	***	***	***	***	
1 50	18.49	35.620	25.64	***	***	***	***	***	
1 75	17.52	35.620	25.88	***	***	***	***	***	
1 100	17.07	35.600	25.97	***	***	***	***	***	
1 150	15.83	35.520	24.20	***	***	***	***	***	
1 200	15.59	35.590	26.31	***	***	***	***	***	
1 300	14.07	35.410	26.51	***	***	***	***	***	

STATION	DATE	TIME	LATITUDE	LONGITUDE					
N 15/ 185/61	12/10/61	1505 K	34 40 S	151 10 E					
SONIC AIR TEMP.	WIND DIR, SP.	WIND ANEM, HEIGHT	CLOUD TYPE	AMT.	VIS. DIR, AMT.	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3
DEPTH WET DRY	09 2	** * *	* * *	* * *	7 09 1	04 2	1009.0	* * *	* * *
175 ***									
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE	
1 0	19.96	35.640	25.27	***	***	***	***	***	
1 25	19.68	35.640	25.35	***	***	***	***	***	
1 50	18.74	35.640	25.59	***	***	***	***	***	
1 75	17.59	35.620	25.86	***	***	***	***	***	
1 100	16.58	35.520	26.03	***	***	***	***	***	
1 150	15.23	35.460	26.29	***	***	***	***	***	

STATION DATE TIME LATITUDE LONGITUDE
 Y 15/ 186/61 12/10/61 1550 K 34 40 S 151 05 E

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

134 *** ** 09 2 * * * 7 09 1 04 2 1009.0 * * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 20.03 35.640 25.26 *** *** *** ***
 1 25 19.36 35.660 25.45 *** *** *** ***
 1 50 17.20 35.550 25.91 *** *** *** ***
 1 75 16.84 35.370 26.13 *** *** *** ***
 1 100 14.67 35.370 26.30 *** *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 Y 15/ 187/61 12/10/61 1640 K 34 40 S 151 00 E

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

121 *** ** 09 2 * * * 7 09 1 04 2 1010.0 * * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 19.15 35.550 25.42 *** *** *** ***
 1 25 18.19 35.550 25.66 *** *** *** ***
 1 50 15.90 35.460 26.14 *** *** *** ***
 1 75 14.69 35.340 26.32 *** *** *** ***
 1 100 14.65 35.480 26.39 *** *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 # 15/ 186/61 12/10/61 1730 K 34 40 S 150 55 E

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

64 *** ** 09 2 * * * 7 09 1 04 2 1010.0 * * * *

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

1 0 14.47 35.410 25.49 *** ** ** **

1 25 14.96 35.370 26.28 *** ** ** **

1 50 14.50 35.370 26.38 *** ** ** **

STATION DATE TIME LATITUDE LONGITUDE
 # 15/ 192/61 19/10/61 0525 K 34 05 S 151 13 E

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

64 *** ** 16 1 * * * 6 18 1 09 2 1022.0 * * * *

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

1 0 17.70 35.460 25.72 *** ** ** **

1 25 17.69 35.410 25.66 *** ** ** **

1 50 14.68 35.370 26.34 *** ** ** **

STATION	DATE	TIME	LATITUDE	LONGITUDE				
M 15/ 193/61	19/10/61	0615 K	34 05 S	151 18 E				
SONIC AIR TEMP.	WIND DIR. SP.	WIND DIR. SP.	ANEM. HEIGHT	CLOUD TYPE	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3
DEPTH 126 ***	*** 16 1	*** 16 1	*** *	*** *	6 18 1	09 2	1022.0	* * *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0 18.57	35.600	25.61	***	***	***	***	***
1	25 17.35	35.550	25.87	***	***	***	***	***
1	50 15.60	35.440	26.19	***	***	***	***	***
1	75 14.87	35.440	26.36	***	***	***	***	***
1	100 14.66	35.390	26.41	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE				
M 15/ 194/61	19/10/61	0705 K	34 05 S	151 23 E				
SONIC AIR TEMP.	WIND DIR. SP.	WIND DIR. SP.	ANEM. HEIGHT	CLOUD TYPE	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3
DEPTH 139 ***	*** 16 1	*** 16 1	*** *	*** *	6 16 1	09 2	1022.0	* * *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN % SAT.	INORG. P	TOTAL P	NITRATE
1	0 18.91	35.700	25.60	***	***	***	***	***
1	25 18.17	35.630	25.73	***	***	***	***	***
1	50 15.86	35.590	26.25	***	***	***	***	***
1	75 15.61	35.520	26.25	***	***	***	***	***
1	100 14.96	35.430	26.33	***	***	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 M 15/ 195/61 19/10/61 0805 K 34 05 S 151 28 E

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

152 *** ** 18 1 * * * 6 18 1 09 2 1022.0 * * * *

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

1	0	19.00	35.640	25.53	***	***	***	***	***	***
1	25	18.50	35.640	25.66	***	***	***	***	***	***
1	50	16.20	35.520	26.12	***	***	***	***	***	***
1	75	15.70	35.550	26.26	***	***	***	***	***	***
1	100	15.40	35.590	26.36	***	***	***	***	***	***
1	150	***	35.440	***	***	***	***	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 M 15/ 196/61 19/10/61 0910 K 34 05 S 151 33 E

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

320 *** ** 18 2 * * * 6 18 2 09 2 1022.0 * * * *

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

1	0	16.90	35.610	25.53	***	***	***	***	***	***
1	25	17.90	35.590	25.77	***	***	***	***	***	***
1	50	15.75	35.530	26.23	***	***	***	***	***	***
1	75	15.49	35.550	26.31	***	***	***	***	***	***
1	100	15.22	35.550	26.36	***	***	***	***	***	***
1	150	14.27	35.480	26.52	***	***	***	***	***	***
1	200	13.33	35.320	26.59	***	***	***	***	***	***
2	300	11.50	35.050	26.74	***	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE											
P 16/ 197/61	29/10/61	0520 K	34 40 S	150 55 E											
SONIC AIR TEMP.	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2	WIRE ANGLES CAST3	
DEPTH 02	***	00	0	*	*	*	6	00	0	14	2	1017.0	*	*	*
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE							
1	0	17.11	35.320	25.75	***	***	***	***				***	***	***	
1	25	17.61	35.570	25.82	***	***	***	***				***	***	***	
1	50	17.49	35.640	25.90	***	***	***	***				***	***	***	

STATION	DATE	TIME	LATITUDE	LONGITUDE											
P 16/ 198/61	29/10/61	0610 K	34 40 S	151 00 E											
SONIC AIR TEMP.	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2	WIRE ANGLES CAST3	
DEPTH 113	***	34	4	*	*	*	6	34	2	14	2	1017.0	*	*	*
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE							
1	0	17.68	35.590	25.75	***	***	***	***				***	***	***	
1	25	17.93	35.590	25.76	***	***	***	***				***	***	***	
1	50	17.47	35.550	25.84	5.05	93	***	***				***	***	***	
1	75	17.24	35.530	25.88	***	***	***	***				***	***	***	
1	100	***	35.430	***	4.51	***	***	***				***	***	***	

STATION F 16/ 199/61 DATE 29/10/61 TIME 0715 K LATITUDE 34 40 S LONGITUDE 151 05 E

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

107 *** 34 4 * * * 6 34 2 14 2 1017.0 * * *

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

1 0 17.33 35.500 25.84 *** *** ***

1 25 17.31 35.500 25.84 *** *** ***

1 50 17.28 35.500 25.85 *** *** ***

1 75 16.76 35.460 25.94 *** *** ***

1 100 15.46 35.440 26.23 *** *** ***

STATION F 16/ 200/61 DATE 29/10/61 TIME 0915 K LATITUDE 34 40 S LONGITUDE 151 10 E

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

103 *** 36 4 * * * 6 36 3 14 2 1017.0 * * *

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

1 0 17.50 35.550 25.83 *** *** ***

1 25 17.51 35.550 25.83 *** *** ***

1 50 16.91 35.500 25.94 91 *** *** ***

1 75 16.54 35.500 26.25 *** *** ***

1 100 14.81 35.480 26.40 85 *** *** ***

1 150 14.63 35.440 26.41 *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 N 16/ 201/61 29/10/61 0925 K 34 40 S 151 15 E

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

329 *** ** 36 4 * * * 6 36 3 14 2 1017.0 * * * *

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

1 0 17.95 35.610 25.77 *** *** *** **

1 25 17.63 35.990 25.78 *** *** *** **

1 50 15.55 35.460 26.22 *** *** *** **

1 75 15.01 35.430 26.32 *** *** *** **

1 100 14.52 35.460 26.45 *** *** *** **

1 150 13.90 35.340 26.49 *** *** *** **

1 200 13.67 35.300 26.51 *** *** *** **

1 300 12.79 35.210 26.62 *** *** *** **

STATION DATE TIME LATITUDE LONGITUDE
 N 16/ 204/61 31/10/61 0530 K 35 07 S 150 52 E

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

104 *** ** 00 0 * * * 6 00 0 14 1 1010.0 * * * *

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

1 0 17.65 35.520 25.77 *** *** *** **

1 25 17.30 35.520 25.86 *** *** *** **

1 50 14.99 35.520 25.93 *** *** *** **

1 75 15.96 35.480 26.14 *** *** *** **

1 100 14.41 35.410 26.43 *** *** *** **

STATION DATE TIME LATITUDE LONGITUDE
 # 16/ 205/61 31/10/61 0625 K 35 07 S 150 57 E

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

132 *** ** 36 2 * * * 6 36 2 14 1 1010.0 * * * *

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

1 0 14.35 35.590 25.65 *** *** ***

1 25 17.78 35.530 25.75 *** *** ***

1 50 14.15 35.430 26.06 4.92 88 *** *** ***

1 75 15.08 35.430 26.30 *** *** ***

1 100 14.31 35.410 26.46 4.71 81 *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 # 16/ 206/61 31/10/61 0725 K 35 07 S 151 02 E

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

165 *** ** 36 2 * * * 6 36 2 14 1 1010.0 * * * *

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

1 0 18.57 35.640 25.64 *** *** ***

1 25 17.39 35.590 25.89 *** *** ***

1 50 15.40 35.530 26.31 *** *** ***

1 75 14.62 35.480 26.40 *** *** ***

1 100 14.55 35.440 26.43 *** *** ***

1 150 14.02 35.320 26.45 *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 # 16/ 207761 31/10/61 0820 K 35 07 S 151 07 E

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

732 *** ** 36 2 * * 6 36 2 14 1 1010.0 * * *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN X SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.53	35.680	25.68	***	***	***	***	***
1	25	17.81	35.620	25.81	***	***	***	***	***
1	50	16.52	35.500	26.26	4.83	85	***	***	***
1	75	14.49	35.410	26.42	***	***	***	***	***
1	100	14.49	35.410	26.42	5.14	89	***	***	***
1	150	14.11	35.370	26.47	***	***	***	***	***
1	200	12.91	35.210	26.59	5.22	87	***	***	***
1	300	11.92	35.140	26.73	4.17	68	***	***	***
1	500	8.86	34.690	28.92	4.29	66	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 # 16/ 208761 31/10/61 0945 K 35 07 S 151 12 E

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

1280 *** ** 36 2 * * 6 36 2 14 1 1010.0 * * *

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CXYGEN X SAT.	INORG. P	TOTAL P	NITRATE
1	0	18.45	35.700	25.71	***	***	***	***	***
1	25	17.94	35.640	25.79	***	***	***	***	***
1	50	17.40	35.610	25.90	***	***	***	***	***
1	75	15.55	35.480	26.24	***	***	***	***	***
1	100	15.35	35.570	26.35	***	***	***	***	***
1	150	14.20	35.410	26.48	***	***	***	***	***
1	200	12.98	35.230	26.59	***	***	***	***	***
1	300	11.28	35.030	26.77	***	***	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 P 16/ 211/61 1/11/61 0920 K 35 50 S 150 18 E
 SONIC AIR TEMP. WIND ANEM. CLOUD WIRE ANGLES
 DEPTH WET DRY DIR, SP. HEIGHT .TYPE AMT. VIS. SEA DIR, AMT. SWELL DIR, AMT. ATMOS. PRESSURE CAST1 CAST2 CAST3
 73 *** ** 04 1 * * * 6 04 1 04 3 1007.0 * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 14.15 35.300 25.64 *** ** **
 1 25 17.22 35.570 25.92 *** ** **
 1 50 15.73 35.480 26.20 *** ** **

STATION DATE TIME LATITUDE LONGITUDE
 P 16/ 212/61 1/11/61 1005 K 35 50 S 150 23 E
 SONIC AIR TEMP. WIND ANEM. CLOUD WIRE ANGLES
 DEPTH WET DRY DIR, SP. HEIGHT .TYPE AMT. VIS. SEA DIR, AMT. SWELL DIR, AMT. ATMOS. PRESSURE CAST1 CAST2 CAST3
 119 *** ** 04 2 * * * 6 04 2 04 3 1007.0 * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 14.59 35.640 25.63 *** ** **
 1 25 14.35 35.640 25.69 *** ** **
 1 50 14.40 35.520 26.07 81 *** ** **
 1 75 15.07 35.480 26.34 *** ** **
 1 100 14.33 35.410 26.45 80 *** ** **

STATION	DATE	TIME	LATITUDE	LONGITUDE					
P 16/ 213/61	1/11/61	1055 K	35 50 S	150 28 E					
SONIC AIR TEMP.	WIND DIR. SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3
128 ***	04 2	*	*	*	6	04 2	04 3	1007.0	* * *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE	
1	0	18.82	35.640	25.58	***	***	***	***	***
1	25	18.52	35.640	25.65	***	***	***	***	***
1	50	16.87	35.550	25.99	***	***	***	***	***
1	75	14.49	35.500	26.27	***	***	***	***	***
1	100	14.91	35.480	26.38	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE					
P 16/ 214/61	1/11/61	1210 K	35 50 S	150 33 E					
SONIC AIR TEMP.	WIND DIR. SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR. AMT.	SWELL DIR. AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1 CAST2 CAST3
161 ***	04 3	*	*	*	6	04 3	04 3	1006.0	* * *
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE	
1	0	18.99	35.640	25.53	***	***	***	***	***
1	25	17.82	35.620	25.81	***	***	***	***	***
1	50	16.51	35.590	26.10	4.73	85	***	***	***
1	75	15.32	35.500	26.30	***	***	***	***	***
1	100	14.18	35.370	26.45	4.84	83	***	***	***
1	150	13.09	35.280	26.61	***	***	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 M 16/ 215/61 1/11/61 1315 K 35 50 S 150 38 E

SONIC AIR TEMP. WIND ANEM. CLOUD WIRE ANGLES
 WET DRY DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 914 *** ** 04 3 * * * * 6 04 3 04 3 1006.0 * * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN X SAT. INORG. P TOTAL P NITRATE
 1 0 18.91 35.620 25.54 *** *** ***
 1 25 18.23 35.610 25.70 *** *** ***
 1 50 16.56 35.570 26.07 *** *** ***
 1 75 15.08 35.500 26.36 *** *** ***
 1 100 14.76 35.500 26.43 *** *** ***
 1 150 13.56 35.340 26.56 *** *** ***
 1 200 12.08 35.120 26.69 *** *** ***
 1 300 10.45 34.900 26.81 *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 M 16/ 219/61 3/11/61 0520 K 36 25 S 150 09 E

SONIC AIR TEMP. WIND ANEM. CLOUD WIRE ANGLES
 WET DRY DIR. SP. HEIGHT TYPE AMT. DIR. AMT. DIR. AMT. PRESSURE CAST1 CAST2 CAST3
 55 *** ** 00 0 * * * * 6 04 2 04 3 1016.0 * * * *

CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN X SAT. INORG. P TOTAL P NITRATE
 1 0 15.68 35.340 26.10 *** *** ***
 1 25 14.77 35.370 26.33 *** *** ***
 1 50 12.58 35.210 26.66 *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 M 16/ 220/61 3/11/61 0810 K 36 25 S 150 14 E

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

114 *** ** 00 0 * * * 6 04 2 04 3 1016.0 * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 18.10 35.500 25.65 *** *** **
 1 25 17.05 35.570 25.96 *** *** **
 1 50 14.95 35.080* 26.06 5.23 91 *** *** **
 1 75 12.91 35.210 26.59 *** *** **
 1 100 11.87 35.300 26.87 4.37 72 *** *** **

STATION DATE TIME LATITUDE LONGITUDE
 M 16/ 221/61 3/11/61 0710 K 36 25 S 150 19 E

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

165 *** ** 34 2 * * * 6 34 1 04 3 1017.0 * * *
 CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INORG. P TOTAL P NITRATE
 1 0 18.67 35.610 25.59 *** *** **
 1 25 18.11 35.610 25.73 *** *** **
 1 50 15.36 35.480 26.28 *** *** **
 1 75 14.54 35.410 26.41 *** *** **
 1 100 14.04 35.390 26.50 *** *** **
 1 150 12.18 35.120 26.67 *** *** **

* PROPERTY DOUBTFUL
 * PROPERTY INTERPOLATED

STATION M 16/ 222/61 DATE 3/11/61 TIME 0805 K LATITUDE 36 25 S LONGITUDE 150 24 E

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

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	CAYGEN % SAT.	INORG. P	TOTAL P	NITRATE						
668	***	***	14	1	*	*	6	34	1	04	3	1017.0	*	*	*
	0	18.76	35.610	25.57	***	***	***	***	***						
	25	18.69	35.620	25.59	***	***	***	***	***						
	50	18.95	35.590	26.00	5.01	91	***	***	***						
	75	18.30	35.460	26.28	***	***	***	***	***						
	100	14.30	35.350	26.41	4.06	70	***	***	***						
	150	13.60	35.340	26.55	***	***	***	***	***						
	200	12.36	35.120	26.63	4.50	74	***	***	***						
	300	10.96	34.940	26.76	3.82	61	***	***	***						
	500	8.36	34.600	26.93	4.43	67	***	***	***						

STATION M 16/ 223/61 DATE 3/11/61 TIME 0915 K LATITUDE 36 25 S LONGITUDE 150 29 E

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

CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE						
***	***	***	14	1	*	*	6	34	1	04	3	1017.0	*	*	*
	0	18.87	35.620	25.55	***	***	***	***	***						
	25	17.67	35.570	25.76	***	***	***	***	***						
	50	17.74	35.500	25.74	***	***	***	***	***						
	75	15.22	35.530	26.35	***	***	***	***	***						
	100	14.46	35.370	26.39	***	***	***	***	***						
	150	13.77	35.370	26.54	***	***	***	***	***						
	200	12.72	35.190	26.61	***	***	***	***	***						
	300	10.56	34.880	26.78	***	***	***	***	***						

STATION P 16/ 227/61 DATE 4/11/61 TIME 0530 K LATITUDE 37 04 S LONGITUDE 150 03 E

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

58 *** ** 24 2 * * * 6 24 1 04 2 1019.0 * * * *

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

1 0 14.06 35.210 25.91 *** *** ***

1 25 14.40 35.340 26.38 *** *** ***

1 50 14.10 35.340 26.45 *** *** ***

STATION P 16/ 228/61 DATE 4/11/61 TIME 0620 K LATITUDE 37 04 S LONGITUDE 150 08 E

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

77 *** ** 18 2 * * * 6 18 2 04 2 1019.0 * * * *

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

1 0 14.16 35.300 25.96 *** *** ***

1 25 13.96 35.350 26.48 *** *** ***

1 50 13.85 35.340 26.50 4.71 80 *** *** ***

STATION N 16/ 229/61 DATE 4/11/61 TIME 0735 K LATITUDE 37 04 S LONGITUDE 150 13 E

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

112 *** ** 16 2 * * * * 6 18 2 04 2 1019.0 * * * *

CST DEPTH TEMP. SALINITY SIGMA-T OXYGEN CXYGEN % SAT. INORG. P TOTAL P NITRATE

1	0	18.55	35.590	25.60	***	***	***	***	***
1	25	17.32	35.590	25.91	***	***	***	***	***
1	50	14.58	35.390	26.38	***	***	***	***	***
1	75	13.73	35.350	26.53	***	***	***	***	***
1	100	13.74	35.350	26.53	***	***	***	***	***

STATION N 16/ 230/61 DATE 4/11/61 TIME 0850 K LATITUDE 37 04 S LONGITUDE 150 18 E

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

165 *** ** 18 2 * * * * 6 18 2 04 2 1019.0 * * * *

CST DEPTH TEMP. SALINITY SIGMA-T OXYGEN CXYGEN % SAT. INORG. P TOTAL P NITRATE

1	0	18.51	35.570	25.60	***	***	***	***	***
1	25	17.43	35.550	25.85	***	***	***	***	***
1	50	16.43	35.550	26.04	5.13	93	***	***	***
1	75	14.41	35.550	26.09	***	***	***	***	***
1	100	15.42	35.530	26.30	4.96	88	***	***	***
1	150	15.27	35.590	26.38	***	***	***	***	***

STATION N 16/ 231/61 DATE 4/11/61 TIME 0955 K LATITUDE 37 04 S LONGITUDE 150 23 E

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

439 *** *** 16 2 * * * * 6 18 2 04 2 1019.0 * * * *

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

1 0 18.39 35.990 25.64 *** **

1 25 17.38 35.640 25.93 *** **

1 50 16.86 35.700 26.10 *** **

1 75 16.59 35.620 26.10 *** **

1 100 16.01 35.610 26.23 *** **

1 150 15.07 35.530 26.38 *** **

1 200 14.30 35.520 26.54 *** **

1 300 12.24 35.190 26.71 *** **

STATION N 16/ 232/61 DATE 26/11/61 TIME 0540 K LATITUDE 37 04 S LONGITUDE 150 02 E

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

52 *** *** 16 3 * * * * * * * * * * * *

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

1 0 17.16 *** **

1 10 16.27 *** **

1 20 16.69 *** **

1 30 14.60 *** **

1 40 14.40 *** **

1 50 14.35 *** **

STATION M 16/ 233/61 DATE 28/11/61 TIME 0625 K LATITUDE 37 04 S LONGITUDE 150 03 E

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

77 *** ** 18 1 * * * * 7 18 1 09 2 1021.0 * * * * *

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

1 0 17.02 34.110 24.85 *** *** *** ***

1 25 14.33 35.350 26.40 *** *** *** ***

1 50 13.24 35.280 26.58 *** *** *** ***

STATION M 16/ 234/61 DATE 28/11/61 TIME 0715 K LATITUDE 37 04 S LONGITUDE 150 08 E

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

88 *** ** 18 2 * * * * 7 18 1 09 2 1023.0 * * * * *

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

1 0 14.27 35.370 25.51 *** *** *** ***

1 25 17.55 35.480 25.77 *** *** *** ***

1 50 13.70 35.280 26.48 5.13 87 *** *** *** ***

1 75 13.14 35.260 26.58 *** *** *** ***

STATION DATE TIME LATITUDE LONGITUDE
 # 16/ 235/61 28/11/61 0805 K 37 04 S 150 13 E

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

110	***	***	18	2	*	*	7	18	1	09	2	1023.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE						
1	0	18.64	35.590	25.55	***	***	***	***	***						
1	25	18.44	35.530	25.59	***	***	***	***	***						
1	50	17.89	35.500	25.70	***	***	***	***	***						
1	75	13.62	35.340	26.55	***	***	***	***	***						
1	100	12.29	35.170	26.68	***	***	***	***	***						

STATION DATE TIME LATITUDE LONGITUDE
 # 16/ 236/61 28/11/61 0910 K 37 04 S 150 18 E

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

174	***	***	14	1	*	*	7	18	1	09	2	1023.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE						
1	0	18.50	35.260	25.36	***	***	***	***	***						
1	25	18.38	35.660	25.55	***	***	***	***	***						
1	50	18.20	35.530	25.65	4.94	92	***	***	***						
1	75	15.71	35.430	26.16	***	***	***	***	***						
1	100	14.55	35.390	26.39	4.82	83	***	***	***						
1	150	12.68	35.190	26.62	***	***	***	***	***						

STATION	DATE	TIME	LATITUDE	LONGITUDE			
M 16/ 237/61	28/11/61	1010 K	37 04 S	150 23 E			
SONIC AIR TEMP. WIND ANEM. CLOUD WIRE ANGLES							
DEPTH MET DRY DIR, SP, HEIGHT	DIR, SP, HEIGHT	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE			
1280 *** ** 14 1 * *	* * *	7 14 1	09 2	1023.0 * *			
CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INDRG. P TOTAL P NITRATE							
1 0	18.66	34.990	25.12	***	***	***	***
1 25	18.30	35.370	25.50	***	***	***	***
1 50	18.04	35.570	25.72	***	***	***	***
1 75	16.49	35.500	26.04	***	***	***	***
1 100	15.07	35.620	26.45	***	***	***	***
1 150	13.86	35.340	26.50	***	***	***	***
1 200	12.77	35.190	26.61	***	***	***	***
1 300	11.07	34.970	26.76	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE			
M 17/ 238/61	7/12/61	0645 K	37 04 S	150 03 E			
SONIC AIR TEMP. WIND ANEM. CLOUD WIRE ANGLES							
DEPTH MET DRY DIR, SP, HEIGHT	DIR, SP, HEIGHT	SEA DIR, AMT.	SWELL DIR, AMT.	ATMOS. PRESSURE			
79 *** ** 00 0 * *	* * *	7 14 1	09 2	1014.0 * *			
CAST DEPTH TEMP. SALINITY SIGMA-T OXYGEN OXYGEN % SAT. INDRG. P TOTAL P NITRATE							
1 0	14.06	35.260	25.47	***	***	***	***
1 25	15.34	35.350	26.18	***	***	***	***
1 50	14.44	35.480	26.48	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE											
M 17/ 239761	7/12/61	0735 K	37 04 S	150 08 E											
SONIC AIR TEMP.	WIND DIR.	WIND SP.	WIND ANEM.	CLOUD HEIGHT	TYPE AMT.	VIS.	SEA DIR.	SEA AMT.	ATMOS. PRESSURE	WIRE ANGLES					
DEPTH	WET DRY	DIR.	SP.	HEIGHT	TYPE	AMT.	DIR.	AMT.	CAST1	CAST2	CAST3				
90	***	***	34	1	*	*	7	34	1	09	2	1013.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-t	OXYGEN	OXYGEN %	SAT.	INORG. P	TOTAL P	NITRATE					
1	0	18.82	35.460	25.44	***	***	***	***	***	***					
1	25	18.62	35.440	25.47	***	***	***	***	***	***					
1	50	14.18	35.410	26.48	4.62	79	***	***	***	***					
1	75	14.08	35.410	26.50	***	***	***	***	***	***					

STATION	DATE	TIME	LATITUDE	LONGITUDE											
M 17/ 240761	7/12/61	0825 K	37 04 S	150 13 E											
SONIC AIR TEMP.	WIND DIR.	WIND SP.	WIND ANEM.	CLOUD HEIGHT	TYPE AMT.	VIS.	SEA DIR.	SEA AMT.	ATMOS. PRESSURE	WIRE ANGLES					
DEPTH	WET DRY	DIR.	SP.	HEIGHT	TYPE	AMT.	DIR.	AMT.	CAST1	CAST2	CAST3				
115	***	***	34	1	*	*	7	34	1	09	2	1013.0	*	*	*
CAST	DEPTH	TEMP.	SALINITY	SIGMA-t	OXYGEN	OXYGEN %	SAT.	INORG. P	TOTAL P	NITRATE					
1	0	18.95	35.520	25.45	***	***	***	***	***	***					
1	25	18.64	35.500	25.51	***	***	***	***	***	***					
1	50	16.68	35.520	26.01	***	***	***	***	***	***					
1	75	15.18	35.430	26.28	***	***	***	***	***	***					
1	100	14.29	35.430	26.48	***	***	***	***	***	***					

STATION P 17/ 241/61 DATE 7/12/61 TIME 0940 K LATITUDE 37 04 S LONGITUDE 150 18 E

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

174 *** ** 34 2 * * * 7 34 2 09 2 1012.0 * * *

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

1	0	19.57	35.640	25.38	***	***	***	***	***	***
1	25	19.23	35.620	25.46	***	***	***	***	***	***
1	50	18.19	35.680	25.76	4.48	84	***	***	***	***
1	75	16.93	35.550	25.97	***	***	***	***	***	***
1	100	15.65	35.520	26.24	4.63	82	***	***	***	***
1	150	14.97	35.590	26.45	***	***	***	***	***	***

STATION P 17/ 242/61 DATE 7/12/61 TIME 1035 K LATITUDE 37 04 S LONGITUDE 150 23 E

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

*** ** 36 3 * * * 7 36 2 09 2 1011.0 * * *

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

1	0	19.84	35.680	25.34	***	***	***	***	***	***
1	25	19.74	35.700	25.36	***	***	***	***	***	***
1	50	18.05	35.600	25.78	***	***	***	***	***	***
1	75	16.88	35.530	25.97	***	***	***	***	***	***
1	100	15.94	35.550	26.20	***	***	***	***	***	***
1	150	15.21	35.610	26.41	***	***	***	***	***	***
1	200	14.42	35.440	26.46	***	***	***	***	***	***
1	300	13.10	35.410	26.71	***	***	***	***	***	***

STATION	DATE	TIME	LATITUDE	LONGITUDE										
P 17/ 243761	9/12/61	0505 K	36 25 S	150 09 E										
SONIC AIR TEMP.	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2	WIRE ANGLES CAST3
57 ***	***	23	1	*	*	7	23	1	06	2	1009.0	*	*	*
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE						
1	0	35.120	25.31	***	***	***	***	***						
1	25	35.350	26.05	***	***	***	***	***						
1	50	35.410	26.47	***	***	***	***	***						
STATION	DATE	TIME	LATITUDE	LONGITUDE										
P 17/ 244761	9/12/61	0525 K	36 25 S	150 13 E										
SONIC AIR TEMP.	WIND DIR.	WIND SP.	ANEM. HEIGHT	CLOUD TYPE	AMT.	VIS.	SEA DIR.	SEA AMT.	SWELL DIR.	SWELL AMT.	ATMOS. PRESSURE	WIRE ANGLES CAST1	WIRE ANGLES CAST2	WIRE ANGLES CAST3
119 ***	***	23	1	*	*	7	23	1	06	2	1009.0	*	*	*
CAST DEPTH	TEMP.	SALINITY	SIGMA-T	OXYGEN	OXYGEN % SAT.	INORG. P	TOTAL P	NITRATE						
1	0	35.160	25.25	***	***	***	***	***						
1	25	35.610	25.78	***	***	***	***	***						
1	50	35.90	26.20	4.51	80	***	***	***						
1	75	35.530	26.40	***	***	***	***	***						
1	100	35.430	26.54	4.79	82	***	***	***						

STATION DATE TIME LATITUDE LONGITUDE
 P 17/ 245/61 9/12/61 0655 K 36 25 S 150 18 E

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

165 *** *** 18 1 * * * 7 18 1 06 2 1010.0 * * * *

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

1	0	18.84	35.250	25.27	***	***	***	***	***	***
1	25	19.08	35.660	25.54	***	***	***	***	***	***
1	50	17.48	35.620	25.89	***	***	***	***	***	***
1	75	15.52	35.530	26.28	***	***	***	***	***	***
1	100	15.22	35.520	26.34	***	***	***	***	***	***
1	150	14.31	***	***	***	***	***	***	***	***

STATION DATE TIME LATITUDE LONGITUDE
 P 17/ 246/61 9/12/61 0750 K 36 25 S 150 23 E

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

1097 *** *** 18 1 * * * 7 18 1 06 2 1010.0 * * * *

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

1	0	19.52	35.700	25.44	***	***	***	***	***	***
1	25	19.45	35.700	25.46	***	***	***	***	***	***
1	50	18.24	35.640	25.72	4.77	89	***	***	***	***
1	75	17.69	35.550	25.79	***	***	***	***	***	***
1	100	15.46	35.530	26.29	4.69	83	***	***	***	***
1	150	15.29	35.610	26.40	***	***	***	***	***	***
1	200	14.39	35.520	26.52	5.06	87	***	***	***	***
1	300	13.93	35.260	26.63	4.25	71	***	***	***	***
1	500	9.26	34.780	26.92	4.37	67	***	***	***	***

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 plantological 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