

OCEANOGRAPHICAL STATION LIST

VOLUME 34

COASTAL HYDROLOGICAL INVESTIGATIONS AT PORT HACKING,
NEW SOUTH WALES, 1957

DIVISION OF FISHERIES AND OCEANOGRAPHY
COMMONWEALTH SCIENTIFIC AND INDUSTRIAL
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Volume 34

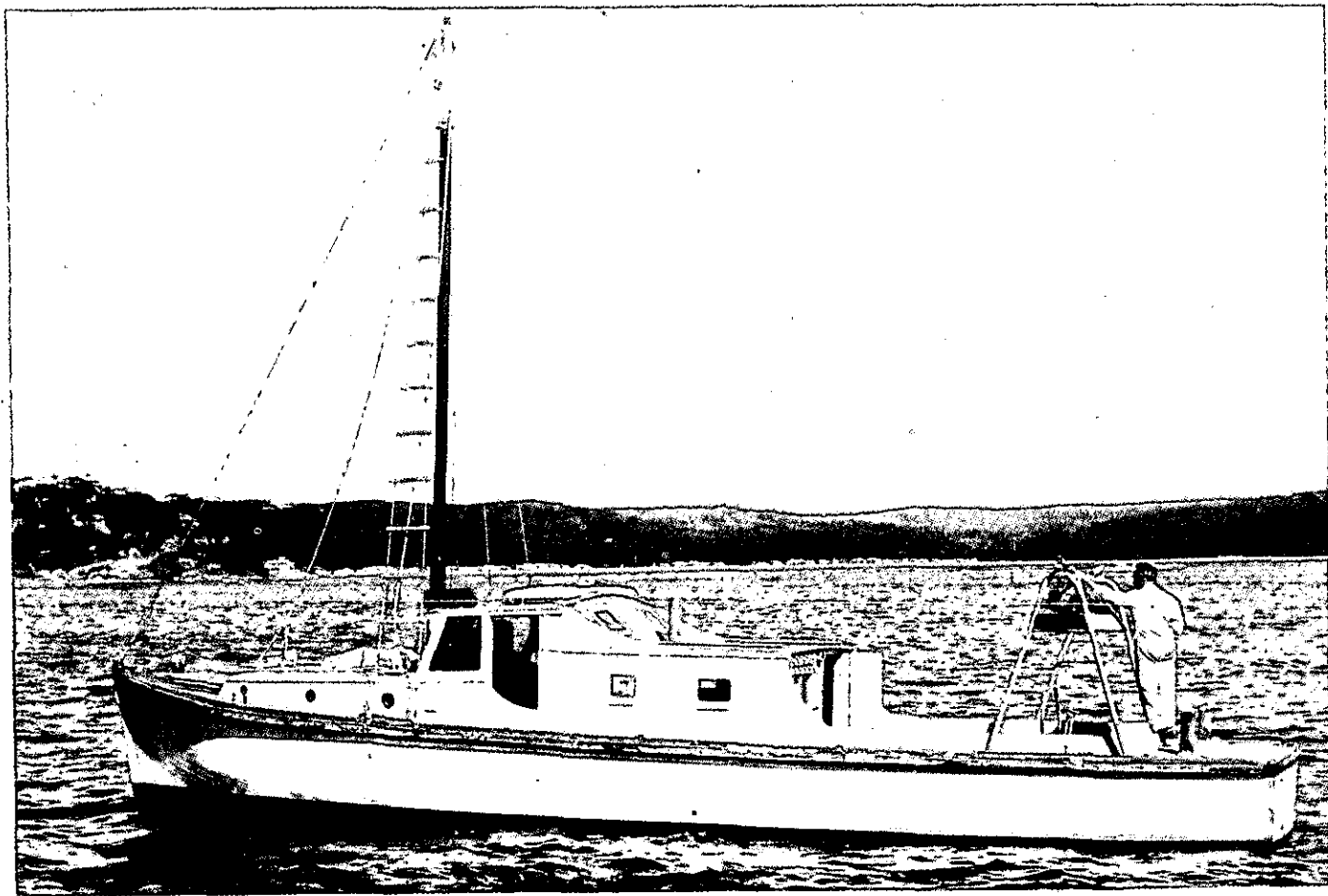
Coastal Hydrological Investigations at Port Hacking,
New South Wales, 1957

Compiled by D. J. Rochford



Division of Fisheries and Oceanography
Commonwealth Scientific and Industrial
Research Organization, Australia

Melbourne 1959



F.R.V. *Jay Bee.*

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COASTAL HYDROLOGICAL INVESTIGATIONS AT PORT HACKING, NEW SOUTH WALES, 1957

Compiled by D. J. ROCHFORD

I. INTRODUCTION

In previous years the results of analyses of coastal waters in eastern and south-western Australia were all published in one volume. This year they have been divided up, so that the data from Eden and Port Hacking appear as separate volumes. This has been done because sampling at these two stations was greatly increased during 1957, to provide sufficient environmental information for studies on seasonal tuna occurrences. Sampling at Port Hacking was done from F.R.V. *Jay Bee*.

II. METHODS AND UNITS

The hydrological methods and units have been given in a previous volume (C.S.I.R.O. Aust. (1957)), but this year $\mu\text{g at./l.}$ instead of $\mu\text{g/l.}$ has been used for nutrients.

In most cases, three figures will be given under $\text{PO}_4\text{-P}$. The first is the inorganic phosphate, the second the soluble organic phosphate, and the third the particulate fraction of the organic phosphate content, determined by methods given by Rochford (1958). Where only two figures are given, the first is the inorganic, and the second, enclosed in parentheses, the total organic phosphate content. If only one figure is shown, it represents the inorganic phosphate present.

F.R.V. *Jay Bee*, illustrated opposite, is the Division's launch, based on Cronulla, the dimensions being overall length 40 ft, beam 12 ft 6 in., and draft 5 ft 3 in. Power is supplied by a main Gardner Diesel engine of 72 h.p., with an auxiliary Lister Diesel engine of 3 h.p. and auxiliary sail. A Kelvin Hughes MS 28 Echosounder has been installed, and a radio transceiver of 2-6 Mc/s is carried. The vessel is operated and maintained by Mr. G. Reid (Launchmaster), under the direction of Mr. A. Temple. The scientist-in-charge is Mr. I. S. R. Munro.

III. PERSONNEL

The sampling has been the responsibility of Messrs. F. Davies, R. Marsh, and G. Dal Pont. The laboratory analyses have been carried out by Messrs. C. Walker, F. Davies, K. Champion, and G. Dal Pont. Misses O. Jacobsen, E. Mayman, F. Luce, and R. Weidenhofer, and Mrs. R. Birks have been responsible for the processing of the data and the preparation of the typed sheets, under the general direction of Mr. A. D. Crooks.

IV. REFERENCES

- C.S.I.R.O. AUST. (1957).—Onshore and oceanic hydrological investigations in eastern and south-western Australia, 1955. *C.S.I.R.O. Aust. Oceanogr. Sta. List* 27: 1-145.
- ROCHFORD, D. J. (1958).—Total phosphorus as a means of identifying east Australian water masses. *Deep-sea Res.* 5: (in press).

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 9.i	0	21.00	19.65	24.89	5.23	99	8.18	0.16- 0.19- 0	0
	10	20.60	19.63	24.97	5.23	99	8.18	0.19- 0.16- 0.23	0
	20	20.40	19.63	25.03	5.23	98	8.11	0.19- 0.29- 0	0
	30	20.00	19.63	25.13	5.23	98	8.09	0.13- 0.36- 0	0
	40	20.20	19.63	25.08	5.17	97	8.09	0.23- 0.32- 0.032	0
	50	19.20	19.61	25.31	5.07	94	8.10	0.26- 0.32- 0.13	0.36
	75	16.40	19.58	25.96	4.56	80	8.05	0.48- 0.32- 0.13	2.86
	100	16.00	19.54	26.00	3.97	69	8.06	1.68- 0- 0.65	3.93

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 25.1	0	21.50	19.66	24.77	5.55	106	7.96	0.23- 0.36- 0.13	0
	10	21.10	19.66	24.88	5.50	105	8.28	0.16- 0.42- 0	0
	20	21.00	19.66	24.90	5.45	104	8.26	0.16- 0.77- 0	0
	30	20.10	19.66	25.15	5.65	106	8.25	0.23- 0.36- 0	0
	40	17.10	19.64	25.87	5.30	94	8.26	0.29- 0.29- 0	0.36
	50	16.40	19.61	26.00	4.74	83	8.22	0.58- 0.13- 0.032	3.21
	75	15.50	19.59	26.18	4.56	79	8.19	0.77- 0.032- 0	6.43
	100	14.90	19.58	26.30	4.67	80	8.18	0.81- 0- 0.13	6.07

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 6.ii	0	21.10	19.62	24.82	5.20	99	8.27	0.13- 1.29- 0	0
	10	20.90	19.62	24.87	5.17	98	8.29	0.23- 0.48- 0	0.36
	20	20.80			5.20		8.29		
	30	20.20	19.60	25.04	5.08	95	8.29	0.26- 0.45- 0.23	0.36
	40	17.50	19.57	25.68	5.08	91	8.25	0.45- 0.97- 0.097	1.79
	50	15.70	19.55	26.08	4.28	74	8.23	0.74- 1.19- 0	5.71
	75	14.60	19.51	26.26	4.47	76	8.22	0.77- 0.65- 0.23	7.86
	100	14.60	19.51	26.26	4.52	77	8.22	0.87- 1.00- 0.23	7.86

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 14.11	0	21.10	19.64	24.85	5.23	100	8.13	0.06- 0.29- 0	0.36
	10	21.00	19.64	25.14	5.15	96	8.13	0.13- 0.23- 0	0
	20	19.30	19.61	25.28	5.40	100	8.21	(0.48)	
	30	18.20	19.61	25.56	4.96	90	8.20	0.23- 0.36- 0.13	0.36
	40	16.50	19.61	25.97	4.36	77	8.16	0.29- 0.42- 0.097	1.07
	50	15.80	19.59	26.11	3.84	67	8.13	0.68- 0.13- 0	0.71
	75	14.90	19.55	26.25	4.17	72	8.09	0.58- 0.48- 0.23	8.57
	100	14.10	19.51	26.37	4.44	75	8.08	0.61- 0.19- 0.36	8.57

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 25.11	0	22.20	19.64	24.54	5.26	102		0.16- 0.16- 0.23	0
	10	22.10	19.64	24.57	5.18	100		0.16- 0.16- 0.23	0.71
	20	21.80	19.64	24.65	5.34	103		0.19- 0.23- 0	0
	30	21.50	19.64	24.74	5.10	98		0.19- 0.23- 0	0
	40	20.80	19.64	24.93	5.10	97		0.26- 0.39- 0	0
	50	19.00	19.62	25.37	4.64	86		0.36- 0- 0.23	1.43
	75	15.50	19.58	26.17	4.52	78		0.48- 0.26- 0	6.79
	100	14.40	19.58	26.41	4.70	80		0.42- 0.23- 0.097	3.57

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 4.iii	0	21.90	19.58	24.55	5.17	100	8.03	0.13- 0.16- 0.13	0.36
	10	21.30	19.54	24.66	5.23	100	8.07	0.19- 0.39- 0.032	0.71
	20	21.00	19.52	24.72	4.73	90	8.06	0.19- 0.064- 0.23	1.07
	30	19.80	19.53	25.04	5.12	96	8.09	0.26- 0.032- 0.23	0.36
	40	18.50	19.57	25.44	5.12	94	8.09	0.26- 0.29- 0.032	0
	50	17.50	19.57	25.68	4.56	82	8.07	0.45- 0.13- 0.19	5.00
	75	15.80	19.57	26.08	4.61	80	8.06	0.32- 0.19- 0.55	2.86
	100	13.90	19.51	26.41	4.39	74	8.08	0.48- 0.29- 0.19	5.36

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 11.1111	0	22.60	19.40	24.10	4.81	94	8.08	0.064 0.13- 0.097	0.36
	10	22.50	19.45	24.20	4.93	96	8.07	0.064- 0.23- 0	0
	20	21.50	19.45	24.49	4.90	94	8.05	0.097- 0.26- 0	0
	30	17.50	19.45	25.52	4.34	78	8.00	0.45- 0.16- 0	4.29
	40	15.90	19.49	25.95	3.92	68	7.95	0.55- 0.16- 0.13	5.71
	50	15.20	19.47	26.08	4.02	69	7.96	0.61- 0.39- 0	6.07
	75	14.20	19.45	26.27	4.05	69	7.95	0.77- 0.23- 0	7.14
	100	13.50	19.38	26.32	4.25	71	7.93	0.90- 0- 0.13	7.86

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 18.iii	0	21.20	19.63	24.81	5.08	97		0- 0.32- 0	0
	10	21.10	19.62	24.82	5.06	97		0.06- 0.26- 0.06	0
	20	21.00	19.62	24.84	5.10	97		0.06- 0.16- 0	0
	30	20.60	19.62	24.95	5.15	97		0.23- 0.13- 0.03	0
	40	20.10	19.61	25.07	5.08	95		0.36- 0- 0.16	0
	50	19.50	19.58	25.20	4.90	91		0.42- 0.03- 0.06	0
	75	16.40	19.57	25.94	4.15	73		0.58- 0.26- 0.03	3.93
	100	16.10	19.56	26.00	4.11	72		0.58- 0.13- 0.16	4.64

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 25.iii	0	21.70	19.57	24.59	5.08	98		0.032	5.00
	10	21.80	19.62	24.62	5.20	100		0.032	8.57
	20	21.80	19.64	24.65	5.10	98		0	0
	30	21.80	19.63	24.64	5.08	98		0	0
	40	21.60	19.64	24.71	5.04	97		0.064	0
	50	21.20	19.64	24.82	5.10	97		0.32	0
	75	17.80	19.59	25.64	4.39	79		0.39	0
	100	16.40	19.57	25.94	4.34	76		0.39	0
1.iv	0	21.60	19.61	24.67	5.02	97	8.19	0.16	1.07
	10	21.40	19.62	24.73	5.18	99	8.19	0.23	1.79
	20	21.50	19.61	24.70	5.11	98	8.19	0.26	0
	30	21.20	19.63	24.81	5.11	98	8.20	0.29	0
	40	19.70	19.63	25.21	4.78	89	8.22	0.36	0.36
	50	18.00	19.63	25.64	4.48	81	8.21	0.52	2.50
	75	16.40	19.59	25.97	4.48	79	8.16	0.61	3.93
	100	15.70	19.59	26.14	4.65	81	8.14	0.61	3.93
8.iv	0	21.40	19.61	24.72	5.07	97	8.21	0.16- 0.36-	0
	10	21.20	19.61	24.78	5.18	99	8.03	0 0.16- 0.39-	0
	20	21.25	19.61	24.76	5.18	99	8.01	0 0.16- 0.32-	0
	30	21.25	19.61	24.76	5.07	97	8.00	0 0.16- 0.26-	0
	40	21.20	19.61	24.78	5.18	99	7.98	0 0.19- 0.23-	0.36
	50	20.55	19.59	24.93	5.11	96	7.97	0.097 0.23- 0.23-	1.07
								0.23	

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 8.iv	75	18.55	19.59	25.45	4.65	85	7.98	0.39- 0.29- 0	1.79
	100	17.00	19.55	25.77	4.20	75	7.99	0.65- 0.39- 1.32	3.57
15.iv	0	20.45	19.63	25.01	5.11	96	8.29	0.23- 0.29- 0	0
	10	20.50	19.63	25.00	5.06	95	8.29	0.19- 0.19- 0.032	0
	20	20.50	19.61	24.97	5.06	95	8.23	0.19- 0.23- 0.064	0
	30	20.45	19.63	25.01	5.04	95	8.22	0.19- 0.16- 0	0.36
	40	20.35	19.65	25.07	5.02	94	8.22	0.16- 0.16- 0	0
	50	20.20	19.63	25.08	4.95	93	8.22	0.19- 0.36- 0	0.36
	75	18.50	19.62	25.50	4.60	84	8.22	0.42 0.097 0.032	1.43
	100	17.05	19.60	25.83	4.33	77	8.17	0.48- 0.19- 0	3.57

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 23.iv	0	21.00	19.55	24.75	5.23	99	8.06	0.16- 0.26- 0	0
	10	21.00	19.55	24.75	5.23	99	8.13	0.19- 0.13- 0.19	0
	20	20.45	19.56	24.92	5.04	95	8.15	0.26- 0.032- 0.064	0.36
	30	18.75	19.55	25.34	4.52	83	8.15	0.39- 0- 0	2.50
	40	17.75	19.54	25.58	4.22	76	8.12	0.23- 0.23- 0	0
	50	17.25	19.54	25.70	4.29	77	8.10	0.52- 0.13- 0.032	3.21
	75	16.30	19.54	25.93	4.13	73	8.10	0.54- 0- 0	4.29
	100	16.00	19.51	25.95	4.00	70	8.07	0.64- 0- 0	4.29

Station: PORT HACKING

Latitude: 34°05'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 29.iv	0	19.50	19.58	25.20	5.17	96	8.23	0.19- 0.29- 0.064	0.36
	10	19.40	19.59	25.24	5.17	96	8.23	0.19- 0.29- 0	0.36
	20	19.40	19.58	25.23	5.12	95	8.23	0.19- 0.23- 0	0.36
	30	18.80	19.57	25.36	4.79	88	8.23	0.36- 0.16- 0	1.79
	40	18.20	19.54	24.47	4.44	81	8.20	0.42- 0.29- 0.032	2.86
	50	17.90	19.55	25.55	4.40	80	8.20	0.39- 0.29- 0	2.50
	75	17.60	19.55	25.63	4.35	78	8.18	0.45- 0.13- 0	3.21
	100	16.50	19.55	25.89	4.16	73	8.16	0.61	4.64

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 6.v	0	20.10	19.58	25.04	5.40	101	8.20	0- 0.48- 0	0
	10	20.00	19.60	25.09	5.40	101	8.19	0- 0.42- 0.064	0
	20	19.70	19.55	25.10	5.18	96	8.20	0.032- 0.48- 0.032	0
	30	19.40	19.56	25.20	4.92	91	8.19	0.032- 0.55- 0	0.36
	40	19.10	19.59	25.31	5.07	94	8.18	0.032- 0.52- 0	0.71
	50	18.60	19.59	25.44	5.02	92	8.19	0.097- 0.42- 0.090	1.43
	75	17.70	19.54	25.59	4.51	81	8.15	0.26- 0.45- 0	2.50
	100	17.60	19.53	25.60	4.51	81	8.13	0.23- 0.48	2.86

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 13.v	0	19.60	19.71	25.35	5.26	98	8.29	0.097- 0.13- 0.13	0.36
	10	19.80	19.71	25.30	5.18	97	8.27	0- 0.19- 0.23	0
	20	19.00	19.69	25.48	4.92	91	8.24	0.23- 0.032- 0.13	1.43
	30	18.80	19.69	25.53	5.07	95	8.24	0.13- 0.054- 0	0.36
	40	18.80	19.68	25.51	4.63	85	8.24	0.29- 0- 0	1.43
	50	18.40	19.66	25.58	4.63	85	8.22	0.29- 0- 0	2.50
	75	17.50	19.63	25.77	4.12	74	8.23	0.42- 0- 0	5.36
	100	17.30	19.62	25.79	4.06	73	8.32	0.48- 0- 0	7.14

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 24.v	0	18.00	19.71	25.76	5.18	94	8.16	0.23- 0-	0
	10	18.00	19.72	25.77	5.06	92	8.16	0.29- 0.032- 0	0.36
	20	18.00	19.72	25.77	5.04	91	8.16	0.26- 0-	0.36
	30	18.00	19.71	25.76	5.02	91	8.16	0.26- 0-	1.07
	40	18.00	19.72	25.77	5.18	94	8.08	0.23- 0-	0.36
	50	18.00	19.71	25.76	5.18	94	8.20	0.23- 0-	0.71
	75	17.90	19.71	25.78	5.15	93	8.13	0.23- 0-	0.36
	100	17.90	19.70	25.76	5.20	94	8.20	0.48- 0-	0.36

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 31.v	0	18.80	19.69	25.53	5.36	99	8.35	0.23- 0.032- 0	0
	10	18.80	19.69	25.53	5.04	93	8.31	0.23- 0.064- 0.032	0
	20	18.40	19.69	25.63	5.11	93	8.30	0.23- 0.032- 0	0
	30	18.40	19.70	25.64	5.04	92	8.30	0.23- 0- 0.032	0
	40	18.30	19.70	25.66	4.95	90	8.30	0.23- 0- 0	0
	50	18.00	19.68	25.71	4.78	87	8.30	0.24- 0- 0	1.07
	75	17.50	19.64	25.78	4.49	81	8.29	0.34- 0- 0	2.50
	100	15.50	19.54	26.11	4.43	77	8.24	0.45- 0- 0	5.70

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 10.vi	0	18.30	19.67	25.62	5.24	96		0.19-	0
	10	18.20	19.67	25.65	5.19	95		0.032 0.49-	0
	20	18.10	19.66	25.66	5.26	96		0.28--	0
	30	18.00	19.67	25.70	5.08	92		0.16- 0.064-	0
	40	17.80	19.65	25.72	4.90	89		0.64 0.26-	0.71
	50	17.40	19.63	25.79	4.58	82		0.19 0.32-	2.50
	75	16.70	19.59	25.90	4.44	79		0.39-	3.93
	100	16.30	19.62	26.03	4.72	83		0.39-	2.14

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 18.vi	0	19.70	19.64	25.22	5.18	96		0.19- 0- 0	0
	10	19.70	19.63	25.21	5.30	99		0.19- 0- 0	0
	20	19.70	19.63	25.21	5.21	97		0.19- 0.064- 0	0
	30	19.05	19.64	25.39	5.42	100		0.19- 0.032- 0	0
	40	18.30	19.63	25.57	5.07	93		0.26- 0- 0	0.71
	50	17.20	19.63	25.84	5.07	91		0.29- 0- 0	0.36
	75	15.50	19.61	26.20	4.81	83		0.32- 0.13- 0	
	100	15.00	19.51	26.18	4.34	75		0.55	6.07

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 24.vi	0	18.40	19.65	25.57	5.33	97	8.34	0.23- 0.29- 0	0.71
	10	18.40	19.64	25.55	5.30	97	8.39	0.23- 0.29- 0	0.71
	20	18.40	19.64	25.55	5.30	97	8.39	0.23- 0- 0	0.36
	30	18.40	19.64	25.55	5.09	93	8.39	0.29- 0.097- 0.13	0.71
	40	18.30	19.64	25.58	5.12	93	8.39	0.16- 0.16- 0	0.36
	50	18.10	19.63	25.62	5.07	92	8.34	0.23- 0.16- 0	1.07
	75	16.40	19.54	25.90	4.44	78	8.41	0.48 0- 0	6.79
	100	15.50	19.49	26.04	4.07	70	8.42	0.94- 0- 0	8.57

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 1.vii	0	17.45			5.37		8.35	0.29- 0.064- 0	2.14
	10	17.50			5.34		8.40	0.26- (0)	2.14
	20	17.55			5.53		8.40	0.26- 0- 0	1.79
	30	17.50			5.11		8.40	0.23- (0.064)	2.14
	40	17.55			5.47		8.40	0.23- 0- 0.032	0
	50	17.50			5.20		8.35	0.26- 0- 0	1.43
	75	16.00			4.96		8.35	0.45	5.00
	100	15.05			4.43		8.42	0.52	9.20

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 16.vii	0	18.10	19.75	25.78	5.12	91	8.19	0.19- 0.13- 0	1.07
	10	18.10	19.74	25.77	5.32	95	8.22	0.23- 0.19- 0	1.43
	20	18.10	19.74	25.77	5.49	98	8.22	0.19- 0.23- 0.064	1.07
	30	18.30	19.74	25.72	4.62	83	8.22	0.23- 0.13- 0.032	1.07
	40	17.90	19.73	25.80	5.55	99	8.22	0.19- 0.23- 0.064	0.36
	50	17.60	19.71	25.86	5.41	96	8.22	0.26- 0.16- 0	1.43
	75	16.90	19.70	26.00	5.49	96	8.18	0.19- 0.26- 0.032	2.50
	100	16.70	19.70	26.05	5.42	94	8.19	0.26- 0.26- 0.032	2.50

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 22.vii	0	16.80	19.74	26.08	5.36	95	8.19	0.19- 0.16- 0.48	0.36
	10	16.90	19.72	26.03	5.33	95		0.23- 0.23- 0.064	0.36
	20	16.90	19.73	26.04	5.33	95		0.45- 0- 0.032	0.36
	30	16.80	19.72	26.06	5.29	94	8.19	0.19- 0.29- 0	0.71
	40	16.70	19.72	26.08	5.18	92	8.19	0.26- 0.16- 0.23	1.07
	50	16.70	19.71	26.07	5.14	91	8.17	0.26- (0.19)	0.71
	75	16.00	19.66	26.16	4.66	81	8.18	0.42- 0- 0.19	3.93
	100	15.70	19.64	26.20	4.66	81	8.16	0.45- 0.064- 0	1.07

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 29.vii	0	16.70	19.72	26.08	5.43	96	8.24	0.23- 0.097- 0	2.14
	10	16.70	19.72	26.08	5.43	96	8.24	0.23- 0.032- 0.064	2.14
	20	16.70	19.73	26.09	5.04	89	8.23	0.23- 0.064- 0	0.71
	30		19.74		5.30			0.23- 0.13- 0	1.07
	40	16.60	19.71	26.10	5.02	89	8.22	0.26- 0.064- 0.064	0.71
	50	16.60	19.71	26.10	5.33	94	8.21	0.26- 0.064- 0.064	1.79
	75	16.30	19.70	26.15	5.39	95	8.22	0.16- 0.097- 0.032	1.07
	100	16.10	19.70	26.19	5.02	88	8.22	0.29- 0.097- 0	1.43

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 2.viii	0	17.10	19.70	25.96	5.45	97	8.18	0.36	
	10	17.00	19.70	25.98	5.37	96	8.18	0.39	
	20	16.90	19.70	26.00	5.37	95	8.00	0.36	
	30	16.90	19.70	26.00	5.37	95	8.17	0.36	
	40	16.90	19.69	25.99	5.37	95	8.17	0.36	
	50	16.90	19.71	26.02	5.41	96	8.17	0.39	
	75	16.30	19.69	26.14	5.37	95	8.21	0.39	
	100	16.00	19.69	26.21	5.47	96	7.94	0.39	
3.viii	0	16.90	19.68	25.97	5.53	98	8.18	0.26	
	10	16.90	19.68	25.97	5.34	95	8.18	0.26	
	20	16.90	19.68	25.97	5.37	95	8.18	0.32	
	30	16.90	19.68	25.97	5.37	95	8.19	0.32	
	40	17.00	19.69	25.97	5.55	99	8.19	0.26	
	50	16.90	19.70	26.00	5.37	95	8.20	0.26	
	75	16.40	19.69	26.11	5.31	93	8.20	0.32	
	100	16.00	19.69	26.21	5.31	93	8.18	0.32	
4.viii	0	16.90	19.68	25.97	5.24	93	8.27	0.36	
	10	16.90	19.68	25.97	5.34	95	8.28	0.36	
	20	16.90	19.69	25.99	5.34	95	8.28	0.36	
	30	16.90	19.69	25.99	5.53	98	8.28	0.39	
	40	16.90	19.69	25.99	5.60	99	8.28	0.39	
	50	16.60	19.68	26.05	5.34	94	8.29	0.39	
	75	16.00	19.68	26.19	5.37	94	8.29	0.45	
	100	15.90	19.68	26.21	5.37	94	8.29	0.45	

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 5.viii	0	16.50	19.70	26.10	5.65	100	8.19	0.26- 0-	0.36
	10	16.50	19.70	26.10	5.55	98	8.18	0.032 0.24- 0-	0.36
	20	16.50	19.70	26.10	5.59	99	8.17	0 0.29- 0-	0.36
	30	16.50	19.69	26.09	5.62	99	8.17	0.032 0.29- 0-	0.71
	40	16.50	19.69	26.09	5.55	98	8.18	0 0.32- 0-	0.36
	50	16.50	19.69	26.09	5.57	98	8.19	0 0.29- 0.032-	0.36
	75	16.40	19.70	26.12	5.47	96	8.19	0 0.36- 0-	0.71
	100	15.80	19.70	26.26	5.41	94	8.19	0 0.45- 0-	1.07
								0	

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 6.viii	0	16.60	19.70	26.08	5.58	99	8.18	0.32	
	10	16.60	19.70	26.08	5.53	98	8.18	0.32	
	20	16.50	19.70	26.10	5.60	99	8.18	0.32	
	30	16.40	19.70	26.12	5.53	98	8.19	0.32	
	40	16.50	19.70	26.10	5.58	99	8.19	0.23	
	50	16.40	19.70	26.12	5.60	99	8.19	0.26	
	75	15.90	19.68	26.21	5.34	93	8.16	0.32	
	100	15.70	19.68	26.25	5.20	91	8.16	0.39	
7.viii	0	16.50	19.69	26.09	5.41	96	8.39	0.32	
	10	16.40	19.70	26.12	5.55	98	8.39	0.32	
	20	16.40	19.70	26.12	5.55	98	8.37	0.39	
	30	16.40	19.70	26.12	5.60	99	8.36	0.26	
	40	16.40	19.71	26.14	5.60	99	8.35	0.26	
	50	16.40	19.70	26.12	5.60	99	8.32	0.26	
	75	16.10	19.69	26.18	5.28	93	8.32	0.39	
	100	15.70	19.66	26.23	4.97	87	8.30	0.39	
8.viii	0	16.40	19.70	26.12	5.45	96	8.15	0.32	
	10	16.40	19.70	26.12	5.37	95	8.15	0.23	
	20	16.40	19.69	26.11	5.58	98	8.16	0.23	
	30	16.40	19.70	26.12	5.58	98	8.16	0.26	
	40	16.30	19.70	26.15	4.56	80	8.16	0.26	
	50	16.30	19.70	26.15	5.12	90	8.16	0.23	
	75	16.10	19.70	26.19	5.02	88	8.15	0.26	
	100	15.70	19.68	26.25	4.56	79	8.14	0.26	

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 12.viii	0	16.08	19.68	26.17	5.65	99	8.23	0.26- 0.29- 0.097	3.57
	10	16.10	19.68	26.16	5.69	100	8.23	0.29- 0.36- 0	0.71
	20	16.20	19.68	26.14	5.69	100	8.24	0.29- 0.19- 0.064	1.07
	30	16.05	19.68	26.17	5.75	101	8.32	0.24	0.36
	40	16.05	19.68	26.17	5.82	102	8.28	0.29- 0.61- 0.19	2.86
	50	16.00	19.68	26.19	5.60	98	8.22	0.26- 0.39- 0	0.36
	75	15.80	19.68	26.23	5.65	99	8.21	0.32- 0.35- 0	0.71
	100	15.30	18.68	26.24	5.62	97	8.21	0.42- 0.29- 0.032	2.14

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 20.viii	0	16.00	19.69	26.21	5.63	99	8.32	0.26- 0.23- 0	0.36
	10	16.00	19.69	26.21	5.63	99	8.31	0.26- 0.26- 0	1.07
	20	15.90	19.69	26.23	5.60	98	8.30	0.29- 0.19- 0	1.79
	30	15.90	19.68	26.21	5.60	98	8.29	0.29- 0.23- 0	1.43
	40	15.80	19.67	26.22	5.53	97	8.30	0.32- 0.23- 0.032	1.07
	50	15.80	19.67	26.22	5.53	97	8.28	0.29- 0.26- 0	1.07
	75	15.40	19.63	26.26	4.93	85	8.21	0.45- 0.26- 0.032	2.86
	100	14.90	19.61	26.34	5.04	87	8.14	0.42- 0.32- 0.064	3.21

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 3.ix	0	17.10	19.66	25.90	5.47	98	8.22	0.32- 0.032-	0.36
	10	17.20	19.66	25.88	5.47	98	8.22	0.29- 0.23-	0.36
	20	17.25	19.66	25.87	5.42	97	8.22	0.23- 0	0.36
	30	17.10	19.66	25.90	5.45	97	8.23	0.26- 0.16- 0.032	0.36
	40	17.20	19.67	25.89	5.47	98	8.23	0.29- 0.19- 0.16	0.36
	50	16.90	19.67	25.96	5.35	95	8.23	0.26- 0.19- 0.097	0.36
	75	15.80	19.63	26.17	4.87	85	8.17	0.29- 0.13- 0.032	2.86
	100	15.50	19.63	26.23	4.87	84	8.17	0.39- 0.19- 0	2.14
								0.48- 0.19- 0.032	

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 9.ix	0	17.40	19.65	25.82	5.50	99	8.19	0.23- 0.064- 0	0.36
	10	17.40	19.65	25.82	5.50	99	8.20	0.19- 0.16- 0	0.36
	20	17.00	19.63	25.89	5.50	98	8.20	0.26- 0.6- 0.32	0.36
	30	16.05	19.63	26.11	5.05	88	8.17	0.42- 0.13- 0	1.79
	40	15.60	19.62	26.19	4.98	87	8.15	0.42- 0.29- 0	0
	50	15.00	19.60	26.30	4.79	82	8.13	0.52- 0.097- 0	2.86
	75	14.60	19.58	26.37	5.03	86	8.13	0.52- 0.13- 0	3.57
	100	14.60	19.58	26.37	4.96	85	8.13	0.58- 0.16- 0	2.86

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 19.ix	0	16.60	19.62	25.96	5.45	96	8.14	0.23- 0.23- 0.064	0.31
	10	16.50	19.60	25.96	5.47	96	8.14	0.29- 0.13- 0.23	0.71
	20	16.00	19.60	26.08	5.49	96	8.14	0.29- 0.74- 0.023	1.43
	30	15.80	19.58	26.10	5.54	97	8.15	0.32- 0.23- 0	1.43
	40	15.80	19.58	26.10	5.56	97	8.17	0.35- 0.26- 0.064	1.07
	50	15.70	19.60	26.15	5.54	96	8.17	0.23- 0.23- 0.13	0.71
	75	15.60	19.61	26.18	5.69	99	8.15	0.26- 0.29- 0.097	0.71
	100	15.20	19.60	26.26	5.42	94	8.06	0.45- 0.16- 0	2.50

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 23.ix	0	17.90	19.67	25.72	5.65	102	8.23	0.26- 0.23- 0	0
	10	17.60	19.67	25.80	5.62	101	8.23	0.29- 0.19- 0	0.36
	20	17.30	19.64	25.82	5.55	99	8.20	0.32- 0.13- 0.14	0.71
	30	16.55	19.62	25.97	5.52	97	8.19	0.35- 0.097- 0.097	1.07
	40	16.00	19.60	26.08	5.31	93	8.16	0.42- 0.097- 0	3.21
	50	15.80	19.61	26.14	5.52	96	8.16	0.36- 0.29- 0	1.79
	75	15.10	19.60	26.28	5.24	90	8.16	0.45- 0.064- 0.13	4.29
	100	14.00	19.52	26.41	4.49	76	8.11	0.71- 0.064- 0.13	11. 43

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 30.ix	0	17.90	19.68	25.73	5.45	99	8.26	0.23- 0.23- 0.19	0
	10	17.80	19.68	25.76	5.55	100	8.25	0.26- 0.29- 0.032	0
	20	17.80	19.68	25.76	5.42	98	8.25	0.23- 0.16- 0.064	0.36
	30	17.70	19.67	25.77	5.42	98	8.24	0.26- 0.13- 0	0
	40	16.30	19.60	26.01	4.53	80	8.16	0.48- 0.18- 0	5.36
	50	15.20	19.57	26.22	4.45	77	8.13	0.58- 0.097- 0.18	7.14
	75	14.00	19.52	26.41	4.47	76	8.12	0.64- 0.36- 0.097	8.57
	100	13.90	19.52	26.43	4.50	76	8.11	0.68- 0.36- 0	8.57

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 8.x	0	18.00	19.69	25.73	5.47	99	8.22	0.23- 0.16- 0	0
	10	17.80	19.67	25.75	5.42	98	8.20	0.23- 0.097- 0.097	0
	20	17.80	19.67	25.75	5.34	97	8.19	0.23- 0.032- 0.13	0
	30	17.80	19.67	25.75	5.34	97	8.19	0.23- 0.13- 0.032	0
	40	17.80	19.67	25.75	5.20	94	8.14	0.29- 0.064- 0.064	0.71
	50	16.80	19.67	25.99	5.34	95	8.17	0.23- 0.032- 0	0.36
	75	15.20	19.54	26.18	4.50	78	8.12	0.58- 0.032- 0.032	4.64
	100	14.60	19.53	26.29	4.59	78	8.11	0.61- 0.097- 0.13	5.71

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 14.x	0	18.00	19.57	25.70			8.31	0.16- 0.23- 0.097	0
	10	18.00	19.67	25.70			8.26	0.13- 0.29- 0	0
	20	18.00	19.66	25.68			8.25	0.13- 0.32- 0.032	0
	30	17.70	19.66	25.76			8.25	0.16- 0.23- 0.064	0
	40	17.70	19.66	25.76			8.24	0.19- 0.26- 0	0.36
	50	17.00	19.62	25.87			8.22	0.23- 0.26- 0.19	1.07
	75	15.55	19.56	26.13			8.17	0.36- 0.39- 0	5.00
	100	14.55	19.54	26.32			8.15	0.55- 0.13- 0	5.36

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 21.x	0	18.90	19.68	25.48	5.57	103	8.14	0.13- 0.29- 0.29	0
	10	18.40	19.68	25.61	5.57	102	8.12	0.13- 0.32- 0	0
	20	18.40	19.68	25.61	5.47	100	8.11	0.13- 0.32- 0.032	0
	30	18.30	19.68	25.63	5.42	99	8.11	0.13- 0.26- 0.064	0
	40	17.70	19.66	25.76	4.93	89	8.09	0.26- 0.19- 0.064	1.07
	50	16.30	19.60	26.01	4.53	80	8.07	0.45- 0.26- 0	5.00
	75	14.80	19.56	26.30	4.38	75	8.06	0.55- 0.23- 0	7.86
	100	14.90	19.52	26.22	4.45	76	8.11	0.61- 0.19- 0.064	9.29

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 28.x	0	19.00	19.70	25.49	5.55	102	8.28	0.19- 0.23- 0.064	0
	10	18.80	19.70	25.54	5.47	103	8.27	0.13- 0.36- 0	0
	20	18.70	19.70	25.56	5.69	105	8.26	0.097- 0.32- 0.032	0
	30	18.70	19.70	25.56	5.55	102	8.22	0.097- 0.74- 0.032	0
	40	17.50	19.67	25.82	5.11	92	8.21	0.26- 0.29- 0.032	1.07
	50	16.50	19.65	26.03	4.73	83	8.18	0.36- 0.13- 0.16	2.86
	75	15.25	19.57	26.21	4.06	70	8.16	0.65	10.
	100	14.20	19.52	26.37	4.16	71	8.15	0.77- 0.097- 0.032	00 9.24

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 4.xi	0	19.30	19.70	25.41	5.44	101	8.27	0.13- 0.36- 0	0.36
	10	19.00	19.70	25.49	5.54	102	8.28	0.13- 0.29- 0.064	0
	20	19.00	19.70	25.49	5.44	100	8.27	0.097- 0.39- 0.064	0
	30	18.70	19.68	25.53	5.44	100	8.26	0.13- 0.23- 0.064	0.36
	40	16.50	19.60	25.96	4.44	78	8.21	0.42- 0.23- 0.16	4.29
	50	15.30	19.56	26.19	4.22	73	8.18	0.52- 0.16- 0	9.29
	75	14.60	19.57	26.35	5.10	87	8.19	0.42- 0.19- 0.032	4.64
	100	14.00	19.51	26.39	4.09	69	8.15	0.64- 0.26- 0	12. 14

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 14.xi	0	19.80	19.70	25.28	5.83	109	8.21	0.19- 0.29- 0.36	0
	10	19.20	19.69	25.42	5.88	109	8.22	0.19- 0.29- 0	0
	20	19.40	19.70	25.38	5.88	109	8.18	0.16- 0.19- 0.23	0
	30	19.20	19.70	25.43	5.66	105	8.18	0.16- 0.097- 0	0
	40	17.90	19.67	25.72	5.83	105	8.18	0.26- 0.19- 0	0
	50	15.40	19.60	26.22	5.32	92	8.09	0.52- 0.19- 0.097	4.29
	75	15.00	19.60	26.30	5.24	90	8.13	0.55- 0.32- 0	4.64
	100	14.70	19.58	26.35	4.99	85	8.11	0.52- 0.48- 0.064	4.29

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ _t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 20.xi	0	19.40	19.74	25.44	5.31	99	8.26	0.13- 0.097- 0.16	0
	10	19.40	19.74	25.44	4.47	83	8.23	0.13- (0.032)	0
	20	19.50	19.74	25.41	3.45	64	8.22	0.13- 0.26- 0.064	0
	30	19.30	19.74	25.46	4.01	74	8.21	0.13- 0.32- 0.064	0
	40	19.30	19.74	25.46	4.70	87	8.21	0.26- 0.16- 0.032	0
	50	17.70	19.78	25.93	1.18	21	8.19	0.23- 0.16- 0.064	0
	75	15.10	19.61	26.29	1.44	25	8.16	0.45- 0.064- 0.13	4.29
	100	14.80	19.61	26.36	3.21	55	8.13	0.45- 0- 0.19	7.86

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 25.xi	0	19.80	19.75	25.34	5.21	97	8.23	0.19- 0.19- 0	1.07
	10	19.50	19.75	25.42	5.38	100	8.24	0.19- (0.19)	0
	20	19.60	19.76	25.42	5.38	100	8.22	0.19- 0.16- 0	0
	30	19.60	19.76	25.42	5.30	99	8.22	0.14- 0.23- 0	0
	40	19.40	19.78	25.50	5.33	99	8.22	0.19	0
	50	19.40			5.38		8.22	0.36- 0.13- 0	0
	75	16.70	19.67	26.01	5.27	93	8.21	0.55- 0.064- 0	2.86
	100	15.30	19.62	26.26	4.87	84	8.16		7.14

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 2.xii	0	19.90	19.76	25.34	5.27	99	8.19	1.29- 2.00- 0.19	0
	10	19.70	19.76	25.39	5.27	98	8.21	0.29- 0.097- 0.13	0
	20	19.30	19.75	25.47	5.30	98	8.13	0.26- 0.13- 0.032	0
	30	18.90	19.74	25.57	5.53	102	8.23	0.23- 0.19- 0	0
	40	18.90	19.74	25.57	5.56	103	8.23	0.26- 0.29- 0	0
	50	18.60	19.73	25.63	5.27	97	8.23	0.32- 0.29- 0.19	0
	75	15.40	19.64	26.27	4.72	82	8.19	0.55- 0.26- 0.16	2.14
	100	14.40	19.59	26.42	4.87	90	8.12	0.61- 0- 0.19	2.86

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 5.xii	0	19.60	19.75	25.40	5.43	101	8.25	0.19- 0.064-	0
	10	18.90	19.76	25.60	5.50	101	8.25	0.23 0.23-	0
	20	18.80	19.73	25.58	5.56	102	8.25	0- 0.064 0.23-	0
	30	18.80	19.73	25.58	5.50	101	8.25	0.16 0.23-	0
	40	18.00	19.70	25.74	5.53	100	8.26	0.19- 0.032 0.23-	0
	50	17.10	19.67	25.92	5.04	90	8.24	0.16 0.39-	1.07
	75	15.70	19.63	26.19	4.93	86	8.21	0.097- 0.097 0.52	1.79
	100	14.60	19.58	26.37	4.69	80	8.19	0.61- 0.032- 0.064	3.57

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 9.xii	0	19.90	19.72	25.28	5.33	100	8.31	0.16- 0.26- 0.064	0
	10	19.70	19.73	25.35	5.37	100	8.29	0.16- 0.23- 0	0.71
	20	19.70	19.74	25.36	5.37	100	8.26	0.16- 0.23- 0.064	0
	30	18.70	19.71	25.58	5.23	96	8.25	0.19- 0.23- 0	2.86
	40	17.70	19.68	25.78	5.23	94	8.25	0.26- 0.13- 0	0.36
	50	16.30	19.65	26.08	5.09	89	8.21	0.39- 0.097- 0.097	1.07
	75	15.05	19.61	26.30	4.78	82	8.18	0.55- 0.13- 0.13	4.29
	100	14.30	19.56	26.40	4.61	78	8.15	0.61- 0.032- 0	4.29

Station: PORT HACKING

Latitude: 34°04'30" S.

Longitude: 151°15'30" E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 16.xii	0	20.70	19.71	25.06			8.24	0.19- 0.16- 0.19	0
	10	20.40	19.72	25.15	5.20	98	8.25	0.19- 0.26- 0	0
	20	19.60	19.71	25.35	5.75	107	8.26	0.16- 0.23- 0.16	3.57
	30	17.20	19.71	25.95	5.27	94	8.30	0.19- 0.26- 0.032	0
	40	16.42	19.64	26.03	5.00	88	8.26	0.39- 0.26- 0	0
	50	16.00	19.64	26.13	5.11	89	8.23	0.39- 0.19- 0.064	0.36
	75	15.90	19.63	26.14	5.07	88	8.22	0.48- 0.16- 0	3.57
	100	15.20	19.58	26.24	4.88	84	8.18	0.55- 0.23- 0.097	6.79

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 9.i	0	21.00	19.63	24.86	5.23	99	8.12	0.23- 0.35- 0	0
	10	21.00	19.64	24.87	5.23	99	8.14	0.16- 0.42- 0	0
	20	21.00	19.64	24.87	5.23	99	8.14	0.16- 0.42- 0	0
	30	20.80	19.63	24.92	5.23	99	8.14	0.32- 0.16- 0.097	0
	40	19.60	19.61	25.21	5.07	94	8.15	0.29- 0.42- 0	0
	50	17.30	19.59	25.76	4.67	85	8.13		
25.i	0	21.60	19.64	24.71	5.45	105	8.20	0.16- 0.77- 0	0.36
	10	20.90	19.64	24.90	5.55	105	8.21	0.16- 0.42- 0	0.36
	20	20.40	19.64	25.04	5.55	105	8.23	0.23- 0.48- 0	0.36
	30	19.00	19.63	25.39	5.60	103	8.22	0.26- 0.55- 0	0.36
	40	17.00	19.63	25.89	4.90	87	8.22	0.52- 0.55- 0	2.14
	50	16.40	19.61	26.00	4.61	81	8.16	0.65- 0.83 0	5.36

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 6.ii	0	21.00	19.62	24.84	5.30	101	8.32	0.16- 0.77- 0.13	0
	10	19.40	19.62	25.27	5.19	96	8.29	0.36- 1.06- 0.36	1.07
	20	19.10	19.60	25.33	4.93	91	8.27	0.39- 1.03- 0	1.07
	30	18.00	19.58	25.58	4.72	86	8.23	0.52- 0.77- 0	2.41
	40	16.40	19.56	25.93	4.47	79	8.23	0.74- 0.68- 0	4.29
	50	15.40	19.54	26.13	4.33	75	8.19	0.81- 0.71- 0	6.79
11.ii	0	19.50	19.56	25.17	5.31	99	8.28	0.45- 0.84- 0	0.71
	10	18.90	19.55	25.30	5.17	95	8.10	0.42- 0.52- 0	1.07
	20	17.60	19.55	25.63	4.60	83	8.07	0.58- 0.13- 0.23	4.29
	30	16.70	19.55	25.84	4.34	77	8.05	0.61- 0.32- 0	6.43
	40	15.80	19.55	26.05	4.15	72	8.04	0.71- 0.097 0.26	6.79
	50	15.00	19.53	26.20	4.47	77	7.96	0.77- 0.03- 0.13	2.86

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 25.1i	0	22.50	19.63	24.45	5.04	98		0.16- 0.06- 0.10	0
	10	22.00	19.63	24.59	5.04	97		0.16- 0.06- 0.19	0
	20	21.70	19.63	24.67	5.10	98		0.23- 0.10- 0.10	0
	30	21.20	19.63	24.81	4.87	93		0.26- 0.16- 0	0
	40	20.50	19.62	24.98	4.87	92		0.48- 0.26- 0.13	0.71
4.iii	0	19.90	19.53	25.02	5.06	95	8.07	0.16- 0.19- 0.13	0
	10	19.80	19.58	25.12	5.37	100	8.07	0.10- 0.06- 0.32	0.71
	20	19.00	19.58	25.33	5.12	94	8.06	0.16- 0.03- 0.29	0.71
	30	18.50	19.56	25.43	4.96	91	8.04	0.19- 0.06- 0.26	0
	40	17.20	19.56	25.75	4.73	84	8.05	0.45- 0- 0.16	0.71
	50	15.80	19.53	26.02	4.03	70	8.09	0.51- 0.10- 0.16	1.79

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 11.iii	0	22.00	19.47	24.37	4.87	94	8.00	0.06- 0.16- 0.13	0
	10	21.20	19.47	24.59	4.93	94	8.01	0.10- 0.45- 0.03	0.36
	20	18.40	19.47	25.33	4.87	89	8.03	0.39- 0.19- 0	2.86
	30	16.60	19.47	25.76	4.17	73	8.03	0.52- 0.32- 0	4.64
	40	16.20	19.48	25.87	3.99	70	8.00	0.55- 0.36- 0	5.71
	50	14.90	19.44	26.10	4.12	71	8.01	0.61- 0.39- 0	5.71
18.iii	0	21.20	19.62	24.79	5.23	100		0- 0.23- 0.19	0
	10	21.00	19.62	24.84	5.10	97		0.06- 0.16- 0.23	0
	20	20.80	19.62	24.90	5.20	98		0.06- 0.29- 0.13	0
	30	20.40	19.61	25.00	5.15	97		0- 0.32- 0.13	0
	40	20.40	19.62	25.01	5.15	97		0.36- 0- 0.16	1.07
	50	20.40	19.62	25.01	5.08	96		0.32- 0- 0.19	0.71

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 25.iii	0	21.70	19.66	24.71	5.05	97		0.06	3.57
	10	21.70	19.66	24.71	5.04	97		0.06	5.71
	20	21.70	19.67	24.73	5.08	98		0.06	0
	30	21.65	19.66	24.72	5.05	97		0.06	0
	40	21.60	19.64	24.71	5.10	98		0.16	0
	50	21.40	19.64	24.76	5.05	97		0.16	0
1.iv	0	21.00	19.61	24.83	4.78	91	8.20	0.29	1.07
	10	21.00	19.61	24.83	4.72	90	8.20	0.29	0.36
	20	20.70	19.61	24.91	4.95	94	8.15	0.39	0.71
	30	19.40	19.61	25.26	4.89	91	8.15	0.52	0
	40	18.50	19.61	25.49	4.38	80	8.14	0.52	1.07
	50	18.30	19.61	25.56	4.33	79	8.15	0.58	2.50
8.iv	0	21.15	19.60	24.78	5.22	99	7.94	0.16- 0.26- 0	0.71
	10	21.10	19.61	24.81	5.11	97	7.95	0.16- 0.26- 0	0.36
	20	21.00	19.60	24.82	5.02	95	7.95	0.16- 0.26- 0.06	0.71
	30	21.00	19.60	24.82	5.11	97	7.99	0.19- 0.32- 0	0
	40	21.00	19.60	24.82	5.18	98	7.97	0.19- 0.32- 0	0.36
	50	19.70	19.59	25.16	4.95	92	7.97	0.32- 0.29- 0	1.07

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 15.iv	0	20.45	19.62	24.99	5.08	96	8.20	0.19- 0.48- 0	0.36
	10	20.50	19.63	25.00	5.08	96	8.23	0.19- 0.39- 0	0.36
	20	20.35	19.63	25.04	5.02	94	8.24	0.16- 0.32- 0.10	0.36
	30	20.30	19.61	25.02	5.06	95	8.24	0.19- 0.36- 0	0
	40	20.15	19.63	25.09	5.11	96	8.24	0.16- 0.42- 0	0.36
	50	20.05	19.63	25.12	5.18	97	8.24	0.23- 0.29- 0	0
23.iv	0	20.25	19.56	24.97	4.47	84	8.15	0.19- 0.03- 0.06	0.36
	10	20.25	19.55	24.95	5.02	94	8.17	0.26- 0.19- 0.03	0.71
	20	19.80	19.56	25.09	4.79	89	8.18	0.29- 0- 0	1.07
	30	19.00	19.56	25.30	4.64	86	8.19	0.48- 0.48- 0.36	2.14
	40	18.00	19.56	25.55	4.32	78	8.17	0.52- 0- 0	3.93
	50	17.40	19.55	25.68	4.29	77	8.14		3.57

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 29.iv	0	19.30	19.59	25.26	5.07	94	8.25	0.23- 0.39- 0	0.36
	10	19.10	19.59	25.31	5.07	94	8.24	0.19- 0.16- 0.13	0.36
	20	19.30	19.59	25.26	5.12	95	8.23	0.19- 0.13- 0.16	0.71
	30	18.70	19.58	25.40	4.86	89	8.24	0.26- 0.23- 0	1.79
	40	18.60	19.58	25.43	4.62	85	8.22	0.29- 0.19- 0	1.43
	50	18.40	19.58	25.48	4.49	82	8.20	0.36- 0.26- 0.03	2.14
6.v	0	19.80	19.60	25.14	5.40	101	8.18	0.03- 0- 0.06	0
	10	19.50	19.61	25.23	5.40	100	8.21	0- 0.13- 0.09	0
	20	19.40	19.61	25.26	5.11	95	8.21	0- 0.24- 0.03	0
	30	18.90	19.56	25.32			8.19	0.03- 0.13- 0	1.43
	40	18.90	19.60	25.38			8.18	0.13- 0.06- 0.06	0.71
	50	18.90	19.58	25.35	4.92	91	8.19	0.19- 0- 0	1.07

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 13.v	0	19.40	19.69	25.37	5.11	95	8.27	0.19- 0.10- 0.03	0.71
	10	19.20	19.69	25.42	5.11	95	8.26	0.14- 0.10- 0.03	1.79
	20	18.80	19.68	25.51	5.07	93	8.25	0.26- 0.06- 0	0.71
	30	18.50	19.67	25.57	5.07	93	8.25	0.23- 0.10- 0	1.79
	40	18.00	19.65	25.67	4.75	86	8.25	0.29- 0.10- 0	3.93
	50	17.90	19.64	25.68	4.45	81	8.26	0.42- 0- 0	5.00
24.v	0	18.10	19.71	25.73	5.04	92	8.15	0.23- 0- 0	1.07
	10	18.00	19.72	25.77	5.07	92	8.15	0.23- 0- 0	0.71
	20	18.00	19.71	25.76	5.04	91	8.15	0.26- 0- 0	0.36
	30	18.00	19.71	25.76	4.95	90	8.15	0.13- 0.06- 0	0.71
	40	18.00	19.72	25.77	5.18	94	8.15	0- 0.19- 0	0.36
	50	18.00	19.69	25.73	5.06	92	8.16	0.26- 0.03- 0	0.71

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 31.v	0	18.10	19.69	25.70	4.98	91	8.31	0.23- 0.03- 0.03	0
	10	18.10	19.69	25.70	5.03	91	8.31	0.23- 0.03- 0	0
	20	18.00	19.69	25.73	5.18	94	8.30	0.29- 0- 0	0
	30	17.90	19.69	25.75	4.96	90	8.30	0.29- 0- 0	0
	40	17.70	19.69	25.80	5.01	90		0.29- 0- 0.03	0.71
	50	17.40	19.67	25.84	4.78	86		0.29- 0- 0	1.07
10.vi	0	18.20	19.68	25.66	5.19	95		0.13- 0.32- 0	0
	10	18.10	19.68	25.68	5.19	94		0.13- 0.26- 0.19	0
	20	18.00	19.68	25.71	5.19	94		0.19- (0.26)	0
	30	17.90	19.68	25.73	5.17	94		0.19- 0.39- 0.10	0.36
	40	17.80	19.67	25.75	5.04	91		0.26- (0.32)	0.36
	50	17.70	19.65	25.75	4.87	88		0.29- 0.16- 0.23	1.43

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 18.vi	0	18.20	19.64	25.60	5.10	93		0.29- 0.16- 0	0.36
	10	18.10	19.65	25.65	5.10	93		0.26- 0.29- 0	0.36
	20	18.15	19.64	25.62	5.14	93		0.26- 0.32- 0	0.36
	30	16.80	19.62	25.91	4.75	84		0.42- 0.36- 0	2.86
	40	16.20	19.56	25.98	3.90	68		0.58- 0.26- 0	6.43
	50	15.60	19.54	26.09	3.84	67		0.65- 0.19- 0.13	6.43
24.vi	0	18.00	19.62	25.62	5.36	97	8.29	0.26- 0.10- 0	0
	10	18.00	19.62	25.62	5.20	94	8.34	0.23- 0.13- 0	1.43
	20	17.90	19.62	25.65	5.26	95	8.39	0.23- 0- 0	0
	30	18.00	19.61	25.61	5.19	94	8.39	0.23- 0- 0	1.07
	40	17.70	19.60	25.68	5.07	91	8.44	0.29- 0- 0	1.07
	50	16.05	19.53	25.97	4.46	78	8.46	0.52- 0- 0	5.36

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 1.vii	0	17.05			5.40		8.30	0.29- (0)	2.50
	10	17.30			5.34		8.40	0.26- 0.06- 0	1.79
	20	17.30			5.04		8.35	0.26- 0-	2.14
	30	17.05			5.02		8.40	0.03 0.29	2.14
	40	16.95			5.04		8.40	0.32- 0-	2.14
	50	16.50			4.82		8.41	0 0.39- 0-	3.93
	0	18.00	19.74	25.79	5.32	95	8.33	0.19- 0.16- 0.06	1.43
16.vii	10	18.00	19.74	25.79	5.49	98	8.28	0.19- 0.26- 0	2.14
	20	17.80	19.71	25.81	5.85	104	8.25	0.39- 0-	1.43
	30	16.80	19.67	25.99	5.53	96	8.26	0 0.36- 0.06-	1.43
	40	16.20	19.65	26.10	5.60	97	8.08	0.16 0.52- 0-	1.79
	50	15.90	19.61	26.11	5.55	95	8.15	0.10 0.36- 0.06- 0.48	2.14

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 22.vii	0	16.80	19.72	26.06	5.25	93	8.19	0.23- 0.19- 0	2.50
	10	16.80	19.73	26.07			8.19	0.26- 0.23- 0	1.07
	20	16.70	19.71	26.07	4.75	84	8.19	0.29- 0.23- 0.13	0.71
	30	16.80	19.72	26.06	5.06	90	8.19	0.26- 0.52- 0	1.07
	40	16.50	19.71	26.12	5.02	89	8.19	0.26- 0.26- 0	1.79
	50	16.20	19.68	26.14	4.72	83	8.31	0.32- 0.23- 0	3.93
29.vii	0	16.60	19.71	26.10	5.18	92	8.20	0.26- 0- 0	3.57
	10	16.40	19.70	26.12	5.30	93	8.23	0.26- 0.06- 0	4.64
	20	16.40	19.69	26.11	5.43	96	8.24	0.26- 0.06- 0	4.64
	30	16.40	19.69	26.11	5.23	92	8.25	0.23- 0.10- 0	1.07
	40	16.30	19.69	26.14	5.30	93	8.27	0.29- 0.03- 0.03	1.07
	50	16.20	19.68	26.14	5.26	92	8.26	0.29- 0.03- 0	0.36

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 2.viii	0	17.20	19.69	25.92	5.31	95	8.18	0.36	
	10	17.20	19.69	25.92	5.34	96	8.18	0.36	
	20	17.20	19.69	25.92	5.37	96	8.19	0.29	
	30	17.10	19.69	25.95	5.34	95	8.18	0.45	
	40	17.00	19.70	25.98	5.45	97	8.17	0.45	
	50	16.80	19.69	26.02	5.55	98	8.18	0.36	
3.viii	0	17.00	19.68	25.95	5.62	100	8.22	0.26	
	10	17.00	19.68	25.95	5.60	100	8.22	0.26	
	20	16.90	19.70	26.00	5.53	98	8.21	0.32	
	30	16.80	19.69	26.02	5.41	96	8.21	0.39	
	40	16.70	19.69	26.04	5.31	94	8.21	0.26	
	50	16.30	19.69	26.14	5.31	93	8.20	0.26	
4.viii	0	16.90	19.68	25.97	5.55	99	8.30	0.39	
	10	16.90	19.68	25.97	5.55	99	8.28	0.36	
	20	16.90	19.68	25.97	5.49	98	8.28	0.39	
	30	16.90	19.68	25.97	5.53	98	8.27	0.39	
	40	16.80	19.69	26.02	5.45	97	8.28	0.39	
	50	16.50	19.69	26.09	5.49	97	8.27	0.45	

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 5.viii	0	16.80	19.69	26.02	5.59	99	8.20	0.32- 0-	0
	10	16.70	19.67	26.01	5.55	98	8.22	0.32- 0-	
	20	16.70	19.67	26.01	5.67	101	8.24	0.32- 0-	1.07
	30	16.60	19.68	26.05	5.55	98	8.27	0.32- 0-	0.71
	40	16.60	19.69	26.07	5.55	98	8.25	0.32- 0-	0.71
	50	16.20	19.70	26.17	5.23	92	8.26	0.36- 0-	0.36
6.viii	0	16.70	19.70	26.05	5.62	100	8.22	0.39	
	10	16.60	19.70	26.08	5.65	100	8.18	0.39	
	20	16.60	19.70	26.08	5.47	97	8.18	0.39	
	30	16.60	19.70	26.08	5.55	98	8.18	0.39	
	40	16.60	19.70	26.08	5.60	99	8.19	0.42	
	50	16.50	19.70	26.10	5.53	98	8.19	0.32	
7.viii	0	16.60	19.69	26.07	5.60	99	8.35	0.32	
	10	16.60	19.69	26.07	5.65	100	8.34	0.32	
	20	16.60	19.70	26.08	5.53	98	8.34	0.32	
	30	16.50	19.70	26.10	5.55	98	8.23	0.26	
	40	16.50	19.70	26.10	5.47	97	8.33	0.39	
	50	16.40	19.70	26.12	5.50	97	8.29	0.32	

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 8.viii	0	16.50	19.70	26.10	5.55	98	8.16	0.32	
	10	16.50	19.70	26.10	5.58	99	8.14	0.26	
	20	16.50	19.71	26.12	5.55	98	8.16	0.26	
	30	16.40	19.71	26.14	5.53	98	8.17	0.26	
	40	16.20	19.71	26.19	5.34	94	8.17	0.48	
	50	15.90	19.70	26.24	5.02	88	8.12	0.45	
12.viii	0	15.80	19.69	26.25	5.79	101	8.22	0.36- 0- 0	2.50
	10	15.70	19.68	26.25	5.67	99	8.22	0.36- 0- 0	1.07
	20	15.60	19.68	26.28	5.60	97	8.22	0.32- 0- 0	1.79
	30	15.60	19.68	26.28	5.65	98	8.23	0.32- 0- 0.06	2.86
	40	15.50	19.68	26.30	5.69	99	8.24	0.32- 0- 0	1.79
	50	15.45	19.67	26.30	5.60	97	8.24	0.32- 0- 0	1.79

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 20.viii	0	15.80	19.66	26.21	5.57	97	8.33	0.29- 0.61- 0	1.07
	10	15.80	19.66	26.21	5.57	97	8.33	0.26- 0.45- 0.10	1.07
	20	15.80	19.65	26.20	5.60	98	8.32	0.29- 0.68- 0	1.07
	30	15.70	19.65	26.22	5.60	97	8.31	0.32- 0.48- 0.03	0.71
	40	15.60	19.67	26.27	5.53	96	8.31	0.36- 0.55- 0.03	1.07
	50	15.60	19.67	26.27	5.42	94	8.30	0.36- 0.55- 0	1.43
3.ix	0	17.30	19.67	25.87	5.40	97	8.25	0.23- 0.29- 0.13	0.71
	10	17.20	19.67	25.89	5.45	97	8.23	0.29- 0.32- 0	0.71
	20	17.25	19.67	25.88	5.42	97	8.23	0.29- 0.42- 0	0.36
	30	17.00	19.67	25.94	5.45	97	8.23	0.29- 0.29- 0.10	0.36
	40	17.05	19.67	25.93	5.42	97	8.23	0.26- 0.51- 0	0.71
	50	16.75	19.67	26.00	5.50	98	8.24	0.29- 0.26- 0.23	0.36

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 9.ix	0	16.50	19.63	26.00	5.52	97	8.23	0.23- 0.81- 0.16	0
	10	16.60	19.63	25.98	5.54	98	8.21	0.29- 0.23- 0.19	0.36
	20	16.60	19.63	25.98	5.52	98	8.21	0.26- 0.36- 0.03	0
	30	16.40	19.63	26.03	5.50	97	8.21	0.23- 0.42- 0	0.36
	40	16.20	19.62	26.05	5.47	96	8.19	0.32- 0.26- 0.03	0.71
	50	15.80	19.61	26.14	5.19	91	8.15	0.42- 0.19- 0.03	3.21
19.ix	0	15.70	19.60	26.15	5.56	97	8.14	0.39- 0.26- 0	1.07
	10	15.50	19.61	26.20	5.60	97	8.14	0.29- 0.90- 0	1.07
	20	15.40	19.61	26.23	5.58	97	8.12	0.29- 0.19- 0.16	1.43
	30	15.40	19.61	26.23	5.52	96	8.12	0.32- 0.19- 0	1.79
	40	15.40	19.60	26.22	5.45	94	8.11	0.26- 0.39- 0.06	2.14
	50	15.30	19.60	26.24	5.19	90	8.11	0.29- 0.13- 0.16	2.50

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 23.ix	0	17.00	19.64	25.90	6.25	111	8.24	0.26- 0.16- 0.10	0
	10	16.70	19.64	25.97	6.61	109	8.24	0.29- 0.16- 0.19	0
	20	16.55	19.64	26.00	6.00	106	8.22	0.26- 0.23- 0.06	0
	30	16.45	19.63	26.02	5.88	104	8.20	0.26- 0.19- 0.26	0
	40	16.40	19.63	26.03	5.91	104	8.20	0.26- 0.36- 0	0.36
	50	16.40	19.63	26.03	5.94	105	8.19	0.26- 0.19- 0.06	0.36
30.ix	0	18.20	19.68	25.66	5.52	101	8.22	0.19- 0.29- 0.06	0
	10	17.90	19.68	25.73	5.60	101	8.23	0.23- 0.32- 0	0
	20	17.50	19.65	25.80	5.28	95	8.22	0.26- 0.42- 0	0.36
	30	15.80	19.59	26.11	4.88	85	8.16	0.45- 0.36- 0	4.64
	40	15.40	19.58	26.19	4.68	81	8.15	0.55- 0.23- 0	5.36
	50	14.90	19.55	26.25	4.47	77	8.13	0.65- 0.16- 0	7.14

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 8.x	0	17.80	19.64	25.70	5.57	101	8.23	0.23- 0.16- 0.03	0
	10	17.50	19.65	25.80	5.57	100	8.21	0.19- 0.23- 0	0
	20	17.40	19.64	25.80	5.47	98	8.20	0.19- 0.23- 0	0
	30	16.40	19.59	25.97	5.20	92	8.16	0.32- 0.13- 0.06	1.79
	40	15.60	19.58	26.15	4.74	82	8.13	0.48- 0.13- 0.10	0.36
	50	14.90	19.54	26.24	4.47	77	8.13	0.55- 0.23- 0	8.57
14.x	0	17.50	19.65	25.80			8.26	0.13- 0.42- 0.06	0
	10	17.25	19.65	25.86			8.25	0.16- 0.32- 0	0
	20	17.10	19.63	25.86			8.25	0.23- 0.23- 0.10	0.36
	30	17.00	19.63	25.89			8.25	0.23- 0.39- 0	0
	40	17.00	19.63	25.89			8.25	0.19- 0.39- 0.03	0.36
	50	16.80	19.63	25.93			8.25	0.23- 0.36- 0.03	0.36

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 21.x	0	18.80	19.65	25.47	5.62	103	8.14	0.13- 0.29- 0.03	0
	10	18.20	19.66	25.63	5.57	101	8.11	0.16- 0.29- 0.06	0
	20	17.80	19.66	25.73	5.47	99	8.10	0.19- 0.32- 0.06	0
	30	16.50	19.61	25.97	4.77	84	8.07	0.39- 0.26- 0	2.86
	40	15.30	19.58	26.22			8.06	0.55- 0.16- 0	5.71
28.x	0	18.70	19.65	25.50	5.57	102	8.25	0.13- 0.29- 0.03	0
	10	18.50	19.65	25.55	5.60	102	8.23	0.13- 0.29- 0.03	0.36
	20	18.00	19.63	25.64	5.37	97	8.21	0.23- 0.29- 0.23	0.71
	30	17.20	19.62	25.82	4.85	87	8.18	0.36- 0.42- 0.13	2.50
	40	15.90	19.58	26.08	4.03	70	8.14	0.58- 0.23- 0.03	5.36
	50	14.50	19.55	26.34	3.97	68	8.16	0.71- 0.13- 0	11. 43

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 4.xi	0	19.30	19.70	25.41	5.37	100	8.26	0.13- 0.29- 0.16	0
	10	19.00	19.69	25.48	5.37	99	8.28	0.16- 0.06- 0.19	0
	20	18.40	19.66	25.58	5.24	96	8.28	0.16- 0.10- 0.29	0
	30	17.30	19.61	25.78	4.66	83	8.25	0.29- 0.36- 0	2.50
	40	15.70	19.56	26.10	4.15	72	8.20	0.55- 0.13- 0.19	7.86
	50	14.80	19.55	26.28	3.82	65	8.17	0.74- 0.36- 0.45	19. 28
14.xi	0	20.00	19.67	25.19	5.73	107	8.14	0.19- 0.19- 0	0
	10	19.30	19.66	25.35	5.94	100	8.17	0.16- 0.13- 0	0
	20	18.70	19.66	25.51	5.94	109	8.18	0.13- 0.26- 0.13	0
	30	18.70	19.66	25.51	5.88	108	8.18	0.23- 0.06- 0	0
	40	16.00	19.61	26.09	5.53	97	8.15	0.45- 0.06- 0	1.43
	50	14.80	19.59	26.34	5.17	89	8.13	0.55- 0.48- 0.10	3.57

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ %	pH	PO ₄ -P	NO ₃ -N
1957 20.xi	0	19.20	19.71	25.45	5.19	96	8.20	0.13- 0.19- 0.06	0.36
	10	19.10	19.71	25.48	5.34	99	8.20	0.16- 0.13- 0.06	0
	20	19.00	19.71	25.51	5.33	98	8.20	0.13- 0.29- 0.10	0
	30	19.00	19.69	25.48	5.40	100	8.19	0.13- 0.36- 0.13	0.36
	40	18.80	19.68	25.51	5.31	98	8.20	0.13- 0.29- 0.16	3.93
	50	17.80	19.65	25.72	5.19	94	8.20	0.23- 0.16- 0.03	1.07
25.xi	0	19.80	19.73	25.32	5.38	101	8.21	0.19- 0.13- 0	0
	10	19.40	19.72	25.41	5.38	100	8.22	0.23- 0.23- 0	0.36
	20	19.20	19.71	25.45	5.38	100	8.22	0.23- 0.19- 0	0.36
	30	18.90	19.72	25.54	5.33	98	8.22	0.23- (0.10)	0.36
	40	18.00	19.69	25.73	5.10	93	8.21	0.32- 0.16- 0.10	1.43
	50	17.70	19.67	25.77	4.92	89	8.20	0.48- 0.29- 0.03	2.14

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 5.xii	0	19.60	19.76	25.42	5.33	99	8.24	0.19- 0.26- 0	0
	10	19.30	19.75	25.47	5.37	100	8.25	0.19- 0.23- 0.03	0
	20	19.30	19.75	25.47	5.47	102	8.25	0.23- 0.16- 0.03	0
	30	18.60	19.72	25.62	5.58	102	8.25	0.19- 0.19- 0.03	0
	40	18.20	19.71	25.71	5.58	102	8.24	0.32- 0.23- 0	0
	50	17.00	19.68	25.95	5.23	93	8.23	0.32- 0.19- 0.36	0.36
	9.xii	0	19.80	19.75	25.34	5.33	100	8.23	0.19- 0.06- 0.13
10		19.60	19.74	25.39	5.40	101	8.24	0.19- 0.03- 0.16	0
20		19.30	19.73	25.45	5.37	100	8.24	0.19- 0.23- 0.16	0
30		18.40	19.70	25.64	5.12	94	8.23	0.29- 0.13- 0	0.36
40		17.20	19.67	25.89	4.96	89	8.21	0.36- 0.16- 0	1.43
50		16.70	19.66	26.00	4.93	87	8.21	0.36- 0- 0.19	1.79

Station: PORT HACKING

Latitude: 34°05' S.

Longitude: 151°13' E.

Date	Depth (m)	Temp. °C	Cl ‰	σ_t	O ₂	O ₂ ‰	pH	PO ₄ -P	NO ₃ -N
1957 16.xii	0	19.90	19.71	25.27	5.50	103	8.20	0.19- 0.19- 0.10	0
	10	19.40	19.70	25.38	5.87	109	8.29	0.23- 0.19- 0	0.36
	20	18.80	19.69	25.53	5.69	105	8.27	0.23- 0.26- 0.10	0
	30	18.35	19.69	25.64	5.61	102	8.27	0.29- (0.45)	
	40	16.70	19.62	25.94	5.07	90	8.30	0.42- 0.06-	0.36
	50	16.00	19.62	26.10	5.20	91	8.26	0.29- 0.42- 0.13- 0.06	0

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OCEANOGRAPHICAL STATION LISTS

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

OCEANOGRAPHICAL STATION LISTS

(Continued)

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