

3N.

OCEANOGRAPHICAL STATION LIST

VOLUME 42

COASTAL INVESTIGATIONS AT PORT HACKING,
NEW SOUTH WALES, 1958

DIVISION OF FISHERIES AND OCEANOGRAPHY
COMMONWEALTH SCIENTIFIC AND INDUSTRIAL
RESEARCH ORGANIZATION, AUSTRALIA 1960

OCEANOGRAPHICAL STATION LIST

Volume 42

Coastal Investigations at Port Hacking,
New South Wales, 1958

Compiled by A. D. Crooks



Division of Fisheries and Oceanography

Commonwealth Scientific and Industrial
Research Organization, Australia

Melbourne 1960

Printed by C.S.I.R.O., Melbourne

OCEANOGRAPHICAL STATION LIST

COASTAL INVESTIGATIONS AT PORT HACKING, NEW SOUTH WALES, 1958

Compiled by A. D. CROOKS

I. INTRODUCTION

The data presented in this volume were obtained from the weekly working of two stations off Port Hacking by F.R.V. *Jay Bee*. The position of the Port Hacking 50 m station is latitude 34° 05' S. and longitude 151° 13' E. and the depth of water is between 50 and 60 m. The Port Hacking 100 m station is in latitude 34° 05' 30'' S. and longitude 151° 15' 30'' E., and depth of water is between 100 and 120 m.

II. METHODS AND UNITS

(a) *Hydrology*

Temperatures were taken with deep sea reversing thermometers. No corrections have been applied to the readings.

Chlorinites are expressed in parts per mille (‰) and they were measured with a temperature-chlorinity meter (Hamon 1956).

Sigma-*t* was calculated using a nomograph constructed from information from the United States Navy Hydrographic Office (La Fond 1951).

Dissolved oxygen determinations were done by Winkler's method as modified by Thompson and Robinson (1939). The values are reported as ml/l. Oxygen saturation values were calculated from the nomograph of Richards and Corwin (1956).

Hydrogen ion samples were kept separately in 1 oz reagent bottles, and pH was measured by glass electrode, using a Cambridge pH meter.

Inorganic orthophosphate was determined by taking 100 ml of the sea-water sample, adding 1 ml Denigès's reagent (2.5 per cent. ammonium molybdate in 37.5 per cent. v/v sulphuric acid), mixing, standing for 3-5 min, and adding 0.1 ml of 1 per cent. stannous chloride dihydrate solution, then swirling the flask after this addition. The absorption due to the reduced phosphomolybdate was measured 10 min later in a Spekker absorptiometer, using an Ilford 608 filter.

Total phosphate was determined by taking 100 ml of the sea-water sample in an Erlenmyer flask, adding 0.2 ml of 70 per cent. A.R. perchloric acid and slowly evaporating to dryness on a sand-bath. The residue was then dissolved in 100 ml of distilled water and two drops of phenolphthalein added. If necessary the solution was adjusted to a slight pink with N ammonium hydroxide, and the orthophosphate was estimated as described above for inorganic phosphate. Calibration was effected by using potassium dihydrogen phosphate standards in distilled water. The values

obtained for the sea-water samples were multiplied by 1.1 to correct for salt error.

Particulate phosphorus was taken as the difference between the total phosphate as determined above and the total phosphate (perchloric acid digestion) in an aliquot centrifuged for 30 min at 10,000 r.p.m.

Dissolved organic phosphorus was taken as the difference between the values for inorganic phosphate and total phosphate in a centrifuged sample. All values are expressed as microgram atoms of phosphorus per litre.

Nitrate was estimated by the reduced strychnidine method. The strychnidine reagent was prepared by reducing strychnine sulphate with amalgamated zinc in hydrochloric acid under carbon dioxide (Rochford 1947). This reagent was diluted with nitrate-free concentrated sulphuric acid for use, the proportions being usually one volume of reagent to three volumes of acid. To 5 ml of sea-water sample was added 0.1 ml of concentrated hydrochloric acid and 5 ml of dilute strychnidine reagent; this was mixed and left standing for about 1 hr to develop colour. Its absorption was then measured in a Spekker absorptiometer, using an Ilford 602 filter. Sodium nitrate was used as a standard.

(b) *Phytoplankton*

Water samples were taken with a plastic sampler. In the laboratory the samples were centrifuged, and the phytoplankton examined and counted in two size groups, above and below 30 μ . The counts are given as log numbers per litre for each sampling depth.

(c) *Pigments*

Water samples were taken with a plastic sampler and stored in white opaque plastic bottles. These were filtered in the laboratory. Full details of the method of extraction are given by Humphrey (1960).

(d) *CO₂ Uptake*

Measurements of photosynthetic CO₂ uptake by marine phytoplankton were made by the ¹⁴C method described by Jitts (1957).

Incubation was done either *in situ* where the samples were resuspended in the ocean at the depths from which they were taken, or in a fluorescent light bath with a constant illumination of about 1100 ft candles. The period of incubation for the *in situ* samples was from sunrise to sunset (all day) or from sunrise to local noon (half-day). The period of incubation in the light bath is given in hours.

Depth from which the sample was taken is given in meters below the surface.

Activity is in counts per minute corrected for background. All counts were taken to 10,00 counts, or 5 min, whichever occurred first, and are corrected for counter instability by reference to a count of a known ¹⁴C standard sample (labelled

“Perspex”) either directly preceding or following the unknown sample. Counts were made with a windowless Geiger counter with an efficiency of about 40 per cent.

“Light” is the activity of the sample in the clear tube after incubation and filtration. “Dark” is the activity of the sample from the duplicate dark tube. “Net” is the light activity less the dark activity. “Production” is the rate of uptake of CO₂ calculated by means of the formula:

$$\frac{\text{Net Activity}}{\text{Added Activity}} \times 90 \times \frac{12}{44} \times \frac{1000}{\text{Period of Incubation}}$$

The CO₂ content is assumed to be 90 mg/l. The activity added was 6.17×10^6 counts/min except for December 9 when it was 3.93×10^5 counts/min. For *in situ* samples the production is given in mg C/m³ per day. For samples incubated in a light bath the production is given in mg C/m³ per hour.

The values in g C/hr/m² column of water at each station are calculated by the formula:

$$\frac{1}{1000} \left\{ \frac{10(a+b)}{2} + \frac{10(b+c)}{2} + \frac{30(c+d)}{2} \right\}$$

where *a*, *b*, *c*, and *d* are the rates of production at 0, 10, 20, and 50 m respectively. To obtain the daily rate of production from light bath incubation measurements (mg C/hr/m³), the value is multiplied by the factor 10, assuming as a rough approximation that the daily rate is 10 times the hourly rate.

(e) Light Penetration

Measurements of light penetration were made by the method described by Jitts (1959). Time recorded is Eastern Australian Standard Time; depth is in meters. Percentage surface light is the average of two readings taken while lowering and raising the photometer. Depth of penetration of 1 per cent. surface light is given in meters and was obtained by extrapolation of the curve of the measurements at various depths. Solar altitude was calculated for the time of commencement of the measurements, using published data in nautical almanacs and “Tables of Computed Altitude and Azimuth”.

III. PERSONNEL

F.R.V. *Jay Bee* is the Laboratory’s launch, based on Cronulla, from which the operations reported here are carried out. The vessel is operated and maintained by Mr. G. Reid (Launchmaster). The scientist-in-charge is Mr. B. S. Newell. Sampling has been the responsibility of Messrs R. Bradley, G. Dal Pont, F. Davies, N. Dyson, and M. Wootton. The hydrological laboratory analyses have been carried

out by Messrs. G. Dal Pont, F. Davies, W. Prothero, and C. Walker. The phytoplankton samples were collected by Mr. L. Crosby who was also responsible for the counts. The routine chlorophyll determinations were made by Dr. G. F. Humphrey and Mr. M. Wootton. Preparation of ampoules of ^{14}C and the counting of samples were done by Messrs. N. Dyson and D. Llewellyn. Misses F. Luce and R. Weidenhofer and Mrs. E. Wood have been responsible for processing the data, and Mrs. D. Schmitzer for the preparation of typed sheets under the general direction of Mr. A. D. Crooks.

IV. REFERENCES

- HAMON, B. V. (1956).—A portable temperature-chlorinity bridge for estuarine investigations and sea water analysis. *J. Sci. Instrum.* **33**: 329-33.
- HUMPHREY, G. F. (1960).—The concentration of plankton pigments in Australian waters. C.S.I.R.O. Aust. Div. Fish. Oceanogr. Tech. Pap. No. (in press).
- LA FOND, E. C. (1951).—Processing oceanographic data. Publ. U.S. Navy Hydrogr. Off. No. 614.
- JITTS, H. R. (1957).—The ^{14}C method for measuring CO_2 uptake in marine productivity studies. C.S.I.R.O. Aust. Div. Fish. Oceanogr. Rep. No. 8.
- JITTS, H. R. (1959).—Light penetration in the Tasman Sea. C.S.I.R.O. Aust. Div. Fish. Oceanogr. Tech. Pap. No. 6.
- RICHARDS, F. A., and CORWIN, N. (1956).—Some oceanographic applications of recent determinations of solubility of oxygen in sea water. *Limn. Oceanogr.* **1**: 263-7.
- ROCHFORD, D. J. (1947).—The preparation and use of Harvey's reduced strychnine reagent in oceanographical chemistry. Coun. Sci. Industr. Res. Aust. Bull. No. 220.
- THOMPSON, T. G., and ROBINSON, R. J. (1939).—Notes on the determination of dissolved oxygen in sea water. *J. Mar. Res.* **2**: 1-8.

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 7.i.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 20.00 | 19.68 | 25.20 | 5.37 | 101 | 8.28 | 0.19 | 0.19 | 0 | 0 |
| 10 | 20.00 | 19.68 | 25.20 | 5.34 | 100 | 8.28 | 0.19 | 0.19 | 0.03 | 0.4 |
| 20 | 19.90 | 19.69 | 25.24 | 5.34 | 100 | 8.28 | 0.19 | 0.26 | 0 | 0 |
| 30 | 20.00 | 19.68 | 25.20 | 5.34 | 100 | 8.27 | 0.19 | 0.09 | 0.09 | 0.7 |
| 40 | 19.90 | 19.67 | 25.21 | 5.34 | 100 | 8.27 | 0.16 | 0.13 | 0 | 0 |
| 50 | 18.80 | 19.66 | 25.48 | 5.20 | 96 | 8.27 | 0.19 | 0.26 | 0.09 | 0 |

DATE: 16.i.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|---|
| 0 | 20.40 | 19.69 | 25.11 | 5.25 | 99 | 8.28 | 0.19 | 0.23 | 0.03 | 0 |
| 10 | 20.20 | 19.69 | 25.16 | 5.14 | 96 | 8.28 | 0.19 | 0.16 | 0 | 0 |
| 20 | 19.80 | 19.68 | 25.25 | 5.34 | 100 | 8.29 | 0.19 | 0.26 | 0 | 0 |
| 30 | 19.80 | 19.67 | 25.24 | 5.30 | 99 | 8.29 | 0.26 | 0.29 | 0.03 | 0 |
| 40 | 19.30 | 19.67 | 25.37 | 5.33 | 99 | 8.29 | 0.23 | 0.19 | 0.03 | 0 |
| 50 | 18.40 | 19.66 | 25.58 | 5.06 | 92 | 8.29 | 0.29 | 0.26 | 0.03 | 0 |

DATE: 21.i.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|--------|------|-----|
| 0 | 21.00 | 19.65 | 24.89 | 5.18 | 98 | 8.23 | 0.09 | 0.32 | 0.09 | 0 |
| 10 | 19.90 | 19.65 | 25.19 | 5.22 | 98 | 8.25 | 0.19 | (0.16) | | 0 |
| 20 | 19.30 | 19.65 | 25.34 | 5.11 | 95 | 8.26 | 0.29 | 0.32 | 0 | 0 |
| 30 | 19.20 | 19.65 | 25.37 | 5.11 | 95 | 8.25 | 0.29 | 0.13 | 0.16 | 0 |
| 40 | 17.50 | 19.62 | 25.75 | 4.81 | 86 | 8.25 | 0.42 | (0.19) | | 0.7 |
| 50 | 17.10 | 19.61 | 25.83 | 4.67 | 83 | 8.21 | 0.45 | 0.16 | 0.03 | 1.0 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 7.i.58

0 0 3.094

DATE: 16.i.58

0 5.400 2.400

DATE: 21.i.58

0 5.813 2.964

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 28.1.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|---|
| 0 | 21.80 | 19.66 | 24.68 | 5.19 | 100 | 8.21 | 0.19 | 0.29 | 0.03 | 0 |
| 10 | 21.80 | 19.66 | 24.68 | 5.48 | 106 | 8.21 | 0.23 | 0.16 | 0 | 0 |
| 20 | 19.70 | 19.67 | 25.27 | 5.56 | 104 | 8.22 | 0.16 | 0.26 | 0.03 | 0 |
| 30 | 19.35 | 19.67 | 25.36 | 5.67 | 108 | 8.20 | 0.16 | 0.29 | 0 | 0 |
| 40 | 19.00 | 19.66 | 25.43 | 5.22 | 96 | 8.22 | 0.26 | 0.19 | 0.13 | 0 |
| 50 | 18.60 | 19.65 | 25.52 | 4.98 | 91 | 8.21 | 0.26 | 0.16 | 0.03 | 0 |

DATE: 4.11.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 22.40 | 19.63 | 24.47 | 4.91 | 96 | 8.22 | 0.29 | 0.03 | 0.06 | 0.3 |
| 10 | 21.60 | 19.63 | 24.70 | 5.01 | 96 | 8.23 | 0.23 | 0.23 | 0 | 0 |
| 20 | 20.50 | 19.64 | 25.01 | 4.96 | 94 | 8.20 | 0.29 | | | 0 |
| 30 | 20.40 | 19.63 | 25.03 | 4.88 | 92 | 8.18 | 0.32 | 0.16 | 0.16 | 0.3 |
| 40 | 20.20 | 19.63 | 25.08 | 4.88 | 92 | 8.18 | 0.32 | 0.19 | 0.06 | 1.7 |
| 50 | 20.00 | 19.63 | 25.13 | 4.91 | 92 | 8.18 | 0.39 | 0.32 | 0 | 0.7 |

DATE: 10.11.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|--------|------|-----|
| 0 | 22.20 | 19.31 | 24.09 | 5.05 | 98 | 8.21 | 0.16 | 0.19 | 0.03 | 0 |
| 10 | 22.20 | 19.33 | 24.12 | 5.08 | 98 | 8.18 | 0.19 | 0.09 | 0.13 | 0 |
| 20 | 21.95 | 19.42 | 24.31 | 5.05 | 97 | 8.18 | 0.19 | 0.19 | 0.03 | 0 |
| 30 | 21.90 | 19.51 | 24.45 | 4.99 | 96 | 8.18 | 0.19 | 0.23 | 0.06 | 0 |
| 40 | 21.50 | 19.54 | 24.60 | 4.94 | 95 | 8.20 | 0.19 | (0.32) | | 0.3 |
| 50 | 18.50 | 19.63 | 25.52 | 4.58 | 84 | | 0.42 | 0.19 | 0 | 0.7 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 28.i.58

| | | |
|---|-------|-------|
| 0 | 4.700 | 2.633 |
|---|-------|-------|

DATE: 4.ii.58

| | | |
|----|---|-------|
| 0 | 0 | 1.350 |
| 25 | 0 | 1.923 |
| 50 | 0 | 0 |

DATE: 10.ii.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.20 | 0.06 | 0.75 | 0.29 | | 0 | 0 | 2.300 |
| 10 | 0.27 | 0.06 | 0.66 | 0.17 | 0.13 | 25 | 0 | 2.150 |
| 20 | 0.25 | 0.07 | 0.70 | 0.14 | 0.12 | 50 | 4.700 | 2.000 |
| 30 | 0.42 | 0.15 | 0.07 | 0.15 | 0.18 | | | |
| 40 | 0.37 | 0.18 | 0.44 | 0.32 | 0.07 | | | |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 19.11.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 24.60 | 19.35 | 23.45 | 4.78 | 96 | 8.23 | 0.16 | 0.23 | 0.06 | 0 |
| 10 | 24.21 | 19.53 | 23.81 | 4.68 | 94 | 8.21 | 0.16 | 0.23 | 0.03 | 0.3 |
| 20 | 23.60 | 19.49 | 23.94 | 4.72 | 94 | 8.21 | 0.16 | 0.29 | 0.09 | 0.3 |
| 30 | 18.25 | 19.55 | 25.47 | 4.24 | 77 | 8.20 | 0.52 | 0.06 | 0 | 4.6 |
| 40 | 16.68 | 19.57 | 25.88 | 3.81 | 67 | 8.15 | 0.65 | 0.03 | 0.09 | 6.7 |
| 50 | 15.60 | 19.54 | 26.09 | 3.86 | 67 | 8.14 | 0.71 | 0 | 0 | 8.5 |

DATE: 27.11.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|--------|------|-----|
| 0 | 24.84 | 19.60 | 23.72 | 4.79 | 97 | 8.24 | 0.13 | 0.29 | 0.06 | 0 |
| 10 | 24.80 | 19.60 | 23.73 | 4.79 | 97 | 8.22 | 0.09 | 0.26 | 0.09 | 0.7 |
| 20 | 23.25 | 19.57 | 24.15 | 4.52 | 89 | 8.22 | 0.19 | (0.23) | | 0 |
| 30 | 22.20 | 19.61 | 24.50 | 4.37 | 85 | 8.20 | 0.29 | 0.16 | 0 | 1.4 |
| 40 | 20.80 | 19.58 | 24.86 | 4.20 | 80 | 8.18 | 0.42 | 0.03 | 0.19 | 3.5 |
| 50 | 18.55 | 19.58 | 25.44 | 3.85 | 70 | 8.17 | 0.61 | 0 | 0.13 | 6.4 |

DATE: 3.11.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 24.60 | 19.49 | 23.65 | 4.61 | 93 | 8.26 | 0.19 | 0.26 | 0 | 0 |
| 10 | 24.50 | 19.49 | 23.68 | 4.70 | 95 | 8.21 | 0.23 | 0.13 | 0.03 | 0 |
| 20 | 23.80 | 19.50 | 23.89 | 4.67 | 93 | 8.25 | 0.23 | 0.03 | 0.09 | 0.7 |
| 30 | 21.95 | 19.55 | 24.49 | 4.26 | 82 | 8.23 | 0.39 | (0) | | 1.7 |
| 40 | 21.40 | 19.52 | 24.61 | 4.52 | 86 | 8.19 | 0.42 | 0 | 0 | 2.1 |
| 50 | 20.20 | 19.56 | 24.99 | 3.97 | 74 | 8.16 | 0.58 | 0.16 | 0.06 | 4.6 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 19.11.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.51 | 0.11 | 1.06 | 0.26 | 0.18 | 0 | 6.290 | 3.392 |
| 10 | 0.43 | 0.05 | 0.47 | 0.10 | 0.15 | 25 | 0 | 0.600 |
| 20 | 0.22 | 0.02 | 0.38 | 0.08 | 0.07 | 50 | 0 | 0.600 |
| 30 | 0.12 | 0.06 | 0.31 | 0.11 | 0.02 | | | |
| 40 | 0.10 | 0.08 | 0.38 | 0.21 | | | | |
| 50 | 0.11 | 0.08 | 0.35 | 0.11 | 0.03 | | | |

DATE: 27.11.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.34 | 0.04 | 0.48 | 0.13 | 0.18 | 0 | 5.300 | 2.850 |
| 10 | 0.23 | 0.02 | 0.03 | 0.07 | 0.15 | 25 | 0 | 2.960 |
| 20 | 0.48 | 0.07 | 0.75 | 0.13 | 0.15 | 50 | 0 | 1.690 |
| 30 | 0.17 | 0 | 0.09 | 0.05 | 0.08 | | | |
| 40 | 0.13 | 0.05 | 0.37 | 0.12 | 0.01 | | | |
| 50 | 0.17 | 0.06 | 0.47 | 0.11 | 0.02 | | | |

DATE: 3.11.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.27 | 0.02 | 0.40 | 0.07 | 0.07 | 0 | 5.544 | 3.477 |
| 0 | 0.76 | 0.15 | 0.94 | 0.17 | 0.11 | 25 | 5.977 | 4.350 |
| 0 | 0.79 | 0.08 | 0.86 | 0.13 | 0.26 | 50 | 5.176 | 2.204 |
| 10 | 0.87 | 0.14 | 1.40 | 0.12 | 0.37 | | | |
| 20 | 0.84 | 0.08 | 1.05 | 0.28 | 0.21 | | | |
| 30 | 0.25 | 0.07 | 0.24 | 0.11 | 0.05 | | | |
| 40 | 0.16 | 0.04 | 0.20 | 0.10 | 0.01 | | | |
| 50 | 0.17 | 0 | 0.14 | 0.07 | 0.04 | | | |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 25.iii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 24.10 | 19.58 | 23.92 | 4.81 | 96 | 8.21 | 0.09 | 0.35 | 0 | 0 |
| 10 | 24.20 | 19.57 | 23.87 | 4.78 | 96 | 8.20 | 0.09 | 0.39 | 0.09 | 0 |
| 20 | 24.30 | 19.58 | 23.86 | 4.57 | 92 | 8.18 | 0.26 | 0.23 | 0.13 | 0.3 |
| 30 | 20.80 | 19.58 | 24.86 | 4.57 | 87 | 8.18 | 0.29 | 0.32 | 0.19 | 0.7 |
| 40 | 19.70 | 19.62 | 25.19 | 4.28 | 80 | 8.15 | 0.35 | 0.29 | 0.09 | 4.2 |
| 50 | 19.10 | 19.61 | 25.34 | 4.15 | 77 | 8.16 | 0.68 | 0.29 | 0.52 | 5.3 |

DATE: 31.iii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 22.90 | 19.64 | 24.34 | 4.89 | 96 | 8.28 | 0.19 | 0 | 0.19 | 0 |
| 10 | 22.50 | 19.65 | 24.48 | 5.02 | 98 | 8.27 | 0.19 | 0.13 | 0 | 0 |
| 20 | 22.00 | 19.64 | 24.60 | 4.92 | 95 | 8.26 | 0.19 | 0 | 0.13 | 1.0 |
| 30 | 21.40 | 19.64 | 24.74 | 4.87 | 93 | 8.23 | 0.26 | 0.03 | 0.09 | 0 |
| 40 | 20.70 | 19.62 | 24.92 | 4.72 | 89 | 8.22 | 0.29 | 0.13 | 0.03 | 0.3 |
| 50 | 19.40 | 19.63 | 25.29 | 4.43 | 82 | 8.21 | 0.45 | 0 | 0 | 3.2 |

DATE: 8.iv.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 23.10 | 19.64 | 24.28 | 4.58 | 90 | 8.26 | 0.16 | 0.16 | 0.09 | 0 |
| 10 | 23.20 | 19.64 | 24.25 | 4.93 | 97 | 8.25 | 0.19 | 0.03 | 0.23 | 0 |
| 20 | 23.20 | 19.64 | 24.25 | 4.87 | 96 | 8.24 | 0.23 | 0.13 | 0.09 | 0 |
| 30 | 23.00 | 19.63 | 24.30 | 4.84 | 95 | 8.23 | 0.26 | 0.19 | 0 | 0 |
| 40 | 21.60 | 19.63 | 24.70 | 4.71 | 91 | 8.23 | 0.32 | 0.23 | 0.06 | 0 |
| 50 | 19.80 | 19.63 | 25.18 | 4.34 | 81 | 8.20 | 0.45 | 0.09 | 0.16 | 0.7 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 8.1v.58

| | | | | | |
|----|------|------|------|------|------|
| 0 | 0.36 | | 0.52 | 0.13 | 0.17 |
| 0 | 0.39 | 0.09 | 0.91 | 0.14 | 0.06 |
| 0 | 0.28 | 0.01 | 0.38 | 0.07 | 0.11 |
| 10 | 0.90 | 0.12 | 1.46 | 0.20 | 0.22 |
| 20 | 0.97 | 0.09 | 0.84 | 0.11 | 0.36 |
| 30 | 0.63 | 0.03 | 0.54 | 0.08 | 0.25 |
| 40 | 1.13 | 0.09 | 0.97 | 0.09 | 0.42 |
| 50 | 0.67 | 0.22 | 1.34 | 0.20 | 0.12 |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 14.iv.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 22.50 | 19.61 | 24.42 | 5.14 | 100 | 8.17 | 0.13 | 0.26 | 0.03 | 0 |
| 10 | 22.40 | 19.61 | 24.44 | 5.07 | 99 | 8.17 | 0.16 | 0.06 | 0.19 | 0 |
| 20 | 21.30 | 19.64 | 24.79 | 4.71 | 90 | 8.18 | 0.23 | 0.19 | 0.03 | 0.3 |
| 30 | 20.20 | 19.65 | 25.11 | 4.65 | 87 | 8.23 | 0.23 | 0.06 | 0.16 | 0.7 |
| 40 | 18.90 | 19.64 | 25.43 | 4.43 | 82 | 8.26 | 0.35 | 0.23 | 0.32 | 3.2 |
| 50 | 18.60 | 19.63 | 25.49 | 4.38 | 80 | 8.21 | 0.52 | 0.03 | 0.09 | 4.6 |

DATE: 21.iv.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 21.40 | 19.61 | 24.72 | 4.60 | 88 | 8.22 | 0.29 | 0.11 | 0.08 | 0.7 |
| 10 | 21.20 | 19.62 | 24.79 | 4.89 | 93 | 8.22 | 0.29 | 0.09 | 0.10 | 0.3 |
| 20 | 21.15 | 19.62 | 24.80 | 4.60 | 88 | 8.19 | 0.32 | 0.10 | 0.10 | 0.3 |
| 30 | 20.95 | 19.64 | 24.89 | 4.92 | 94 | 8.20 | 0.26 | 0.20 | 0 | 0.3 |
| 40 | 20.50 | 19.64 | 25.01 | 4.74 | 89 | | 0.32 | 0.14 | 0.11 | 1.4 |
| 50 | 19.80 | 19.64 | 25.19 | 4.62 | 86 | 8.11 | 0.32 | | | 2.1 |

DATE: i.v.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|---|
| 0 | 21.20 | 19.68 | 24.87 | 4.99 | 95 | 8.26 | 0.19 | 0.19 | 0.04 | 0 |
| 10 | 21.20 | 19.68 | 24.87 | 4.99 | 95 | 8.26 | 0.23 | 0.13 | 0.04 | 0 |
| 20 | 21.20 | 19.68 | 24.87 | 4.95 | 95 | 8.26 | 0.23 | 0 | 0.15 | 0 |
| 30 | 21.20 | 19.68 | 24.87 | 5.04 | 96 | 8.24 | 0.23 | 0.02 | 0.13 | 0 |
| 40 | 20.90 | 19.66 | 24.93 | 5.02 | 95 | 8.24 | 0.26 | 0.26 | 0.11 | 0 |
| 50 | 20.20 | 19.66 | 25.12 | 5.04 | 95 | 8.23 | 0.26 | 0.12 | 0.04 | 0 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 14.iv.58

| | | | | | |
|---|------|------|------|------|------|
| 0 | 3.13 | 0.03 | 2.27 | 0.31 | 0.71 |
| 0 | 3.42 | 0.05 | 2.61 | 0.44 | 0.81 |
| 0 | 3.48 | 0.02 | 2.14 | 0.30 | 0.79 |

DATE: 21.iv.58

| | | | | | |
|----|------|------|------|------|------|
| 0 | 1.38 | 0.02 | 0.86 | 0.14 | 0.35 |
| 0 | 1.54 | 0.03 | 1.09 | 0.12 | 0.48 |
| 0 | 1.84 | 0.06 | 1.42 | 0.20 | |
| 10 | 1.45 | 0.26 | 1.68 | 0.26 | 0.25 |
| 20 | 1.21 | 0.15 | 1.37 | 0.21 | 0.32 |
| 30 | 0.83 | 0.11 | 0.60 | 0.22 | 0.20 |
| 40 | 0.74 | 0.21 | 1.67 | 0.26 | 0.05 |
| 50 | 0.55 | 0.17 | 1.03 | 0.20 | 0.10 |

DATE: 1.v.58

| | | | | | |
|----|------|------|------|------|------|
| 0 | 0.45 | 0.01 | 0.38 | 0.03 | 0.20 |
| 0 | 0.69 | 0.06 | 0.64 | 0.07 | 0.28 |
| 0 | 0.57 | 0 | 0.44 | 0.03 | 0.27 |
| 40 | 0.38 | 0.10 | 0.45 | 0.07 | 0.14 |
| 50 | 0.28 | 0.11 | 0.69 | 0.19 | |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 5.v.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 20.70 | 19.68 | 25.01 | 5.07 | 96 | 8.30 | 0.40 | 0 | 0 | 0 |
| 10 | 20.55 | 19.68 | 25.05 | 5.07 | 96 | 8.28 | 0.23 | 0.02 | 0.15 | 0 |
| 20 | 20.55 | 19.68 | 25.05 | 5.12 | 97 | 8.26 | 0.19 | 0.19 | 0.02 | 0 |
| 30 | 20.45 | 19.68 | 25.08 | 5.04 | 95 | 8.26 | 0.23 | 0.13 | 0.08 | 0 |
| 40 | 20.45 | 19.67 | 25.07 | 5.02 | 95 | 8.26 | 0.23 | 0.19 | 0.04 | 0 |
| 50 | 20.30 | 19.67 | 25.11 | 4.93 | 93 | 8.25 | 0.29 | 0.09 | 0.02 | 0.3 |

DATE: 12.v.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 20.80 | 19.70 | 25.01 | 5.07 | 96 | 8.27 | 0.23 | 0.19 | 0 | 0.3 |
| 10 | 20.20 | 19.69 | 25.16 | 5.02 | 94 | 8.24 | 0.23 | 0.81 | 0.06 | 0.3 |
| 20 | 20.15 | 19.69 | 25.18 | 5.04 | 94 | 8.23 | 0.32 | 0.19 | 0.06 | 0.3 |
| 30 | 20.10 | 19.69 | 25.19 | 4.95 | 93 | 8.23 | 0.32 | 0.09 | 0.13 | 0.7 |
| 40 | 20.10 | 19.69 | 25.19 | 4.95 | 93 | 8.22 | 0.32 | 0.09 | 0.13 | 0.7 |
| 50 | 20.10 | 19.69 | 25.19 | 4.98 | 94 | 8.22 | 0.32 | 0.09 | 0.13 | 0.3 |

DATE: 19.v.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 20.02 | 19.72 | 25.25 | 5.21 | 98 | 8.29 | 0.32 | 0.06 | 0.03 | 0.3 |
| 10 | 19.96 | 19.72 | 25.27 | 5.21 | 98 | 8.25 | 0.26 | 0.09 | 0.06 | 0 |
| 20 | 19.90 | 19.72 | 25.28 | 5.24 | 98 | 8.25 | 0.26 | 0.13 | 0.06 | 0.3 |
| 30 | 19.90 | 19.72 | 25.28 | 5.18 | 97 | 8.25 | 0.23 | 0.19 | 0 | 0 |
| 40 | 19.90 | 19.72 | 25.28 | 5.21 | 98 | 8.25 | 0.23 | 0.16 | 0.09 | 0.3 |
| 50 | 19.65 | 19.70 | 25.32 | 4.95 | 92 | 8.25 | 0.32 | 0.09 | 0 | 0.7 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 5.v.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.47 | 0.08 | 0.16 | 0.04 | 0.20 | 0 | 5.544 | 3.187 |
| 0 | 0.55 | 0.08 | 0.86 | 0.11 | 0.18 | 20 | 6.949 | 3.253 |
| 0 | 0.66 | 0.14 | 1.24 | 0.16 | 0.15 | 50 | 0 | 2.708 |
| 10 | 0.51 | 0.07 | 0.38 | 0.06 | 0.20 | | | |
| 20 | 0.51 | 0.10 | 0.39 | 0.10 | 0.17 | | | |
| 30 | 0.55 | 0.10 | 0.51 | 0.09 | 0.15 | | | |
| 40 | 0.50 | 0.10 | 0.22 | 0.09 | 0.15 | | | |
| 50 | 0.40 | 0.12 | 0.61 | 0.13 | 0.07 | | | |

DATE: 12.v.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.80 | 0.14 | 0.57 | 0.10 | 0.18 | 0 | 4.700 | 2.540 |
| 0 | 0.79 | 0.14 | 0.78 | 0.16 | 0.17 | 20 | 5.180 | 3.182 |
| 0 | 0.82 | 0.18 | 0.42 | 0.12 | 0.22 | 50 | 5.780 | 2.320 |
| 10 | 0.67 | 0.12 | 0.49 | 0.08 | 0.16 | | | |
| 20 | 0.59 | 0.12 | 0.48 | 0.09 | 0.16 | | | |
| 30 | 0.44 | 0.13 | 0.50 | 0.11 | 0.07 | | | |
| 40 | 0.45 | 0.11 | 0.31 | 0.10 | 0.11 | | | |
| 50 | 0.50 | 0.14 | 0.85 | 0.13 | 0.07 | | | |

DATE: 19.v.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.66 | 0.14 | 0.53 | 0.08 | 0.22 | 0 | 5.920 | 2.640 |
| 0 | 0.79 | 0.16 | 1.16 | 0.13 | 0.21 | 20 | 5.390 | 2.720 |
| 0 | 0.75 | 0.14 | 0.58 | 0.08 | 0.28 | 50 | 0 | 1.690 |
| 10 | 0.64 | 0.11 | 0.44 | 0.10 | 0.21 | | | |
| 20 | 0.55 | 0.10 | 0.38 | 0.06 | 0.19 | | | |
| 30 | 0.62 | 0.09 | 0.43 | 0.06 | 0.25 | | | |
| 40 | 0.59 | 0.07 | 0.35 | 0.07 | 0.24 | | | |
| 50 | 0.11 | 0.08 | 0.50 | 0.12 | | | | |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 26.v.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 18.75 | 19.69 | 25.54 | 5.10 | 94 | 8.25 | 0.29 | 0.08 | 0.08 | 0.3 |
| 10 | 18.75 | 19.70 | 25.55 | 5.02 | 92 | 8.24 | 0.32 | 0.16 | 0.06 | 0.3 |
| 20 | 18.70 | 19.70 | 25.56 | 5.07 | 93 | 8.22 | 0.32 | 0.13 | 0 | 0.3 |
| 30 | 18.70 | 19.70 | 25.56 | 5.10 | 94 | 8.20 | 0.32 | 0.16 | 0.02 | 0.3 |
| 40 | 18.70 | 19.70 | 25.56 | 5.02 | 92 | 8.20 | 0.32 | 0.13 | 0 | 0.3 |
| 50 | 18.70 | 19.70 | 25.56 | 5.02 | 92 | 8.20 | 0.32 | 0.16 | 0 | 0.3 |

DATE: 9.vi.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 18.10 | 19.73 | 25.75 | 5.36 | 97 | 8.26 | 0.26 | 0.12 | 0 | 0.3 |
| 10 | 18.25 | 19.73 | 25.72 | 5.30 | 93 | 8.26 | 0.26 | 0.19 | 0 | 0.3 |
| 20 | 18.15 | 19.73 | 25.74 | 5.30 | 97 | 8.25 | 0.26 | 0.06 | 0 | 0.3 |
| 30 | 18.15 | 19.73 | 25.74 | 5.26 | 96 | 8.24 | 0.26 | 0.12 | 0.02 | 0.3 |
| 40 | 18.15 | 19.73 | 25.74 | 5.30 | 98 | 8.23 | 0.26 | 0.17 | 0 | 0 |
| 50 | 18.10 | 19.73 | 25.75 | 5.30 | 96 | 8.22 | 0.29 | 0.03 | 0.08 | 0.3 |

DATE: 17.vi.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 18.65 | 19.71 | 25.59 | 5.30 | 97 | 8.28 | 0.29 | 0.08 | 0.04 | 0.2 |
| 10 | 18.65 | 19.71 | 25.59 | 5.30 | 97 | 8.27 | 0.32 | 0.11 | 0 | 0.2 |
| 20 | 18.10 | 19.69 | 25.70 | 5.30 | 106 | 8.27 | 0.32 | 0.11 | 0.02 | 0 |
| 30 | 18.05 | 19.69 | 25.72 | 5.33 | 107 | 8.27 | 0.32 | 0.09 | 0.07 | 0.2 |
| 40 | 17.40 | 19.70 | 25.88 | 5.26 | 94 | 8.26 | 0.35 | 0.06 | 0 | 0.6 |
| 50 | 17.45 | 19.70 | 25.87 | 5.30 | 95 | 8.25 | 0.32 | 0.11 | 0.02 | 0.6 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 26.v.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.41 | 0.07 | 0.44 | 0.05 | 0.15 | 0 | 6.300 | 2.860 |
| 0 | 0.44 | 0.04 | 0.38 | 0.04 | 0.23 | 20 | 6.540 | 3.160 |
| 0 | 0.48 | 0.03 | 0.32 | 0.06 | 0.26 | 50 | 6.000 | 2.630 |
| 10 | 0.47 | 0.08 | 0.39 | 0.07 | 0.16 | | | |
| 20 | 0.34 | 0.06 | 0.20 | 0.04 | 0.13 | | | |
| 30 | 0.40 | 0.03 | 0.22 | 0.05 | 0.18 | | | |
| 40 | 0.34 | 0.10 | 0.25 | 0.05 | 0.16 | | | |
| 50 | 0.34 | 0.10 | 0.18 | 0.08 | 0.10 | | | |

DATE: 9.vi.58

| | | | | | | | | |
|----|------|------|------|------|------|--|--|--|
| 0 | 1.14 | 0.13 | 1.23 | 0.13 | 0.29 | | | |
| 0 | 1.00 | 0.12 | 1.09 | 0.12 | 0.26 | | | |
| 0 | 1.20 | 0.06 | 2.23 | 0.19 | 0.29 | | | |
| 10 | 1.07 | 0.19 | 1.32 | 0.20 | 0.19 | | | |
| 20 | 1.05 | 0.18 | 0.96 | 0.13 | 0.23 | | | |
| 30 | 1.06 | 0.22 | 1.14 | 0.10 | 0.32 | | | |
| 40 | 0.80 | 0.25 | 1.05 | 0.15 | 0.22 | | | |
| 50 | 0.88 | 0.26 | 0.83 | 0.18 | 0.21 | | | |

DATE: 17.vi.58

| | | | | | | | | |
|----|------|------|------|------|------|---|-------|-------|
| 0 | 1.13 | 0.14 | 1.03 | 0.05 | 0.76 | 0 | 6.720 | 2.950 |
| 0 | 0.93 | 0.15 | 0.88 | 0.04 | 0.39 | | 6.230 | 2.730 |
| 0 | 1.13 | 0.20 | 1.24 | 0.04 | 0.44 | | 6.120 | 2.060 |
| 10 | 1.08 | 0.17 | 0.64 | 0.06 | 0.46 | | | |
| 20 | 0.87 | 0.23 | 0.59 | 0.11 | 0.29 | | | |
| 30 | 0.84 | 0.23 | 0.58 | 0.13 | 0.26 | | | |
| 40 | 0.71 | 0.14 | 0.40 | 0.10 | 0.27 | | | |
| 50 | 0.68 | 0.13 | 0.52 | 0.09 | 0.22 | | | |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 23.vi.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 18.05 | 19.71 | 25.75 | 5.30 | 96 | 8.31 | 0.29 | 0.14 | 0 | 1.0 |
| 10 | 18.10 | 19.71 | 25.73 | 5.40 | 98 | 8.29 | 0.29 | 0.14 | 0 | 1.0 |
| 20 | 18.05 | 19.71 | 25.75 | 5.25 | 95 | 8.25 | 0.29 | 0.14 | 0 | 0.4 |
| 30 | 18.00 | 19.71 | 25.76 | 5.25 | 95 | 8.24 | 0.32 | 0.11 | 0 | 0.4 |
| 40 | 17.90 | 19.70 | 25.76 | 5.19 | 94 | 8.23 | 0.32 | 0.21 | 0.02 | 0.6 |
| 50 | 17.70 | 19.69 | 25.80 | 5.09 | 92 | 8.22 | 0.39 | 0.05 | 0 | 1.0 |

DATE: 30.vi.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 17.85 | 19.52 | 25.59 | 5.33 | 96 | 8.24 | 0.25 | 0.20 | 0.02 | 0.6 |
| 10 | 18.00 | 19.56 | 25.54 | 5.23 | 95 | 8.21 | 0.25 | 0.20 | 0.06 | 0.6 |
| 20 | 18.00 | 19.59 | 25.59 | 5.30 | 96 | 8.20 | 0.26 | 0.19 | 0 | 0.6 |
| 30 | 17.95 | 19.59 | 25.60 | 5.37 | 97 | 8.20 | 0.30 | 0.13 | 0.04 | 1.0 |
| 40 | 17.80 | 19.63 | 25.69 | 5.30 | 96 | 8.20 | 0.29 | 0.16 | 0.02 | 0.8 |
| 50 | 17.40 | 19.64 | 25.80 | 5.07 | 91 | 8.20 | 0.40 | 0.03 | 0.02 | 1.4 |

DATE: 9.vii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 17.55 | 19.64 | 25.76 | 5.33 | 96 | 8.26 | 0.27 | 0.13 | 0 | 0.4 |
| 10 | 17.60 | 19.64 | 25.75 | 5.39 | 97 | 8.25 | 0.28 | 0.15 | 0.02 | 0.2 |
| 20 | 17.60 | 19.64 | 25.75 | 5.50 | 99 | 8.25 | 0.27 | 0.13 | 0.03 | 0.4 |
| 30 | 17.60 | 19.64 | 25.75 | 5.43 | 98 | 8.24 | 0.30 | 0.15 | 0 | 0.6 |
| 40 | 17.55 | 19.64 | 25.76 | 5.43 | 98 | 8.23 | 0.30 | 0.08 | 0.05 | 0.6 |
| 50 | 17.50 | 19.64 | 25.77 | 5.50 | 99 | 8.23 | 0.27 | 0.16 | 0.02 | 3.4 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 23.vi.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 1.13 | 0.23 | 0.61 | 0.16 | 0.32 | 0 | 6.415 | 3.415 |
| 0 | 1.07 | 0.22 | 0.69 | 0.15 | 0.30 | 20 | 0 | 3.041 |
| 0 | 1.16 | 0.22 | 0.89 | 0.16 | 0.08 | 50 | 5.301 | 2.778 |
| 10 | 1.33 | 0.25 | 0.66 | 0.07 | 0.49 | | | |
| 20 | 1.04 | 0.23 | 0.72 | 0.08 | 0.42 | | | |
| 30 | 0.75 | 0.21 | 0.51 | 0.11 | 0.24 | | | |
| 40 | 0.39 | 0.12 | 0.27 | 0.08 | 0.11 | | | |
| 50 | 0.42 | 0.13 | 0.33 | 0.08 | 0.10 | | | |

DATE: 30.vi.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.79 | 0.13 | 0.47 | 0.09 | 0.31 | 0 | 6.568 | 3.851 |
| 10 | 0.95 | 0.16 | 0.24 | 0.08 | 0.33 | 20 | 6.568 | 4.335 |
| 20 | 0.61 | 0.16 | 0.35 | 0.11 | 0.16 | 50 | 6.362 | 3.716 |
| 30 | 0.60 | 0.11 | 0.23 | 0.16 | 0.14 | | | |
| 40 | 0.57 | 0.12 | 0.25 | 0.12 | 0.12 | | | |
| 50 | 0.71 | 0.16 | 0.42 | 0.21 | 0.07 | | | |

DATE: 9.vii.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.96 | 0.22 | 0.64 | 0.10 | 0.27 | 0 | 7.070 | 3.222 |
| 0 | 1.06 | 0.18 | 0.42 | 0.05 | 0.41 | 20 | 6.690 | 2.477 |
| 0 | 1.23 | 0.35 | 0.84 | 0.14 | 0.37 | 50 | 6.279 | 2.699 |
| 0 | 0.99 | 0.13 | 0.80 | 0.07 | 0.39 | | | |
| 0 | 1.26 | 0.22 | 0.83 | 0.10 | 0.43 | | | |
| 0 | 1.03 | 0.15 | 0.92 | 0.08 | 0.37 | | | |
| 10 | 0.91 | 0.24 | 0.53 | 0.07 | 0.36 | | | |
| 20 | 0.88 | 0.27 | 0.42 | 0.07 | 0.37 | | | |
| 30 | 0.89 | 0.16 | 0.34 | 0.10 | 0.22 | | | |
| 40 | 0.71 | 0.17 | 0.61 | 0.08 | 0.26 | | | |
| 50 | 0.89 | 0.24 | 1.02 | 0.13 | 0.27 | | | |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 21.vii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 17.85 | 19.68 | 25.76 | 5.39 | 104 | 8.29 | 0.37 | 0.05 | 0.06 | 0.6 |
| 10 | 17.95 | 19.68 | 25.73 | 5.33 | 103 | 8.26 | 0.35 | 0 | 0.06 | 1.2 |
| 20 | 18.00 | 19.69 | 25.74 | 5.23 | 101 | 8.24 | 0.33 | 0 | 0 | 5.6 |
| 30 | 17.90 | 19.69 | 25.76 | 5.18 | 100 | 8.24 | 0.36 | 0 | 0 | 1.4 |
| 40 | 17.50 | 19.67 | 25.82 | 5.27 | 101 | 8.24 | 0.36 | 0.05 | 0.07 | 0.8 |
| 50 | 17.10 | 19.66 | 25.90 | 5.30 | 101 | 8.24 | 0.35 | 0 | 0.15 | 1.0 |

DATE: 29.vii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 17.95 | 19.68 | 25.73 | 5.02 | 97 | 8.30 | 0.32 | 0.09 | 0.02 | 1.0 |
| 10 | 17.90 | 19.68 | 25.75 | 5.04 | 97 | 8.26 | 0.32 | 0.07 | 0.04 | 0 |
| 20 | 17.75 | 19.67 | 25.76 | 4.85 | 93 | 8.25 | 0.35 | 0.08 | 0 | 1.0 |
| 30 | 17.35 | 19.65 | 25.85 | 4.83 | 92 | 8.26 | 0.44 | 0 | 0 | 2.8 |
| 40 | 16.50 | 19.63 | 26.01 | 4.77 | 89 | 8.24 | 0.49 | 0 | 0 | 3.4 |
| 50 | 15.90 | 19.59 | 26.10 | 4.61 | 85 | 8.21 | 0.56 | 0.20 | 0.02 | 7.0 |

DATE: 4.viii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 17.60 | 19.68 | 25.82 | 5.24 | 100 | 8.26 | 0.27 | 0.16 | 0.03 | 1.0 |
| 10 | 17.55 | 19.67 | 25.82 | 5.06 | 97 | 8.25 | 0.27 | 0.21 | 0.17 | 0.8 |
| 20 | 17.65 | 19.67 | 25.79 | 5.10 | 98 | 8.27 | 0.27 | 0.14 | 0.05 | 0.9 |
| 30 | 17.60 | 19.67 | 25.80 | 5.28 | 101 | 8.24 | 0.29 | 0.12 | 0.07 | 0.7 |
| 40 | 17.70 | 19.67 | 25.78 | 5.15 | 99 | 8.23 | 0.30 | 0.13 | 0 | 0.7 |
| 50 | 17.50 | 19.67 | 25.83 | 4.73 | 90 | 8.25 | 0.30 | 0.11 | 0 | 1.0 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 21.vii.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.52 | 0.05 | 0.47 | 0.07 | 0.28 | 0 | 6.724 | 4.404 |
| 0 | 0.60 | 0.14 | 0.97 | 0.08 | 0.22 | 20 | 6.568 | 4.356 |
| 0 | 0.55 | 0.13 | 0.83 | 0.07 | 0.23 | 50 | 6.756 | 4.452 |
| 10 | 0.54 | 0.12 | 0.64 | 0.10 | 0.23 | | | |
| 20 | 0.49 | 0.14 | 0.71 | 0.10 | 0.15 | | | |
| 30 | 1.02 | 0.17 | 1.20 | 0.12 | 0.33 | | | |
| 40 | 0.84 | 0.28 | 1.03 | 0.14 | 0.29 | | | |
| 50 | 0.71 | 0.25 | 1.17 | 0.14 | 0.19 | | | |

DATE: 29.vii.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.30 | 0.02 | 0.49 | 0.07 | 0.10 | 0 | 6.472 | 4.724 |
| 10 | 0.40 | 0.06 | 0.61 | 0.05 | 0.18 | 20 | 6.568 | 4.573 |
| 20 | 0.36 | 0.07 | 0.65 | 0.07 | 0.12 | 50 | 6.493 | 4.234 |
| 30 | 0.16 | 0.13 | 0.33 | 0.05 | 0.05 | | | |
| 40 | 0.21 | 0.15 | 0.63 | 0.11 | 0.02 | | | |
| 50 | 0.20 | 0.16 | 0.53 | 0.05 | 0.04 | | | |

DATE: 4.viii.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 1.03 | 0.16 | 0.75 | 0.13 | 0.27 | 0 | 6.832 | 4.725 |
| 10 | 0.57 | 0.12 | 0.39 | 0.10 | 0.14 | 20 | 6.787 | 4.987 |
| 20 | 1.02 | 0.16 | 0.73 | 0.17 | 0.25 | 50 | 6.574 | 4.826 |
| 30 | 1.12 | 0.07 | 0.72 | 0.13 | 0.36 | | | |
| 40 | 0.61 | 0.01 | 0.82 | 0.12 | 0.14 | | | |
| 50 | 0.95 | 0.09 | 0.90 | 0.14 | 0.25 | | | |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 11.viii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 16.30 | 19.60 | 26.02 | 4.88 | 91 | 8.26 | 0.48 | 0.02 | 0.13 | 3.3 |
| 10 | 16.00 | 19.59 | 26.08 | 4.67 | 86 | 8.24 | 0.61 | 0 | 0.04 | 3.9 |
| 20 | 15.70 | 19.58 | 26.13 | 4.58 | 84 | 8.19 | 0.59 | 0 | 0.10 | 5.2 |
| 30 | 15.40 | 19.57 | 26.17 | 4.93 | 90 | 8.16 | 0.53 | 0 | 0.08 | 4.4 |
| 40 | 15.30 | 19.57 | 26.18 | 4.88 | 89 | 8.14 | 0.56 | 0.05 | 0.04 | 5.4 |
| 50 | 15.15 | 19.57 | 26.22 | 4.93 | 90 | 8.14 | 0.61 | 0 | 0.04 | 4.9 |

DATE: 18.viii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|--------|------|------|
| 0 | 16.20 | 19.57 | 25.99 | 5.22 | 97 | 8.27 | 0.29 | 0.12 | 0.07 | 0.8 |
| 10 | 15.85 | 19.55 | 26.04 | 5.22 | 102 | 8.26 | 0.32 | 0.13 | 0.03 | 1.1 |
| 20 | 15.40 | 19.53 | 26.11 | 5.06 | 93 | 8.23 | 0.34 | 0.18 | 0.09 | 2.3 |
| 30 | 14.30 | 19.52 | 26.33 | 4.49 | 80 | 8.21 | 0.65 | 0 | 0.04 | 5.5 |
| 40 | 13.65 | 19.50 | 26.44 | 4.49 | 79 | 8.17 | 0.69 | 0 | 0.11 | 7.3 |
| 50 | 13.65 | 19.49 | 26.44 | 4.32 | 76 | 8.13 | 0.71 | (0.03) | | 11.8 |

DATE: 25.viii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 16.50 | 19.61 | 25.98 | 5.22 | 98 | 8.26 | 0.40 | 0.05 | 0.18 | 1.5 |
| 10 | 16.10 | 19.60 | 26.06 | 5.02 | 93 | 8.24 | 0.48 | 0.10 | 0.03 | 2.4 |
| 20 | 15.70 | 19.58 | 26.13 | 4.71 | 87 | 8.19 | 0.54 | 0.11 | 0 | 4.1 |
| 30 | 15.20 | 19.57 | 26.21 | 4.59 | 84 | 8.16 | 0.63 | 0.30 | | 3.2 |
| 40 | 14.30 | 19.54 | 26.37 | 4.51 | 81 | 8.12 | 0.72 | 0.12 | 0.03 | 6.3 |
| 50 | 14.05 | 19.54 | 26.42 | 4.89 | 87 | 8.11 | 0.64 | 0.12 | 0.10 | 5.3 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 11.viii.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 2.11 | 0.13 | 1.25 | 0.10 | 0.60 | 0 | 6.632 | 4.475 |
| 10 | 1.60 | 0.11 | 1.09 | 0.15 | 0.41 | 20 | 6.847 | 4.593 |
| 20 | 0.95 | 0.11 | 0.49 | 0.14 | 0.23 | 50 | 6.359 | 4.237 |
| 30 | 1.52 | 0.18 | 1.10 | 0.14 | 0.40 | | | |
| 40 | 1.77 | 0.13 | 1.53 | 0.12 | 0.50 | | | |
| 50 | 1.83 | 0.12 | 1.67 | 0.15 | 0.47 | | | |

DATE: 18.viii.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 7.31 | 0.48 | 5.46 | 0.40 | 1.58 | 0 | 5.300 | 2.903 |
| 10 | 5.62 | 0.22 | 3.20 | 0.16 | 1.42 | 20 | 5.699 | 3.114 |
| 20 | 6.02 | 0.24 | 3.62 | 0.21 | 1.48 | 50 | 0 | 3.845 |
| 30 | 7.03 | 0.39 | 3.98 | 0.23 | 1.79 | | | |
| 40 | 7.75 | 0.49 | 4.87 | 0.31 | 1.86 | | | |
| 50 | 0.87 | 0.13 | 0.97 | 0.18 | 0.12 | | | |

DATE: 25.viii.58

| | | |
|----|-------|-------|
| 0 | 6.810 | 4.884 |
| 20 | 6.690 | 4.765 |
| 50 | 6.700 | 4.445 |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 1.ix.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 15.70 | 19.62 | 26.18 | 5.66 | 104 | 8.28 | 0.30 | 0.22 | 0.12 | 0.6 |
| 10 | 15.60 | 19.62 | 26.20 | 5.49 | 101 | 8.28 | 0.29 | 0.25 | 0.08 | 0.6 |
| 20 | 15.50 | 19.61 | 26.20 | 5.14 | 94 | 8.27 | 0.34 | 0.30 | 0.10 | 1.0 |
| 30 | 15.20 | 19.59 | 26.24 | 5.30 | 97 | 8.26 | 0.42 | 0.22 | 0 | 1.6 |
| 40 | 15.10 | 19.58 | 26.24 | 5.14 | 93 | 8.23 | 0.43 | 0.19 | 0.06 | 2.2 |
| 50 | 14.80 | 19.57 | 26.30 | 5.08 | 92 | 8.22 | 0.46 | 0.28 | 0.02 | 2.8 |

DATE: 8.ix.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 16.90 | 19.67 | 25.96 | 5.39 | 100 | 8.26 | 0.37 | 0.07 | 0.16 | 0.8 |
| 10 | 16.86 | 19.67 | 25.98 | 5.46 | 101 | 8.24 | 0.34 | 0.10 | 0 | 1.0 |
| 20 | 17.05 | 19.66 | 25.92 | 5.46 | 103 | 8.24 | 0.34 | 0.18 | 0.08 | 1.0 |
| 30 | 16.40 | 19.65 | 26.06 | 5.42 | 101 | 8.24 | 0.37 | 0.06 | 0.02 | 0.6 |
| 40 | 16.02 | 19.64 | 26.14 | 5.55 | 103 | 8.24 | 0.38 | 0.18 | 0.06 | 1.0 |
| 50 | 15.60 | 19.63 | 26.21 | 5.49 | 101 | 8.24 | 0.38 | 0.07 | 0.16 | 0.8 |

DATE: 15.ix.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 17.00 | 19.69 | 25.98 | 5.57 | 105 | 8.26 | 0.24 | 0.16 | 0.03 | 0.4 |
| 10 | 16.95 | 19.69 | 25.99 | 5.60 | 106 | 8.26 | 0.26 | 0.08 | 0.09 | 0.2 |
| 20 | 16.50 | 19.68 | 26.08 | 5.60 | 105 | 8.24 | 0.26 | 0.14 | 0.03 | 0.4 |
| 30 | 16.25 | 19.68 | 26.14 | 5.57 | 104 | 8.22 | 0.28 | 0.10 | 0.02 | 0.6 |
| 40 | 16.30 | 19.67 | 26.12 | 5.55 | 104 | 8.20 | 0.31 | 0.01 | 0.08 | 0.4 |
| 50 | 16.00 | 19.67 | 26.19 | 5.42 | 101 | 8.18 | 0.32 | 0.11 | 0.19 | 0.6 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 1.ix.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 3.43 | 0.36 | 1.49 | 0.13 | 0.84 | 0 | 6.398 | 4.600 |
| 10 | 3.43 | 0.43 | 1.75 | 0.17 | 0.80 | 20 | 6.763 | 4.581 |
| 20 | 2.25 | 0.31 | 0.99 | 0.20 | 0.47 | 50 | 6.462 | 4.606 |
| 30 | 2.09 | 0.25 | 0.76 | 0.16 | 0.48 | | | |
| 40 | 2.03 | 0.25 | 0.76 | 0.17 | 0.40 | | | |
| 50 | 2.09 | 0.28 | 0.73 | 0.19 | 0.38 | | | |

DATE: 8.ix.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.94 | 0.06 | 0.41 | 0.06 | 0.30 | 0 | 6.305 | 4.623 |
| 10 | 0.99 | 0.13 | 0.51 | 0.07 | 0.30 | 20 | 6.580 | 4.556 |
| 20 | 1.25 | 0.22 | 1.51 | 0.23 | 0.22 | 50 | 6.255 | 3.872 |
| 30 | 1.21 | 0.12 | 0.52 | 0.14 | 0.32 | | | |
| 40 | 1.18 | 0.10 | 0.78 | 0.18 | 0.22 | | | |
| 50 | 1.61 | 0.22 | 1.45 | 0.39 | 0.38 | | | |

DATE: 15.ix.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 1.75 | 0.47 | 0.81 | 0.11 | 0.53 | 0 | 6.505 | 3.633 |
| 10 | 1.52 | 0.30 | 0.68 | 0.07 | 0.66 | 20 | 6.690 | 3.764 |
| 20 | 1.28 | 0.27 | 0.66 | 0.08 | 0.50 | 50 | 6.431 | 3.503 |
| 30 | 1.66 | 0.31 | 1.33 | 0.18 | 0.50 | | | |
| 40 | 1.28 | 0.23 | 1.28 | 0.15 | 0.35 | | | |
| 50 | 0.91 | 0.19 | 0.98 | 0.19 | 0.16 | | | |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 29.i.x.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 16.80 | 19.67 | 25.99 | 5.97 | 112 | 8.31 | 0.18 | 0.29 | 0.19 | 0 |
| 10 | 16.75 | 19.67 | 26.01 | 5.91 | 111 | 8.31 | 0.20 | 0.23 | 0.04 | 0 |
| 20 | 16.45 | 19.65 | 26.05 | 5.80 | 109 | 8.29 | 0.24 | 0.21 | 0.08 | 0 |
| 30 | 15.60 | 19.62 | 26.20 | 5.24 | 97 | 8.29 | 0.43 | 0.21 | 0.02 | 1.6 |
| 40 | 15.10 | 19.59 | 26.26 | 5.00 | 91 | 8.26 | 0.57 | 0.07 | 0.04 | 3.8 |
| 50 | 14.55 | 19.58 | 26.37 | 4.91 | 88 | 8.24 | 0.59 | 0.16 | 0.06 | 5.4 |

DATE: 7.x.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 16.55 | 19.65 | 26.03 | 5.40 | 101 | 8.26 | 0.31 | 0.21 | 0 | 0.6 |
| 10 | 15.90 | 19.63 | 26.15 | 5.34 | 99 | 8.25 | 0.35 | 0.33 | 0.04 | 1.0 |
| 20 | 15.55 | 19.63 | 26.22 | 5.24 | 96 | 8.23 | 0.41 | 0.25 | 0.09 | 2.0 |
| 30 | 15.45 | 19.62 | 26.23 | 5.07 | 93 | 8.20 | 0.43 | 0.25 | 0 | 2.2 |
| 40 | 15.45 | 19.62 | 26.23 | 5.02 | 92 | 8.18 | 0.45 | 0.40 | 0 | 2.8 |
| 50 | 15.05 | 19.62 | 26.32 | 4.93 | 90 | 8.19 | 0.49 | 0.21 | 0 | 3.0 |

DATE: 15.x.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 17.90 | 19.68 | 25.74 | 5.36 | 103 | 8.28 | 0.23 | 0.30 | 0.13 | 0 |
| 10 | 17.70 | 19.68 | 25.78 | 5.52 | 106 | 8.27 | 0.26 | 0.32 | 0.04 | 0 |
| 20 | 16.95 | 19.65 | 25.93 | 5.43 | 103 | 8.26 | 0.26 | 0.34 | 0 | 0 |
| 30 | 16.10 | 19.64 | 26.12 | 5.36 | 100 | 8.24 | 0.31 | 0.46 | 0.06 | 0.2 |
| 40 | 15.80 | 19.64 | 26.18 | 5.30 | 98 | 8.25 | 0.36 | 0.32 | 0.06 | 0.8 |
| 50 | 15.55 | 19.64 | 26.23 | 5.02 | 92 | 8.23 | 0.41 | 0.36 | 0 | 2.0 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 29.ix.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 4.28 | 0.06 | 1.95 | 0.16 | 1.47 | 0 | 6.662 | 4.999 |
| 10 | 4.56 | 0.02 | 1.73 | 0.16 | 1.59 | 20 | 6.462 | 4.953 |
| 20 | 5.68 | 0.17 | 2.44 | 0.26 | 1.71 | 50 | 6.279 | 4.529 |
| 30 | 4.78 | 0.04 | 2.11 | 0.19 | 1.50 | | | |
| 40 | 2.48 | 0.08 | 1.11 | 0.18 | 0.70 | | | |
| 50 | 1.27 | 0.01 | 0.50 | 0.24 | 0.32 | | | |

DATE: 7.x.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.93 | 0.08 | | 0.07 | 0.33 | 0 | 6.544 | 4.933 |
| 10 | 1.46 | 0.06 | 0.30 | 0.13 | 0.41 | 20 | 6.672 | 4.964 |
| 20 | 1.50 | | 0.54 | 0.16 | 0.34 | 50 | 6.255 | 4.518 |
| 30 | 1.27 | 0.08 | 0.99 | 0.17 | 0.28 | | | |
| 40 | 1.12 | 0.08 | 0.95 | 0.22 | 0.18 | | | |
| 50 | 1.22 | 0.08 | 0.72 | 0.20 | 0.24 | | | |

DATE: 15.x.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 3.75 | 0.33 | 1.22 | 0.17 | 0.98 | 0 | 6.708 | 5.068 |
| 10 | 4.54 | 0.37 | 2.43 | 0.09 | 1.59 | 20 | 6.851 | 5.049 |
| 20 | 5.46 | 0.27 | 2.28 | 0.23 | 1.45 | 50 | 6.447 | 4.724 |
| 30 | 5.36 | 0.20 | 2.21 | 0.20 | 1.40 | | | |
| 40 | 5.61 | 0.24 | 2.71 | 0.22 | 1.50 | | | |
| 50 | 6.77 | 0.36 | 3.05 | 0.31 | 1.70 | | | |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 20.x.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 18.20 | 19.69 | 25.68 | 5.44 | 106 | 8.27 | 0.26 | 0.13 | 0.06 | 0 |
| 10 | 18.00 | 19.66 | 25.69 | 5.38 | 103 | 8.24 | 0.29 | 0.14 | 0 | 0 |
| 20 | 17.70 | 19.65 | 25.75 | 5.33 | 102 | 8.26 | 0.29 | 0.14 | 0.02 | 0 |
| 30 | 17.45 | 19.65 | 25.80 | 5.36 | 102 | 8.25 | 0.30 | 0.15 | 0.03 | 0 |
| 40 | 17.45 | 19.65 | 25.80 | 5.47 | 104 | 8.24 | 0.31 | 0.12 | 0 | 0.2 |
| 50 | 17.40 | 19.63 | 25.79 | 5.40 | 103 | 8.24 | 0.32 | 0.20 | 0.04 | 0.4 |

DATE: 28.x.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 18.95 | 19.71 | 25.53 | 5.27 | 104 | 8.27 | 0.22 | 0.19 | 0.02 | 0 |
| 10 | 18.40 | 19.71 | 25.66 | 5.42 | 105 | 8.27 | 0.22 | 0.18 | 0 | 0 |
| 20 | 18.20 | 19.71 | 25.71 | 5.40 | 105 | 8.26 | 0.22 | 0.21 | 0 | 0 |
| 30 | 18.00 | 19.70 | 25.75 | 5.40 | 103 | 8.25 | 0.22 | 0.21 | 0.09 | 0 |
| 40 | 17.05 | 19.67 | 25.93 | 5.20 | 98 | 8.26 | 0.32 | 0.07 | 0.06 | 0.2 |
| 50 | 16.60 | 19.66 | 26.03 | 5.15 | 97 | 8.24 | 0.36 | 0.22 | 0.13 | 0.8 |

DATE: 3.xi.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 19.30 | 19.74 | 25.47 | 5.21 | 103 | 8.27 | 0.21 | 0.11 | 0.06 | 0 |
| 10 | 19.30 | 19.72 | 25.45 | 5.18 | 102 | 8.27 | 0.26 | 0 | 0.08 | 0 |
| 20 | 18.35 | 19.70 | 25.66 | 5.15 | 100 | 8.28 | 0.26 | 0.08 | 0.09 | 0 |
| 30 | 17.65 | 19.69 | 25.82 | 5.18 | 99 | 8.24 | 0.31 | 0.12 | 0.04 | 0.2 |
| 40 | 17.05 | 19.67 | 25.93 | 5.09 | 97 | 8.21 | 0.37 | 0.06 | 0 | 0.4 |
| 50 | 16.65 | 19.66 | 26.02 | 5.09 | 96 | 8.21 | 0.40 | 0 | 0.03 | 0.6 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 20.x.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 1.14 | 0.11 | 1.35 | 0.28 | 0.28 | 0 | 6.447 | 4.643 |
| 10 | 0.97 | 0.03 | 0.56 | 0.13 | 0.41 | 20 | 6.613 | 4.729 |
| 20 | 2.50 | 0.03 | 2.73 | 0.32 | 0.53 | 50 | 6.255 | 4.204 |
| 30 | 3.71 | | 2.31 | 0.27 | 1.01 | | | |
| 40 | 3.11 | | 1.94 | 0.24 | 0.97 | | | |
| 50 | 2.64 | 0.13 | 1.48 | 0.30 | 0.81 | | | |

DATE: 28.x.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.71 | 0.08 | 0.33 | 0.07 | 0.27 | 0 | 6.361 | 4.623 |
| 10 | 1.03 | 0.03 | 0.47 | 0.13 | 0.36 | 20 | 6.623 | 4.800 |
| 20 | 1.25 | 0.03 | 0.69 | 0.19 | 0.42 | 50 | 6.255 | 4.322 |
| 30 | 1.58 | 0.04 | 1.82 | 0.25 | 0.30 | | | |
| 40 | 1.27 | 0.20 | 0.63 | 0.12 | 0.05 | | | |
| 50 | 0.47 | 0.15 | 1.16 | 0.23 | | | | |

DATE: 3.xi.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.56 | 0.12 | 0.61 | 0.08 | 0.28 | 0 | 6.140 | 3.214 |
| 10 | 0.60 | 0.07 | 0.84 | 0.08 | 0.25 | 20 | 6.322 | 4.025 |
| 20 | 0.87 | 0.13 | 0.95 | 0.03 | 0.37 | 50 | 5.415 | 4.204 |
| 30 | 0.77 | 0.06 | 0.53 | 0.11 | 0.22 | | | |
| 40 | 0.60 | 0.05 | 0.52 | 0.12 | 0.10 | | | |
| 50 | 0.44 | 0.05 | 0.60 | 0.23 | | | | |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 10.xi.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 20.55 | 19.71 | 25.10 | 5.24 | 106 | 8.27 | 0.21 | 0.11 | 0.11 | 0 |
| 10 | 20.00 | 19.71 | 25.25 | 5.18 | 104 | 8.26 | 0.21 | 0.07 | 0.15 | 0 |
| 20 | 17.85 | 19.67 | 25.74 | 5.02 | 97 | 8.27 | 0.30 | 0.13 | 0.12 | 0.6 |
| 30 | 16.40 | 19.65 | 26.06 | 4.83 | 90 | 8.19 | 0.43 | 0.04 | 0.08 | 2.6 |
| 40 | 15.75 | 19.63 | 26.18 | 4.74 | 87 | 8.18 | 0.44 | 0 | 0.18 | 3.4 |
| 50 | 15.05 | 19.63 | 26.33 | 4.74 | 86 | 8.16 | 0.47 | 0 | 0.18 | 4.0 |

DATE: 18.xi.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 20.55 | 19.74 | 25.14 | 5.06 | 102 | 8.28 | 0.19 | 0.02 | 0.05 | 0 |
| 10 | 20.20 | 19.74 | 25.24 | | | 8.25 | 0.19 | 0.07 | 0.08 | 0 |
| 20 | 19.95 | 19.72 | 25.29 | 4.99 | 100 | 8.25 | 0.20 | 0.06 | 0 | 0.4 |
| 30 | 19.15 | 19.71 | 25.47 | 5.24 | 103 | 8.25 | 0.18 | 0.12 | 0.06 | 0.4 |
| 40 | 17.70 | 19.66 | 25.76 | | | 8.24 | 0.32 | 0.13 | 0.02 | 0.4 |
| 50 | 15.95 | 19.62 | 26.13 | 4.32 | 80 | 8.20 | 0.56 | 0.04 | 0.06 | 5.0 |

DATE: 25.xi.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|------|
| 0 | 19.00 | 19.62 | 25.38 | 5.65 | 111 | 8.21 | 0.20 | 0.26 | 0.20 | 0.2 |
| 10 | 17.90 | 19.60 | 25.63 | 4.91 | 94 | 8.21 | 0.51 | 0.19 | 0.16 | 0.2 |
| 20 | 16.05 | 19.59 | 26.06 | 4.74 | 88 | 8.19 | 0.67 | 0 | 0.09 | 0.4 |
| 30 | 15.15 | 19.58 | 26.23 | 4.70 | 86 | 8.17 | 0.71 | 0 | 0.09 | 1.6 |
| 40 | 14.50 | 19.57 | 26.36 | 4.19 | 75 | 8.15 | 0.83 | 0.01 | 0.14 | 2.4 |
| 50 | 14.35 | 19.56 | 26.38 | 4.10 | 73 | 8.13 | 1.00 | 0.24 | 1.08 | 10.0 |

LATITUDE: 34°05'S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 10.xi.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.52 | 0.05 | 0.87 | 0.11 | 0.21 | 0 | 6.612 | 3.122 |
| 10 | 0.39 | 0.06 | 0.78 | 0.07 | 0.17 | 20 | 6.724 | 2.238 |
| 20 | 1.35 | 0.21 | 1.44 | 0.22 | 0.37 | 50 | 5.477 | 1.447 |
| 30 | 0.34 | 0.04 | 0.46 | 0.10 | 0.06 | | | |
| 40 | 0.16 | 0.05 | 0.58 | 0.10 | | | | |
| 50 | 0.25 | 0.10 | 1.51 | 0.43 | 0.01 | | | |

DATE: 18.xi.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.30 | 0.13 | 0.17 | 0.14 | 0.11 | 0 | 6.114 | 2.530 |
| 10 | 0.32 | 0.11 | 0.21 | 0.07 | 0.16 | 20 | 6.462 | 3.133 |
| 20 | 0.35 | 0.12 | | 0.11 | 0.02 | 50 | 6.505 | 3.444 |
| 30 | 0.78 | 0.08 | 0.01 | 0.11 | 0.04 | | | |
| 40 | 0.71 | 0.10 | 0.07 | 0.12 | 0.02 | | | |
| 50 | 1.10 | 0.08 | 0.37 | 0.25 | 0.14 | | | |

DATE: 25.xi.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 1.65 | 0.22 | 0.40 | 0.11 | 0.75 | 0 | 6.531 | 3.531 |
| 0 | 1.52 | 0.26 | 0.51 | 0.11 | 0.68 | 20 | 6.681 | 3.799 |
| 0 | 1.54 | 0.14 | 1.26 | 0.09 | 0.71 | 50 | 6.462 | 3.415 |
| 0 | 1.77 | 0.27 | 1.33 | 0.20 | 0.81 | | | |
| 0 | 1.88 | 0.23 | 1.26 | 0.16 | 0.80 | | | |
| 0 | 2.03 | 0.17 | 1.24 | 0.18 | 0.88 | | | |
| 10 | 1.88 | 0.22 | 1.52 | 0.25 | 0.79 | | | |
| 20 | 1.70 | 0.21 | 1.40 | 0.19 | 0.71 | | | |
| 30 | 1.46 | 0.16 | 0.99 | 0.18 | 0.44 | | | |
| 40 | 0.54 | 0.24 | 0.60 | 0.14 | 0.13 | | | |
| 50 | 0.24 | 0.14 | 0.56 | 0.12 | 0.03 | | | |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 8.xii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|------|
| 0 | 21.55 | 19.68 | 24.79 | 4.95 | 101 | 8.15 | 0.23 | 0.02 | 0.17 | 0.2 |
| 10 | 21.00 | 19.66 | 24.91 | 5.01 | 102 | 8.18 | 0.26 | 0.04 | 0.20 | 0.2 |
| 20 | 20.50 | 19.66 | 25.04 | 4.99 | 100 | 8.19 | 0.29 | 0.06 | 0.26 | 0.4 |
| 30 | 19.25 | 19.61 | 25.31 | 4.95 | 98 | 8.20 | 0.42 | 0.02 | 0.29 | 1.6 |
| 40 | 18.50 | 19.59 | 25.46 | 4.49 | 87 | 8.18 | 0.52 | 0.08 | 0.07 | 2.4 |
| 50 | 15.00 | 19.52 | 26.17 | 4.14 | 75 | 8.18 | 0.87 | 0 | 0.16 | 10.0 |

DATE: 17.xii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 22.15 | 19.75 | 24.71 | 4.60 | 95 | 8.26 | 0.31 | 0.25 | 0.02 | 0 |
| 10 | 21.30 | 19.73 | 24.96 | 4.71 | 96 | 8.25 | 0.31 | 0.31 | 0.02 | 0 |
| 20 | 19.90 | 19.66 | 25.20 | 4.71 | 94 | 8.26 | 0.33 | 0.27 | 0.02 | 0 |
| 30 | 18.70 | 19.62 | 25.45 | 4.65 | 91 | 8.24 | 0.46 | 0.18 | 0.02 | 0.4 |
| 40 | 16.70 | 19.57 | 25.88 | 4.14 | 78 | 8.21 | 0.71 | 0.14 | 0.12 | 1.0 |
| 50 | 16.20 | 19.55 | 25.96 | 4.07 | 76 | 8.18 | 0.76 | 0.09 | 0 | 1.0 |

DATE: 22.xii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 20.70 | 19.64 | 24.96 | 5.25 | 106 | 8.28 | 0.15 | 0.22 | 0.04 | 0 |
| 10 | 20.60 | 19.65 | 25.00 | 5.25 | 106 | 8.28 | 0.16 | 0.21 | 0.10 | 0 |
| 20 | 20.30 | 19.64 | 25.06 | 5.25 | 105 | 8.26 | 0.20 | 0.21 | 0.02 | 0 |
| 30 | 17.80 | 19.61 | 25.66 | 4.52 | 87 | 8.26 | 0.45 | 0.27 | 0.04 | 0.6 |
| 40 | 17.00 | 19.59 | 25.84 | 4.30 | 81 | 8.21 | 0.63 | 0.15 | 0.05 | 1.0 |
| 50 | 16.75 | 19.57 | 25.86 | 4.14 | 78 | 8.19 | 0.64 | 0.10 | 0.06 | 1.2 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 17.xii.58

| | | | | | | | | |
|----|------|------|------|------|------|----|-------|-------|
| 0 | 0.17 | 0.04 | 0.33 | 0.05 | 0.05 | 0 | 5.699 | 3.643 |
| 10 | 0.60 | 0.16 | 0.91 | 0.14 | 0.28 | 20 | 6.176 | 4.114 |
| 20 | 0.56 | 0.16 | 0.76 | 0.07 | 0.28 | 50 | | |
| 30 | 0.48 | 0.09 | 0.82 | 0.09 | 0.18 | | | |
| 40 | 0.37 | 0.08 | 0.72 | 0.10 | 0.16 | | | |
| 50 | 0.31 | 0.09 | 0.37 | 0.10 | 0.06 | | | |

DATE: 22.xii.58

| | | | | | |
|----|------|------|------|------|------|
| 0 | 0.48 | 0.02 | 0.47 | 0.08 | 0.14 |
| 0 | 0.45 | 0.01 | 0.54 | 0.07 | 0.11 |
| 0 | 0.52 | 0.03 | 0.54 | 0.08 | 0.13 |
| 10 | 0.61 | 0.08 | 0.92 | 0.12 | 0.13 |
| 20 | 1.09 | 0.15 | 1.34 | 0.24 | 0.20 |
| 30 | 3.91 | 0.25 | 3.16 | 0.29 | 0.89 |
| 40 | 2.28 | 0.14 | 2.54 | 0.20 | 0.60 |
| 50 | 1.87 | 0.12 | 2.02 | 0.20 | 0.45 |

STATION: Port Hacking 50 m

HYDROLOGY

| Depth | Temp. | Cl ^o /∞ | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|--------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|--------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 30.xii.58

| | | | | | | | | | | |
|----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 20.50 | 19.67 | 25.05 | 5.12 | 103 | 8.30 | 0.20 | 0.08 | 0.13 | 0 |
| 10 | 20.60 | 19.67 | 25.04 | 5.12 | 103 | 8.29 | 0.20 | 0.19 | 0.02 | 0 |
| 20 | 20.35 | 19.68 | 25.12 | 5.12 | 103 | 8.24 | 0.20 | 0.10 | 0.11 | 0 |
| 30 | 19.70 | 19.66 | 25.26 | 4.85 | 96 | 8.25 | 0.30 | 0.11 | 0.04 | 0.2 |
| 40 | 18.90 | 19.62 | 25.40 | 4.29 | 84 | 8.21 | 0.50 | 0.09 | 0.06 | 0.6 |
| 50 | 17.10 | 19.60 | 25.84 | 4.04 | 77 | 8.16 | 0.62 | 0.19 | 0.02 | 1.2 |

LATITUDE: 34°05' S.

LONGITUDE: 151°13' E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 30.xii.58

| | | | | | |
|----|------|------|------|------|------|
| 0 | 0.78 | 0.04 | 0.62 | 0.11 | 0.25 |
| 0 | 0.75 | 0.06 | 0.57 | 0.13 | 0.26 |
| 0 | 0.84 | 0.09 | 0.93 | 0.15 | 0.23 |
| 0 | 1.14 | 0.13 | 0.96 | 0.13 | 0.29 |
| 0 | 1.10 | 0.15 | 0.96 | 0.11 | 0.29 |
| 0 | 1.05 | 0.14 | 0.92 | 0.14 | 0.24 |
| 10 | 1.23 | 0.12 | 0.73 | 0.16 | 0.34 |
| 20 | 0.84 | 0.14 | 1.15 | 0.21 | 0.14 |
| 30 | 1.03 | 0.09 | 0.95 | 0.21 | 0.15 |
| 40 | 0.98 | 0.20 | 1.08 | 0.18 | 0.12 |
| 50 | 0.81 | 0.19 | 0.88 | 0.12 | 0.20 |

STATION: Port Hacking 100m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 7.1.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 20.00 | 19.69 | 25.22 | 5.27 | 99 | 8.26 | 0.19 | 0.13 | 0.09 | 0 |
| 10 | 20.00 | 19.68 | 25.20 | 5.34 | 100 | 8.26 | 0.19 | 0.16 | 0.06 | 0 |
| 20 | 20.00 | 19.68 | 25.20 | 5.31 | 99 | 8.25 | 0.19 | 0.19 | 0.06 | 0 |
| 30 | 19.90 | 19.68 | 25.22 | 5.34 | 100 | 8.25 | 0.19 | 0.19 | 0 | 0 |
| 40 | 18.90 | 19.65 | 25.45 | 5.31 | 98 | 8.26 | 0.19 | 0.23 | 0.06 | 0 |
| 50 | 18.70 | 19.65 | 25.50 | 5.20 | 95 | 8.26 | 0.23 | 0.09 | 0.13 | 1.0 |
| 75 | 17.10 | 19.68 | 25.93 | 5.44 | 97 | 8.28 | 0.19 | 0 | 0.23 | 0 |
| 100 | 16.10 | 19.65 | 26.13 | 5.11 | 89 | 8.28 | 0.26 | 0.13 | 0 | 0.3 |

DATE: 16.1.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 20.50 | 19.69 | 25.08 | 5.08 | 96 | 8.30 | 0.19 | 0.16 | 0.09 | 0 |
| 10 | 20.50 | 19.68 | 25.06 | 5.22 | 98 | 8.30 | 0.16 | 0.26 | 0.03 | 0 |
| 20 | 20.50 | 19.69 | 25.08 | 4.57 | 86 | 8.29 | 0.19 | 0.19 | 0.09 | 0 |
| 30 | 19.90 | 19.68 | 25.22 | 4.98 | 93 | 8.29 | 0.19 | 0.13 | 0.09 | 0.3 |
| 40 | 19.20 | 19.66 | 25.38 | 5.30 | 98 | 8.30 | 0.19 | 0.23 | 0.03 | 5.3 |
| 50 | 18.20 | 19.65 | 25.62 | 4.66 | 85 | 8.29 | 0.32 | 0.23 | 0 | 2.1 |
| 75 | 16.05 | 19.62 | 26.09 | 4.51 | 79 | 8.27 | 0.48 | 0.39 | 0 | 4.2 |
| 100 | 15.40 | 19.61 | 26.23 | 4.48 | 76 | 8.25 | 0.68 | 0.26 | 0.26 | 5.7 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 7.1.58

0 5.40 3.08

DATE: 16.1.58

0 8.699 5.00

STATION: Port Hacking 100m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 21.1.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 20.00 | 19.65 | 25.16 | 4.13 | 77 | 8.35 | 0.19 | 0.23 | 0.03 | 0 |
| 10 | 20.10 | 19.66 | 25.15 | 5.03 | 94 | 8.27 | 0.26 | 0.29 | 0 | 0 |
| 20 | 20.00 | 19.65 | 25.16 | 4.67 | 87 | 8.26 | 0.23 | 0.19 | 0.13 | 0 |
| 30 | 19.10 | 19.64 | 25.38 | 4.72 | 87 | 8.27 | 0.29 | 0.09 | 0.13 | 0 |
| 40 | 17.90 | 19.63 | 25.67 | 5.06 | 92 | 8.25 | 0.29 | 0.09 | 0.19 | 0 |
| 50 | 16.80 | 19.61 | 25.90 | 4.81 | 85 | 8.23 | 0.29 | 0.32 | 0.03 | 1.4 |
| 75 | 16.10 | 19.60 | 26.06 | 4.54 | 80 | 8.22 | 0.52 | 0.16 | 0.03 | 2.5 |
| 100 | 15.80 | 19.60 | 26.13 | 4.72 | 82 | 8.22 | 0.58 | 0.13 | 0.03 | 2.8 |

DATE: 28.1.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 21.80 | 19.65 | 24.67 | 5.30 | 102 | 8.20 | 0.16 | 0.19 | 0.09 | 0 |
| 10 | 21.80 | 19.65 | 24.67 | 5.40 | 104 | 8.21 | 0.16 | 0.29 | 0.19 | 0 |
| 20 | 21.50 | 19.66 | 24.77 | 5.62 | 108 | 8.21 | 0.19 | 0.16 | 0.64 | 0 |
| 30 | 19.40 | 19.63 | 25.29 | 4.70 | 87 | 8.20 | 0.32 | 0.19 | 0.03 | 0.3 |
| 40 | 17.60 | 19.61 | 25.71 | 4.06 | 73 | 8.15 | 0.48 | 0.13 | 0 | 4.2 |
| 50 | 16.80 | 19.60 | 25.89 | 3.87 | 69 | 8.13 | 0.61 | 0.16 | 0 | 6.7 |
| 75 | 15.20 | 19.60 | 26.26 | 4.64 | 80 | 8.15 | 0.61 | 0 | 0.13 | 5.0 |
| 100 | 14.60 | 19.57 | 26.35 | 4.61 | 79 | 8.16 | 0.61 | 0.06 | 0.06 | 6.4 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 21.1.58

0 6.36 3.96

DATE: 28.1.58

0 0 3.63

STATION: Port Hacking 100m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 4.11.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 22.10 | 19.62 | 24.54 | 5.08 | 98 | 8.20 | 0.19 | 0.35 | 0 | 0.3 |
| 10 | 22.10 | 19.62 | 24.54 | 5.10 | 99 | 8.20 | 0.23 | 0.23 | 0.13 | 0.3 |
| 20 | 22.50 | 19.62 | 24.54 | 5.08 | 99 | 8.20 | 0.32 | 0.13 | 0.06 | 0.7 |
| 30 | 21.30 | 19.63 | 24.78 | 5.17 | 99 | 8.21 | 0.29 | 0.16 | 0.16 | 0 |
| 40 | 19.60 | 19.65 | 25.27 | 4.94 | 92 | 8.20 | 0.32 | 0.29 | 0.29 | 0 |
| 50 | 18.10 | 19.64 | 25.63 | 4.80 | 87 | 8.21 | 0.39 | 0.29 | 0 | 0.7 |
| 75 | 16.05 | 19.61 | 26.08 | 4.65 | 81 | 8.18 | 0.55 | 0.19 | 0.06 | 3.2 |
| 100 | 15.00 | 19.58 | 26.28 | 4.53 | 78 | 8.16 | 0.68 | 0.09 | 0.03 | 6.0 |

DATE: 11.11.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 25.50 | 19.54 | 23.44 | 4.83 | 99 | 8.20 | 0.16 | 0.26 | 0 | 0 |
| 10 | 23.70 | 19.56 | 24.01 | 5.04 | 100 | 8.19 | 0.16 | 0.32 | 0.13 | 0 |
| 20 | 22.20 | 19.55 | 24.42 | 5.10 | 99 | 8.20 | 0.19 | 0.23 | 0.09 | 0 |
| 30 | 20.70 | 19.56 | 24.85 | 4.88 | 92 | 8.17 | 0.29 | 0.32 | 0.13 | 0.3 |
| 40 | 19.80 | 19.59 | 25.13 | 4.85 | 90 | 8.16 | 0.29 | 0.23 | 0.19 | 0.3 |
| 50 | 17.90 | 19.60 | 25.63 | 4.26 | 77 | 8.11 | 0.48 | 0.09 | 0.23 | 2.1 |
| 75 | 16.20 | 19.54 | 25.95 | 3.91 | 69 | 8.08 | 0.81 | 0.13 | 0.39 | 3.2 |
| 100 | 14.80 | 19.57 | 26.31 | 4.37 | 75 | 8.07 | 0.71 | 0.29 | 0.87 | 5.7 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|-------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 4.11.58

0 0.25 0.08 0.60 0.19 0.10

DATE: 11.11.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.28 | 0.05 | 0.56 | 0.13 | 0.08 | 0 | 6.00 | 3.94 |
| 10 | 0.19 | 0.02 | 0.36 | 0.09 | 0.08 | 25 | 6.43 | 4.38 |
| 20 | 0.19 | 0.02 | 0.34 | 0.10 | 0.17 | 50 | 0 | 3.49 |
| 30 | 0.38 | 0.06 | 0.61 | 0.20 | 0.11 | | | |
| 40 | 0.41 | 0.07 | 0.68 | 0.20 | 0.04 | | | |
| 50 | 0.22 | 0.07 | 0.42 | 0.16 | | | | |
| 75 | 0.11 | 0.08 | 0.50 | 0.14 | | | | |
| 100 | 0.18 | 0.13 | 1.28 | 0.33 | 0 | | | |

STATION: Port Hacking 100m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 20.11.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 24.25 | 19.24 | 23.40 | 4.86 | 97 | 8.24 | 0.16 | 0.16 | 0.06 | 0 |
| 10 | 23.50 | 19.39 | 23.83 | 4.86 | 96 | 8.23 | 0.19 | 0.19 | 0 | 0 |
| 20 | 22.20 | 19.49 | 24.34 | 4.74 | 92 | 8.21 | 0.29 | 0.06 | 0.06 | 0.7 |
| 30 | 20.00 | 19.56 | 25.04 | 4.30 | 80 | 8.21 | 0.42 | 0.23 | 0 | 2.5 |
| 40 | 17.70 | 19.43 | 25.44 | 4.62 | 83 | 8.24 | 0.32 | 0.13 | 0.06 | 1.0 |
| 50 | 16.10 | 19.54 | 25.97 | 3.76 | 66 | 8.20 | 0.65 | 0 | 0 | 6.7 |
| 75 | 14.70 | 19.52 | 26.26 | 3.86 | 66 | 8.16 | 0.74 | 0 | 0.23 | 7.8 |
| 100 | 14.20 | 19.48 | 26.31 | 3.86 | 65 | 8.13 | 0.74 | 0 | 0.06 | 9.2 |

DATE: 24.11.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 24.70 | 19.58 | 23.74 | 4.81 | 97 | 8.25 | 0.16 | 0.29 | 0.06 | 0 |
| 10 | 24.35 | 19.58 | 23.84 | 4.89 | 98 | 8.24 | 0.19 | 0.42 | 0.03 | 0 |
| 20 | 22.10 | 19.63 | 24.56 | 4.87 | 94 | 8.25 | 0.39 | 0.26 | 0 | 1.0 |
| 30 | 21.25 | 19.61 | 24.76 | 4.97 | 95 | 8.23 | 0.32 | 0.26 | 0.06 | 1.4 |
| 40 | 20.10 | 19.57 | 25.02 | 4.45 | 83 | 8.21 | 0.13 | 0.42 | 0.06 | 0 |
| 50 | 18.85 | 19.55 | 25.32 | 4.43 | 81 | 8.20 | 0.13 | 0.42 | 0.09 | 0 |
| 75 | 17.20 | 19.58 | 25.78 | 4.30 | 77 | 8.18 | 0.55 | 0.29 | 0.03 | 6.0 |
| 100 | 15.90 | 19.53 | 26.00 | 4.51 | 79 | 8.17 | 0.58 | 0.32 | 0.09 | 6.7 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 20.11.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.64 | 0.06 | 0.62 | 0.13 | 0.21 | 0 | 6.25 | 3.17 |
| 10 | 0.63 | 0.05 | 0.74 | 0.10 | 0.19 | 25 | 0 | 0.32 |
| 20 | 0.53 | 0.06 | 0.71 | 0.09 | 0.16 | 50 | 0 | 0.50 |
| 30 | 0.25 | 0.10 | 0.39 | 0.10 | 0.06 | | | |
| 40 | 0.18 | 0.10 | 0.32 | 0.12 | 0.02 | | | |
| 50 | 0.11 | 0.09 | 0.33 | 0.11 | | | | |
| 75 | 0.17 | 0.03 | 0.76 | 0.15 | | | | |
| 100 | 0.10 | 0.03 | 0.34 | 0.17 | 0.02 | | | |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 1.iv.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 23.85 | 19.66 | 24.09 | 4.92 | 98 | 8.27 | 0.19 | 0 | 0.90 | 0 |
| 10 | 23.50 | 19.66 | 24.20 | 4.89 | 97 | 8.26 | 0.26 | 0.03 | 0.06 | 0 |
| 20 | 23.60 | 19.66 | 24.17 | 4.87 | 97 | 8.25 | 0.29 | 0 | 0.23 | 0 |
| 30 | 23.65 | 19.64 | 24.12 | 4.83 | 96 | 8.25 | 0.26 | 0.06 | 0.42 | 0.3 |
| 40 | 21.90 | 19.64 | 24.62 | 4.89 | 94 | 8.26 | 0.26 | 0.09 | 0.03 | 0 |
| 50 | 21.65 | 19.67 | 24.74 | 4.75 | 91 | 8.24 | 0.42 | 0.13 | 0 | 0.7 |
| 75 | 20.70 | 19.68 | 25.01 | 4.41 | 84 | 8.20 | 0.45 | 0 | 0.13 | 1.7 |
| 100 | 18.38 | 19.63 | 25.55 | 4.30 | 78 | 8.21 | 0.55 | 0 | 0.58 | 6.0 |

DATE: 9.iv.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 23.30 | 19.69 | 24.30 | 4.79 | 95 | 8.23 | 0.26 | 0 | 0 | 0 |
| 10 | 23.30 | 19.68 | 24.28 | 4.86 | 97 | 8.26 | 0.13 | 0.06 | 0 | 0 |
| 20 | 23.20 | 19.67 | 24.30 | 4.98 | 98 | 8.25 | 0.13 | 0.06 | 0.03 | 0 |
| 30 | 23.15 | 19.64 | 24.27 | 4.84 | 95 | 8.26 | 0.19 | 0 | 0 | 0 |
| 40 | 22.90 | 19.64 | 24.34 | 4.84 | 95 | 8.27 | 0.19 | 0 | 0 | 0 |
| 50 | 22.80 | 19.66 | 24.40 | 5.08 | 100 | 8.27 | 0.13 | 0 | 0.13 | 0 |
| 75 | 18.80 | 19.66 | 25.48 | 4.52 | 83 | 8.26 | 0.32 | 0 | 0.09 | 0.7 |
| 100 | 17.50 | 19.61 | 25.74 | 4.17 | 75 | 8.22 | 0.48 | 0.03 | 0.13 | 5.3 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 9.1v.58

| | | | | | |
|-----|------|------|------|------|------|
| 0 | 1.08 | 0.16 | 1.07 | 0.20 | 0.18 |
| 0 | 0.26 | | 0.40 | 0.08 | 0.10 |
| 10 | 0.24 | | 0.43 | 0.06 | 0.11 |
| 20 | 0.24 | | 0.40 | 0.05 | 0.03 |
| 30 | 0.20 | | 0.33 | 0.03 | 0.09 |
| 40 | 0.29 | 0.01 | 0.54 | 0.07 | 0.05 |
| 50 | 0.33 | 0 | 0.49 | 0.09 | 0.07 |
| 75 | 0.13 | 0.06 | 0.40 | 0.07 | 0 |
| 100 | 0.08 | 0.08 | 0.35 | 0.08 | |

STATION: Port Hacking 100m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 14.iv.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 22.60 | 19.67 | 24.47 | 4.77 | 93 | 8.20 | 0.16 | 0.06 | 0 | 0 |
| 10 | 22.50 | 19.65 | 24.48 | 4.74 | 93 | 8.22 | 0.19 | 0.03 | 0.03 | 0 |
| 20 | 21.70 | 19.68 | 24.74 | 5.04 | 97 | 8.22 | 0.19 | 0 | 0.06 | 0 |
| 30 | 20.80 | 19.70 | 25.01 | 5.25 | 100 | 8.23 | 0.19 | 0.03 | 0.09 | 0 |
| 40 | 19.80 | 19.70 | 25.28 | 5.19 | 97 | 8.25 | 0.19 | 0.03 | 0.03 | 0 |
| 50 | 19.80 | 19.69 | 25.27 | 5.02 | 94 | 8.24 | 0.23 | 0 | 0.13 | 0 |
| 75 | 18.60 | 19.64 | 25.50 | 4.95 | 91 | 8.23 | 0.26 | 0.13 | 0.03 | 0 |
| 100 | 17.20 | 19.62 | 25.82 | 4.60 | 82 | 8.22 | 0.48 | 0 | 0 | 1.7 |

DATE: 23.iv.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 21.60 | 19.68 | 24.76 | 4.46 | 86 | 8.24 | 0.19 | 0.09 | 0.09 | 0.3 |
| 10 | 21.45 | 19.68 | 24.80 | 5.07 | 97 | 8.24 | 0.19 | 0.19 | 0.32 | 0 |
| 20 | 21.10 | 19.67 | 24.89 | 5.04 | 96 | 8.24 | 0.23 | 0.16 | 0.03 | 0.3 |
| 30 | 20.95 | 19.67 | 24.93 | 5.04 | 96 | 8.20 | 0.23 | 0.16 | 0 | 0 |
| 40 | 20.80 | 19.66 | 24.96 | 4.83 | 91 | 8.21 | 0.32 | 0.09 | 0.13 | 0 |
| 50 | 19.60 | 19.68 | 25.30 | 4.99 | 93 | 8.21 | 0.32 | 0.09 | 0.03 | 0 |
| 75 | 19.30 | 19.67 | 25.37 | 4.89 | 91 | 8.21 | 0.32 | 0.03 | 0.06 | 1.0 |
| 100 | 18.80 | 19.67 | 25.50 | 4.77 | 106 | 8.17 | 0.42 | 0 | 0 | 2.5 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 14.iv.58

| | | | | | |
|---|------|------|------|------|------|
| 0 | 2.84 | 0 | 2.95 | 0.23 | 0.83 |
| 0 | 2.95 | 0.04 | 2.66 | 0.24 | 0.81 |
| 0 | 2.85 | 0.04 | 2.99 | 0.24 | 0.83 |

STATION: Port Hacking 100 m

CO₂ UPTAKE

| INCUBATION | | Depth | ACTIVITY | | | PRODUCTION | |
|------------|--------|-------|----------|------|-----|--------------------|-----------------------|
| Method | Period | | Light | Dark | Net | mgC/m ³ | gC/day/m ² |

DATE: 17.iv.58

TIME: 0600

| | | | | | | | |
|----------------|-------|----|-----|-----|-----|------|-----|
| <u>In situ</u> | 1 day | 0 | 369 | 79 | 290 | 1.13 | .05 |
| | | 10 | 303 | 60 | 243 | 0.94 | |
| | | 20 | 403 | 121 | 282 | 1.10 | |
| | | 50 | 244 | 68 | 176 | 0.68 | |

DATE: 17.iv.58

TIME: 0600

| | | | | | | | |
|----------------|-------|----|-----|-----|-----|------|-----|
| <u>In situ</u> | 1 day | 0 | 649 | 57 | 592 | 2.30 | .06 |
| | | 10 | 488 | 101 | 387 | 1.50 | |
| | | 20 | 364 | 90 | 274 | 1.06 | |
| | | 50 | 237 | 97 | 140 | 0.54 | |

STATION: Port Hacking 100m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 2.v.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 21.02 | 19.65 | 24.89 | 5.09 | 97 | 8.25 | 0.23 | 0.02 | 0.15 | 0 |
| 10 | 21.02 | 19.65 | 24.89 | 5.02 | 95 | 8.25 | 0.23 | 0.19 | 0 | 0 |
| 20 | 21.03 | 19.66 | 24.89 | 5.07 | 97 | 8.24 | 0.23 | 0.32 | 0.12 | 0 |
| 30 | 21.03 | 19.68 | 24.92 | 5.07 | 97 | 8.25 | 0.23 | 0.15 | 0 | 0 |
| 40 | 20.50 | 19.66 | 25.04 | 4.87 | 92 | 8.24 | 0.42 | 0 | 0.04 | 0.3 |
| 50 | 19.95 | 19.66 | 25.18 | 4.66 | 87 | 8.23 | 0.36 | 0.10 | 0 | 1.7 |
| 75 | 18.55 | 19.66 | 25.55 | 4.63 | 85 | 8.23 | 0.36 | 0.02 | 0.08 | 2.1 |
| 100 | 16.70 | 19.61 | 25.93 | 4.38 | 78 | 8.19 | 0.52 | 0.09 | 0 | 5.3 |

DATE: 6.v.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 20.20 | 19.67 | 25.13 | 5.04 | 95 | 8.27 | 0.23 | 0.15 | 0.06 | 0.3 |
| 10 | 20.20 | 19.68 | 25.14 | 4.99 | 94 | 8.30 | 0.23 | 0.17 | 0 | 0.7 |
| 20 | 20.20 | 19.68 | 25.14 | 5.02 | 94 | 8.25 | 0.23 | 0.25 | 0.13 | 0.7 |
| 30 | 20.20 | 19.68 | 25.14 | 5.02 | 94 | 8.23 | 0.39 | 0 | 0.06 | 0.3 |
| 40 | 20.00 | 19.68 | 25.20 | 4.96 | 93 | 8.19 | 0.32 | 0.06 | 0.04 | 0.3 |
| 50 | 19.85 | 19.67 | 25.23 | 4.90 | 92 | 8.20 | 0.48 | | | 0.7 |
| 75 | 19.60 | 19.66 | 25.28 | 4.69 | 87 | 8.20 | 0.36 | 0.03 | 0.09 | 0 |
| 100 | 18.60 | 19.64 | 25.50 | 4.47 | 82 | 8.20 | 0.48 | 0.09 | 0.03 | 3.5 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 2.v.58

| | | | | | |
|-----|------|------|------|------|------|
| 0 | 0.10 | 0.07 | 0.61 | 0.20 | |
| 100 | 0.04 | 0.21 | 0.71 | 0.13 | 0.25 |
| 100 | 1.00 | 0.33 | 1.47 | 0.23 | 0.21 |

DATE: 6.v.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.78 | 0.03 | 0.53 | 0.06 | 0.25 | 0 | 5.45 | 3.25 |
| 0 | 0.75 | 0.10 | 0.89 | 0.11 | 0.02 | 25 | 5.74 | 3.37 |
| 0 | 0.67 | 0.06 | 0.62 | 0.07 | 0.18 | 50 | 0 | 2.61 |
| 10 | 0.72 | 0.12 | 0.64 | 0.15 | 0.18 | | | |
| 20 | 0.70 | 0.11 | 0.62 | 0.14 | 0.16 | | | |
| 30 | 0.60 | 0.10 | 0.73 | 0.14 | 0.09 | | | |
| 40 | 0.78 | 0.11 | 0.76 | 0.15 | 0.14 | | | |
| 50 | 0.68 | 0.08 | 0.76 | 0.13 | 0.13 | | | |
| 75 | 0.73 | 0.07 | 0.64 | 0.12 | 0.20 | | | |
| 100 | 0.35 | 0.15 | 1.05 | 0.20 | 0.02 | | | |

STATION: Port Hacking 100m

CO₂ UPTAKE

| INCUBATION | | Depth | ACTIVITY | | | PRODUCTION | |
|------------|--------|-------|----------|------|-----|--------------------|-----------------------|
| Method | Period | | Light | Dark | Net | mgC/m ³ | gC/day/m ² |

DATE: 7.v.58 TIME: 0600

| | | | | | | | |
|----------------|-------|----|------|-----|------|------|--|
| <u>In situ</u> | 1 day | 0 | | | | | |
| | | 10 | 905 | 62 | 843 | 3.38 | |
| | | 20 | 1942 | 90 | 1852 | 7.43 | |
| | | 50 | 711 | 270 | 441 | 1.77 | |

DATE: 7.v.58 TIME: 0600

| | | | | | | | |
|------|-------|----|------|-----|------|------|------|
| Bath | 4 hrs | 0 | 1073 | 114 | 959 | 0.96 | 0.40 |
| | | 10 | 1210 | 195 | 1015 | 1.02 | |
| | | 20 | 404 | 46 | 358 | 0.36 | |
| | | 50 | 1337 | 178 | 1159 | 1.16 | |

DATE: 7.v.58 TIME: 1140

| | | | | | | | |
|------|-------|----|------|----|------|------|------|
| Bath | 4 hrs | 0 | 1797 | 75 | 1722 | 1.73 | 0.93 |
| | | 10 | 2308 | 46 | 2262 | 2.27 | |
| | | 20 | 2363 | 44 | 2319 | 2.33 | |
| | | 50 | 1033 | 31 | 1002 | 1.00 | |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

LIGHT PENETRATION

| Depth | Chlorophyll | | | Astacin | Non Astacin | Time | Depth | Percentage Surface Light |
|-------|-------------|---|---|---------|-------------|------|-------|--------------------------|
| | a | b | c | | | | | |

DATE: 7.v.58

DEPTH 1% S.L.: 86 m
SOLAR ALT.: 36°

TIME: 0620

1030

| | | | | | |
|----|------|------|------|------|------|
| 0 | 0.36 | 0.01 | 0.46 | 0.03 | 0.19 |
| 10 | 0.39 | 0.05 | 0.57 | 0.10 | 0.14 |
| 20 | 0.34 | 0.05 | 0.18 | 0.04 | 0.18 |
| 50 | 0.42 | 0.04 | 0.36 | 0.05 | 0.15 |

| | |
|----|-----|
| 0 | 100 |
| 10 | 79 |
| 20 | 58 |
| 30 | 39 |
| 40 | 21 |
| 50 | 12 |
| 60 | 6.0 |
| 70 | 3.1 |

DATE: 7.v.58

DEPTH 1% S.L.: 87 m
SOLAR ALT.: 39°

TIME: 1145

1200

| | | | | | |
|----|------|------|------|------|------|
| 0 | 0.48 | 0.02 | 0.47 | 0.05 | 0.21 |
| 10 | 0.33 | 0.04 | 0.03 | 0.32 | 0.14 |
| 20 | 0.40 | | 1.79 | 0.01 | 0.02 |
| 50 | 0.21 | 0.49 | | 0.06 | 0.04 |

| | |
|----|-----|
| 0 | 100 |
| 10 | 89 |
| 20 | 55 |
| 30 | 35 |
| 40 | 18 |
| 50 | 10 |
| 60 | 5.0 |
| 70 | 2.8 |

DATE: 7.v.58

DEPTH 1% S.L.: 76 m
SOLAR ALT.: 30°

TIME: 1615

1410

| | | | | | |
|----|------|------|------|------|------|
| 0 | 0.44 | 0.01 | 0.37 | 0.03 | 0.25 |
| 10 | 0.51 | | 0.34 | 0.04 | 0.24 |
| 20 | 0.48 | 0.01 | 0.41 | 0.06 | 0.21 |
| 50 | 0.57 | 0.09 | 0.53 | 0.07 | 0.25 |

| | |
|----|-----|
| 0 | 100 |
| 10 | 76 |
| 20 | 48 |
| 30 | 32 |
| 40 | 14 |
| 50 | 7.0 |
| 60 | 3.4 |
| 70 | 1.6 |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 13.v.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 20.10 | 19.67 | 25.16 | 4.95 | 93 | 8.23 | 0.19 | 0.29 | 0.06 | 0.3 |
| 10 | 20.20 | 19.69 | 25.16 | 4.89 | 89 | 8.23 | 0.26 | 0.19 | 0.09 | 0.3 |
| 20 | 20.20 | 19.68 | 25.14 | 5.02 | 94 | 8.09 | 0.29 | 0.19 | 0.09 | 0.3 |
| 30 | 20.15 | 19.68 | 25.16 | 5.02 | 94 | 8.17 | 0.32 | 0.23 | 0 | 0.7 |
| 40 | 20.00 | 19.68 | 25.20 | 5.02 | 94 | 8.18 | 0.26 | 0.13 | 0.09 | 1.4 |
| 50 | 19.85 | 19.70 | 25.27 | 5.02 | 94 | 8.18 | 0.23 | 0.23 | 0 | 0.7 |
| 75 | 18.70 | 19.67 | 25.52 | 4.77 | 88 | 8.19 | 0.23 | 0.19 | 0 | 1.4 |
| 100 | 17.30 | 19.62 | 25.79 | 4.74 | 85 | 8.16 | 0.39 | 0.09 | 0.09 | 3.5 |

DATE: 20.v.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 19.70 | 19.72 | 25.34 | 5.30 | 99 | 8.27 | 0.19 | 0.16 | 0.06 | 0 |
| 10 | 19.60 | 19.72 | 25.36 | 5.16 | 96 | 8.27 | 0.23 | 0.19 | 0 | 0 |
| 20 | 19.60 | 19.72 | 25.36 | 5.24 | 98 | 8.26 | 0.23 | 0.09 | 0.06 | 0.3 |
| 30 | 19.60 | 19.72 | 25.36 | 5.18 | 96 | 8.26 | 0.23 | 0.13 | 0.06 | 0 |
| 40 | 19.40 | 19.71 | 25.40 | 5.21 | 97 | 8.25 | 0.23 | 0.16 | 0.03 | 0 |
| 50 | 19.30 | 19.71 | 25.43 | 5.16 | 96 | 8.24 | 0.23 | 0.06 | 0.13 | 0.3 |
| 75 | 18.95 | 19.68 | 25.47 | 5.07 | 94 | 8.24 | 0.26 | 0.06 | 0.09 | 0.3 |
| 100 | 18.05 | 19.66 | 25.67 | 5.02 | 91 | 8.23 | 0.32 | 0.06 | 0.03 | 1.0 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30.μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 13.v.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 1.14 | 0.11 | 0.81 | 0.09 | 0.35 | 0 | 5.00 | 3.06 |
| 0 | 1.05 | 0.09 | 0.87 | 0.18 | 0.25 | 25 | 5.65 | 3.08 |
| 0 | 0.80 | 0.07 | 0.69 | 0.09 | 0.25 | 50 | 0 | 2.46 |
| 10 | 1.03 | 0.11 | 0.77 | 0.29 | 0.06 | | | |
| 20 | 0.65 | 0.08 | 0.61 | 0.10 | 0.22 | | | |
| 30 | 0.40 | 0.09 | 0.47 | 0.12 | 0.08 | | | |
| 40 | 0.78 | 0.09 | 0.83 | 0.12 | 0.22 | | | |
| 50 | 0.25 | 0.05 | 0.31 | 0.08 | 0.06 | | | |
| 75 | 0.21 | 0.08 | 0.59 | 0.12 | 0 | | | |
| 100 | 0.17 | 0.05 | 0.41 | 0.10 | 0.01 | | | |

DATE: 20.v.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.73 | 0.07 | 0.40 | 0.07 | 0.29 | 0 | 6.23 | 3.66 |
| 0 | 0.79 | 0.10 | 0.51 | 0.04 | 0.31 | 25 | 5.67 | 3.90 |
| 0 | 0.71 | 0.08 | 0.51 | 0.04 | 0.27 | 50 | 0 | 2.78 |
| 10 | 0.67 | 0.08 | 0.35 | 0.08 | 0.26 | | | |
| 20 | 0.73 | 0.10 | 0.52 | 0.09 | 0.25 | | | |
| 30 | 0.71 | 0.07 | 0.42 | 0.07 | 0.30 | | | |
| 40 | 0.58 | 0.05 | 0.33 | 0.07 | 0.23 | | | |
| 50 | 0.49 | 0.07 | 0.62 | 0.09 | 0.15 | | | |
| 75 | 0.57 | 0.05 | 0.39 | 0.05 | 0.22 | | | |
| 100 | 0.06 | 0.02 | | 0.04 | 0.02 | | | |

STATION: Port Hacking 100 m

CO₂ UPTAKE

| INCUBATION | | Depth | ACTIVITY | | | PRODUCTION | |
|------------|--------|-------|----------|------|-----|--------------------|-----------------------|
| Method | Period | | Light | Dark | Net | mgC/m ³ | gC/day/m ² |

DATE: 21.v.58 TIME: 0600

| | | | | | | | |
|----------------|-------|----|------|----|------|------|------|
| <u>In situ</u> | 1 day | 0 | 1442 | 42 | 1400 | 5.73 | 0.22 |
| | | 10 | 2207 | 36 | 1871 | 7.44 | |
| | | 20 | 1363 | 24 | 1339 | 5.33 | |
| | | 50 | 213 | 46 | 167 | 0.66 | |

DATE: 21.v.58 TIME: 0600

| | | | | | | | |
|------|-------|----|------|----|------|------|------|
| Bath | 4 hrs | 0 | 1616 | 51 | 1565 | 2.21 | 0.72 |
| | | 10 | 904 | 42 | 862 | 1.22 | |
| | | 20 | 901 | 35 | 866 | 1.22 | |
| | | 50 | 1164 | 26 | 1138 | 1.61 | |

DATE: 21.v.58 TIME: 1145

| | | | | | | | |
|------|-------|----|------|----|------|------|------|
| Bath | 4 hrs | 0 | 2068 | 32 | 2036 | 2.88 | 1.99 |
| | | 10 | 3246 | 39 | 3207 | 4.53 | |
| | | 20 | 3441 | 38 | 3403 | 4.81 | |
| | | 50 | 2043 | 23 | 2020 | 2.87 | |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

LIGHT PENETRATION

| Depth | Chlorophyll | | | Astacin | Non Astacin | Time | Depth | Percentage Surface Light |
|-------|-------------|---|---|---------|-------------|------|-------|--------------------------|
| | a | b | c | | | | | |

DATE: 21.v.58

DEPTH 1% S.L.: 81 m
SOLAR ALT.: 24°

TIME: 0630

1000

| | | | | | |
|----|------|------|------|------|------|
| 0 | 0.46 | 0.06 | 0.51 | 0.04 | 0.18 |
| 10 | 0.33 | 0.04 | 0.44 | 0.04 | 0.14 |
| 20 | 0.39 | 0.01 | 0.52 | 0.07 | 0.17 |
| 50 | 0.18 | 0.04 | 0.60 | 0.06 | 0.06 |

| | |
|----|-----|
| 0 | 100 |
| 10 | 74 |
| 20 | 55 |
| 30 | 33 |
| 40 | 16 |
| 50 | 8.5 |
| 60 | 4.4 |
| 70 | 2.3 |
| 80 | 1.1 |

DATE: 21.v.58

DEPTH 1% S.L.: 84 m
SOLAR ALT.: 36°

TIME: 1200

1200

| | | | | | |
|----|------|------|------|------|------|
| 0 | 0.61 | 0.09 | 0.77 | 0.06 | 0.24 |
| 10 | 0.45 | 0.10 | 0.52 | 0.08 | 0.15 |
| 20 | 0.57 | 0.10 | 0.61 | 0.07 | 0.21 |
| 50 | 0.54 | 0.12 | 0.61 | 0.11 | 0.22 |

| | |
|----|-----|
| 0 | 100 |
| 10 | 84 |
| 20 | 58 |
| 30 | 34 |
| 40 | 18 |
| 50 | 8.9 |
| 60 | 4.7 |
| 70 | 2.5 |
| 80 | 1.2 |

DATE: 21.v.58

DEPTH 1% S.L.: 67 m
SOLAR ALT.: 28°

TIME: 1600

1400

| | | | | | |
|----|------|------|------|------|------|
| 0 | 0.79 | 0.10 | 0.70 | 0.06 | 0.30 |
| 10 | 0.77 | 0.26 | 0.35 | 0.10 | 0.22 |
| 20 | 0.61 | 0.21 | 0.23 | 0.10 | 0.15 |
| 50 | 0.47 | 0 | 0.76 | 0.08 | 0.06 |

| | |
|----|-----|
| 0 | 100 |
| 10 | 68 |
| 20 | 41 |
| 30 | 20 |
| 40 | 12 |
| 50 | 4.2 |
| 60 | 1.8 |
| 70 | 0.8 |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 27.v.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 18.75 | 19.71 | 25.57 | 4.92 | 90 | 8.24 | 0.26 | 0.10 | 0 | 0 |
| 10 | 18.75 | 19.71 | 25.57 | 5.18 | 95 | 8.24 | 0.29 | 0.14 | 0.10 | 0 |
| 20 | 18.75 | 19.71 | 25.57 | 5.21 | 96 | 8.23 | 0.26 | 0.17 | 0 | 0 |
| 30 | 18.75 | 19.71 | 25.57 | 5.21 | 96 | 8.22 | 0.29 | 0.14 | 0 | 0 |
| 40 | 18.75 | 19.71 | 25.57 | 5.21 | 96 | 8.21 | 0.32 | 0.11 | 0 | 0.3 |
| 50 | 18.65 | 19.71 | 25.59 | 5.13 | 94 | 8.22 | 0.32 | 0.06 | 0 | 0.3 |
| 75 | 18.70 | 19.70 | 25.56 | 5.18 | 95 | 8.22 | 0.32 | 0.06 | 0.05 | 0.3 |
| 100 | 18.65 | 19.70 | 25.57 | 5.16 | 95 | 8.22 | 0.32 | 0.06 | 0.09 | 0.3 |

DATE: 11.vi.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 19.30 | 19.72 | 25.44 | 5.23 | 97 | 8.31 | 0.16 | 0.12 | 0.08 | 0 |
| 10 | 19.20 | 19.72 | 25.46 | 5.23 | 95 | 8.29 | 0.16 | 0.14 | 0 | 0 |
| 20 | 18.85 | 19.72 | 25.55 | 5.23 | 96 | 8.25 | 0.19 | 0.09 | 0 | 0 |
| 30 | 18.40 | 19.72 | 25.67 | 5.18 | 95 | 8.23 | 0.19 | 0.17 | 0.04 | 0.3 |
| 40 | 18.25 | 19.72 | 25.71 | 5.20 | 95 | 8.23 | 0.19 | 0.19 | 0.02 | 0.3 |
| 50 | 18.15 | 19.72 | 25.73 | 5.20 | 95 | 8.23 | 0.23 | 0.07 | 0.04 | 0.3 |
| 75 | 18.25 | 19.72 | 25.71 | 5.23 | 95 | 8.23 | 0.23 | 0 | 0.15 | 0.3 |
| 100 | 18.05 | 19.72 | 25.76 | 5.23 | 95 | 8.23 | 0.23 | 0.13 | 0.02 | 0.3 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 27.v.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.84 | 0.15 | 0.96 | 0.11 | 0.28 | 0 | 6.37 | 3.57 |
| 0 | 0.85 | 0.13 | 0.82 | 0.10 | 0.28 | 25 | 6.59 | 3.92 |
| 0 | 0.64 | 0.06 | 0.42 | 0.07 | 0.22 | 50 | 5.78 | 2.34 |
| 10 | 0.57 | 0.07 | 0.63 | 0.06 | 0.23 | | | |
| 20 | 0.58 | 0.08 | 0.71 | 0.07 | 0.22 | | | |
| 30 | 0.50 | 0.04 | 0.46 | 0.06 | 0.22 | | | |
| 40 | 0.69 | 0.11 | 0.70 | 0.07 | 0.25 | | | |
| 50 | 0.64 | 0.09 | 0.60 | 0.08 | 0.26 | | | |
| 75 | 0.62 | 0.11 | 0.52 | 0.10 | 0.24 | | | |
| 100 | 0.57 | 0.15 | 0.65 | 0.18 | | | | |

DATE: 11.vi.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 1.18 | 0.23 | 0.42 | 0.06 | 0.51 | 0 | 6.92 | 3.29 |
| 0 | 1.26 | 0.26 | 0.55 | 0.06 | 0.52 | 25 | 6.87 | 3.57 |
| 0 | 1.26 | 0.26 | 0.59 | 0.03 | | 50 | 6.02 | 2.53 |
| 10 | 1.20 | 0.19 | 0.96 | 0.06 | 0.48 | | | |
| 20 | 0.75 | 0.22 | 1.26 | 0.10 | 0.25 | | | |
| 30 | 0.25 | 0.13 | 0.95 | 0.09 | 0.12 | | | |
| 40 | 0.39 | 0.09 | 0.61 | 0.10 | 0.08 | | | |
| 50 | 0.45 | 0.13 | 1.05 | 0.11 | 0.07 | | | |
| 75 | 0.60 | 0.13 | 1.16 | 0.12 | 0.13 | | | |
| 100 | 0.51 | 0.16 | 0.66 | 0.12 | 0.14 | | | |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 18.vi.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 18.60 | 19.73 | 25.63 | 5.30 | 97 | 8.28 | 0.32 | 0.11 | 0 | 0.2 |
| 10 | 18.70 | 19.72 | 25.59 | 5.26 | 96 | 8.26 | 0.32 | 0.24 | 0.02 | 0 |
| 20 | 18.70 | 19.72 | 25.59 | 5.23 | 96 | 8.24 | 0.32 | 0.09 | 0.02 | 0.2 |
| 30 | 17.90 | 19.71 | 25.78 | 5.19 | 94 | 8.22 | 0.32 | 0.11 | 0.02 | 0.2 |
| 40 | 17.60 | 19.72 | 25.87 | 5.23 | 94 | 8.22 | 0.32 | 0.08 | 0.03 | 0.2 |
| 50 | 17.60 | 19.72 | 25.87 | 5.26 | 95 | 8.22 | 0.32 | 0.11 | 0 | 0.2 |
| 75 | 17.50 | 19.71 | 25.88 | 5.26 | 95 | 8.21 | 0.32 | 0.09 | 0.02 | 0.2 |
| 100 | 17.15 | 19.69 | 25.94 | 5.10 | 91 | 8.21 | 0.42 | 0.03 | 0.03 | 1.2 |

DATE: 24.vi.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 18.25 | 19.71 | 25.70 | 5.23 | 95 | 8.28 | 0.29 | 0.11 | 0.03 | 0.6 |
| 10 | 18.20 | 19.71 | 25.71 | 5.20 | 95 | 8.29 | 0.32 | 0.11 | 0.04 | 0.6 |
| 20 | 18.15 | 19.71 | 25.72 | 5.30 | 97 | 8.25 | 0.32 | 0.06 | 0.07 | 1.0 |
| 30 | 18.15 | 19.70 | 25.70 | 5.23 | 95 | 8.23 | 0.35 | 0 | 0.18 | 0.8 |
| 40 | 18.10 | 19.70 | 25.71 | 5.23 | 95 | 8.22 | 0.32 | 0.06 | 0.09 | 1.4 |
| 50 | 18.05 | 19.70 | 25.73 | 5.10 | 93 | 8.21 | 0.32 | 0 | 0 | 0 |
| 75 | 16.20 | 19.62 | 26.05 | 5.07 | 89 | 8.20 | 0.55 | 0.05 | 0.06 | 4.0 |
| 100 | 15.90 | 19.62 | 26.12 | 4.75 | 83 | 8.16 | 0.55 | 0.09 | 0.04 | 3.2 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 18.vi.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.73 | 0.15 | 0.52 | 0.07 | 0.29 | 0 | 0 | 3.76 |
| 0 | 0.84 | 0.13 | 0.69 | 0.08 | 0.33 | 25 | 6.62 | 4.29 |
| 0 | 0.99 | 0.19 | 0.74 | 0.10 | 0.33 | 50 | 6.23 | 3.88 |
| 10 | 0.73 | 0.11 | 0.65 | 0.09 | 0.31 | | | |
| 20 | 0.67 | 0.08 | 0.76 | 0.08 | 0.26 | | | |
| 30 | 0.44 | 0.15 | 0.46 | 0.10 | 0.14 | | | |
| 40 | 0.48 | 0.08 | 0.64 | 0.08 | 0.19 | | | |
| 50 | 0.51 | 0.11 | 0.44 | 0.08 | 0.18 | | | |
| 75 | 0.48 | 0.11 | 0.44 | 0.08 | 0.16 | | | |
| 100 | 0.27 | 0.14 | 0.29 | 0.06 | 0.09 | | | |

DATE: 24.vi.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.73 | 0.13 | 0.44 | 0.05 | 0.38 | 0 | 6.50 | 2.30 |
| 0 | 0.66 | 0.14 | 0.56 | 0.04 | 0.35 | 25 | 6.64 | 2.60 |
| 0 | 0.72 | 0.16 | 0.73 | 0.06 | 0.34 | 50 | 6.56 | 0 |
| 10 | 0.73 | 0.11 | 0.65 | 0.05 | 0.34 | | | |
| 20 | 0.90 | 0.21 | 0.63 | 0.08 | 0.35 | | | |
| 30 | 0.86 | 0.14 | 0.75 | 0.08 | 0.33 | | | |
| 40 | 0.90 | 0.13 | 0.72 | 0.06 | 0.36 | | | |
| 50 | 0.49 | 0.10 | 0.56 | 0.09 | 0.16 | | | |
| 75 | 0.16 | 0.06 | 0.60 | 0.10 | | | | |
| 100 | 0.10 | 0.05 | 0.02 | 0.08 | | | | |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|----------------|-------|---------------------|------------|----------------|------------------|------|-------------|-----------|------------|--------------------|
| DATE: 3.vii.58 | | | | | | | | | | |
| 0 | 18.40 | 19.67 | 25.59 | 5.27 | 96 | 8.27 | 0.22 | 0.16 | 0 | 0.2 |
| 10 | 18.45 | 19.67 | 25.58 | 5.30 | 97 | 8.27 | 0.22 | 0.14 | 0.04 | 0.2 |
| 20 | 18.45 | 19.67 | 25.58 | 5.39 | 99 | 8.25 | 0.22 | 0.18 | 0.05 | 0.2 |
| 30 | 18.40 | 19.67 | 25.59 | 5.23 | 96 | 8.25 | 0.22 | 0.22 | 0 | 0.2 |
| 40 | 18.30 | 19.67 | 25.62 | 5.47 | 100 | 8.25 | 0.22 | 0.14 | 0.07 | 0.4 |
| 50 | 18.40 | 19.67 | 25.59 | 5.23 | 96 | 8.25 | 0.22 | 0.14 | 0 | 0.4 |
| 75 | 17.90 | 19.65 | 25.69 | 5.23 | 95 | 8.25 | 0.27 | 0.11 | 0.02 | 0.4 |
| 100 | 17.10 | 19.66 | 25.90 | 5.02 | 89 | 8.25 | 0.34 | 0.26 | 0.04 | 1.2 |

| | | | | | | | | | | |
|-----------------|-------|-------|-------|------|----|------|------|------|------|-----|
| DATE: 10.vii.58 | | | | | | | | | | |
| 0 | 18.05 | 19.67 | 25.68 | 5.33 | 97 | 8.30 | 0.25 | 0 | 0.15 | 0 |
| 10 | 18.00 | 19.67 | 25.70 | 5.37 | 97 | 8.28 | 0.27 | 0.13 | 0.05 | 0.4 |
| 20 | 18.00 | 19.67 | 25.70 | 5.33 | 97 | 8.26 | 0.28 | 0.12 | 0 | 0 |
| 30 | 18.00 | 19.67 | 25.70 | 5.33 | 97 | 8.25 | 0.29 | 0.11 | 0 | 0 |
| 40 | 18.00 | 19.67 | 25.70 | 5.37 | 97 | 8.25 | 0.32 | 0.11 | 0 | 0 |
| 50 | 17.90 | 19.67 | 25.73 | 5.39 | 97 | 8.24 | 0.31 | 0 | 0.05 | 0.2 |
| 75 | 17.15 | 19.64 | 25.86 | 5.21 | 93 | 8.23 | 0.41 | 0.08 | 0.04 | 2.0 |
| 100 | 16.55 | 19.62 | 25.97 | 4.99 | 88 | 8.18 | 0.50 | 0 | 0.08 | 2.0 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|-------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 3.vii.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.58 | 0.11 | 0.35 | 0.04 | 0.25 | 0 | 6.52 | 2.95 |
| 10 | 0.63 | 0.10 | 0.50 | 0.06 | 0.26 | 25 | 6.05 | 2.95 |
| 20 | 0.55 | 0.13 | 0.45 | 0.05 | 0.23 | 50 | 6.72 | 2.0 |
| 30 | 0.61 | 0.12 | 0.59 | 0.06 | 0.25 | | | |
| 40 | 0.55 | 0.13 | 0.45 | 0.06 | 0.23 | | | |
| 50 | 0.56 | 0.16 | 0.60 | 0.09 | 0.21 | | | |
| 75 | 0.50 | 0.15 | 0.38 | 0.06 | 0.22 | | | |
| 100 | 0.26 | 0.15 | 0.42 | 0.12 | 0.02 | | | |

DATE: 10.vii.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.55 | 0.13 | 0.26 | 0.07 | 0.22 | 0 | 7.07 | 3.08 |
| 10 | 0.70 | 0.15 | 0.35 | 0.11 | 0.24 | 25 | 6.69 | 2.47 |
| 20 | 0.62 | 0.17 | 0.41 | 0.14 | 0.19 | 50 | 6.28 | 2.70 |
| 30 | 0.59 | 0.14 | 0.39 | 0.10 | 0.25 | | | |
| 40 | 0.58 | 0.12 | 0.43 | 0.06 | 0.23 | | | |
| 50 | 0.55 | 0.15 | 0.53 | 0.10 | 0.15 | | | |
| 75 | 0.23 | 0.09 | 0.30 | 0.08 | 0.03 | | | |
| 100 | 0.26 | 0.10 | 0.25 | 0.07 | 0.05 | | | |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 22.vii.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|----|------|------|------|------|-----|
| 0 | 18.30 | 19.68 | 25.65 | 5.12 | 99 | 8.39 | 0.32 | 0.11 | 0.05 | 0.4 |
| 10 | 18.25 | 19.68 | 25.66 | 5.09 | 99 | 8.34 | 0.32 | 0.09 | 0.05 | 0.6 |
| 20 | 18.25 | 19.68 | 25.66 | 5.09 | 99 | 8.34 | 0.32 | 0.07 | 0.02 | 1.2 |
| 30 | 18.20 | 19.68 | 25.67 | 5.07 | 98 | 8.33 | 0.32 | 0.07 | 0.02 | 1.2 |
| 40 | 18.10 | 19.68 | 25.70 | 5.07 | 98 | 8.29 | 0.35 | 0.08 | 0 | 0.9 |
| 50 | 17.60 | 19.67 | 25.80 | 5.04 | 96 | 8.23 | 0.34 | 0 | 0.05 | 1.9 |
| 75 | 16.70 | 19.66 | 26.01 | 4.99 | 94 | 8.21 | 0.42 | 0.04 | 0.02 | |
| 100 | 16.20 | 19.62 | 26.06 | 4.72 | 88 | 8.21 | 0.54 | 0.11 | 0 | 1.9 |

DATE: 30.vii.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 18.60 | 19.68 | 25.43 | 5.21 | 102 | 8.30 | 0.30 | 0.11 | 0.02 | 0.2 |
| 10 | 18.70 | 19.68 | 25.41 | 5.15 | 101 | 8.27 | 0.30 | 0.16 | 0.21 | 0.4 |
| 20 | 18.50 | 19.68 | 25.45 | 5.17 | 101 | 8.30 | 0.30 | 0.16 | 0.08 | 0.6 |
| 30 | 17.95 | 19.68 | 25.58 | 5.24 | 101 | 8.29 | 0.30 | 0.13 | 0.11 | 0.2 |
| 40 | 17.80 | 19.67 | 25.61 | 5.04 | 97 | 8.28 | 0.31 | 0.12 | 0.16 | 1.2 |
| 50 | 17.20 | 19.64 | 25.71 | 4.45 | 84 | 8.24 | 0.50 | 0.13 | 0 | 2.9 |
| 75 | 16.10 | 19.62 | 26.08 | 4.58 | 85 | 8.24 | 0.55 | 0.12 | 0 | 4.4 |
| 100 | 15.40 | 19.58 | 26.19 | 4.47 | 82 | 8.20 | 0.65 | 0.07 | 0.21 | 5.1 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 22.vii.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.44 | 0.21 | 0.96 | 0.14 | 0.07 | 0 | 6.50 | 4.16 |
| 10 | 0.37 | 0.14 | 1.01 | 0.13 | 0.07 | 25 | 6.46 | 4.02 |
| 20 | 0.32 | 0.12 | 0.87 | 0.10 | 0.08 | 50 | 6.34 | 3.79 |
| 30 | 0.29 | 0.14 | 1.12 | 0.16 | 0 | | | |
| 40 | 0.37 | 0.15 | 0.88 | 0.09 | 0.10 | | | |
| 50 | 0.40 | 0.19 | 0.79 | 0.09 | 0.14 | | | |
| 75 | 0.35 | 0.15 | 0.75 | 0.11 | 0.07 | | | |
| 100 | 0.25 | 0.12 | 0.48 | 0.11 | 0.01 | | | |

DATE: 30.vii.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.40 | 0.08 | 0.58 | 0.10 | 0.12 | 0 | 6.60 | 3.97 |
| 10 | 0.57 | 0.04 | 0.45 | 0.05 | 0.24 | 25 | 6.32 | 3.55 |
| 20 | 0.59 | 0.13 | 0.80 | 0.09 | 0.20 | 50 | 5.73 | 3.02 |
| 30 | 0.32 | 0 | 0.59 | 0.05 | 0.13 | | | |
| 40 | 0.34 | 0.05 | 0.69 | 0.08 | 0.10 | | | |
| 50 | 0.26 | 0 | 0.66 | 0.08 | 0.05 | | | |
| 75 | 0.27 | 0.08 | 0.16 | 0.11 | 0.03 | | | |
| 100 | 0.31 | 0.09 | 0.88 | 0.12 | 0.01 | | | |

STATION: Port Hacking 100m

CO₂ UPTAKE

| INCUBATION | | Depth | ACTIVITY | | | PRODUCTION | |
|------------|--------|-------|----------|------|-----|--------------------|-----------------------|
| Method | Period | | Light | Dark | Net | mgC/m ³ | gC/day/m ² |

DATE: 25.vii.58

TIME: 0600

| | | | | | | | |
|----------------|-------------------|----|------|------|------|-------|------|
| <u>In situ</u> | $\frac{1}{8}$ day | 0 | 2078 | 118 | 1960 | 15.59 | 0.50 |
| | | 10 | 2921 | 77 | 2844 | 22.63 | |
| | | 20 | 1306 | 155 | 1151 | 9.16 | |
| | | 50 | 164 | (64) | 100 | 0.80 | |

DATE: 25.vii.58

TIME: 0600

| | | | | | | | |
|------|-------|----|------|----|------|------|------|
| Bath | 4 hrs | 0 | 1911 | 26 | 1885 | 1.84 | 1.02 |
| | | 10 | 2628 | 33 | 2595 | 2.53 | |
| | | 20 | 1528 | 76 | 1452 | 1.42 | |
| | | 50 | 2735 | 66 | 2669 | 2.60 | |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

LIGHT PENETRATION

| Depth | Chlorophyll | | | Astacin | Non Astacin | Time | Depth | Percentage Surface Light |
|-------|-------------|---|---|---------|-------------|------|-------|--------------------------|
| | a | b | c | | | | | |

DATE: 25.vii.58

DEPTH 1% S.L.: 71 m
SOLAR ALT.: 29°

TIME: 0500

1000

| | | | | | |
|----|------|------|------|------|------|
| 0 | 2.10 | 0.42 | 1.24 | 0.24 | 0.57 |
| 10 | 2.25 | 0.48 | 1.14 | 0.23 | 0.51 |
| 20 | 1.97 | 0.45 | 1.12 | 0.21 | 0.51 |
| 50 | 0.30 | 0.15 | 0.80 | 0.23 | 0.10 |

| | |
|----|-----|
| 0 | 100 |
| 10 | 75 |
| 20 | 51 |
| 30 | 31 |
| 40 | 15 |
| 50 | 6.7 |

DATE: 25.vii.58

TIME: 1215

| | | | | | |
|----|------|------|------|------|------|
| 0 | 1.92 | 0.35 | 1.19 | 0.13 | 0.56 |
| 10 | 1.94 | 0.42 | 0.95 | 0.17 | 0.47 |
| 20 | 2.00 | 0.43 | 1.42 | 0.24 | 0.53 |
| 50 | 0.25 | 0.03 | 0.60 | 0.15 | 0.01 |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 5.viii.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 17.50 | 19.67 | 25.82 | 5.34 | 102 | 8.28 | 0.32 | 0.11 | 0.03 | 0.7 |
| 10 | 17.50 | 19.67 | 25.82 | 5.28 | 101 | 8.27 | 0.30 | 0.07 | 0.06 | 0.8 |
| 20 | 17.40 | 19.67 | 25.84 | 5.28 | 101 | 8.27 | 0.31 | 0.06 | 0.09 | 0.9 |
| 30 | 17.60 | 19.67 | 25.79 | 5.28 | 101 | 8.23 | 0.33 | 0.06 | 0.13 | 1.0 |
| 40 | 17.00 | 19.64 | 25.91 | 4.93 | 93 | 8.21 | 0.39 | 0.05 | 0.12 | 2.9 |
| 50 | 17.30 | 19.64 | 25.83 | 5.02 | 95 | 8.23 | 0.38 | 0.06 | 0.05 | 2.1 |
| 75 | 15.95 | 19.59 | 26.09 | 4.38 | 81 | 8.20 | 0.59 | 0.04 | 0.04 | 6.3 |
| 100 | 14.70 | 19.53 | 26.27 | 4.40 | 79 | 8.18 | 0.74 | 0.06 | 0.05 | 9.1 |

DATE: 12.viii.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 19.10 | 19.67 | 25.43 | 5.16 | 102 | 8.25 | 0.27 | 0.12 | 0.02 | 0.2 |
| 10 | 18.90 | 19.67 | 25.47 | 5.21 | 102 | 8.23 | 0.26 | 0.13 | 0.02 | 0.4 |
| 20 | 18.80 | 19.67 | 25.50 | 5.37 | 105 | 8.27 | 0.25 | 0.14 | 0 | 0.2 |
| 30 | 18.70 | 19.65 | 25.50 | 5.45 | 106 | 8.25 | 0.25 | 0.08 | 0.06 | 0.4 |
| 40 | 18.40 | 19.62 | 25.52 | 5.08 | 99 | 8.18 | 0.43 | 0.03 | 0.13 | 4.3 |
| 50 | 17.15 | 19.61 | 25.82 | 4.45 | 84 | 8.18 | 0.47 | 0.16 | 0.15 | 4.8 |
| 75 | 15.40 | 19.55 | 26.14 | 4.43 | 81 | 8.16 | 0.64 | 0.01 | 0.24 | 6.9 |
| 100 | 13.10 | 19.46 | 26.51 | 4.64 | 81 | 8.16 | 0.70 | 0.23 | 0 | 7.8 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 5.viii.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 1.31 | 0.22 | 1.00 | 0.17 | 0.35 | 0 | 6.02 | 5.30 |
| 10 | 1.30 | 0.26 | 0.98 | 0.22 | 0.32 | 25 | 5.70 | 5.40 |
| 20 | 1.35 | 0.24 | 0.94 | 0.20 | 0.36 | 50 | 5.93 | 5.60 |
| 30 | 1.23 | 0.10 | 1.02 | 0.16 | 0.42 | | | |
| 40 | 0.58 | 0.13 | 0.73 | 0.10 | 0.26 | | | |
| 50 | 0.24 | 0.08 | 0.39 | 0.10 | 0.10 | | | |
| 75 | 0.18 | 0.19 | 0.81 | 0.13 | 0 | | | |
| 100 | 0.17 | 0.10 | 0.68 | 0.10 | 0 | | | |

DATE: 12.viii.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 1.90 | 0.38 | 1.27 | 0.18 | 0.47 | 0 | 0 | 3.52 |
| 10 | 1.86 | 0.40 | 1.29 | 0.18 | 0.38 | 25 | 5.60 | 3.36 |
| 20 | 2.62 | 0.44 | 1.65 | 0.21 | 0.53 | 50 | | |
| 30 | 3.03 | 0.20 | 1.83 | 0.19 | 0.64 | | | |
| 40 | 1.47 | 0.18 | 1.21 | 0.17 | 0.26 | | | |
| 50 | 1.71 | 0.17 | 1.32 | 0.17 | 0.31 | | | |
| 75 | 0.35 | 0.06 | 0.57 | 0.15 | 0 | | | |
| 100 | 0.52 | 0.07 | 0.77 | 0.15 | 0.03 | | | |

STATION: Port Hacking 100m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 19.viii.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 16.25 | 19.62 | 26.05 | 5.55 | 103 | 8.24 | 0.26 | 0.15 | 0.02 | 0.6 |
| 10 | 16.20 | 19.61 | 26.05 | 5.41 | 101 | 8.23 | 0.32 | 0.11 | 0.02 | 0.8 |
| 20 | 15.65 | 19.58 | 26.14 | 5.65 | 104 | 8.24 | 0.31 | 0.19 | 0.11 | 0.9 |
| 30 | 15.45 | 19.57 | 26.16 | 5.66 | 104 | 8.21 | 0.33 | 0.30 | 0 | 1.0 |
| 40 | 14.75 | 19.54 | 26.27 | 4.95 | 89 | 8.22 | 0.54 | 0.15 | 0.05 | 5.0 |
| 50 | 13.90 | 19.52 | 26.41 | 4.74 | 84 | 8.20 | 0.62 | 0.07 | 0.09 | 6.2 |
| 75 | 13.70 | 19.49 | 26.42 | 4.54 | 80 | 8.17 | 0.75 | 0.02 | 0.07 | 6.4 |
| 100 | 12.95 | 19.47 | 26.55 | 4.52 | 79 | 8.14 | 0.74 | 0 | 0.13 | 6.7 |

DATE: 26.viii.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|------|
| 0 | 17.70 | 19.67 | 25.77 | 5.52 | 106 | 8.30 | 0.25 | 0.14 | 0.04 | 0.6 |
| 10 | 17.75 | 19.67 | 25.77 | 5.27 | 101 | 8.26 | 0.28 | 0.15 | 0 | 0.4 |
| 20 | 17.60 | 19.67 | 25.80 | 5.25 | 100 | 8.26 | 0.30 | 0.18 | 0 | 0.9 |
| 30 | 16.70 | 19.63 | 25.96 | 5.13 | 96 | 8.24 | 0.39 | 0.09 | 0.08 | 1.5 |
| 40 | 16.20 | 19.61 | 26.05 | 4.74 | 88 | 8.22 | 0.49 | 0.16 | 0.02 | 3.1 |
| 50 | 14.90 | 19.54 | 26.24 | 4.19 | 76 | 8.16 | 0.72 | 0.10 | 0.02 | 11.0 |
| 75 | 14.05 | 19.51 | 26.37 | 4.25 | 76 | 8.10 | 0.73 | 0.09 | 0.05 | 12.8 |
| 100 | 13.20 | 19.49 | 26.53 | 4.46 | 78 | 8.10 | 0.77 | 0.07 | 0.04 | 13.1 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 19.viii.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 3.98 | 0.22 | 3.16 | 0.21 | 0.86 | 0 | 6.57 | 4.16 |
| 10 | 3.83 | 0.32 | 2.24 | 0.27 | 0.78 | 25 | 6.46 | 4.25 |
| 20 | 4.41 | 0.51 | 2.46 | 0.31 | 0.89 | 50 | 6.25 | 4.12 |
| 30 | 4.24 | 0.49 | 1.84 | 0.27 | 0.84 | | | |
| 40 | 4.43 | 0.80 | 2.38 | 0.34 | 1.28 | | | |
| 50 | 4.41 | 0.59 | 1.79 | 0.30 | 0.82 | | | |
| 75 | 1.35 | 0.14 | 0.68 | 0.18 | 0.21 | | | |
| 100 | 1.59 | 0.26 | 0.91 | 0.22 | 0.20 | | | |

DATE: 26.viii.58

| | | |
|----|------|------|
| 0 | 6.58 | 5.04 |
| 25 | 6.69 | 4.92 |
| 50 | 6.25 | 4.60 |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 2.ix.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 15.95 | 19.62 | 26.13 | 5.63 | 104 | 8.28 | 0.32 | 0.32 | 0.02 | 0.2 |
| 10 | 15.90 | 19.62 | 26.14 | 5.57 | 103 | 8.26 | 0.31 | 0.29 | 0 | 0.2 |
| 20 | 15.80 | 19.62 | 26.16 | 5.49 | 101 | 8.23 | 0.33 | 0.31 | 0.02 | 0.2 |
| 30 | 15.60 | 19.61 | 26.18 | 5.36 | 99 | 8.22 | 0.36 | 0.28 | 0.02 | 0.2 |
| 40 | 15.30 | 19.60 | 26.23 | 5.30 | 97 | 8.22 | 0.42 | 0.26 | 0.04 | 0.2 |
| 50 | 15.15 | 19.59 | 26.25 | 5.14 | 94 | 8.22 | 0.43 | 0.23 | 0.08 | 0.5 |
| 75 | 14.10 | 19.54 | 26.41 | 4.86 | 87 | 8.20 | 0.57 | 0.21 | 0.02 | 2.2 |
| 100 | 13.05 | 19.49 | 26.56 | 4.68 | 82 | 8.17 | 0.67 | 0.18 | 0.02 | 6.0 |

DATE: 9.ix.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 17.00 | 19.68 | 25.96 | 5.46 | 103 | 8.27 | 0.31 | 0.11 | 0.04 | 0.6 |
| 10 | 17.00 | 19.68 | 25.96 | 5.39 | 102 | 8.27 | 0.32 | 0.12 | 0 | 0.6 |
| 20 | 17.00 | 19.68 | 25.96 | 5.26 | 100 | 8.26 | 0.33 | 0.11 | 0 | 0.6 |
| 30 | 17.00 | 19.68 | 25.96 | 5.36 | 102 | 8.25 | 0.33 | 0.23 | 0.04 | 0.6 |
| 40 | 17.00 | 19.67 | 25.94 | 5.33 | 101 | 8.25 | 0.33 | 0.11 | 0.14 | 1.0 |
| 50 | 16.20 | 19.62 | 26.07 | 5.01 | 93 | 8.22 | 0.43 | 0.13 | 0.04 | 2.6 |
| 75 | 14.95 | 19.58 | 26.29 | 5.11 | 93 | 8.20 | 0.46 | 0.10 | 0.04 | 2.8 |
| 100 | 14.05 | 19.54 | 26.42 | 4.68 | 83 | 8.18 | 0.72 | 0 | 0.08 | 6.2 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 2.ix.58

| | | |
|----|------|------|
| 0 | 6.43 | 5.83 |
| 25 | 6.77 | 5.95 |
| 50 | 6.23 | 5.56 |

DATE: 9.ix.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 1.09 | 0.18 | 0.58 | 0.08 | 0.34 | 0 | 6.26 | 5.64 |
| 10 | 1.10 | 0.11 | 0.41 | 0.13 | 0.29 | 25 | 6.14 | 5.40 |
| 20 | 0.94 | 0.15 | 0.43 | 0.06 | 0.35 | 50 | 6.11 | 4.92 |
| 30 | 0.83 | 0.17 | 0.57 | 0.06 | 0.32 | | | |
| 40 | 0.82 | 0.23 | 1.07 | 0.12 | 0.22 | | | |
| 50 | 0.22 | 0.08 | 0.27 | 0.09 | 0.02 | | | |
| 75 | 0.44 | 0.07 | 0.45 | 0.11 | 0.06 | | | |
| 100 | 0.33 | 0.09 | 0.45 | 0.13 | 0 | | | |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 16.ix.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 17.05 | 19.68 | 25.95 | 5.20 | 98 | 8.28 | 0.27 | 0.11 | 0.05 | 0.2 |
| 10 | 16.90 | 19.69 | 26.00 | 5.04 | 95 | 8.26 | 0.27 | 0.16 | 0 | 0.2 |
| 20 | 16.95 | 19.69 | 25.99 | 5.26 | 100 | 8.24 | 0.27 | 0.11 | 0.07 | 0.2 |
| 30 | 17.00 | 19.69 | 25.98 | 5.04 | 95 | 8.24 | 0.27 | 0.05 | 0.04 | 0.2 |
| 40 | 16.75 | 19.68 | 26.02 | 5.30 | 100 | 8.24 | 0.28 | 0 | 0.14 | 0.4 |
| 50 | 14.95 | 19.56 | 26.25 | 4.33 | 78 | 8.21 | 0.64 | 0 | 0 | 6.8 |
| 75 | 14.15 | 19.56 | 26.43 | 4.68 | 84 | 8.15 | 0.60 | 0.04 | 0.06 | 5.6 |
| 100 | 13.80 | 19.54 | 26.47 | 4.60 | 82 | 8.13 | 0.66 | 0 | 0.04 | 5.4 |

DATE: 30.ix.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|------|
| 0 | 16.75 | 19.68 | 26.02 | 5.85 | 110 | 8.30 | 0.13 | 0.23 | 0.04 | 0 |
| 10 | 16.70 | 19.68 | 26.03 | 5.85 | 110 | 8.28 | 0.13 | 0.76 | 0.14 | 0 |
| 20 | 16.70 | 19.68 | 26.03 | 5.88 | 111 | 8.27 | 0.22 | 0.16 | 0.05 | 0 |
| 30 | 16.65 | 19.68 | 26.05 | 5.73 | 108 | 8.26 | 0.22 | 0.23 | 0 | 0 |
| 40 | 16.30 | 19.65 | 26.08 | 5.27 | 98 | 8.24 | 0.39 | 0.23 | 0 | 1.0 |
| 50 | 15.80 | 19.65 | 26.20 | 5.50 | 101 | 8.23 | 0.34 | 0.09 | 0.02 | 0.4 |
| 75 | 14.25 | 19.57 | 26.42 | 4.70 | 84 | 8.25 | 0.58 | 0.08 | 0 | 10.4 |
| 100 | 14.05 | 19.56 | 26.44 | 4.70 | 84 | 8.22 | 0.65 | 0.16 | 0.04 | 10.0 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 16.ix.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 1.42 | 0.26 | 0.42 | 0.05 | 0.52 | 0 | 6.32 | 5.39 |
| 10 | 1.42 | 0.25 | 0.93 | 0.09 | 0.49 | 25 | 6.23 | 4.93 |
| 20 | 1.17 | 0.14 | 1.04 | 0.10 | 0.43 | 50 | 6.40 | 4.82 |
| 30 | 1.44 | 0.34 | 1.01 | 0.15 | 0.45 | | | |
| 40 | 0.87 | 0.24 | 0.40 | 0.12 | 0.22 | | | |
| 50 | 0.28 | 0.12 | 0.02 | 0.12 | 0.01 | | | |
| 75 | 0.13 | 0.08 | 0.08 | 0.10 | | | | |
| 100 | 0.16 | 0.08 | 0.08 | 0.13 | | | | |

DATE: 30.ix.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 3.04 | 0.03 | 1.24 | 0.12 | 0.83 | 0 | 6.54 | 6.02 |
| 10 | 2.25 | 0.02 | 2.90 | 0.28 | 1.03 | 25 | 6.63 | 6.08 |
| 20 | 2.74 | 0.01 | 1.01 | 0.13 | 0.84 | 50 | 6.57 | 4.79 |
| 30 | 3.04 | 0.10 | 1.49 | 0.12 | 0.90 | | | |
| 40 | 1.58 | 0.07 | 0.73 | 0.11 | 0.41 | | | |
| 50 | 0.46 | 0.09 | 0.16 | 0.09 | 0.10 | | | |
| 75 | 0.32 | 0.06 | 0.09 | 0.09 | 0.07 | | | |
| 100 | 0.21 | 0.07 | 0.23 | 0.11 | 0.01 | | | |

STATION: Port Hacking 100 m

CO₂ UPTAKE

| INCUBATION | | Depth | ACTIVITY | | | PRODUCTION | |
|------------|--------|-------|----------|------|-----|--------------------|-----------------------|
| Method | Period | | Light | Dark | Net | mgC/m ³ | gC/day/m ² |

DATE: 17.ix.58

TIME: 0500

| | | | | | | | |
|----------------|-------|----|------|------|------|-------|------|
| <u>In situ</u> | 1 day | 0 | 743 | 58 | 685 | 2.72 | 0.15 |
| | | 10 | 2093 | (93) | 2000 | 10.68 | |
| | | 20 | 381 | 44 | 337 | 1.34 | |
| | | 50 | 50 | 28 | 22 | 0.09 | |

DATE: 17.ix.58

TIME: 0500

| | | | | | | | |
|----------------|-------------------|----|------|------|------|-------|------|
| <u>In situ</u> | $\frac{1}{2}$ day | 0 | 587 | (47) | 540 | 4.30 | 0.28 |
| | | 10 | 2474 | 134 | 2340 | 18.62 | |
| | | 20 | 512 | 48 | 464 | 3.69 | |
| | | 50 | 50 | 38 | 12 | 0.10 | |

DATE: 17.ix.58

TIME: 0500

| | | | | | | | |
|----------------|-------------------|----|------|-----|------|-------|------|
| <u>In situ</u> | $\frac{1}{2}$ day | 0 | 6168 | 129 | 6039 | 48.04 | 0.86 |
| | | 10 | 6146 | 149 | 5997 | 47.71 | |
| | | 20 | 928 | 46 | 882 | 7.02 | |
| | | 50 | 63 | 39 | 24 | 0.19 | |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

LIGHT PENETRATION

| Depth | Chlorophyll | | | Astacin | Non Astacin | Time | Depth | Percentage Surface Light |
|-------|-------------|---|---|---------|----------------|------|-------|--------------------------------|
| | a | b | c | | | | | |

DATE: 17.1x.58

DEPTH 1% S.L.: 74 m
SOLAR ALT.: 36°

0900

| | |
|----|-----|
| 0 | 100 |
| 10 | 67 |
| 20 | 31 |
| 30 | 9.8 |
| 40 | 4.3 |
| 50 | 3.3 |
| 60 | 1.7 |

DEPTH 1% S.L.: 82 m
SOLAR ALT.: 53°

1115

| | |
|----|------|
| 0 | 100 |
| 10 | 64 |
| 20 | 39 |
| 30 | 19 |
| 40 | 10.7 |
| 50 | 5.9 |
| 60 | 4.3 |

DEPTH 1% S.L.: 63 m
SOLAR ALT.: 45°

1345

| | |
|----|-----|
| 0 | 100 |
| 10 | 53 |
| 20 | 21 |
| 30 | 8.3 |
| 40 | 3.5 |
| 50 | 1.9 |
| 60 | 1.2 |

STATION: Port Hacking 100 m

CO₂ UPTAKE

| INCUBATION | | Depth | ACTIVITY | | | PRODUCTION | |
|------------|--------|-------|----------|------|-----|--------------------|-----------------------|
| Method | Period | | Light | Dark | Net | mgC/m ³ | gC/day/m ² |

DATE: 17.ix.58

TIME: 0500

| | | | | | | | |
|------|-------|----|------|-----|------|------|------|
| Bath | 4 hrs | 0 | 5664 | 20 | 5644 | 5.61 | 1.44 |
| | | 10 | 4098 | 140 | 3958 | 3.94 | |
| | | 20 | 3814 | 100 | 3714 | 3.69 | |
| | | 50 | 202 | 34 | 168 | 0.17 | |

DATE: 17.ix.58

TIME: 1210

| | | | | | | |
|------|-------|----|------|----|------|------|
| Bath | 4 hrs | 0 | 3526 | 44 | 3482 | 3.46 |
| | | 10 | 2174 | 54 | 2120 | 2.11 |
| | | 20 | 7304 | 63 | 7241 | 7.20 |
| | | 50 | 87 | 32 | 55 | 0.05 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

LIGHT PENETRATION

| Depth | Chlorophyll | | | Astacin | Non Astacin | Time | Depth | Percentage Surface Light |
|-------|-------------|---|---|---------|----------------|------|-------|--------------------------------|
| | a | b | c | | | | | |

DATE: 17.ix.58

DEPTH 1% S.L.: 48 m

SOLAR ALT.: 34°

1530

| | |
|----|-----|
| 0 | 100 |
| 10 | 45 |
| 20 | 14 |
| 30 | 4.3 |
| 40 | 1.7 |
| 50 | 0.8 |

STATION: Port Hacking 100m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 8.x.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 16.45 | 19.65 | 26.05 | 5.58 | 104 | 8.30 | 0.30 | 0.25 | 0.09 | 0 |
| 10 | 16.15 | 19.65 | 26.12 | 5.60 | 104 | 8.30 | 0.31 | 0.33 | 0.02 | 0.2 |
| 20 | 16.05 | 19.64 | 26.13 | 5.48 | 102 | 8.28 | 0.32 | 0.32 | 0.02 | 0 |
| 30 | 15.80 | 19.63 | 26.17 | 5.04 | 93 | 8.24 | 0.43 | 0.23 | 0 | 1.4 |
| 40 | 15.35 | 19.63 | 26.27 | 4.90 | 90 | 8.22 | 0.52 | 0.18 | 0.09 | 2.6 |
| 50 | 14.80 | 19.62 | 26.37 | 4.82 | 87 | 8.20 | 0.55 | 0.28 | 0.02 | 4.4 |
| 75 | 14.60 | 19.62 | 26.42 | 4.76 | 86 | 8.18 | 0.58 | 0.10 | 0.11 | 5.0 |
| 100 | 14.30 | 19.59 | 26.44 | 4.58 | 82 | 8.16 | 0.65 | 0.35 | 0 | 7.8 |

DATE: 15.x.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 18.25 | 19.69 | 25.67 | 5.36 | 104 | 8.24 | 0.29 | 0.16 | 0.04 | 1.0 |
| 10 | 18.00 | 19.68 | 25.72 | 5.33 | 103 | 8.24 | 0.30 | 0.17 | 0.13 | 0.2 |
| 20 | 17.85 | 19.68 | 25.75 | 5.43 | 104 | 8.23 | 0.30 | 0.21 | 0 | 0 |
| 30 | 17.60 | 19.66 | 25.78 | 5.23 | 100 | 8.22 | 0.60 | 0 | 0.04 | 0.8 |
| 40 | 15.70 | 19.62 | 26.17 | 4.75 | 87 | 8.22 | 0.52 | 0.18 | 0.11 | 6.0 |
| 50 | 15.15 | 19.61 | 26.27 | 4.72 | 86 | 8.15 | 0.55 | 0.09 | 0.17 | 6.8 |
| 75 | 14.60 | 19.61 | 26.40 | 4.75 | 86 | 8.16 | 0.60 | 0.21 | 0.04 | 6.2 |
| 100 | 14.20 | 19.59 | 26.46 | 4.66 | 84 | 8.14 | 0.64 | 0.23 | 0.05 | 6.4 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30.μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 8.x.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 2.25 | 0.07 | 1.42 | 0.11 | 0.63 | 0 | 6.94 | 6.04 |
| 10 | 1.22 | | 0.38 | 0.11 | 0.32 | 25 | 6.68 | 6.04 |
| 20 | 2.81 | 0.08 | 2.19 | 0.22 | 0.66 | 50 | 6.46 | 5.76 |
| 30 | 0.71 | 0.14 | 1.47 | 0.18 | 0.06 | | | |
| 40 | 0.64 | 0.03 | 0.81 | 0.16 | 0.06 | | | |
| 50 | 0.51 | | 0.65 | 0.12 | 0.05 | | | |
| 75 | 0.61 | 0.01 | 0.14 | 0.15 | 0.09 | | | |
| 100 | 0.88 | 0.27 | 1.75 | 0.22 | 0.01 | | | |

DATE: 15.x.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 1.64 | 0.22 | 1.24 | 0.27 | 0.58 | 0 | 6.57 | 4.0 |
| 10 | 1.61 | 0.11 | 0.69 | 0.22 | 0.45 | 25 | 6.68 | 4.54 |
| 20 | 1.94 | 0.24 | 0.70 | 0.26 | 0.56 | 50 | 6.49 | 4.11 |
| 30 | 1.34 | 0.14 | 1.20 | 0.25 | 0.31 | | | |
| 40 | 0.31 | | 1.64 | 0.11 | 0.07 | | | |
| 50 | 0.50 | 0.01 | 1.19 | 0.11 | 0.08 | | | |
| 75 | 0.42 | 0.01 | 1.00 | 0.14 | 0.04 | | | |
| 100 | 0.25 | | 1.26 | 0.24 | | | | |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 21.x.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 18.85 | 19.71 | 25.55 | 5.20 | 102 | 8.29 | 0.23 | 0.16 | 0.02 | 0 |
| 10 | 18.65 | 19.71 | 25.60 | 5.23 | 102 | 8.28 | 0.31 | 0.12 | 0 | 0.2 |
| 20 | 18.40 | 19.68 | 25.62 | 5.37 | 104 | 8.26 | 0.26 | 0.17 | 0.02 | 0 |
| 30 | 17.90 | 19.66 | 25.71 | 5.31 | 102 | 8.26 | 0.23 | 0.40 | 0 | 0 |
| 40 | 17.80 | 19.66 | 25.73 | 5.37 | 102 | 8.26 | 0.23 | 0.22 | 0.18 | 0 |
| 50 | 17.50 | 19.66 | 25.81 | 5.27 | 101 | 8.26 | 0.27 | 0.38 | 0.02 | 0.2 |
| 75 | 15.90 | 19.64 | 26.17 | 4.87 | 90 | 8.23 | 0.42 | 0.14 | 0.09 | 2.0 |
| 100 | 15.25 | 19.61 | 26.26 | 4.69 | 86 | 8.20 | 0.53 | 0.12 | 0.06 | 3.6 |

DATE: 29.x.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 19.05 | 19.71 | 25.50 | 5.25 | 103 | 8.24 | 0.19 | 0.20 | 0.04 | 0 |
| 10 | 18.90 | 19.71 | 25.53 | 5.42 | 106 | 8.24 | 0.19 | 0.23 | 0 | 0 |
| 20 | 18.95 | 19.71 | 25.53 | 5.27 | 104 | 8.24 | 0.18 | 0.25 | 0.05 | 0 |
| 30 | 18.90 | 19.70 | 25.53 | 5.29 | 104 | 8.23 | 0.23 | 0.14 | 0.08 | 0 |
| 40 | 18.70 | 19.71 | 25.58 | 5.27 | 103 | 8.23 | 0.19 | 0.24 | 0.07 | 0 |
| 50 | 16.75 | 19.67 | 26.01 | 5.23 | 98 | 8.25 | 0.27 | 0.18 | 0 | 0.6 |
| 75 | 16.00 | 19.64 | 26.15 | 5.18 | 96 | 8.25 | 0.32 | 0.16 | 0.15 | 0.6 |
| 100 | 15.35 | 19.61 | 26.23 | 4.84 | 88 | 8.21 | 0.45 | 0.20 | 0.04 | 3.0 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|------|------|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |
| DATE: | 21.x.58 | | | | | | | |
| 0 | 0.74 | 0.03 | 2.04 | 0.27 | 0.16 | 0 | 6.26 | 4.11 |
| 10 | 0.77 | 0.03 | 0.20 | 0.17 | 0.23 | 25 | 6.62 | 4.50 |
| 20 | 2.80 | | 2.62 | 0.20 | 0.61 | 50 | 6.69 | 5.03 |
| 30 | 1.39 | 0.13 | 0.39 | 0.21 | 0.38 | | | |
| 30 | 2.39 | 0.09 | 1.44 | 0.23 | 0.60 | | | |
| 30 | 1.02 | 0.06 | 0.56 | 0.21 | 0.33 | | | |
| 40 | 1.79 | 0.19 | 1.31 | 0.21 | 0.50 | | | |
| 50 | 0.88 | 0.37 | 0.83 | 0.24 | 0.14 | | | |
| 50 | 0.74 | 0.16 | 0.96 | 0.15 | 0.15 | | | |
| 50 | 1.71 | 0.07 | 1.11 | 0.20 | 0.50 | | | |
| 100 | 0.71 | 0.11 | 1.42 | 0.21 | 0.18 | | | |

| | | | | | | | | |
|-------|---------|------|------|------|------|----|------|------|
| DATE: | 29.x.58 | | | | | | | |
| 0 | 0.55 | 0.01 | 0.47 | 0.09 | 0.18 | 0 | 6.23 | 4.36 |
| 10 | 0.63 | 0.09 | 0.96 | 0.77 | | 25 | 6.32 | 4.49 |
| 20 | 0.66 | 0.06 | 0.84 | 0.11 | 0.27 | 50 | 6.25 | 4.48 |
| 30 | 0.55 | | 1.60 | 0.09 | 0.23 | | | |
| 30 | 0.83 | | 1.75 | 0.16 | 0.27 | | | |
| 30 | 0.90 | | 1.76 | 0.12 | 0.32 | | | |
| 40 | 0.57 | | 1.07 | 0.10 | 0.21 | | | |
| 50 | 0.47 | | 1.34 | 0.12 | 0.13 | | | |
| 50 | 0.15 | | 1.40 | 0.10 | 0.03 | | | |
| 50 | 0.36 | 0.15 | 0.93 | 0.17 | 0.04 | | | |
| 75 | 0.32 | 0.04 | 0.45 | 0.09 | 0.12 | | | |
| 100 | 0.15 | | 0.23 | 0.09 | 0.03 | | | |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 4.xi.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 19.85 | 19.74 | 25.34 | 5.21 | 104 | 8.28 | 0.17 | 0.24 | 0 | 0 |
| 10 | 19.75 | 19.72 | 25.34 | 5.21 | 104 | 8.27 | 0.18 | 0.19 | 0.08 | 0 |
| 20 | 19.35 | 19.72 | 25.43 | 5.18 | 103 | 8.26 | 0.18 | 0.23 | 0.09 | 0 |
| 30 | 19.00 | 19.72 | 25.53 | 5.26 | 104 | 8.26 | 0.19 | 0.20 | 0.04 | 0 |
| 40 | 17.55 | 19.66 | 25.79 | 4.89 | 93 | 8.23 | 0.34 | 0.11 | 0.71 | 1.6 |
| 50 | 16.50 | 19.63 | 26.01 | 4.54 | 85 | 8.23 | 0.41 | 0.11 | 0.18 | 3.8 |
| 75 | 16.10 | 19.63 | 26.10 | 4.83 | 90 | 8.21 | 0.43 | 0.04 | 0.15 | 3.0 |
| 100 | 15.25 | 19.63 | 26.29 | 4.68 | 86 | 8.19 | 0.48 | 0.16 | 0.02 | 3.6 |

DATE: 11.xi.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 21.15 | 19.72 | 24.96 | 5.15 | 105 | 8.20 | 0.16 | 0.27 | 0.02 | 0 |
| 10 | 20.45 | 19.71 | 25.14 | 5.26 | 106 | 8.20 | 0.16 | 0.19 | 0.12 | 0 |
| 20 | 20.30 | 19.71 | 25.17 | 5.15 | 104 | 8.19 | 0.21 | 0.18 | 0.06 | 0 |
| 30 | 17.10 | 19.65 | 25.89 | 4.99 | 95 | 8.17 | 0.39 | 0.27 | 0.08 | 2.2 |
| 40 | 16.00 | 19.65 | 26.16 | 4.69 | 89 | 8.13 | 0.47 | 0.11 | 0.06 | 4.6 |
| 50 | 15.65 | 19.64 | 26.22 | 4.66 | 86 | 8.09 | 0.52 | 0.06 | 0.06 | 4.8 |
| 75 | 14.90 | 19.61 | 26.34 | 4.66 | 84 | 8.07 | 0.57 | 0.05 | 0.04 | 6.0 |
| 100 | 14.15 | 19.57 | 26.45 | 4.57 | 82 | 8.06 | 0.67 | 0.07 | 0.06 | 6.4 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 4.xi.58

| | | | | | | | | |
|-----|------|------|------|------|------|--|--|--|
| 0 | 0.72 | 0.20 | 0.78 | 0.19 | 0.17 | | | |
| 10 | 0.67 | 0.07 | 0.53 | 0.15 | 0.22 | | | |
| 20 | 0.94 | 0.26 | 0.60 | 0.21 | 0.23 | | | |
| 30 | 1.79 | 0.22 | 1.37 | 0.12 | 0.71 | | | |
| 40 | 1.13 | 0.28 | 1.35 | 0.41 | 0.46 | | | |
| 50 | 0.73 | 0.15 | 0.20 | 0.13 | 0.25 | | | |
| 75 | 0.28 | 0.08 | 0.21 | 0.11 | 0.07 | | | |
| 100 | 0.31 | 0.15 | 0.82 | 0.32 | 0.05 | | | |

DATE: 11.xi.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 0.33 | 0.03 | 0.07 | 0.11 | 0.12 | 0 | 6.49 | 3.54 |
| 10 | 0.53 | 0.06 | 0.25 | 0.18 | 0.13 | 25 | 6.57 | 2.72 |
| 20 | 1.38 | 0.19 | 0.64 | 0.20 | 0.43 | 50 | 6.23 | 3.11 |
| 30 | 0.32 | 0.10 | 0.25 | 0.13 | 0.01 | | | |
| 40 | 0.06 | 0 | 0.23 | 0.09 | | | | |
| 50 | 0.17 | 0.04 | 0.71 | 0.13 | | | | |
| 75 | 0.11 | 0.12 | | 0.21 | | | | |
| 100 | 0.14 | 0.12 | 0.08 | 0.12 | | | | |

STATION: Port Hacking 100m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 18.xi.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 20.60 | 19.73 | 25.12 | 5.22 | 106 | 8.19 | 0.22 | 0.19 | 0.04 | 0 |
| 10 | 20.45 | 19.74 | 25.17 | 5.19 | 105 | 8.19 | 0.22 | 0.17 | 0.02 | 0 |
| 20 | 20.40 | 19.74 | 25.18 | 5.15 | 104 | 8.20 | 0.20 | 0.19 | 0.04 | 0 |
| 30 | 19.80 | 19.72 | 25.33 | 5.26 | 105 | 8.20 | 0.19 | 0.22 | 0.06 | 0 |
| 40 | 17.40 | 19.66 | 25.83 | 4.72 | 90 | 8.22 | 0.36 | 0.28 | 0.06 | 1.4 |
| 50 | 16.45 | 19.62 | 26.01 | 4.30 | 80 | 8.19 | 0.56 | 0.29 | 0.08 | 5.0 |
| 75 | 15.05 | 19.62 | 26.31 | 4.46 | 89 | 8.18 | 0.58 | 0.20 | 0.05 | 6.2 |
| 100 | 14.40 | 19.59 | 26.63 | 4.60 | 91 | 8.16 | 0.68 | 0.06 | 0.09 | 7.0 |

DATE: 25.xi.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 18.60 | 19.60 | 25.45 | 5.60 | 109 | 8.29 | 0.30 | 0.14 | 0.12 | 0.2 |
| 10 | 18.45 | 19.60 | 25.49 | 5.63 | 110 | 8.27 | 0.30 | 0.18 | 0.10 | 0.2 |
| 20 | 18.50 | 19.60 | 25.47 | 5.65 | 110 | 8.25 | 0.30 | 0.28 | 0.02 | 0.2 |
| 30 | 18.40 | 19.60 | 25.50 | 5.65 | 110 | 8.25 | 0.29 | 0.33 | 0.06 | 0.2 |
| 40 | 15.65 | 19.60 | 26.16 | 4.80 | 88 | 8.25 | 0.43 | 0.43 | 0.08 | 1.6 |
| 50 | 15.15 | 19.55 | 26.18 | 3.60 | 66 | 8.18 | 0.60 | 0.18 | 0.06 | 8.4 |
| 75 | 14.20 | 19.56 | 26.42 | 4.07 | 73 | 8.17 | 0.77 | 0.09 | 0 | 8.6 |
| 100 | 13.70 | 19.49 | 26.44 | 4.00 | 71 | 8.16 | 0.80 | 0.20 | 0.10 | 8.8 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-------|-------|
| | a | b | c | | | | | |

DATE: 18.xi.58

| | | | | | | | | |
|----|------|------|------|------|------|----|------|------|
| 0 | 0.26 | | 0.62 | 0.10 | 0.12 | 0 | 1.12 | 3.53 |
| 10 | 0.19 | | 0.71 | 0.10 | 0.29 | 25 | 6.46 | 4.13 |
| 20 | 0.35 | | 0.84 | 0.11 | 0.13 | 50 | 6.50 | 4.44 |
| 30 | 0.50 | | 1.06 | 0.16 | 0.12 | | | |
| 40 | 0.25 | 0.09 | 0.33 | 0.16 | | | | |
| 75 | 0.19 | 0.03 | 0.09 | 0.18 | 0.05 | | | |

DATE: 25.xi.58

| | | | | | | | | |
|-----|------|------|------|------|------|----|------|------|
| 0 | 5.50 | | 4.45 | 0.24 | 1.63 | 0 | 6.46 | 4.58 |
| 10 | 6.18 | 0.35 | 4.76 | 0.47 | 1.54 | 25 | 6.69 | 4.85 |
| 20 | 7.34 | 0.07 | 6.37 | 0.36 | 2.37 | 50 | 6.28 | 4.04 |
| 30 | 1.10 | 0.26 | 0.71 | 0.18 | 0.21 | | | |
| 50 | 0.48 | 0.21 | 0.89 | 0.18 | | | | |
| 75 | 0.31 | 0.09 | 0.72 | 0.14 | 0.01 | | | |
| 100 | 0.27 | 0.10 | 0.75 | 0.12 | | | | |

STATION: Port Hacking 100 m

CO₂ UPTAKE

| INCUBATION | | Depth | ACTIVITY | | | PRODUCTION | |
|------------|--------|-------|----------|------|-----|--------------------|-----------------------|
| Method | Period | | Light | Dark | Net | mgC/m ³ | gC/day/m ² |

DATE: 19.xi.58

TIME: 0415

| | | | | | | | |
|----------------|-------|----|-------|-----|-------|-------|------|
| <u>In situ</u> | 1 day | 0 | 16993 | 720 | 16273 | 64.73 | 1.28 |
| | | 10 | 11202 | 847 | 10355 | 41.19 | |
| | | 20 | 5478 | 114 | 5364 | 21.33 | |
| | | 50 | 1977 | 69 | 1908 | 7.58 | |

DATE: 19.xi.58

TIME: 0415

| | | | | | | | |
|------|-------|----|------|-----|------|------|------|
| Bath | 4 hrs | 0 | 707 | 172 | 535 | 0.53 | 0.34 |
| | | 10 | 710 | 61 | 649 | 0.65 | |
| | | 20 | 305 | 125 | 180 | 0.18 | |
| | | 50 | 1561 | 119 | 1442 | 1.43 | |

DATE: 19.xi.58

TIME: 1200

| | | | | | | | |
|------|-------|----|------|------|------|------|------|
| Bath | 4 hrs | 0 | 34 | 45 | 0 | 0 | 0.75 |
| | | 10 | 4142 | 1852 | 2290 | 2.28 | |
| | | 20 | 2837 | 926 | 1911 | 1.90 | |
| | | 50 | 980 | 46 | 934 | 0.93 | |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

LIGHT PENETRATION

| Depth | Chlorophyll | | | Astacin | Non Astacin | Time | Depth | Percentage Surface Light |
|-------|-------------|---|---|---------|----------------|------|-------|--------------------------------|
| | a | b | c | | | | | |

DATE: 19.xi.58

TIME: 0415

| | | | | | | | | |
|----|------|------|------|------|------|--|--|--|
| 0 | 0.80 | 0.08 | 1.04 | 0.34 | | | | |
| 10 | 0.78 | 0.06 | 1.04 | 0.10 | 0.15 | | | |
| 20 | 0.73 | 0.09 | 1.62 | 0.14 | 0.09 | | | |
| 50 | 0.94 | 0.10 | 0.42 | 0.15 | 0.12 | | | |

DATE: 19.xi.58

TIME: 1215

| | | | | | | | | |
|----|------|------|------|------|------|--|--|--|
| 0 | 0.25 | 0.15 | 0.13 | 0.08 | 0.02 | | | |
| 10 | 0.24 | 0.12 | 0.15 | 0.08 | 0.03 | | | |
| 20 | 0.48 | 0.08 | 0.60 | 0.11 | 0.12 | | | |
| 50 | 0.61 | 0.12 | 0.88 | 0.15 | 0.05 | | | |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 8.xii.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|------|
| 0 | 21.70 | 19.71 | 24.80 | 5.04 | 104 | 8.28 | 0.22 | 0 | 0.18 | 0 |
| 10 | 21.00 | 19.67 | 24.93 | 4.95 | 100 | 8.28 | 0.26 | 0.13 | 0.20 | 0 |
| 20 | 20.85 | 19.67 | 24.96 | 4.99 | 101 | 8.26 | 0.30 | 0.04 | 0.12 | 0 |
| 30 | 21.30 | 19.71 | 24.91 | 4.21 | 86 | 8.24 | 0.30 | 0 | 0.14 | 0 |
| 40 | 17.80 | 19.58 | 25.62 | 4.41 | 85 | 8.23 | 0.53 | 0 | 0.06 | 4.2 |
| 50 | 17.20 | 19.57 | 25.75 | 4.20 | 80 | 8.20 | 0.64 | 0 | 0.01 | 4.8 |
| 75 | 14.35 | 19.51 | 26.31 | 3.86 | 69 | 8.19 | 0.83 | 0 | 0.01 | 9.8 |
| 100 | 13.95 | 19.48 | 26.35 | 3.75 | 67 | 8.16 | 0.90 | 0 | 0 | 10.2 |

DATE: 17.xii.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 22.60 | 19.76 | 24.60 | 4.78 | 100 | 8.19 | 0.23 | 0.18 | 0 | 0 |
| 10 | 22.70 | 19.74 | 24.56 | 4.69 | 98 | 8.21 | 0.31 | 0.17 | 0 | 0 |
| 20 | 22.50 | 19.75 | 24.89 | 4.78 | 100 | 8.20 | 0.30 | 0.13 | 0 | 0 |
| 30 | 21.20 | 19.72 | 24.94 | 4.57 | 93 | 8.21 | 0.35 | 0.25 | 0.02 | 0 |
| 40 | 19.80 | 19.72 | 25.30 | 4.30 | 86 | 8.21 | 0.50 | 0.12 | 0.04 | 0.2 |
| 50 | 19.00 | 19.66 | 25.44 | 4.17 | 82 | 8.20 | 0.54 | | | 0.4 |
| 75 | 16.10 | 19.53 | 25.96 | 4.14 | 77 | 8.18 | 0.74 | 0.09 | 0.08 | 1.0 |
| 100 | 13.80 | 19.44 | 25.99 | 3.88 | 69 | 8.16 | 0.96 | 0.13 | 0.02 | 1.4 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 17.xii.58

| | | | | | |
|-----|------|------|------|------|------|
| 0 | 0.38 | 0.13 | 0.62 | 0.19 | |
| 10 | 0.28 | 0.17 | 0.57 | 0.11 | |
| 20 | 0.18 | 0.10 | 0.29 | 0.11 | |
| 30 | 0.11 | 0.03 | 0.41 | 0.46 | |
| 40 | 0.10 | 0.04 | 0.44 | 0.08 | |
| 50 | 0.10 | 0.04 | 0.30 | 0.09 | |
| 75 | 0.21 | 0.10 | 0.49 | 0.15 | 0.01 |
| 100 | 0.15 | 0.08 | 0.55 | 0.16 | |

STATION: Port Hacking 100 m

CO₂ UPTAKE

| INCUBATION | | Depth | ACTIVITY | | | PRODUCTION | |
|------------|--------|-------|----------|------|-----|--------------------|-----------------------|
| Method | Period | | Light | Dark | Net | mgC/m ³ | gC/day/m ² |

DATE: 9.xii.58 TIME: 0415

| | | | | | | | |
|----------------|-------------------|----|-----|----|-----|-------|------|
| <u>In situ</u> | $\frac{1}{2}$ day | 0 | 420 | 42 | 378 | 47.30 | 1.50 |
| | | 10 | 294 | 21 | 273 | 34.10 | |
| | | 20 | 349 | 19 | 330 | 41.30 | |
| | | 50 | 75 | 24 | 51 | 6.50 | |

DATE: 9.xii.58 TIME: 0415

| | | | | | | | |
|------|-------|----|-----|----|-----|------|------|
| Bath | 5 hrs | 0 | 419 | 42 | 377 | 4.70 | 2.56 |
| | | 10 | 405 | 36 | 369 | 4.60 | |
| | | 20 | 337 | 14 | 323 | 4.00 | |
| | | 50 | 582 | 11 | 571 | 7.10 | |

DATE: 9.xii.58 TIME: 1215

| | | | | | | | |
|------|-------|----|------|----|------|-------|------|
| Bath | 4 hrs | 0 | 773 | 23 | 750 | 11.70 | 4.15 |
| | | 10 | 485 | 21 | 464 | 7.30 | |
| | | 20 | 50 | 11 | 39 | 0.60 | |
| | | 50 | 1179 | 17 | 1162 | 18.10 | |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

LIGHT PENETRATION

| Depth | Chlorophyll | | | Astacin | Non Astacin | Time | Depth | Percentage Surface Light |
|-------|-------------|---|---|---------|----------------|------|-------|--------------------------------|
| | a | b | c | | | | | |

DATE: 9.xii.58

TIME: 0515

| | | | | | |
|----|------|------|------|------|------|
| 0 | 0.55 | 0.32 | 1.14 | 0.16 | 0.05 |
| 10 | 0.97 | 0.46 | 1.74 | 0.21 | 0.17 |
| 20 | 1.06 | 0.49 | 1.92 | 0.25 | 0.18 |
| 50 | 0.57 | 0.30 | 1.16 | 0.23 | 0.03 |

DATE: 9.xii.58

TIME: 1215

| | | | | | |
|----|------|------|------|------|------|
| 0 | 1.41 | 0.69 | 2.47 | 0.03 | 0.03 |
| 10 | 0.63 | 0.33 | 1.09 | 0.18 | 0.10 |
| 20 | 1.08 | 0.54 | 2.14 | 0.35 | 0.26 |
| 50 | 0.33 | 0.17 | 0.84 | 0.19 | |

STATION: Port Hacking 100 m

HYDROLOGY

| Depth | Temp. | Cl ^o /oo | σ_t | O ₂ | O ₂ % | pH | Inorg. P | Org. P | Part. P | NO ₃ -N |
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|
|-------|-------|---------------------|------------|----------------|------------------|----|-------------|-----------|------------|--------------------|

DATE: 23.xii.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 21.00 | 19.68 | 24.92 | 5.42 | 110 | 8.32 | 0.21 | 0.02 | 0.37 | 0 |
| 10 | 20.05 | 19.67 | 25.17 | 5.36 | 107 | 8.30 | 0.23 | 0.31 | 0.06 | 0 |
| 20 | 19.10 | 19.64 | 25.39 | 5.01 | 98 | 8.27 | 0.31 | 0.31 | 0 | 0 |
| 30 | 17.40 | 19.60 | 25.75 | 4.49 | 86 | 8.27 | 0.55 | 0.38 | 0.06 | 0.6 |
| 40 | 16.95 | 19.58 | 25.84 | 4.33 | 82 | 8.24 | 0.62 | 0.22 | 0 | 0.8 |
| 50 | 16.70 | 19.57 | 25.87 | 4.30 | 81 | 8.18 | 0.70 | 0.31 | 0.02 | 1.2 |
| 75 | 16.10 | 19.56 | 26.00 | 4.30 | 80 | 8.19 | 0.72 | 0.06 | 0.23 | 1.0 |
| 100 | 15.65 | 19.55 | 26.09 | 3.88 | 71 | 8.17 | 0.75 | 0.14 | 0.08 | 0.8 |

DATE: 31.xii.58

| | | | | | | | | | | |
|-----|-------|-------|-------|------|-----|------|------|------|------|-----|
| 0 | 20.90 | 19.69 | 24.99 | 5.24 | 106 | 8.32 | 0.20 | 0.17 | 0 | 0 |
| 10 | 20.65 | 19.68 | 25.04 | 5.38 | 109 | 8.27 | 0.19 | 0.16 | 0.04 | 0 |
| 20 | 20.40 | 19.68 | 25.10 | 5.36 | 108 | 8.25 | 0.18 | 0.23 | 0.02 | 0 |
| 30 | 18.80 | 19.65 | 25.47 | 4.95 | 97 | 8.21 | 0.40 | 0.05 | 0.16 | 0.2 |
| 40 | 17.70 | 19.65 | 25.75 | 4.07 | 78 | 8.19 | 0.62 | 0.09 | 0.04 | 1.0 |
| 50 | 17.00 | 19.61 | 25.86 | 4.26 | 81 | 8.15 | 0.74 | 0.07 | 0.06 | 1.2 |
| 75 | 14.70 | 19.49 | 26.21 | 3.92 | 71 | 8.10 | 0.89 | 0 | 0.13 | 2.0 |
| 100 | 13.70 | 19.47 | 26.39 | 4.14 | 73 | 8.09 | 0.91 | 0.02 | 0.11 | 2.2 |

LATITUDE: 34°05'30" S.

LONGITUDE: 151°15'30" E.

PIGMENTS

PHYTOPLANKTON

| Depth | Chlorophyll | | | Astacin | Non Astacin | Depth | <30 μ | >30 μ |
|-------|-------------|---|---|---------|----------------|-------|-----------|-----------|
| | a | b | c | | | | | |

DATE: 23.xii.58

| | | | | | |
|-----|------|------|------|------|------|
| 0 | 2.62 | 0.11 | 1.97 | 0.16 | 0.69 |
| 0 | 1.93 | 0.07 | 1.61 | 0.17 | 0.57 |
| 0 | 2.19 | 0.09 | 1.55 | 0.14 | 0.59 |
| 10 | 2.49 | 0.07 | 1.61 | 0.16 | 0.60 |
| 20 | 2.49 | 0.21 | 2.51 | 0.43 | 0.35 |
| 30 | 1.06 | 0.19 | 1.29 | 0.23 | 0.83 |
| 40 | 0.84 | 0.11 | | 0.04 | 0.25 |
| 50 | 2.10 | 0.20 | 1.02 | 0.15 | 0.51 |
| 75 | 0.42 | 0.15 | | 0.07 | 0.13 |
| 100 | 0.51 | 0.17 | 1.30 | 0.26 | |

DATE: 31.xii.58

| | | | | | |
|-----|------|------|------|------|------|
| 0 | 2.26 | 0.07 | 2.28 | 0.17 | 0.07 |
| 0 | 2.30 | 0.16 | 2.75 | 0.24 | 0.64 |
| 0 | 1.77 | 0.14 | 2.57 | 0.21 | 0.48 |
| 0 | 0.39 | 0.13 | 1.02 | 0.15 | 0.02 |
| 10 | 0.56 | 0.18 | 1.03 | 0.15 | 0.06 |
| 20 | 1.88 | 0.17 | 1.59 | 0.17 | 0.44 |
| 30 | 0.65 | 0.13 | 0.88 | 0.15 | 0.07 |
| 40 | 0.98 | 0.19 | 1.04 | 0.19 | 0.08 |
| 50 | 0.57 | 0.15 | 0.89 | 0.19 | |
| 75 | 0.30 | 0.12 | 0.88 | 0.18 | |
| 100 | 0.34 | 0.16 | 0.98 | 0.19 | |

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
35. Coastal hydrological investigations at Eden, New South Wales, 1957
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