

Oceanographic Observations of the 7th Japanese Antarctic Research Expedition 1965–1966

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第7次南極地域観測隊海洋部門報告

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|---|---|
| <p style="text-align: center;">要 旨</p> <p>第7次南極地域観測(1965–66)において定常観</p> | <p>測として行なった, 表面観測, バンサーモグラフ 観測および垂直(各層)観測の結果を報告する</p> |
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Introduction

After a four-year interval the Antarctic research of Japan was resumed in 1965 as the 7th Japanese Antarctic Research Expedition (JARE-7). As one of the shipboard programmes of the Expedition oceanographic observations were made on board the icebreaker FUJI which was constructed for the exclusive purpose of operating in Antarctica and was equipped with a hydrographic winch capable of 6000-meter serial observation and with a chemical laboratory for the analysis of sea water.

Along the track of JARE-7 cruise, from December 1965 to April 1966, as shown in Fig. 1 and Fig. 2, surface observations, bathythermograph observations and vertical (serial) observations were made except one month of January during which the ship stayed near the coast for the logistics operation.

This report deals only with the description of routine observation and its result, and does not include that of chemical analysis of sea water sampled for other special purposes. Further discussions on the data obtained from these observations will be given in other reports under different titles.

Surface observation

Surface temperature measurement and surface water sampling were made three times a day between Fremantle and Wilhelm II Coast, at every five degrees in

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latitude (or in the middle of successive two vertical stations) between Princess Astrid Coast and Cape Town and two times a day in the rest of the cruise.

The results of measurement and chemical analysis of water samples are given in Table 1.

Bathythermograph observation

Temperature in the upper layer (surface to about 300 meters) was measured with bathythermograph (BT) at almost the same frequency as the surface observation except in the icy region (Fig. 1 and Fig. 2).

The results of observation are given in Table 2.

Vertical (serial) observation

Vertical temperature measurement and water sampling were made at fifteen stations in the Southern Ocean (Fig. 2), using reversing thermometers and Nansen-type water bottles. The last eight stations, at every five degrees in latitude, are in the section from Princess Astrid Coast to Cape Town (10° – 15° E). Other stations are distributed between Syowa Station and the 100° E meridian along the track of the cruise.

The data obtained at these stations are listed in Table 3.

Chemical analysis of sea water

The water samples taken at the surface and vertical stations were analyzed for eight elements as the routine work. The following are the elements and the methods (or instruments) used for the analysis.

| | | |
|------------------|---|---|
| Salinity | : | Inductive salinometer |
| pH | : | Potentiometric method (pH-meter with glass electrode) |
| Dissolved oxygen | : | Winkler method |
| Silicate-Si | : | Photo-electric colorimetry |
| Phosphate-P | : | do. |
| Nitrite-N | : | do. |
| Nitrate-N | : | do. |
| Ammonium-N | : | do. |

Acknowledgements

The authors are indebted to Captain T. HONDA of the icebreaker FUJI and his officers and crew for their co-operation which enabled these observations.

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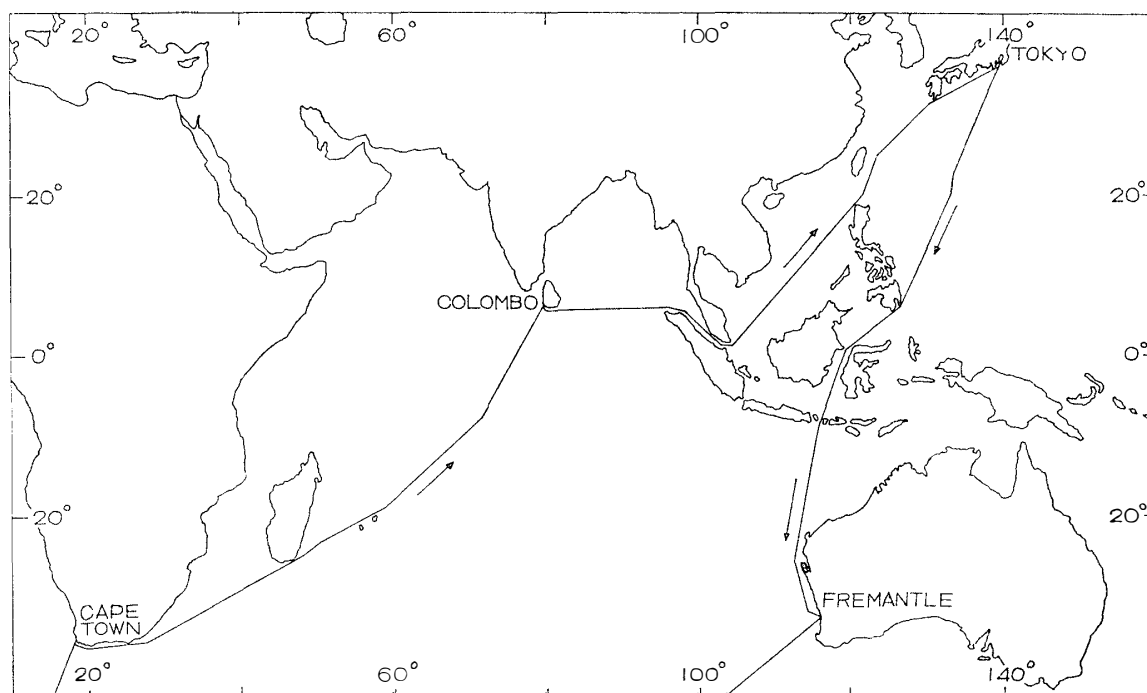


Fig 1 Track of JARE-7 cruise, 1965-66

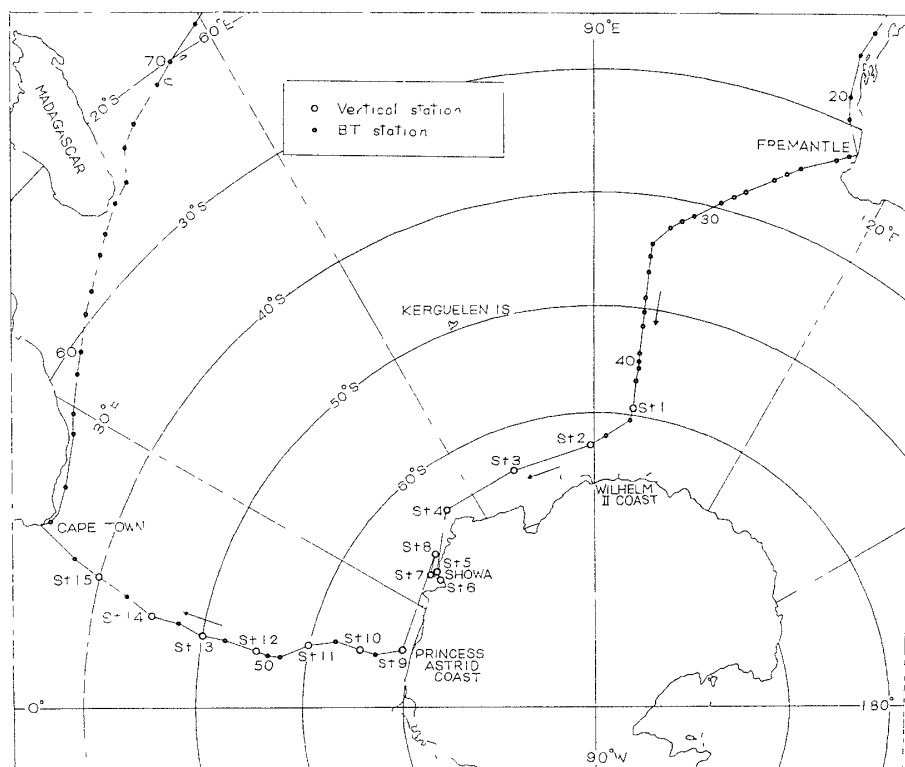


Fig 2. Track of JARE-7 cruise and oceanographic stations, 1965-66

Table 1. Surface observation data.

| Date | Time | | Position | | Air temp | Water temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Ammonia-N | Remarks |
|---------|------|------|----------|------------|----------|------------|----------|----------------|------------------|-------------|-------------|-----------|-----------|-----------|--------------|
| | LMT | GMT | Lat. | Long | °C | °C | ‰ | <i>in situ</i> | cc/L | μg-atoms/L | | | | | |
| 1965 | | | | | | | | | | | | | | | |
| Nov. 20 | 1400 | 0500 | Leave | Tokyo | — | — | — | — | — | — | — | — | — | — | |
| 21 | 0900 | 0000 | 32°-13'N | 137°-54' E | 19.5 | 25.5 | 34.56 | — | 4.89 | 0.33 | 3 | 0.01 | 0.5 | | BT-1 |
| 22 | 0900 | 0000 | 27-13 | 135-40 | 22.8 | 24.5 | 34.85 | 8.27 | 4.81 | 0.06 | 3 | 0.00 | 0.3 | | BT-2, GEK-1 |
| | 1800 | 0900 | 25-08 | 134-35 | 24.2 | 25.2 | 34.67 | — | 4.68 | 0.05 | 3 | 0.00 | 0.5 | | BT-3, GEK-2 |
| 23 | 0900 | 0000 | 22-17 | 133-42 | 26.3 | 27.1 | 34.66 | 8.28 | 4.55 | 0.13 | 3 | 0.01 | 0.3 | | BT-4, GEK-3 |
| | 1800 | 0900 | 20-48 | 133-59 | 27.2 | 27.3 | 34.66 | — | 4.59 | 0.05 | 2 | 0.02 | 0.5 | | |
| 24 | 0900 | 0000 | 18-36 | 134-32.5 | 27.1 | 27.7 | 34.72 | 8.29 | 4.62 | 0.13 | 3 | 0.01 | 0.5 | | |
| | 1800 | 0900 | 17-07.4 | 133-32 | 27.3 | 27.9 | 34.72 | — | 4.51 | 0.13 | 3 | 0.01 | 0.5 | | |
| 25 | 0900 | 0000 | 14-30 | 131-35 | 27.8 | 27.9 | 34.70 | 8.28 | 4.59 | 0.11 | 3 | 0.02 | 0.7 | | BT-5 |
| | 1800 | 0900 | 12-55.5 | 130-23 | 28.0 | 28.5 | 34.52 | — | 4.56 | 0.16 | 3 | 0.03 | 0.6 | | |
| 26 | 0900 | 0000 | 10-08.5 | 128-22 | 29.0 | 28.6 | 34.32 | 8.27 | 4.51 | 0.17 | 4 | 0.04 | 0.5 | | |
| | 1800 | 0900 | 8-24 | 127-24 | 28.3 | 28.8 | 34.45 | — | 4.60 | 0.16 | 3 | 0.03 | 0.9 | | BT-6 |
| 27 | 0900 | 0100 | 4-51.5 | 125-14 | 25.5 | 28.2 | 34.26 | 8.28 | 4.51 | 0.10 | 3 | 0.02 | 1.0 | | BT-7 |
| | 1800 | 1000 | 3-37.8 | 123-19.8 | 28.0 | 28.4 | 34.21 | — | 4.48 | 0.16 | 4 | 0.04 | 0.5 | | BT-8 |
| 28 | 0900 | 0100 | 1-26.8 | 120-17 | 27.5 | 28.3 | 33.85 | 8.24 | 4.51 | 0.19 | 5 | 0.07 | 0.9 | | BT-9 |
| | 1800 | 1000 | 0-06 0 | 119-17.6 | 28.7 | 29.0 | 33.27 | — | 4.45 | 0.03 | 4 | 0.01 | 0.6 | | |
| 29 | 0900 | 0100 | 3-42 9 | 118-40.5 | 29.0 | 29.2 | 33.67 | 8.26 | 4.46 | 0.02 | 4 | 0.04 | 0.6 | | BT-10 |
| | 1800 | 1000 | 5-46.8 | 118-48.5 | 28.5 | 29.6 | 34.11 | — | 4.44 | 0.05 | 4 | 0.04 | 0.5 | | BT-11 |
| 30 | 0900 | 0100 | 8-05 | 116-11.5 | 29.0 | 29.8 | 34.02 | 8.24 | 4.43 | 0.02 | 4 | 0.01 | 0.6 | | BT-12 |
| | 1800 | 1000 | 9-58 | 115-26 | 28.4 | 28.6 | 34.51 | — | 4.45 | 0.34 | 3 | 0.04 | 0.8 | | BT-13 |
| Dec. 1 | 0900 | 0100 | 13-14 | 114-50 | 28.0 | 28.2 | 34.69 | 8.19 | 4.42 | 0.10 | 3 | 0.00 | 0.6 | | BT-14 |
| | 1800 | 1000 | 15-12.5 | 114-33.5 | 27.3 | 27.4 | 34.66 | — | 4.48 | 0.10 | 3 | 0.02 | 0.5 | | BT-15 |
| 2 | 0900 | 0100 | 18-42 | 113-42 | 25.2 | 25.3 | 35.00 | 8.25 | 4.68 | 0.06 | 4 | 0.04 | 1.2 | | BT-16 |
| | 1800 | 1000 | 20-20 | 113-21 | 23.7 | 24.3 | 35.23 | — | 4.74 | 0.15 | 3 | 0.06 | 1.1 | | BT-17, GEK-4 |
| 3 | 0900 | 0100 | 23-25 | 112-45 | 21.6 | 23.6 | 35.23 | 8.24 | 4.73 | 0.10 | 4 | 0.07 | 1.0 | | BT-18, GEK-5 |
| | 1800 | 1000 | 25-15.5 | 112-05 | 22.7 | 20.5 | 35.40 | — | 4.88 | 0.12 | 3 | 0.07 | 1.1 | | BT-19, GEK-6 |

| Date | Time | | Position | | Air temp | Water temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Ammonia-N | Remarks |
|-------|------|------|------------|-----------|----------|------------|----------|----------------|------------------|-------------|-------------|-----------|-----------|-----------|------------------------------|
| | LMT | GMT | Lat | Long | °C | °C | ‰ | <i>in situ</i> | cc/L | μg-atoms/L | | | | | |
| Dec 4 | 0900 | 0100 | 28°-30 2'S | 112°-52'E | 19.8 | 20.6 | 35.70 | 8.26 | 5.05 | 0.12 | 3 | 0.07 | 1.7 | | BT-20, GEK-7 BT-21, GEK-8 |
| | 1800 | 1000 | 30-05 | 113-43 | 19.8 | 21.1 | 35.67 | - | 5.03 | 0.12 | 3 | 0.10 | 0.9 | | |
| 5 | 1000 | 0200 | Arrive in | Fremantle | - | - | - | - | - | - | - | - | - | - | |
| 11 | 1000 | 0200 | Leave | Fremantle | - | - | - | - | - | - | - | - | - | - | |
| | 1500 | 0700 | 32-15 5 | 114-55 2 | 27.6 | 23 5 | 35.69 | - | 5.03 | 0.27 | 3 | 0.11 | 0 7 | | BT-22 |
| | 2000 | 1200 | 32-54 | 114-05 | 19.7 | 19.6 | 35.78 | - | 5.20 | 0.12 | 3 | 0.08 | 1.2 | | BT-23, GEK-9 |
| 12 | 0900 | 0200 | 34-39.5 | 111-15 | 16.6 | 17.5 | 35.76 | 8.24 | 5.36 | 0.19 | 2 | 0.12 | 1.4 | | BT-24, GEK-10 |
| | 1500 | 0800 | 35-30.0 | 110-04.5 | 14 9 | 16.5 | 35.58 | - | 5.59 | 0.21 | 2 | 0.13 | 1.1 | | BT-25, GEK-11 |
| | 2100 | 1400 | 36-22 | 108-57 | 14.0 | 16.2 | 35.69 | - | 5.57 | 0.21 | 2 | 0.08 | 1 2 | | BT-26 |
| 13 | 0900 | 0200 | 37-55.1 | 106-33.4 | 12.5 | 14.0 | 35.31 | 8.25 | 5.94 | 0.40 | 1 | 0 17 | 4.8 | | BT-27, GEK-12 |
| | 1500 | 0800 | 38-41 | 105-22 | 13.3 | 14.1 | 35.22 | - | 6.00 | 0.40 | 2 | 0 17 | 4.5 | | BT-28, GEK-13 |
| | 2100 | 1400 | 39-26.2 | 104-12 | 12.0 | 12.5 | 34.92 | 8.25 | 6.16 | 0.63 | 3 | 0.19 | - | | BT-29 |
| 14 | 0900 | 0200 | 41-02 | 101-42 4 | 11 9 | 11.4 | 34.84 | 8.24 | 6.25 | 0 68 | 3 | 0.19 | - | | BT-30, GEK-14 |
| | 1500 | 0800 | 41-49.3 | 100-25 | 12.3 | 11.2 | 34 78 | - | 6.36 | 0.68 | 2 | 0.22 | - | | BT-31, GEK-15 |
| | 2100 | 1400 | 42-25.2 | 99-09.6 | 11.5 | 11.2 | 34.78 | 8.20 | 6.31 | 0.74 | 3 | 0.23 | 14 | | BT-32 |
| 15 | 0900 | 0300 | 44-04.4 | 97-09.1 | 12.6 | 10.4 | 34.72 | 8.16 | 6.32 | 0.80 | 4 | 0.26 | 13 | | BT-33, GEK-16 |
| | 1500 | 0900 | 45-11.5 | 97-12.0 | 11.0 | 7.4 | 34.09 | - | 6.75 | 1 22 | 3 | 0.27 | 20 | | BT-34, GEK-17 |
| | 2100 | 1500 | 46-35 0 | 97-14.5 | 9.6 | 6.7 | 34.10 | 8.18 | 6.81 | 1.23 | 4 | 0.27 | 18 | | BT-35 |
| 16 | 0900 | 0300 | 49-03.3 | 97-12.0 | 7.0 | 5 9 | 34.02 | 8 20 | 7.04 | 1.23 | 2 | 0.27 | 20 | | BT-36 |
| | 1500 | 0900 | 50-17.8 | 97-12.0 | 6.5 | 4.5 | 33 95 | - | 7.25 | 1.30 | 3 | 0.24 | 26 | | BT-37 |
| | 2100 | 1500 | 51-35.0 | 97-14.2 | 4 7 | 4.5 | 33 97 | 8.17 | 7.22 | 1.37 | 2 | 0.33 | 25 | | BT-38 |
| 17 | 0900 | 0300 | 54-08.0 | 97-20 8 | 2 3 | 1 6 | 34.01 | 8.14 | 7.62 | 1.54 | 14 | 0.32 | 28 | | BT-39 |
| | 1300 | 0700 | 54-59 0 | 97-22.8 | 2.0 | 2.2 | - | - | 7.51 | 1.34 | 6 | 0 33 | - | | BT-40 |
| | 1500 | 0900 | 55-24.8 | 97-24.0 | 2.0 | 1 2 | 34.01 | - | 7.90 | 1.50 | 18 | 0.34 | 28 | | BT-41 |
| | 2100 | 1500 | 56-41.5 | 97-25 0 | 1.0 | 0.6 | 33.97 | 8.14 | 7.96 | 1.57 | 23 | 0.36 | 19 | | BT-42 |
| 18 | 0900 | 0300 | 59-16.0 | 97-19 0 | 1 4 | 0.2 | 34.03 | 8.10 | 7.97 | - | 33 | 0.20 | 22 | | BT-43, St. 1 |
| | 2100 | 1500 | 60-25.8 | 97-10 | 1.0 | -0.3 | 34.04 | 8 09 | 7.90 | 1.68 | 39 | 0 25 | 21 | | BT-44 |
| 19 | 0900 | 0300 | 62-13.0 | 92-30.5 | 1.1 | -0.4 | 34.09 | 8.12 | 7.87 | 1.59 | 34 | 0.21 | 22 | | BT-45 |
| | 1600 | 1000 | 63-00 5 | 89-15.0 | 0.0 | -0.7 | 33.94 | - | 7.86 | - | 46 | 0.13 | 23 | | BT-46, St. 2 |

| Date | Time | | Position | | Air temp | Water temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate Si | Nitrite-N | Nitrate-N | Ammonia-N | Remarks |
|-----------------|------|------|------------|-------------|----------|------------|----------|----------------|------------------|-------------|-------------|-----------|-----------|-----------|---------|
| | LMT | GMT | Lat. | Long | °C | °C | ‰ | <i>in situ</i> | cc/L | μg-atoms/L | | | | | |
| Dec. 20 | 1500 | 0900 | 64°-01.5'S | 81°-25.0' E | -0.6 | -0.9 | 33.79 | - | 7.72 | 1.92 | 38 | 0.27 | - | | |
| | 2100 | 1500 | 64-13.5 | 78-43.5 | -1.0 | -0.8 | 33.78 | 8.12 | 7.73 | 1.81 | 41 | 0.28 | 26 | | |
| 21 | 0900 | 0400 | 64-11.5 | 72-44.0 | -1.2 | -0.9 | 33.26 | 8.12 | 7.60 | 1.75 | 39 | 0.32 | 21 | | St. 3 |
| | 1700 | 1200 | 64-17.5 | 71-15.5 | -1.0 | -1.1 | 33.47 | - | 7.53 | - | 46 | 0.23 | 30 | | |
| 22 | 0900 | 0400 | 62-25.6 | 70-24.5 | -1.0 | -1.0 | 32.84 | 8.09 | 7.70 | 1.69 | 33 | 0.32 | 22 | | St. 4 |
| | 1500 | 1000 | 62-46.7 | 68-31.0 | -0.3 | -0.9 | 32.57 | - | 7.86 | 1.61 | 30 | 0.33 | 25 | | |
| | 1800 | 1300 | 62-50.5 | 67-30.0 | -0.7 | -0.4 | 33.00 | - | - | - | - | - | - | | |
| | 2100 | 1600 | 62-49.0 | 66-35.0 | -2.2 | -1.1 | 32.77 | 8.12 | 7.66 | 1.68 | 31 | 0.29 | 24 | | |
| 23 | 0900 | 0500 | 63-49.0 | 60-53.0 | -1.7 | -0.2 | 33.35 | 8.13 | 7.95 | 1.45 | 34 | 0.26 | 23 | | |
| | 1500 | 1100 | 63-41.1 | 58-55.5 | 0.9 | 1.9 | 33.11 | - | 7.98 | 1.28 | 36 | 0.30 | 21 | | |
| | 2100 | 1700 | 64-29.2 | 56-47.8 | -0.2 | 0.3 | 33.55 | 8.25 | 7.90 | 1.42 | 35 | 0.29 | 24 | | |
| 24 | 0900 | 0500 | 64-39.7 | 53-20.0 | -2.2 | -1.6 | 33.65 | 8.10 | 7.69 | 1.75 | 40 | 0.27 | 23 | | |
| | 1300 | 0900 | 64-36.0 | 53-14.5 | -1.3 | -1.3 | 33.58 | - | 7.67 | 1.81 | 41 | 0.24 | 18 | | |
| | 2100 | 1700 | 64-27.2 | 51-58.0 | -1.6 | -1.4 | 33.59 | 8.17 | 7.84 | 1.72 | 40 | 0.26 | 24 | | |
| 25 | 0900 | 0500 | 64-41.0 | 49-06.5 | -1.5 | -1.0 | 33.69 | 8.11 | 7.80 | 1.84 | 44 | 0.26 | 30 | | |
| | 2100 | 1700 | 64-38.8 | 47-07.0 | -1.0 | -1.6 | 33.71 | 8.19 | 7.43 | 1.80 | 44 | 0.20 | 31 | | |
| 26 | 0830 | 0530 | 64-39.8 | 46-45.8 | -0.9 | -1.6 | 33.90 | 8.13 | 7.19 | 1.81 | 47 | 0.19 | 27 | | |
| | 1800 | 1500 | 64-40.8 | 46-13.5 | -0.9 | -1.6 | 33.91 | - | 7.18 | 1.82 | 48 | 0.18 | 29 | | |
| 27 | 0900 | 0600 | 64-43.3 | 45-22.0 | -1.2 | -1.7 | 33.91 | 8.09 | 7.23 | 1.78 | 47 | 0.18 | - | | |
| | 1800 | 1500 | 64-51.0 | 45-13.0 | -0.9 | -1.6 | 33.97 | - | 7.17 | 1.79 | 47 | 0.16 | 23 | | |
| 28 | 0900 | 0600 | 65-58.6 | 45-42.5 | 1.8 | -1.5 | 34.07 | 8.06 | 7.23 | 1.84 | 47 | 0.07 | 25 | | |
| | 1800 | 1500 | 65-57.9 | 44-22.0 | -0.3 | -0.9 | 33.79 | - | 7.15 | 1.81 | 47 | 0.11 | 25 | | |
| 29 | 0900 | 0600 | 66-50.0 | 43-17.0 | -2.5 | -1.7 | 33.63 | - | 6.88 | 1.78 | 50 | 0.14 | 26 | | |
| | 1800 | 1500 | 67-20.0 | 43-35.0 | 0.5 | -0.8 | 33.64 | - | 7.44 | 1.79 | 52 | 0.20 | 26 | | |
| 30 | 0900 | 0600 | 68-26.6 | 40-42.0 | 0.0 | -0.8 | 34.08 | - | 7.32 | 1.79 | 53 | 0.10 | 24 | | |
| 1966 Jan. 19 | 1030 | 0730 | 68-25.0 | 40-52.2 | 0.0 | -0.8 | 33.66 | - | 7.87 | 1.81 | 49 | 0.21 | 24 | | St. 5 |
| Feb. | 1 | 1630 | 69-11.7 | 39-32.7 | 0.3 | 0.3 | (27.3>) | - | 10.10 | 0.18 | 32 | 0.05 | 15 | | St. 6 |
| | 2 | 1500 | 68-07.1 | 38-50.5 | -1.5 | -0.6 | 32.78 | - | 7.85 | 2.05 | 49 | 0.30 | 21 | | St. 7 |
| | 6 | 1800 | 67-11.3 | 43-50.0 | -0.5 | -0.8 | 33.61 | - | 7.71 | 1.91 | 48 | 0.21 | 18 | | St. 8 |

| Date | Time | | Position | | Air temp. | Water temp | Salinity | pH <i>in situ</i> | Dissolved oxygen | Phosphate-P | Silicate Si | Nitrite-N | Nitrate-N | Ammonia-N | Remarks |
|--------|------|------|------------|------------|-----------|------------|----------|----------------------|------------------|-------------|-------------|-----------|-----------|-----------|---------|
| | LMT | GMT | Lat | Long | °C | °C | ‰ | | cc/L | μg-atoms/L | | | | | |
| Feb. 8 | 0900 | 0700 | 68°-29.1'S | 31°-33.0'E | -5.2 | -1.0 | 33.71 | - | 7.97 | 1.95 | 45 | 0.18 | - | | |
| | 1200 | 1000 | 68-50.0 | 30-06.0 | -4.8 | -0.4 | 33.53 | - | 7.90 | 1.78 | 37 | 0.20 | - | | |
| | 1800 | 1600 | 69-10.5 | 29-18.0 | -2.2 | -1.4 | 33.02 | - | 8.16 | 1.51 | 38 | 0.17 | - | | |
| 9 | 0900 | 0700 | 70-20.0 | 24-19.0 | -11.0 | -1.4 | 33.17 | - | 9.01 | 0.97 | 33 | 0.12 | 10 | | |
| 10 | 1200 | 1000 | 70-23.3 | 24-07.0 | -8.9 | -1.5 | 33.24 | - | 8.77 | 1.13 | 34 | 0.10 | 11 | | |
| 12 | 2100 | 1900 | 69-33.0 | 21-59.0 | -3.6 | -0.4 | 33.28 | - | 8.07 | 1.51 | 37 | 0.22 | 16 | | |
| 13 | 0900 | 0700 | 69-23.5 | 17-24.0 | -5.0 | -1.1 | 33.04 | 8.31 | 8.43 | 1.25 | 36 | 0.16 | - | | |
| | 1100 | 0900 | 69-08.6 | 16-37.0 | -2.7 | -0.8 | 33.35 | - | 8.29 | 1.59 | 41 | 0.17 | 18 | | St 9 |
| | 1500 | 1300 | 68-37.3 | 15-31.0 | -1.7 | -1.2 | 33.63 | - | 7.91 | 1.61 | 38 | 0.22 | 20 | | |
| | 1800 | 1600 | 68-32.7 | 14-11.9 | -1.5 | -1.2 | 33.00 | - | 8.44 | 1.47 | 38 | 0.20 | 16 | | |
| 14 | 0830 | 0630 | 66-41.8 | 13-42.1 | 0.3 | 0.8 | 34.07 | 8.40 | 7.65 | 1.76 | 33 | 0.34 | 21 | | BT-47 |
| | 1720 | 1520 | 64-58.3 | 13-56.7 | 1.8 | 1.4 | 34.05 | - | 7.59 | 1.90 | 54 | 0.30 | 27 | | St 10 |
| 15 | 1500 | 1300 | 62-31.7 | 14-22.0 | 1.3 | 0.9 | 34.05 | 8.20 | 7.66 | 1.57 | 45 | 0.15 | 20 | | BT-48 |
| 16 | 0800 | 0600 | 59-56.0 | 12-15.6 | 0.6 | 0.8 | 33.88 | - | 7.62 | 1.67 | 45 | 0.14 | 20 | | St 11 |
| 17 | 0500 | 0300 | 57-26.3 | 9-01.0 | 1.0 | 0.9 | 33.86 | 8.18 | 7.63 | 1.54 | 44 | 0.25 | 23 | | BT-49 |
| | 1230 | 1030 | 56-19.3 | 9-03.0 | 1.8 | 1.0 | 33.87 | - | - | - | - | - | - | | BT-50 |
| | 1600 | 1400 | 55-49.0 | 9-15.5 | 0.2 | 1.1 | 33.95 | - | 7.54 | 1.65 | 47 | 0.27 | - | | |
| | 2000 | 1800 | 55-12.5 | 9-32.5 | 1.9 | 1.0 | 34.04 | - | 7.52 | 1.70 | 48 | 0.20 | 23 | | St 12 |
| 18 | 1000 | 0800 | 53-38 | 10-20 | 1.8 | 1.3 | 34.00 | - | 7.48 | 1.71 | 43 | 0.29 | - | | |
| | 1530 | 1330 | 52-02.1 | 10-21.4 | 3.2 | 2.6 | 33.87 | 8.19 | 7.42 | 1.67 | 18 | 0.33 | 24 | | BT-51 |
| | 1800 | 1600 | 51-55.8 | 10-21.8 | 3.0 | 2.5 | 33.88 | - | 7.43 | 1.67 | 19 | 0.34 | - | | |
| | 2100 | 1900 | 51-17.9 | 10-23.6 | 3.2 | 2.7 | 33.87 | - | 7.33 | 1.73 | 19 | 0.34 | - | | |
| 19 | 0300 | 0100 | 50-02.5 | 10-29.4 | 3.9 | 3.8 | 33.89 | - | 7.09 | 1.51 | 1 | 0.28 | 20 | | St 13 |
| | 1700 | 1500 | 47-34.0 | 11-34.0 | 5.7 | 4.7 | 34.10 | 8.15 | 7.05 | 1.52 | 4 | 0.35 | 21 | | BT-52 |
| 20 | 0500 | 0300 | 45-12.5 | 11-44.5 | 6.7 | 7.6 | 34.07 | - | 6.56 | 1.53 | 1 | 0.20 | 16 | | St 14 |
| | 2330 | 2130 | 42-41.0 | 13-26.3 | 8.9 | 9.0 | 34.16 | 8.20 | 6.54 | 1.24 | 3 | 0.23 | 17 | | BT-53 |
| 21 | 2000 | 1800 | 39-57.0 | 14-54.0 | 12.2 | 15.0 | 35.22 | - | 5.58 | 0.49 | 1 | 0.12 | 2.3 | | St 15 |
| 22 | 1625 | 1425 | 37-24.5 | 16-03.0 | 18.8 | 19.4 | 35.52 | 8.29 | 5.13 | 0.20 | 1 | 0.06 | 0.0 | | BT-54 |
| 23 | 0900 | 0700 | 34-04.3 | 18-01.5 | 16.9 | 19.1 | 35.43 | 8.30 | 5.13 | 0.17 | 2 | 0.06 | 0.4 | | |

| Date | Time | | Position | | Air temp | Water temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Ammonia-N | Remarks |
|---------|------|------|-------------|-------------|----------|------------|----------|----------------|------------------|-------------|-------------|-----------|-----------|-----------|---------|
| | LMT | GMT | Lat | Long | °C | °C | ‰ | <i>in situ</i> | cc/L | μg-atoms/L | | | | | |
| Feb. 24 | 0800 | 0600 | Arrive in | CapeTown | — | — | — | — | — | — | — | — | — | — | |
| Mar 3 | 1000 | 0800 | Leave | CapeTown | — | — | — | — | — | — | — | — | — | — | |
| | 1800 | 1600 | 34°-45 3' S | 18°-57 1' E | 19.1 | 20.3 | 35.48 | — | 4.92 | 0.29 | 2 | 0.05 | 0.6 | 1.6 | BT-55 |
| 4 | 0900 | 0700 | 34-51.0 | 22-38.9 | 21.8 | 22.2 | 35.35 | 8.29 | 4.87 | 0.25 | 3 | 0.07 | 0.6 | 0.8 | BT-56 |
| | 1800 | 1600 | 34-34.8 | 24-37.4 | 22.7 | 23.5 | 35.36 | — | 4.75 | 0.20 | 2 | 0.05 | 0.5 | 1.7 | |
| 5 | 0900 | 0700 | 33-37.3 | 27-50 8 | 25.5 | 26.5 | 35.02 | 8.29 | 4.52 | 0 32 | 3 | 0.09 | 0.5 | 0.9 | BT-57 |
| | 1800 | 1600 | 32-51.0 | 29-31.4 | 24.0 | 24.1 | 35.60 | — | 4.80 | 0.14 | 2 | 0.06 | 0.5 | 0.8 | BT-58 |
| 6 | 0900 | 0700 | 31-31.0 | 32-52.0 | 24.3 | 24.5 | 35.53 | 8.30 | 4.73 | 0.17 | 3 | 0.06 | 0.4 | 0.6 | BT-59 |
| | 1800 | 1600 | 30-37.7 | 34-49.5 | 24.7 | 24.5 | 35.51 | — | 4.72 | 0.16 | 3 | 0.03 | 0.4 | 0.6 | BT-60 |
| 7 | 0900 | 0600 | 29-26.4 | 37-42.9 | 25.9 | 25.3 | 35.46 | 8.29 | 4.61 | 0.19 | 3 | 0.04 | 0.7 | 0.6 | BT-61 |
| | 1800 | 1500 | 28-46.2 | 39-36.8 | 26.9 | 27.2 | 35.13 | — | 4.51 | 0.22 | 3 | 0.04 | 0.4 | 0.8 | BT-62 |
| 8 | 0900 | 0600 | 27-23.1 | 42-26.0 | 27.2 | 27.3 | 35.26 | 8.28 | 4.45 | 0.19 | 3 | 0.06 | 0.4 | 0.5 | BT-63 |
| | 1800 | 1500 | 26-40.0 | 43-58.3 | 27.0 | 27.1 | 35.13 | — | 4.47 | 0.19 | 3 | 0.05 | 0.5 | 0.4 | BT-64 |
| 9 | 0900 | 0600 | 25-35.8 | 46-23.3 | 27.2 | 26.6 | 34.89 | 8.28 | 4.48 | 0.32 | 4 | 0.04 | 0.4 | 0.5 | BT-65 |
| | 1800 | 1500 | 24-54.5 | 48-09.4 | 27.2 | 27.6 | 35.07 | — | 4.38 | 0.22 | 3 | 0.04 | 0.3 | 0.5 | BT-66 |
| 10 | 0900 | 0600 | 23-01.7 | 49-48.0 | 27.4 | 26.7 | 34.99 | 8.29 | 4.66 | 0.25 | 4 | 0.07 | 0.5 | 0.2 | BT-67 |
| | 1800 | 1500 | 22-11.1 | 51-35.7 | 27.2 | 27.0 | 34.95 | — | 4.57 | 0.31 | 3 | 0.01 | 0.4 | 0.0 | BT-68 |
| 11 | 0900 | 0500 | 20-56.5 | 54-36.7 | 27.3 | 27.4 | 35.05 | 8.22 | 4.45 | 0.31 | 3 | 0.04 | 0.4 | 0.7 | BT-69 |
| | 1800 | 1400 | 20-09.0 | 56-35.0 | 27.2 | 27.3 | 35.05 | — | 4.52 | 0.25 | 3 | 0.02 | 0.4 | 1.0 | BT-70 |
| 12 | 0900 | 0500 | 18-52.7 | 59-32.0 | 27.1 | 27.4 | 34.97 | 8.29 | 4.50 | 0.31 | 3 | 0.04 | 0.3 | 0.3 | BT-71 |
| | 1800 | 1400 | 17-47.0 | 61-08.7 | 27.0 | 27.5 | 34.93 | — | 4.40 | 0.30 | 3 | 0.03 | 0.4 | 0.3 | BT-72 |
| 13 | 0900 | 0500 | 15-40.5 | 63-25.9 | 24.0 | 27.0 | 34.95 | 8.27 | 4.50 | 0.26 | 4 | 0.08 | 0.3 | 0.5 | BT-73 |
| | 1800 | 1400 | 14-27.2 | 64-50.2 | 26.8 | 27.5 | 34.64 | — | 4.49 | 0.28 | 3 | 0.02 | 0.4 | 0.7 | BT-74 |
| 14 | 0900 | 0500 | 12-25.0 | 67-12.5 | 28.3 | 28.5 | 34.31 | 8.27 | 4.39 | 0.26 | 3 | 0.01 | 0.4 | — | BT-75 |
| | 1800 | 1400 | 11-21.1 | 68-46.8 | 27.6 | 29.5 | 34.45 | — | 4.40 | 0.30 | 3 | 0.02 | 0.4 | — | BT-76 |
| 15 | 0900 | 0400 | 9-12.0 | 71-05.5 | 25.5 | 28.5 | 33.91 | 8.28 | 4.43 | 0.14 | 3 | 0.04 | 0.5 | — | BT-77 |
| | 1800 | 1300 | 7-51.0 | 72-35.0 | 27.2 | 27.9 | 34.35 | — | 4.40 | 0.30 | 3 | 0.02 | 0.4 | — | BT-78 |
| 16 | 0900 | 0400 | 4-45.3 | 74-20.8 | 27.9 | 28.8 | 34.18 | 8.27 | 4.33 | 0.18 | 3 | 0.06 | 0.5 | — | BT-79 |
| | 1800 | 1300 | 2-56.0 | 75-13.5 | 24.6 | 28.6 | 34.61 | — | 4.44 | 0.26 | 3 | 0.03 | 0.4 | — | BT-80 |
| 17 | 0900 | 0400 | 0-06.2 N | 76-42.3 | 28.5 | 29.3 | 34.53 | 8.28 | 4.39 | 0.25 | 3 | 0.04 | 0.5 | — | BT-81 |
| | 1800 | 1300 | 1-39.7 | 77-28.9 | 28.2 | 29.3 | 34.50 | — | 4.37 | 0.23 | 3 | 0.03 | 0.5 | — | BT-82 |

| Date | Time | | Position | | Air temp | Water temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Ammonia-N | Remarks |
|--------|------|------|------------|-------------|----------|------------|----------|----------------|------------------|-------------|-------------|-----------|-----------|-----------|------------------|
| | LMT | GMT | Lat | Long | °C | °C | ‰ | <i>in situ</i> | cc/L | μg-atoms/L | | | | | |
| Mar 18 | 0845 | 0315 | 4°-12 7' N | 78°-45 6' E | 28.4 | 28.9 | 34.39 | 8.28 | 4.33 | 0.25 | 3 | 0.02 | 0.5 | | BT-83 BT-84 |
| | 1800 | 1230 | 5-22.4 | 79-08.4 | 28.7 | 28.8 | 33.76 | - | 4.39 | 0.22 | 3 | 0.04 | 0.6 | | |
| 19 | 0700 | 0130 | Arrive in | Colombo | - | - | - | - | - | - | - | - | - | - | BT-85 |
| 23 | 1100 | 0530 | Leave | Colombo | - | - | - | - | - | - | - | - | - | - | |
| | 1800 | 1230 | 5-49.0 | 80-32.8 | 28.8 | 28.7 | 33.95 | - | 4.52 | 0.25 | 3 | 0.03 | 0.3 | | BT-86 BT-87 |
| | 0900 | 0300 | 5-48.9 | 83-44.8 | 29.1 | 29.4 | 34.39 | 8.26 | 4.27 | 0.25 | 3 | 0.05 | 0.3 | | |
| 24 | 1800 | 1200 | 5-50.5 | 85-37.6 | 28.6 | 29.2 | 33.67 | - | 4.38 | 0.17 | 3 | 0.04 | 0.2 | | BT-88 BT-89 |
| | 0900 | 0300 | 5-53.9 | 88-49.5 | 29.1 | 29.4 | 34.06 | 8.27 | 4.38 | 0.20 | 3 | 0.04 | 0.2 | | |
| 25 | 1800 | 1200 | 6-02.0 | 90-53.5 | 28.2 | 29.2 | 33.30 | - | 4.33 | 0.16 | 2 | 0.04 | 0.0 | | BT-90 BT-91 |
| | 0900 | 0300 | 6-13.0 | 93-57.2 | 28.9 | 28.9 | 33.37 | 8.27 | 4.42 | 0.14 | 4 | 0.04 | 0.1 | | |
| 26 | 1800 | 1200 | 5-56.7 | 95-57.1 | 29.1 | 29.1 | 32.58 | - | 4.42 | 0.10 | 3 | 0.04 | 0.1 | | BT-92 BT-93 |
| | 0900 | 0200 | 4-27.0 | 98-50.2 | 25.7 | 28.8 | 32.41 | 8.27 | 4.37 | 0.14 | 5 | 0.02 | 0.3 | | |
| 27 | 1800 | 1100 | 3-11.0 | 100-26.2 | 28.4 | 29.4 | 30.90 | - | 4.39 | 0.22 | 6 | 0.04 | 0.1 | | BT-94 BT-95 |
| | 0900 | 0200 | 1-22.2 | 103-13.0 | 26.7 | 29.2 | 31.84 | 8.25 | 4.30 | 0.23 | 5 | 0.06 | 0.4 | | |
| 28 | 1800 | 1100 | 1-52.1 | 104-46.8 | 27.9 | 29.2 | 32.30 | - | 4.48 | 0.14 | 3 | 0.03 | 0.3 | | BT-96 BT-97 |
| | 0900 | 0200 | 4-37.0 | 106-35.0 | 29.0 | 28.9 | 33.56 | 8.28 | 4.44 | 0.10 | 3 | 0.05 | 0.2 | | |
| 29 | 1800 | 1100 | 6-07.3 | 107-48.0 | 28.1 | 29.4 | 33.22 | - | 4.40 | 0.10 | 3 | 0.04 | 0.2 | | BT-98 BT-99 |
| | 0900 | 0200 | 8-34.9 | 110-02.4 | 28.9 | 28.9 | 33.55 | 8.26 | 4.37 | 0.10 | 4 | 0.02 | 0.2 | | |
| 30 | 1800 | 1100 | 10-03.3 | 111-23.0 | 28.3 | 29.0 | 33.52 | - | 4.38 | 0.08 | 3 | 0.04 | 0.2 | | BT-100 BT-101 |
| | 0900 | 0200 | 12-36.5 | 113-23.9 | 28.7 | 28.5 | 33.50 | 8.29 | 4.44 | 0.08 | 4 | 0.04 | 0.2 | | |
| 31 | 1800 | 1100 | 13-55.0 | 114-55.8 | 28.4 | 28.6 | 33.67 | - | 4.39 | 0.07 | 3 | 0.03 | 0.2 | | BT-102 |
| | 0900 | 0100 | 15-55.2 | 117-14.0 | 27.7 | 27.5 | 33.52 | 8.28 | 4.63 | 0.07 | 4 | 0.05 | 0.2 | | |
| Apr 1 | 1800 | 1000 | 17-07.7 | 118-43.1 | 27.9 | 27.9 | 33.68 | - | 4.52 | 0.10 | 4 | 0.04 | 0.2 | | BT-96 BT-97 |
| | 0900 | 0100 | 19-20.3 | 121-01.6 | 26.3 | 26.1 | 33.92 | 8.29 | 4.63 | 0.20 | 3 | 0.04 | 0.3 | | |
| 2 | 1800 | 1000 | 20-43.0 | 122-16.2 | 25.5 | 26.7 | 34.83 | - | 4.56 | 0.17 | 3 | 0.06 | 0.2 | | BT-98 BT-99 |
| | 0900 | 0100 | 24-04.0 | 123-15.5 | 24.0 | 23.8 | 34.77 | 8.32 | 4.75 | 0.18 | 3 | 0.04 | 0.3 | | |
| 3 | 1800 | 1000 | 25-24.0 | 124-30.0 | 23.9 | 24.0 | 34.79 | - | 4.75 | 0.22 | 3 | 0.04 | 0.3 | | BT-100 BT-101 |
| | 0900 | 0000 | 27-44.3 | 126-56.5 | 20.1 | 24.1 | 34.80 | 8.31 | 4.68 | 0.22 | 3 | 0.04 | 0.3 | | |
| 4 | 1800 | 0900 | 29-14.0 | 127-51.5 | 17.6 | 23.2 | 34.83 | - | 4.70 | 0.23 | 3 | 0.06 | 0.4 | | BT-102 |
| | 0900 | 0000 | 30-38.8 | 130-18.0 | 15.0 | 21.4 | 34.79 | 8.30 | 4.85 | 0.26 | 4 | 0.15 | 0.5 | | |

Table 2 Bathythermograph observation data.

| St No | Date | | | Time GMT | Time Meridian | Latitude | Longitude | Temperature (°C) at indicated depth (m) | | | | | | | | | | |
|-------|------|-----|------|-------------|------------------|----------|-----------|---|------|------|------|------|------|------|------|------|------|------|
| | Day | Mo | Yr. | | | | | 0 | 10 | 20 | 30 | 50 | 75 | 100 | 125 | 150 | 200 | 250 |
| 1 | 21 | Nov | 1965 | 0000 | 0900 | 32°-13'N | 137°-54'E | 25.5 | 25.5 | 25.5 | 25.5 | 25.4 | 25.1 | 23.4 | - | - | - | - |
| 2 | 22 | | | 0000 | 0900 | 27-13 | 135-40 | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.1 | 21.6 | 20.2 | 19.4 | 18.3 | 17.7 |
| 3 | 22 | | | 0900 | 1800 | 25-08 | 134-35 | 25.2 | 25.2 | 25.2 | 25.2 | 25.1 | 24.5 | 21.8 | 20.3 | 19.2 | 17.9 | 17.2 |
| 4 | 23 | | | 0000 | 0900 | 22-17 | 133-42 | 27.1 | 27.1 | 27.1 | 27.1 | 26.1 | 24.2 | 22.4 | 21.6 | 19.9 | 18.3 | 17.3 |
| 5 | 25 | | | 0000 | 0900 | 14-30 | 131-35 | 27.9 | 27.9 | 27.9 | 27.9 | 27.8 | 27.7 | 27.1 | 25.2 | 23.7 | 18.9 | 15.1 |
| 6 | 26 | | | 0900 | 1800 | 8-24 | 127-24 | 28.8 | 28.8 | 28.7 | 28.7 | 28.2 | 25.7 | 22.3 | 18.9 | 16.7 | 12.7 | 10.1 |
| 7 | 27 | | | 0100 | 0900 | 4-52 | 125-14 | 28.2 | 28.2 | 27.7 | 27.7 | 27.2 | 24.7 | 21.3 | 20.3 | 17.4 | 15.9 | 12.7 |
| 8 | 27 | | | 1000 | 1800 | 3-38 | 123-20 | 28.4 | 28.5 | 28.4 | 28.4 | 28.4 | 28.2 | - | - | - | - | - |
| 9 | 28 | | | 0100 | 0900 | 1-27 | 120-17 | 28.3 | 28.3 | 28.3 | 28.3 | 26.6 | 25.5 | 22.5 | 16.8 | 16.2 | 14.7 | - |
| 10 | 29 | | | 0100 | 0900 | 3-43 S | 118-41 | 29.2 | 29.2 | 29.2 | 28.8 | 28.6 | 26.8 | 23.6 | 18.9 | 15.4 | 13.7 | - |
| 11 | 29 | | | 1000 | 1800 | 5-47 | 118-49 | 29.6 | 29.7 | 29.6 | 29.4 | 28.1 | 27.3 | 27.1 | 23.8 | 18.8 | 14.7 | 12.3 |
| 12 | 30 | | | 0100 | 0900 | 8-05 | 116-12 | 29.8 | 29.8 | 29.2 | 29.0 | 27.9 | 26.0 | 21.0 | 18.1 | 15.9 | 13.6 | - |
| 13 | 30 | | | 1000 | 1800 | 9-58 | 115-26 | 28.6 | 28.6 | 28.2 | 27.4 | 26.8 | 26.1 | 23.5 | 18.2 | 15.8 | 13.2 | - |
| 14 | 1 | | | 0100 | 0900 | 13-14 | 114-50 | 28.2 | 28.2 | 27.4 | 26.9 | 25.6 | 24.7 | 22.1 | 19.8 | 18.5 | 16.7 | 14.5 |
| 15 | 1 | | | 1000 | 1800 | 15-13 | 114-34 | 27.4 | 27.4 | 27.3 | 26.4 | 25.9 | 24.3 | 23.8 | 28.6 | 20.9 | 19.4 | - |
| 16 | 2 | | | 0100 | 0900 | 18-42 | 113-42 | 25.3 | 25.3 | 25.3 | 25.2 | 24.8 | 23.9 | 23.0 | 21.6 | 20.2 | 18.8 | 15.4 |
| 17 | 2 | | | 1000 | 1800 | 20-20 | 113-21 | 24.3 | 24.3 | 24.3 | 24.3 | 23.9 | 23.0 | 22.3 | 21.4 | 20.6 | 18.9 | 17.2 |
| 18 | 3 | | | 0100 | 0900 | 23-25 | 112-45 | 23.6 | 23.6 | 23.6 | 23.6 | 22.4 | 21.8 | 20.8 | 20.1 | 19.6 | 18.6 | 16.5 |
| 19 | 3 | | | 1000 | 1800 | 25-16 | 112-05 | 22.7 | 22.7 | 22.7 | 22.6 | 22.0 | - | - | - | - | - | - |
| 20 | 4 | | | 0100 | 0900 | 28-30 | 112-52 | 20.6 | 20.6 | 20.2 | 19.4 | 19.0 | 18.3 | 17.7 | 17.0 | 16.1 | 14.7 | 13.2 |
| 21 | 4 | | | 1000 | 1800 | 30-05 | 113-43 | 21.1 | 20.9 | 20.6 | 19.9 | 19.1 | 18.6 | 17.8 | 17.1 | 16.4 | 15.3 | 14.1 |
| 22 | 11 | | | 0700 | 1500 | 32-16 | 114-55 | 23.5 | 21.0 | 20.8 | 20.7 | 20.2 | 19.9 | 19.4 | 19.0 | 18.7 | 17.8 | - |
| 23 | 11 | | | 1200 | 2000 | 32-54 | 114-05 | 19.6 | 19.5 | 19.3 | 18.9 | 17.2 | 16.4 | 15.5 | 15.0 | 14.5 | 13.4 | - |
| 24 | 12 | | | 0200 | 0900 | 34-40 | 111-15 | 17.5 | 17.5 | 17.5 | 17.4 | 15.8 | 15.1 | 14.3 | 13.7 | 12.9 | 12.0 | 11.2 |
| 25 | 12 | | | 0800 | 1500 | 35-30 | 110-05 | 16.5 | 16.6 | 15.9 | 15.4 | 14.4 | 13.7 | 13.2 | 12.7 | 12.2 | 11.6 | 11.2 |

| St No | Date | | | Time GMT | Time Meridian | Latitude | Longitude | Temperature (°C) at indicated depth (m) | | | | | | | | | | |
|-------|------|-----|------|-------------|------------------|----------|-----------|---|------|------|------|------|------|------|------|------|------|------|
| | Day | Mo | Yr. | | | | | 0 | 10 | 20 | 30 | 50 | 75 | 100 | 125 | 150 | 200 | 250 |
| 26 | 12 | Dec | 1965 | 1400 | 2100 | 36°-22'S | 108°-57'E | 16.2 | 16.3 | 15.9 | 15.8 | 15.1 | 14.8 | 14.6 | 14.5 | 14.3 | 13.3 | 12.6 |
| 27 | 13 | | | 0200 | 0900 | 37-55 | 106-33 | 14.0 | 14.0 | 13.9 | 13.9 | 13.3 | 12.2 | 11.8 | 11.7 | 11.8 | 11.6 | 11.6 |
| 28 | 13 | | | 0800 | 1500 | 38-41 | 105-22 | 14.1 | 14.1 | 13.9 | 13.8 | 13.3 | 12.8 | 12.4 | 12.1 | 11.8 | 11.7 | 11.3 |
| 29 | 13 | | | 1400 | 2100 | 39-26 | 104-12 | 12.5 | 12.4 | 12.3 | 12.3 | 11.9 | 12.1 | 11.9 | 11.7 | 11.5 | 11.1 | 10.6 |
| 30 | 14 | | | 0200 | 0900 | 41-02 | 101-42 | 11.4 | 11.4 | 11.4 | 11.2 | 11.1 | 10.8 | 9.8 | 9.8 | 9.8 | 9.5 | 9.4 |
| 31 | 14 | | | 0800 | 1500 | 41-49 | 100-25 | 11.2 | 11.2 | 11.2 | 10.8 | 10.7 | 10.6 | 10.0 | 9.9 | 9.9 | 9.8 | - |
| 32 | 14 | | | 1400 | 2100 | 42-25 | 99-10 | 11.2 | 11.2 | 11.2 | 11.1 | 10.8 | 10.7 | 10.1 | 10.0 | 10.0 | 9.9 | 9.9 |
| 33 | 15 | | | 0300 | 0900 | 44-04 | 97-09 | 10.4 | 10.4 | 10.4 | 10.4 | 10.3 | 10.2 | 10.1 | 9.9 | 9.7 | 9.6 | - |
| 34 | 15 | | | 0900 | 1500 | 45-12 | 97-12 | 7.4 | 7.4 | 7.3 | 7.3 | 6.9 | 6.8 | 6.6 | 6.4 | 6.2 | 5.9 | 6.2 |
| 35 | 15 | | | 1500 | 2100 | 46-35 | 97-15 | 6.7 | 6.7 | 6.7 | 6.7 | 6.7 | 6.3 | 5.2 | 5.1 | 5.1 | 4.7 | - |
| 36 | 16 | | | 0300 | 0900 | 49-03 | 97-12 | 5.9 | 5.9 | 5.9 | 5.9 | 5.8 | 5.7 | 5.4 | 4.6 | 3.9 | 3.2 | 2.7 |
| 37 | 16 | | | 0900 | 1500 | 50-18 | 97-12 | 4.5 | 4.5 | 4.4 | 4.4 | 4.3 | 4.1 | 3.6 | 3.6 | 3.6 | 2.4 | - |
| 38 | 16 | | | 1500 | 2100 | 51-35 | 97-14 | 4.5 | 4.5 | 4.5 | 4.4 | 4.2 | 3.9 | 3.4 | 3.1 | 2.9 | 2.9 | 2.9 |
| 39 | 17 | | | 0300 | 0900 | 54-08 | 97-21 | 1.6 | 1.6 | 1.6 | 1.6 | 1.4 | 0.7 | 0.6 | 0.4 | 0.4 | - | - |
| 40 | 17 | | | 0700 | 1300 | 54-59 | 97-23 | 2.2 | 2.2 | 2.2 | 2.1 | 1.9 | 1.1 | 0.8 | 0.8 | 1.1 | 1.6 | 2.2 |
| 41 | 17 | | | 0900 | 1500 | 55-25 | 97-24 | 1.2 | 1.1 | 1.1 | 1.1 | 0.6 | 0.2 | 0.1 | 0.0 | 0.3 | 0.7 | 1.6 |
| 42 | 17 | | | 1500 | 2100 | 56-42 | 97-25 | 0.6 | 0.6 | 0.6 | 0.6 | -0.7 | -0.9 | -1.0 | -0.9 | -0.4 | 0.9 | 1.6 |
| 43 | 18 | | | 0300 | 0900 | 59-16 | 97-19 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | -0.3 | -0.6 | -0.3 | 0.1 | 1.6 | 1.9 |
| 44 | 18 | | | 1500 | 2100 | 60-26 | 97-10 | -0.3 | -0.3 | -0.3 | -0.4 | -0.4 | -1.2 | -0.8 | 0.1 | 0.9 | 1.3 | 1.7 |
| 45 | 19 | | | 0300 | 0900 | 62-13 | 92-31 | -0.4 | -0.4 | -0.4 | -0.4 | -0.6 | -1.4 | -1.2 | -0.9 | -0.3 | 0.6 | 1.0 |
| 46 | 19 | | | 1000 | 1600 | 63-01 | 89-15 | -0.7 | -1.2 | -1.2 | -1.2 | -1.4 | -1.4 | -0.5 | -0.1 | 0.2 | 0.4 | 0.9 |
| 47 | 14 | Feb | 1966 | 0630 | 0830 | 66-42 | 13-42 | 0.8 | 0.8 | 0.8 | 0.8 | -1.4 | -1.6 | -1.6 | -1.6 | -1.4 | -0.4 | - |
| 48 | 15 | | | 1300 | 1500 | 62-32 | 14-22 | 0.9 | 0.9 | 0.7 | 0.4 | -1.3 | -1.7 | -1.6 | 0.8 | 1.0 | 1.2 | - |
| 49 | 17 | | | 0300 | 0500 | 57-26 | 9-01 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | -0.6 | -1.8 | -1.7 | -1.1 | 0.3 | - |
| 50 | 17 | | | 1030 | 1230 | 56-19 | 9-03 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.8 | -1.8 | -0.9 | 0.0 | 0.5 | - |
| 51 | 18 | | | 1330 | 1530 | 52-02 | 10-21 | 2.6 | 2.3 | 2.3 | 2.2 | 2.2 | 1.7 | 0.6 | 0.6 | 0.7 | - | - |
| 52 | 19 | | | 1500 | 1700 | 47-34 | 11-34 | 4.7 | 4.7 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 3.6 | 2.9 | 2.5 | - |
| 53 | 20 | | | 2130 | 2330 | 42-41 | 13-26 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 7.4 | 6.9 | 6.6 | - | - |
| 54 | 22 | | | 1425 | 1625 | 37-25 | 16-03 | 19.4 | 19.4 | 19.4 | 19.4 | 19.3 | 14.2 | 11.8 | 11.2 | 10.6 | - | - |
| 55 | 3 | Mar | 1966 | 1600 | 1800 | 34-45 | 18-57 | 20.3 | 20.3 | 20.3 | 20.2 | 16.9 | 11.8 | 10.3 | 9.7 | 9.1 | - | - |

| St. No | Date | | | Time GMT | Time Meridian | Latitude | Longitude | Temperature (°C) at indicated depth (m) | | | | | | | | | | |
|--------|------|------|------|-------------|------------------|----------|-----------|---|------|------|------|------|------|------|------|------|------|------|
| | Day | Mo. | Yr. | | | | | 0 | 10 | 20 | 30 | 50 | 75 | 100 | 125 | 150 | 200 | 250 |
| 56 | 4 | Mar. | 1966 | 0700 | 0900 | 34°-51'S | 22°-39'E | 22.2 | 22.2 | 19.9 | 19.6 | 18.0 | 11.6 | 11.3 | - | - | - | - |
| 57 | 5 | | | 0700 | 0900 | 33-37 | 27-51 | 26.5 | 26.6 | 26.6 | 26.5 | 21.8 | 19.0 | 17.8 | 16.7 | 16.1 | - | - |
| 58 | 5 | | | 1600 | 1800 | 32-51 | 29-31 | 24.1 | 23.4 | 23.3 | 23.3 | 21.7 | 18.9 | 17.9 | 17.3 | 17.1 | 16.6 | - |
| 59 | 6 | | | 0700 | 0900 | 31-31 | 32-52 | 24.5 | 23.8 | 23.7 | 23.4 | 22.9 | 20.3 | 18.6 | 17.7 | 17.3 | 16.8 | - |
| 60 | 6 | | | 1600 | 1800 | 30-38 | 34-50 | 24.5 | 24.0 | 23.5 | 23.4 | 21.7 | 18.8 | 17.9 | 17.3 | 17.2 | 16.8 | - |
| 61 | 7 | | | 0600 | 0900 | 29-26 | 37-43 | 25.3 | 25.3 | 25.2 | 25.1 | 22.9 | 19.9 | 18.4 | 17.7 | 17.2 | 16.2 | - |
| 62 | 7 | | | 1500 | 1800 | 28-46 | 39-37 | 27.2 | 27.2 | 27.2 | 27.2 | 27.1 | 26.0 | 24.7 | 23.8 | 22.7 | 19.6 | - |
| 63 | 8 | | | 0600 | 0900 | 27-23 | 42-26 | 27.3 | 27.1 | 27.1 | 27.0 | 26.3 | 21.3 | 19.3 | 18.6 | 17.3 | 16.2 | 15.5 |
| 64 | 8 | | | 1500 | 1800 | 26-40 | 43-58 | 27.1 | 27.1 | 27.1 | 27.1 | 24.9 | 23.2 | 20.3 | 18.8 | 17.7 | 16.0 | 14.7 |
| 65 | 9 | | | 0600 | 0900 | 25-36 | 46-23 | 26.6 | 26.6 | 26.6 | 26.3 | 24.9 | 21.5 | 18.2 | 16.4 | 16.1 | - | - |
| 66 | 9 | | | 1500 | 1800 | 24-55 | 48-09 | 27.6 | 27.6 | 27.6 | 27.6 | 27.3 | 24.3 | 22.1 | 20.8 | 19.8 | 18.2 | - |
| 67 | 10 | | | 0600 | 0900 | 23-02 | 49-48 | 26.7 | 26.7 | 26.7 | 26.7 | 26.7 | 22.8 | 21.2 | 20.2 | 19.4 | 17.7 | - |
| 68 | 10 | | | 1500 | 1800 | 22-11 | 51-36 | 27.0 | 26.4 | 26.2 | 26.1 | 26.0 | 25.8 | 25.1 | 22.7 | 21.5 | - | - |
| 69 | 11 | | | 0500 | 0900 | 20-57 | 54-37 | 27.4 | 27.3 | 27.2 | 27.2 | 27.1 | 27.1 | 25.3 | 23.5 | 22.2 | 20.6 | - |
| 70 | 11 | | | 1400 | 1800 | 20-09 | 56-35 | 27.3 | 27.3 | 27.2 | 27.2 | 27.1 | 25.9 | 24.6 | 22.9 | 22.0 | - | - |
| 71 | 12 | | | 0500 | 0900 | 18-53 | 59-32 | 27.4 | 27.4 | 27.4 | 27.4 | 27.3 | 25.7 | 23.9 | 22.9 | 21.7 | - | - |
| 72 | 12 | | | 1400 | 1800 | 17-47 | 61-09 | 27.5 | 27.5 | 27.5 | 27.5 | 27.3 | 24.7 | 23.3 | 22.2 | 21.6 | 19.6 | - |
| 73 | 13 | | | 0500 | 0900 | 15-41 | 63-26 | 27.0 | 27.0 | 27.0 | 27.0 | 25.1 | 22.6 | 21.5 | 21.0 | 20.3 | 18.9 | - |
| 74 | 13 | | | 1400 | 1800 | 14-27 | 64-50 | 27.5 | 27.1 | 26.8 | 26.8 | 23.7 | 21.5 | 19.4 | 16.9 | 16.1 | 15.0 | - |
| 75 | 14 | | | 0500 | 0900 | 12-25 | 67-13 | 28.5 | 28.3 | 28.3 | 24.4 | 22.1 | 21.1 | 19.4 | 17.7 | 15.8 | 13.3 | - |
| 76 | 14 | | | 1400 | 1800 | 11-21 | 68-47 | 29.5 | 28.4 | 28.3 | 26.8 | 20.3 | 17.1 | 15.7 | 15.2 | 14.7 | - | - |
| 77 | 15 | | | 0400 | 0900 | 9-12 | 71-06 | 28.5 | 28.6 | 28.4 | 28.2 | 26.0 | 22.8 | 21.0 | 18.1 | 17.0 | - | - |
| 78 | 15 | | | 1300 | 1800 | 7-51 | 72-35 | 27.9 | 27.9 | 27.8 | 27.7 | 27.3 | 22.4 | 20.6 | 19.8 | 17.6 | 13.8 | - |
| 79 | 16 | | | 0400 | 0900 | 4-45 | 74-21 | 28.8 | 28.8 | 28.8 | 28.8 | 27.7 | 23.1 | 19.9 | 17.8 | 15.6 | 13.8 | - |
| 80 | 16 | | | 1300 | 1800 | 2-56 | 75-14 | 28.6 | 28.6 | 28.6 | 28.6 | 28.5 | 27.1 | 22.5 | 19.5 | 15.9 | 13.2 | - |

| St No | Date | | | Time GMT | Time Meridian | Latitude | Longitude | Temperature (°C) at indicated depth (m) | | | | | | | | | | | | |
|-------|------|------|------|-------------|------------------|----------|-----------|---|------|------|------|------|------|------|------|------|------|------|---|---|
| | Day | Mo. | Yr | | | | | 0 | 10 | 20 | 30 | 50 | 75 | 100 | 125 | 150 | 200 | 250 | | |
| 81 | 17 | Mar | 1966 | 0400 | 0900 | 0°-06'N | 76°-42'E | 29 3 | 29 3 | 29 3 | 29 3 | 28 9 | 22 1 | 20 7 | 19 3 | 15 7 | 12 7 | | - | - |
| 82 | 17 | | | 1300 | 1800 | 1-40 | 77-29 | 29 3 | 29 3 | 29 3 | 29 0 | 28 1 | 24 5 | 21 0 | 17 4 | 14 3 | 13 1 | | - | - |
| 83 | 18 | | | 0315 | 0845 | 4-13 | 78-46 | 28 9 | 28 9 | 29 0 | 29 0 | 29 0 | 23 6 | 21 5 | 16 8 | 14 8 | 13 2 | | - | - |
| 84 | 18 | | | 1230 | 1800 | 5-22 | 79-08 | 28 8 | 28 8 | 28 8 | 28 8 | 28 5 | 24 9 | 21 5 | 18 4 | 16 7 | 14 0 | | - | - |
| 84-2 | 18 | | | 1230 | 1800 | 5-22 | 79-08 | 28 8 | 28 8 | 28 8 | 28 8 | 27 9 | 24 1 | 21 5 | 17 3 | 16 7 | 14 3 | | - | - |
| 85 | 23 | | | 1230 | 1800 | 5-49 | 80-33 | 28 7 | - | - | - | 27 2 | 24 4 | 22 2 | 20 7 | 16 3 | 14 4 | | - | - |
| 86 | 24 | | | 0300 | 0900 | 5-49 | 83-45 | 29 4 | 29 5 | 29 5 | 29 3 | 27 1 | 23 9 | 20 6 | 17 6 | 16 0 | 13 4 | | - | - |
| 87 | 24 | | | 1200 | 1800 | 5-51 | 85-38 | 29 2 | 29 0 | 28 7 | 28 4 | 27 9 | 25 9 | 21 4 | 17 7 | 15 9 | - | | - | - |
| 88 | 25 | | | 0300 | 0900 | 5-54 | 88-50 | 29 4 | 29 5 | 29 4 | 29 1 | 26 6 | 22 9 | 20 6 | 17 4 | 15 4 | 13 4 | | - | - |
| 89 | 25 | | | 1300 | 1900 | 6-02 | 90-54 | 29 2 | 29 1 | 29 1 | 28 9 | 27 1 | 23 1 | 20 1 | 16 8 | 15 1 | 12 7 | | - | - |
| 90 | 26 | | | 0300 | 0900 | 6-13 | 93-57 | 28 9 | 29 0 | 29 1 | 29 2 | 28 2 | 24 5 | 21 8 | 16 7 | 14 2 | 12 7 | | - | - |
| 91 | 26 | | | 1200 | 1800 | 5-57 | 95-57 | 29 1 | 29 2 | 29 1 | 28 9 | 26 1 | 22 2 | 17 3 | 15 6 | 14 6 | 12 7 | | - | - |
| 92 | 30 | | | 0200 | 0900 | 8-35 | 110-02 | 28 9 | 28 8 | 28 4 | 27 7 | 26 2 | 23 7 | 21 6 | 20 1 | 18 8 | 16 0 | | - | - |
| 93 | 30 | | | 1100 | 1800 | 10-03 | 111-23 | 29 0 | 28 8 | 28 7 | 28 4 | 28 1 | 25 0 | 21 0 | 18 9 | 17 4 | 15 0 | | - | - |
| 94 | 31 | | | 0200 | 0900 | 12-37 | 113-24 | 28 5 | 28 2 | 27 6 | 27 5 | 25 4 | 23 7 | 22 6 | 20 5 | 18 3 | 14 6 | | - | - |
| 95 | 31 | | | 1100 | 1800 | 13-55 | 114-56 | 28 6 | 28 4 | 28 2 | 27 9 | 26 1 | 21 4 | 19 2 | 17 7 | 16 5 | 14 0 | | - | - |
| 96 | 1 | Apr. | 1966 | 0100 | 0900 | 15-55 | 117-14 | 27 5 | 27 3 | 27 2 | 26 1 | 24 6 | 22 6 | 19 8 | 17 7 | 16 4 | 14 7 | | - | - |
| 97 | 1 | | | 1000 | 1800 | 17-08 | 118-43 | 27 9 | 26 1 | 24 4 | 23 5 | 22 7 | 21 3 | 19 4 | 17 3 | 16 0 | 13 8 | | - | - |
| 98 | 2 | | | 0100 | 0900 | 19-20 | 121-02 | 26 1 | 26 1 | 26 1 | 25 8 | 24 9 | 23 4 | 21 2 | 19 3 | 17 7 | 16 2 | 15 1 | - | - |
| 99 | 2 | | | 1000 | 1800 | 20-43 | 122-16 | 26 7 | 26 7 | 26 7 | 26 7 | 26 7 | 26 1 | 25 2 | 24 5 | 23 3 | 20 6 | 17 3 | - | - |
| 100 | 3 | | | 0100 | 0900 | 24-04 | 123-16 | 23 8 | 23 7 | 23 6 | 23 6 | 23 3 | 22 9 | 22 7 | 20 8 | 19 4 | 18 4 | | - | - |
| 101 | 3 | | | 1000 | 1800 | 25-24 | 124-30 | 24 0 | 23 9 | 23 9 | 23 9 | 23 9 | 23 5 | 23 4 | 23 1 | 19 8 | - | | - | - |
| 102 | 4 | | | 0000 | 0900 | 27-44 | 126-57 | 24 1 | 24 4 | 24 4 | 24 4 | 24 4 | 23 9 | 23 9 | 23 4 | 22 7 | 19 2 | | - | - |

Table 3. Vertical observation data.

Station 1

Date : 18 Dec., 1965
 Time (GMT) 0300-0730
 (LMT): 0900-1330
 Lat. : 59°16 '0 S
 Long. : 97°19. '0 E
 Depth : 4450 m

Meteorological observation
 Time (GMT) 0600 Wind dir. NNE
 (LMT) 1200 vel. 5.2 m/s
 Weather Cloudy Humidity : 84 %
 Air temp. : 2.0 °C Sea : 2
 Atm. press. : 971.4 mb Swell : 1

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-----------------------|-------------|-----------|-----------|--------------|---------|----------|------------|
| Depth | Temp. | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp. | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | $\mu\text{g-atoms/L}$ | | | | m | °C | ‰ | |
| 0 | 0.2 | 34.03 | 8.09 | 7.97 | 1.68 | 33 | 0.20 | 22 | 0 | 0.2 | 34.03 | 27.34 |
| 10 | -0.05 | .03 | 8.04* | 7.93 | 1.73 | 32 | 0.24 | 23 | 10 | -0.05 | .03 | .35 |
| 20 | -0.06 | .03 | 8.16* | 7.89 | 1.76 | 32 | 0.23 | 24 | 20 | -0.06 | .03 | .35 |
| 30 | -0.03 | .03 | 8.08 | 8.00 | 1.72 | 33 | 0.25 | 21 | 30 | -0.03 | .03 | .35 |
| 50 | -0.11 | .04 | 8.08 | 7.89 | 1.81 | 33 | 0.21 | 23 | 50 | -0.11 | .04 | .36 |
| 75 | -0.45 | .05 | 8.14* | 7.71 | 1.89 | 36 | 0.16 | 26 | 75 | -0.45 | .05 | .38 |
| 100 | -0.77 | .13 | 8.08 | 7.09 | 2.01 | 42 | 0.11 | 27 | 100 | -0.77 | .13 | .46 |
| 150 | 0.49 | .36 | 8.01 | 5.37 | 2.19 | 52 | 0.02 | 30 | 150 | 0.49 | .36 | .58 |
| 200 | 1.47 | .51 | 7.98 | 4.50 | 2.20 | 57 | 0.00 | 28 | 200 | 1.47 | .51 | .64 |
| 293 | 1.84 | .62 | 7.97 | 4.18 | 2.13 | 56 | 0.00 | 27 | 300 | 1.85 | .63 | .72 |
| 391 | 1.87 | .67 | 7.95 | 4.18 | 2.17 | 66 | 0.03 | 27 | 400 | 1.87 | .67 | .74 |
| 486 | 1.85 | .70 | 7.93 | 4.25 | 2.11 | 66 | 0.00 | 28 | 500 | 1.85 | .71 | .77 |
| 580 | 1.81 | .72 | 7.96 | 4.29 | 2.07 | 69 | 0.00 | 28 | 600 | 1.80 | .72 | .79 |
| 770 | 1.65 | .74 | 7.97 | 4.50 | 1.98 | 60 | 0.00 | 23 | 800 | 1.63 | .74 | .82 |
| 965 | 1.49 | .74 | 7.98 | 4.58 | 2.06 | 77 | 0.00 | 27 | 1000 | 1.46 | .74 | .83 |
| 1165 | 1.32 | .74 | 7.92 | 4.61 | 1.95 | 68 | 0.00 | 26 | 1200 | 1.28 | .74 | .83 |
| 1380 | - | .72 | 7.92 | 4.69 | 1.95 | 86 | 0.00 | 25 | 1500 | 0.98 | .72 | .84 |
| 1880 | 0.62 | .70 | 7.94 | 4.75 | 2.13 | 94 | 0.00 | 27 | 2000 | 0.55 | .69 | .84 |
| 2380 | 0.36 | .69 | 7.93 | 4.93 | 1.81 | 92 | 0.00 | 28 | 2500 | 0.32 | .68 | .85 |
| 2880 | - | .67 | 7.95 | 5.05 | 1.90 | 95 | 0.00 | 27 | 3000 | 0.14 | .67 | .85 |
| 3380 | 0.00 | .67 | 7.94 | 5.20 | 2.00 | 100 | 0.00 | 26 | 3500 | -0.03 | .67 | .86 |
| 3880 | -0.09 | .67 | 7.93 | 5.35 | 2.11 | 98 | 0.00 | 28 | 4000 | [-0.10] | [.67] | [.87] |

* value doubtful.

Station 2

Date 19 Dec, 1965
 Time (GMT) 1000-1330
 (LMT) 1600-1930
 Lat 63°00 '4 S
 Long 89°12 '0 E
 Depth 3820 m

Meteorological observation
 Time (GMT) 1200 Wind dir E
 (LMT) 1800 vel 7.2 m/s
 Weather Snow Humidity 90 %
 Air temp -0.3 °C Sea 3
 Atm. press 986.5 mb Swell : —

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-----------------------|-------------|-----------|-----------|--------------|-------|----------|------------|
| Depth | Temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | pH | ‰ | <i>in situ</i> | cc/L | $\mu\text{g-atoms/L}$ | | | | m | °C | ‰ | |
| 0 | -0.7 | 33.94 | 8.08 | 7.86 | 1.72 | 46 | 0.13 | 23 | 0 | -0.7 | 33.94 | 27.31 |
| 11 | -1.36 | 93 | 8.08 | 7.84 | 1.78 | 46 | 0.14 | 29 | 10 | -1.36 | 93 | 32 |
| 20 | -1.38 | 93 | 8.08 | 7.83 | 1.75 | 47 | 0.15 | 28 | 20 | -1.38 | 93 | 32 |
| 30 | -1.42 | 93 | 8.08 | 7.81 | 1.78 | 47 | 0.15 | 28 | 30 | -1.42 | 93 | 32 |
| 47 | -1.54 | 99 | 8.09 | 7.55 | 1.93 | 48 | 0.15 | 29 | 50 | -1.54 | 34.02 | 40 |
| 70 | -1.54 | 34.23 | 8.08 | 6.63 | 2.06 | 56 | 0.07 | 30 | 75 | -1.50 | 27 | 60 |
| 93 | -0.91 | 34 | 8.05 | 6.10 | 2.14 | 59 | 0.10 | 32 | 100 | -0.30 | 35 | 61 |
| 143 | 0.19 | 49 | 8.01 | 5.35 | 2.14 | 65 | 0.02 | 33 | 150 | 0.22 | 40 | 63 |
| 220 | 0.34 | 55 | 7.98 | 5.27 | 2.09 | 66 | 0.00 | 33 | 200 | 0.30 | 51 | 71 |
| 315 | 0.98 | .65 | 7.96 | 4.82 | 2.09 | 69 | 0.01 | 33 | 300 | 0.89 | .64 | 78 |
| 405 | 1.17 | 69 | 7.96 | 4.71 | 2.06 | 74 | 0.00 | 29 | 400 | 1.17 | 69 | 82 |
| 495 | 1.15 | 71 | 7.96 | 4.71 | 2.13 | 76 | 0.01 | 31 | 500 | 1.15 | 71 | .82 |
| 590 | 1.08 | 71 | 7.96 | 4.75 | 2.11 | 79 | 0.01 | 34 | 600 | 1.08 | 71 | 83 |
| 770 | 0.99 | — | 7.95 | 4.72 | 2.11 | 82 | 0.00 | 36 | 800 | 0.95 | 70 | 83 |
| 950 | 0.73 | 69 | 7.92 | 4.73 | 2.13 | 87 | 0.00 | 33 | 1000 | 0.70 | 69 | .83 |
| 1150 | 0.62 | 69 | 7.94 | 4.78 | 2.06 | 94 | 0.01 | 29 | 1200 | 0.59 | .69 | 84 |
| 1610 | 0.31 | 67 | 7.95 | 4.83 | 2.11 | 99 | 0.00 | 35 | 1500 | 0.39 | .68 | 85 |
| 2070 | 0.09 | 67 | 7.93 | 5.06 | 2.16 | 105 | 0.02 | 34 | 2000 | 0.12 | .67 | 85 |
| 2550 | -0.06 | 67 | 7.92 | 5.18 | 2.10 | 105 | 0.01 | 32 | 2500 | -0.05 | .67 | 86 |
| 3035 | -0.19 | .66 | 7.93 | 5.32 | 2.13 | 100 | 0.02 | 36 | 3000 | -0.18 | .66 | 87 |
| 3525 | -0.24 | 66 | 7.92 | 5.55 | 2.07 | 98 | 0.03 | 35 | 3500 | -0.24 | 66 | 87 |

Station 3

Date 21 Dec, 1965
 Time (GMT) 0930-1210
 (LMT) 1430-1710
 Lat. 64°17' S
 Long. 71°15' E
 Depth 3440 m

Meteorological observation
 Time (GMT) 1200 Wind dir.. S
 (LMT) 1700 vel.: 3.1 m/s
 Weather Cloudy Humidity 83 %
 Air temp. : -10 °C Sea 1
 Atm. press : 985.2 mb Swell —

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-------------|-------------|-----------|-----------|--------------|---------|----------|------------|
| Depth | Temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | µg-atoms/L | | | | m | °C | ‰ | |
| 0 | -1.1 | 33.47 | 8.07 | 7.53 | 1.89 | 46 | 0.23 | 30 | 0 | -1.1 | 33.47 | 26.94 |
| 10 | -1.29 | 47 | 8.08 | 7.53 | 1.87 | 47 | 0.25 | 30 | 10 | -1.29 | .47 | .95 |
| 20 | -1.15 | 58 | 8.08 | 7.46 | 1.92 | 48 | 0.24 | 28 | 20 | -1.15 | 58 | 27.03 |
| 30 | -1.31 | 34.00 | 8.07 | 7.16 | 1.90 | 47 | 0.17 | 27 | 30 | -1.31 | 34.00 | .37 |
| 50 | -1.60 | .18 | 8.07 | 6.89 | 2.00 | 47 | 0.15 | 30 | 50 | -1.60 | .18 | .53 |
| 75 | -1.70 | .26 | 8.07 | 6.76 | 2.06 | 50 | 0.15 | 29 | 75 | -1.70 | .25 | .59 |
| 100 | -1.53 | .29 | 8.07 | 6.68 | 2.07 | 49 | 0.07 | 31 | 100 | -1.53 | .29 | .61 |
| 149 | -0.65 | .41 | 8.03 | 6.15 | 2.05 | 56 | 0.04 | 28 | 150 | -0.65 | .41 | .68 |
| 199 | -0.46 | .47 | 8.01 | 5.83 | 2.11 | 61 | 0.03 | 29 | 200 | -0.45 | .47 | .72 |
| 296 | 1.32 | .67 | 7.94 | 4.50 | 2.20 | 73 | 0.02 | 29 | 300 | 1.32 | .67 | .77 |
| 394 | 1.25 | .69 | 7.94 | 4.54 | 2.11 | 72 | 0.04 | 31 | 400 | 1.25 | .69 | .80 |
| 491 | 1.22 | .70 | 7.96 | 4.60 | 2.05 | 75 | 0.03 | 33 | 500 | 1.22 | .70 | .81 |
| 605 | 1.19 | .72 | 7.97 | 4.58 | 2.11 | 79 | 0.04 | 29 | 600 | 1.19 | .72 | .83 |
| 800 | 1.01 | .71 | 7.96 | 4.62 | 2.07 | 85 | 0.04 | 28 | 800 | 1.01 | .71 | .83 |
| 990 | 0.84 | .71 | 7.96 | 4.68 | 2.12 | 91 | 0.02 | 36 | 1000 | 0.83 | .70 | .84 |
| 1190 | 0.73 | .70 | 7.95 | 4.66 | 2.07 | 96 | 0.02 | 32 | 1200 | 0.72 | .70 | .84 |
| 1480 | 0.52 | .69 | 7.95 | 4.75 | 2.11 | 99 | 0.02 | 30 | 1500 | 0.51 | .69 | .84 |
| 1970 | 0.24 | .67 | 7.93 | 4.93 | 2.20 | 102 | 0.04 | 34 | 2000 | 0.22 | .67 | .85 |
| 2460 | -0.01 | .66 | 7.93 | 5.08 | 2.14 | 105 | 0.04 | 29 | 2500 | -0.03 | .66 | .86 |
| 2950 | -0.18 | .66 | 7.90 | 5.33 | 2.16 | 98 | 0.02 | 28 | 3000 | [-0.19] | [.66] | [.87] |

Station 4

Date 24 Dec, 1965

Time (GMT) 0840-1100

(LMT) 1240-1500

Lat 61°36'0 S

Long 53°14'5 E

Depth 3500 m

Meteorological observation

Time (GMT) 0900 Wind dir NE

(LMT) 1300 vel 2.1 m/s

Weather Snow Humidity 93 %

Air temp -1.3 °C Sea 1

Atm press 992.9 mb Swell —

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-------------|-------------|-----------|-----------|--------------|---------|----------|------------|
| Depth | Temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | µg-atoms/L | | | | m | °C | ‰ | |
| 0 | -1.3 | 33.58 | 8.11 | 7.67 | 1.81 | 41 | 0.24 | 18 | 0 | -1.3 | 33.58 | 27.04 |
| 9 | -1.48 | 58 | 8.15 | 7.74 | 1.76 | 41 | 0.25 | 26 | 10 | -1.48 | 58 | 04 |
| 18 | -1.51 | 69 | 8.15 | 7.60 | 1.83 | 43 | 0.23 | 24 | 20 | -1.51 | 86 | 06 |
| 27 | -1.55 | 34.06 | 8.14 | 7.36 | 1.90 | 44 | 0.15 | 29 | 30 | -1.57 | 34.06 | 43 |
| 46 | -1.67 | 09 | 8.13 | 7.23 | 2.01 | 45 | 0.17 | 27 | 50 | -1.70 | 09 | 46 |
| 69 | -1.72 | 11 | 8.13 | 7.21 | 1.98 | 46 | 0.17 | 28 | 75 | -1.71 | 12 | 49 |
| 92 | -1.55 | 20 | 8.08 | 6.64 | 2.09 | 51 | 0.13 | 29 | 100 | -1.15 | 25 | 56 |
| 135 | 0.88 | 55 | 8.00 | 4.72 | 2.14 | 66 | 0.03 | 28 | 150 | 1.43 | 62 | 73 |
| 185 | 1.65 | 67 | 7.99 | 4.16 | 2.15 | 70 | 0.02 | 38 | 200 | 1.65 | 67 | 75 |
| 285 | 1.57 | 69 | 7.97 | 4.22 | 2.25 | 71 | 0.02 | 38 | 300 | 1.56 | 69 | 77 |
| 380 | 1.50 | 71 | 7.97 | 4.35 | 2.11 | 71 | 0.00 | 33 | 400 | 1.49 | 71 | 80 |
| 477 | 1.41 | 72 | 8.00 | 4.40 | 2.11 | 73 | 0.00 | 30 | 500 | 1.40 | 72 | 82 |
| 574 | 1.36 | 72 | 8.02 | 4.44 | 2.12 | 74 | 0.00 | 30 | 600 | 1.34 | 72 | 82 |
| 764 | 1.08 | 71 | 8.01 | 4.57 | 2.11 | 79 | 0.00 | 34 | 800 | 1.03 | 71 | 83 |
| 953 | 0.81 | 70 | 7.98 | 4.61 | 2.19 | 85 | 0.00 | 31 | 1000 | 0.75 | 70 | 84 |
| 1148 | 0.62 | 69 | 7.98 | 4.64 | 2.15 | 90 | 0.00 | 40 | 1200 | 0.57 | 69 | 84 |
| 1430 | 0.41 | 68 | 7.99 | 4.74 | 2.25 | 94 | 0.01 | 43 | 1500 | 0.35 | 68 | 85 |
| 1910 | 0.03 | 66 | 8.01 | 5.11 | 2.03 | 98 | 0.01 | 34 | 2000 | -0.02 | 66 | 86 |
| 2400 | -0.20 | 66 | 8.00 | 5.30 | 2.20 | 98 | 0.00 | 31 | 2500 | -0.25 | 65 | 86 |
| 2890 | -0.41 | 65 | 7.99 | 5.56 | 2.06 | 89 | 0.01 | 37 | 3000 | -0.43 | 64 | 86 |
| 3380 | -0.51 | 64 | 7.99 | 5.83 | 2.17 | 83 | 0.01 | 29 | 3500 | [-0.52] | [64] | [86] |

Station 5

Date 19 Jan, 1966
 Time (GMT) 0730-0800
 (LMT) 1030-1100
 Lat 68°25 '0 S
 Long 40°52 '2 E
 Depth 280 m

Meteorological observation
 Time (GMT) 0800 Wind dir E
 (LMT) 1100 vel 12 0 m/s
 Weather Cloudy Humidity 51 %
 Air temp 0 5 °C Sea 3
 Atm. press 974.8 mb Swell —

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-----------------------|-------------|-----------|-----------|--------------|-------|----------|------------|
| Depth | Temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | $\mu\text{g-atoms/L}$ | | | | m | °C | ‰ | |
| 0 | -0 8 | 33 66 | — | 7 87 | 1 81 | 49 | 0 21 | 24 | 0 | -0 8 | 33 66 | 27.07 |
| 6 | -1 00 | 66 | — | 7 85 | 1 93 | 52 | 0 26 | 25 | 10 | -1.02 | .67 | 10 |
| 12 | -1 03 | 73 | — | 7 80 | 1 91 | 52 | 0 24 | 24 | 20 | -1.19 | .97 | .34 |
| 20 | -1 19 | 97 | — | 7 68 | 1 97 | 54 | 0 18 | 26 | 30 | -1 28 | .99 | .36 |
| 34 | -1 29 | 99 | — | 7 60 | 1.96 | 55 | 0 18 | 27 | 50 | -1 30 | 34.00 | .37 |
| 55 | -1 32 | 34 01 | — | 7 46 | 2 00 | 55 | 0 18 | 26 | 75 | -1 49 | .06 | .43 |
| 77 | -1.48 | .06 | — | 7 35 | 2 00 | 57 | 0 18 | 28 | 100 | -1.64 | .15 | .50 |
| 127 | -1 74 | .19 | — | 7 47 | 2 07 | 54 | 0 10 | 28 | 150 | -1.79 | .20 | .55 |
| 175 | -1 82 | .21 | — | 7 59 | 2 02 | 50 | 0 09 | 28 | 200 | -1 82 | .22 | .57 |
| 221 | -1 83 | .23 | — | 7 31 | 2.05 | 52 | 0 08 | 27 | 250 | -1.82 | .24 | .58 |
| 265 | -1 82 | .25 | — | 7 14 | 2 07 | 53 | 0 06 | 28 | — | — | — | — |

Station 6

Date 1 Feb., 1966
 Time (GMT) 1330-1400
 (LMT) 1630-1700
 Lat. 69°11 '7 S
 Long 39°32 '7 E
 Depth 272 m

Meteorological observation
 Time (GMT) 1400 Wind dir S
 (LMT) 1700 vel. : 2 1 m/s
 Weather : Fair Humidity : 49 %
 Air temp : 0 1 °C Sea 0
 Atm. press : 988.4 mb Swell : 0

| | | | | | | | | | | | | |
|-----|-------|---------|------|-------|------|----|------|----|-----|-------|---------|---------|
| 0 | 3 0 | (27 3>) | — | 10 10 | 0 18 | 32 | 0 05 | 15 | 0 | 3 0 | (27.3>) | (22.5>) |
| 10 | -0 66 | 33 78 | — | 12 41 | 0.38 | 51 | 0 09 | 16 | 10 | -0 66 | 33.78 | 27.17 |
| 20 | -1.55 | 34 02 | 8.23 | 7.03 | 1.99 | 59 | 0 13 | 24 | 20 | -1.55 | 34.02 | .40 |
| 30 | -1.57 | .05 | 8 13 | 6 85 | 2 11 | 59 | 0 15 | 25 | 30 | -1.57 | .05 | .43 |
| 50 | -1 61 | 10 | 8 12 | 6 81 | 2 10 | 58 | 0 13 | 27 | 50 | -1.61 | 10 | .46 |
| 75 | -1 61 | 14 | 8.11 | 6 71 | 2 18 | 60 | 0 10 | 30 | 75 | -1.61 | 14 | .50 |
| 100 | -1 53 | 18 | 8 11 | 6 77 | 2 16 | 60 | 0 07 | 25 | 100 | -1 53 | .18 | .53 |
| 150 | -1 46 | 23 | 8 09 | 6 73 | 2 16 | 59 | 0 05 | 24 | 150 | -1.46 | .23 | .57 |
| 200 | -1 46 | .23 | 8 09 | 6 68 | 2 20 | 61 | 0 04 | 26 | 200 | -1 46 | .23 | .57 |
| 250 | -1 54 | .26 | 8.10 | 6 80 | 2.20 | 59 | 0 03 | 27 | 250 | -1.54 | .26 | .59 |

Station 7

Date 2 Feb, 1966

Time (GMT) 1130-1245

(LMT) 1430-1545

Lat 68°07 '1 S

Long 38°50 '5 E

Meteorological observation

Time (GMT) 1200 Wind dir ESE

(LMT) 1500 vcl. 2.1 m/s

Weather Fair Humidity 68 %

Air temp. -1.5 °C Sea 0

Atm press 990.0 mb Swell 0

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-----------------------|-------------|-----------|-----------|--------------|---------|----------|------------|
| Depth | Temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | $\mu\text{g-atoms/L}$ | | | | m | °C | ‰ | |
| 0 | -0.6 | 32.78 | 8.10 | 7.85 | 2.05 | 49 | 0.30 | 21 | 0 | -0.6 | 32.78 | 26.37 |
| 10 | -0.94 | 70 | 8.12 | 7.86 | 1.96 | 47 | 0.31 | 23 | 10 | -0.94 | 70 | 31 |
| 20 | -1.14 | 33.10 | 8.12 | 7.68 | 1.94 | 50 | 0.25 | 23 | 20 | -1.14 | 33.10 | 60 |
| 30 | -1.19 | 51 | 8.12 | 7.67 | 2.02 | 50 | 0.20 | 23 | 30 | -1.19 | 51 | 94 |
| 50 | -1.47 | 34.08 | 8.13 | 7.42 | 2.10 | 51 | 0.12 | 25 | 50 | -1.47 | 34.08 | 27.44 |
| 75 | -1.72 | 17 | 8.11 | 7.20 | 2.15 | 54 | 0.13 | 23 | 75 | -1.72 | 17 | 52 |
| 100 | -1.75 | 20 | 8.10 | 7.17 | 2.25 | 56 | 0.15 | 26 | 100 | -1.75 | 20 | 55 |
| 149 | -1.76 | 23 | 8.09 | 7.12 | 2.21 | 56 | 0.06 | 27 | 150 | -1.76 | 23 | 58 |
| 198 | -1.77 | 24 | 8.09 | 7.06 | 2.20 | 56 | 0.04 | 28 | 200 | -1.77 | 24 | 58 |
| 297 | -1.58 | 32 | 8.06 | 6.69 | 2.27 | 60 | 0.06 | 28 | 300 | -1.56 | 33 | 64 |
| 395 | 0.63 | 61 | 8.01 | 4.87 | 2.37 | 76 | 0.03 | 29 | 400 | 0.66 | 61 | 77 |
| 495 | 0.93 | 67 | 8.00 | 4.68 | 2.21 | 83 | 0.02 | 35 | 500 | 0.93 | 67 | 80 |
| 594 | 0.83 | 68 | 7.99 | 4.67 | 2.31 | 85 | 0.04 | 32 | 600 | 0.82 | 68 | 83 |
| 794 | 0.57 | 67 | 7.98 | 4.68 | 2.32 | 96 | 0.02 | 32 | 800 | 0.56 | 67 | 83 |
| 994 | 0.36 | 67 | 7.98 | 4.74 | 2.37 | 98 | 0.02 | 32 | 1000 | 0.36 | 67 | 84 |
| 1190 | 0.21 | 66 | 7.97 | 4.83 | 2.31 | 102 | 0.00 | 33 | 1200 | 0.20 | 66 | 85 |
| 1480 | 0.04 | 66 | 7.99 | 4.98 | 2.34 | 103 | 0.02 | 30 | 1500 | 0.03 | 66 | 86 |
| 1972 | -0.20 | 65 | 8.00 | 5.24 | 2.31 | 104 | 0.05 | 29 | 2000 | [-0.21] | [65] | 86 |

Station 8

Date · 6 Feb, 1966
 Time (GMT). 1410-1540
 (LMT) · 1710-1840
 Lat. 67°11.'3 S
 Long. · 43°50 '0 E

Meteorological observation
 Time (GMT). 1500 Wind dir E
 (LMT) 1800 vel : 8.7 m/s
 Weather Cloudy Humidity : 68 %
 Air temp · -0 5 °C Sea · 2
 Atm. press. 982 4 mb Swell : NNE 4

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|---------------|------------------|-----------------------|-------------|-----------|-----------|--------------|-------|----------|------------|
| Depth | Temp. | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | °C | ‰ | <i>m situ</i> | cc/L | $\mu\text{g-atoms/L}$ | | | | m | °C | ‰ | |
| 0 | -0 8 | 33 61 | 8.12 | 7 71 | 1.91 | 48 | 0.21 | 18 | 0 | -0 8 | 33.61 | 27.04 |
| 10 | -0 92 | .62 | 8 13 | 7 74 | 1.99 | 50 | 0 22 | 21 | 10 | -0 92 | .62 | .05 |
| 17 | -0 86 | .62 | 8.14 | 7 72 | 1 97 | 50 | 0 20 | 23 | 20 | -0 85 | .62 | .05 |
| 26 | -0.84 | .61 | 8 14 | 7.72 | 2 00 | 50 | 0.21 | 24 | 30 | -0 84 | .61 | .04 |
| 42 | -0.93 | .65 | 8 16 | 7.64 | 1.96 | 51 | 0.20 | 21 | 50 | -0.97 | .82 | .22 |
| 62 | -1.70 | 34.12 | 8 14 | 7 10 | 2 18 | 54 | 0 12 | 27 | 75 | -1 74 | 34 17 | .52 |
| 84 | -1.75 | .17 | 8.12 | 7.05 | 2 18 | 54 | 0.11 | 27 | 100 | -1 75 | .18 | .53 |
| 130 | -1.75 | .19 | 8.12 | 7.01 | 2.18 | 54 | 0 12 | 27 | 150 | -1 75 | .20 | .54 |
| 174 | -1 75 | .21 | 8 12 | 6 91 | 2 18 | 55 | 0 09 | 28 | 200 | -1.75 | .21 | .55 |
| 272 | -1.53 | .27 | 8 10 | 6 72 | 2 21 | 57 | 0 02 | 28 | 300 | -1.02 | .35 | .64 |
| 362 | 0 15 | .54 | 8.07 | 5.26 | 2.29 | 75 | 0 02 | 32 | 400 | 0 87 | .63 | .77 |
| 451 | 1.23 | .69 | 8 03 | 4 49 | 2 26 | 80 | 0 01 | 33 | 500 | 1 24 | .70 | .81 |
| 545 | 1.20 | .71 | 8 02 | 4 47 | 2 29 | 83 | 0.02 | 32 | 600 | 1.12 | .70 | .82 |
| 720 | 0.93 | .70 | 8.02 | 4 57 | 2 24 | 89 | 0 02 | 31 | 800 | 0 84 | .70 | .83 |
| 909 | 0.72 | .70 | 8.02 | 4.66 | 2 30 | 92 | 0.02 | 33 | 1000 | 0 65 | .69 | .83 |
| 1092 | 0.59 | .69 | 8 02 | 4 58 | 2.34 | 96 | 0 00 | 33 | 1200 | 0 45 | .68 | .84 |
| 1346 | 0 29 | .67 | 8 01 | 4 82 | 2 35 | 101 | 0 00 | 30 | - | - | - | - |

Station 9

Date 13 Feb, 1966
 Time (GMT). 0800-0920
 (LMT) 1000-1120
 Lat 69°08 '6 S
 Long 16°37 '0 E

Meteorological observation
 Time (GMT) 0900 Wind dir. W
 (LMT) 1100 vel 18.0 m/s
 Weather Fair Humidity 78 %
 Air temp -2.7 °C Sea 4
 Atm press 960.6 mb Swell 0

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-------------|-------------|-----------|-----------|--------------|-------|----------|------------|
| Depth | Temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | μg-atoms/L | | | | m | °C | ‰ | |
| 0 | -0.8 | 33.35 | 8.18 | 8.29 | 1.59 | 41 | 0.17 | 18 | 0 | -0.8 | 33.35 | 26.83 |
| 10 | -0.81 | 35 | 8.20 | 8.20 | 1.67 | 42 | 0.18 | 19 | 10 | -0.81 | 35 | 83 |
| 20 | -0.78 | 55 | 8.20 | 8.24 | 1.68 | 42 | 0.13 | 21 | 20 | -0.78 | 55 | 99 |
| 30 | -0.13 | 85 | 8.19 | 7.99 | 1.81 | 40 | 0.12 | 18 | 30 | -0.13 | 85 | 27.21 |
| 50 | -0.05 | 92 | 8.18 | 7.89 | 1.81 | 40 | 0.15 | 23 | 50 | -0.05 | 92 | 26 |
| 75 | -1.60 | 34.22 | 8.15 | 7.33 | 2.13 | 51 | 0.09 | 25 | 75 | -1.60 | 34.22 | 56 |
| 100 | -1.70 | 29 | 8.11 | 7.23 | 2.18 | 53 | 0.09 | 23 | 100 | -1.70 | 29 | 62 |
| 150 | -1.64 | 34 | 8.10 | 7.03 | 2.18 | 55 | 0.09 | 25 | 150 | -1.64 | 34 | 66 |
| 200 | -1.47 | 38 | 8.10 | 6.63 | 2.21 | 58 | 0.07 | 24 | 200 | -1.47 | 38 | 68 |
| 300 | -0.53 | 54 | 8.06 | 5.72 | 2.25 | 66 | 0.00 | 25 | 300 | -0.53 | 54 | 78 |
| 400 | 0.71 | 65 | 8.01 | 4.73 | 2.31 | 77 | 0.00 | 30 | 400 | 0.71 | 65 | 80 |
| 500 | 0.89 | - | 8.01 | 4.64 | 2.29 | 82 | 0.00 | 29 | 500 | 0.89 | 68 | 82 |
| 600 | 0.78 | 69 | 8.01 | 4.66 | 2.32 | 88 | 0.00 | 28 | 600 | 0.78 | 69 | 83 |
| 790 | 0.61 | 68 | 7.99 | 4.68 | 2.34 | 92 | 0.00 | 31 | 800 | 0.60 | 68 | 84 |
| 990 | 0.44 | 68 | 8.00 | 4.75 | 2.39 | 96 | 0.00 | 28 | 1000 | 0.43 | 68 | 84 |
| 1190 | 0.31 | - | 7.99 | 4.77 | 2.37 | 98 | 0.00 | 31 | 1200 | 0.30 | 67 | 84 |
| 1480 | 0.14 | 67 | 7.99 | 4.98 | 2.39 | 101 | 0.00 | 30 | 1500 | 0.13 | 67 | 85 |
| 1980 | -0.08 | 66 | 8.00 | 5.15 | 2.32 | 100 | 0.00 | 29 | 2000 | -0.08 | 66 | 86 |

Station 10

Date . 14 Feb., 1966
Time (GMT). 1520-1800
(LMT): 1720-2000
Lat. : 64°58 '3 S
Long 13°56. '7 E

Meteorological observation
Time (GMT). 1800 Wind dir . NE
(LMT) 2000 vel. . 2.1 m/s
Weather Clear Humidity . 75 %
Air temp . 2.0 °C Sea . 2
Atm press . 997.0 mb Swell : SW 1

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-------------|-------------|-----------|-----------|--------------|-------|----------|------------|
| Depth | Temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | μg-atoms/L | | | | m | °C | ‰ | |
| 0 | 1.4 | 34.05 | 8.06 | 7.59 | 1.90 | 54 | 0.30 | 27 | 0 | 1.4 | 34.05 | 27.27 |
| 9 | 1.36 | .05 | 8.09 | 7.45 | 2.00 | 56 | 0.34 | 27 | 10 | 1.35 | .05 | .28 |
| 20 | 1.17 | .05 | 8.10 | 7.41 | 1.97 | 55 | 0.32 | 28 | 20 | 1.17 | .05 | .29 |
| 30 | 1.02 | .06 | 8.11 | 7.37 | 1.97 | 54 | 0.29 | 27 | 30 | 1.02 | .06 | .30 |
| 48 | -1.35 | .36 | 8.12 | 6.86 | 2.01 | 57 | 0.12 | 28 | 50 | -1.36 | .37 | .67 |
| 71 | -1.41 | .43 | 8.09 | 6.27 | 2.21 | 62 | 0.18 | 30 | 75 | -1.40 | .44 | .73 |
| 94 | -0.67 | .52 | 8.06 | 5.69 | 2.29 | 69 | 0.24 | 30 | 100 | -0.35 | .57 | .80 |
| 140 | 0.89 | .67 | - | 4.48 | 2.46 | 81 | 0.04 | 35 | 150 | 0.93 | .68 | .81 |
| 189 | 0.99 | .69 | 8.01 | 4.45 | 2.42 | 82 | 0.02 | 34 | 200 | 0.99 | .69 | .81 |
| 289 | 0.90 | .69 | 7.96 | 4.48 | 2.41 | 82 | 0.00 | 32 | 300 | 0.89 | .69 | .82 |
| 383 | 0.83 | .69 | 7.98 | 4.51 | 2.44 | 85 | 0.02 | 32 | 400 | 0.82 | .69 | .83 |
| 476 | 0.80 | .70 | 7.96 | 4.56 | 2.39 | 87 | 0.03 | 35 | 500 | 0.79 | .70 | .84 |
| 575 | 0.76 | .70 | 7.99 | 4.52 | 2.39 | 91 | 0.03 | 35 | 600 | 0.74 | .70 | .84 |
| 755 | 0.63 | .71 | 7.97 | 4.56 | 2.42 | 93 | 0.02 | 38 | 800 | 0.60 | .70 | .85 |
| 952 | 0.50 | .69 | 7.97 | 4.58 | 2.47 | 98 | 0.02 | 35 | 1000 | 0.47 | .69 | .85 |
| 1152 | 0.39 | - | 7.98 | 4.64 | 2.41 | 100 | 0.02 | 37 | 1200 | 0.37 | .69 | .86 |
| 1495 | 0.24 | .68 | 7.99 | 4.89 | 2.44 | 101 | 0.03 | 35 | 1500 | 0.24 | .68 | .86 |
| 1980 | 0.00 | .67 | 7.98 | 5.05 | 2.39 | 102 | 0.01 | 37 | 2000 | 0.00 | .67 | .86 |
| 2470 | -0.16 | .66 | 7.97 | 5.23 | 2.37 | 104 | 0.00 | 33 | 2500 | -0.16 | .66 | .87 |
| 2960 | -0.25 | .66 | 7.99 | 5.33 | 2.41 | 101 | 0.00 | 36 | 3000 | -0.25 | .66 | .87 |
| 3450 | -0.29 | - | 7.98 | 5.42 | 2.37 | 100 | 0.00 | 34 | 3500 | -0.29 | - | - |

Station 11

Date 16 Feb, 1966
 Time (GMT) 0550-0940
 (LMT) 0750-1140
 Lat 59°56 '0 S
 Long 12°15 '6 E

Meteorological observation
 Time (GMT) 0600 Wind dir SE
 (LMT) 0800 vel 10.1 m/s
 Weather Cloudy Humidity 79 %
 Air temp -0.6 °C Sea 3
 Atm press 990.2 mb Swell N 1

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-----------------------|-------------|-----------|-----------|--------------|-------|----------|------------|
| Depth | Temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | $\mu\text{g-atoms/L}$ | | | | m | °C | ‰ | |
| 0 | 0.8 | 33.88 | 8.17 | 7.62 | 1.67 | 45 | 0.14 | 20 | 0 | 0.8 | 33.88 | 27.17 |
| 7 | 0.69 | - | 8.18 | 7.68 | 1.75 | 49 | 0.17 | 21 | 10 | 0.69 | 88 | 17 |
| 15 | 0.68 | 87 | 8.18 | 7.62 | 1.83 | 49 | 0.19 | 22 | 20 | 0.74 | 87 | 17 |
| 22 | 0.75 | 88 | 8.20 | 7.60 | 1.71 | 49 | 0.17 | 21 | 30 | 0.74 | .88 | 17 |
| 40 | 0.52 | 90 | 8.20 | 7.57 | 1.75 | 49 | 0.17 | 20 | 50 | 0.18 | .90 | .22 |
| 50 | 0.18 | 91 | 8.20 | 7.51 | 1.84 | 51 | 0.17 | 22 | 75 | -1.69 | 34.17 | 52 |
| 67 | -1.63 | 34.15 | 8.18 | 7.39 | 2.26 | 62 | 0.30 | 29 | 100 | -1.71 | .19 | 54 |
| 100 | -1.71 | 19 | 8.14 | 7.24 | 2.26 | 63 | 0.32 | 24 | 150 | -0.25 | .59 | .82 |
| 133 | -0.85 | 39 | 8.09 | 5.94 | 2.42 | 79 | 0.08 | 33 | 200 | 0.43 | .67 | 83 |
| 198 | 0.43 | 66 | 7.98 | 4.11 | 2.55 | 100 | 0.02 | 42 | 300 | 0.43 | .68 | 84 |
| 259 | 0.44 | 67 | 7.96 | 4.08 | 2.65 | 104 | 0.03 | 40 | 400 | 0.37 | .67 | .84 |
| 320 | 0.42 | 68 | 7.97 | 4.23 | 2.59 | 107 | 0.00 | 38 | 500 | 0.32 | .67 | 84 |
| 388 | 0.37 | 67 | 7.97 | 4.23 | 2.64 | 106 | 0.00 | 40 | 600 | 0.27 | .66 | 84 |
| 515 | 0.31 | 67 | 7.98 | 4.30 | 2.60 | 107 | 0.00 | 39 | 800 | 0.17 | .66 | 85 |
| 646 | 0.25 | 66 | 7.97 | 4.46 | 2.52 | 107 | 0.00 | 38 | 1000 | 0.08 | .66 | .85 |
| 815 | 0.16 | - | 7.98 | 4.57 | 2.52 | 109 | 0.00 | 37 | 1200 | 0.00 | .65 | 85 |
| 1192 | 0.00 | 65 | 7.99 | 4.90 | 2.51 | 108 | 0.00 | 37 | 1500 | -0.12 | .64 | 85 |
| 1645 | -0.16 | 64 | 8.00 | 5.05 | 2.41 | 111 | 0.00 | 37 | 2000 | -0.25 | .64 | .85 |
| 2110 | -0.27 | 64 | 8.00 | 5.24 | 2.34 | 107 | 0.00 | 36 | 2500 | -0.34 | .64 | .86 |
| 2590 | -0.34 | - | 8.00 | 5.29 | 2.42 | 109 | 0.02 | 34 | 3000 | -0.40 | .64 | .86 |
| 3080 | -0.40 | 63 | 8.00 | 5.41 | 2.39 | 106 | 0.00 | 35 | 3500 | -0.45 | .63 | .86 |
| 3560 | -0.46 | 63 | 8.01 | 5.58 | 2.42 | 102 | 0.00 | 37 | 4000 | -0.50 | .63 | 86 |
| 4080 | -0.50 | 63 | 8.02 | 5.64 | 2.44 | 101 | 0.00 | 36 | - | - | - | - |

Station 12

Date 17 Feb , 1966
Time (GMT) 1800-2245
(LMT) 2000-0045
Lat 55°12. '5 S
Long 9°32 '5 E

Meteorological observation
Time (GMT) 2100 Wind dir . SW
(LMT) 2300 vel 8 2 m/s
Weather Clear Humidity . 83 %
Air temp 1 0 °C Sea 5
Atm. press. 1006.1 mb Swell . S 4

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-----------------------|-------------|-----------|-----------|--------------|-------|----------|------------|
| Depth | Temp. | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | $\mu\text{g-atoms/L}$ | | | | m | °C | ‰ | |
| 0 | 1 0 | 34 04 | 8.11 | 7.52 | 1.70 | 48 | 0.20 | 23 | 0 | 1.0 | 34.04 | 27.28 |
| 10 | 0.87 | 03 | 8 12 | 7 56 | 1.76 | 49 | 0 23 | 26 | 10 | 0 87 | .03 | .29 |
| 20 | 0 87 | .04 | 8 12 | 7.50 | 1 78 | 50 | 0 23 | 24 | 20 | 0 87 | .04 | .29 |
| 30 | 0 88 | .04 | 8.12 | 7.49 | 1 79 | 49 | 0.21 | 25 | 30 | 0 88 | .04 | .29 |
| 50 | 0 91 | .05 | 8 12 | 7.48 | 1.78 | 48 | 0 22 | 26 | 50 | 0.91 | .05 | .30 |
| 75 | -0 69 | .19 | 8 13 | 7.12 | 2 00 | 55 | 0.21 | 28 | 75 | -0 69 | .19 | .51 |
| 105 | -1 26 | .36 | 8 06 | 6.65 | 2 20 | 64 | 0 19 | 32 | 100 | -1 26 | .33 | .63 |
| 151 | -0 42 | .51 | 8 03 | 5 61 | 2.32 | 75 | 0 05 | 35 | 150 | -0 49 | .51 | .75 |
| 207 | 0 18 | .60 | 7 99 | 4 92 | 2 39 | 84 | 0 04 | 34 | 200 | 0 14 | .60 | .80 |
| 302 | 0.43 | .66 | 7 97 | 4.55 | 2 42 | 90 | 0 04 | 36 | 300 | 0 43 | .66 | .83 |
| 405 | 0.49 | .67 | 7 94 | 4 35 | 2 47 | 93 | 0 03 | 40 | 400 | 0 49 | .67 | .83 |
| 510 | 0 48 | .68 | 7.94 | 4 43 | 2 47 | 96 | 0 01 | 38 | 500 | 0 48 | .68 | .84 |
| 603 | 0 46 | .68 | 7 94 | 4 38 | 2 52 | 98 | 0 00 | 36 | 600 | 0 46 | .68 | .84 |
| 823 | 0 36 | .68 | 7 95 | 4 53 | 2.49 | 99 | 0 01 | 38 | 800 | 0 37 | .68 | .85 |
| 1048 | 0 22 | .67 | 7.96 | 4.75 | 2 47 | 100 | 0 01 | 37 | 1000 | 0.25 | .67 | .85 |
| 1262 | 0 12 | .67 | 7 96 | 4 83 | 2 41 | 102 | 0.01 | 37 | 1200 | 0.15 | .67 | .85 |
| 1525 | 0.04 | .68 | 7 96 | 4 90 | 2.46 | 103 | 0 00 | 37 | 1500 | 0.05 | .68 | .86 |
| 2075 | -0 19 | .67 | 7 98 | 5 17 | 2 42 | 102 | 0 01 | 40 | 2000 | -0 17 | .67 | .87 |
| 2575 | -0.29 | .65 | 7.97 | 5 31 | 2 44 | 103 | 0 01 | 30 | 2500 | -0 28 | .66 | .87 |
| 3090 | -0 35 | .65 | 7 95 | 5 40 | 2 46 | 100 | 0 00 | 32 | 3000 | -0 35 | .65 | .87 |
| 3600 | -0 42 | .65 | 7 96 | 5 49 | 2 37 | 96 | 0 00 | 36 | 3500 | -0 40 | .65 | .87 |
| 4130 | -0 49 | .64 | 7 95 | 5 68 | 2 41 | 94 | 0 00 | 37 | 4000 | -0 46 | .64 | .87 |

Station 13

Date 19 Feb, 1966

Time (GMT) 0050-0315

(LMT) 0250-0515

Lat 50°02' 5 S

Long 10°29' 4 E

Meteorological observation

Time (GMT) 0300 Wind dir N

(LMT) 0500 vel 8.2 m/s

Weather Cloudy Humidity 74 %

Air temp 4.1 °C Sea 3

Atm press 1017.5 mb Swell SSE 1

| Observed | | | | | | | | | Interpolated | | | |
|----------|------|----------|----------------|------------------|-----------------------|-------------|-----------|-----------|--------------|--------|----------|------------|
| Depth | Temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | $\mu\text{g-atoms/L}$ | | | | m | °C | ‰ | |
| 0 | 3.8 | 33.89 | 8.17 | 7.09 | 1.51 | 1 | 0.28 | 20 | 0 | 3.8 | 33.89 | 26.94 |
| 10 | 3.72 | 89 | 8.20 | 7.22 | 1.51 | 1 | 0.28 | 21 | 10 | 3.72 | 89 | 95 |
| 20 | 3.72 | 89 | 8.20 | 7.20 | 1.56 | 1 | 0.28 | 21 | 20 | 3.72 | 89 | 95 |
| 30 | 3.69 | 89 | 8.21 | 7.19 | 1.52 | 1 | 0.29 | 22 | 30 | 3.69 | 89 | 95 |
| 60 | 3.71 | 88 | 8.20 | 7.17 | 1.52 | 1 | 0.28 | 21 | 50 | 3.71 | 88 | 94 |
| 75 | 3.63 | 87 | 8.20 | 7.14 | 1.57 | 1 | 0.28 | 21 | 75 | 3.63 | 87 | 94 |
| 102 | 2.61 | 92 | 8.18 | 7.10 | 2.08 | 8 | 0.28 | 24 | 100 | 2.75 | 92 | 27.07 |
| 145 | 1.37 | 98 | 8.15 | 7.13 | 2.16 | 19 | 0.16 | 28 | 150 | 1.37 | 99 | 22 |
| 194 | 1.57 | 34.09 | 8.10 | 6.36 | 2.25 | 27 | 0.02 | 31 | 200 | 1.59 | 34.11 | 31 |
| 284 | 1.84 | 22 | 8.06 | 5.47 | 2.37 | 34 | 0.02 | 33 | 300 | 1.86 | 24 | 39 |
| 378 | 2.01 | 31 | 8.01 | 4.82 | 2.49 | 42 | 0.04 | 33 | 400 | 2.05 | 33 | 45 |
| 488 | 2.16 | 41 | 7.97 | 4.41 | 2.52 | 49 | 0.04 | 34 | 500 | 2.18 | 42 | 51 |
| 555 | 2.22 | 46 | 7.96 | 4.18 | 2.57 | 53 | 0.01 | 35 | 600 | 2.24 | 49 | 57 |
| 741 | 2.27 | 58 | 7.95 | 3.93 | 2.51 | 60 | 0.00 | 35 | 800 | 2.28 | 61 | 66 |
| 925 | 2.30 | 66 | 7.97 | 4.02 | 2.36 | 63 | 0.01 | 35 | 1000 | 2.29 | 69 | 72 |
| 1123 | 2.25 | 71 | 7.98 | 4.17 | 2.26 | 63 | 0.01 | 33 | 1200 | 2.23 | 73 | 76 |
| 1415 | 2.16 | 76 | 8.00 | 4.47 | 2.16 | 61 | 0.01 | 29 | 1500 | 2.11 | 76 | 80 |
| 1905 | 1.78 | 76 | 8.00 | 4.63 | 2.15 | 67 | 0.00 | 30 | 2000 | 1.69 | 76 | 82 |
| 2420 | 1.28 | 73 | 8.00 | 4.64 | 2.26 | 82 | 0.01 | 32 | 2500 | 1.21 | 73 | 83 |
| 2910 | 0.94 | 71 | 7.99 | 4.69 | 2.29 | 92 | 0.01 | 34 | 3000 | 0.90 | 71 | 84 |
| 3450 | 0.75 | 69 | 7.98 | 4.70 | 2.34 | 96 | 0.01 | 33 | 3500 | [0.73] | [70] | 84 |

Station 14

Date : 20 Feb, 1966
 Time (GMT) 0250-0540
 (LMT). 0450-0740
 Lat. : 45°12 '5 S
 Long. : 11°44. '5 E

Meteorological observation
 Time (GMT) 0300 Wind dir SW
 (LMT) 0500 vel 8.8 m/s
 Weather : Cloudy Humidity : 73 %
 Air temp. : 6.7 °C Sea : 3
 Atm. press : 1007.2 mb Swell : WSW 1

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-----------------------|-------------|-----------|-----------|--------------|--------|----------|------------|
| Depth | Temp. | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp. | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | $\mu\text{g-atoms/L}$ | | | | m | °C | ‰ | |
| 0 | 7.6 | 34.07 | 8.19 | 6.56 | 1.53 | 1 | 0.20 | 16 | 0 | 7.6 | 34.07 | 26.62 |
| 10 | 7.66 | .05 | 8.20 | 6.62 | 1.39 | 2 | 0.23 | 17 | 10 | 7.66 | .05 | .60 |
| 18 | 7.63 | .06 | 8.21 | 6.58 | 1.31 | 2 | 0.23 | 17 | 20 | 7.63 | .06 | .61 |
| 28 | 7.65 | .05 | 8.21 | 6.55 | 1.34 | 2 | 0.26 | 16 | 30 | 7.65 | .06 | .61 |
| 42 | 7.62 | .06 | 8.21 | 6.57 | 1.36 | 2 | 0.23 | 17 | 50 | 7.62 | .06 | .61 |
| 64 | 7.61 | .06 | 8.21 | 6.53 | 1.40 | 2 | 0.24 | 17 | 75 | 7.61 | .05 | .61 |
| 86 | 7.61 | .05 | 8.21 | 6.60 | 1.36 | 2 | 0.24 | 17 | 100 | 7.57 | .08 | .63 |
| 134 | 5.80 | .17 | 8.19 | 6.47 | 1.60 | 5 | 0.03 | 19 | 150 | 5.24 | .17 | 27.01 |
| 183 | 5.00 | .16 | 8.15 | 6.40 | 1.67 | 7 | 0.02 | 22 | 200 | 4.97 | .17 | .04 |
| 263 | 4.79 | .20 | 8.13 | 6.06 | 1.81 | 8 | 0.02 | 25 | 300 | 4.53 | .20 | .11 |
| 360 | 4.10 | .20 | 8.11 | 5.86 | 2.01 | 9 | 0.01 | 29 | 400 | 3.89 | .19 | .17 |
| 463 | 3.61 | .19 | 8.09 | 5.88 | 2.11 | 11 | 0.02 | 30 | 500 | 3.47 | .19 | .20 |
| 606 | 3.12 | .21 | 8.06 | 5.60 | 2.25 | 17 | 0.02 | 32 | 600 | 3.14 | .21 | .26 |
| 814 | 2.67 | .29 | 8.04 | 4.99 | 2.34 | 27 | 0.01 | 35 | 800 | 2.69 | .28 | .36 |
| 974 | 2.60 | .39 | 8.00 | 4.41 | 2.49 | 37 | 0.01 | 35 | 1000 | 2.60 | .40 | .46 |
| 1197 | 2.60 | .51 | 7.96 | 4.01 | 2.46 | 45 | 0.01 | 38 | 1200 | 2.60 | .52 | .56 |
| 1453 | 2.63 | .63 | 7.96 | 4.09 | 2.35 | 48 | 0.00 | 36 | 1500 | 2.63 | .65 | .66 |
| 1953 | 2.48 | .75 | 7.99 | 4.44 | 2.11 | 48 | 0.00 | 32 | 2000 | 2.45 | .76 | .77 |
| 2455 | 2.15 | .78 | 8.01 | 4.68 | 2.06 | 52 | 0.01 | 30 | 2500 | 2.12 | .78 | .81 |
| 2920 | 1.70 | .76 | 8.01 | 4.72 | 2.18 | 62 | 0.01 | 29 | 3000 | 1.63 | .76 | .83 |
| 3390 | 1.27 | .74 | 8.00 | 4.70 | 2.28 | 71 | 0.01 | 33 | 3500 | 1.29 | .73 | .83 |
| 3860 | 0.90 | .71 | 7.99 | 4.81 | 2.36 | 83 | 0.00 | 35 | 4000 | [0.83] | [.70] | [.83] |

Station 15

Date 21 Feb. 1966
 Time (GMT) 1710-1950
 (LMT) 1910-2150
 Lat 39°57 '0 S
 Long. 14°54 '0 E

Meteorological observation
 Time (GMT) 1800 Wind dir WSW
 (LMT) 2000 vel 7.2 m/s
 Weather Cloudy Humidity 74 %
 Air temp 12.2 °C Sea 4
 Atm press 1016.1 mb Swell S 7, WSW 4

| Observed | | | | | | | | | Interpolated | | | |
|----------|-------|----------|----------------|------------------|-----------------------|-------------|-----------|-----------|--------------|--------|----------|------------|
| Depth | Temp | Salinity | pH | Dissolved oxygen | Phosphate-P | Silicate-Si | Nitrite-N | Nitrate-N | Depth | Temp | Salinity | σ_t |
| m | °C | ‰ | <i>in situ</i> | cc/L | $\mu\text{g-atoms/L}$ | | | | m | °C | ‰ | |
| 0 | 15.0 | 35.22 | 8.24 | 5.58 | 0.49 | 1 | 0.12 | 2 | 0 | 15.0 | 35.22 | 26.16 |
| 8 | 14.96 | 17 | 8.24 | 5.63 | 0.44 | 2 | 0.17 | 2 | 10 | 14.97 | 17 | 14 |
| 17 | 15.00 | 19 | 8.25 | 5.57 | 0.42 | 1 | 0.17 | 2 | 20 | 15.00 | 18 | 14 |
| 24 | 14.99 | 16 | 8.25 | 5.57 | 0.44 | 1 | 0.18 | 2 | 30 | 14.94 | 14 | 12 |
| 40 | 14.68 | 10 | 8.26 | 5.60 | 0.44 | 1 | 0.18 | 3 | 50 | 14.43 | .06 | 16 |
| 60 | 14.07 | 01 | 8.26 | 5.60 | 0.52 | 1 | 0.19 | 4 | 75 | 12.85 | 34.89 | 35 |
| 80 | 12.56 | 34.87 | 8.24 | 5.69 | 0.74 | 2 | 0.32 | 17 | 100 | 12.36 | 86 | 43 |
| 118 | 12.21 | 86 | 8.21 | 5.56 | 0.82 | 2 | 0.31 | 9 | 150 | 11.25 | 92 | 69 |
| 160 | 10.95 | 93 | 8.17 | 4.57 | 1.18 | 7 | 0.07 | 15 | 200 | 9.95 | 85 | 86 |
| 237 | 9.20 | 75 | 8.12 | 4.56 | 1.45 | 8 | 0.03 | 17 | 300 | 8.05 | 63 | 27.00 |
| 325 | 7.66 | 59 | 8.08 | 4.43 | 1.73 | 12 | 0.05 | 21 | 400 | 6.46 | 51 | 12 |
| 415 | 6.21 | 50 | 8.05 | 4.46 | 2.01 | 16 | 0.06 | 26 | 500 | 5.24 | 44 | 22 |
| 485 | 5.40 | 45 | 8.04 | 4.41 | 2.11 | 20 | 0.01 | 30 | 600 | 4.16 | 37 | 28 |
| 658 | 3.68 | 36 | 8.01 | 4.68 | 2.29 | 26 | 0.00 | 31 | 800 | 3.61 | 45 | 41 |
| 850 | 3.55 | 48 | 7.98 | 4.03 | 2.46 | 39 | 0.00 | 31 | 1000 | 2.99 | 54 | 54 |
| 1040 | 2.91 | 56 | 7.97 | 3.92 | 2.49 | 46 | 0.00 | 33 | 1200 | 2.83 | 64 | 64 |
| 1325 | 2.79 | 68 | 7.97 | 4.13 | 2.29 | 47 | 0.01 | 29 | 1500 | 2.74 | 72 | 71 |
| 1840 | 2.62 | 77 | 8.01 | 1.65 | 1.92 | 39 | 0.01 | 26 | 2000 | 2.56 | 79 | 78 |
| 2350 | 2.43 | 83 | 8.03 | 4.85 | 1.84 | 40 | 0.00 | 23 | 2500 | 2.38 | 83 | 83 |
| 2885 | 2.23 | 84 | 8.02 | 1.94 | 1.84 | 45 | 0.01 | 25 | 3000 | 2.15 | 84 | 86 |
| 3420 | 1.76 | 80 | 8.02 | 4.78 | 1.98 | 58 | 0.00 | 25 | 3500 | [1.69] | [79] | 86 |