Six soundings, three dredgings, and four serial temperature soundings were obtained during the passage (see Sheet 6).

No accident occurred whilst the observations were being obtained, except that on the 11th July the thermometer sent to the bottom came up with the quicksilver separated, so that the result, which was considerably lower than usual, was rejected.

A sounding of 1000 fathoms was obtained midway between San Miguel and Santa Maria, another of the Azores. Between the Azores and Madeira there is a gradual descent to 2700 fathoms, and then as gradual a rise to Madeira, so that the summit of that island really stands 22,000 feet above the valley which separates it from the plateau of the Azores.

The mean temperature of the bottom water, at depths exceeding 1800 fathoms, was 36°·7, ranging from 36°·6 to 37°. It will be noticed that this bottom temperature is 0°·4 higher than the mean result obtained between Bermuda and the Azores, and that the lowest temperature obtained was higher than the highest registered between those two places. This is precisely the same result as that obtained on the east side of the Dolphin Ridge in the Tenerife–Sombrero section, whilst the mean temperature at the bottom in the Bermuda–Azores section, viz., 36°·3, is 0°·3 higher than that obtained west of the Dolphin Ridge in the Tenerife–Sombrero section.

The serial temperatures showed that the isotherm of 40° was at a uniform depth of 980 fathoms throughout the section, and that the isotherm of 50° was at a mean depth of 420 fathoms, a little deeper at Madeira, but the isotherm of 45°, which was at a depth of 580 fathoms at Fayal, descended to 800 fathoms at Madeira. The isotherm of 55° was at a mean depth of 150 fathoms (see Diagram 3).

On the 14th July, at Station 82, the current buoy moored by the lead line indicated a southerly movement of the surface water at an average rate of a quarter of a mile per hour.

The deposits in this section were remarkable for the large quantity of pumice which they contained; no fragments of quartz or continental rocks could be detected. At 1000 fathoms, between San Miguel and Santa Maria, the deposit was chiefly made up of pumice and volcanic minerals. Pteropod shells were present in the shallower deposits, but quite absent in depths greater than 2400 fathoms. The relatively high percentage of carbonate of lime at 2660 and 2675 fathoms, viz., 62 and 66 per cent., is worthy of note; the carbonate of lime here consisted almost wholly of the broken shells of pelagic Foraminifera. The fragments of siliceous organisms did not exceed 1 per cent. in any of the deposits.

The dredging in 1000 fathoms was very productive, yielding many new species, over twenty being described in the Reports already published. In 2025 fathoms two specimens of *Archaster*, and in 1650 fathoms two more specimens belonging to the same genus, and a species of *Antipathes*, were dredged.