

On the 14th, at 3 A.M., the ship wore and stood in towards the brash ice, and at 6 A.M. sails were furled, steam got up, and a sounding, dredging, and serial temperatures were taken in 1675 fathoms, blue mud, Station 153 (see Sheet 23). Pack ice and numerous bergs were in sight to the southeastward, the position of the ship being lat. $65^{\circ} 42' S.$, long. $79^{\circ} 49' E.$

The serial temperature observations on this date were very successful, as some of the brash ice could be collected, and the thermometers cooled before immersion. Each thermometer when immersed showed a temperature of $30^{\circ} \cdot 2$, both on the maximum and minimum sides. At 50, 100, and 200 fathoms they came up registering $30^{\circ} \cdot 2$ on the maximum side, and 29° on the minimum side, showing that to the depth of 1200 feet the water was at a uniform temperature of 29° . The thermometers sent down to the depth of 300 and 500 fathoms, and to the bottom, gave different results, for at 300 fathoms the maximum index registered a temperature of 32° and the minimum 29° ; at 500 fathoms the maximum index registered $32^{\circ} \cdot 8$ and the minimum 29° , and at the bottom the maximum was 33° and the minimum $28^{\circ} \cdot 8$. These results show that below the depth of 200 fathoms the temperature of the water rose gradually to $32^{\circ} \cdot 8$ at about 500 fathoms, but, unfortunately, it was impossible to tell what happened below that depth, as the thermometer came up showing the same result as at 500 fathoms. It was a matter of much regret that the bottom temperature could not be ascertained with certainty, it cannot, however, be less than $28^{\circ} \cdot 8$ nor more than 33° . It is remarkable that the water retains a temperature of 29° to 200 fathoms, or a depth slightly less than that of the icebergs, and that the temperature of the surface water was 33° , or the same as that of the warm underlying strata a few miles northward of the edge of the brash ice and icebergs, which would point to the conclusion that the cold upper layer was only local, and that it did not sink to the bottom, the greater specific gravity, due to its lower temperature, being more than counterbalanced by the admixture of the snow water from the bergs.

At 3.30 P.M., after heaving in the dredge, sail was made, the ship standing to the westward along the edge of the pack ice. At 6 P.M. there were forty-seven bergs in sight, and the pack extended from south to east, with apparently open sea to the southwestward. At 8 P.M. more pack ice was seen extending from W.N.W. to S.E., so at 10.30 P.M. the ship hauled to the northward under easy sail. The weather during the day was cloudy (occasionally misty), with passing snow showers, the wind light and variable, the barometer steady at 28.765 inches, mean temperature of the air $32^{\circ} \cdot 5$, the range of vision limited to about four miles.

On the 15th the wind was light and variable all day with a smooth sea and a clear horizon. Barometer steady at 28.827 inches, mean temperature of air 29° , of sea surface $30^{\circ} \cdot 7$. Position at noon, lat. $65^{\circ} 59' S.$, long. $78^{\circ} 24' E.$ Pack ice and numerous icebergs seen throughout the day. The icebergs seen on this and the previous day were mostly tabular, from 100 to 200 feet in height.

During the calm weather numerous Cape Pigeons were observed on the tabular bergs,