The cause of the Steele surge is unknown, but as the nearby Rusty and Trapridge Glaciers appear to surge by a thermal instability mechanism, temperature measurements in Steele Glacier could prove diagnostic. Consequently in July 1972 a reconnaissance program of ice-temperature measurement was begun and a single hole was thermally drilled to a depth of 114 m in the central region of the glacier (Fig. 1). Two eight-conductor cables attached to the power cable of the thermal probe carried thirteen calibrated thermistors to depths ranging from 25 m to 114 m. The drilling and temperature measurement procedures were essentially the same as those described by Classen and Clarke (1972). Thermistor resistances were measured ten days after the termination of drilling and converted to ice temperatures.