

model studies. The holes were drilled with a hot water drill developed at the Survey (Olesen, 1989) and used in connection with glacier-hydrological studies on the Greenland ice sheet (Thomsen *et al.*, 1989). However, due to very unfavourable drilling conditions only the thermistor string at stake 451 was successfully installed, reaching bedrock at a depth of 288 m below the ice surface (Fig. 3).

Temperature readings were made several times in the drill hole at stake 451 from 3 to 19 August. Similar temperature readings in hot water drill holes on White Glacier, Axel Heiberg Island, Canada (Blatter, 1985), showed that the temperatures are close to equilibrium state after 2 to 3 weeks, and the last readings at stake 451 on Hans Tausen Iskappe (on 19 August) are therefore assumed to be close to equilibrium (Fig. 4). The englacial temperature varies between -18.5°C at 10 m depth to about -1.5°C at the bottom. The relatively high temperature at the bottom was unexpected, but indicates that even a moderate climatic warming at the surface might bring the basal temperature in the marginal zone to the pressure melting point and result in increased ice flow velocities.