## OBSERVATIONS OF A RARE SECOND YEAR, LAKE ICE COVER IN THE CANADIAN HIGH ARCTIC

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## ABSTRACT

Colour Lake, Axel Heiberg Island, N.W.T. (79 25' N; 90 45' W) remained largely ice covered from the autumn of 1985 to the summer of 1987. This is a relatively rare event. Observations and measurements of the thickness and specific conductance of the lake ice cover were made at the end of the 1986 summer and again in the following spring. The residual ice cover (second year ice with first year ice beneath it) was significantly thicker and had a lower specific conductance than first year ice formed in marginal leads (moat) which had been ice free in 1986. The first year ice which grew beneath the residual ice cover had the lowest specific conductance. Distribution of snow on the lake was affected by the roughness of the second year ice (as compared to the smoother moat ice) and differences in elevation between second year (high) and moat ice.

Key Words: high arctic, specific conductance, residual ice cover, snow distribution

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