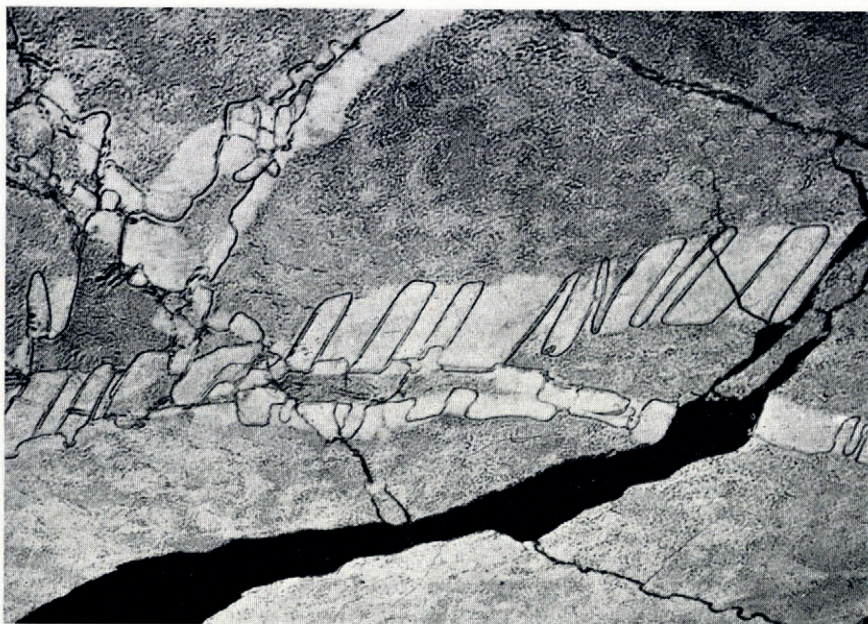


ICE THRUST STRUCTURES

FOLLOWING on to the article on "Sea Ice Thrust Structures" by Professor W. F. Weeks and Mr. D. L. Anderson in this Journal (Vol. 3, No. 23, 1958, p. 173-75) we have received a note from Mr. Jon N. Weber of McMaster University, Hamilton, Ontario, describing similar structures on Keller Lake, which lies about 130 km. south of Great Bear Lake. Below we illustrate one of three high angle photographs, taken on 8 June 1957 from a height of about 300 m., sent to us by Mr. Weber, who writes:

Occurring in thin ice one winter old, the fractures are grouped in bands of lighter colored ice aligned nearly perpendicular to the shore. Of interest are the strike-slip faults and small shear zones arranged along the fractures perpendicular to the shoreline, suggesting the application of pressure toward the margin of the lake.



Mr. Weber states that the photograph has not been retouched and that the actual lines were very dark, although the darkness may have been accentuated by the high contrast of his photographic material.

The photographs were sent to Professor Weeks for his comments. He has made a number of observations which further explain these phenomena:

1. The ice sheets that the thrusts occur in are greyish in color (indicating thinness).
2. The whitish colors of the bands of thrusting are the result of a double thickness of ice where the sheets overlap.
3. The ice sheets where this phenomenon was observed were not "normal" one year lake ice which would probably be 1 m. in thickness. This thrust ice, I assume, is skim ice that has just formed in an off shore lead and is being subjected to pressure between the drifting, normal one year lake ice and the shore.
4. This thrust pattern indicates that the ice thickness was probably less than 8 cm. when the thrusting took place. The ice could have been considerably thicker when the photographs were taken.

REFERENCES

1. Holmes, J. F., and Worthington, L. V. *Oceanographic studies on project Skijump II*. Woods Hole, Woods Hole Oceanographic Institution, 1953, p. 3. (Reference No. 53-23.)
2. Dunbar, M., and Greenaway, K. *Arctic Canada from the air*. Ottawa, Defence Research Board, p. 448.
3. Black, W. A. An illustrated glossary of ice types in the Gulf of St. Lawrence. *Geographical Paper*. (Ottawa Dept. of Mines and Technical Surveys), No. 11, 1957, Fig. 54.
4. Armstrong, T., and Roberts, B. Illustrated ice glossary. *Polar Record*, Vol. 8, No. 52, 1956, p. 4-12, Fig. 19.