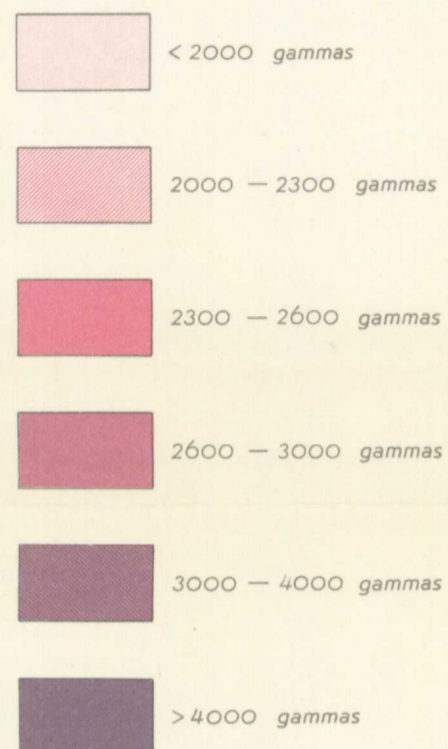
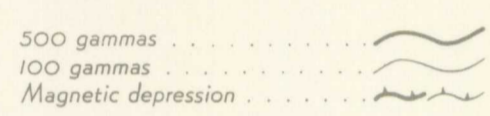


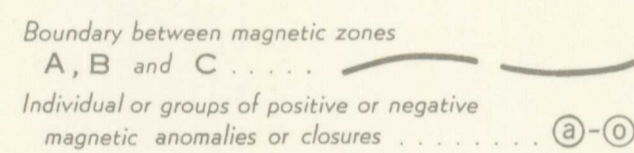
LEGEND



Isomagnetic lines (total field)



Flight altitude 1000 feet above ground-level



This is a composite aeromagnetic map compiled from sixteen aeromagnetic maps previously published by the Geological Survey on a scale of one inch equals one mile. On this map, flight line traces are eliminated and base-map detail is generalized and reduced to a minimum.

No correction has been made for regional variation which, according to Dominion Observatory Map, "F" - isodynamic chart Canada 1955, σ^m increases at the rate of 1.1 gammas per mile in the direction S. 15° East.

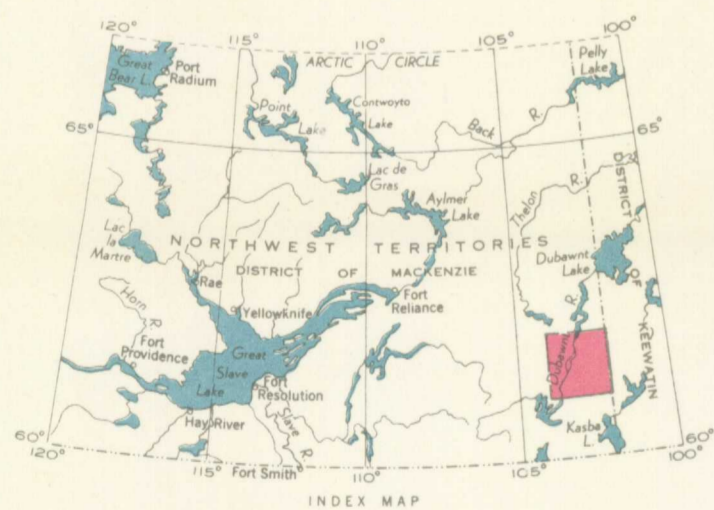
58,700 gammas needs to be added to each contour value to tie into the absolute value of the earth's field. This is not necessary for interpretation purposes but would assist in the standardization of magnetic data.

Aeromagnetic data compiled by the Aeromagnetic Compilation Section, Geophysics Division, Geological Survey of Canada

Cartography by the Geological Cartography Unit, 1958

Air photographs covering this map-area may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa, Ontario

Approximate magnetic declination, 20° 36' East



DESCRIPTIVE NOTES

PREVIOUS GEOLOGICAL WORK

Early geological work consisted of reconnaissance along Dubawnt River by Tyrrell (1897); the most recent were geological surveys by helicopter of the area (Wright, 1956) and along the eastern border of the area (Lord, 1953).

MAIN MAGNETIC FEATURES

Without reference to geology, the area may be divided into three zones, A, B and C, each with its distinct magnetic pattern or character. Zone A is characterized by a broken pattern of many closures of small area extent. With few exceptions these are of low magnetic intensity; the maximum relief is only 1,200 gammas. Zone A is underlain mainly by granitic and gneissic rocks.

Zone B is the most striking magnetic feature of the area. It is comprised of two linear magnetic depressions 200-300 gammas below the general magnetic intensity. It is considered that these are caused by a deficit of magnetic minerals in the underlying rocks rather than a negatively polarized formation. Because of their shape, non-magnetic character and lack of associated positive closures to the south these features are believed to be caused by belts of steeply dipping meta-sedimentary rocks in the granitic and gneissic rocks. The southern part of this belt is mapped as gneiss and schist. It is considered from the magnetics that this area would correspond to the paragneiss phase of this map-unit.

Zone C presents a different magnetic character than zone A. It has a greater density of more intense anomalies and they strike generally in a northeasterly direction. Zone C, in contrast to zone A, consists of paragneisses, orthogneisses and granite as well as granitic and gneissic rocks.

MINOR MAGNETIC FEATURES

Magnetic anomalies (a), (d), (e), (f), and (g) are interpreted as being due to meta-anomalies (a) and (f) at least correspond to these basic rocks. The intensity and shape of anomalies in areas (b), (c) and (h) suggest that they correspond to basic phases of the gneisses.

Area (i) consists of closures over 700 gammas higher than the surrounding magnetic areas in the acid gneisses and is interpreted to represent an area of basic gneiss.

Area (j) is a belt of anomalies extending to the northeast edge of the area. It consists of a series of positive anomalies some of which are oriented in a north or northeast direction. Magnetic relief attains 700 gammas in the south-central section of (j) and 200 to 400 gammas at its northern extremity. By comparison with areas (k) and (o) this belt is considered to be underlain by intermediate or basic gneisses.

Area (k), at its southern end, coincides with gneisses and schists derived from volcanic rocks. From the continuity of the magnetic features, this belt of basic gneisses and schists extends to the northeast for a distance of 24 miles.

Area (m) coincides, in part, with an area mapped as gneiss, schist and granulite derived from volcanic and sedimentary rocks. Examination of magnetic anomalies in this area and the geology mapped to the east would suggest that the more magnetic schists and gneisses, possibly derived from volcanic rocks, are restricted to the area within the magnetic areas marked (m).

Area (n) mainly corresponds to rocks mapped as gneiss and schist (unit 6, Wright, 1956). From the magnetic data now available it would seem that these rocks extend a mile farther north and 4/5 miles farther west than previously mapped. However, geological mapping indicated that injection gneisses to the east of area (n) are genetically more closely related to unit 6, and were therefore mapped in that unit although they are magnetically more like gneissic granite and granodiorite of unit 8. For this reason the geological contact between units 6 and 8 on the east side of area (n) does not agree with the magnetic data.

Area (o) is comprised of depression closures of small and large extent and three or four small positive anomalies. These closures are in marked magnetic contrast to the stronger positive belt to the west (j) and suggest that the granite intrusion mapped to the east does not extend west of area (o).

Tyrrell, J. B. 1897. — Report on the Dubawnt, Kazan and Ferguson Rivers and the northwest coast of Hudson Bay; Geol. Surv., Canada, Ann. Rept. vol. IX, pt. F.

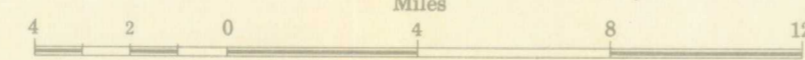
Wright, G. M. 1956. — Geological Notes on the Eastern District of Mackenzie, Northwest Territories, Geol. Surv., Canada, Paper 56-10.

Lord, C. S. 1953. — Geological Notes on the Southern District of Keewatin, Northwest Territories; Geol. Surv., Canada, Paper 53-22.

PUBLISHED 1959
 COPIES OF THIS MAP MAY BE OBTAINED FROM THE
 DIRECTOR, GEOLOGICAL SURVEY OF CANADA, OTTAWA

MAP 1073A
 AEROMAGNETIC MAP
BOYD LAKE
 DISTRICT OF MACKENZIE
 NORTHWEST TERRITORIES

Scale: One Inch to Four Miles = $\frac{1}{253,440}$



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1073A

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 A. Geol. Aeromagnetic Map, 1073A