

LEGEND



Isomagnetic Lines (total field)  
500 gammas .....  
100 gammas .....  
Magnetic depression .....  
Flight altitude 1000 feet above ground-level

Boundary around groups of anomalies .....  
Individual or groups of positive or negative magnetic anomalies ..... a-j

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 1955.0" increases at the rate of 2.4 gammas per mile in the direction S. 45° East.

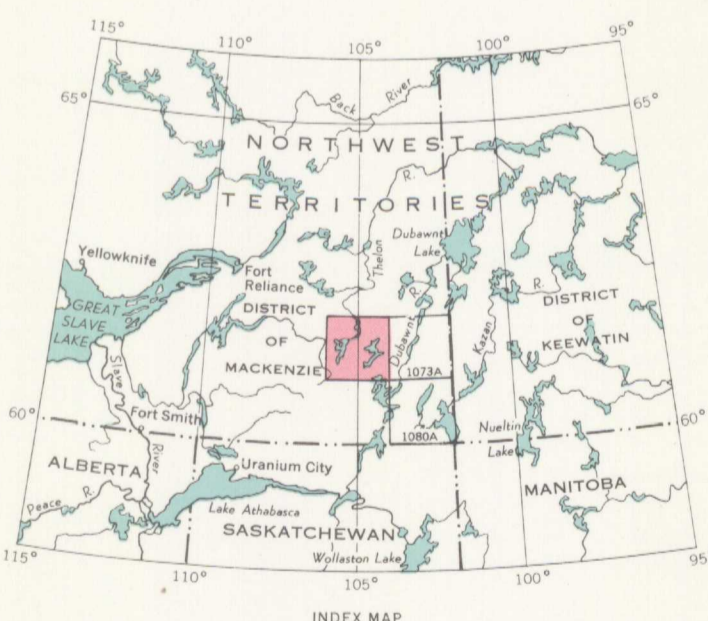
59,000 gammas needs to be added to each contour value to tie into the absolute value of the earth's field. This is not necessary for interpretation purposes but would assist in the standardization of magnetic data.

Aeromagnetic-Geologic Correlation by A. S. MacLaren

Cartography by the Geological Survey of Canada, 1960

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

Approximate magnetic declination 23° 50' East



DESCRIPTIVE NOTES

Recent geological mapping was done in the eastern half of the area by Wright<sup>1</sup> using a helicopter; the western half was mapped by Taylor<sup>2</sup>.

Solely on the basis of distinctive magnetic character the map-area may be divided into many large and small areas. These areas are lettered a to j to facilitate the following comments.

Area a is composed of a large positive magnetic anomaly, 700 to 800 gammas above the magnetic intensity over adjacent rock types. It is suggested that this area corresponds to a basic phase of unit 4 of Taylor's map<sup>2</sup>, probably granodiorite.

Area b consists of one main anomaly trending north-northeast and a much smaller anomaly trending northwest. The maximum increase in intensity over area b compared to that over adjacent areas is 1,500 gammas. This area coincides chiefly with gneissic granite and granodiorite shown on Taylor's map<sup>2</sup>. The larger anomaly marked b is interpreted as corresponding to a basic phase of the gneissic granodiorite or a metabasite, and the smaller area to basic gneisses of unit 1.

Area c consists of a series of positive anomalies with a maximum intensity of 200 to 700 gammas above the intensity over adjacent rocks. These areas of weak to medium magnetic intensity are interpreted as being due to basic paragneisses.

Area d is a northeast-trending belt of negative anomalies with magnetic intensities of 100 to 500 gammas below intensities over adjacent rock types. This negative area is considered to be due to infolded non-magnetic paragneisses.

Areas e and f are linear belts of positive magnetic anomalies trending northeast. These belts chiefly coincide with unit 1 on Taylor's map<sup>2</sup>. They are considered to correspond to basic phases of the paragneiss. From the magnetic data it appears that these paragneisses extend northeast beyond where Taylor mapped them and across a region where few outcrops were found. Paragneiss corresponding to part of area e may also be extended farther east into Wright's area<sup>1</sup>.

Areas g in the northwest part of the map-area, are composed of a series of low- to intermediate-intensity magnetic anomalies. These anomalous areas are interpreted as corresponding to ferromagnetic phases of the gneissic granodiorite.

Area h is a small ovoid anomaly with a magnetic intensity of more than 2,000 gammas above the magnetic intensities over the surrounding rocks. This area is interpreted to coincide with a gabbro or ultrabasic plug.

Area i consist of two weakly magnetic areas that are believed to correspond with a ferromagnetic phase of the granodiorite and granitic gneisses.

Area j forms the magnetic background in which all the above areas lie. It is, on the whole, lacking in strong lineation, and is chiefly composed of small to large areas of negative and positive magnetic relief.

In the east half of the area the distribution of the anomalies exhibits a slight trend around the massive granite mapped by Wright<sup>1</sup> in the vicinity of Broad and Jarvis lakes. However these trends are of little or no help in distinguishing the massive granite from the granodiorite and granitic gneisses that cover most of the east half of the map-area. In the west half, areas marked j coincide with massive to gneissic granite and granodiorite and slightly ferromagnetic paragneiss.

<sup>1</sup>Wright, G. M. 1956. Geological Notes on the Eastern District of Mackenzie, Northwest Territories; Geol. Surv., Canada, Paper 56-10.

<sup>2</sup>Taylor, F. C. (1959). Penyan Lake-Fire Drake Lake, Northwest Territories; Geol. Surv., Canada, Map 8-1959.

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MAP 1085A

AEROMAGNETIC MAP

**FIREDRAKE LAKE**

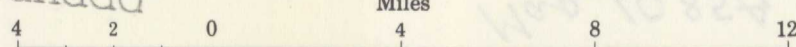
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NORTHWEST TERRITORIES

SEP 20 1961

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



5.1.5 N.W.T. Fire Drake Lake. Aeromagnetic map 1085A  
A. Geol. Scale - 4 mi. to 1". 1961. Copy 2.

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