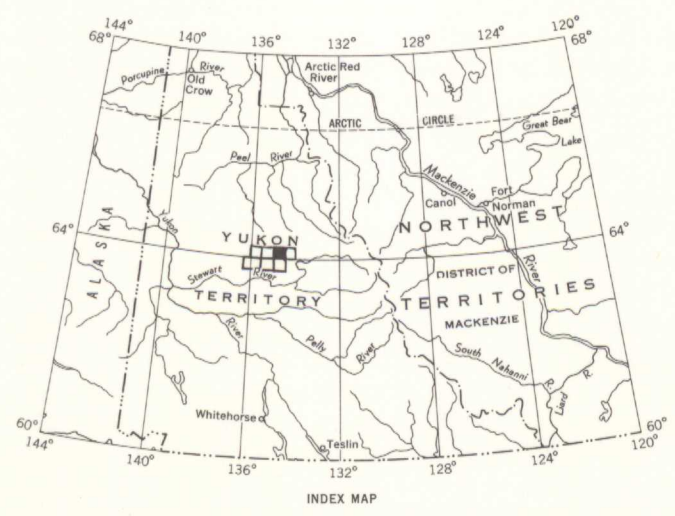


LEGEND

Concentration of heavy metal, 0.001 or greater ppm
in stream waters in spring waters
Concentration of heavy metal, 0.000 ppm
in stream waters in spring waters
Field work by C. F. Gleason, W. M. Tupper, A. Suparman, K. Domal,
M. Shafiqullah, J. A. Colwell, J. R. Deighton, C. H. Yurchak,
J. K. Worth, H. R. James, A. G. Troup, G. Wind, L. Hogg,
and F. R. Campbell

Geological cartography by the Geological Survey of Canada, 1965
Intermittent lake and stream
Marsh
Horizontal control point
Elevation in feet above mean sea-level
Base-map produced by the Army Survey Establishment, R. C. E. 1951
Approximate magnetic declination, 34° 06' East, decreasing 4.4' annually



DESCRIPTIVE NOTES
Geological
Most of Scougale Creek area is underlain by a series of metamorphosed sedimentary rocks, mainly quartzites, phyllites, chlorite, sericite, and graphite schist, with minor slate and limestone. A band of dolomite with minor limestone occurs in the northeast corner of the sheet. Basic igneous sills and lenses now altered to greenstone are interlayered with the metasedimentary rocks.
The region has undergone several stages of glaciation, and thick glacial deposits occupy the major valleys and hill slopes below an elevation of 3,000 feet. Permafrost is present throughout the area.
No mineral deposits are known in the area, although several lead-zinc-silver lodes are known in the McQuesten Lake area, the adjacent map-area to the west. These occur as fracture fillings in quartzites, phyllites, and greenstones, and north of Mount Cameron a mineralized fault cuts a lens of limestone.
Further details on the geology and mineralization of the area can be obtained from reports by Cockfield (1922), Green (1958), Green and McTaggart (1960), Green and Roddick (1962), Aho (1964), and Boyle (1965).

Geochemical
The data on this map are based on samples of stream and spring waters that were tested at the sample site using the method described by Boyle, Illsley, and Green (1965).
The values are expressed as total heavy metal (principally zinc, copper, and lead) in parts per million. Most of the heavy metal in the water is zinc. The pH of the waters varies from 3.2 to 8.4, but most of the values are between 6.5 and 7.5. The temperature of the waters varies from 0° to 10°C.
Helicopters were used to set-out traverse teams at or near the heads of the creeks; traverses down the streams were done on foot. An attempt was made to maintain a sample interval of 1,500 feet along all creeks. In some places lack of time necessitated sampling at greater intervals.
The anomalous trains in this area vary in length from less than 1/2 mile to over 12 miles (Rankin Creek). Most of the water and sediment anomalies are coincident (see Map 27-1964). However, there are exceptions, but most of these involve short sections of streams. Some of the water anomalies that have no associated sediment anomalies are derived from metalliferous acid springs. Red, brown, and sometimes white precipitates are found at and below the orifices of many of these metal bearing springs.
Most of the water anomalies occur in creeks draining Patterson Range and the eastern slope of Davidson Range. The distribution of these anomalies suggests that mineralization is widespread. In the northeast part of the area a series of anomalies occur in the creeks draining into Beaver River. These are associated with phyllitic rocks and a contact between the phyllites and dolomite. Further field investigations are required to determine the sources of mineralization that produce the water anomalies in this area.

The heavy metal content of the waters shown on this map should be compared with the heavy metal content of the stream and spring sediment and precipitates shown on Map 27-1964.
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Cockfield, W. E.: Silver-lead deposits of Davidson Mountains, Mayo district, Yukon Territory; Geol. Surv. Can., Summ. Rept. 1921, pt. A, pp. 1A-6A (1922).
Green, L. H.: McQuesten Lake and Scougale Creek map-areas, Yukon Territory; Geol. Surv. Can., Paper 58-4 (1958).
Green, L. H., and McTaggart, K. C.: Structural studies in the Mayo district, Yukon Territory; Proc. Geol. Assoc. Canada, vol. 12, pp. 119-134 (1960).
Green, L. H., and Roddick, J. A.: Dawson, Larsen Creek, Nash Creek map-areas, Yukon Territory; Geol. Surv. Can., Paper 62-7 (1962).

PUBLISHED 1965
COPIES OF THIS MAP MAY BE OBTAINED FROM THE DIRECTOR, GEOLOGICAL SURVEY OF CANADA, OTTAWA

MAP 26-1964
HEAVY METAL CONTENT OF STREAM AND SPRING WATERS
SCOUGALE CREEK
YUKON TERRITORY
Scale 1:63,360
1 inch to 1 mile
Miles 1 0 1 2 3
Kilometres 1 0 1 2 3 4 5

106 D₂
SCOUGALE CREEK
YUKON TERRITORY
MAP 26-1964

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