



LEGEND

Concentration of manganese, 9 to 1,000 ppm
in stream sediments 1

Concentration of manganese, 1,001 to 4,000 ppm
in stream sediments 2

Concentration of manganese, 4,001 ppm or greater
in stream sediments 3

Location of known mineral occurrences
(symbols indicate principal metals)

Mining properties (see index below) 4

Metal Symbols

Arsenic	As	Molybdenum	Mo
Antimony	Sb	Nickel	Ni
Barium	Ba	Silver	Ag
Copper	Cu	Tungsten	W
Gold	Au	Tin	Sn
Magnesium	Mg	Zinc	Zn
Lead	Pb	Uranium	U
		Pyrite, etc.	G

Note: An (F) after the symbol indicates that the mineralization was observed in float. A (?) after the symbol indicates that the location is approximate or uncertain.

Index to Mining Properties and Prospects

- Ancocks Co. (Canada), Ltd.
- Great Northern Development Corp., Ltd.
- Tetapogue Exploration Co., Ltd. (Oreva Brook)
- Ancocks Co. (Canada), Ltd. (Rocky Turn Group)
- Ancocks Co. (Canada), Ltd. (Armstrong 'A' deposit)
- Ancocks Co. (Canada), Ltd. (Armstrong 'B' deposit)
- Quebec Shalgon River Mines, Ltd. (Hobey and Shaft deposits)
- Millstream iron deposit
- Derwood copper deposit
- Nepisiguit River Mines, Ltd.
- Keyport mine
- East Ventures, Ltd.

DISCUSSIVE NOTES

Geological

South of a line following the Millstream River and westward through Tetapogue Lakes, the area is underlain mainly by the Ordovician Tetapogue Group comprising a series of complexly folded and thrust metasediments, metavolcanics, and metabasic intrusives. These are intruded south of Bathurst by granitic gneiss of Ordovician, Silurian, and Devonian age. The Silurian Group, of probable Ordovician age, is composed of folded and contorted metasediments and some metavolcanics which are intruded by a granitic stock in the vicinity of Antoinette Lake. The Silurian and Devonian rocks comprise both sedimentary and volcanic that are faulted in places, gently folded, and on the whole are less metamorphosed than the older rocks in the district. In the Nepisiguit area the Silurian rocks are intruded by a granitic stock that has an associated metamorphic aureole in which the rocks are mainly hornfels and schists. Another granitic stock intrudes Silurian volcanic rocks along South Benjamin River.

East of Nepisiguit River the area is underlain by the Pennsylvanian Bathurst Formation. These rocks are mainly siltstones, sandstones, grits, and conglomerates that dip gently eastward.

Flat-lying conglomerates and sandstones (Bouvard-are Formation), mostly of Triassic age, underlie Heron Island and fringe the coast in the Jacquet River area. Glacial till, sand, and gravel mantle the whole district, and Recent post-glacial sands and clays cover much of the area around Bathurst Harbour and occur in the shore section at Jacquet River.

The principal mineral deposits in the area are massive, vein, and disseminated deposits containing essentially iron, zinc, lead, and copper sulphides. Molybdenite occurrences are associated with the Bathurst, Nepisiguit, and Antoinette Lake granitic bodies. Manganese occurs in only small amounts in the various slightly deformed. Manganese occurs in quartz veins at Tetapogue Falls on Tetapogue River, and was or bog manganese has been reported on Little River.

The text of the paper accompanying this map should be consulted for further details on the geology and economic geology of the district.

Geochemical

The analyses recorded on this map were done on samples of sediment collected from the channels of rivers and streams and from rivulets flowing from springs. Where possible the active elements were analyzed, but in a few cases the residual sediment of dried-up streams was used. In making areas and in streams where heavier workings are present the sediment contained abundant decomposed organic matter.

The sediment was dried, sieved to -80 mesh, ground to -100 mesh and analyzed for manganese by the spectrophotometric method outlined in the paper accompanying this map. The values are expressed in parts per million. The subdivisions used on the map are arbitrary and based on experience in the district. The lowest subdivision can be taken to represent the background.

All streams and rivers were traversed on foot, and the stream sediments were collected, where possible, at intervals of 1,500 feet.

The manganese content of the sediments ranges from 20 ppm to greater than 10,000 ppm. The average background is variable over the district but is probably about 1,000 ppm for most areas. The dispersion ratios are generally not uniform, and there are numerous examples of isolated anomalies that are greatly enriched in manganese. Many of these occur in the boggy parts of streams, in streams with a low gradient, or in parts of streams that are strongly meandered.

Manganese hydroxides and oxides tend to adsorb and/or precipitate most heavy metals. This is the reason for the enrichment of the Cu, Pb, Ag, Ni, Co, etc., in a number of streams where the manganese contents are high in the stream sediments. This feature should be carefully considered in the evaluation of heavy metal anomalies in the district.

The manganese contents of the stream and spring sediments shown on this map should be compared with those for heavy metals in water on Map 22-1965 and also with the contents of individual elements in stream sediments on Maps 24-1965 to 43-1965 inclusive.

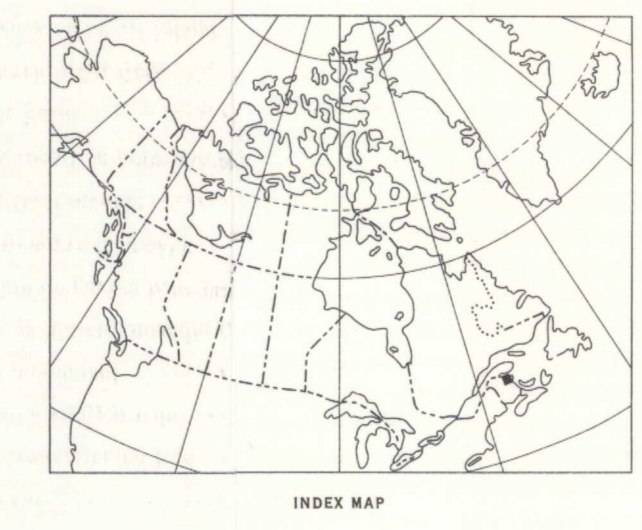
Field work by: W. M. Tupper, M. Zaslav, G. Friedrich, M. Carter, K. Rogers, M. Shafiqullah, R. Bourassa, D. Pridgely, L. W. LeRoy, P. Martel, W. Warren, W. Taylor, R. Cormier, and E. T. Lever

Analyses by: C. Durham

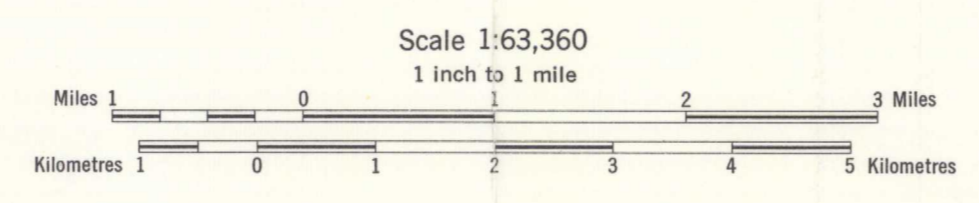
Geological cartography by the Geological Survey of Canada, 1955

Base-map compiled and drawn by the Surveys and Mapping Branch, 1954, 1955

Approximate magnetic declination, 24° 03' West, decreasing 1.7' annually



MAP 44-1965
PAPER 65-42
MANGANESE CONTENT OF STREAM AND SPRING SEDIMENTS
BATHURST-JACQUET RIVER DISTRICT
NEW BRUNSWICK



ESIC CIST
OCT 8 1956
Earth Sciences Sector des Sciences de la Terre

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BATHURST-JACQUET RIVER DISTRICT
NEW BRUNSWICK

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