



LEGEND

Concentration of elements in parts per million.
(Blank sectors indicate that the concentration of the element was below the detection limit of spectrographic methods)

Location of known mineral occurrences
(Symbols indicate principal metals)

Mining properties (see index below)

Metal Symbols	
Arsenic	As
Antimony	Sb
Barium	Ba
Bismuth	Bi
Cadmium	Cd
Chromium	Cr
Cobalt	Co
Copper	Cu
Gold	Au
Lead	Pb
Manganese	Mn
Molybdenum	Mo
Niobium	Nb
Platinum	Pt
Silver	Ag
Tungsten	W
Tin	Sn
Zinc	Zn
Zirconium	Zr

Note: An (1) after the symbol indicates that the mineralization was observed in float. A (2) after the symbol indicates that the location is approximate or uncertain.

Index to Mining Properties and Prospects

1. Anacosta Co. (Canada), Ltd.
2. Great Northern Development Corp., Ltd.
3. Tetagouche Exploration Co., Ltd. (Orvan Brook)
4. Anacosta Co. (Canada), Ltd. (Rocky Turn Group)
5. Anacosta Co. (Canada), Ltd. (Armstrong 'A' deposit)
6. Anacosta Co. (Canada), Ltd. (Armstrong 'B' deposit)
7. Quebec Burgeon River Mines, Ltd. (Hickey and Shaft deposits)
8. Millstream Iron deposit
9. Berouford copper deposit
10. Nigadoo River Mines, Ltd.
11. Keynet mine
12. East Venture, Ltd.

Field work by: W. M. Tupper, M. Zandkin, G. Friedrich, M. Currier, R. Byrnes, M. Rudolph, R. Bourassa, G. Pasky, L. W. LeRoy, P. Martel, W. Warren, W. Taylor, R. Corneer, and S. T. Lever

Analyses by C. Durham

Compiled by M. Rudolph and R. W. Boyle

Geological cartography by the Geological Survey of Canada, 1947

- Roads, all weather
- Other roads
- Cart track
- Trail or portage
- Railway
- Railroad stop
- Post Office
- Lighthouse
- Power transmission line
- Horizontal control point
- Survey monument
- County or district boundary
- Township or parish boundary
- Indian Reserve boundary
- Intermittent stream
- Stream (position approximate)
- Rapids, Falls
- Foreshore, tidal flats
- Reef, rock or small island
- Marsh
- Wheat or peat
- Sand or gravel
- Height in feet above mean sea-level

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

Approximate magnetic declination, 24° 02' West, decreasing 1.0' annually

DESCRIPTIVE NOTES

Geological
South of a line following the Millstream River and westward through Tetagouche Lake, the area is underlain mainly by the Ordovician Tetagouche Group comprising a series of complexly folded and sheared metasediments, metavolcanics, and metachic intrusives. These are intruded south of Bathurst by a granitic mass.

North of the Millstream River the rocks are mainly of Ordovician, Silurian, and Devonian age. The Elmtree 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 sediments and volcanics that are faulted in places, gently folded, and on the whole are less metamorphosed than the older rocks in the district. In the Nicholas Dike area the Silurian rocks are intruded by a granitic stock that has an associated metamorphic aureole in which the rocks are mainly hornfels and slates. Another granitic stock intrudes Silurian volcanic rocks along South Benjamin River.

East of Northgate 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 (Bathurst Formation), possibly of Triassic age, underlie Heron Island and fringe the coast in the Baquet River area.

Clayey till, sand, and gravel mantles 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 Baquet River.

The principal mineral deposits in the area are massive, vein, and disseminated deposits containing essentially iron, zinc, lead, and copper sulphides. Molybdenum occurrences are associated with the Bathurst, Nicholas Dike, and Antoinette Lake granitic bodies. Stanniferous quartz veins at Tetagouche Falls on Tetagouche River, and lead or bog manganese has been reported on Little River.

For further details of the geology and economic geology of the area the reader should consult Boyle et al. (1964)

Geochemical

The analyses recorded on this map were done on samples of magnetic minerals taken from the heavy mineral concentrates prepared at the sites shown. Most of these heavy mineral concentrates came from the gravely and sandy parts of the stream and river.

The magnetic minerals were ground to pass a minus 150 mesh screen and then analyzed for the elements shown on the map by the spectrographic method outlined in the accompanying paper. The values are expressed in parts per million.

The details of the distribution of the elements in the magnetic fraction of the heavy mineral concentrates are discussed in the paper accompanying this map.

Boyle, et al.: Geochemistry of Pb, Zn, Cu, As, Sb, Mo, Sn, W, Ag, Ni, Co, Cr, Ba, and Mn in the waters and stream sediments of the Bathurst-Jacquet River district, New Brunswick; Geol. Surv. Can., Paper 65-42.

MAP 13-1967
PAPER 67-42
MINOR AND TRACE ELEMENT DISTRIBUTION IN MAGNETIC HEAVY MINERALS IN RIVER AND STREAM SEDIMENTS
BATHURST - JACQUET RIVER DISTRICT
NEW BRUNSWICK
Scale 1:63,360
1 inch to 1 mile
Miles 0 1 2 3 4 5
Kilometres 0 1 2 3 4 5

