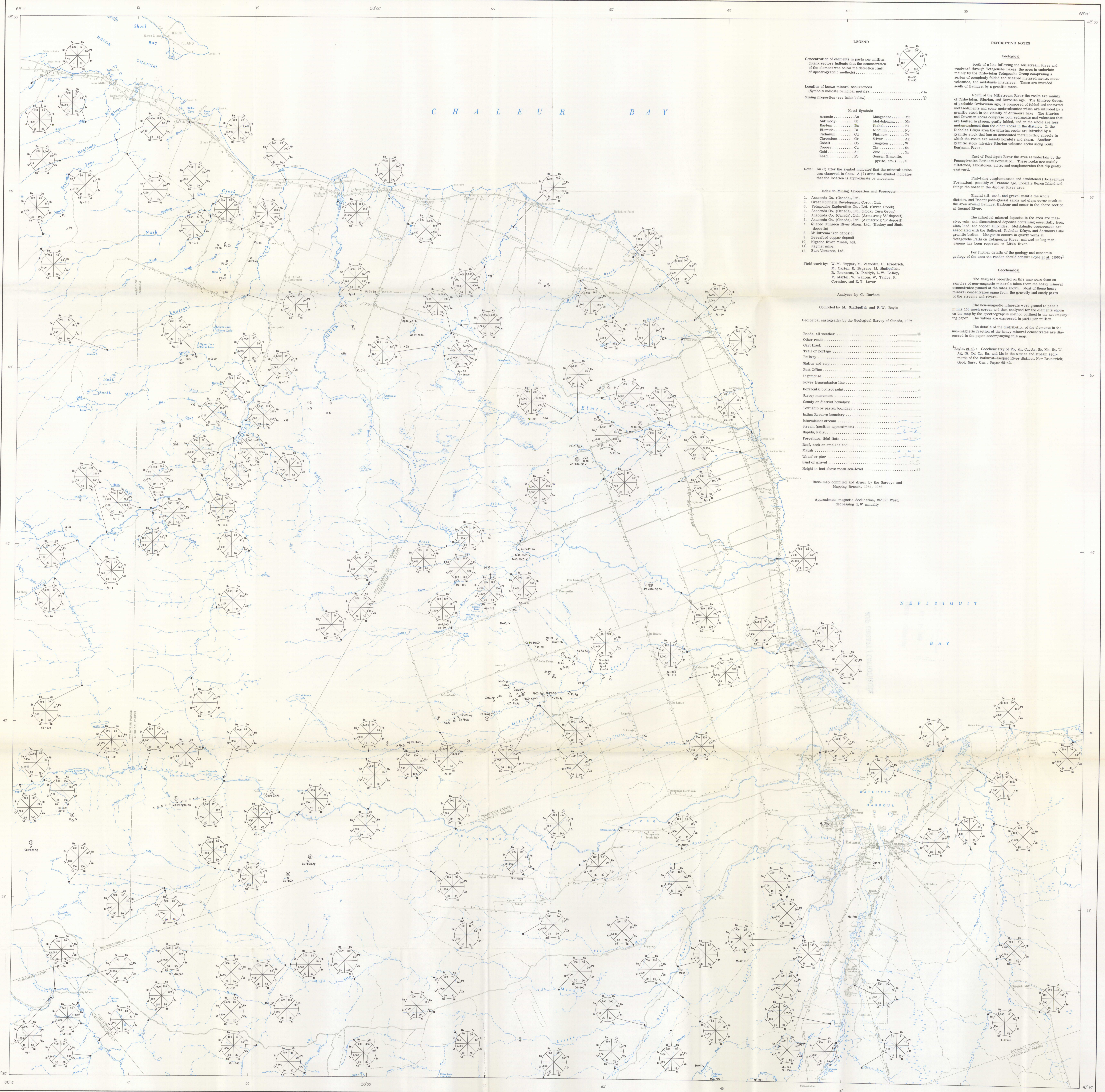


CHALEUR BAY



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)

Table with 2 columns: Element and Symbol. Lists elements like Arsenic, Antimony, Barium, Bismuth, Cadmium, Chromium, Cobalt, Copper, Gold, Lead, Manganese, Magnesium, Nickel, Niobium, Platinum, Silver, Tin, Zinc, and Zirconium with their respective symbols.

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

- Index to Mining Properties and Prospects
1. Anasconda Co. (Canada), Ltd.
2. Great Northern Development Corp., Ltd.
3. Tetagouche Exploration Co., Ltd. (Stevens Brook)
4. Anasconda Co. (Canada), Ltd. (Rocky Turn Group)
5. Anasconda Co. (Canada), Ltd. (Armstrong 'A' Deposit)
6. Anasconda Co. (Canada), Ltd. (Armstrong 'B' Deposit)
7. Quebec Steepbank River Mines, Ltd. (Hatchey and Booth deposits)
8. Millis River iron deposit
9. Bureford copper deposit
10. Nigadoe River Mines, Ltd.
11. Knyvel mine.
12. East Ventures, Ltd.

Field work by: W. M. Tupper, M. Zissimos, G. Friedrich, M. Carter, R. Bygrave, M. Safiqullah, R. Bourassa, D. Podyka, L. W. Lasky, P. Martel, W. Warren, W. Taylor, R. Cormier, and E. T. Lever

Analyses by C. Durhan

Compiled by M. Safiqullah and R. W. Boyle

Geological cartography by the Geological Survey of Canada, 1967

- Roads, all weather
Trail or portage
Cart track
Railway
Station and 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
Furrows, tidal flats
Reef, rock or small island
Marsh
Wharf or pier
Sand or gravel
Height in feet above mean sea-level

Base-map compiled and drawn by the Surveys and Mapping Branch, 1954, 1956

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

DESCRIPTIVE NOTES

Geological
Both of a line following the Millis River and westward through Tetagouche Lakes, the area is underlain mainly by the Ordovician Tetagouche Group comprising a series of complexly folded shales, metasediments, meta-volcanics, and metasediments. These are intruded south of Bathurst by a granitic mass.

North of the Millis River the rocks are mainly of Ordovician, Silurian, and Devonian age. The Elmsee Group, of probable Ordovician age, is composed of folded and contorted metasediments and some metovolcanics 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 metamorphosed from the older rocks in the district. In the Nicholas Days area the Silurian rocks are intruded by a granitic stock that has an associated metamorphic aureole in which the rocks are mainly hornfels and skarn. 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 (Bessentville formation) possibly of Tertiary age, underlie North 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 iron, zinc, lead, and copper sulphides. Polyphemic occurrences are associated with the Bathurst, Nicholas Days, and Antoinette Lake granitic bodies. Magnetite occurs in quartz veins at Tetagouche Falls on Tetagouche River, and iron-ore-bearing 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. (1966) 1

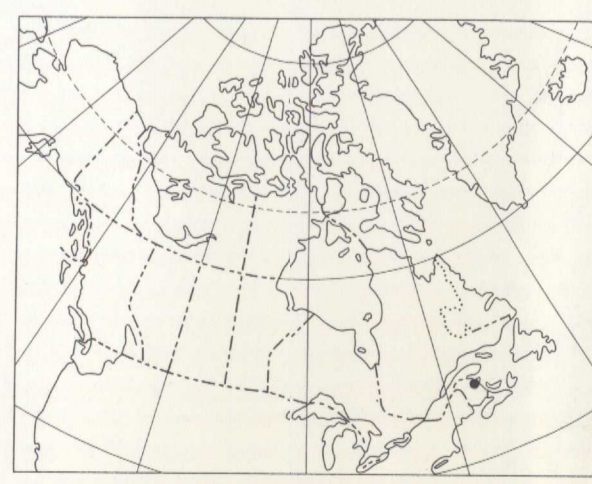
Geochemical

The analyses recorded on this map were done on samples of non-magnetic minerals taken from the heavy mineral concentrates passed at the sites shown. Most of these heavy mineral concentrates came from the gravels and sandy parts of the streams and rivers.

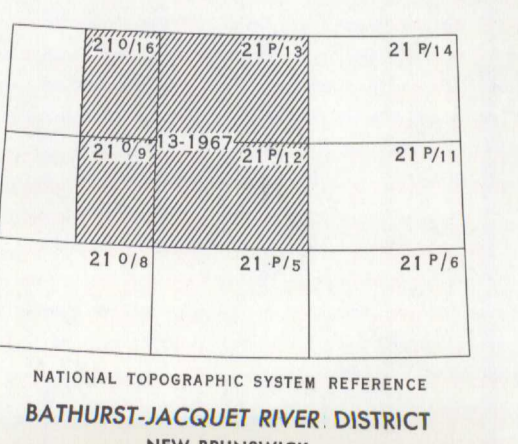
The non-magnetic minerals were ground to pass a minus 150 mesh screen and then analyzed for the elements shown on the map by the spectrographic method outlined in the accompanying paper. The values are expressed in parts per million.

The details of the distribution of the elements in the non-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, Si, 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 67-45  
MINOR AND TRACE ELEMENT DISTRIBUTION IN NON-MAGNETIC HEAVY MINERALS IN RIVER AND STREAM SEDIMENTS  
BATHURST - JACQUET RIVER DISTRICT  
NEW BRUNSWICK  
Scale 1:63,350  
1 inch to 1 mile  
Mile 0 1 2 3  
Kilometres 0 1 2 3 4 5



NATIONAL TOPOGRAPHIC SYSTEM REFERENCE  
BATHURST-JACQUET RIVER DISTRICT  
NEW BRUNSWICK

GSC/CGC OTTAWA  
00G 0306286