



MINFILE

NTS 083D, C – CANOE RIVER & BRAZEAU

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The Canoe River and Brazeau map areas, situated in southeastern British Columbia, contains 47 documented mineral occurrences. The Rocky Mountain trench transects the area and several gneissic bodies crop out adjacent to and along the Rocky Mountain trench. To the east of the Rocky Mountain trench, lithologies of the Main Ranges form an imbricate thrust package of Hadrynian to Triassic metasediments and sediments of the Ancestral North American Craton. To the west of the Rocky Mountain trench, lithologies of the Kootenay Terrane and Ancestral North America, in the Cariboo and Monashee mountains, belong to the Hadrynian Horsethief Creek Group and overlying Kaza and Cariboo groups. Hadrynian rocks on both sides of the trench have been intensely deformed by at least three folding events and have been affected by Barrovian metamorphism ranging in grade from biotite to sillimanite zone.

Since the mid 1970's, considerable work on the structure, stratigraphy and metamorphism has been conducted in the area, thus the geology of the area is well understood. Summaries of much of this work have been published in the Geological Survey of Canada annual Paper series and recently compiled by D.C. Murphy of the Geological Survey of Canada into Open File Map 2324. The reader is referred to Open File 2324 for a more comprehensive list of references than is supplied with this release.

The majority of known mineral occurrences in the area occur adjacent to or west of the Rocky Mountain trench and are dominantly industrial mineral occurrences. Precious and base metal occurrences are not abundant throughout the area. Industrial mineral occurrences, consisting predominantly of mica and kyanite with lesser garnet and beryllium, are hosted predominantly in the Semipelite-Amphibolite unit of the Hadrynian Horsethief Creek Group, west of the Rocky Mountain trench. Of several past producers, the Canoe North Mica (083D 012) is the most significant occurrence of this type, producing 225 tonnes of mica from 1961 to 1962. Other industrial mineral occurrences of importance to the area are the Blue River Feldspar (083D 033), the Blue River Limestone (083C 044) and the Valemont (083C 016) occurrences. The Valemont occurrence produced 150 metric tonnes of silica in 1963.

A number of carbonatite and nepheline syenite layers (eg. Verity, 083D 005) occur within the Semipelite-Amphibolite unit of the Hadrynian Horsethief Creek Group, in the Monashee Mountains. These have been periodically examined since the 1950's for their vermiculite, uranium, niobium and tantalum potential, but to date none have reached the developmental stage.

Several small alkaline ultramafic diatremes, intruding Upper Cambrian carbonate strata, have been discovered and explored in the Bush River area for microdiamonds. No microdiamonds have been reported recovered from heavy mineral separates taken from the Larry showing (083C 001), but other pipes in this swarm, and to the south, have microdiamonds.

Recent work on the Bend 1 Canyon Zone (083D 001) area has uncovered stratiform massive sulphide mineralization. Exploration and drilling to date have defined indicated reserves of 5 million metric tonnes with an average grade of 7 grams per tonne silver, 0.6 per cent lead and 2.3 per cent zinc. Other showings of this type are restricted in number. Recent exploration activities to the east of the Bend 1 Canyon Zone suggests that the potential for more stratiform massive sulphide mineralization has been underestimated.

SELECTED REGIONAL REFERENCES (083D, C – CANOE RIVER & BRAZEAU)

- Lickorish, H. (1992): Structure of the Porcupine Creek Anticlinorium, and tectonic implications of the Lower Cambrian Gog Group of the Rocky Mountain Main Ranges. unpublished Ph.D. thesis, University of Calgary.
- Murphy, D.C. (1990): Geology of the Canoe River Map Area (83D); Geological Survey of Canada, Open File Map 2324.