



GALORE CREEK MAP-AREA
(104G/3W, 4E)

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Geological mapping at a scale of 1:31,680 (1 inch equals one-half mile) initiated in 1973 was continued in 1974 (see Fig. 15). Base maps are Sphaler Creek (104G/3W) and Flood Glacier (104G/4E), 100-foot contour preliminary maps available from the Surveys and Mapping Branch, Department of Lands, Forests, and Water Resources, Victoria. These maps are especially suited for reconnaissance mapping as they are derived from and match the scale of recent (1965) air photographs.

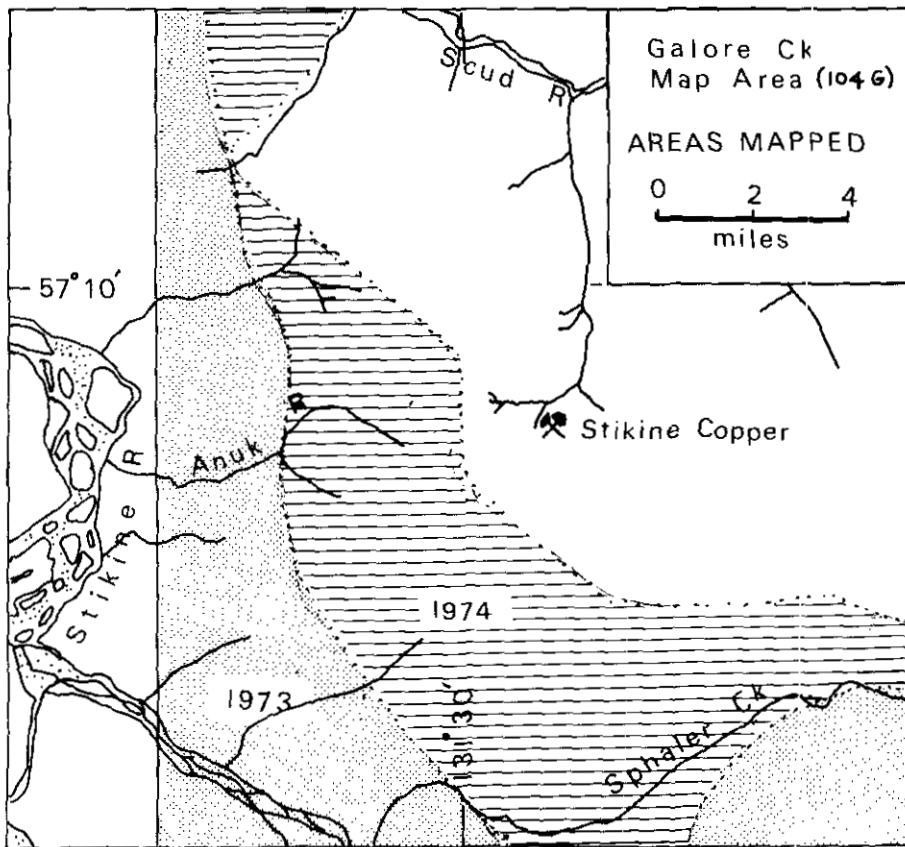


Figure 15. Location of mapping, Galore Creek area.

Regional mapping is being done in order to evaluate ore potential of known showings and to predict undiscovered resource capability of the map-area. Mapping during 1973 was concerned mainly with intrusive rocks along the western and extreme southeastern map

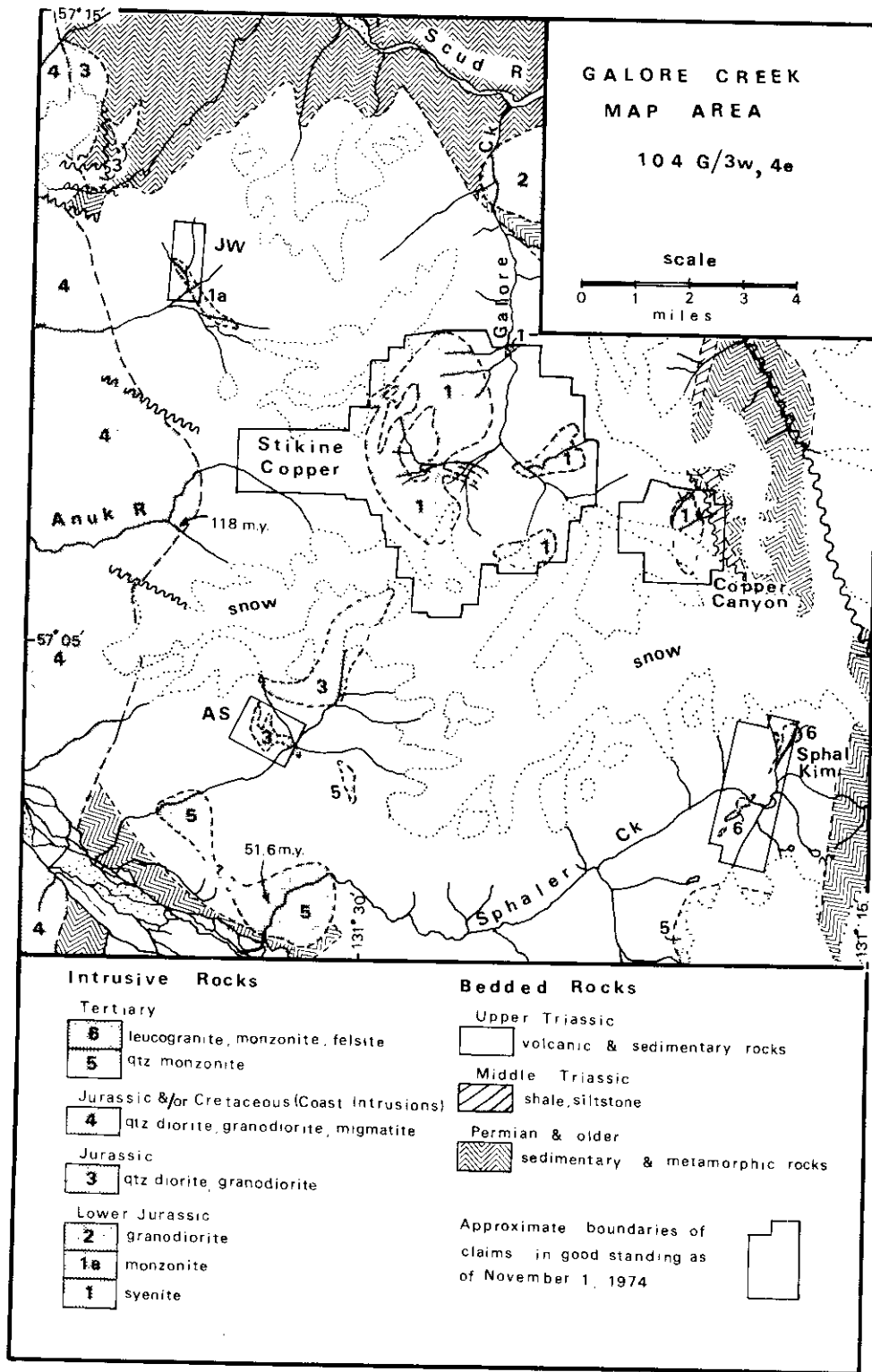


Figure 16. Generalized geology, Galore Creek map-area.

boundaries. Intrusive contacts were located and contact relations with country rocks, age of intrusions, and relation to mineralization were investigated. Mapping during 1974 established a stratigraphic framework for the area by defining major stratigraphic units and structures. Petrology and chemistry of volcanic rocks from a number of measured sections are currently being investigated.

Regional mapping is being done in conjunction with detailed investigation of the Galore Creek deposits of Stikine Copper Limited (*see* GEM, 1972, 1973). These and further studies will determine the validity of the suggestion that syenite porphyries and related mineralization are coeval and cogenetic with intruded volcanic rocks in Galore Creek map-area.

Work to date is summarized on Figure 16. The area of highest economic potential consists of alkalic intrusive and Upper Triassic volcanic rocks and is outlined in the centre of the map-area. To the west are intrusive rocks of the Coast Plutonic Complex and to the southwest, north, and east are Paleozoic rocks. South of Sphaler Creek, glaciers and large snowfields form an effective southern boundary for the map-area.

Ages of intrusive rocks shown on Figure 16 are tentative. They are based on six published and two new K-Ar dates. Alkalic rocks of map units 1 and 1a are associated with copper mineralization and contain hydrothermal biotites ranging in age from 174 to 198 m.y. Medium to coarse-grained granodiorite of unit 2 has an apparent age of 182 m.y. These earlier published dates are summarized elsewhere (Panteleyev, 1973). Map unit 3 consists of fine to medium-grained hornblende quartz diorite or granodiorite. Intrusive contacts are sheared and the rocks are commonly hydrothermally altered. Epidote, chlorite, quartz veining, and small amounts of pyrite as well as traces of chalcopyrite are common. Map unit 4 represents rocks of the Coast Plutonic Complex. These rocks display a variety of rock types and textures ranging from massive, coarse-grained leucogranite to foliated hornblende. Rocks of unit 4 in Galore Creek map-area are commonly weakly to noticeably foliated, medium-grained hornblende and hornblende biotite granodiorite. Biotite from a weakly foliated, fine-grained hornblende biotite quartz diorite collected from Anuk River yielded a K-Ar date of 118 ± 5 m.y. (Lower Cretaceous).

Rocks of map unit 5 are little altered, medium-grained, pink to grey biotite quartz monzonite or granodiorite. The intrusions form a number of small stocks satellitic to Coast Plutonic rocks along the southwest and south map boundaries. They are considerably younger than Coast Plutonic rocks, as biotite from a quartz monzonite stock at the mouth of Sphaler Creek yielded a K-Ar date of 51.6 ± 1.6 m.y. (Eocene). Unit 6 comprises a number of small subvolcanic stocks, dykes, and possibly intrusive breccia bodies. The rocks are mainly leucocratic porphyritic to felsitic rocks tentatively called monzonite. Minor hornblende-bearing phases may approach quartz monzonite in composition. Some pyrite and chalcopyrite are associated with these rocks as disseminations and fracture fillings in breccia zones. Significant bornite and some molybdenite have also been noted.

Structural relationships between Paleozoic, Middle Triassic, and Upper Triassic bedded rocks will be investigated by further field work and Upper Triassic rocks will be subdivided as petrologic and analytical data become available.

PROPERTY EXAMINATIONS

Two areas of exploration activity representing the bulk of exploration expenditure in the Liard Mining Division were examined in some detail. These are the RED/SUS, CHRIS claim groups 10 miles southeast of Iskut (Eddontenajon) (104H) and the SMRB/JEFF groups on a southeast fork of Kutcho Creek, about 12 miles south-southeast of Rainbow Lakes (104I).

Reports are forthcoming in *Geology, Exploration, and Mining in British Columbia, 1974*. Further field work is planned in 1975 for Kutcho-Tucho Creek areas in the vicinity of SMRB/JEFF claim groups.

REFERENCES

- Panteleyev, A. (1972): GC, Hab, Buy (Stikine Copper), *B.C. Dept. of Mines & Pet. Res., GEM*, 1972, pp. 520-526; 1973, in press.
- Souther, J. G. (1972): Telegraph Creek Map-area, British Columbia, *Geol. Surv., Canada*, Paper 71-44, 38 pp.