# NORTHWEST BRITISH COLUMBIA

## PROPERTY EXAMINATIONS AND CONTINUING STUDIES

By A. Panteleyev

### BALL CREEK (ME, ROG, TARA, MENT) (104G/8W)

The Ball Creek property of Great Plains Development Company of Canada, Ltd., formerly known as MARY (1963) and GREG (1970) claims, is a low-grade polymetallic copper-gold-silver-molybdenum prospect. The area is underlain by volcanic and sedimentary rocks of probable Upper Triassic age and is intruded by numerous feldspar porphyry and felsite dykes and possibly small stocks. Sulphide minerals are associated with these subvolcanic feldspar porphyry and felsite intrusions. Disseminated and fracture-controlled pyrite is widespread and pyritic quartz stockworks are developed locally. Rare molybdenite and traces of secondary copper minerals can be seen in highly oxidized outcrops.

The Ball Creek prospect is a porphyry-type deposit and is somewhat similar in geologic setting, rock types, and style of mineralization to the WINDY, RED, SUS, CHRIS deposit near Ealue Lake (GEM, 1972, pp. 535-537; 1974, p. 340-343).

### GEOCHEMISTRY AND AGE OF KAKETSA STOCK (104J/4W)

Fifty samples (mainly hornblende quartz diorite) collected from the Kaketsa stock in 1974 (*Geological Fieldwork*, 1974, pp. 63-68) are being analysed for 14 major oxide and 15 minor elements. Analytical results are being treated by various univariate and multivariate statistical procedures in cooperation with W. J. McMillan and A. F. Bowman. Comparisons of geochemical data are being made with Guichon Creek batholith as part of an ongoing study to define geochemical criteria for distinguishing potentially productive stocks from barren ones.

Radiometric dating by the potassium-argon method establishes a Middle Triassic age of intrusion for the Kaketsa stock. Hornblende from quartz diorite was dated at 218±8 million years (GEM, 1972, p. 548). Biotite from a similar rock has now been determined to be 214±6 million years in age. The stock cuts and metamorphoses volcanic rocks of the Stuhini Group. Therefore, concordant Middle Triassic radiometric dates for the stock indicate that at least part of the Stuhini Group is older than Upper Triassic.

## K-Ar ANALYTICAL DATA

*(J. Harakal, Analyst, University of British Columbia)*

| | | |
|---|---|---|
| Sample number | 72AP–KA–3 | 74–KA–4 |
| Material analysed | Hornblende (40-60 mesh) | Biotite (40-60 mesh) |
| Potassium (% K)[1] | $\bar{X}$ = 0.391 $\sigma$±0.002 (4) | $\bar{X}$ = 6.88±0.035 (3) |
| $Ar^{*40}$ ($10^{-5}$ cc STP/g) | $3.584 \times 10^{-1}$ | 6.207 |
| $Ar^{*40}/Total\ Ar^{40}$ | 0.851 | 0.930 |
| $Ar^{*40}/K^{40}$ | $1.354 \times 10^{-2}$ | $1.323 \times 10^{-2}$ |
| Apparent age | 218±8 m.y. | 214±6 m.y. |

NOTE: Number in parentheses refers to number of K analyses.

CONSTANTS USED:

$\lambda_\varepsilon = 0.585 \times 10^{-10}\ yr^{-1}$

$\lambda\beta = 4.72 \times 10^{-10}\ yr^{-1}$

$K^{40}/K = 1.181 \times 10^{-4}$

$\sigma$ = standard deviation