

To
À
 Dr. Randy Parrish
 Geological Survey of Canada
 Ottawa, Ontario
From
De
 Dr. R.V. Kirkham
 Geological Survey of Canada
 Cordilleran Division

Security Classification - Classification de sécurité

Our File - Notre référence

Your File - Votre référence

Date

July 22, 1993

Subject
ObjetU-Pb ZIRCON DATING

Randy:

Thank you very much for the Sulphurets dates. They are interesting numbers quite compatible with the geology but the KQ-90-152 date (188 ± 0.5 Ma) is younger than I expected. The main porphyry Cu pyritic stockwork is now bracketed between 194 and 188 but is probably closer to 194 Ma(?).

I have passed the dates on to Bob Anderson and will forward them to Jim Mortensen. Samples KQ-90-154C and KQ-91-80B I still feel warrant dating but I have not found anybody willing to do the work. I have had discussions with Al Sinclair and James Macdonald but there have been no decisions as of yet by UBC-MDRU.

Sample KQ-91-7 from Chibougamau, Quebec should be dated as soon as possible. The sample should yield results that would be very useful to many workers in the area. Dave Sinclair, Francois Robert, Pierre Pilote and I were mapping in the area in June. I will not go into a full account of the importance of this sample in this memo but some of the main reasons are as follows:

- 1) Clark Lake is probably an Archean porphyry Cu (Mo) deposit;
- 2) Porphyry deposits are the world's most important source of Cu and Mo and also yield important amounts of Au and Ag;
- 3) Many workers and explorers do not believe in the existence of Precambrian porphyry deposits;
- 4) If important porphyry deposits can be found and documented in the Canadian Shield it could change the entire resource picture for copper and molybdenum in Canada;
- 5) KQ-91-7 is from an intermineral porphyry dyke, therefore it should date the deposit;
- 6) In the Chibougamau area many porphyry bodies and deposits are known but their ages and petrogenetic associations are uncertain;
- 7) Several porphyry bodies are known within the confines of the Chibougamau Pluton and nearby but they apparently have not suffered penetrative deformation whereas parts

of the pluton have;

8) Some Porphyries and associated pyrite and copper sulphides cut the Stella Formation which evidently lies unconformably on the Chibougamau Pluton suggesting a distinctively younger age for some porphyries and copper deposits; and therefore,

9) A date on this porphyry dyke should clarify any possible relationship with the main tonalitic phases of the Chibougamau Pluton or whether it is part of a younger intrusive suite.

We have identified similar intermineral porphyry dykes in the Merrill Island pit to the south that probably should also be dated (to link Clark Lake and the main ore shoots in the Campbell Mine) and further work of ours and others (two Ph.D theses studies underway) will probably identify other units that should also be dated in the future.

Thank you for the dates and consideration for further work.

Sincerely,

A handwritten signature in cursive script, appearing to read "Rod", written in dark ink.

R.V. Kirkham
Research Scientist

cc: J.M. Duke
S.F. Robert
W.D. Sinclair



To
À

Rod

From
De

Randy P

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How was the meet - am unsure when you are to be in Vancouver so I'm sending it there -

Final results on 152 ($188 \pm \frac{1}{2}$)

+ 151A - 194 ± 1 .

Cheers -

Randy

you should let Jim M know at your convenience