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APPENDIX 3

REPORT CMS 76/5/16

MOINA FLUORITE SAMPLES

Introduction

Four chip samples from the Moina prospect were submitted for detailed mineralogical-petrological examination, with particular reference to the following :

- a. Nature and occurrence of all minerals
- b. Determination of presence or absence of cuspidine
- c. Nature and quantity of cassiterite, and the possibility of other potential Sn-bearing phases
- d. Liberation of fluorite
- e. Presence and nature of other economic minerals (Cu-Pb-Zn, W, Mo and others).

Mr. Bartlett emphasized in the discussion that the information should be as representative as possible, and therefore it was agreed that several thin-sections should be prepared of each sample. Four samples (Numbers 3, 4, 5, 6) were supplied, together with analytical information.

Procedure

One polished section and four thin-sections were prepared for each sample, using smaller chips for the polished sections, larger ones for the thin-sections. Potash-staining tests were carried out on chips.

Because of the general similarities in composition and fabric, the samples are described as a group, with comments on variations in individual samples. It was decided that photomicrographs would be more valuable in presenting the important characteristics than lengthy descriptions, particularly in regard to metallurgical assessment of the samples. There is nothing to be gained from repetitious descriptions of many thin-sections; it will be more important to examine mill-products resulting from beneficiation experiments.

Results

(a) General Comments

Very generally, the rocks are metasomatic in character, and it is evident that there have been several phases of replacement, introduction of material, and late-stage veining; the phases are believed to be genetically linked.

The main problem is that of the origin of the rocks and their primary composition (i.e. before metasomatism). Metasomatic