IMA commission on new minerals and mineral names: Procedures and guidelines on mineral nomenclature 1998, The Mineralogical Record, May/Jun 1999 by Nickel, Ernest H, Grice, Joel D

The Commission on New Minerals and Mineral Names of the International Mineralogical Association was established in 1959 for the purpose of controlling the introduction of new minerals and mineral names, and of rationalizing mineral nomenclature. Since that time, the work of the Commission has gained overwhelming support from the international mineralogical community. Presented here is a summary of the procedures currently employed by the Commission, and the recommended guidelines for mineral nomenclature.

NEW MINERALS

General Considerations

A mineral substance is a naturally occurring solid that has been formed by geological processes, either on earth or in extraterrestrial bodies (Nickel, 1995a). A mineral species is a mineral substance with well-defined chemical composition and crystallographic properties, and which merits a unique name. General criteria for defining mineral species are given below. In practice, most mineral species conform to these criteria, but exceptions and borderline cases inevitably arise, and ultimately each proposal to introduce a new mineral species or to change mineral nomenclature must be considered on its own merits.

The Concept of a Mineral Species

A mineral species is defined mainly on the basis of its chemical composition and crystallographic properties, and these must therefore be the key factors in determining whether a new mineral species is to be recognized and a new mineral name is justified. If a mineral is found whose composition and/or crystallographic properties are substantially different from those of any existing mineral species, there is a possibility that it may be a new species. A general guideline for compositional criteria is that at least one structural site in the potential new mineral should be predominantly occupied by a different chemical component than that which occurs in the equivalent site in any existing mineral species.