

REASSESSMENT OF THE VOLKONSKOITE-CHROMIAN SMECTITE NOMENCLATURE PROBLEM: COMMENT

Key Words—Chromian smectite, Nomenclature, Octahedral Cations, Volkonskoite.

Foord *et al.* (1987) are to be congratulated on their exhaustive study of the volkonskoite problem. Their suggested solution—namely, the definition of volkonskoite as a dioctahedral member of the smectite group containing dominant chromium in the octahedral position—however, leaves, as so often happens, another problem—the most suitable name for the mineral from Jordan described by Khoury *et al.* (1984). In their paper, Foord *et al.* (1987) recommended that the Jordanian mineral be termed ‘chromian montmorillonite’, a name that seems somewhat inappropriate in view of the fact that this mineral contains only Cr^{3+} and Mg^{2+} , but no Al^{3+} , in the octahedral sheet. Although Mg slightly exceeds Cr, ‘chromian saponite’ is unsuitable, as the mineral is dioctahedral despite Σ^{VI} being greater than 4—as it seems to be in all high-chromian smectites. Moreover, the name ‘chromian smectite’ is particularly nondescript for such a well-characterized and homogeneous mineral, and the only possibility left seems to be the introduction of a new name. This problem could have been solved without raising further difficulties had Foord *et al.* (1987) phrased their definition: ‘A dioctahedral member of the smectite group containing chromium as the dominant trivalent cation in the octahedral sheet’—a definition that I understand was adopted by the Nomenclature Committee of Association Internationale pour l’Etude des Argiles at

Denver in 1985 (S. W. Bailey, University of Wisconsin, Madison, Wisconsin, 1988, private communication). Perhaps it is not yet too late to make this alteration.

The three distinct phases noted by Khoury *et al.* (1984) in their Okhansk sample may well have been the result of the compositional zoning observed by Foord *et al.* (1987). If this were so, at least one of the zones contained much too little Cr^{3+} to be considered volkonskoite, and it would appear that this U.S.S.R. sample, despite its chemical analysis, was not typical of material from the Perm Basin.

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- (Received 16 November 1987; accepted 1 July 1988; Ms. 1737A)