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# Further Information Related to the Origin of Glauconite

B. Velde and G. S. Odin

Laboratoire de Pétrographie, Université de Paris 6, 4, place Jussieu, 75230 Paris Cedex 05, France  
Laboratoire de Géologie, I, Université de Paris 6, 4, place Jussieu, 75230 Paris Cedex 05, France

**Abstract:** Glauconite-smectite and illite-smectite interlayered minerals are compared by various means in an attempt to establish the mineralogical relations between the two groups. Experiments at 2 Kb pressure and 200– 350° C are reported as well as microprobe scans of pelletal glauconites. This new information is used along with published chemical data in order to establish that: Illite and glauconite mixed layered phases appear to be crystallographically similar. Both series show the same relations between potassium (mica) content and the amount of smectite layers apparent in the interlayered structure. Illite and glauconite mica or mica-like phases can be separated on the basis of Fe and K contents. Probable phase relations of the two mixed layered mineral series indicate that, when the starting materials contain mixed layered mica-smectites, increasing temperature produces an iron-rich mica in the case of glauconite and an aluminous mica in the case of illite. The mixed layered phases present at intermediate temperatures are not the same for illites and glauconites.

Apparently there is no mineralogical or chemical continuity between illite and glauconite when the potassium content is 6 wt % or greater. It might be possible that the potassic interlayered minerals near montmorillonite or nontronite could form a continuous solid solution.

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