

NORDSTRANDITE. A NEW POLYMORPH OF ALUMINIUM HYDROXIDE IN BRAZILIAN BAUXITE.

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A program of study based in meticulous sampling and laboratory analyses resulted in a refinement of the mineralogy of weathering products associated with alkaline rocks of Lages (south of Brazil). Until now, the association of gibbsite, boehmite and nordstrandite in these samples constitute an unknown paragenese in described weathering profiles of Brazil. Also the evidences point to a process where nordstrandite nucleate in a supergene environment without the presence of limestone or calcareous rocks. This indicates a new mode of natural occurrence of this rare phase. The mineral was characterized using X-ray diffraction, infrared spectroscopy and scan electron microscopy techniques. At Lages, the presence of nordstrandite is restricted to the first stage of weathering (weathered bedrock facies) of certain kinds of phonolites and especially where the circulation of meteoric water is low. The event associated with the original mineralogy of the rock (rich in sodalite, nosean and sodium zeolites) promote the appropriate high pH conditions necessary to promote the stabilization of nordstrandite. By microsampling was possibly to determine the strong relation between nordstrandite and the weathering of pseudoleucite structures.