
Vanadium-Titanium-Bearing Mixed-Layered Clay from Potash Sulphur Springs, Arkansas

George R. McCormick

Department of Geology, The University of Iowa, Iowa City, IA 52242, U.S.A.

Abstract: A unique vanadium-titanium-bearing mixed-layered clay is currently being mined as an ore of vanadium at Potash Sulphur Springs, AR. The clay contains 80% expandable portion and has both a 14.22 and 18.24 Å hydration state in addition to the 9.49 Å dehydrated state; ethylene glycol expands this material to 16.69 Å. The 060 reflection for all hydration states is between 1.50 and 1.51 Å indicating the material is dioctahedral. The " mean chemical formula" calculates as $(\text{Ca}_{0.08} \text{K}_{0.02} \text{Na}_{0.03})_{0.13} (\text{Al}_{0.11} \text{V}_{0.90} \text{Ti}_{0.19} \text{Fe}_{0.64} \text{Mg}_{0.14})_{1.98} (\text{Si}_{3.79} \text{Al}_{0.21})_4 \text{O}_{10} (\text{OH})_2 \cdot n\text{H}_2\text{O}$.

Key Words: Mixed-layer • Titanium • Vanadium

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