COPIAPITE
$\text{Fe}^{2+}(\text{Fe}^{3+})_4(\text{SO}_4)_6(\text{OH})_2 \cdot 20 \text{H}_2\text{O}$

(see also coquimbite)

A supergene iron sulfate mineral. Northern Peninsula.

Dickinson County: Groveland mine: Abundant as an efflorescent post-mining oxidation product of primary iron sulfides. Identification confirmed by X-ray diffraction (Julie Selway, personal communication, 2000). One sample (pale yellow acicular crystals on hematite) gave an X-ray powder diffraction pattern consistent for an intermediate member of the copiapite-magnesiocopiapite-aluminocopiapite solid solution series, which has subsequently been confirmed by energy dispersion X-ray spectrometry. A second blue-green sample gave a pattern consistent for intermediate copiapite-aluminocopiapite, though its energy dispersion X-ray spectrum shows this sample also contains a significant amount of copper, suggesting it is probably in the copiapite-cuprocopiapite series.


UPDATE

Baraga County: South Taylor (Detroit Graphite) mine north of Plumbago Creek in the S ½ SW ¼ SE ¼ section 9, T49N, R33W: As a powdery sulfur-yellow efflorescence on fibroferrite. Verified by X-ray diffraction.