Metazellerite: $\text{Ca(UO}_2\text{)(CO}_3\text{)}_2\cdot 3\text{H}_2\text{O}$

Crystal Data: Orthorhombic. Point Group: $mm2$ or $2/m 2/m 2/m$. A topotactic replacement of fibrous zellerite.


Cell Data: Space Group: $Pbn2_1$ or $Pbmm$. $a = 9.718(5)$ $b = 18.226(9)$ $c = 4.965(4)$ $Z = 4$

X-ray Powder Pattern: Lucky Mc mine, Wyoming, USA. 9.10 (100), 3.794 (50), 4.695 (36), 4.296 (36), 4.552 (18), 4.412 (18), 3.978 (18)

Chemistry: (1) No analysis could be performed; crystal chemical considerations indicate dehydration from $5\text{H}_2\text{O}$ in zellerite to $3\text{H}_2\text{O}$ in metazellerite.

Occurrence: A dehydration product of zellerite.

Association: Zellerite, gypsum, “limonite”, iron sulfides, schoepite, meta-autunite, uranophane, voglile, “opal”.

Distribution: In the USA, from the Lucky Mc mine, Wind River Basin, Fremont Co., Wyoming; in the White Canyon # 1 mine, Frey Point, San Juan Co., Colorado. At Jáchymov (Joachimsthal), Czech Republic. Other zellerite localities must also have this species.

Name: From the Greek meta, for a lower hydrate of zellerite.
