

**Crystal Data:** Monoclinic. *Point Group:* 2/m. Prismatic crystals, to 1.5 mm, display {010}, {100}, {110}, {101}, and less frequently {001}; in hemispherical aggregates to 2 mm.

**Physical Properties:** *Cleavage:* Perfect on {010}. *Fracture:* n.d. *Tenacity:* n.d. Hardness = 1.5-2.5 (by analogy to other As-dominant members of the vivianite group). D(meas.) = n.d. D(calc.) = 3.192

**Optical Properties:** Transparent to translucent. *Color:* Pink to peach. *Streak:* Pale pink. *Luster:* Vitreous. *Optical Class:* n.d.  $n(\text{calc.}) = 1.6615$

**Cell Data:** *Space Group:* C2/m.  $a = 10.1729(3)$   $b = 13.5088(4)$   $c = 4.7496(1)$   $\beta = 105.399(2)^\circ$   $Z = 2$

**X-ray Powder Pattern:** Geister vein, Rovnost mine, Jáchymov, Western Bohemia, Czech Republic. 6.743 (100), 1.6862 (16), 3.231 (14), 7.936 (11), 2.715 (11), 2.3331 (10), 2.999 (5)

<b>Chemistry:</b>	(1)	(2)
CoO	8.89	
NiO	4.06	
CuO	15.31	38.95
ZnO	10.87	
P <sub>2</sub> O <sub>5</sub>	0.16	
As <sub>2</sub> O <sub>5</sub>	39.79	37.52
SO <sub>3</sub>	0.13	
H <sub>2</sub> O	[24.78]	23.53
Total	103.99	100.00

(1) Geister vein, Rovnost mine, Jáchymov, Western Bohemia, Czech Republic; average of 11 electron microprobe analyses, H<sub>2</sub>O calculated from stoichiometry; corresponds to  $(\text{Cu}_{1.12}\text{Zn}_{0.78}\text{Co}_{0.69}\text{Ni}_{0.32})_{\Sigma=2.91}[(\text{AsO}_4)_{2.01}(\text{PO}_4)_{0.01}(\text{SO}_4)_{0.01}]_{\Sigma=2.03} \cdot 8\text{H}_2\text{O}$ . (2)  $\text{Cu}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$ .

**Mineral Group:** Vivianite group.

**Occurrence:** In cavities and on surfaces of ore fragments from the oxidation zone of a hydrothermal Ag-As-Bi-Co-Ni-U vein-type deposit.

**Association:** Members of the lindackerite supergroup (lindackerite, veselovskýite, hloušekite, pradetite, klajite), lavendulan, gypsum, an X-ray amorphous Cu-Al-Si-O-H phase.

**Distribution:** From an old ore-stope ("lindackerite stope") on the Geister vein, third Geister level, Rovnost (former Werner) mine, Jáchymov, Western Bohemia, Czech Republic.

**Name:** Honors Senior Mining Counselor ("Oberbergrath") František Babánek (1836-1910), Czech mining expert, geologist and mineralogist who worked in the Jáchymov and Příbram mines.

**Type Material:** Department of Mineralogy and Petrology, National Museum, Prague, Czech Republic (PIP 8/2011).

**References:** (1) Plášil, J., P. Škácha, J. Sejkora, R. Škoda, M. Novák, F. Veselovský, and J. Hloušek (2017) Babánekite,  $\text{Cu}_3(\text{AsO}_4)_2 \cdot 8\text{H}_2\text{O}$ , from Jáchymov, Czech Republic - a new member of the vivianite group. *J. Geosciences*, 62(4), 261-270. (2) (2018) *Amer. Mineral.*, 103, 1711-1712 (abs. ref. 1).