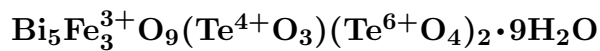


Yecoraite

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Crystal Data: Tetragonal or hexagonal. *Point Group:* n.d. Fibrous, to 5 μm , in matted massive aggregates.

Physical Properties: *Fracture:* Conchoidal. Hardness = 3 D(meas.) = 5.59(11)
D(calc.) = n.d.

Optical Properties: Semitransparent. *Color:* Yellow, orange, brown if impure.
Luster: Pitchy.
Optical Class: Uniaxial (+). *Orientation:* Length-slow. $\omega = 1.812$ $\epsilon = 1.824$

Cell Data: *Space Group:* n.d. $Z = \text{n.d.}$

X-ray Powder Pattern: Near Yecora, Mexico.
2.743 (10), 3.212 (7), 5.45 (4), 3.722 (4), 2.962 (4), 1.940 (3), 1.625 (3)

Chemistry:	(1)	(2)
TeO ₃	16.83	16.91
TeO ₂	7.65	7.68
As ₂ O ₅	0.96	
Bi ₂ O ₃	55.37	56.08
Fe ₂ O ₃	10.45	11.53
H ₂ O	8.06	7.80
Total	99.32	100.00

(1) Near Yecora, Mexico; by electron microprobe, total Fe as Fe₂O₃, H₂O by the Penfield method, TeO₂:TeO₃ = 1:2 by wet methods; corresponding to Bi_{4.96}Fe_{2.73}O₉(Te⁴⁺O₃)_{1.00}(Te⁶⁺O₄)_{2.00}•9.33H₂O. (2) Bi₅Fe₃O₉(Te⁴⁺O₃)(Te⁶⁺O₄)₂•9H₂O.

Occurrence: In fractures in a quartz vein emplaced in quartz monzonite, an oxidation product of tetradymite and pyrite.

Association: Tetradymite, pyrite, chalcopyrite, quartz, iron oxides.

Distribution: From the San Martin de Porres mine, west of Yecora, Sonora, Mexico.

Name: For the proximity of its first occurrence to Yecora, Sonora, Mexico.

Type Material: National School of Mines, Paris, France; The Natural History Museum, London, England, 1984,479.

References: (1) Williams, S.A. and F.P. Cesbron (1985) Yecoraite Fe₃Bi₅(TeO₃)(TeO₄)₂O₉, nH₂O. Bolletin Sociedad Mexicana de Mineralogia, A.C., 1, 10–16 (in English).
(2) Amer. Mineral., 71, 1547 (abs. ref. 1).