

Crystal Data: Cubic. *Point Group:* $2/m\bar{3}$. As rhombododecahedra to 1 mm, alone or in aggregates.

Physical Properties: *Cleavage:* n.d. *Tenacity:* n.d. *Fracture:* n.d. *Hardness* = ~4
D(meas.) = n.d. D(calc.) = 4.181

Optical Properties: Transparent. *Color:* Reddish brown. *Streak:* White. *Luster:* Vitreous.
Optical Class: Isotropic. $n(\text{meas.}) > 1.93(1)$ $n(\text{calc.}) = 2.034$ Weak anomalous birefringence.

Cell Data: *Space Group:* $Im\bar{3}$. $a = 13.017(1)$ $Z = 2$

X-ray Powder Pattern: Jacupiranga mine, Cajati county, São Paulo state, Brazil.
9.183 (100), 1.741 (21), 3.256 (16), 3.070 (13), 2.655 (13), 4.592 (12), 4.136 (11)

Chemistry:	(1)	(2)
Na ₂ O	0.06	
K ₂ O	0.86	
CaO	0.60	
BaO	11.50	16.40
La ₂ O ₃	0.09	
Ce ₂ O ₃	0.94	
Nd ₂ O ₃	0.57	
MgO	1.29	1.44
FeO	0.57	
MnO	0.55	
Al ₂ O ₃	0.05	
ZrO ₂	11.58	17.58
ThO ₂	4.94	
UO ₂	0.23	
TiO ₂	8.90	
Nb ₂ O ₅	41.97	56.87
Ta ₂ O ₅	2.71	
SiO ₂	0.25	
H ₂ O	[7.40]	7.71
Total	95.06	100.00

(1) Jacupiranga mine, Cajati county, São Paulo state, Brazil; average of 10 electron microprobe analyses, H₂O calculated from the crystal structure solution; corresponding to (Ba_{1.47}K_{0.53}Ca_{0.31}Ce_{0.17}Nd_{0.10}Na_{0.06}La_{0.02})_{Σ=2.66}(Mg_{0.94}Mn_{0.23}Fe_{0.23}Al_{0.03})_{Σ=1.43}(Zr_{2.75}Ti_{0.96}Th_{0.29})_{Σ=4.00}[(Ba_{0.72}Th_{0.26}U_{0.02})_{Σ=1.00}(Nb_{9.23}Ti_{2.29}Ta_{0.36}Si_{0.12})_{Σ=12.00}O₄₂]·12H₂O. (2) Ba₂MgZr₄(BaNb₁₂O₄₂)·12H₂O.

Occurrence: In a vug in the contact zone between dolomite carbonatite and “jacupirangite” (a pyroxenite).

Association: Dolomite, calcite, magnetite, clinohumite, phlogopite, ancylite-(Ce), strontianite, pyrite, tochilinite.

Distribution: At the Jacupiranga mine, Cajati county, São Paulo state, Brazil.

Name: Honors Luiz Alberto Dias *Menezes* Filho (b. 1950), mining engineer, mineral collector and merchant.

Type Material: Geoscience Museum, Geosciences Institute, University of São Paulo, SP, Brazil (DR458).

References: (1) Atencio, D., J.M.V. Coutinho, A.C. Doriguetto, Y.P. Mascarenhas, J. Ellena, and V.C. Ferrari (2008) Menezesite, the first natural heteropolyniobate, from Cajati, São Paulo, Brazil: Description and crystal structure. *Amer. Mineral.*, 93, 81-87.