

Fergusonite-(Nd)**(Nd, Ce)(Nb, Ti)O₄**

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Crystal Data: [Tetragonal]; typically metamict. *Point Group:* [4/*m*] [by analogy to fergusonite-(Y)]. As granular to equant grains.

Physical Properties: Hardness = [5.5–6.5] D(meas.) = n.d. D(calc.) = n.d.

Optical Properties: Semitransparent. *Color:* Dark brown. *Luster:* Adamantine. *Optical Class:* [Isotropic when metamict.] *n* = n.d.

Cell Data: *Space Group:* [I4₁/*a*.] *a* = n.d. *c* = n.d. *Z* = n.d.

X-ray Powder Pattern: n.d.

Chemistry: (1) Bayan Obo, China; analysis not published; RE₂O₃ 47.54%, with empirical formula (Nd_{0.33}Ce_{0.14}Fe_{0.10}Gd_{0.05}Pr_{0.04}Dy_{0.03}Y_{0.03}La_{0.02}Eu_{0.01}Tb_{0.01}Er_{0.01}Th_{0.01}U_{0.01}Mn_{0.01})_{Σ=0.80}(Nb_{0.83}Ti_{0.17})_{Σ=1.00}O_{3.64}.

Polymorphism & Series: Dimorphous with fergusonite-beta-(Nd).

Occurrence: In veinlets in a carbonatite-derived dolomitic marble.

Association: Aegirine, fergusonite-beta-(Nd).

Distribution: From the central Bayan Obo Fe–Nb–RE deposit, 130 km north of Baotou, Inner Mongolia, China.

Name: For its relation to *fergusonite*-(Y), and its dominant *neodymium* content.

Type Material: n.d.

References: (1) Peishan Zhang and Kejie Tao (1987) Characteristics of the fergusonite- and aeschynite-group minerals in China. *Zhongguo Xitu Xuebao*, 5, 1–7 (in Chinese with English abs.). (2) (1989) *Amer. Mineral.*, 74, 946–947 (abs. ref. 1).