Fergusonite-(Nd)  
\((\text{Nd, Ce})(\text{Nb, Ti})\text{O}_4\)

**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.]  
\(n = \text{n.d.}\)

**Cell Data:**  
*Space Group:* \([I4_1/a]\)  
\(a = \text{n.d.}\)  
\(c = \text{n.d.}\)  
\(Z = \text{n.d.}\)

**X-ray Powder Pattern:** n.d.

**Chemistry:** (1) Bayan Obo, China; analysis not published; \(\text{RE}_2\text{O}_3\) 47.54%, with empirical formula \((\text{Nd}_{0.33}\text{Ce}_{0.14}\text{Fe}_{0.10}\text{Gd}_{0.05}\text{Pr}_{0.04}\text{Dy}_{0.03}\text{Y}_{0.03}\text{La}_{0.02}\text{Eu}_{0.01}\text{Th}_{0.01}\text{Er}_{0.01}\text{Th}_{0.01}\text{U}_{0.01}\text{Mn}_{0.01})\Sigma=0.80(\text{Nb}_{0.83}\text{Ti}_{0.17})\Sigma=1.06\text{O}_{3.64}^*\).

**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.