Delindeite

\((\text{Na, K})_3 (\text{Ba, Ca})_4 (\text{Ti, Fe, Al})_6 \text{Si}_8 \text{O}_{26} (\text{OH})_{14}\)

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Crystal Data: Monoclinic. Point Group: 2/m. As lath-shaped crystals or flakes, forming compact spherulitic aggregates, to 1 mm. Twinning: Submicroscopic on \{100\}, common.


Cell Data: Space Group: \(C2/m\) or subgroup. \(a = 21.617(13)\) \(b = 6.816(5)\) \(c = 5.383(3)\) \(\beta = 94.03(5)^\circ\) Z = 1

X-ray Powder Pattern: Diamond Jo quarry, Arkansas, USA.

10.80 (100), 2.888 (31), 3.083 (28), 3.54 (24), 2.806 (20), 2.262 (18), 2.753 (16)

Chemistry:

\[
\begin{align*}
\text{SiO}_2 & \quad 27.10 \\
\text{TiO}_2 & \quad 23.02 \\
\text{Al}_2 \text{O}_3 & \quad 1.10 \\
\text{Fe}_2 \text{O}_3 & \quad 2.54 \\
\text{MgO} & \quad 0.00 \\
\text{CaO} & \quad 0.61 \\
\text{BaO} & \quad 33.05 \\
\text{Na}_2 \text{O} & \quad 3.79 \\
\text{K}_2 \text{O} & \quad 1.47 \\
\text{H}_2 \text{O} & \quad [7.32] \\
\text{Total} & \quad [100.00]
\end{align*}
\]

(1) Diamond Jo quarry, Arkansas, USA; by electron microprobe, total Fe as \(\text{Fe}_2 \text{O}_3\), \(\text{H}_2 \text{O}\) by difference; corresponds to \((\text{Na}_{2.16} \text{K}_{0.55})\Sigma=2.71 (\text{Ba}_{3.80} \text{Ca}_{0.19})\Sigma=3.99 (\text{Ti}_{0.08} \text{Fe}_{0.56} \text{Al}_{0.34})\Sigma=5.98 (\text{Si}_{7.96}\text{Al}_{0.04})\Sigma=8.00 [\text{O}_{32.83}(\text{H}_2 \text{O})_{17.17}]\Sigma=40.00\).

Occurrence: In vugs and miarolitic cavities, as a weathering product of titaniferous nepheline syenite.

Association: Pectolite, barite, labuntsovite, lourenswalsite, pyroxene, titanite, sphalerite, potassic feldspar.

Distribution: Found in the Diamond Jo quarry, Magnet Cove, Hot Spring Co., Arkansas, USA.

Name: In honor of amateur mineralogist Henry deLinde of Mabelvale, Arkansas, USA, owner of the Diamond Jo quarry.

Type Material: n.d.