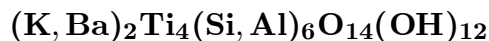


**Lourenswalsite**

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**Crystal Data:** Pseudo-hexagonal. *Point Group:* n.d. As very thin hexagonal flakes, forming tiny rosettelike clusters, to 1 mm.

**Physical Properties:** *Cleavage:* {001}, good. *Fracture:* Irregular. *Tenacity:* Brittle. Hardness = n.d.  $D(\text{meas.}) = 3.17(2)$   $D(\text{calc.}) = 3.199(5)$

**Optical Properties:** Translucent. *Color:* Light brownish to silver-gray. *Luster:* Pearly to dull.

*Optical Class:* Biaxial (-).  $\alpha = 1.815(2)$   $\beta = \sim 1.840$   $\gamma = 1.840(2)$   $2V(\text{meas.}) = \sim 0^\circ$

**Cell Data:** *Space Group:* n.d.  $a = 5.244(2)$   $c = 20.49(3)$   $Z = 1$

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

2.608 (100), 1.515 (80), 1.3111 (25), 10.22 (20), 3.93 (20), 2.249 (16), 4.08 (15)

**Chemistry:**

|                                |          |
|--------------------------------|----------|
|                                | (1)      |
| SiO <sub>2</sub>               | 28.20    |
| TiO <sub>2</sub>               | 28.73    |
| Al <sub>2</sub> O <sub>3</sub> | 5.37     |
| Fe <sub>2</sub> O <sub>3</sub> | 6.18     |
| MgO                            | 1.57     |
| CaO                            | 0.81     |
| BaO                            | 11.69    |
| Na <sub>2</sub> O              | 0.00     |
| K <sub>2</sub> O               | 5.82     |
| H <sub>2</sub> O               | [11.63]  |
| Total                          | [100.00] |

(1) Diamond Jo quarry, Arkansas, USA; by electron microprobe, total Fe as Fe<sub>2</sub>O<sub>3</sub>, H<sub>2</sub>O by difference; corresponds to  $(\text{K}_{1.16}\text{Ba}_{0.72})_{\Sigma=1.88}(\text{Ti}_{3.38}\text{Mg}_{0.37}\text{Ca}_{0.14}\text{Fe}_{0.13})_{\Sigma=4.02}(\text{Si}_{4.41}\text{Al}_{0.99}\text{Fe}_{0.60})_{\Sigma=6.00}[\text{O}_{19.94}(\text{H}_2\text{O})_{6.06}]_{\Sigma=26.00}$ .

**Occurrence:** A secondary mineral formed during weathering, in vugs and miarolitic cavities in a titaniferous nepheline syenite.

**Association:** Labuntsovite, delindeite, pectolite, barite, pyroxene, titanite, sphalerite, potassic feldspar.

**Distribution:** In the Diamond Jo quarry, Magnet Cove, Hot Spring Co., Arkansas, USA.

**Name:** In honor of Dr. Lourens Wals, mineral collector of Turnhout, Belgium.

**Type Material:** n.d.

**References:** (1) Appleman, D.E., H.T. Evans, Jr., G.L. Nord, E.J. Dwornik, and C. Milton (1987) Delindeite and lourenswalsite, two new titanosilicates from the Magnet Cove region, Arkansas. *Mineral. Mag.*, 51, 417–425. (2) (1988) *Amer. Mineral.*, 73, 1493–1494 (abs. ref. 1).