

**Ferricerite-(La)**

**Crystal Data:** Hexagonal. *Point Group:* 3*m*. Forms boxwork-like aggregates of equant to tabular crystals flattened on [00\*1] to 2 mm with dominant rhombohedral and pinacoidal faces, as pseudomorphs after an unidentified hexagonal prismatic mineral.

**Physical Properties:** *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Conchoidal. Hardness = 5  
D(meas.) = 4.7(1) D(calc.) = 4.74

**Optical Properties:** Translucent. *Color:* Light yellow to pinkish brown. *Streak:* White.  
*Luster:* Vitreous.

*Optical Class:* Uniaxial (+).  $\omega = 1.810(5)$   $\varepsilon = 1.820(5)$

**Cell Data:** *Space Group:* R3*c*.  $a = 10.7493(6)$   $c = 38.318(3)$   $Z = 6$

**X-ray Powder Pattern:** Mt. Yuksporr, Khibina massif, Kola Peninsula, Russia.  
2.958 (100), 3.47 (40), 3.31(38), 2.833 (37), 2.689 (34), 1.949 (34), 3.53 (26)

Chemistry:	(1)		(2)
La <sub>2</sub> O <sub>3</sub>	37.57	CaO	5.09
Ce <sub>2</sub> O <sub>3</sub>	23.67	Fe <sub>2</sub> O <sub>3</sub>	1.40
Pr <sub>2</sub> O <sub>3</sub>	0.61	MgO	0.51
Nd <sub>2</sub> O <sub>3</sub>	1.48	SiO <sub>2</sub>	22.38
Sm <sub>2</sub> O <sub>3</sub>	0.10	P <sub>2</sub> O <sub>5</sub>	0.63
Gd <sub>2</sub> O <sub>3</sub>	0.24	<u>H<sub>2</sub>O</u>	<u>3.20</u>
SrO	1.97	Total	98.85

(1) Mt. Yuksporr, Khibina massif, Kola Peninsula, Russia; average electron microprobe analysis supplemented by IR spectroscopy, H<sub>2</sub>O by Penfield method; corresponds to (La<sub>4.23</sub>Ce<sub>2.65</sub>Ca<sub>1.37</sub>Sr<sub>0.35</sub>Nd<sub>0.16</sub>Pr<sub>0.07</sub>Gd<sub>0.02</sub>Sm<sub>0.01</sub>) $\Sigma=8.86$ (Fe<sub>0.32</sub>Ca<sub>0.30</sub>Mg<sub>0.23</sub>) $\Sigma=0.85$ [SiO<sub>4</sub>]<sub>3</sub>[(Si<sub>10.84</sub>P<sub>0.16</sub>) $\Sigma=1.00$ O<sub>3</sub>(OH)]<sub>4</sub>(OH)<sub>2.78</sub>.

**Mineral Group:** Cerite supergroup, cerite group.

**Occurrence:** A late-stage, low-temperature secondary phase in a symmetrically zoned, aegirine-natrolite-microcline vein in gneissose foyaite.

**Association:** Aegirine, anatase, ancylite-(Ce), barylite, catapleiite, cerite-(Ce), chabazite-Ca, edingtonite, fluorapatite, galena, ilmenite, microcline, natrolite, sphalerite, strontianite, vanadinite.

**Distribution:** From Mt. Yuksporr, Khibina massif, Kola Peninsula, Russia.

**Name:** The prefix, *ferri*, indicates dominant Fe<sup>3+</sup> in the *M* site of a member of the *cerite* group and a suffix for the dominant rare earth element. Formerly cerite-(La).

**Type Material:** Mining Museum, St. Petersburg Mining Institute (Technical University), St. Petersburg; at the Mineralogical museum, St. Petersburg State University; and the Geological and Mineralogical Museum, Geological Institute, Kola Science Center, Apatity, Russia.

**References:** (1) Pakhomovsky, Ya.A., Yu.P. Men'shikov, V.N. Yakovenchuk, G.Yu. Ivanyuk, S.V. Krivovichev, and P.C. Burns (2002) Cerite-(La), (La,Ce,Ca)<sub>9</sub>(Fe,Ca,Mg)(SiO<sub>4</sub>)<sub>3</sub>[SiO<sub>3</sub>(OH)]<sub>4</sub>(OH)<sub>3</sub>, a new mineral species from the Khibina alkaline massif: occurrence and crystal structure. *Can. Mineral.*, 40, 1177-1184. (2) (2003) *Amer. Mineral.*, 88, 1175-1176 (abs. ref. 1). (3) Atencio, D. and A. de Almeida Azzi (2020) Cerite: a new supergroup of minerals and cerite-(La) renamed ferricerite-(La). *Mineral. Mag.*, 84(6), 928-931.