Ikranite $(Na,H_3O)_{15}(Ca,Mn,REE)_6Fe^{3+}{}_2Zr_3(\square,Zr)(\square,Si)Si_{24}O_{66}(O,OH)_6Cl{\bullet}nH_2O$

Crystal Data: Hexagonal. *Point Group*: 3*m*. As tabular crystals to 2 cm.

Physical Properties: *Cleavage*: Imperfect. *Fracture*: Conchoidal. *Tenacity*: Brittle. Hardness = 5 D(meas.) = 2.82(3) D(calc.) = 2.83

Optical Properties: Transparent. *Color*: Yellow to brownish yellow. *Streak*: White. *Luster*: Vitreous.
Optical Class: Uniaxial (+). ω = 1.612(1) ε = 1.615(2) Some grains anomalously biaxial.
Pleochroism: Weak, colorless to yellow.

Cell Data: *Space Group*: *R*3*m*. *a* = 14.167(2) *c* = 30.081(2) Z = 3

X-ray Powder Pattern: Mt. Karnasurt, Lovozero alkaline massif, Kola Peninsula, Russia.
2.841 (100), 2.963 (92), 4.30 (91), 3.521 (57), 3.205 (44), 6.41 (41), 2.588 (37)

Chemistry:

	(1)		(1)
Na_2O	7.95	SiO_2	48.91
K_2O	0.44	TiO_2	0.37
CaO	6.29	ZrO_2	13.94
SrO	1.61	HfO_2	0.28
MnO	3.40	Nb_2O_5	0.28
FeO	0.38	F	0.10
Fe_2O_3	4.80	Cl	0.89
La_2O_3	0.62	H_2O	7.70
Ce_2O_3	1.53	- O = F + Cl	0.24
Nd_2O_3	0.19	Total	99.44

(1) Mt. Karnasurt, Lovozero alkaline massif, Kola Peninsula, Russia; average of 3 electron microprobe analyses supplemented by IR spectroscopy, H_2O by TGA; corresponding to $Na_{7.56}(H_3O)_{6.64}K_{0.27}Ca_{3.31}Sr_{0.46}Ce_{0.27}La_{0.11}Nd_{0.03}Mn^{2+}{}_{1.41}Fe^{2+}{}_{0.16}Fe^{3+}{}_{1.77}Zr_{3.33}Ti_{0.14}Hf_{0.04}Nb_{0.06}Si_{24}O_{72}Cl_{0.74}{\bullet}2.64H_2O$.

Mineral Group: Eudialyte group.

Occurrence: In an agpaitic pegmatite in an alkaline igneous complex.

Association: Aegirine, microcline, lorenzenite, nepheline, lamprophyllite, murmanite, arfvedsonite.

Distribution: At Mt. Karnasurt, Lovozero alkaline massif, Kola Peninsula, Russia.

Name: From the Russian acronym IKRAN, for the Institut Kristallografii Rossiiskoy Akademii Nauk.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia.

References: (1) Chukanov, N.V., I.V. Pekov, A.E. Zadov, V.V. Korovushkin, I.A. Ekimenkova, and R.K. Rastsvetaeva (2003) Ikranite, $(Na,H_3O)_{15}(Ca,Mn,REE)_6Fe^{3+}{}_2Zr_3(\square,Zr)(\square,Si)Si_{24}O_{66}(O,OH)_6Cl{\bullet}nH_2O$ and raslakite $Na_{15}Ca_3Fe_3(Na,Zr)_3Zr_3(Si,Nb)(Si_{25}O_{73})(OH,H_2O)_3(Cl,OH)$ - new eudialyte-group minerals from the Lovozero massif, Kola Peninsula. Zapiski Vseross. Mineral. Obshch., 132(5), 22-33 (in Russian, English abs.). (2) (2004) Amer. Mineral., 89, 1827-1828 (abs. ref. 1).