Calcinaksite $KNaCa(Si_4O_{10})H_2O$

Crystal Data: Triclinic. *Point Group*: $\bar{1}$. As incomplete prismatic crystals, elongated along [100], to 1 cm.

Physical Properties: *Cleavage*: Perfect on {001} and {010}. *Fracture*: n.d. *Tenacity*: Brittle. Hardness = 5 D(meas.) = 2.62(2) D(calc.) = 2.623

Optical Properties: Translucent. *Color*: Colorless to light gray. *Streak*: n.d. *Luster*: n.d. *Optical Class*: Biaxial (+). α = 1.542(2) β = 1.550(2) γ = 1.565(3) 2V(meas.) = 75(10)° 2V(calc.) = 73° *Orientation*: $Y \wedge a = 42°$, $Z \wedge a \approx 90°$. *Dispersion*: Medium, $r < \nu$.

Cell Data: *Space Group*: $P\bar{1}$. a = 7.021(2) b = 8.250(3) c = 10.145(2) α = 102.23(2)° β = 100.34(2)° γ = 115.09(3)° Z = 2

X-ray Powder Pattern: Bellerberg volcano, Eastern Eifel region, Rheinland-Pfalz, Germany. 3.060 (100), 3.173 (95), 2.851 (83), 3.431 (70), 3.300 (67), 2.664 (62), 2.493 (52)

Chemistry:

	(1)
SiO_2	61.46
FeO	0.59
CaO	15.04
K_2O	12.01
Na_2O	6.69
H_2O	4.9
Total	100.69

(1) Bellerberg volcano, Eastern Eifel region, Rheinland-Pfalz, Germany; average of 18 electron microprobe analyses, supplemented by FTIR spectroscopy, H_2O by the Alimarin method; corresponding to $K_{0.99}Na_{0.84}Ca_{1.04}Fe_{0.03}Si_{3.98}H_{2.11}O_{11}$.

Occurrence: The product of contact metamorphism (metasomatism) of a xenolith of a calcic carbonate rock hosted in alkaline basalt.

Association: Wollastonite, gehlenite, brownmillerite, larnite, quartz, aragonite, calcite, jennite, tobermorite, ettringite.

Distribution: From the southern lava flow, Bellerberg volcano, between Mayen and Kottenheim, Laacher See area, Eastern Eifel region, Rheinland-Pfalz, Germany.

Name: Named for its chemical composition.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (94143).

References: (1) Chukanov, N.V., S.M. Aksenov, R.K. Rastsvetaeva, G. Blass, D.A. Varlamov, I.V. Pekov, D.I. Belakovskiy and V.V. Gurzhiy (2015) Calcinaksite, $KNaCa(Si_4O_{10})H_2O$, a new mineral from the Eifel volcanic area, Germany. Mineralogy and Petrology, 109, 397-404.
(2) (2016) Amer. Mineral., 101, 2125-2126 (abs. ref. 1).