Zemkorite $Na_2Ca(CO_3)_2$

Crystal Data: Hexagonal. *Point Group:* $6/m\ 2/m\ 2/m$, $\overline{6}m2$, or $6mm$. Rare fanlike aggregates of anhedral crystals, to 0.5 mm; granular massive in veinlets and fracture fillings.

Physical Properties: *Cleavage:* Lamellar, perfect. *Tenacity:* Brittle. Hardness = 2 D(meas.) = 2.46(2) D(calc.) = 2.47 Soluble in H_2O.

Optical Properties: Transparent. *Color:* Colorless. *Luster:* Vitreous to pearly. *Optical Class:* Uniaxial (–). $\omega = 1.535(1)$ $\epsilon = 1.513(1)$

Cell Data: *Space Group:* $P6_3/mmc$, $P\overline{6}2c$, or $P6_3mc$. $a = 10.06(2)$ $c = 12.72(1)$ $Z = 8$

X-ray Powder Pattern: Udachnaya pipe, Russia.
4.36 (10), 3.04 (10), 2.52 (10), 2.06 (10), 6.36 (9), 1.797 (8), 2.18 (7)

Chemistry:

	(1)	(2)
CO_2	39.20	42.71
Al_2O_3	0.05	
CaO	28.39	27.21
Na_2O	25.72	30.08
K_2O	6.40	
Total	99.76	100.00

(1) Udachnaya pipe, Russia; by electron microprobe, average of two analyses, CO_2 by wet methods, corresponding to $(Na_{1.80}K_{0.29})_{\Sigma=2.09}Ca_{1.10}(CO_3)_{1.93}$. (2) $Na_2Ca(CO_3)_2$.

Polymorphism & Series: Trimorphous with natrofairchildite and nyerereite.

Occurrence: Filling fractures and as inclusions in unserpentinized but sodium metasomatized kimberlite at about 400–450 m depth.

Association: Shortite, halite.

Distribution: From the east Udachnaya twin pipe, Daldyn kimberlite field, Sakha, Russia.

Name: For Institute of the Earth's Crust (Institut ZEMnoy KORY in Russian), Russian Academy of Sciences, Siberian Branch, Irkutsk, Russia, where the mineral was studied.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 87573.

References: (1) Yegorov, N.K., Z.F. Ushchapovskaya, A.A. Kashayev, G.V. Bogdanov, and Y.I. Sizykh (1988) Zemkorite – a new carbonate from kimberlites of Yakutia [Sakha]. Doklady Acad. Nauk SSSR, 301, 188–193 (in Russian). (2) (1990) Amer. Mineral., 75, 933–934 (abs. ref. 1).