Dalnegorskite $Ca_5Mn(Si_3O_9)_2$

Crystal Data: Triclinic. *Point Group*: $\bar{1}$. As thinly radiated, banded aggregates typically of split thin acicular to fiber-like individuals to 3 mm.

Physical Properties: *Cleavage*: Perfect on {100}. *Tenacity*: Brittle. *Fracture*: n.d. Hardness = 6 D(meas.) = 3.02(2) D(calc.) = 3.035 Nonfluorescent.

Optical Properties: Transparent. *Color*: Light beige, pinkish or yellowish white, milky-white. *Streak*: n.d. *Luster*: Vitreous.
Optical Class: Biaxial (-). α = 1.640(3) β = 1.647(3) γ = 1.650(3) 2V(meas.) = 75(10)º 2V(calc.) = 66º Non-pleochroic.

Cell Data: *Space Group: P*$\bar{1}$. a = 7.259(1) b = 7.857(1) c = 7.8765(6) α = 88.55(1)° β = 62.58(1)° γ = 76.621(6)° Z = 1

X-Ray Diffraction Pattern: Dalnegorskoe boron deposit, Dalnegorsk, Primorskiy Kray, Russia. 2.952 (100), 1.815 (92), 2.951 (70), 2.280 (45), 3.284 (41), 1.740 (39), 1.465 (39)

Chemistry:

	(1)
MgO	0.23
CaO	40.02
MnO	5.02
FeO	3.64
SiO_2	50.65
Total	99.56

(1) Dalnegorskoe boron deposit, Dalnegorsk, Primorskiy Kray, Russia; average electron microprobe and IR spectroscopic analyses; corresponds to $Ca_{5.03}Mn_{0.51}Fe_{0.36}Mg_{0.04}Si_{6.03}O_{18}$.

Polymorphism & Series: Continuous solid-solution series with ferrobustamite.

Mineral Group: Wollastonite group: anhydrous.

Occurrence: A rock-forming mineral in boron-bearing calcareous skarns at the contact of limestone with biotite-hornblende granite.

Association: Hedenbergite, datolite, andradite, galena, sphalerite, pyrrhotite.

Distribution: At the Dalnegorskoe boron deposit, Dalnegorsk, Primorskiy Kray, Far-East, Russia.

Name: For the locality where the studied material was collected.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (5184/1; 96201).

References: (1) Shchipalkina, N.V., I.V. Pekov, D.A. Ksenofontov, N.V. Chukanov, D.I. Belakovskiy, and N.N. Koshlyakova (2019) Dalnegorskite, $Ca_5Mn(Si_3O_9)_2$, a new pyroxenoid of the bustamite structure type, a rock-forming mineral of calcic skarns of the Dalnegorskoe boron deposit (Primorskiy Kray, Russia). Geology of Ore Deposits, 61(8), 756-766.