

**Crystal Data:** Orthorhombic. *Point Group:* 2/m 2/m 2/m. As skeletal prismatic crystals, to 3 mm, displaying {100}, {110}, {210}, {011}, {001}, and {010}. Also as exsolution-like features in magnesioferrite.

**Physical Properties:** *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* n.d. Hardness = 5.5  
VHN = 655 (50 g load.) D(meas.) = n.d. D(calc.) = 4.404

**Optical Properties:** Opaque. *Color:* Black, light gray with red internal reflections in reflected light. *Streak:* n.d. *Luster:* n.d.

*Optical Class:* n.d.

R<sub>1</sub>-R<sub>2</sub>: (470) 21.10-20.60, (546) 19.20-20.65, (589) 18.45-19.30, (650) 17.75-18.70

**Cell Data:** *Space Group:* Pnma. *a* = 9.2183(3) *b* = 3.0175(1) *c* = 10.6934(4) *Z* = 4

**X-ray Powder Pattern:** Jabel (Mt.) Harmun, West Bank, Palestinian Autonomy, Israel.  
2.6632 (100), 2.5244 (60), 2.6697 (52), 1.8335 (40), 2.5225 (35), 2.2318 (34), 1.8307 (27)

Chemistry:	(1)	(2)
TiO <sub>2</sub>	0.15	
Fe <sub>2</sub> O <sub>3</sub>	71.94	74.01
FeO	4.14	
Cr <sub>2</sub> O <sub>3</sub>	0.38	
Al <sub>2</sub> O <sub>3</sub>	0.36	
CaO	26.15	25.99
MgO	0.06	
Total	99.04	100.00

(1) Jabel (Mt.) Harmun, West Bank, Palestinian Autonomy, Israel; average of 13 electron microprobe analyses supplemented by Raman spectroscopy; corresponds to Ca<sub>1.013</sub>(Fe<sup>3+</sup><sub>1.957</sub>Al<sub>0.015</sub>Cr<sup>3+</sup><sub>0.011</sub>Ti<sup>4+</sup><sub>0.004</sub>Mg<sub>0.003</sub>)<sub>Σ=1.993</sub>O<sub>4</sub>. (2) CaFe<sub>2</sub>O<sub>4</sub>.

**Occurrence:** In pyrometamorphic larnite pebbles of a pseudo-conglomerate, the cement of which consists of intensely altered larnite-bearing rocks, likely formed in the presence of sulfate melt.

**Association:** Srebrodolskite, magnesioferrite, larnite, fluorellestadite, ye'elinite, fluormayenite, gehlenite, ternesite, calciolangbeinite.

**Distribution:** From the Hatrurim Complex, southern slope of Jabel (Mt.) Harmun, Judean Desert, West Bank, Palestinian Autonomy, Israel.

**Name:** For Mt. Harmun, from where the first specimens were collected.

**Type Material:** In Russia, in the mineralogical collections, Saint Petersburg University (1/19518) and the A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow (4398/1).

**References:** (1) Galuskina, I.O., Y. Vapnik, B. Lazic, T. Armbruster, M. Murashko, and E.V. Galuskin (2014) Harmunite CaFe<sub>2</sub>O<sub>4</sub>: A new mineral from the Jabel Harmun, West Bank, Palestinian Autonomy, Israel. *Amer. Mineral.*, 99, 965-975.