

Crystal Data: Tetragonal. *Point Group:* $4/m\ 2/m\ 2/m$. Rarely as dipyramidal crystals, to 1 mm; as small grains.

Physical Properties: *Fracture:* Subconchoidal. Hardness = 6 VHN = 1200–1220 (100 g load). D(meas.) = 4.63(5) D(calc.) = 4.65

Optical Properties: Opaque. *Color:* Black; in reflected light, gray to brownish gray. *Luster:* Submetallic. *Anisotropism:* Weak.

R₁–R₂: (470) 21.3–22.3, (546) 19.2–20.2, (589) 18.5–19.5, (650) 17.65–18.65

Cell Data: *Space Group:* $I4_1/acd$. $a = 9.464$ $c = 18.854$ $Z = 8$

X-ray Powder Pattern: Tachgagalt, Morocco.

2.728 (10), 1.672 (8.5), 1.427 (6), 1.085 (5), 1.0595 (4.5), 1.056 (4.5), 2.364 (3)

Chemistry:

| | |
|--------------------------------|-------|
| | (1) |
| SiO ₂ | 10.16 |
| Fe ₂ O ₃ | 1.29 |
| Mn ₂ O ₃ | 78.94 |
| CaO | 8.94 |
| Total | 99.33 |

(1) Tachgagalt, Morocco; by electron microprobe, average of 14 analyses; corresponds to $(Ca_{0.95}Mn_{0.06}^{2+})_{\Sigma=1.01}(Mn_{5.89}^{3+}Fe_{0.10}^{3+})_{\Sigma=5.99}Si_{1.01}O_{12}$.

Occurrence: In a vein with minerals containing manganese and calcium (Tachgagalt, Morocco).

Association: Braunite, marokite, crednerite (Tachgagalt, Morocco).

Distribution: At Tachgagalt, Anti-Atlas Mountains, Morocco. From Manganese Creek Falls, Keeweenaw Co., Michigan, USA.

Name: For Louis Neltner, pioneer student of mineral deposits of the High Atlas Mountains, Morocco.

Type Material: National School of Mines, Paris, France.

References: (1) Baudracco-Gritti, C., R. Caye, F. Permingeat, and J. Protas (1982) La neltnerite CaMn₆SiO₁₂, une nouvelle espèce minérale du groupe de la braunite. Bull. Minéral., 105, 161–165 (in French). (2) (1983) Amer. Mineral., 68, 282 (abs. ref. 1).