Crystal Data: Monoclinic. Point Group: 2/m. Fibrous, both loose and compact; asbestiform, elongated along [001], to several cm.

Cleavage: One or more on {hk0} are very good. Tenacity: Brittle. Physical Properties: Hardness = n.d. D(meas.) = 2.96-3.10 D(calc.) = 3.098

Optical Properties: Transparent only in thin section. Color: Brown. Luster: Vitreous,

Optical Class: Biaxial (-). Pleochroism: Distinct; dark brown | [001]; yellow-brown \pm [001].  $\alpha = 1.680(5) \perp [001].$   $\beta = \text{n.d.}$   $\gamma = \sim 1.680 \parallel [001].$  2V(meas.) = n.d.

Cell Data: Space Group: P2/n. a = 19.40 b = 9.65 c = 19.40  $\beta = 91.1^{\circ}$  Z = [2]

X-ray Powder Pattern: Balangero mine, Italy. 2.714 (100), 6.77 (80), 2.674 (75), 3.378 (45), 9.59 (40), 3.278 (40), 2.516 (40)

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	(1)
$SiO_2$	28.37
$\mathrm{TiO}_2$	0.03
$Al_2O_3$	0.27
$Fe_2O_3$	8.89
$Cr_2O_3$	0.03
FeO	16.95
MnO	3.59
MgO	31.81
CaO	0.13
${\rm H_2O}$	[9.93]
Total	[100.00]

(1) Balangero mine, Italy; by electron microprobe, average of 16 analyses;  $Fe^{2+}$ :  $Fe^{3+} = 2.12$  was deduced from wet chemical analysis, H<sub>2</sub>O by difference; corresponds to  $(Mg_{26.74}Fe_{7.99}^{2+}Fe_{3.77}^{3+}Mn_{1.71}^{2+}$  $Al_{0.18}Ca_{0.08}Cr_{0.01}Ti_{0.01})_{\Sigma=40.49}Si_{16}O_{55.81}(OH)_{37.35}.$ 

Occurrence: In schistose serpentinite in proximity to a large ultramafic massif.

Association: Chrysotile, magnetite, Fe-Ni alloy, olivine, chlorite, titanian clinohumite, diopside, antigorite, calcite, aragonite, "opal", "chalcedony", clay minerals.

**Distribution:** In the Balangero (San Vittore) mine and at Ponte del Diavolo, Lanzo Valley, and from Santa Maria della Neve, Fiano, Piedmont, Italy.

Name: For the Balangero mine, Piedmont, Italy.

**Type Material:** Mineralogy Institute, Turin University, Turin, Italy, 14873.

References: (1) Compagnoni, R., G. Ferraris, and L. Fiori (1983) Balangeroite, a new fibrous silicate related to gageite from Balangero, Italy. Amer. Mineral., 68, 214–219. (2) Ferraris, G., M. Mellini, and S. Merlino (1987) Electron-diffraction and electron-microscopy study of balangeroite and gageite: crystal structures, polytypism, and fiber texture. Amer. Mineral., 72, 382-391. (3) Belluso, E. and G. Ferraris (1991) New data on balangeroite and carlosturanite from alpine serpentinites. Eur. J. Mineral., 3, 559–566.