

**Ginorite****Ca<sub>2</sub>B<sub>14</sub>O<sub>20</sub>(OH)<sub>6</sub>•5H<sub>2</sub>O**

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**Crystal Data:** Monoclinic. *Point Group:* 2/*m*. As lozenge-shaped plates flattened on {010}, to 1 mm; nodular, granular, dense massive.

**Physical Properties:** *Cleavage:* On {010}, perfect. Hardness = 3.5 D(meas.) = 2.07–2.14 D(calc.) = 2.09

**Optical Properties:** Transparent. *Color:* White.

*Optical Class:* Biaxial (+). *Orientation:* Y = b; Z ∧ c = 39°; positive elongation. *Dispersion:* Inclined. α = 1.517–1.526 β = [1.524] γ = 1.577–1.580 2V(meas.) = 42(2)°

**Cell Data:** *Space Group:* P2<sub>1</sub>/c. a = 13.375 b = 14.368 c = 12.261 β = 101.2° Z = 4

**X-ray Powder Pattern:** Sasso Pisano, Italy.

7.18 (100), 5.36 (80), 2.09 (80), 3.57 (60), 3.28 (60), 3.90 (50), 3.12 (50)

**Chemistry:**

	(1)	(2)	(3)
B <sub>2</sub> O <sub>3</sub>	63.64	64.47	65.54
CaO	16.03	14.39	15.08
SrO		1.09	
Na <sub>2</sub> O	0.17		
H <sub>2</sub> O	20.16	18.91	19.38
rem.		1.48	
Total	100.00	100.34	100.00

(1) Sasso Pisano, Italy. (2) Death Valley, California, USA; corresponds to (Ca<sub>1.94</sub>Sr<sub>0.08</sub>)<sub>Σ=2.02</sub> 14.02O<sub>20</sub>(OH)<sub>6.10</sub>•4.90H<sub>2</sub>O. (3) Ca<sub>2</sub>B<sub>14</sub>O<sub>20</sub>(OH)<sub>6</sub>•5H<sub>2</sub>O.

**Occurrence:** As efflorescences on weathered basalt associated with colemanite-bearing limestone (Death Valley, California, USA); in veins in sandstone (Sasso Pisano, Italy).

**Association:** Calcite (Sasso Pisano, Italy); mirabilite, gypsum, anhydrite (Windsor, Canada); sassolite, colemanite, mcallisterite (Death Valley, California, USA); kieserite, anhydrite, preobrazhenskite, boracite, aksaite, halurgite, strontioborite, metaborite (Ak-saï, Kazakhstan).

**Distribution:** From Sasso Pisano, eight km south of Lardarello, Tuscany, Italy. In the Clinton quarry, Windsor, Nova Scotia, Canada. At the Mott colemanite prospect and on the Hard Scramble claim, Furnace Creek district, Death Valley, Inyo Co., California, USA. In the Tincalayú borax deposit, Salar del Hombre Muerto, Salta Province, Argentina. From the Chalkar salt dome, Ak-saï Valley, Uralsk district, Kazakhstan.

**Name:** Honors Prince Piero Ginori Conti (1865–1939), Florence, Italy, for his contributions to the Tuscan borax industry.

**Type Material:** n.d.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 364–365. (2) Allen, R. and H. Kramer (1957) Ginorite and sassolite from Death Valley, California. *Amer. Mineral.*, 42, 56–61. (3) Konnert, J.A., J.R. Clark, and C.L. Christ (1970) Crystal structure of strontioginorite, (Sr, Ca)<sub>2</sub>B<sub>14</sub>O<sub>20</sub>(OH)<sub>6</sub>•5H<sub>2</sub>O. *Amer. Mineral.*, 55, 1911–1931.