Ginorite $Ca_2B_{14}O_{20}(OH)_6 \cdot 5H_2O$

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:* $Y = b$; $Z \wedge c = 39°$; positive elongation. *Dispersion:* Inclined. $\alpha = 1.517–1.526$ $\beta = [1.524]$ $\gamma = 1.577–1.580$ 2V(meas.) = 42(2)°

Cell Data: *Space Group:* $P2_1/c$. $a = 13.375$ $b = 14.368$ $c = 12.261$ $\beta = 101.2°$ 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_2O_3	63.64	64.47	65.54
CaO	16.03	14.39	15.08
SrO		1.09	
Na_2O	0.17		
H_2O	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 $(Ca_{1.94}Sr_{0.08})_{\Sigma=2.02}$ $14.02O_{20}(OH)_{6.10} \cdot 4.90H_2O$. (2) $Ca_2B_{14}O_{20}(OH)_6 \cdot 5H_2O$.

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-saĭ, 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 Tincalayu borax deposit, Salar del Hombre Muerto, Salta Province, Argentina. From the Chalkar salt dome, Ak-saĭ 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, $(Sr, Ca)_2B_{14}O_{20}(OH)_6 \cdot 5H_2O$. Amer. Mineral., 55, 1911–1931.