Sborgite

\[
\text{NaB}_5\text{O}_6(\text{OH})_4\cdot3\text{H}_2\text{O}
\]

Crystal Data: Monoclinic. Point Group: 2/m (synthetic). As euhedral to anhedral crystals, to 1 mm, in sugary-textured to fine-grained aggregates.

Physical Properties: Hardness = n.d. D(meas.) = 1.713 (synthetic). D(calc.) = 1.711 Soluble in H\(_2\)O.

Optical Properties: Semitransparent. Color: [White.]
Optical Class: Biaxial (+). \(\alpha = 1.432-1.435\) \(\beta = \text{n.d.}\) \(\gamma = 1.450-1.488\) 2V(meas.) = Small.

Cell Data: Space Group: C2/c (synthetic). \(a = 11.189(8)\) \(b = 16.474(14)\) \(c = 13.576(9)\) \(\beta = 112^\circ50'(2)'\) \(Z = 8\)

X-ray Powder Pattern: Furnace Creek district, California, USA.
4.60 (10), 3.30 (8), 3.20 (7), 3.74 (5), 3.18 (5), 4.29 (3), 3.56 (3)

Chemistry: (1) Identification depends on identity of X-ray powder pattern and optical data with synthetic material.

Occurrence: Formed in pipes at a reduction works for borates from hot spring lagoons, between 32\(^\circ\) C and 60\(^\circ\) C (Larderello, Italy); deposited in an arid climate in surficial debris above weathering borate-bearing veins and in beds of saline tuffaceous siltstone (Furnace Creek district, California, USA).

Association: Borax, thénardite (Larderello, Italy); halite, thénardite (Furnace Creek district, California, USA).

Distribution: From Larderello, Val di Cecina, Tuscany, Italy. At several localities in the Furnace Creek district, Death Valley, Inyo Co., California, USA.

Name: Honors Professor Umberto Sborgi (1883–1955), Italian chemist, University of Milan, Milan, Italy, a worker in the system Na\(_2\)O–B\(_2\)O\(_3\)–H\(_2\)O.

Type Material: University of Florence, Florence, Italy, 16801/702.