$m Xilingolite \ Pb_3Bi_2S_6$ 

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Crystal Data: Monoclinic. Point Group: 2/m, 2, or m. As prismatic crystals, elongated and striated on  $\{010\}$ , to 8 mm. Twinning: On  $\{001\}$ .

**Physical Properties:** Hardness = n.d. VHN = 103 average (5 to 200 g load). D(meas.) = 7.08 D(calc.) = 7.07

Optical Properties: Opaque. Color: Lead-gray; in reflected light, white with a faint blue tint. Streak: Gray. Luster: Metallic. Pleochroism: Distinct, white to white with blue tint. Anisotropism: Distinct, dark gray to gray.

 $\begin{array}{l} R_1-R_2\colon (405)\ 43.2-46.6, (436)\ 44.5-46.8, (480)\ 44.3-46.8, (526)\ 44.2-44.9, (546)\ 41.8-44.5, (578)\ 41.4-44.1, (589)\ 40.9-43.8, (622)\ 40.5-43.3, (644)\ 40.0, 43.0, (656)\ 39.9-43.0, (664)\ 39.8-43.0, (700)\ 37.5-41.2 \end{array}$ 

**Cell Data:** Space Group: C2/m, C2, or Cm. a = 13.65 b = 4.078 c = 20.68  $\beta = 93.0^{\circ}$  Z = 4

**X-ray Powder Pattern:** Chaobuleng district, China. 3.386 (100), 2.177 (90), 2.073 (80), 2.051 (70), 1.955 (70), 1.788 (6), 1.396 (5)

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	(1)	(2)	(3)
Pb	52.074	52.06	50.45
Zn	0.653		
Cu	0.16		
Ag	0.75	0.50	
Bi	29.72	29.81	33.93
$\operatorname{Sb}$	0.09		
S	15.09	15.25	15.62
oxides	1.333	1.62	
Total	99.87	99.24	100.00

(1) Chaobuleng district, China; ignoring minor components and oxides, corresponds to  $Pb_{3.18}Bi_{1.81}S_{6.00}$ . (2) Do.; by electron microprobe. (3)  $Pb_3Bi_2S_6$ .

Occurrence: In a skarn-type iron deposit.

**Association:** Magnetite, sphalerite, pyrrhotite, pyrite, arsenopyrite, chalcopyrite, digenite, bornite, molybdenite, galena, bismuth, bismuthinite.

**Distribution:** In the Chaobuleng district, Xilingola League, Inner Mongolia, China.

Name: For the Xilingola locality in China.

Type Material: n.d.

**References:** (1) Hong Huidi, Wang Xiangwen, Shi Nicheng, and Peng Zhizhong (1982) Xilingolite, a new sulfide of lead and bismuth,  $Pb_{3+x}Bi_{2-2/3x}S_6$ . Acta Petrologica Mineralogica et Analytica, 1, 14–18 (in Chinese with English abs.). (2) (1984) Amer. Mineral., 69, 409 (abs. ref. 1).