Crystal Data: Tetragonal. *Point Group*: $4/m \ 2/m \ 2/m$. As irregular grains, to 0.1 mm.

Physical Properties: *Cleavage*: Perfect on {001} (synthetic). *Tenacity*: n.d. *Fracture*: n.d. Hardness = 2.5 (synthetic). D(meas.) = n.d. D(calc.) = 4.54 Soluble in water.

Optical Properties: Transparent. *Color*: Colorless. *Streak*: White. *Luster*: Vitreous. *Optical Class*: Uniaxial (-). $\omega = 1.656(2)$ $\varepsilon = 1.652(2)$ (synthetic).

Cell Data: Space Group: P4/nmm. a = 4.3951(8) c = 7.223(2) Z = 2

X-ray Powder Pattern: Bayan Obo, Inner Mongolia, China. 3.75 (100), 3.11 (94), 2.36 (82), 2.79 (67), 1.898 (49), 1.670 (39), 1.726 (34)

Chemistry:

	(1)	(2)
Ba	70.90	71.61
F	9.88	9.91
Cl	18.85	18.48
Total	99.63	100.00

(1) Bayan Obo, Inner Mongolia, China; average of 12 electron microprobe analyses, corresponding to Ba_{0.99}F_{0.99}Cl_{1.02}. (2) BaFCl.

Mineral Group: Matlockite group.

Occurrence: As inclusions in fluorite in a polymetallic Nb-REE-Fe deposit.

Association: Barite, hematite, norsethite, fluorite.

Distribution: Bayan Obo deposit, Inner Mongolia, China.

Name: Honors Professor Zhang Peishan (b. 1925) for his contributions to the mineralogy of Bayan Obo.

Type Material: National Museum of Nature and Science, Tokyo, Japan, NSM-MF14696; Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing, China, KDX013.

References: (1) Shimazaki, H., R. Miyawaki, K. Yokoyama, S. Matsubara, and Z. Yang (2008) Zhangpeishanite, BaFCl, a new mineral in fluorite from Bayan Obo, Inner Mongolia, China. Eur. J. Mineral., 20, 1141–1144. (2) (2009) Amer. Mineral., 94, 1081-1082 (abs. ref. 1).