

Fluorine Geochemistry of Baogutu Intermediate - Acidic intrusive bodies, West Jungger (Xinjiang, NW China)

SHAONI WEI

College of Geology and Environment, Xi'an
University of Science and Technology, Xi'an
710054, Shaanxi, China (weishaoni03@163.com)

Fluorine, one of the most common mineralizing elements, is important for understanding the magmatic-hydrothermal mineralization process [1-2]. Experimental data show that, in intermediate-acidic magmatic systems (SiO_2 between 45 wt. % and 65 wt. %), fluorine is preferentially incorporated into fluid phase ($D_{\text{F}}^{\text{fluid/melt}} > 1$) [3-5]. The intermediate - acidic intrusive bodies in Baogutu area (West Jungger, Xinjiang) show large differences of mineralization features [6-7]. The fluorine content of weakly, moderately and strongly mineralized intrusions are 204ppm ~ 512ppm (average value of 369ppm), 287ppm ~ 573ppm (average value of 427ppm) and 466ppm ~ 811ppm (average value of 639ppm) respectively. Obviously higher values in strongly mineralized intrusions signify the importance of fluorine during magmatic-hydrothermal mineralization process. In addition, higher fluorine content is well coincided with copper mineralization, suggesting that fluorine is helpful on copper migration.

[1] Webster JD (1990) *Contrib. Mineral. Petrol.* **104**, 424-438. [2] Keppler H (1993) *Contrib. Mineral. Petrol.* **114**, 479-488. [3] Xiong et al. (1998) *Geochimica* **27**, 66-73. [4] Chevychelvo et al. (2008) *Chemical Geology* **256**, 172-184. [5] Borodulin et al. (2009) *Doklady Earth Science* **427**, 233-238. [6] Shen et al. (2009) *Acta Petrologica Sinica* **25**, 777-792. [7] Cao et al. (2013) *Ore Geology Reviews* **56**, 159-180.