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## Magma Mixing in the Haxiyatu Area, East Kunlun and Its Mineralization Significance

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### 1 Geology

Haxiyatu Iron-polymetallic deposit is one of the typical deposit with the contribution of mantle-derived component in East Kunlun region, which is founded in Jinshui Kou rock group distribution area recent years, whose iron gold zinc content is reached medium deposit standard. Mineralization has a close relationship with quartz diorite in northeast of mining area, the orebody is produced in outer contact zone of quartz diorite.

### 2 Magma Mixing and Mineralization

#### 2.1 Magma mixing

Quartz diorite is formed before Early Triassic, geochemistry study indicates quartz diorite is high-K calc-alkaline series, it is Andean type edge of continental margins ligeneous tectonic attribute. The lithological is quartz diorite, associated with extensively developed dark enclaves with evidence of a series of genesis of magma mingling such as water-drop, long strip, plasticity rheological shape, quenching boundary, reverse pulse etc high-and middle-temperature hydrothermal evidence and low ratios characteristic of Mg/(Fe+Mg) and Na/(Ca+Na). The inclusion A/CNK lies between 0.77~0.87, belonging to quasi-aluminous rock, rich of Al<sub>2</sub>O<sub>3</sub> and MgO, poor of K<sub>2</sub>O and Na<sub>2</sub>O. The Rb/Sr ratio lies between (0.37~0.42), Nb/Ta ratio lies between (11.8~12.6).

#### 2.2 Mineralization Analysis

Isotope tracing result indicates that sulfur and lead of the mining area derives from the depth, and may have a mantle crust mixed cause. The oxygen isotope result shows that, there is formation syngenetic water during ore-

forming process. According to the petrology and geochemical characteristics combined with the geotectonic background at the same period, the iron-multiple metal mineralization is caused by magma mixing. Polymetallic mineralization due to subduction slab metasomatic lithosphere enrichment mantle then then partial melting and intruded upward, caused the lower crust felsic rocks (TTG) partial melting, mixed after that and forming the magma. Afterwards, it emplaced and crystallized in back-arc extensional settings which provided a good channel, Precipitation infiltration along the fault zone in emplacement gap, and mixed with quartz diorite again, then make ore-bearing hydrothermal account carbonate bedded, skarn formed and metallogenesis.

### 3 Discussion

Triassic granites distribution range of about 2 square kilometers in giant magmatic belt of East Kunlun, accounting for 42% of the granitic rock outcropped area (Mo X X et al, 2007), the Jinshui Kou suite, Tanjianshan suite and Jixian Langyashan which are all easily skarnized with magma also has a large distribution area. That the formation of skarn deposits in this region and surrounding rock is obviously different from thick layer marble of the eastern part of our country. It is these clastic rocks and carbonate strata combination brings up the uniqueness skarn deposits of Qimantag region. During late Paleozoic to early Mesozoic, Animaging ocean closure subduction provide enough power to magmatic activity, tectonic movement and mineralization in this region, from which it can be seen that the region has huge mineralization potential.

### References

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