SONG Zhongbao , ZHANG Yulian , JIANG Hanbing, YANG Tao, 2014. Overview of Metallogenic Regularity of Copper in Northwest China.*Acta Geologica Sinica* (English Edition), 88(supp. 2): 115.

Overview of Metallogenic Regularity of Copper in Northwest China

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Copper has a very important position in industrial development, and it is scarce mineral, but copper smelting mineral resources is from the copper deposit. The northwest region includes Xinjiang, Gansu, Qinghai, Shaanxi and Ningxia and other 5 provinces, is rich in mineral resources, genetic type of copper deposits in the northwest of the mineral resources potential evaluation in northwest project group is studied based on. Chen Yuchuan (2010) divided China copper deposit according to the genesis of the deposit into 10 types: (volcano) sedimentary metamorphic type, magmatic type (ultrabasic copper nickel sulfide type), porphyry type, marine volcano rock type, Continental volcano rock type, skarn type, sandstone type, Continental marine sandstone type, magmatic hydrothermal type, weathering crust (narrow). Mineral resources potential evaluation of project proposals will be in magmatic hydrothermal type (narrow) is modified as the hydrothermal vein type and altered cataclastic rock. The northwest region lacks continental volcano rock type and weathering crust type copper deposit, other types of distribution.

1 Mineral Survey

According to preliminary statistics, the copper deposits in 251, which were found in the northwest area, while super 1, 11 deposit large, medium-sized deposits 35, 204 small deposits. In addition, there are copper point 1999.

1.1 Provinces copper distribution

Xinjiang copper deposits 108, the big 6, medium 16, small 86; Gansu copper deposit of 64, the big 1, big 1, medium-sized 8, small 54; Shaanxi copper deposit is 34, which medium-sized is 2, small 32; Qinghai copper deposit of 45, the big 4, medium-sized 9, small 32; Ningxia without forming copper deposit.

1.2 Each geological period copper distribution

In the metallogenic epoch in different quantity, northwest copper formation is different. The Precambrian 25, among them large 1, medium 1, small 23; Caledonian 39, among them large 1, medium 7, small 31; the Variscan 131, among them large 8, medium 18, small 105; Indo Chinese epoch 23, among them large 1 at 5, medium-sized, small type 17; Yanshan 26, among them medium-sized 3, small 23; Himalaya 7, among them large 1, medium 1, small 5.

Variscan period is the most important copper deposit in northwest region of Variscan, followed by the Precambrian, Caledonian, Indosinian and Yanshan period and Himalaya period, few number.

2 Types of Deposits

The number of different types of copper deposit, northwest copper formation is very different. Known marine volcano rock type 75, among them large 5, medium 11, small 59; hydrothermal type 54, among them large 1, medium 5, small 48; porphyry type 32, among them large 4, medium 12, small 16; skarn type 31 the medium, 2 small, 29; magmatic type 28, among them large 2, medium 4, small 22; sandstone type 12, among them medium-sized 1, small 11; (volcano - sedimentary metamorphic type) 17, all small; continental volcano rock type 2, both for small.

3 Conclusion

At present, the most important type of copper deposit in the northwest known is marine volcano rock type, hydrothermal type, secondly is a porphyry type, skarn type, magmatic type, (volcano) sedimentary metamorphic type, sandstone type rarely, and continental volcano rock type is almost negligible.

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