1 General situation

Dongyuku molybdenum tungsten ore beds in east Qinling-Dabie molybdenum metallogenic belt of China molybdenum metallogenic domain. It is a newly discovered large molybdenum tungsten deposit. Study area set in north Qinling tectonic belt in the southern margin of north China continental blocks. It is the structure most complex zone in the Qinling orogenic belt. We research Dongyukun molybdenum tungsten from the development system of ore deposits, petrography and metallogenic dynamics, molybdenum deposit model. Based on the detailed regional material summary, We analysis the metallogenic background of east Qinling molybdenum and find out the zone molybdenum prospecting direction.

2 Ore deposit geological characteristics

The study area is Taihua group rocks of Archean group. Main outdoor layer is Baishugou group of the Mesoproterozoic erathem and Sanchuan group, Nannihu group, Meiyaogou group and Dahongkou group of the Neoproterozoic erathem LuanChuan Formation.

Fig 1 Geological section along 03 exploration line of the Dongyuku tungsten-molybdenum ore deposit
1- Geological boundary; 2-Fault; 3-Industrial ore body; 4-Ore body of marginal grade; 5-Drill hole and its serial number

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Luanchuan fracture and Machaoying regional fault is main fault, followed by the north-west fracture. There are a series of similar occurrence, southward thrust fault group in a series of axial plane nearly anything and the north dipping overturned fold.

Magmatic rock is widely spread in the area. Magmatism transfixion in the geological evolutionary history, it has a long-term, many times. The Yanshanian magmatic activity is strong. The strong and extensive period of magmatic activity mainly invasion in luanchuan platform-margin fold belt. In mine lot east and west, Huangbeiling, ShiBaogou, Yuku of late Yanshanian granite porphyry body respective. Yanshanian granite porphyry body is the complex massif of granite and biotite granodiorite rock mass.

Porphyry tungsten molybdenum deposit is formed in the formation, while skarn-porphyry type spot is formed in the outside contact zone. Abnormal area horizontal annular zoning characteristics obviously, outward from the anomaly center, elements combination of Mo, W, Bi, Cu, zinc, Pb, Ag, As, Ba, Ge. It is a complete sequence from high to low temperatures elements.

Local shallow denudation extent of ore deposits, the surface can see molybdenite. Revealed by the deep engineering, ore body plane from Yuku in the west to the east side Zhuyuangou, what direction about 1400 meters long, north-south about 200-200 meters wide, covers an area of about 0.53 square kilometers. Ore body overall north-west direction, is an irregular ellipsoid shapes. Ore bodies are bedded, orientation and inclination close to the slope and the top surface of granite porphyry body, north-west, about 25 ° Angle (fig. 1).

3 Ore deposit genesis and patterns

Ore deposit genesis is obviously controlled by structure and rock mass, and the alteration of surrounding rock. Regional transfer part of the north north-west fracture and the east control the form and occurrence of Yuku rock mass. The Huangbeiling-Shibaogou duplex anticline south-west wing controlled the Dongyuku tungsten molybdenum deposit. The north-east structural belt in front of the mineralization and the metallogenic period of structural joints, the degree of fracture control the mineralization enrichment area.

Dongyuku molybdenum tungsten is mainly the porphyry deposits which from of Yanshan period intracontinental environment. Metal molybdenum is mainly for in-situ melting and partial extraction in the upper crust. The geological environment of Intrusive rocks is the internal of the ancient continental margin in mainland China that like other acid into molybdenum mine in east Qinling intrusion. It has a deep a thicker crust basement and shell faulting, and the from way is deep penetrating while hypabyssal from. Magmatic origin is crust-mantle mixed type and have a lot of crustal material. Deposit model shown the following figure (fig. 2).

Key words: molybdenum tungsten deposit; Porphyry-skarn type; Geological characteristics; Yuxinan luanchuan