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新疆乌恰铅锌矿床成矿的地质条件及成因

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摘要: 研究了新疆乌恰地区成矿的大地构造背景和地质条件. 结果表明: 该区所处的大地构造位置和构造格局有利于壳幔之间物质与能量的交换和热卤水的长期活动, 为形成大型、超大型矿床创造了条件; “黑、白、红”三色沉积建造和富含成矿元素的基底为热卤水改造矿床的成矿提供了丰富的卤源、硫源和金属来源; 此外, 在乌拉根外围逆冲推覆断裂带中发现了由多处短轴背斜、穹隆和倒转背斜组成的中央隆起带, 铅锌矿化蚀变体(带)5处(条)均产于或受控于这一中央隆起带, 且均有规模大、强度高的Pb, Zn, Sr组合异常与之对应; 萨里塔什、卡兰古等铅锌矿区以及英吉沙-叶城的中生代红层分布区都具有金顶式铅锌矿床成矿条件. 可见, 本区具备喜马拉雅期超大型热卤水成因铅锌矿床成矿的地质条件.

关键字: 铅锌矿床; 热卤水; 隆起带; 乌恰地区

Metallogenic geological conditions of superlarge-size Pb-Zn ore deposit in Wuqia district

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Abstract: Guided by regional metallogeny, systematic engineering exploration geology, and based on field investigation, regional geotectonic, metallogenic geological conditions have been studied in this paper. The geotectonic position and the basic structural framework of the studied area may provide favorable tectonic setting for frequently exchanging of materials and energy between crust and mantle, and for long-term intense thermal brine activities. Three colors (black, white, and red) of sedimentary strata related to Meso- and Cenozoic, with the characteristics of the great thickness and the high contents of Pb, Zn, Ag, Cu, U, Sr, and mineral-bearing formations related to Proterozoic and Paleozoic, can jointly supply abundant brine, sulfur, and metal source for the ore forming of thermal brine altered deposits. The newly discovered central uplift belts consist of brachyanticlines, domes and inverted anticlines. Five new discovered Pb-Zn ore bodies (belts) are located in the central uplift belts or controlled by the central uplift belts, accompanied by Pb, Zn, Sr composite anomalies with big dimensions and high intensity. Salitashi, Kalangu, and the areas distributing red beds related to Mesozoic in Yinjisha-Yecheng districts, all have metallogenic conditions of large and superlarge Pb-Zn deposits. Thus this area is provided with metallogenic setting and conditions of thermal brine genesis deposit related to Himalayan. Many characteristics between Wulagen, new discovered ore-bodies around Wulagen and Jinding Pb-Zn deposits are concordant with each

other, which shows that this area has great prospecting potentiality of Pb-Zn deposits.

Key words: Pb-Zn deposit; thermal brine; uplift belt; Wuqia area

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