THE XIKUANGSHAN SUPER-LARGE SB-DEPOSIT, HOSTED IN THE UPPER DEVONIAN BLACK SHALE SERIES IN HUNAN PROVINCE, P.R.CHINA

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The Xikuanshan Sb-deposit accounts for 82.5 x 104t. Sb. and consists of four ore blocks. Three ore beds are located in the Upper Devonian Shetianqiao Formation (D32s, Frasian Epoch) in stratified, strata-like and vein forms. Ores are massive and disseminated, and consist mainly of stibnite, quartz, calcite, barite, fluorite etc. Ores are hosted in dark gray chert with 0.47% Corg, country rocks- black shale and marl have 0.97% Corg. Mean SiO2/ Al2O3 ratio for chert (ore) is 70, indicating a hydrothermal or biogenic input in addition to the detrital source; that of country rocks is 5.8, shown mainly a detrital source for them. In chert and country rocks, Te, Se, Cd, and In contents are higher than crustal value, but lower than SDO-1. In stibnite all disperse elements are lower than crustal value. ¡ÆREE content (ppm) are: 71 in chert , 67 in coral limestone, 124 in black marl and 231 in black shales. Mean Ceanom and¦ÄCe of above-mentional rocks is - 0.1 and 0.88 respectively, indicating the sedimentary environment is near the oxidation- reduction boundary. The condrite normalized REE patterns of those rocks yield rightward declined curves with small negative Eu anomalies. The average¦Ä30SiNDS-28 value of chert is - 0.4¡ë, coincident with that of lamprophyre(-0.4¡ë) from this deposit, indicating part of silica comes from volcanic activities. The mean ¦Ä32S CDT for stibnite is +6.55¡ë.In the light of detailed study, the Xikuangshan Sb-deposit is sedimentary-reworking in origin.