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Green Mining and Sustainable Resources Prospecting of New Technology Minerals in China

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There are about 55 million tons reserves on rare earth resources in China, which accounts for 42.3% of the world's whole resources. Northeast Guangdong is one of the most important resources bases of ion adsorption type rare earths mineral in China, with very high value of developing and good metallogenic condition. However, the ionic rare earth resources exploration is facing with several environmental pressure such as groundwater pollution, vegetation destruction and soil erosion and so on. We are setting up the green mine model of rare-earth exploration by modeling and numerical simulation in laboratory. By the improved “In-situ Leaching Mining Method”, paying more attention to the ore body bottom anti-seepage treatment, the mother liquor recovery can reach more than 98%, increase the rate of mining and reduce the risk on leaking. By the Using of "high-precision real-time monitoring" system for mining, and the synchronous construction in exploration and mining reclamation, we will work out one Green Mine for “Ionic Type Rare Earth Green Mine” in southern China. In the same time, we will work in Plan and set up the resource reserves area to achieve the integration of "exploring, storage, mining”. We suggest to set up the management system as “Reserves Classification System” to guarantee the sustainable development of resources.

China Minmetals Corporation is consulting the government to establish the “Standard in Green Mine of Ionic Type Rare Earth in southern China” through the cooperation of industry, scientific research and government to implement new technology of mineral environmentally friendly development and sustainable utilization.

References:

[1] Rare Earths Statistics and Information, USGS Mineral Commodity Report, 2016

