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## Establishing criteria for calculating ore reserves and assessing the economic value of Na Tum Pb-Zn mine in Bac Kan with the recovery of usefull accessory elements

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Recently in Vietnam, the interpretation of criteria on the mineral reserves in general and the cutoff grade criteria for metallic minerals in particular are still limited and insufficiently meet the requirements of the domestic market economy and international economic integration. Additionally, assessment of economic value of mines in particular and the mineral resource economy in general has not been noticed to recovery value of minerals or useful accessory components. At present, there are many mines in Vietnam that have been explored and exploited; however, useful accessory elements have not been explained regarding cutoff grade as well as value of mines in order to determine the charge for granting the mineral mining rights. This problem is not only reducing the mine's economic value and causing loss of mineral resources but also significantly draining the charge for granting the mineral mining rights, in addition to the unequality for mining investors. This critical issue needs to be researched, especially in mines of ferrous metals and precious metals. This article introduces some methods to determine the cutoff grade indicator and determining economic value of mineral mines and the evaluation results of Na Tum Pb-Zn Mine in Bac Kan province during the recovery of benefitial accessory minerals.

Keywords: Cutoff grade, resource economic value, Na Tum, Bac Kan.



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