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Geochemical and GIS study of the Zarshuran Gold mine in Iran

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Zarshuran Gold mine is located in the north of Takab , in West of Azarbayejan Provinc
There are four Gold ore types in Zarshuran ; black gouge ,Carbonate tectonized and breccia mineralized ,Massive Jasperiod and Marble and sanded. Refractory ore off Zarshuran are Gold and co-paragenetic ore like;Arsenopyrite and Orpiment.
Geographic information system (GIS) has been used to determine the Gold potential of this area. By the GIS system there are different stages with contains, Gathering of all available data, Application of the integration model and the Data processing. By mineralization and Geochemical studies it is indicated that only small fraction of free Gold (21%) is present in the cyanide-soluble salpho-arsenic compound. Major Gold distribution in orpiment, regular and Arsenian Pyrite (32%) oxides, carbonates and labile sulphides (18%) and sulphides pyrite and arsenopyrite (22%).
We used several information layers of the geological layer , ore deposit layer , geochemical layer , heavy mineral layer airborn Geophysical layer and remote sensing layer . Also we used from geological maps of this area. By using of the ARCGIS software , we identified the mining potentials for Gold and finally determined the Gold mining area. In this project we used the methods of simple overlay and Fuzzy logic were used.
In this presentation, the authors have outlined a strategy to take up Gold mining and refractory and undersetting of the potential for refractory Gold ores in Zarshuran area ,and these results might be used for the other similar gold mines studies.