

Priliminary report on REEs in apatite from Esfordi iron-apatite ore deposit

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Abstract: The Esfordi iron - apatite ore in Central Iran is located in Bafq metallogenic province. Stratigraphically most of the rock units belong to Precambrian and Cambrian sequenses which the sedimentary and volcanic series are the most spreading rock types and mineralization took place just within the volcanic-sedimentary unit of the mentioned series. Study of REE contents of apatite in Esfordi iron-apatite ore shows high concentration of these elements. Zonal distribution of some REEs, e.g. La, is identified which varies from center to the rim of apatite single crystal. Absence of negative Eu anomaly makes the Esfordi apatite distinctive from the igneous types and may indicate a hydrothermal origin for Esfordi apatites.