

Investigation of the phosphorite horizons environment in the Bnari and Kuhe-e- Sefid deposits using mineralogical evidence

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Abstract: Simple folded Zagros has several phosphate horizons with the Cretaceous – Tertiary ages that are present as inter-layer in Pabdeh and Gurpy formations. Therefore, study of combination, texture of mineralogy and determination of genesis of marine phosphate of Zagros basin during Eocene – Oligocene is important. In this study, 28 samples were collected from phosphate Kuhe-e- Sefid and Kuh-e- Lar (Banari) horizons in anticlines for mineralogical analysis. Mineralogical studied using X-ray diffraction showed that present apatite minerals in the samples are glauconitic, fluorine carbonate apatite and hydroxy carbonate apatite. On the other hand, study of thin sections confirms presence of phosphate such as pellets and ooids. Tracing of the mineral paragenetic sequence, indicate autogenic conditions, high sea levels and finally, shallow continental shelf environment, during the formation of these deposits.

Keywords: *Phosphate; Zagros; Pabdeh; Kuh-e- Sefid; Kuh-e- Lar.*

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