Geochemistry of the Kuh-e- Sefid and Banari Phosphate Horizons, in SW Iran

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Abstract: The Kuh-e- Sefid and Banari phosphate horizons in Zagros Simply fold belt occurred in Pabdeh Formation. At this regard several samples collected from two phosphate horizons, for ICP-MS analyses. The result of ICP-MS analyses show that major oxides in two horizons are CaO> SiO2> Al2O3> Fe2O3> P2O5 respectively that the values of P 2O5 in the Banari and Kuh-e-Sefid horizons is low and about 1.95 and 2.1% respectively. The REE concentration in the Kuh-e- Sefid phosphate horizons is high but in the Bnari Phosphate horizon is low. Shale normalizes-REE patterns show negative Ce anomaly and MREE enrichment. Negative Ce anomaly is very similar to marine seawater pattern. MREEs enrichments relative to Fe complexes, when this complex located in the redox conditions, are entered into the micro-environments; therefore they cause the enrichment of MREE elements. The Ce negative anomaly and MREE enrichment suggested that rare earth elements derived from seawater.

Keywords: Phosphate; geochemistry; trace elements; rare earth elements.