

## **SHAMSABAD FE-MN DEPOSITS, WEST CENTRAL IRAN: FACIES ANALYSIS, MINERALOGY AND GEOCHEMISTRY**

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Shamsabad Fe-Mn deposit,with several other deposit of Fe-Mn and Pb-Zn-Ba deposits are located in a transgressive Cretaceous sequence along the Malayer-Esfahan belt, west central iran. This sequence is composed of a basal conglomerate and sandstone unit which is overlain by sandy limestone, Orbitolina limestone and dolomitic limestone. The age of country rocks is Aptian. The regional structure is tight synclines and anticlines. The shamsabad deposit is located in the overturned side of syncline. The Cretaceous sequence consists of oxic coastal and disaerobic to anoxic continental shelf facies.Ore lenses are conformable with the bedding of country rocks and is located in the upper part of the disaerobic facies and lead-zinc deposit are formed in the anoxic facies. The genesis of deposit is considered by the present authors to be similar to marine manganese ore deposits around black shale basins.Shamsabad Fe-Mn ore is sedimentary stratabound.A gel of carbonates,sulfides and iron-manganese hydroxide has been precipitated in a dis aerobic condition in the first stage of formation. The diagenesis and tectonic deformations cocenterate the ore in the hinge lines of the S and Z shape folds.Supergen weathering dissolved and leached sulfides and carbonates in the latest third stages of formations.Porosity and mineral aggregates as goethite, limonite, malachite and colloidal Fe, Mn oxides and hydroxides are products of the supergen weathering process. Geochemical and mineralogical evidences indicate that the ore is distal volcanogenic.