Mineralogy and Textural Studies of Mehdiabad Zinc-Lead Deposit- Yazd, Central Iran

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Abstract: Mehdiabad Zn-Pb-Ba deposit is located 110km south-east of Yazd, in the Central Iran structural zone. The stratigraphic succession consists of three sedimentary formations of lower Cretaceous age. The Sangestan formation, i.e., the lowest unit of shale and siltstone with calcarenitic interbeded layers. This unit is overlain by ankeritic massive dolomite and dolomitic limestone of Taft formation. The Abkouh formation at the top is composed of cherty or clayey limestone with conglomeritic intercalation, lenses of massive reef limestone and calcareous shale. The structure of orebody shows a half-graben with a vast N-S synform being complicated by the presence of polyphase faults. The main normal fault is Tappeh Siah fault, suggested to have been active during and after the period of sedimentation. Major economic minerals are sphalerite, galena and barite with minor pyrite, chalchopyrite in sulfide zone. Oxide ores contain smithsonite, hydrozincite, hemimorphite and cerussite. Mineralization occurs in stratiform-lenticular orebodies and concordant with host rocks. Also orebodies showing laminated, disseminated, open space filling, karst filling, colloform and botryoidal textures.

Keywords: Mehdiabad, Lower Cretaceous, Zinc & Lead, Iran, Tappeh Siah fault.