

10.4 **Oil yield potential of oil shale from the Azraq Basin in Jordan**

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Oil shale samples collected from the deposits in the Azraq Basin of eastern Jordan were evaluated by physical, chemical, and petroleum geochemical methods to determine hydrocarbons yield potential. The results show that the deposits are organically rich, with TOC exceeding 15%, with resource thicknesses of up to 300 meters. Hydrocarbon potential was evaluated and estimated by application of USGS formula based on electric log measured densities of the oil shale horizons. Significant heterogeneity was observed in the deposits with depth and is attributed to fluctuating oxic-anoxic environmental conditions affecting organic matter accumulation and preservation during their formation. Formation of sulfur-rich organic matter was attributed to low iron conditions within the formation.