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Israeli Oil Shale - world class resource for in-situ production

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The oil shale in Israel is found in certain intervals of the Upper Cretaceous sedimentary sequence, particularly the Campanian – Maastrichtian Mishash and Ghareb formations. These organic-enriched rocks were formed during the global anoxic event of the Upper Cretaceous. In most rocks described as oil shale in Israel, the main inorganic constituents are calcite (as chalk), some clay and phosphate. The organic matter is an immature Type IIS kerogen. At present, tens of oil shale occurrences have been described in Israel, with the largest one located in the subsurface of the Hashfela basin in central Israel, very close to the Mediterranean. In this basin, the oil shale is at about 300 m deep and varies in thickness across the basin between 150 m to over 300 m. The average richness of the main intervals greater than 100 m thick exceeds 25 gallons/ton. The Israeli oil shale is particularly attractive due to its stratigraphic position relative to the main hydrogeological units. The oil shale main section has extremely low hydraulic conductivity and thus is recognized as an aquiclude. A karstic limestone and dolomite aquifer (the Judea Group Aquifer) is found 200 m below the oil shale, but this aquifer is strongly confined and disconnected from the oil shale section by a massive chalky formation. All of these considerations make the Hashfela basin one of the largest, most relevant and attractive oil shale reserves in the world for in situ production.