20.19 **Froth Flotation of Jordanian El-Lajjun Oil Shale**

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Oil shale is available in Jordan in large quantities with high proportions of minerals. This study presents an investigation in order to enhance the oil recovery from Jordanian El-Lajjun oil shale, which represents a major local deposit area. This enhancement was attempted through decreasing the mineral composition by the method of froth flotation using different flotation and frothing agents. The effect of the type of agents, the concentrations of these agents, and the effect of particle size were also investigated. Jordanian El-Lajjun oil shale has shown poor separation propensity - “floatability”. The particle size and the type of frother did not have any impact on the efficiency of oil shale recovery. A maximum recovery of 3% was achieved when using fuel oil as a collector and MIBC as a frother in froth flotation process. It is believed that kerogen, during preparation of oil shale, causes wettability of oil shale particles which hinders the floatability of oil shale. On the other hand, phosphate and calcite were found to be easily separated from Jordanian oil shale using froth flotation. A degree of separation of more than 99% has been achieved when using kerosene as a collector and MIBC as a frother.