

## **A COMPFRACTIONAL YIELD, EXTRACT COMPOSITION AND VARIABILITY FROM JORDANIAN OIL SHALES**

[https://www.scirp.org/html/1-1000207\\_70611.htm](https://www.scirp.org/html/1-1000207_70611.htm)

### **ABSTRACT**

Surface and subsurface oil shale (OS) rocks in Jordan have potential economic value for the country and still unutilized. This research paper focuses on central and southern OS deposits in Jordan. Brief characterization of four OS deposits is presented. Size distribution test and elemental analysis were performed. Shale oil was extracted via three solvation methods: Soxhlet extraction, extraction via mixing and stirring, and lastly super-critical fluid extraction. Major shale oil fractions were obtained from extract fractionation on chromatographic column. The nuclear magnetic resonance spectroscopy technique was used to study qualitatively the fractional composition of OS extract. Results show that all studied OS deposits have quite similar trend in their particle size distribution and their elemental composition. These OS deposits are found to be varying in their solvation behavior, fractional yield, and shale oil composition. Highest yield is obtained from polar solvents. The OS extraction via solvation processes is promising under certain extraction conditions such as super-critical conditions. The solvation variability of Jordanian OS indicates that different extraction techniques suit different OS deposits. Such variability should be considered in any future extraction options.