

## **Enhancement of petrophysical properties of a bituminous chalk during thermal conversion**

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During thermal maturation, the petrophysical properties of source rocks are altered as the solid kerogen converts to water, oil, and gas. The oil shale resource found in Israel and Jordan is a high porosity (~40%), low permeability (~0.05 mD) bituminous chalk with kerogen content reaching 20 wt%. We report results of experimental investigations of the effect of thermal conversion on the petrophysical properties of this bituminous chalk. The porosity, permeability, Klinkenberg slip factor, and total organic carbon (TOC) are measured on core plugs obtained from the Ghareb member of the Shfela Basin before and after slowly heating to full conversion in a pressure-regulated semi-batch reactor. The experiments show enhancement of petrophysical properties during the pyrolysis process. These results are valuable for understanding source rock generation and migration and for evaluating the viability of in situ thermal recovery from a bituminous chalk.