Oil Shale, 2005, Vol. 22, No. 1
pp. 51-63
ISSN 0208-189X

KINETICS OF PYROLYSIS OF ATTARAT OIL SHALE BY THERMOGRAVIMETRY

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Oil shale samples from different seems of the Attarat deposit in Jordan have been studied using a thermogravimetric analyzer. The influence of grain size and heating rate (from 3 to 40 °C min^{-1}) on the process of thermal degradation of the shale sample has been determined. The integral method was used to analyze TGA data in order to determine pyrolysis kinetics. The main weight loss of the samples, arising from the conversion of organic matter to oil and gas, occurred within the temperature range from 250 to 550 °C. The magnitude of the total weight loss was mainly dependent on the furnace temperature and, to a lesser extent, on the heating rate employed. The decomposition rate of the studied samples changed significantly at a critical temperature of about 300(±10) °C. The kinetic results obtained are in agreement with those reported for other Jordanian oil shales from different deposits.

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