

Flow behavior of Algerian crude oils from different sources

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Abstract. A study of the flow behavior of Algerian crude oils obtained from different fields in the TFT region (Tin Fouye Tabankort/South Algeria) was conducted using the AR2000 rheometer equipped with a Couette geometry. Rheology experiments were carried out at different shear rates and temperatures to predict the transport characteristics of crude oils. The results obtained show that all crude oils studied exhibit non-Newtonian behavior at low shear rates and quasi-Newtonian behavior at high values of the shear rate gradient. The analysis of the obtained rheological data revealed that the increase in temperature had a positive effect on the flow behavior of crude oils in pipelines.

Keywords: flow behavior; light crude oil; rheology; temperature; viscosity.

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