

A New Correlation for Prediction of Viscosities of Omani Fahud-Field Crude Oils

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Viscosity is one of the most important governing parameters of the fluid flow, either in the porous media or in pipelines. So it is of great importance to use an accurate correlation to calculate the oil viscosity at various operating conditions. A new empirical viscosity correlation for Omani crude oils has been developed as a function of commonly available field data. Correlations have been developed for viscosity of dead oil. The accuracy and limitations of previously published models for predicting the viscosity of crude oils are also reviewed and discussed. For the development of correlations, a range of laboratory data has been covered. Three reports collected from Omani crude oils have been used for the development of the proposed empirical model. Proposed correlations of this study predicted the viscosity of dead oil Omani crudes better than the correlations published in the literature. This model can be used to predict viscosity of dead Omani crude oils where experimentally measured data become unavailable, at temperatures other than ambient temperature.