

## عنوان مقاله:

Experimental study of rheological behavior of water-based drilling fluids using Couette rotational viscometer

## محل انتشار:

سومین کنگره ملی مهندسی نفت (سال: 1390)

تعداد صفحات اصل مقاله: 11

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## خلاصه مقاله:

This paper presents the results of the measurements of apparent viscosity of waterbased drilling fluids over a wide range of temperature (27-54 ) and concentration of guar gum added (17.5-46.4 kg/m<sup>3</sup>), using a coaxial cylinder viscometer. Bingham plastic, power law, Herschel-Bulkley and Casson models have been selected to describe rheological properties of drilling fluids. The results showed that power law and the Herschel-Bulkley models have higher accuracy to describe the non-Newtonian behavior compared to the other two models, specially, when the concentration of the guar gum increases. The effect of temperature on the apparent viscosity was very well correlated with the Arrhenius equation (0.977

## کلمات کلیدی:

Drilling Fluid; Apparent viscosity; Guar gum; Rheological models; Arrhenius model

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/260082>

