

## عنوان مقاله:

Effect of Compositional Grading on Reservoir Fluid Characterization in Fractured and Conventional Reservoirs

## محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

تعداد صفحات اصل مقاله: 12

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## خلاصه مقاله:

The variation of fluid composition with depth in an oil reservoir is called compositional grading e.g. as depth increases the fluid properties changes. prediction of phase behavior and accurate characterization of reservoir fluids In these reservoirs could be achieved by models that take this phenomenon into account. Prediction of compositional grading make it possible to check the reliability of new fluid samples, estimation of fluid in place, initialization of reservoir simulators and consideration of production alternatives [1]. In this study, three giant oil reservoirs with different behaviors and different conditions and characterizations were studied. For all of these reservoirs, complete PVT reports were selected to perform fluid characterization. All experiments were modeled by commercial PVT software. Several isothermal and non-isothermal compositional grading models were developed to explain the change in reservoir fluid properties. All the models examined for the selected reservoirs to find which of the models can best explain the fluid property change in the reservoir. The most accurate reservoir fluid valid samples with the best match between model and experiment was used to predict the reservoir fluid composition and its corresponding PVT properties at different bottom hole locations using the most reliable compositional grading model. Results show that for reservoirs where fluid become heavier with depth, Isothermal model can describe fluid property change in the reservoir. For reservoirs where fluid becomes lighter as depth increases, it concluded that this is not a thermodynamic phenomenon and has different reasons. For reservoirs with little or no change in fluid property with depth, Non Isothermal models can best describe the phenomenon.

## کلمات کلیدی:

Compositional grading, saturation pressure, simulation, PVT, oil reservoir, gravity, convection, diffusion

## لینک ثابت مقاله در پایگاه سیویلیکا:

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