

Libyan Crude Oil Composition Analysis and Prediction

Authors : Omar Hussein El Ayadi, EmadY. El-Mansouri, Mohamed B. Dozan

Abstract : Production oil process require specific details i.e. oil composition. Generally, types of oil or differentiation between reservoir fluids depend specifically on composition. The main purpose of this study is to correlate and predict the Libyan oil (reservoir fluid and residual) composition utilizing tri-angle-coordinate plots discovered and tasked with Excel. The reservoir fluid data (61 old + 47 new), the residual oil data (33 new) collected from most of Libyan reservoirs were correlated with each others. Moreover, find a relation between stock tank molecular weight and stock tank oil gravity (oAPI), the molecular weight oh (C7+) versus residual oil gravity (oAPI). The average value of every oil composition was estimated including non-hydrocarbon (H₂S, CO₂, and N₂). Nevertheless, the isomers (i-...) and normal (n-...) structure of (C₄) and (C₅) were also obtained. The summary of the conclusion is; utilizing excel Microsoft office to draw triangle coordinates to find two unknown component if only one is known. However, it is recommended to use the obtained oil composition plots and equations for any oil composition dependents i.e. optimum separator pressure.

Keywords : PVT, phase behavior, petroleum, chemical engineering

Conference Title : ICPSD 2015 : International Conference on Petroleum and Sustainable Development

Conference Location : Chicago, United States

Conference Dates : October 08-09, 2015