

## Process Optimization for Albanian Crude Oil Characterization

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**Abstract :** Oil characterization is an essential step in the design, simulation, and optimization of refining facilities. To achieve optimal crude selection and processing decisions, a refiner must have exact information refer to crude oil quality. This includes crude oil TBP-curve as the main data for correct operation of refinery crude oil atmospheric distillation plants. Crude oil is typically characterized based on a distillation assay. This procedure is reasonably well-defined and is based on the representation of the mixture of actual components that boil within a boiling point interval by hypothetical components that boil at the average boiling temperature of the interval. The crude oil assay typically includes TBP distillation according to ASTM D-2892, which can characterize this part of oil that boils up to 400 C atmospheric equivalent boiling point. To model the yield curves obtained by physical distillation is necessary to compare the differences between the modelling and the experimental data. Most commercial use a different number of components and pseudo-components to represent crude oil. Laboratory tests include distillations, vapor pressures, flash points, pour points, cetane numbers, octane numbers, densities, and viscosities. The aim of the study is the drawing of true boiling curves for different crude oil resources in Albania and to compare the differences between the modeling and the experimental data for optimal characterization of crude oil.

**Keywords :** TBP distillation curves, crude oil, optimization, simulation

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