

Simulation of oil shale retorting using the iCON steady state model

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The steady state process simulation software, iCON, developed by Petronas, is based on a thermodynamic and physical property calculation mechanism and is mainly used to predict process behavior for upstream and downstream oil and gas applications. Since iCON has various heavy oil property packages specific to the industrial process requirements, the aim of this work is to apply this simulation tool to oil shale retorting process. The iCON model is constructed based on the results of the fluidized bed retorting of the Moroccan Timahdit and Tarfaya oil shale samples using a continuous 3 kg/hr Hamburg process facility. This model predicts the product of the oil shale retorting process from a specified shale feed. The product of this pyrolysis process will include oil, gas, liquid water and spent shale. Future studies will include applying this model to other oil shale samples that would differ on its characteristics and set of reaction kinetics.