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Long-stroke sucker-rod pumping available models and their operation

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Long-stroke sucker-rod pumping units have polished rod stroke lengths greater than 24 ft and require significantly less torque than beam pumping units. To produce high liquid volumes they can be run at much lower speeds and can thus achieve greater overall system efficiencies. The general advantages of long-stroke pumping over traditional pumping can be summed as: Greater liquid producing capacities are achieved, downhole pump problems are decreased and rod string life is substantially increased due to the reduced number of stress reversals. This paper presents a complete coverage of present-day long-stroke rod pumping methods and discusses the two main types of technologies available: Rotaflex and Dynapump. After a short historical overview of long-stroke pumping these two units are introduced and their technical and operational features are described in detail. The relative advantages and limitations of Rotaflex and Dynapump installations are summarized to facilitate their selection for artificial lift applications.

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Organic geochemical characteristics of crude oils and oil-source rock correlation in the Sunah oilfield, Masila Region, Eastern Yemen

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The objective of this study is to provide information on source organic matter input, depositional conditions and the correlation between crude oils recovered from Sunah oilfield and Upper Jurassic Madbi Formation. A suite of twenty-six crude oils from the Lower Cretaceous reservoirs (Qishnclastic) of the Masila Region (Eastern Yemen) were analyzed and geochemically compared with extracts from source rock of the Upper Jurassic (Madbi Formation). The investigated biomarkers indicated that the Sunah oils were derived from mixed marine and terrigenous organic matter and deposited under suboxic conditions. This has been achieved from normal alkane and acyclic isoprenoids distributions, terpane and sterane biomarkers. These oils were also generated from source rock with a wide range of thermal maturity and ranging from early-mature to peak oil window. Based on molecular indicators of organic source input and depositional environment diagnostic biomarkers, one petroleum system operates in the Masila Region; this derived from Upper Jurassic Madbi organic-rich shales as source rock. Therefore, the hydrocarbon exploration processes should be focused on the known location of the Upper Jurassic Madbi strata for predicting the source kitchen.

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