

HYDROTREATING OF SHALE OILS

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A fundamental part of matching a resource with the need for oil relies on the production of saleable products at an economical price. The quality of the oils is determined primarily by the deposit but also the process used to extract it. Product qualities are however quite well defined as are certification requirements for various fuels.

Surface retorting leads to a range of oils with varying degrees of unsaturation, concentration of heteroatoms, and metallic impurities. These provide a challenge in determining how to best upgrade the oil on an economic basis suitable for available markets.

With only a few technologies producing oil in saleable quantities, little if any is being fully upgraded, hence the need is there if the vast reserves of shale globally are to be used as a substitute for conventional crude.

This paper looks at the process of choosing a hydrotreating method at the different scales of production from pilot to commercial scales and outlines some of the pitfalls.