Ehssan Nassef, J Pet Environ Engineering 2015, 6:5
http://dx.doi.org/10.4172/2157-7463.C1.013

OMICS International
conferenceseries.com

International Conference and Expo on
Oil and Gas

November 16-18, 2015 Dubai, UAE

Recovery of oil from Egyptian oil shale by different techniques

Ehssan Nassef
Pharos University in Alexandria, Egypt

Oil shales are defined as fine grained sedimentary rocks containing abundant mainly sapropelic organic matter which produce oil on distillation. The present study highlights the characterization of Egyptian origin oil shale using various analytical techniques such as Elemental analysis, Infrared spectroscopy (IR) and the Morphology Study of oil shale (SEM). The study is focused on the characterization of shale oil samples obtained by solvent extraction method from oil shales. Shale oil seems a promising alternative, because of the high prices for oil and the increased demand for oil in many organizations and governments. In the present work, Crude shale oil can be obtained by either solvent extraction method or by steam processing. In production of oil by steam, water is heated to 80° C and steam first passed through fixed bed of shale, then to condenser. After that, the oil and water were collected and separated by heating. The studied shale show significant enrichment in organic matter in the black shale. The results showed that in case of oil recovery by steam, the oil recovery increased with increasing the steam flow rate. In contrast, the yield of oil was non-measurable by using toluene after steam condensation. Another point worth mentioning is that steam flow rate in case of using powder shale is lower than flow rate in case of using pellets shale. In case of the solvent extraction process, a distillation unit is connected with a three neck conical flask that provided with a mechanical stirrer and a heating element was used. The experimental results revealed that with the increase of the solvent-oil shale fraction, the yield of oil increased. In addition, it can be noted that toluene is better than xylene for extracting oil. However, n hexane and carbon tetra chloride gave no oil recovery. It was also found that, the oil obtained by retorting at 300° C for 3 hours followed by extraction of toluene is the highest compared to the oils obtained by extraction of toluene or xylene.

Biography

Ehssan Nassef has completed her PhD from Alexandria University and Post-doctoral studies from Alexandria University (Petrochemical Department). She is a Consultant in Gas and Petrochemical Processing Engineering. She has published more than 15 papers in international journals in Enviromental Engineering and Petroleum Engineering and has been serving as an Editorial Board Member of reputed journals.

ehssan.nassef@pua.edu.eg

Notes: