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Economic feasibility of developing oil shale and heavy oil by *in situ* electric heating

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Oil shale and heavy oil reserves are huge, but the key is to find an economical and efficient development method. The method of E-ICP (Electric Heating Technology of in-situ Conversion Process) seems to be a good development method. Can it achieve the economy and efficiency we are talking about? The E-ICP of oil shale and heavy oil is simulated. On this basis, the economic feasibility of E-ICP is evaluated respectively for oil shale and heavy oil. Research data show the economic limit of E-ICP method, and pointed out the following research direction.

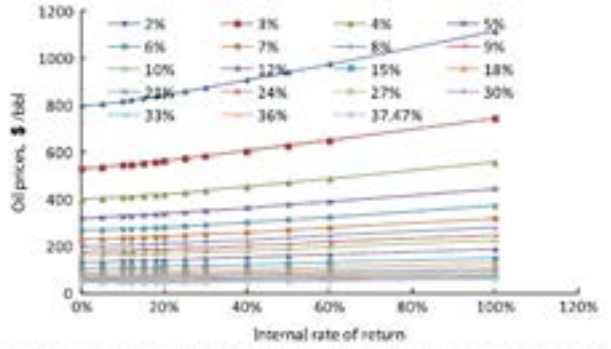

Fig. 22. The price of oil shale at different internal rates of return and oil lengths.

Recent Publications

1. Yang Hao (2016) Temperature distribution, thermal stress and thermal displacements during in-situ heating of oil shales. Chemistry and Technology of Fuels and Oils 51(6):695-708.
2. Yang Hao (2016) A composite cementing material with high-temperature and high-pressure resistance and low elasticity for in-situ heating of oil shale. Chemistry and Technology of Fuels and Oils 52(1):103-110.
3. Yang Hao (2016) A feasibility study on heavy oil exploration by in-situ electric heating. Bulgarian Chemical Communications 48:136-143.
4. Yang Hao and Duan Yunxing (2014) A feasibility study on in-situ heating of oil shale with injection fluid in China. Journal of Petroleum Science and Engineering 122:304-317.
5. Yang Hao, Gao Xiaoqiao and Xiong Fansheng (2014) Temperature distribution simulation and optimization design of electric heater for in-situ oil shale heating. Oil Shale 31(2):105–120.

Biography

Yang Hao has completed her Graduation in Petroleum Engineering at Southwest Petroleum University and Master's in drilling and Doctorate in EOR at China University of Petroleum, Beijing. She has her expertise in EOR and drilling and invited as visiting scholar to University of Alberta for one year.

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