Contribution ID: **834** Type: **Poster Presentation**

Coupled studies of oil compositions and storage spaces in the Kongdian Shale Formation, Bohai Bay Basin, Eastern China

Tuesday, 14 May 2024 09:25 (1h 30m)

The shale in the Kongdian Formation, Bohai Bay Basin is one of the leading shale oil targets in China and attracted attention from both industry and academics since the 2010s. Shale oil is known to distribute in the μm to nm pores in the shale formations. The oil compositions and pore spaces of shale formations strongly influence the shale oil production behavior for an efficient development. The four components of shale oil (saturates, aromatics, resins, and asphaltene) and pore space of shale have been studied separately in many previous researches. However, the combined distribution of different shale oil compositions in the pore spaces has rarely been studied. To investigate the storage space of different compositions of shale oil, t, this study combined organic geochemical and petrophysical methods for core samples of Kongdian Formation. Extracts were collected after the 1st, 5th, 10th, and 30th day of solvent extraction, then analyzed by bitumen extraction and separation and GC-FID to determine the composition changes vs. time. Shales were collected at the same time interval to investigate the pore structure changes vs. time by mercury intrusion porosimetry and nitrogen adsorption. Results show that as the solvent extraction time gets longer, (1) the main composition of extracts changes from saturates to resins, and saturates gradually become heavier, (2) the porosity of shale gradually increases, and pore space first mainly increases in the μm-nm pore, then mainly increase in nm pores. In summary, this study is important to understand the distribution of different shale oil compositions and provide fundamentally important knowledge in reservoir evaluation.

Acceptance of the Terms & Conditions

Click here to agree

Student Awards

I would like to submit this presentation into both awards

Country

P.R.China

Porous Media & Biology Focused Abstracts

References

Conference Proceedings

I am not interested in having my paper published in the proceedings

Primary author: YAN, Weixing (China University of Petroleum (East China))

Co-authors: WANG, Qiming (China University of Petroleum (East China)); Prof. HU, Qinhong (China University of Petroleum (East China)); YANG, Shengyu (China University of Petroleum (East China)); WANG, Xuyang (China University of Petroleum (East China))

Presenter: YAN, Weixing (China University of Petroleum (East China))

Session Classification: Poster

Track Classification: (MS13) Fluids in Nanoporous Media