

Geochemical Features of Cretaceous Crude Oil and Oil-Source Correlation in Guaizihu Sag, Yin'gen-E'ji'naqi Basin, China

WANG PING¹, JIANG HAIJIAN¹, CHEN QINGTANG²,
SHI DAHAI²

¹Wuxi Research Institute of Petroleum Geology, SINOPEC, Wuxi,
Jiangsu 214126, China

²Zhongyuan Oil Field Branch Company, SINOPEC, Puyang,
Henan 457000, China

Recently, high oil product was gained in K_1b_2 of well X in the Guaizihu Sag of Yin'gen-E'ji'naqi Basin, China, which revealed a bright exploration prospect. Analyses of compositions, biomarkers and carbon isotopes were made with K_{1s1} oil sand samples, K_1b_2 crude oil and mudstone samples from K_{1s2} , K_1b_1 and K_1b_2 . The geochemical features of oil sands, crude oil are close with K_1b_1 source rocks, showing high contents of C_{30} -diahopane and gammacerane, low Pr/Ph and high maturity. The good similarity reflects that K_{1s1} oil sands and K_1b_2 oil are homologous, and their parent material are both from K_1b_1 source rocks. This research results is bound to be helpful for the prediction of hydrocarbon reservoir and the selection of exploration direction for this area.

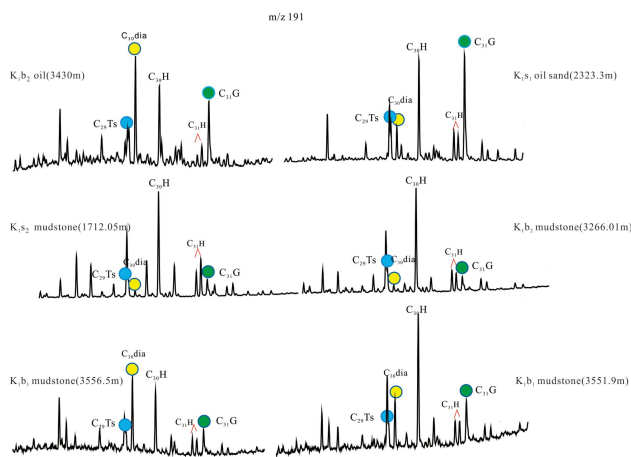


Fig.1 Saturates gas chromatography-mass spectrogram of oil sands, crude oil and source rocks in well X, Guaizihu Sag, Yin'gen-E'ji'naqi Basin, China.