Geophysical Research Abstracts
Vol. 19, EGU2017-3968, 2017
EGU General Assembly 2017

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Xihu sag is one of the largest subprime unit of the east China sea basin. In recent years, with the discovery of some large-scale gas fields in the Huanggang Formation of Xihu Sag, the sedimentary facies and gas exploration of Huanggang Formation have become a hotspot of many domestic and overseas petroleum geologists study. This research mainly focused on the upper part of Huagang Formation which was composed by a set of large scale sandbodies in Xihu sag. Based on the application of sequence stratigraphy, sedimentology, and seismic sedimentology, this paper has studied the sedimentary facies and evolution of the upper part of Huagang Formation in Xihu Sag. The geophysical technologies, including seismic attributes, constrained sparse pulse inversion and post-stack geostatistical inversion, are also used to characterize the sandbodies' development features and spatial distribution of the upper part of Huagang Formation. Our results show that braided river is the main facies of the upper part in the Huagang Formation and The Huanggang Formation primary can be divided into lowstand systems tract (LST) and transgressive systems tract (TST). The upstream of the braided river is characterized by thick sandstone and narrow channel. The sandbody displays a better lateral continuity and the channel become wider from upstream to downstream. As the erosion of the incised channel weakened, the sandstone thickness tends to be thinner. Conglomerates can also be occasionally observed at the bottom of thick superimposed sandbodies. On both sides of the braided river, thin sandstone layers are developed. There are also visible of lateral migration of the sandbodies of the downstream. Lithology profiles also illustrate that the sandbodies display poor lateral continuity on the both sides of the braided river .Sedimentary evolution analysis showing that the braided channels are mainly developed in the LST of Lower Huagang Formation from the NNE axial to basin. During TST, the braided channel was backward atrophying to the north when the sea level relatively high. The braided channel system was the smallest-scale tham before in this stage. Thus, the LST constitutes the relatively optimal reservoir development interval which is the most favorable target layer for gas exploration.