

## **High Resolution Sequence Stratigraphy and Sedimentary Model of Turbidites: A Case on the 1st Member of Kqn Formation in Dabusu Area, South Songliao Basin**

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### **ABSTRACT**

Abstract: Based on high resolution sequence stratigraphy and sedimentology, combined with the analysis of cores, logging and seismic data, high resolution sequence stratigraphy framework, sedimentary characteristics of turbidites in the 1st member of Qingshankou Formation in Dabusu area of west slope, south Songliao basin, were analyzed. (1) According to turbidites formation, multi-grades collapses are identified and three kinds of turbidite microfacies are identified, including slumps (connected with or disconnected with source), turbidite channels (close to or distant from source), and turbidite sand sheets (usually far away from source); (2) Slumps usually locates in the falling periods of base level cycle (BLC), close to sequence boundary (SB). Slumps are thick, superimposed or interlaid with turbidite channels vertically, and usually becomes thicker upwards. (3) Turbidite channels locate in both the rising and falling periods of BLC. In the rising periods of BLC, turbidite channels are usually thick, showing “boxing” shape of GR log, which usually locate close to SB and go thinner upwards, acting as trunks of turbidite channels; However, in the falling periods of BLC, turbidite channels are usually thin, showing “finger” shape of GR log, which usually locate near the maximum flooding surface and go thicker upwards, acting as flanks of turbidite channels. (4) Most of turbidite sand sheets locate in deep water area and near the maximum flooding surface. They are thin, superimposed with lacustrine marine shale or turbidite channel flanks vertically. Considering turbidite formation (i.e. distant gentle slope, distant steep slope or nearby steep slope), source type (i.e. point, multi-points or linear source) and grain size (i.e. gravel rich, sand rich or shale rich), 27 kinds of turbidites were identified. Furthermore, turbidites located in Dabusu area is distant gentle slope, multi-points source and shale-sand rich one.