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## **The sequence stratigraphic characteristics in the northwest Songliao Basin, China**

Songliao, a large Mesozoic to Cenozoic lacustrine sag basin, is located in the northeast China. More than 2000 exploratory and 4000 production wells have been drilled. Based on these wells and seismic data, several meters to about 10m sequences within the main pay zone are identified and correlated over the basin, and depositional facies of each sequence are analyzed. The current tectonic structure of the pay zone in the northwest of the basin from west border to east can be divided into three zones, a slope, a terrace and the center depression. During the deposition period of pay zone strata, several main rivers developed in the northeast of the basin. Except a short period lake shrinking, three relative stable depositional facies developed, 1) coarse-grained alluvial deposits on the slope, 2) fine-grained fluvial and lake interbedded deposits on the terrace, and 3) mud-dominated lake deposits in the center of the basin. On the terrace, large quantities of thin (<3m) and narrow silt strips of anastomosing river deposits are found in most sequences, whereas, relative a few thicker (3-10m) and coarser point bars are identified in some sequences. The interpretation is that the development of the terrace is caused by a series of interacting processes of progradation of deltas and marine transgression similar to construction of a marine shelf. The anastomosing rivers developed during high stand with delta progradation, whereas the relative large meandering river developed during lowstand. As in the marine setting, the changes of relative lake-level is an important factor which controls the location and the style of deposition.