

Integrated Multidiscipline Approach for Identification of Undepleted Reservoirs on the Outskirts of Mature Fields in Western Siberia

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The development of the large Cretaceous clastic fields in Western Siberia continues for the last 40 years. Most of those fields are already in their mature phase of development. One of the most promising areas for future development are the outskirts of the large fields in the areas of the water- oil contacts. Due to the low angle of deepening of the structure flanges those areas can have significant lateral extent and can contain up to 20% of the initial oil reserves. In the last few years the oil producers recognized that the outskirts of the fields can be the prime target for additional production and a lot of efforts has been made recently to develop those areas. One such effort was to develop a reasonable strategy for placing horizontal wells and sidetracks in Barremian-Aptian, deltaic and near shore reservoirs underpinned by water. In those highly heterogeneous reservoirs the main task was to identify the trends and lateral distribution of the channel belts based on log responses and core data with following creation of detail sector geological models. The dynamic evaluation of those models identified the behavior of the aquifer and the water injectors and subsequently the upsweep oil areas were chosen for the placement of side tracks or horizontal well. Such strategy can be employed in similar settings in other basins in the world. A few case studies will be presented.