



Sequence-stratigraphy of Visean incised-valleys within Eastern Slope of Melekess Depression in Tatarstan

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In present paper it was examined the Visean sedimentary oil-containing section within Eastern Slope of Melekess Depression known as incised-valley's section. The subsurface data (mainly core and log data) have been used for sequence-stratigraphic reconstructions.

The investigated section is represented by Tournaisian carbonate rocks and Visean terrigenous rocks of common thick~ 50-150 m. Main oil deposits are found in zone up and down nearly erosion boundary of Tournaisian and Visean just in incised-valley's complex.

Sequence stratigraphy is very successful for reconstruction such the complexes. In present paper sequence stratigraphic analysis based on well logs are tied to biostratigraphic markers. Using these two bases in combination one can 1) identify, match and tie sequence stratigraphic surfaces and 2) interpret the stacking patterns of the vertical sedimentary sequences.

The character of electric and gamma-ray logs of wells that penetrate clastics often reflect changes in grains size and so are easier to use in this process, while the logs of wells that penetrate carbonates often should be calibrated with cores, since carbonates are more susceptible to diagenesis and their change in character may be affected by more than changes in grain size. Core data (optical microscopy, EPR, grain size measurements) reflect and control facial composition of Tournaisian-Visean complex. The sections that follow initially focus on the well log and core data response to shallow water clastics and then move on to their response to shallow water carbonates. In both clastics and carbonates the second and often co-incident step in the interpretation of well logs and cores is the use of parasequence stacking patterns (the vertical occurrence of repeated cycles of coarsening or fining upwards sediment) of to identify the lowstand system tracts (LST), transgressive system tracts (TST) and highstand system tracts (HST) that are enveloped by the mfs, TS and SB. These parasequence cyclic stacking patterns are commonly identified on the basis of variations in grain size, mineralogy changes and EPR spectra variations and when these fine upwards are indicated by triangles whose apex is up while those that coarsen upwards are indicated by inverted triangles whose apex is down.

It was received the first sequence-stratigraphic reconstruction of Visean incised-valley's section for the Eastern Slope of Melekess depression in Tatarstan.