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**Transition from Extensional to Compressional Structure in the Upper Miocene Shaly Deposits, Western Black Sea**

In the Romanian offshore of the Black Sea, Uppermost Miocene-Pontian shaly formation ranges from 500 m to 2000 m thick and presents a distinctive structural and depositional arrangement.

In the western part of the study area, extensional faults developed, while in the eastern part there are extensional and compressional faults. Between the two parts of the basin, a complex structural system developed comprising a series of extensional rotated blocks, which formed sub-basins with distinctive fill pattern, growth faults and shale diapirs. The normal listric and growth faults terminate downward into subhorizontal detachment faults of regional extension which affect the Oligocene overpressured shale.

Stratal patterns associated with rates of eustatic changes show a large scale aggradational and progradational geometry for Pontian formation characterized by a high rate of sedimentary influx due to a deltaic depositional domain. Depositional transport is mainly represented by faulted shelf-slope mud flows interfering with non-significant grain flows. The direction of the influx is determined by syn- and post-depositional faults activation.

The detailed analysis of well and seismic data reveals that the Pontian basin is a result of a complex interaction between tectonic and depositional events that acted simultaneously.