



## **Structural characteristics, seismic facies and depositional framework of the Eocene deposits in Central Romanian Black Sea Offshore**

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The study area comprises the Eocene Istria Depression bounded by Peceneaga – Camena and Heracleea faults, in front of North Dobrogea Orogene and Central Dobrogea, in the Romanian Black Sea offshore.

Location, size, facies composition of the Eocene deposits are primarily determined by the tectonic setting. Part of the Cimmerian extensional faults were inverted due to the regional polyphasic Alpidic compression. Beginning with the Paleocene, a discrete phase of strike-slip deformation component occurred induced by Peceneaga – Camena master fault rejuvenation. The tectonic movements propagated in a southwest – northeast trend generating local district subbasins separated by tectonic highs that acted as local source areas

There are four main local Eocene depocenters / depressions: Iris – Venus, West Lebada, East Lebada – Minerva and Histria, that younged and became more active from southeast to northwest, developing in an en echelon manner. The Eocene deposits were partly removed during the Oligocene northwest uplift and southeast submarine erosion.

The Eocene sedimentation was also influenced by eustatic changes and sediment supply generating the following successions : a proximally uplifted depositional sequence type 1 (LSW, HST) with oblique - sigmoidal offlap geometry during the Middle Eocene and two consecutive depositional sequences type 1 (LSW, TST, HST) with

sigmoidal offlap architecture.

The analysis of 100 two – dimensional (2D) seismic lines and two – three dimensional (3D) seismic surveys and well data (cores, cuttings, logs, VSP) has permitted to outline that the geodynamic evolution of Eocene basins has led to the deposition of carbonate – siliciclastic turbidites, porous carbonate shelf margin reservoir deposits, and muddy carbonate turbiditic source rocks that present new Eocene petroleum targets.