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The article presents the results from comprehensive study of sediments from East-Siberian Sea along the profile from Billings Cape to the Mendellev Ridge. The revealed methane anomalies in sediments up to 2.4% are controlled by neo-tectonic faults. Isotopic composition of C^{13} - CH_4 reveals influx of deep fluid. Study of sediment chemical composition allowed distinguishing zones in tectonic faults revealed by methane anomalies in sediments, where conditions are favourable for concentration of Mn, Cu, and Ag.

Keywords: East-Siberian Sea, methane, granulometry, element composition, organic carbon.