This study deals with magnetic data of Black Sea in order to investigate subsurface features affecting the structural framework by detecting the edge enhancement in the potential field. Black Sea is located in the north of the Turkey and Ukraine, Russia, Georgia, Bulgaria, Romania are the other bordering countries. Tectonically, the Black Sea is surrounded by late Cenozoic mountain ridges as Crimea, Caucasus, Pontides and Balcanides. Although a large number of geological and geophysical studies for the Black Sea and around, to clarify its characteristics geophysical studies continues to illuminate the underground structure. In the interest of interpret the tectonic and geodynamic properties, determination the depth and location of a magnetic source are necessarily process in geophysical applications. Investigation of Black Sea’s substructure having anomalies of magnetic sources was aimed by using interpretation technics of potential data such as reduced to pole, pseudo-gravity and boundary analysis.