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, Processing and Interpretation of the Gravity data between latitudes 15N-17N (Sudan)

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A gravity analysis and Interpretation are carried out using data collected by Sun-Oil Company in the area west of Khartoum between latitudes 15◦ -17◦ N and longitude 30◦-33◦ E. The data released in a Bouguer anomaly map at scale of 1:500,000 and a contour interval of 5mgal.The target is to analyze and interpret the gravity data in terms of surface and subsurface geology. The qualitative interpretation includes the construction of second vertical derivative map, analytical upward, downward continuation and separation of residual and regional anomalies. The operation of the second vertical derivative and analytical continuation is thought to be as a filtering operations based on the linear filter theory. Five models are used to construct a depth to the basement map. Geological sections are drawn along five profiles passing through boreholes of Elmagad, Abu Hashim and Jebel Aulia. The result revealed that the negative anomalies are associated with the existence of the Cretaceous Nubian Sandstone sediments as in the cases of BagBag, Hummar and AbuDulu basins with maximum depth of 3000, 1000, and 1900 meters respectively. These basins are considered as parts of the Blue Nile Rift Basin that has been subjected to tectonic movements which affect the central Sudan

Promotional text

New approach in this type of study can be achieved through cooperation and exchange of knowledge especially the release of new software through participation in such conferences

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