

## Abstract

In order to fully assess the potential of Homa Hills Geothermal prospect, the heat source which is one of the main features of a geothermal system had to be located based on its perturbation on the gravity field. Ground gravity survey was conducted in an area covering about 76 km<sup>2</sup> and the data processed to remove all other effects which are not of geological interest. Qualitative interpretation was attempted and cross sections drawn across the anomalous areas on the complete Bouguer anomaly map. Quantitative interpretation attempted involved both Euler Deconvolution and 2-D Forward modelling. The parameters obtained from Euler Deconvolution were used as the start up parameters for 2-D Forward modeling. Well clustered Euler solutions were obtained at a shallow depth of approximately 200-750 m which is consistent with the modeled shallow dike like intrusive probably of carbonatite origin.