

ABSTRACT

The area of the present study constitutes the northeastern sector of the Anza graben. In this sector, the graben is about 130 km wide and is characterized by a linear negative anomaly with an amplitude about -40 mGal. Geophysical data, mainly gravity and magnetic, were analysed quantitatively, including modelling in an effort to determine the subsurface structure of the graben. The study covered a strike length of about 320 km. The results of the modelling indicate that in the area of the study, two major basins with opposite dips exist. The northern basin dips southwestwards, the southern one northeastwards. The density contrast assigned to the sediments in the final gravity model is -300 kg/m³, suggesting a maximum sediment thickness of about 8 km. The modelling of the magnetic data, however, favours a maximum thickness of over 10 km. It is proposed that intrusives occur at some depth below sections of the graben shoulders and that the graben has a gentle northwesterly regional plunge.