

REPLY

We are obliged to Dr. Krishna Brahmam for his scrupulous review of the Atlas. It is particularly welcome from someone who has devoted himself largely to studies of the gravity field of the Indian Sub-Continent.

Our answers are as follows :

Rock Densities : The detailed listing of densities was not considered necessary in view of : (i) the observed lack of correlation between near surface geology and the gravity picture obtained, and (ii) absence of noticeable differences in density between the major rock types in the three Super Groups (Delhi, Aravalli and pre-Aravalli Formations). Nevertheless, efforts are underway to publish the density data separately.

Reference Gravity Base : As recalibration of gravity bases is a continuing process, we do not quite agree that the relatively small difference of 0.21 mgal for the Jaipur Base can be regarded as a 'constant error' (like, for instance, a 15 mgal error noticed earlier even in the Potsdam value). As a matter of fact, further refinement of Morelli's value itself may be forthcoming in due course. It is also recalled that while IGSN values were indeed available in 1971, the NGRI Gravity Map Series published in 1975, were based on the 1963 datum and the International Gravity Formula of 1930. As a result, a correction factor had to be issued subsequently (1970).

'Sharp Kinks' in gravity contours : In fairness to ourselves, every station value was checked and rechecked manually as well as on a computer. The apparent 'kinks' must, therefore, be regarded as genuine anomalies inviting detailed work on 1 : 50,000 scale or better. For instance, the 'kink' in the -25 mgal contour near F 26 (see 45 L) is adequately supported by adjacent contours on either side and cannot be ignored. It would rather warrant a better definition with more closely spaced stations. The order of terrain effects and estimated errors in gravity and elevation measurements have been mentioned in the text.

References : We regret the inadvertent omissions which are produced below :

- REDDI, A. G. B. and RAMAKRISHNA, T. S. (1982) On the probable relation between Metallogeny and Epeirogeny in Rajasthan—A geophysical study. Proc. Sym. on Metallogeny of the Precambrian, Bangalore, IGCP Project 91, pp. 203-208.
- (1988) Subsurface structure of the shield area of Rajasthan-Gujarat as inferred from gravity. Geological Society of India, Memoir No. 7, pp. 279-284.
- (1989) Relevance of gravity lineaments to mineral exploration in Rajasthan-Gujarat, India. Geol. Soc. India, Bangalore, Memoir No. 12, pp. 237-244.

Relevance to Exploration : The reviewer is not justified in drawing a parallel between gravity anomalies obtained over tectonically dissimilar areas such as the Western Indian Shield and Dongargarh. For the same reason, comparison with Wajrakarur-Lattavaram area will not be tenable either.

Elevation Profiles : Elevation data had to be deleted at the behest of the Ministry of Defence.

Seismicity : As the Bouguer Gravity Atlas in question is ultimately aimed at evolving mineral exploration strategies, we have consciously refrained from digressing into the subject of seismicity of the region.

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