

NOTES

TRAINING PROGRAMME ON AEROMAGNETIC SURVEY FOR EARTH RESOURCES

A fortnight-long training programme on Aeromagnetic Survey for Earth Resources was conducted by Project Indigeo of Geological Survey of India (GSI) Training Institute at Hyderabad from 20 November, 2000 to 1 December, 2000. The programme was designed and conducted by Dr. Colin Reeves, Professor, Exploration Geophysics, ITC, Netherlands, assisted by the faculty members of the Training Institute and co-ordinated by Sri E.V.R. Parthasaradhi. Twenty-four trainees drawn from various organizations like GSI, Directorate of Geology, Indian Navy, National Geophysical Research Institute, National Institute of Oceanography, Banaras Hindu University and Andhra University participated in the training programme.

Prof. Reeves dealt with, in a series of lectures, the basic concepts of geomagnetism, palaeomagnetism and forward computation of magnetic anomalies applicable to geology such as the effects of geological parameters on magnetic anomaly patterns and resolution of magnetic anomalies. His vast experience in the interpretation of aeromagnetic maps

of distant and diverse shield regions of Canada, Australia, Africa and Madagascar enriched the deliberations. He reiterated the urgency of integration and reconciliation of different interpretations of aeromagnetic anomaly maps with other sources of map data such as gravity, radioactivity, satellite imagery, photogeology and geochemistry. He emphasized the need for trained personnel in the interpretation of the existing vast body of aeromagnetic data that is continuing to grow at a rate of 250,000 line-km per year worldwide. The practical sessions that followed helped the trainees in familiarizing and handling of various softwares used for processing and interpretation of aeromagnetic data such as GEOSOFT, MAGMOD etc.

Dr. A.G.B. Reddi, formerly Deputy Director General of GSI and Prof. Sreedhar Murthy of Osmania University addressed the valedictory function of the training course.

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DISCUSSION

GEOLOGY OF QUATERNARY AQUIFERS OF THE TWIN CITY OF CALCUTTA-HOWRAH by P.K. Sikdar, Jour. Geol. Soc. India, v.56(2), 2000, pp.169-181

S. Das, 18 Madhusudan Nagar, Unit 4, Bhubaneswar - 751 001 comments:

1. In Table 3 on page 180, Zone 4, column 6 (Development Plan), Sikdar has noted: "No groundwater abstraction, withdrawal to be regulated by reducing tubewell operation time". The statement is contradictory and needs clarification.
2. Considering the advanced stage of groundwater development, groundwater flow modelling and predictive simulation studies should have been undertaken to arrive at alternative scenarios and optimal model of groundwater development in the area.
3. Fence diagrams (Figs. 4 and 5) on pages 173 and 174

show only a broad generalization of subsurface geology. One or two typical, detailed borehole lithologs should have been presented in addition, depicting subsurface lithostratigraphy to reflect the complex depositional environment.

4. What has been stated in the chapters on "Environment of Deposition" and "Provenance" is already known through earlier works (Chatterjee et al. 1964)

P.K. Sikdar, Department of Environment Management, Indian Institute of Social Welfare and Business Management, Calcutta - 700 073 replies:

1. The prevailing conditions of high recession of

piezometric surface are caused by overexploitation of groundwater in the zone referred to. The present surface water supply system is unable to cope up with the current demand. Groundwater abstraction should therefore be reduced in a phased manner with concomitant upgradation of an alternate system.

2. Groundwater flow modelling has been attempted with the help of trend analysis only to understand the regional groundwater flow system (Figs. 8B, C and D). Further, this paper is not intended to carry out such exercises like "Predictive Simulation". However, a broad scenario from regional groundwater information available from 1956, 1985 and 1993 has been presented.
3. While the suggestion is well taken note of, it is opined that the information on the regional subsurface depositional environment is available from the two

fence diagrams to a satisfactory level.

4. In the chapter on "Environment of Deposition", the author has noted his findings from 116 borehole lithologies that were collected from various sources during the course of his work. The author has tried to bring out the regional route of sediment transportation and deposition in the chapter on "Provenance" with due acknowledgement of the earlier works of Sengupta (1966) and Krishnan (1982).

References

- KRISHNAN, M.S. (1982) Geology of India and Burma. 6th Edition, CBS, New Delhi, 536p.
- SENGUPTA, S. (1966) Geological and geophysical studies in western part of Bengal basin, India. Am. Assoc. Petrol. Geol. Bull., v.50, pp.1000-1017.

RECORD OF MARINE MICROFAUNA YOUNGER THAN PALAEOGENE FROM RAJASTHAN by D.K. Bhatt and Ravindra Kumar, Jour. Geol. Soc. India, v.56, 2000, pp.453-458.

P.K. Kathal, Centre of Advanced Study in Geology, Dr. H.S. Gour University, Sagar - 470 003 comments:

As a sequel to the two papers by Raghav (2000a, b), Bhatt and Ravindra Kumar (2000) have debated the age connotation, microfascies, geochemical regime and palaeoenvironmental setting of the marine microfauna of the Bilara Group which they consider to be younger than Middle Miocene. A few questions that need attention here are as follows:

1. Bhatt and Kumar (2000) and Raghav (2000c) could not convince the readers that the illustrated specimens actually belonged to the Bilara and are not exotic. The fossils could have either leaked from Tertiary rocks into the underlying Gotan Formation or were wind-borne Quaternary species, of which there are several records from Rajasthan desert (Goudie and Sperling, 1977).
2. Even if the fauna are a part of the Bilara, how the 'palaeoenvironment and age' could be worked out without identifying a large number of fossils at their 'specific levels', particularly when the obtained assemblages are small (Bhatt and Kumar, 2000; Raghav, 2000c).

3. As regards the age of Bilara Group, Raghav (2000b) began with 'not older than Lower Eocene' (Abstract in Paper 1) and turned to 'not older than Upper Cretaceous' (Conclusion). Finally while replying to the comments made by Kathal on Raghav (2000b), Raghav (2000c) accepted Middle Miocene as the 'older age limit' of the Bilara Group because *Rotorboides granulosum* (amendation of *Discorbis*?, Fig.3a and b, by Raghav, 2000a) and many other 'Atlantic species' entered the Indian waters through the 'Middle Miocene equatorial currents' (Kathal and Bhalla, 1996a, b; 1998; 2000; Bhalla and Kathal, 1998).
4. The two studies seem to contradict each other on the aspects of the 'richness of fauna' and the 'continuity of fossil-yielding formation' because of two reasons:
 - (i) The two reported foraminifera viz., *quineloculina* and *Rotorboides granulosum* (Heron-Allen and Erland) are missing in the assemblage obtained (Bhatt and Kumar, 2000); and
 - (ii) The exposure of Eocene Nummulites limestone (Dungrakoti, 2000; Raghav, 2000a) could not be located on re-examination.