

BOOK REVIEW

RECENT ADVANCES IN THE FIELD OF EARTH SCIENCES AND THEIR IMPLICATIONS IN NATIONAL DEVELOPMENT. Special Publication No.64, Geological Survey of India, Nagpur/Kolkata - 700 016, 704p., 2001, Price: Rs.431/-; US\$9.20.

The Geological Survey of India (GSI), established on March 4, 1851, is one of the very old and distinguished organizations of its kind in the world and has completed a little over 150 years of dedicated service to the nation. To commemorate this, its sesquicentennial year, 2001 was celebrated by organizing a series of national and international seminars by its Units. As a part of this, the GSI, Central Region (CR) had conducted at Nagpur the National Seminar on "Recent Advances in the Field of Earth Sciences and their Implications in National Development" during July 19-21, 2001, with the basic objective of collecting and collating information on the multifaceted activities of GSI and some of its sister organizations. The publication under review is its pre-seminar volume and contains most of the papers presented therein in full.

This publication contains 61 papers (2 in Hindi and rest in English) with 53 by the officers of GSI, including 44 from its CR, 2 each from those of the Indian Bureau of Mines (IBM), Atomic Minerals Directorate (AMD) for Exploration and Research and Universities, and one each from the National Geophysical Research Institute (NGRI) and a geologist-turned police (IPS) officer. They deal with current status, reviews, overviews and recent advances of work in different branches of geology. Broadly, 23 of these deal with Economic geology, 10 with Tectonics and Structural Geology, nine on Deccan Volcanics, three with Petro-mineralogy and Geochemistry, two each with Palaeontology, Stratigraphy and Analytical Techniques, five under Geophysics, including GIS and Remote Sensing, one each on Groundwater and Drilling, and three on General Topics. Notable contributions amongst these, branchwise, are as follows:

Economic Geology: Ravi Shanker's optimistic suggestions, based on seemingly valid reasoning, to explore for concealed hydrothermal Cu-Mo-Au deposition in the hitherto barren regions of Deccan Plateau, Himalaya and Bundelkhand craton, besides advising for intense geochemical surveys on the analogy of success for Au in the PR China; coal resources of India and future perspective by A.B. Dutt et al.; role of minerals in the industrial and

economic growth of India by K.S. Raju; review on Mn deposits of Central India by V.V. Mulay; exploration for (a) atomic minerals by Bhattacharya, (b) diamonds by M.K. Soni et al., K. Sashidharan, A.K. Mohanty and S.K. Sarkar et al., (c) Au in the Mahakoshal greenstone belt by M.K. Soni and D.K. Jha, (d) PGE in a part of the Narmada Rift Zone by M.P. Chawade, (e) polymetals in the Sakoli fold belt by M.K. Soni and D.K. Jha, (f) bauxite in the Konkan region by S.K. Bhatia et al., (g) pollucite in rare metal pegmatites by S.K. Som et al. and (h) silica sand in the Satahang Dhar block, Uttaranchal by A. Chatterjee; sulphide mineralization in a part of the Betul district, Madhya Pradesh, by S.P. Mahakud et al. and geothermal energy in India by U.L. Pitale.

Tectonics, Structural Geology and Related Topics: S.K. Acharyya's geodynamic setting of the central Indian tectonic zone; a possible tectonic model of the Precambrian of central India by A. Roy and M. Hanuma Prasad; crustal evolution and ore genesis in central Indian scenario by K.G. Bhoskar et al.; Gavilgarh-Tan ductile shear zone in central India by P.R. Golani et al. and its tectonomagmatic history by A. Roy and Hanuma Prasad; recent find of cauldron structure in the Bundelkhand craton by S.C. Jain et al.; tectono-lithostratigraphy of the Betul belt by R.K. Chaturvedi and tectonic setting of the Precambrians of the Meghalaya plateau by S.K. Mitra and S.C. Mitra.

Deccan Volcanics (DV): Lineament fabric and its relation to eruption of DV and seismicity of west central India by K.S. Misra; a review on stratigraphy of DV by K.K.K. Nair and B. Bhusari; stratigraphic aspects of lava channels and tubes from western part of DV province by P.K. Thorat and in western Maharashtra by K.S. Misra et al., and tectonics in the Deccan Trap area of Western Ghats by R. Dubey.

Petromineralogy and Geochemistry: Role of ore microscopic, fluid inclusion and S-isotopic studies in interpretation of metallogenesis, with examples from Au and base metal occurrences, investigated by GSI by M.S. Rao et al. and petrography and petrochemistry of the lava tubes

in parts of the Ahmednagar district, Maharashtra by A.K. Chatterjee.

Geophysical Exploration: S.V.G. Krishna Rao and H.M. Ramachandra on an update of airborne geophysical surveys carried out by GSI; aeromagnetic anomaly interpretation and correlation with geological features of central India by H.M. Ramachandra et al.; geophysical signatures of Mn deposits in different geological environments by S.G. Gaonkar et al.; application of remote sensing techniques in targeting Mn studies over Deccan Trap covered area of Central India by K. Venkata Rao et al. and crustal seismic studies in understanding the collision and subduction tectonics of the Indian continent by P. R. Reddy.

Palaeontology and Palaeoenvironment: Quaternary mammals of central India by S. Biswas and A. Sonakia; dinosaur eggs and dung by D.M. Mohabey and S.K. Tandon.

Groundwater: Endeavour of GSI in groundwater resource exploration by P.K. Guharoy and R.K. Roy.

Drilling: Geothermal drilling practices by B.M. Prasad.

Analytical Techniques: NAA and role of REE in studying crustal rocks by R.S. Bains et al. and role of instrumental analysis in mineral exploration by V.M. Parate and D.G. Marate.

General: Role of Geology in National Development by P.K.B. Chakravorty; Needs and Expectations of Universities for pursuing National Development by D.B. Yedekar and Geoscientific approach for development of rural economy by M. Sinha et al.

Careful reading of these papers, dealing with factual

information and new trends/ideas for mineral exploration, enables a person conversant with and keeps abreast of the multidisciplinary work of GSI, mainly in central India, and a few sister organizations.

This publication is edited by a committee comprising 10 officers of GSI, CR. A few avoidable minor flaws in the volume are as follows: lack of 'abstract' and 'sectional headings' as well as missing titles for tables and figures in a few papers; very small font size of letters in some figures; typographic/composing errors, even in title, e.g., TH for Th, MO for Mo, CU for Cu etc., and lack of contrast in the reproduction of both field and laboratory photographs. The photographs in the papers could have been better printed on art paper, preferably in colour like the four on and inside cover pages. Last but not the least, is the less-systematic arrangement of 61 papers, which seems as per the seniority/position of author(s) and instead they could have been listed under different sections for easy comprehension and better focusing.

In spite of the above, this volume, which is an outcome of the efforts of S.S. Kanwar, Anupendu Gupta, K.G. Bhoskar and their dedicated associates in CR, GSI, is a welcome publication from GSI due to its comprehensive multidisciplinary presentations, especially on central India and mineral exploration. It is useful for a wide spectrum of geoscientists, in both exploration agencies and academic institutions, including post-graduate students and research scholars. This publication with 704 pages, including a two page author index, is very reasonably priced and is recommended for purchase by all geology departments and for personal libraries of geoscientists.

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PROCEEDINGS OF GEOMATICS 2002 ON "I.T. ENABLED SPATIAL DATA SERVICES" Edited by S.M. Ramasamy, C.J. Kumanan and Baldev Sahai, 2002, Centre for Remote Sensing, Bharathidasan University, Tiruchirapalli - 620 023, 360p.

This is the technical proceedings of the conference held at Tiruchirapalli during September 18-20, 2002, hosted by Centre for Remote Sensing (CERS), Bharathidasan University, Tiruchirapalli in collaboration with the Indian Society of Geomatics (ISG) under GEOMATICS 2002. Geomatics is the omnibus term to denote the amalgamation

of multiple disciplines – Remote Sensing, Image Processing, GPS, Digital Cartography, GIS, Data Base Management, Statistics etc. Indian Society of Geomatics was formed by all those who work in the disciplines falling under the Geomatics. The objective of this consortium is to amalgamate the concepts and ideas so that the technology