The paper no. 13 gives an excellent account of the sediment-hosted, stratiform-stratabound sulphide deposits in Rajasthan, covering the geology and characteristics of all known deposits in NDFB, Bhilwara belt and Aravalli-Jharol belt. The paper no. 14 gives a new information on Kho-Dariba deposits from NDFB. Here, the authors stress upon structural control on Cu-mineralization that was initially stratigraphically controlled. The next paper no. 15 discusses the Rajpura-Dariba polymetallic deposits occurring as banded ore and vein ore in the metamorphosed impure carbonates and graphite mica schist.

The next two papers are on volcanic associated massive sulphides (VMS). Giving a critical review of the concepts of ore genesis, the paper no. 16 describes VMS deposits from southern, central and western part of the Aravalli Mountain Belt. These occurrences are divided into two major groups (1) Zn-Pb-Cu deposit and (2) Cu-Zn deposit. These deposits are considered to have formed in island-arc environments with Ambaji-Deri in a rift-related back-arc regime. In the supplementary paper no. 17 on VMS deposits, the author gives a quantitative estimation of alteration fluxes around them and also gives new data on alteration geochemistry of the Kalabar-Chitar in the northern part of the belt.

The paper (or chapter) no. 18 is on tectonics and metallogeny along the deep-crustal Phulad lineament zone. The next paper (no. 19) gives a brief review of three main tungsten occurrences at Balda, Sewariya and Degana. On the basis of old and new fluid inclusions data the authors infer that W-mineralization formed at high temperature and high salinity dominated fluids. In paper no. 20 new geochronological data (793±18 Ma) are presented on the Tusham.

The chapter 21 on uranium metallogeny gives a critical review of the occurrences of this radioactive element in the western Indian craton in the context of crustal evolution. According to the author, the Late Archaean granitoids were the principal source of U, later released to be hosted/concentrated in the sediments during the Proterozoic. The last two papers in this volume are related to geochemical exploration and the authors have given a good review of the status of the subject. These two papers seem out of place under the section on Metallogeny but exploration database and use of software in geochemical modeling are useful topic for mineral exploration. In conclusion, although there are new symposium volumes published recently and which deal with the same topic, the book largely succeeds in providing a comprehensive account of crustal evolution and metallogeny in NW Indian shield which will be useful to researchers.

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RAM S. SHARMA

GRANITE INDUSTRY: EMERGING TRENDS AND DEVELOPMENTS.

As long as 90 years ago, Sir Thomas Holland, one of the greatest geologists who was also the most brilliant Director of the Geological Survey of India remarked, "If the extent of the use of building materials could be expressed by any recognized standard, it would form one of the best guides to the industrial development of a country". Granite is the best building material. People prefer granites for its three most important qualities; they are hard, durable and attractive specially when polished. The number of people using polished granite in India is steadily growing. Indian
granites are very popular abroad. In 1987 the value of export of granite was around Rs.60 crores and in 1999 it was Rs.1200 crores. Today, granite is one of the extreme focus items, in the list of Government of India (GOI) and therefore it has constituted “Granite Development Council (GDC)” in 1995 to oversee the development of the Industry. Some of the recommendations contained in this monograph, particularly the long demand of the granite industry for grant of long-term leases, have been implemented by the GOI on the basis of the recommendation of the GDC.

In the commercial context, the term ‘Granite’ includes granite (sensu stricto), gneisses, granodiorites, syenites, migmatites, dykes of dolerite, gabbro, pyroxenite and norite. A geologist will not normally be able to straightaway identify whether a particular variety of granite which he comes across in the field would sell in the market or not. The reason is that the commerce of stones or granites is decided by several factors like governmental policy, bureaucratic mercy, suppliers’ or lessees’ prerogative, buyers’ preference and finally by consumers’ fancy. In such a scenario a geologist’s role is limited to detailed mapping and assessment of existing granite quarries, discovering and defining new reserves of marketable quality granites, periodically inventorying the resource and frequently publishing the regional and deposit-scale maps for the benefit of private entrepreneurs and needless to say the nation. From this point of view this monograph makes a beginning.

Private granite explorers may note that this monograph contains as many as eleven papers by the officers of the GSI and DMG of Bihar State on assessment of granite resources in parts of Bihar, West Bengal, Karnataka and Tamil Nadu. Authors of these papers list a number of criteria for defining marketable quality granite deposits. But, many of these are repetitive. Cost of printing of about 14 pages could have been save by the Editors. Most Indian private granite explorers are already aware of the location of the different varieties of granite deposits in the country. In fact, the thousands of granite dimension stone quarries dotting the country are solely the reflection of Indian private entrepreneurship. However, for a proper assessment of the resource, the lessees depend upon geologists. There are not many geologists who can make accurate assessment of reserves of marketable quality granites. The maps accompanying the eleven papers on resource assessment in this monograph are all of regional scale. The granite reserves given in terms of hundreds of millions of cubic metres do not appear to be backed by deposit-scale maps.

There are seven articles dealing with granite quarrying techniques, processing and marketing. Five papers deal with environmental effects of granite quarrying. R. Veeramani, the doyen of Indian Granite Industry, in his presidential address, has pointed out that for every crore of investment in granite mining and processing sector, the industry will generate direct employment to about 125 people. Therefore, granite resource should be seen as having the potential to develop the rural areas of our country.

Two papers need special mention as they are sure to interest almost everyone in the granite industry. They are: (i) by B. Kanishkan on “Export scenario and cost analysis of Indian granites” and the other (ii) by Rohit Kumar on “Export of Indian granite and world market”. Kanishkan warns that “unless the cost of production is effectively controlled, India may lose its identity as a granite exporter due to dumping of granite rough blocks and finished products in the overseas market by our competitors at unimaginable prices”. At the recently held Seminar on Karnataka Mineral Policy-2000, Masami Kuge, a granite consultant and specialist from Japan recalled that in STONA-87, many speakers expressed that India will become the second center for stone after Italy. I quote him: “while you were all talking what you will be and what you want to be, China has already become the second largest and now almost the first largest granite producer”. India has lost its market share due to complex leasing procedures, inordinate delay in granting of quarry leases, short-term leases with no provision for grant of Prospecting Licence and high rates of
royalty. China’s phenomenal success in this industry is due to quick grant of leases, payment of no royalty and dead rent, good quality workmanship, fast delivery time and cheaper cost of quarry produce and processed products.

The last paper by N.C. Ghosh and A.N. Trivedy, both from Institute of Geoexploration and Environment, Patna, on “Recommendations for planning and development of granite industry” is worth reading and thought provoking. At a time when our private enterprise is frantically searching for information on the natural resources of our country, it is regrettable that this useful publication containing 33 papers presented five years ago in 1995, was released only recently in August, 2000.

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V.N. VASUDEV

Announcements

National Seminar on Challenges in Geoexploration in the Millennium 2000 will be held between 19-20 January, 2001 at the Department of Geology, Postgraduate College of Science, Osmania University, Saifabad, Hyderabad - 500 004. The themes of the seminar are: (1) Exploration for minerals in the liberalised mineral policy, (2) Scientific and eco-friendly exploitation of mineral deposits, (3) Human resource development, training and utilisation strategies and employment needs of industries and R&D organisations, (4) Nodal agency for inter-departmental co-ordination in integrating exploration data, (5) Effective linkages between industry, educational institutions and R&D organisations in mineral exploration. For further particulars please contact Dr. A. Narsing Rao, Assistant Professor, Department of Geology, Postgraduate College of Science, Osmania University, Saifabad, Hyderabad - 500 004. Phone: (040) 3393530 (O); (040) 7672242 (R); Email: narsingraoalwal@rediff.com

National Seminar on Management of Coastal Resources and Its Environments: The seminar will be held on 10-11 January, 2001 at the Department of Civil Engineering, S.D.M. College of Engineering and Technology, Dharwad - 580 002. The broad themes of the seminar are: (1) Mangrove conservation, development and management; (2) Coastal hazards, coastal pollution, environmental laws, coastal regulation zone act and its implications; (3) Placer mineral resources, exploration, exploitation, environmental impact and its management; (4) Long-term and short-term shoreline changes, its consequences and its management, application of satellite imageries and GIS for coastal process monitoring; (5) Near shore sediment dispersal pattern, current pattern, modelling studies; (6) Saline water intrusion and its management. For further particulars, please contact Dr. V.S. Hegde, Convener, Department of Civil Engineering, S.D.M. College of Engineering and Technology, Dharwad - 580 002. Phone: (O) 0836-448327, 447465; (R) 0836-772504; Fax: 0836-749638; Email: sdmengec@vsnl.com