

2600, 1500 and 900 Ma, as well as important thermal rejuvenation events at 2100 and 500 Ma. A. Sarkar *et al.*, presented several new Rb-Sr isochron ages in EGMB viz., Kommalapadu Charnockite (1500 Ma), Kotappa Konda Charnockite (1270 Ma), Tikri Charnockite (970 Ma), migmatites of Ludu Ludi (790 Ma) and Harbhangi (880 Ma), Sankarda granite (1000 Ma) and alkaline complexes of Khariar (1440 Ma), Rairakhol (1410 Ma), Uppalapadu (1350 Ma) and Vikruti (1100 Ma). Sarkar also traced the tectonic evolution of EGMB in terms of Wilson Cycle.

V. Divakara Rao *et al.*, presented a geochemical model for the genesis of EGMB lithounits. The various views presented on the origin of these lithounits include the following: Khondalites as metapelites, shales as residual soils; leptynites as felspathised Khondalites and greywackes; BIF as of Sargur type as opposed to Algoma type, granodioritic to tonalitic protoliths for charnockites, mafic granulites as tholeiitic lavas and sills (Divakara Rao *et al.*, A.T. Rao *et al.*, Subba Rao *et al.*, Nanda and Patil, Sreenivas and Srinivasan).

R.N. Mishra presented the key paper on the broad metallogenetic framework for EGMB. Other papers presented include those of the manganese ores of Orissa (Mishra *et al.*) and Andhra (Sharma *et al.*) and graphite of Orissa (Acharya). Some bauxites have been studied by remote sensing (R.S.Rao *et al.*) and SEM techniques (Som).

N.K. Mahalik presented the key paper on the geomorphology of EGMB. He emphasized the lithological controls on topography and described four planation surfaces at 1500-2400 m, 1150-600 m and 20-150 m. He mentioned also about rejuvenation of the river systems. A.K.Mishra *et al.*, outlined the geomorphic history of parts of EGMB in Orissa. Other papers presented on environmental science include impact of urbanisation (Viswanath *et al.*), iodine deficiency in groundwater (Suryanarayana) and dephosphorisation of manganese (Prem Kumar *et al.*).

The technical session was followed by a panel discussion chaired by Dr D.K.Paul. During this session, R.Ravindra presented a brief account of recent geoscientific studies by India in Antarctica and explained a close fit of eastern India with Enderby Land using extension of sedimentary basins. The panel recommended that there is an urgent need to intensify geochronological, geochemical and structural studies, more rigorous approach to the fit of India with Antarctica, and speedy publication of the geological map, together with an explanatory brochure, which will act as a catalyst for increased multidisciplinary studies and for economic mineral prognostication.

## **BIOSEDIMENTOLOGY AND CORRELATION OF MICROBIAL BUILDUPS**

A new International Geological Correlation Programme (IGCP) Project has been accepted by IGCP Board and Scientific Committee. The newly started IGCP-Project No. 344 "Biosedimentology and Correlation of Microbial Buildups" was proposed by Professor Claude Monty, Laboratoire de Biosedimentologie, Nantes, France. The Indian National Committee (INC) for I.G.C.P. has also recently approved Indian participation in the Project 344. The main objectives of the project are to foster multidisciplinary research that will lead to detailed understanding of the nature, origin, genesis, and significance of the major types of microbial buildups (stromatolites, thrombolites, microbial boundstones, mudmounds etc.) that have appeared in the Earth's history as a result of the evolution of life and the biosphere. The project has been accepted for five years (1993-1997). The

microbial buildups of the Precambrian and Phanerozoic Indian sedimentary basins will be studied extensively under the project.

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### **AN ADVANCED GEOCHEMICAL ASSAY LABORATORY AT BANGALORE**

*The following news item appearing in Economic Times dated 17th July will be read with interest by our readers.*

Australian Indian Resources (AIR), a company set up by a consortium of mining companies in Western Australia to act a vehicle for mineral exploitation in India, has applied for prospecting licences for 50,000 sq. km in India. The break-up of the total area is 20,000 sq km in Karnataka, 20,000 sq km in Andhra Pradesh and 10,000 sq. km in Maharashtra.

AIR also proposes to invest in the setting up of a technologically-advanced geochemical assay laboratory in Bangalore, which can carry out low-level ppb (gold and other exploration elements in the ratio of 0.1 parts per billion) determination tests on stream sediments, soil samples, rock chips and drill samples. The company proposes to set up this laboratory in collaboration with the Indian mining and mineral industry, both private and public sector.

"We are" says Mr John Allfounder, AIR's director, "perhaps the first foreign company to respond to the opening up of the Indian mining and mineral sector. We had the advantage since one our directors had in an individual capacity, been looking at the potential for prospecting and mining in India for a few years, well before the ongoing liberalisation programme for this sector was announced".

The prospecting licences applied for by AIR would be for a period of three years, with the possibility of an extension of another two years. Since the present area-ceiling for a prospecting licence is 25 sq km and AIR's applications are for larger area, the applications have to be forwarded to the Central government for clearance.

Mr. Allfounder is optimistic that AIR can strike gold, as also base metals like copper, nickel, zinc and the platinum group, in the area as the company has identified for prospecting. "The basic advantage of India," he adds, "is that the potential is virtually unlimited since your mining sector is in the process of just opening up. The geological terrains in parts of India are very similar to that in Western Australia since millions of years ago both regions were once part of an entity called Gondwanaland before the landmasses separated. However, as against just about two operators for gold in India-the Bharath Gold Mines Ltd and the Hutti Gold Mines Ltd there are 200 operators in Western Australia. And against the Geological Survey of India's annual investment in prospecting of around \$ 2.5 million, about \$ 200 million a year is spent on prospecting in Western Australia".

Mr Allfounder says that Australian mining technology can facilitate better exploitation of mineral resources in India. "The present technology in India favours underground mining of higher grade, lower-tonnage reserves. The Australian technology is for open cast mining of higher tonnage, lower grade reserves.

Our technology is more viable when it comes to exploiting reserves with a much lower content of gold or other minerals".