

DISCUSSION

TRONDHJEMITE AND GRANODIORITE ASSEMBLAGES FROM WEST OF BARMER: PROBABLE BASEMENT FOR MALANI MAGMATISM IN WESTERN INDIA by M.K. Pandit, L.S. Shekhawat, V.P. Ferreira, A.N. Sial and S.K. Bohra. Jour. Geol. Soc. India, v.53(1), 1999, pp.89-96.

G. Vallinayagam, Department of Earth Sciences, Kurukshetra University, Kurukshetra - 136 119 comments:

While I welcome the recent research contribution on the geology of Aravalli craton of the Indian shield by M.K. Pandit and others, I observe the following:

Any attempt to report for the probable basement for Malani magmatism by any researcher should consider the following aspects:

1. The basement rocks for Malani should have been closely associated in space and time with typical volcano-plutonic phase of Malani magmatism as seen in the Siwana, Jalor and Tosham ring complexes rather than with their final dyke phase.
2. Geological setting, sample description, petrographic and geochemical data of the basement rocks of Malani should have been correlated qualitatively and quantitatively by petrochemical modelling with Malani suite to prove their basement nature.

In the present case, detailed field relationships, sample descriptions and petromineralogical features of the reported rhyolite/basic dyke of Malani are required to assess them for its genetic association with the Malani. Generally, a dyke at the final phase of a magmatic event shows a typical enriched geochemical signature of A-type magmatism. A vigorous attempt should therefore be made in the present area to identify a typical dyke phase of Malani magmatism.

M.K. Pandit, Department of Geology, University of Rajasthan, Jaipur and co-authors reply:

We greatly appreciate the interest of G. Vallinayagam in our work and thank him for his comments.

1. The rocks of Malani Igneous Suite (MIS) cover an area of more than 50,000 km² in southwestern Rajasthan. However, the exposure density is only ~10 to 15% due to extensive sand cover. There is paucity of geologically critical exposures showing distinct field relations among different magmatic phases of MIS as well as with the pre-existing rocks.

The basement rocks are not in the Siwana and Jalor areas. They are, however, closely associated with the acid volcanics (\pm basic volcanics) and peralkaline (Siwana type) granites, which are exposed in Redana, just south of the study area. The peralkaline granite at Redana is intruded by acidic and basic dykes which are quite similar to the dykes of the study area in terms of texture and mineralogy. The acidic dykes in the area show intrusive relationship with the basement rocks. These dykes represent the final phase of Malani magmatism as indicated by similarity in texture, mineralogy and geochemistry (A-type). The geochemical signatures of dyke rocks in the present case are an inherent characteristic and not the acquired

one. The statement that all the acidic dykes acquire A-type geochemical signatures at the final phase of magmatic event does not appear to be applicable in present case.

2. The basement granitoids and the rocks of MIS have contrasting petrogenetic history and tectonic environment of emplacement (*see* Table 3, p.94 of our paper). Hence there need not be any correlation between them.

As the main objective of the paper was to characterize the basement rocks, detailed field relationships, sample description and petromineralogical features of basic dykes were not provided.

COMPOSITIONAL STUDY OF SPINELS FROM WAJRAKARUR PIPE-10 (ANUMPALLE), ANANTAPUR DISTRICT AND ITS SIGNIFICANCE IN DIAMOND PROSPECTIVITY by Abhijeet Mukherjee, K.S. Rao, E.V.S.S.K. Babu and Gautam Roy, *Jour. Geol. Soc. India*, v.52(6), pp.677-682

K.R.P. Rao, Geologist (Sr.), Geological Survey of India, Hyderabad - 500 068, comments:

The authors have not highlighted in the text of the paper the pioneering work done on Wajrakarur kimberlite pipe-10 by the geologists of the Geological Survey of India, although there is a cursory mention in the abstract, Fig.1, acknowledgement and references. The discovery has been published in the Extended Abstracts of Progress Reports brought out annually by the Geological Survey of India as Records (Rec. Geol. Surv. India, v.130, pt. 5, 1997). The reference to GSI (1994) quoted by the authors for Fig.1 is not in conformity with the existing norms, since the map was taken from a document which was not permitted for reproduction in any form (photostat, microfilm or any other means) without written permission from the Director General, Geological Survey of India.

The Anumpalle kimberlite, which is the largest diamondiferous kimberlite body recorded so far in the Indian sub-continent, was discovered by K.R.P. Rao et al. of GSI in June 1996 by conceptual modelling followed by ground surveys.

Analysis of samples collected during field visits guided by GSI officers are normally meant for their personal or organizational information and are not meant for publication, and is against the ethics of publication, especially when work is in progress by the investigating agency. The authors should have restricted the paper to the analytical work and interpretation of the spinel chemistry (in fact, that is the title of the paper) with due acknowledgement to the pioneering discovery including regional geology, petrology and major oxide chemistry of kimberlite by GSI.

Abhijeet Mukherjee, NMDC Ltd., Hyderabad - 500 028 replies:

We have no intention of taking any credit from anyone, hence in the first very sentence (*see* abstract) we mentioned about GSI. There is no doubt whatsoever that GSI and its geologists are doing pioneering work in locating kimberlite/lamproites in the country.

The authors belong to a commercial organisation which is interested in establishing diamond potential of a pipe for possible exploitation. In this connection the authors have been studying xenoliths and xenocrysts of different pipe rocks to assess the diamond bearing nature of the diatreme.

The authors have also been studying inclusions in diamonds from different diatremes throughout the country. The central idea of the paper "compositional study of spinels..." was to highlight the significance of studies of xenocrysts like spinels which throw considerable information about diamond bearing nature of the pipe.

Fig.1 of the paper is from "Detailed Information on Diamond in Andhra Pradesh". This is a published report of the GSI (1994) which is for sale. Therefore, we have acknowledged this source in our paper.

The authors have visited Wajrakarur area for over twelve times. They feel that anybody can work in any area. Hence, we do not feel that we are wrong in our ethics and we never tried to downplay the role of GSI.

ANNOUNCEMENT

IGC-2000: 12TH CONVENTION OF INDIAN GEOLOGICAL CONGRESS AND NATIONAL SEMINAR ON GROUNDWATER RESOURCES: 8th to 12th February 2000, Udaipur, Rajasthan. The IGC-2000 scientific programmes will comprise technical sessions on Petrology, Mineralogy, Mineral Resources, Mineral Exploration, Precambrian Geology, Tectonics, Phanerozoic Stratigraphy, Palaeontology, Fossil Fuels, Environmental Geology, Geostatistics, Computer Applications and Entrepreneurship. The National Seminar on "Groundwater Resources" will comprise technical session on Groundwater Regimes of India, Groundwater Quality, Exploration, Hydrochemistry and Groundwater Resources in Arid-Semi-arid Areas. For further information contact: IGC-2000 Secretariat, Department of Geology, M.L. Sukhadia University, 51 Saraswati Marg, Udaipur - 313 002. **Fax:** 0294-413150; **Email:** igc2k@yahoo.com. **Home Page:** <http://www.mlsu.ac.in/conferences/igc2k.html>

WORKSHOP ON GEOLOGICAL FLUID MECHANICS: June 26-27, 1999 at National Geophysical Research Institute, Uppal Road, Hyderabad - 500 007. Research contributions are invited on the following topics: Groundwater flow, heat transport and deformation; Earthquakes and tectonics; Diagenesis, metamorphism and ore genesis; Sedimentary basin dynamics and evolution; Surface bio-geophysical processes; Erosion and climate dynamics; Mantle convection, partial melting, plumes, volcanism and plate formation; Core processes and core-mantle interaction; Dynamics of whole earth system; Modelling and simulation of multiphase fluid flow in porous media. For further information please contact: Dr. S. N. Raj, Convenor, National Geophysical Research Institute, Uppal Road, Hyderabad - 500 007; **Email:** postmast@csngri.ren.nic.in. **Fax:** 040-7171564; **Tel:** 040-7170141/extn.2317.

THIRD INTERNATIONAL CONFERENCE ON GEOSCIENCE EDUCATION: GeoSciEd III, 16-21 January 2000 at the University of New South Wales, Sydney, Australia. Intending participants may contact: GeoSciEdIII Administration, AGSO Geoscience Awareness Unit, Canberra ACT 2601, Australia. Closing date for abstracts is 31 May 1999. **Phone:** +61 2 6 249 9750; and +61 2 9385 4810 (Dr. Malcolm Buck, Principal Convenor); **Fax:** +61 2 6249 9982; **Email:** glewis@agso.gov.au and m.buck@eunsw.edu.au; **Web:** <http://www.agso.au/geosciEd/>