

NOTES

ARSENIC IN GROUNDWATER, WEST BENGAL

A sensational report has appeared in the latest issue of *Current Science* (vol. 70, No. 11; 10th June 1996) drawing attention to the high arsenic content of groundwater in an area covering nearly 37,493 km², lying close to Calcutta in West Bengal. Average concentration of arsenic in contaminated water is reported to be 0.20 mg/l, maximum concentration noted being as much as 3.7 mg/l (permissible limit of arsenic in potable groundwater is only 0.05 mg/l). People consuming such water naturally suffer from skin and other diseases. The surprising part is that such a mishap affecting so many villages situated close to a metropolitan city like Calcutta should remain unattended for so long.

We are informed that in 1987 two medical men have reported arsenial dermatitis but apparently no preventive action was initiated. The authors of the note in *Current Science* cryptically state that the source of arsenic is geological. They furnish no further information in support of this statement. The arsenic content of the shallow and deeper aquifers do not appear to have been determined separately. It would be worthwhile to drill an experimental bore hole, recover the cores and subject them to detailed chemical analysis at close intervals in order to detect whether any particular horizon or horizons is responsible for contaminating the groundwater in this region. The preparation of a geochemical contour map of the entire affected area is urgently called for, to pinpoint the possible source of arsenic contamination.

The problem is a very serious one and brooks no delay. Research effort should be galvanised to find a solution to the problem which is affecting millions of people.

The Earth Scientists of the School of Environmental Studies, Jadavpur University are to be congratulated for drawing pointed attention to one of the worst causes of groundwater pollution reported so far from this country.

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[Journal of Geological Society of India welcomes a detailed discussion on this problem of groundwater pollution and invites suggestions for mitigating the evil effects of this incidence - Ed.]

A REPORT ON THE WORKSHOP ON ALKALINE MAGMATISM: XTH CONVENTION OF INDIAN GEOLOGICAL CONGRESS, DHANBAD

The Department of Applied Geology of the Indian School of Mines, Dhanbad (Bihar) organised the Xth Convention of Indian Geological Congress (February 1-3, 1996), and National Seminar on Precambrian Crustal Evolution and Metallogenesis (February 1-2, 1996). Concurrently special workshops on (a) Applied Coal Petrography, (b) Applied Ore Petrography, (c) Mineral Deposit Modelling, and (d) Alkaline Magmatism were also held.

The Workshop on *Alkaline Magmatism* (Coordinator : L.G. Gwalani) encompassed two Technical Sessions which were held under the Chairmanship of A.C. Chatterjee (Vikram University, Ujjain) and D. Vasudevan (GSI, Nagpur).

The keynote address was by R. Ramasamy (Asst. Director, Tamil Nadu State Department of Geology & Mining, Madras) on the Geochemistry of the carbonatites and alkaline rocks of Tiruppattur. He discussed Sr, Ba and K enrichment in the immiscibly separated alkaline and carbonatitic fractions from a parental silicate magma of mantle origin. He emphasized the log-linear variation of Sr and Ba with progressive differentiation of the comagmatic sequences.

Continuing the discussion on the alkaline provinces of Tamil Nadu, V.R. Swami Narayanan with the help of geochemical data described the petrogenesis of mafic and felsic rocks from the igneous complexes of Elagiri, Koratti and Samalpatti, and concluded that these rocks are comagmatic and were probably derived from a rift-related magma of basic composition.

The first report on the occurrence of minor alkaline dykes within the larger intrusions of pyroxenites and gabbros from Nalagonda, A.P. was presented by G. Suresh who explained the dissimilarities in the geochemical characters of the alkaline and subalkaline suites of the area. J. Ratnakar emphasized on the role of mantle derived CO₂-rich volatile phase in the origin of miaskitic nepheline syenites of the Eastern Ghats and concluded that, like charnockites and anorthosites, these miaskitic syenites correspond to the regions of crustal thickening related to plate collision.

Another first report of occurrence of alkaline acidic volcanic complex and the associated comenditic ignimbrite from the eastern margin of Central Indian Craton region of Naupara, Orissa was presented by S.K. Pattnaik in which he suggested genetic relation between subalkaline and peralkaline units of the complex. M.B. Durgadmath described petrography of a co-magmatic series of alkaline rocks from Phenai Mata, northeast of Amba Dongar. K.R. Randive presented petrographic data on the Chhota Udaipur alkaline rocks and REE and stable isotopes on the carbonatites of Amba Dongar and Siriwasan-Dugdha sectors drawing attention to their parentage in the mantle-derived carbonated nephelinitic magma.

The following recommendations emerged from the discussions:

1. Carry out exploration of PGE deposits in the carbonatite-alkaline complexes of the Tiruppattur region.
2. Undertake a more comprehensive study concerning the probable role played by degassing processes in the genesis of alkaline suites and the associated basic intrusives of the Tiruppattur and other areas.
3. Correlate alkaline rocks from the closely associated igneous complexes of Phenai Mata and Amba Dongar.

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