data for these analogous magnesites like chemical (Sengupta, 1990; Joshi et al. 1993) and fluid inclusion (Sharma and Joshi, 1997) negate hydrothermal concept.

Therefore, the interpretation of isotope values should be reviewed in that light.

**References**

FAURE, G. (1986). Principles of isotope geology (2nd Edition). John Wiley and Sons, 589p.

KARUSKOPF, K.B. (1979). Indtroduction to Geochemistry (2nd Edition). McGraw Hill, 617p.

JOSHI, M.N., BHATTACHARYA, A.K. and ANANTHARAMAN, M.S. (1993). Origin of Sparry magnesite deposits around Bauri, Almora district, Uttar Pradesh, India. Mineralium Deposita, v.28, pp.146-152.

POHL, W. (1990). Genesis of magnesite deposits - models and trends. Geologische Rundchau, v.79(2), pp.291-299.

SENGUPTA, H.P. (1990). Genetic study of Pithoragarh magnesite, Pithoragarh district, U.P. (India). Jour. Ind. Acad. Geosci., v.33, pp.1-11.

SHARMA, R. and JOSHI, M.N. (1997). Fluid of magnesitization: diagenetic origin of Bauri magnesite, Kumaun Lesser Himalaya. Curr. Sci., v.73(9), pp.789-792.

TUCKER, M.E. and WRIGHT, V.P. (1990). Carbonate Sedimentology. Blackwell, 482p.

**S. Kumar,** Geology Department, Lucknow University, Lucknow, Uttar Pradesh replies:

1. I am grateful to M.N. Joshi for pointing out a basic mistake in $\delta^{18}O$ values which are given against SMOW standard. The measurements for both $\delta^{18}O$ and $\delta^{18}C$ were made against PDB standard. Traditionally $\delta^{18}O$ values are given against SMOW standards and as such the values for $\delta^{18}O$ (PDB) values were to be converted to SMOW standard. However, this was not done and the $\delta^{18}O$ (PDB) values were given by mistake against SMOW standard. All values of $\delta^{18}O$ are against PDB standard and not against SMOW standard as given in the paper. All other comments relate to this mistake.

2. Since there are two distinct clusters for dolostone and magnesite in the scatter diagram, a separate origin is suggested for them.

(3)

**A PROGNOSTIC ASSESSMENT OF THE ENVIRONMENTAL IMPACT DUE TO OPEN CAST MECHANISED MINING OF THE EAST COAST BAUXITE DEPOSITS IN ANDHRA PRADESH,** by P.K. Ramam, Jour. Geol. Soc. India, v.52, pp.103-110.

**A.V. Subrahmanyam,** Atomic Minerals Division, P.O. Assam Rifles, Nongmynsong, Shillong - 11, comments:

**1.** P.K. Ramam stated that in ECB deposits there are no evidences of post-bauxite movements (neotectonics). The change in drainage pattern from NE-SW to N-S, NW-SE and S development of scarp faces of some land forms in the area may indicate neotectonism. However, these are not studied. In the Panchpatmali bauxite deposit, Subrahmanyam, Rao and Rao (1996) have reported post-bauxite movements (neotectonics). Being part of same setup in space and time, these deposits can not escape post-bauxite movements (neotectonics)?

**2.** The ECB deposits consists of five subgroups (Fig.1, p.104). Under EIA assessment: a) physical environment, b) Ecosystem, c) aesthetics and d) socio-economic parameters are considered. The Anantagiri subgroup has more aesthetic value; other subgroups have a fine blend of physical, ecological and aesthetics. Poor socio-economic condition is the only common parameter

for all the deposits. Moreover, in Gudem, Supparla and Jerrela subgroups tiger (endangered species ?), leopard and bysons are common; these are scanty in Anantagiri subgroup. The reserve forests around these deposits consist of rosewood, sandalwood, teak and coffee plantations especially Gudem, Jerrela and Supparla subgroups. Ramam should have consulted literature on Indian forests especially on Eastern Ghats about endangered (fauna and flora) species around these deposits.

In my view these deposits have their own identity so they should be treated on their merit. No doubt with the inception of mining the socio-economic status of the region will change.

**Reference**

SUBRAHMANYAM, A.V., RAO, M.J. and RAO, J.S.K. (1996). Nodular laterite from Panchpatmali Bauxite Deposit, Koraput Dist., Orissa: Evidence for Neotectonism from East Coast Bauxite Provenance. Ind. Jour. Earth Sci., v.23, Nos.1-3, pp.147-160.

**P.K. Ramam**, Flat No. G-3, Paragon Venkatadri, No.3-4-812, Barakatpura, Hyderabad - 500 027, replies:

A.V. Subrahmanyam offering critical comments on my paper is praiseworthy. As regards to specific comments here are my replies:

**1.** Neotectonics: Ground truth has been adequately elucidated in the publications referred in the paper. Subrahmanyam's postulation of neotectonics at Panchpatmali deposit (Orissa) is a debatable issue. Any discussion therefore, on this aspect is beyond the purview of the theme of this paper.

**2.** Regarding other point(s) raised on aesthetics/flora/fauna endangered species/non-consultation of literature on Indian forests etc., suffice it to say that if the larger deposits with better (pre-mining) aesthetics and rich flora/fauna etc., in Orissa could be mined and utilized, there is no valid reason for not exploiting the relatively smaller deposits with a low quotient of aesthetics/flora/fauna etc. of Andhra Pradesh.

It requires no scientific eminence to advocate the concept of "No-mining", more so from Earth scientists. It is precisely to counter such comments that the last two paragraphs have been incorporated in my paper.

## The Essence of a Scientist

"He brings the wisdom of the past, the direction of the present, and the uncharted, yet to be conceived, approaches of the future into full view. He challenges each of us to the depths of our understandings, and at the same time encourages risk, excitement, and scientific reward. I know of no other contemporary hydrologist who lives each day inspiring those inside and outside of hydrologic science more than does Ignacio".

Donald Neilsen speaking about
Ignacio Rodriguez-Iturbe, recepient
of Horton Medal 1998