

## **CARBON ISOTOPE GEOCHEMISTRY AND ASSOCIATED PHENOMENA OF THE PRECAMBRIAN ARAVALLI CARBONATES, INDIA**

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The isotopic heavy carbonates and associated fundamental palaeoenvironmental and biological changes have been identified in different Palaeoproterozoic provinces of world. Incidentally, most of these provinces reported are outside of Asia Continent and as such finding of any such new province in Asia Continent is of global implication. The present study is significant to understand Palaeoenvironment of this part of world during Precambrian period and have implications for stratigraphic correlation also. We report here the results of detailed stratigraphically controlled C and O isotopic profile through the dolomites of Aravalli Supergroup, India. Almost no chronological data is available for this Supergroup. High  $\delta^{13}\text{C}$  values of up to 11‰ PDB ( $n=21$ ) occur in dolomites of Jhamarkotra formation of Palaeoproterozoic Aravalli Supergroup and is characterised by the presence of Stromatolites at places. The link of high  $\delta^{13}\text{C}$  carbonate anomaly and outburst of Stromatolites have already been reported globally. Presence of red beds and sulphide deposits in the carbonates of this area further support that the isotopic data and related phenomena of study province are consistent with worldwide positive excursions in the  $\delta^{13}\text{C}$  of marine bicarbonate deposited during 2.3-2.06 Ma. The Aravalli excursion may be compared to  $\delta^{13}\text{C}$  anomaly observed at Lomagundi, Zimbabwe, Africa, since this part of Indian subcontinent was once part of Gondwanaland.