

**HIGH RADIOACTIVE HEAT-PRODUCING, ECONOMICALLY
POTENTIAL GRANITES AROUND JODHPUR CITY,
MALANI IGNEOUS SUITE, NORTHWESTERN INDIA**

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Abstract

In the south and southeast periphery of the desert city of Jodhpur, there are pink and grey granite islands in the desert sand at Fitkasni-Rasida and Salawas-Nandanvan areas of Malani Igneous Suite (Neoproterozoic). We are reporting the average heat generation value of 15.33 HGU for first and 8.83 HGU for the second area that is much higher than the average (3.8 HGU) known for the continental crust. The concentration of uranium determined is two to four times higher than the average continental crust and thorium is still higher than U and K. The radioelement concentration (Ur) varies from 25.06 to 27 in the Salawas-Nandanvan granites and 43.73 to 75.81 in Fitkasni-Rasida granites. It clearly indicates a 'hot crust', hence favourable for the formation of mineralization of HFS elements, Nb, Ce, REE, U and Th, which need yet to be explored.

Keywords: High heat-producing granite, Malani Igneous Suite, Radioactive mineral deposits, Hot crust, Northwestern India.