

Geophysical Exploration of Rare Gas in Rocks of Vindhyan Super group around Sagar, South Ganga Basin, Bundelkhand Region M.P. India

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Studies on the geophysical exploration of the Helium gas in the rocks of the Vindhyan Super Group around Sagar, South Ganga Basin, Bundel khand region, M.P. is carried out in the detail with joint collaboration of Dept. of Applied Geology and ONGC Energy Centre, Ahmadabad. As Author has already reported the Discovery of Helium has leakages through more than 50 tube wells/e-wells excavated in agriculture fields various Villages in Sagar District. The geochemical analysis of the soil, gas and water indicates remarkable amount of Helium gas in these tube wells, containing about 0.45 to 0.735 and methane varying from 72% to 99%. These investigations were done in the long research work (more than 25 years) dedication carried out in this area and research finding published in the Journal of National and International repute, which has attracted the officers/Scientists of ONGC, Dehradun, CGWB, Faridbad, Atomic Mineral Directorate Hyderabad and Bhabha Atomic Research Centre Mumbai.

The Result of the stable isotopic analysis of Ethane gas in these samples δC^{13} value are ranging from -24.9 per mill w.r.t. PDB and -26.9 per mill w.r.t. PDB and the Methane gas are ranging from isotopic Values -54.0-per mill w.r.t. PDB to -61.5 per mill w.r.t. PDB are indicative that this gas is of thermogenic origin, which must have been formed at very high temperature & pressure condition in the deeper horizon of the great Vindhyan sedimentary basin of late Proterozoic (>500 m.y.) period. A reporting of leakages of above mentioned gas from 50 tubewells in the inliers of Vindhyan rocks and even in the Deccan trap rocks ensures that this area must be having a big gas reservoir within Vindhyan rocks around Sagar-District in M.P.

The ONGC energy Centre Ahmadabad has started the detail collaborative geophysical work on the drilling exploration upto the depth of 600 m has been carried out and to be carried out in various location from where the leakages of has been earlier reported earlier. In these 600 m deep drill holes detail geophysical logging including the gama ray logging and Neutron logging, lithological and structural logging will be carried out to know the probable gas reserve and at what depth the we can get the gas for the exploration and utilization of these ases for industrial purpose.