**Abstract Template**

**HELIUM GAS IN THE PETROLIFEROUS TUBE WELLS IN SAUGOR DIVISION, SOUTHERN GANGA BASIN REGION, M.P. INDIA**

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The studies on the helium gas in the petroliferous tube wells in Saugor Division, southern Ganga Basin region has been carried out in great detail in 50 Tube wells, along with the stable isotopic analysis were carried out for the gas sample were collected from the 50 tube wells in Sagar and Damoh District of M.P. The discovery of the rare gas helium in hydrocarbon rich zone in the tube wells in agricultural field at
Garhakota, Rahatgarh, Bina, Banda and Sagar tahsils, of Sagar and Batiyagarh, Patharia,& Jabera, tahsils of Damoh District of M.P. is a unique finding in rocks of the Vindhyan Super Group, in the history of Earth Science in India. The depth of tube wells are varying in 300 feet to 750 feet.

 On the basis of geochemical analysis, it is remarkable to note that average values of Helium contents varies from 0.34 % to 0.732 % along with the 72% to 99 % of Methane and Ethane, and minor amount of oxygen, nitrogen and CO2 gases in the hydrocarbon rich zone are recorded during the geochemical and stable isotope analysis. It has been found in the stable isotope d C13 value the values for the methane is - 43.6 per mil w. r. t. to - 54.9 per mil w.r.t. PDB and for the Ethane gas is --24.9 to --26.4 per mil w. r. t.
PDB in the gas samples collected in the saturated sodium chloride solution in the glass bottles at various sites in Sagar & Damoh District. The occurrence of rare helium gas in the Hydrocarbon rich zone is reported first time in Jan, 2007 from the tube wells of Sagar Distt, which were geochemically and stable isotopically analyzed in the labs of KDMIPE Dehradun & NGRI Hydrabad. The gaseous hydrocarbon analysis show the presence of moderate to low concentration of methane ( C1) 1 to 104 ppb, Ethane( C2)-1 to 14 ppb, Propane( C3) 1 to 10 ppb, i- Butane ( i C4) 1 to 9 ppb and n Butane ( n C4) 1 to 8 ppb in the soil samples collected from different locations in Sagar Distt.

 The Result of the stable isotopic analysis of Ethane gas in these samples d C13 value are ranging from -24.9 per mill w.r.t. PDB and -26.9 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 an early Proterozoic ( > 600 m.y.) period.

Keywords - petroleum, Helium, vindhyan rocks, stable isotopic, tubewells, thermogenic, Methane, Ethane, Butane, geochemical, hydrocarbon.

**Professional Biography (100-150 words)**

XXX has completed his PhD at the age of 30 years from Cambridge University and postdoctoral studies from Stanford University School of Medicine. He/She is the director of XXXX, a premier Bio-Soft service organization. He has published more than 25 papers in reputed journals and has been serving as an editorial board member of repute.

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