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## Assessment of Natural Uranium in the Ground Water around Jaduguda Uranium Mining Complex, India

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### ABSTRACT

Ground water ecosystem surrounding the uranium processing facility at Jaduguda, India has been studied for natural uranium distribution. Annual intake of uranium through drinking water for members of public residing around the uranium complex is found to be in the range of  $41.8 \text{ Bquy}^{-1}$  -  $44.4 \text{ Bquy}^{-1}$ . The intake and ingestion dose is appreciably low ( $<2 \text{ Sv.y}^{-1}$ ) which is far below the WHO recommended level of  $100 \text{ uSv.y}^{-1}$ . The excess life time radiological risk due to uranium natural in drinking water is insignificant and found to be of the order of  $10^{-6}$ . Even the highest concentration of uranium was found to be  $28 \text{ ug.l}^{-1}$  is away (at 1.5 to 5 km distance) from mining industry and well below the acceptable limit. The ground water in the area around the uranium facility is not affected by the mining activity. The ground water in three zones is safe and reflects the natural distribution of uranium.

### KEYWORDS

Natural Uranium, Ingestion Dose, Radiological Risk

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