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ASSESSMENT OF OCCUPATIONAL AND PUBLIC EXPOSURE FROM TIN MINERAL PROCESSING INDUSTRIES IN JOS – NORTH CENTRAL NIGERIA

Any mining operation or other industrial activity involving a mineral or raw material has the potential to increase the effective dose received by individuals from natural sources, as a result of exposure to radionuclides of natural origin contained in or released from such material. Mining and processing of tin ores has been going on for over 100 years in Jos and its environs. Twenty Six (26) Tin processing industries were visited to assess occupational and public exposure using Thermoluminescence Dosimeters (TLDs) for an assessment period of twelve months. The maximum effective dose at the workplace was assessed to be 69.94mSv, the maximum effective doses for the workers assessed to be 1.58 mSv per year and 22.02 mSv for the public for the period. The values obtained for the workplace and the public were above the limits stipulated in IAEA GSR Part 3 while the effective dose for the workers were within limits. The doses at the workplace and the public are very significant. Therefore, radiation protection measures are needed in tin processing industries to protect workers and the public.

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