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Environmental radioactivity of TE-NORM waste produced from petroleum industry in elected oil fields in Maysan / southern of Iraq

This study aims to assess the radioactive concentration of naturally occurring radioactive materials (NORM) in elected oil and gas facilities in Maysan / southern of Iraq (Al- Bazerkan and Al –Fakkah oil sites) of selected of produced water samples. The radioactivity characterization of the oil sites included laboratory measurements and analysis of the envisaged water samples. There were different samples that were distributed among the oil sites in the governorate of Maysan which collected and measured. The techniques of total gross alpha, beta, gamma, potentiometric titration, and high-resolution gamma spectroscopy system (HPGe) were used to determine the radioactivity of (NORM) samples. The samples of produced water were evaporated, then the residue of salts was collected, weighed and measured. The study proved that the radioactivity concentration of Radium-226 was noticeable (10.6-59.6) Bq/L, while the results of the other isotopes in the samples were generally within the permissible limits (K-40, Th-232 and, U-238) according to the recommendations of the International Atomic Energy Agency (IAEA).

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