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THE INVESTIGATION OF RADIOACTIVE ISOTOPES OF TOSON-UUL BASIN OF MONGOLIA AND IT'S PRESENT SITUATION

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Since the oil exploration basin and radioactive isotopes around the basin are crucially important on determination of the ecological problems these issues have been investigated actively during the last decades. At the present we have performed the studies to determine natural and artificial radioactive isotopes uranium (^{238}U), radium (^{226}Ra), thorium (^{232}Th), potassium (^{40}K), caesium (^{137}Cs) in 230 soil samples from XIX, XXI-fields from Toson-Uul basin and bismuth (^{214}Bi), lead (^{214}Pb) isotopes in 120 water samples that followed by environmental radiation monitoring. From 2012, we have investigated radioactive isotopes in the Toson-Uul exploration field. Here soil samples were taken in July and September from XIX, XXI-fields and natural radioactive isotopes were determined in these samples. Meanwhile, we have performed evaluation of absorbed dose rate and effective equivalent dose from population in the exploration field, where after results were compared with world mean value. This paper discusses the results of radioactive isotopes around oil exploration field of "Toson-Uul" basin of Mongolia.

It is already has proven that radioactive isotopes influences harmful effects on environment and human health. It's very important to define the radiation background level of an oil before exploration, drilling, and exploration of a crude oil. Unfortunately, the investigations on radiation background level of an oil exploration field's aren't done so far. There are 32 oil fields are announced to be possible for the exploration in the territory of Mongolia. Meanwhile there are two companies are working on exploration of 3 oil fields, before the start of an exploration process. Oil exploration and drilling activities result on increase of radioactive isotopes within the geochemical and hydrochemycal activations. Natural fluidic systems as source-rock, oil-water-gas behaves as main basics of radioactive isotopes studies. The investigations made by Russian scientist Mironov establish that background radiation level of Tamtsag basin of Mongolia held natural ability of high percentage (fig. 1)

From 2014 to 2017 soil radioactivity researches have done in the XXI field, two times per year. The results from the investigations were compared with world mean value where specific activity values were found to be around world mean value. However specific activity values of radium (^{226}Ra), were noticed to be increased within the years, where these values for cesium were decreased. Since cesium is decided to be a. ood indicator of soil quality, the decrease of specific activity of cesium (^{137}Cs) shows the presence of soil erosion.