

Solution of ecological problems in oil production regions by laser ionization mass-spectrometric element analysis

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Control of ecological situation dynamics in oil production regions proposes a presence of primary data about parameter-indicators, which characterize a state of the object under investigation. One of these parameters is the concentration of heavy metal salts in drinking and stratum waters. For determination of their concentrations the laser mass spectrometry was used as the most sensitive and informative analytical method, which allows to carry out the simultaneously analysis of all elements of the periodical system with limit sensitivity 0.1 mkg/l. The samples of drinking water of the Kreschensky springs, stratum and industrial waters from the wells of oil field Romashkin (Tatarstan) were chosen as the objects of the research. The schemes of the concentration distribution of heavy metal salt impurities were drawn for the region under investigation and possible ways of their migration were shown. Correlation with the maps of other physical fields – temperature, pressure and water saturation must bring to light on the sources of the pollution and to localize anomalous parcels of environmental.