

coals from fields of Russia, USA, Japan, Germany, etc. However, the radiation-chemistry of young coals (lignites) from fields of Turkey was not studied.

In this report the results of the investigation the regularities of formation of gas products H_2 , hydrocarbon C_1 - C_4 at the radiation-chemical decomposing of 5 types of Turkish lignites are adduced: 1. Karaman Ermenek -cleaned, 2. Karaman Ermenek -original, 3. Nevsehir -original, 4. Slopi -original, 5. Trakya mixed -cleaned.

The researches were conducted in the interval of the absorbed dose (up to 500 kGy) gamma-radiation of isotope Co-60 and temperature (20-400°C). The influencing of the preliminary gamma-irradiation on regularity of a thermal decomposition irradiated lignites is established also.

It was established, that in the studied interval of absorbed dose the accumulation of gas products descends linearly. The radiation-chemical yields of gas products are: $G_1(H_2) = 0.027$, $G_1(CH_4) = 0.0005$, $G_2(H_2) = 0.019$, $G_2(CH_4) = 0.0011$, $G_3(H_2) = 0.021$, $G_3(CH_4) = 0.0027$, $G_3(C_2H_6) = 0.002$, $G_4(H_2) = 0.065$, $G_4(CH_4) = 0.0020$, $G_4(C_2H_4) = 0.0008$, $G_4(C_2H_6) = 0.0007$, $G_4(C_3) = 0.0011$, $G_4(C_4) = 0.0005$, $G_4(C_5) = 0.0005$, $G_5(H_2) = 0.015$, $G_5(CH_4) = 0.0006$ molecule/100 eV.

Such yields of hydrogen and hydrocarbon gases were earlier observed for brown coals of the Siberian fields. As a difference of Siberian coals the formation of carbon monoxide in the studied interval of the absorbed dose at the room temperature are not identified.

The preliminary irradiation of lignites lead to destructive and polycondensation processes (on dependence of adsorbed dose), that are reflected at their subsequent thermal decomposition.

The mechanism of radiation-chemical processes in the lignites are discussed.



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INVESTIGATION OF TRANSFORMATION OF RADIONUCLIDES IN SOILS OIL POLLUTED

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Despite of constant improvement in view of last achievement of a science and technique the technological processes of oil production are accompanied by coming in environment a number of chemical substances – oil products, polyaromatic and aromatic hydrocarbons, salts of heavy metals, including soluble and insoluble compound of stable and radioactive isotopes of metals, various gases etc.

Technological processes of production, transportation of crude oil and its complex processing is followed with essential pollution of soil by oil products, radioactive substances because of crude oil and grounds waters spillage.

The problem of radioactive pollution of environment in oil-extracting sites and especially in old deposits of Apsheron peninsula, in particular, in oil fields of Surakhani and Balakhani by the various factors is rather urgent in Azerbaijan

On a whole, radioactive-ecological situation is defined by the quantitative contents of natural radionuclids, chemical structure of grounds waters and oil, and also accumulation of radioactive substances in pipelines and modular items as crystals radiobarits or calcium and magnesium.salts

Systemic and complex research on this direction will allow creating the mechanism of radionuclides transformation in oil-contaminated soils.

The condition of radioactive background of soil cover of oil field in Surakhani was studied in our researches. The soil samples taken from various depths of deposit are investigated. The quantities of total oil components, aliphatic and polyaromatic hydrocarbons, heavy metals and natural radionuclides are determined. The attempt is made to explain dependence of various meanings of carried out analyses on the depth of taken samples.

In summary it is necessary to note, that the researches on more detailed study of influence of the factors on processes of accumulation and transformation natural radionuclides proceed. The systemic researches on this direction will allow securing of radiation safety in this area.



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RADIATION-THERMAL PURIFICATION OF WASTE WATER FROM OIL POLLUTION

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During the extraction, preparation, transportation and refining of oil the sewages containing oil contaminations are produced. The concentration of oil content in the water depends on used technology and may vary from a thousandths parts up to tens percents. There is a necessity of cleaning this pollution up to a permissible level. There are numerous methods (adsorption, mechanical, chemical and etc) of treating of waster water from oil contaminations. Radiation-chemical method is one of the effective among the above mentioned methods.

The results of radiation-thermal decomposition of n-heptane micro-admixtures in water medium are adduced. The main parameters of radiolysis change within the intervals: temperature 20-400°C, absorbed dose – 0÷10.8 kGy at dose rate 3.6 kGy/h.

The correlation of n-heptane concentration and water steam changed within $[C_5H_{12}]/[H_2O] = (1-100) 10^{-5}$. Total concentration of steam was about 10^{20} molec/ml.

As a product of decomposition are observed H_2 , CO , CH_4 , C_2H_4 , C_2H_6 , C_3H_8 , C_3H_6 , C_4H_8 , hydrocarbons C_5 , and C_6 . The changes of n-heptane concentration in the reactor also were established. The chain regime of n-heptane decomposition at high temperatures in the irradiated mixture is observed.