

Characteristics of Stable Strontium and Some other Chemical Elements Distribution in Carbon Ground Waters of Moscow Region.

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The results of comparative analysis of isotope-geochemical parameters of background waters and enclosing rocks and soils from the territories of main contaminators are described.

It has been established that pH is connected with variation of CO_3^{2-} and HCO_3^- concentrations. An elevation of Sr^{2+} concentrations (2-10 of allowable values) in water with $\text{pH} \geq 9.0$ underlying the soil fragments with $\text{pH} \leq 4.0$ has been noted. Similar dependence has been determined for a series of toxic metals (Pb, As, Zn, Cd etc). Elevated concentrations of U and Th in a "soil-water" system correlated with increasing Zr and characteristic variations of $\delta^{13}\text{C}$ point to their primary natural origin connected with destruction of widespread zircon mineralization.

The values of $\delta^{13}\text{C}$ soil $> -13.0 \pm 2.0\text{‰}$ and $\delta^{13}\text{C}$ water from -22.0 to $-13.0 \pm 2\text{‰}$ correspond to anthropogenic formations. Based on the complex data, it has been established that $\delta^{13}\text{C}$ indicates the nature of the contamination source - host rocks of the artesian basin, imported or local raw material. Primary sources are presented by industrial products and waste, which strictly influence on ecological system. Secondary sources are presented by complex contaminators, activated by industrial productions.