Investigations of the Total Content of Heavy Metals in Technogenic Soils Based on Drill Mud

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Abstract: The paper presents studies of the physicochemical parameters of drilling waste that affect the transformation of the gross content of heavy metals in technogenic soils based on drill cuttings when natural mineral sorbents are introduced. Analysis of the mineralogical composition of drill cuttings shows a high content of calcite, plagioclase, quartz and potassium feldspar. It is noted that the waste generated in the process of drilling oil wells using a salt solution with the addition of biodegradable polymers, polymer-clay and inhibited polymer-clay drilling fluids, refers to medium loam, drill cuttings using a hydrocarbon-based solution - to heavy clay. Studies of gross heavy metals showed that the concentrations of most of the studied elements in drilling fluid samples did not reach the lower limits of the measurement ranges of the methods used.