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Electrochemical cleaning of oil-contaminated soil

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Abstract

In the present article the experimental research of electrochemical cleaning of oil-contaminated soil is provided. The oil concentration decrease in the soil from 1100 mg/kg to 250 mg/kg at the current density in the range from 22 A/m^2 to 174 A/m^2 during 90 minutes is shown. It has been established that there is the limit amount of charge required for effective cleaning, which amounted to $0.96 \cdot 10^7$ coulombs/kg of oil. The electrodes placement variant for the proposed method realization in real conditions is described. It is shown that at a voltage between the electrodes about 18 and the cleaning efficiency of 77% the energy consumption will be 173 MJ/kg of oil.

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