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SUBSTANTIATION OF PARAMETERS OF TECHNOLOGY INSULATION OF ABSORBING HORIZONS OF BOREHOLES

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Purpose. By robots є improved thermomechanical technology for isolation of clay horizons in drill holes

Methodology. The tasks were solved by a comprehensive research method. Containing analysis and generalization of literature and patent sources, analytical, experimental and industrial research.

Findings. In the work on the basis of the results of theoretical, experimental and industrial research, a solution is given to the actual problem consisting in establishing the regularities of the change and justifying the regime parameters of the thermomechanical technology of insulation of the absorbing horizons from the composition of the thermoplastic composite material on the basis of inert thermoplastic domestic waste, whose melt, penetrating into the absorption channels with subsequent changes in the aggregate state, forms a small volume, but strong insulation shell around the borehole.

Thickness of the isolating barrier (depth of penetration) is up to 0.5 m. Time of the molten mass solidification is up to 10-15 min. Tensile strength in uniaxial compression after half an hour is 25-56 MPa.

The developed technology may be applied to isolate the absorbing strata while drilling wells of any purpose and diameter: in fissured rocks with fissure opening not less than 0.2 mm; in levels where intense or catastrophic absorption of a washing liquid is observed; in levels which occurrence depth is not more than 8000 m.

The results of the complex of theoretical and experimental researches executed in work found practical application at experienced-industrial introduction of technology of liquidation of absorption of washing liquid in productive terms.

They contain the researches, which were conducted within the project "Liquidation of absorption of washing liquid in drillholes by thermoplastic materials", financed by Ministry of Education and Science of Ukraine.

Keywords: absorbing horizon, insulation, melt, plugging materials, well drilling

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