IMPROVING THE EFFICIENCY OF OPERATION OF SUBMERSIBLE ELECTRIC CENTRIFUGAL PUMPS

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ABSTRACT
Goal Explore the prospect of improving the quality of work of submersible centrifugal pumps in oil production: prevention of corrosion destruction of oil and gas production equipment units by introducing inhibitors into the formation fluid, replacing materials and pump units with new ones, applying protective coatings. These types of events are today considered one of the most urgently needed by oil industry workers. The novelty lies not in measures to ensure the quality of work, but in the technologies used. The research method is based on an analysis of the literature of domestic and foreign authors on ensuring the reliability of pumping plants, leading to a more durable operation of this equipment, the conclusion is formulated.

Result. Corrosive destruction of the nodes of oil and gas production equipment, namely submersible centrifugal pumps is eliminated by five different methods. The main ones are described: the introduction of corrosion inhibitors into the formation fluid, replacement of the materials of the ESP units and body parts with new materials, in the application of corrosion-resistant metal protective coatings by high-speed gas-flame spraying based on iron, the deposition of metal anticorrosive coatings by electric arc metallization. Providing additional corrosion protection using impregnations, including fluorine-containing surfactants. The disadvantages of the methods used to protect against corrosion of ESP units are disclosed.

Conclusion. Scientific achievements are determined on the basis of the analysis of the works of well-known oil industry authors. In order to increase the reliability of the operation of submersible electric centrifugal pump installations, the following measures are recommended as the most effective: introducing inhibitors into the formation fluid, replacing material units with new ones, applying protective coatings, etc.

Metal and tread coatings are considered to be the most applicable anticorrosive agents, and optimization of composition, structure, and application technology is considered the most productive (Fariborz Kavoussi, 2013).

KEYWORDS: Installation of an Electric Drive Centrifugal Pump, Corrosion Failure & Pumping Equipment Operability

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