

HYDROFRACTURING OF THE FORM WITH THE INSTALLATION OF A GRAVEL FILTER

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Hydraulic fracturing is a crucial stage in modern oil and gas production, providing increased productivity of wells and optimization of the natural resource extraction process. This technological process allows to increase the permeability of the layer, which in turn increases the amount of extracted oil and gas. Hydraulic fracturing makes it possible to achieve effective removal of valuable resources from deep rock formations where they are located in difficult conditions [1].

One of the key advantages of hydraulic fracturing is the possibility of increasing the productivity of wells, which allows more efficient use of oil and gas deposits. This process also helps to increase the yield of oil and gas, which is critical for meeting the energy needs of modern society. In addition, hydraulic fracturing allows to reduce production costs and increase the efficiency of using natural resources [2, 3].

In the context of modern technologies and requirements of the energy market, hydraulic fracturing is an integral part of the oil and gas production process. Its importance lies in ensuring stable and efficient extraction of valuable energy resources, which is of great importance for the country's economy and energy security.

Before starting the hydraulic fracturing procedure, the well and the equipment for working under high pressure are thoroughly prepared. This stage includes checking the technical condition of the equipment, preparing the fracturing fluid, and installing the necessary control and safety systems [4].

During hydraulic fracturing, fluid under high pressure is injected into the formation, which leads to the expansion of cracks and increased permeability for further oil and gas production. This process makes it possible to increase the productivity of wells and optimize the production process, ensuring the efficient use of natural resources.

They distinguish [5, 6]:

- Traditional fracturing operation - liquids are pumped into wells at high speed and under higher pressure, which transforms the pressure by undermining the filmfilm is formed by downloaded advertising material - proppant, which confirms its closure [3].

- Multistage fracturing is one of the newest technologies in the oil industrybranch, most effective for horizontal wells. It is used both on traditional stocks and on hard-to-remove stocks. The technology of this type of hydraulic fracturing includes the hydropekojet transmission with the help of liquid-computer flexible bottles with subsequent disclosure. and within the framework of one operation. This technology makes it possible to reduce the time required to develop a well, speed up its commissioning, and stimulate the withdrawal of reserves from the board. The difference between this technology and the traditional hydraulic fracturing operation is the regular conduct of several hydraulic fracturing operations [8].

- Ring shielding technology is a type of fracturing operation in which small cracks are created (of the order of several tens of mm³). Such an operation is performed on vykokobit wells to reduce the flow rate and its turbulence in the decorated zone of the well, as well as.

- Acid fracturing - in this percentage, the acid is stored under a pressure sufficient for the formation and development of a crack, during the reaction of the acid with the rock. Deep highly conductive channels that provide increased inflow to the wellbore remain after the load is removed and the crack is closed [3].

- Hydraulic fracturing with an installed gravel filter is the performance of two separate procedures: hydraulic fracturing of the plate and installation of gravel.

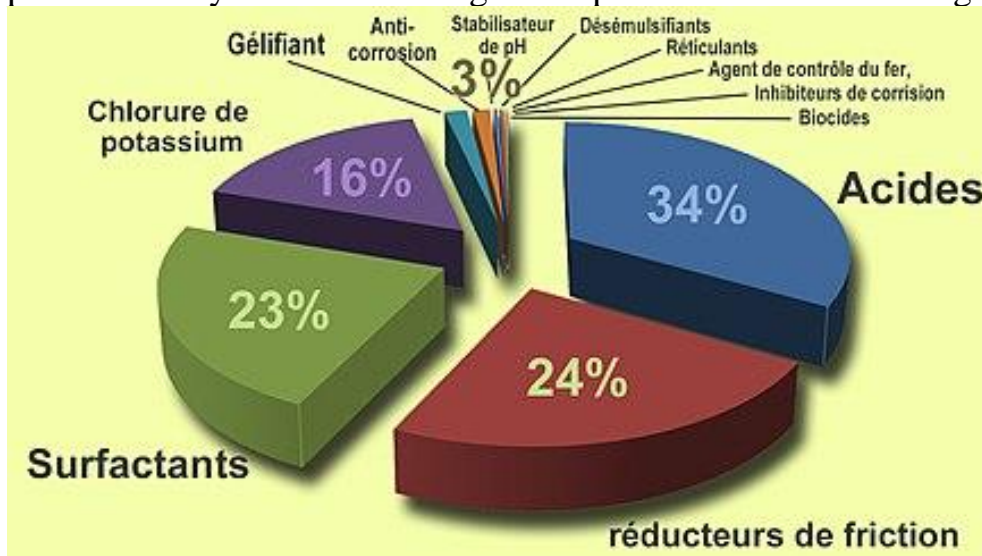


Fig. 1 Proportions of different chemical agents used in the fracturing fluid additive (for the case presented, in the Fayetteville Shale reservoir in the United States [7])

Hydraulic fracturing technology with a gravel filter is an important tool in modern oil and gas production. Its application allows to achieve optimal results in increasing the productivity of wells and to ensure a stable and efficient process of extraction of natural resources [8].

One of the key advantages of using hydraulic fracturing technology is increasing the productivity of wells. This method makes it possible to increase the production of oil and gas from each well, which in turn leads to an increase in total production and an improvement in the efficiency of production operations.

Hydraulic fracturing of the formation helps to increase the production of oil and gas by improving the permeability of the formation. This process makes it possible to increase the permeability of rock formations, which in turn ensures a more efficient and stable process of extracting valuable energy resources [9].

The use of hydraulic fracturing technology also contributes to the optimization of oil and gas extraction processes. This method makes it possible to increase the efficiency of mining, reduce costs and improve the overall productivity of mining facilities.

Hydraulic fracturing technology is extremely important in modern oil and gas production, bringing significant benefits in the form of increasing the productivity of

wells, increasing oil and gas production, as well as optimizing the processes of extracting valuable energy resources [10].

The technology of hydraulic fracturing with the installation of a gravel filter is a key stage in modern oil and gas production, bringing significant benefits in terms of increasing the productivity of wells, improving the permeability of the formation and ensuring a stable and efficient process of extraction of natural resources.

This method allows you to achieve optimal results in increasing the productivity of wells, which in turn leads to an increase in oil and gas production. Improving reservoir permeability through hydraulic fracturing helps to more efficiently remove valuable resources from deep rock formations, ensuring a stable and efficient mining process.

In general, hydraulic fracturing technology with a gravel filter is an integral part of modern oil and gas production, providing optimal conditions for the effective use of natural resources and ensuring the country's energy security.

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