



## Acid Jet Drilling Could be the Game Changer

By Abdelghani Henni 24 Jun 2014

Diversitech Holdings, a consulting company in Russia and Kazakhstan specializing in coiled tubing (CT), said recently that its acid jet drilling technology is suitable for carbonate reservoir formations, which are very common in the Middle East, according to Dauren Tukenov, chief technology officer at Diversitech.

The new technique, which consists of tools and chemicals, aims to increase the recovery factor to be as good as acid fracturing a few times. “Currently, depending on situation in your field, you can select different methods of stimulation,” Tukenov said: cleaning, acidizing, and hydraulic fracturing, conveyed through CT, or acid jety drilling conveyed through CT. “Meanwhile, acid jet drilling can enlarge reservoir contact area as good as acid fracs and, therefore, (have the) same drainage improvement results. The only difference is that there is less environmental impact (and) less equipment.”

The new approach consists of making holes in the rock by dissolving it with acid, so there are no returns to the surface. “Normally, acid drilling is done on a 2-joint bending tool. Our tool is smaller in diameter and has 6-joint bending, so it can bite better into rock walls and make a hole in it. This new hole can drain new fractures that have not been connected to the wellbore,” Tukenov said.

Acid jet drilling is an innovative technology used on a large scale. The method involves creating several side horizontal boreholes using coiled tubing and special assemblies in the uncased part of the productive formation. “The use of coiled tubing enables (us) to perform operations without involving a well workover team and without pulling the equipment out of the hole,” Tukenov said. “This ensures well control at all stages of the job and reduces time and money needed to put the well into operation.”

The new technology is mainly suitable for companies that operate big carbonate reservoir formations. “Almost all fields in the Middle East are carbonate formations, where acid drilling can be done in carbonate formation and limited to openhole completions,” he said. “We are exploring opportunity to introduce this technology (throughout the) Middle East.”

Research and development for an acid jet drilling package of new generation is being conducted will allow to receive information about the arrangement of channels and to orient the tool. “Our engineers are now developing new technologies and approaches to field operations based on CT technologies, but we can talk about it more after full field trials,” Tukenov said. “Today we are technically and technologically prepared to perform drilling operations using CT and have already received orders for such operations.”

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