Case History

Reservoir Fluids

First Application of N-FLOW™ Breaker System Filter Cake Removal in Indonesia

Location: Block Muriah, Indonesia

OPERATOR’S CHALLENGE – The operator was concerned about oil production rates in the lower completion zones as the previous offset wells in the area had zero production in the respective zones. Filter cake removal methods are a common challenge facing operators in the region; the operator was seeking a solution to remove filter cake and achieve a production rate in accordance with operational goals.

HALLIBURTON’S SOLUTION – Halliburton Baroid’s technical team recommended solution was the N-Flow™ Breaker System in conjunction with a precursor acid system which was formulated with breakers designed for a safe and controlled reaction in formations with dominating sand lithology. In such areas reservoir pores are highly susceptible to plugging because of such formations. The N-FLOW system helped to increase the production rate as expected by removing filter cake for about 30 hrs. Lab tests and field execution indicated that the N-FLOW system worked as planned, to pinhole the filter cake, and break through the filter cake, increasing the production rate.

In addition to achieving the requested production rates, the customer also achieved the benefits of safer handling on the surface compared to using a conventional acid and reduced delay time necessary to do its upper completion.

ECONOMIC VALUE CREATED – The offset wells previously drilled in the area had no production out of their lower completion zone which is why the N-FLOW system was proposed as the solution. With the N-FLOW system, the lower section of the well produced and as a result, the customer saved costs related to the stimulation of the lower completion. Because the N-FLOW system is neutral at the surface and while being pumped into place, it can provide a safe solution for the crews to handle and help ensure that a uniform reaction takes place down hole. By using the N-FLOW breaker system, the operator was also able to save rig time that would normally be required to receive and mix conventional acid at the rig site.