

ENERGY TECHNICAL BULLETIN

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PENNECO
YOUR ENERGY EXPLORATION PARTNER



PENNECO Uses Alpha 3385

Recently, PENNECO Oil Company was encountering some trouble with sand flow-back on wells drilled in the Plum area of Western Pennsylvania. PENNECO wanted a solution to keep more proppant in the fracture when treating the Speechly Stray (oil-bearing sand) formation. Wells in this area are typically treated with water frac, using natural sand proppant placed with guar gel.

To solve this problem, PENNECO teamed with Universal Well Services, who suggested Alpha 3385 for PENNECO's use. Alpha 3385 is a proppant flow-back control additive that forms a thin coating on the proppant, which becomes sticky after placement. Usage of the chemical was limited to one stage. Flow-back between stages and during well cleanup was monitored.

It should be noted that Alpha 3385 was used during the last stage of the frac only. Because it was not added to every stage, results cannot be completely attributed to the Alpha chemical. Alpha 3385 was added based on pounds of proppant pumped. The rate of Alpha 3385 was ramped to account for ramped sand concentration used in the treatment.

The primary benefit observed from using the ALPHA chemical was the cost savings of not having to sand pump the well prior to installing tubing and getting the well in-line. After tabulating the chloride concentration, it was found that there is no trend in the chloride levels. It can be assumed that the Speechly Stray was contributing oil into the flow-back fluid because of the increasing presence of oil in the flow-back fluid. This is when high sand flow-back problems were encountered in the past. Also, it was determined that the economic impact of running Alpha 3385 is very minimal for a typical job. On this project, it was determined that the added cost of running Alpha 3385 on one stage would be \$1,019.08.

Further information as to the effectiveness of Alpha 3385 can be gathered after the well is completed and cleaned up, and after it is observed how much sand is in the bottom of the pit when the water is hauled out. Please note that the results from this well are assumptions because there were three other formations contributing to flow-back.

This information was provided by Universal Well Services.

