



CASE HISTORY

Unconventional Resources: Tight Formations

PosiFrac® Multi-Stage Fracturing System

FIRST POSIFRAC MULTI-STAGE COMPLETIONS IN THE EAGLE FORD SHALE

The PosiFrac Multi-Stage System was deployed and activated successfully in two wells in the Eagle Ford Shale formation of South Texas.

CHALLENGES: An E&P operator in South Texas wished to stimulate two wells in the Eagle Ford Shale formation in Zavala County. Both wells were roughly 10,000 ft (MD) with 5,000 ft vertical and 5,000 ft horizontal sections. The wells were to be stimulated at 70 bpm and approximately 250,000 lbs of proppant per stage. The treatment program



consisted of an initial 15% HCl acid treatment, followed by a slick-water pre-pad with 1.0 ppg 100 Mesh and a delayed-borate cross-linked guar slurry carrying up to 4 ppg 20/40 White Sand. The customer wanted to stimulate at least 18 zones in the Eagle Ford formation and one zone in the Austin Chalk play at the heel of the wellbore.

SOLUTION: TAM provided the operator with the 5-1/2 in. PosiFrac® Multi-Stage Hydraulic Fracture System for two wells to selectively stimulate each stage. Each system consisted of 19 or 20 FREECAP® water swellable packers, 17 or 18 Ball-Activated Fracturing Sleeves, and one Hydraulic-Activated Fracturing Sleeve per well, for a total of 18 stages or 19 stages, respectively. The float equipment in each completion string included TAM's Circulation Closing Valve, a Float Collar, and a Float Shoe. Additionally, TAM's Metal-to-Metal Sealing Port Collar was installed in the vertical sections of each well to allow for cementing the annulus to surface in the 9-5/8 in. intermediate casing. This system was designed to selectively isolate and stimulate all stages within the operator's targeted intervals.

RESULTS AND BENEFIT: The PosiFrac Multi-Stage Hydraulic Fracture System was installed successfully on both wells. After the TAM FREECAPs created isolation, the Hydraulic-Activated Fracturing Sleeves were opened in each completion at the predicted pressures, and a Diagnostic Fracture Integrity Test (DFIT) was performed through the ported sleeve to optimize the treatment program. The operator then pumped the stimulation treatments on the 18-stage well and the 19-stage well successively. The PosiFrac Multi-Stage completion tools performed as designed, and positive indication of sleeve opening was observed through distinct pressure spikes on all 35 Ball-Activated Frac Sleeves. The customer has commented since completing the stimulation treatments that they are very pleased with the effectiveness of the TAM PosiFrac System and have in fact never seen positive pressure indication on all sleeve activations before.