Case study: Completion
Location: Vaca Muerta Formation, Neuquen, Argentina

Vista Oil & Gas Argentina Eliminates Postfrac Milling Concerns

ReacXion Complete frac plugs isolate 143 stimulation stages in four wells and then completely dissolve in frac fluid to avoid milling runs, Vaca Muerta Formation

Vista Oil & Gas Argentina used ReacXion Complete* fully dissolvable frac plugs to isolate stimulation treatments in four horizontal wells, enabling production from all stages even if casing deformation prevented CT plug milling.

Vista’s concerns
The combination of geological heterogeneity and high frac pressures in the Vaca Muerta Formation of Argentina sometimes causes casing deformation severe enough to prevent coiled tubing (CT) from passing sections with restricted ID to mill frac plugs in long horizontal laterals.

What Vista considered first
Vista initially considered millable frac plugs and CT-manipulated frac sleeves, but engineers were concerned that high drag forces from damaged casing would limit CT reach. In that case, the stimulated zones below the CT reach would be unable to contribute to production.

What Schlumberger recommended
The KickStart* rupture disk valve is an interventionless technology that remotely kicks off the toe stage in each well. After the KickStart valve opens the well for circulation, the remaining stages can be isolated using ReacXion Complete frac plugs delivered with conventional pumpdown techniques. After stimulation, the plugs dissolve without further intervention.

What Vista achieved
Vista completed 143 frac stages in four wells in less than 19 days, including 11 stages in a 24-hour period—the fastest in the region—and an overall 91.6% pumping efficiency, a measure of the percentage of time the frac crew is pumping. (Typical efficiencies in the area range from 50% to 65%.) One contributor to this efficiency improvement was the antipreset features of the ReacXion Complete plugs, which enabled rapid pumpdown with consistent setting performance and no plug misruns.

After stimulation, CT was run into the wells for a sand cleanout. The shortest time between setting the last plug and running CT was about 4 days, which was enough time for the ReacXion Complete plugs to dissolve. No plug milling was required, and the plugs showed excellent dissolution performance.

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