CASE STUDY

CAMShale Service Provides 99% Frac Valve Uptime, Fayetteville Shale

Operator saves USD 676,000 in one year and avoids multiple valve replacements at USD 1.5 million each, Arkoma basin

CHALLENGE
Perform hydraulic fracturing services for a multiwell project in the Fayetteville Shale, USA, while minimizing NPT and frac valve replacements.

SOLUTION
Use CAMShale* fracturing fluid delivery and flowback service to streamline operations, improve reliability, and maximize uptime.

RESULTS
- Achieved 99% valve uptime, avoiding multiple valve replacements at USD 1.5 million each
- Reduced equipment delivery and installation costs by approximately 50% or USD 400,000 over one year
- Saved USD 276,000 during the year by eliminating the need for multiple contractors

Operator needed reliable valves for uninterrupted hydraulic fracturing
An operator in the Fayetteville Shale play had a multiwell fracturing backlog and an ambitious deadline. A service and equipment provider capable of helping the operator achieve its goals safely and efficiently was required. Excellent safety performance, good quality and reliable equipment and service, and proven fracturing knowledge were essential.

After previous experiences with NPT, the operator wanted to maintain continuous fracturing operations without unexpected shutdowns for valve repairs. Conventional valve failure rates can range from 10% to 30% and cost USD 2,500–USD 100,000 per day; in the event of loss of well control, costs can exceed USD 2.4 million. Each new valve cost the operator approximately USD 1.5 million in time and equipment. The operator approached Cameron for a solution.

CAMShale service maximized performance
Cameron implemented the CAMShale fracturing fluid delivery and flowback service, incorporating frac trees, frac manifolds, frac iron, and the FracServ* enhanced valve-reliability program. The service provides seamless delivery of hydraulic fracturing fluid from the pumping service provider’s missile trailer to the wellbore and through to flowback. Comprehensive, integrated service and support from a single provider helps optimize overall efficiency while reducing NPT, costs, and environmental impact.

The CAMShale service streamlined operations and ensured that any degradation of fracturing equipment was identified and corrected before the equipment was reassigned.
The fracturing environment is harsh to every component of a frac valve. Left unchecked, fluctuating pressure coupled with erosive and corrosive service can damage the structural integrity of the valve body while the dynamic environment can significantly fatigue bolting. Large pressure variations and the chemical composition of fracturing fluids reduce the lifespan of elastomers and particulate debris affects performance of fittings.

Cameron procedures, developed by design and quality engineers, help prevent frac valve failures, saving costly downtime for valve changeouts. The FracServ program establishes a sequence of inspections and procedures designed to ensure that any degradation of fracturing equipment is identified and corrected before the equipment is reassigned. Adherence to these service procedures provides Cameron frac valves in “as new” condition for each fracturing project.

**Operator saved USD 676,000 and multiple valve replacements in one year**

The operator was able to successfully ramp up operations in the Fayetteville Shale in a safe and efficient manner. The on-time delivery of a large number of composite block trees and the need for fewer contractors on site reduced equipment delivery and installation costs by almost 50%. For 75 wells over one year, the operator saved approximately USD 400,000. In addition, the use of only one contractor on location lowered costs by approximately USD 276,000. With 99% valve uptime, the operator also avoided multiple valve replacements at USD 1.5 million each. This operation set the standard for the operator’s projects in other shale plays.