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# CAMShale Service Enables 99.5% Uptime During Fracturing Operations, Bakken Shale

## Operator drills and completes 150 wells in 10 months without compromising safety or efficiency

### CHALLENGE

Maintain high HSE and service quality standards during a period of 70% activity increase involving drilling and completing 150 wells in one year in the Bakken Shale.

### SOLUTION

- Design and develop a fit-for-purpose wellhead.
- Implement the CAMShale* fracturing fluid delivery and flowback service.
- Deploy 45 dedicated and highly trained service technicians.

### RESULTS

- Performed more than 1,650 field service jobs in 10 months with zero lost-time injuries.
- Supplied 115 frac trees with 99.5% uptime.

### Rapid growth posed a challenge to safety and efficiency

With the rapid expansion of oil and gas activity in the Bakken Shale, an operator planned to drill in excess of 150 wells in one year, increasing its well count by more than 70%. High safety and operational standards were crucial to minimize the NPT and HSE risks associated with such fast growth while maximizing productivity.

### Partnership with Cameron provided a comprehensive solution

The operator requested Cameron to provide fully integrated services and products, including:

- wellheads
- frac trees
- production systems
- flow control
- test, torque, and grease services
- decommissioning and abandonment
- technical expertise
- asset management
- service competency
- crane services

The main Cameron scope was the CAMShale fracturing fluid delivery and flowback service, which includes a multiskilled crew, fit-for-purpose technology, and the FracServ* enhanced valve-reliability program.

The team engineered and manufactured a wellhead specifically for the Bakken Shale. The drill-through wellhead system met the operator's requirements for dual internal and external seals on hanger packoff assemblies. This advanced system provided dual-barrier 10,000-psi isolation and enabled external tests to be performed.

*Cameron frac trees on the operator's Golden Creek/Burner pad in the Bakken Shale.*

*Cameron service technicians, crane, test truck, and hydraulic lubricator on location in the Bakken Shale.*

The FracServ program includes inspections and procedures to identify equipment degradation and adapt maintenance programs to ensure frac valves are in 'as new' condition for each job.

The Cameron service competency system ensured that all the 45, locally hired, dedicated service technicians completed a comprehensive, two-level wellhead field service training program and were approved to operator safety standards prior to placement.

## Operator achieved 99.5% fracturing uptime and zero lost-time injuries

Over the course of 10 months, Cameron supplied approximately 115 frac trees with 7-in and 4 1/16-in, 10,000-psi frac valves that achieved a 99.5% success rate. The seamless delivery of hydraulic fracturing fluid from the pumping service provider's missile trailer to the wellbore and through to flowback streamlined operations and maximized efficiency. More than 1,650 field service jobs were performed with zero lost-time injuries.

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