

FNGINEERED RELIABILITY & EFFICIENCY

Case Study: Utah, United States

King™ Frac Plug - Reliability Needed in Adverse Well Conditions (Size 360 Royal Frac Plug)

Challenge:

An operator running 4.5" Frac Plugs out in the Uinta Basin was having issues with their plug providers frac plugs slipping during long fracture treatments and inability to hold pressure due to high formation breakdown. The operator was looking for a frac plug that could reliably seal and stay in place after multiple frac ramp ups per stage due to using diverters and be able to handle long flowback due to potential screen outs.

Solution:

The customer opted to install 90 King™ Frac Plugs using Royals Easy to attach WLAK and E4-#10 Setting Tool. The frac engineers on location requested to run the frac plugs with ball on seat, noted plug pressure integrity during initial pressure checks before firing first perf. Multiple plugs endured long flowbacks due to screen outs with no issues. The wells were completed without incident, and all King™ plugs were milled out in under 5 min per plug with no issues.

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Well Specification

- 4.5"- 13.5 lb/ft Casing
- 5,000 10,000 ft Lateral Length
- 10,900 ft TVD
- 13,500 psi Max Frac Pressure
- 240°F

Results:

- Reliability during multiple pressure cycles and long fractimes
 - Zero King™ Frac Plugs slipped or gave way during frac
 - No pressure drops signifying plug movement
 - All plugs were tagged at the proper depth
- Multiple plugs were able to handle long flow backs during screen out
 - Plugs that were flowed back on were tagged at the depth they were set in

