

INTERRA SUCCESSFULLY ACTIVATES TOE SLEEVE CLUSTER AFTER 200+ DAYS DOWNHOLE

LOCATION: MONTNEY FORMATION

CUSTOMER OBJECTIVE



Most toe sleeves open at a predetermined pressure, only providing injection to pump down guns and initiate the first stage on a frac. An operator working in the Montney formation required a solution that would decrease toe prep costs associated with conventional completion methods while maintaining the ability to achieve a full casing integrity test. In this specific application, many of the wells are drilled and then left uncompleted for more than 6 months, which leaves pressure activated toe sleeves exposed to downhole environments before operation.

HOWITZER®



SOLUTION

Interra Energy's proprietary Howitzer® Testable Toe Sleeve was engineered with longevity in mind, designed with components that do not lose integrity when subjected to downhole conditions for extended periods of time.

The Howitzer enables operators to pressure test the well to the maximum integrity of the casing. Running multiple Howitzer Toe Sleeves allows operators to match perforation cluster design. The Howitzer sleeves open simultaneously upon bleed down of pressure, ensuring injection is established throughout the entire frac cluster.

RESULTS

Initially, the Howitzer Toe Sleeves were run as part of a 4-well trial. The solution created higher efficiencies, including fewer services on location, which reduced costs in comparison to conventional methods. This allowed the operator to perform a diagnostic fracture injection test (DFIT) immediately following the completion of their casing pressure test.

The operator utilizes one frac fleet with multiple drilling rigs; therefore, the average time between production casing installation and toe preparation has been approximately 200 days. The Howitzer Toe Sleeves reliably performed during the casing test and toe prep operations, and the operator now routinely deploys clusters of two Howitzer Toe Sleeves in their natural gas producing wells.

TECHNOLOGY HIGHLIGHTS

- Pressure test casing to maximum required operating levels prior to stimulation.
- No time limit on pressure test duration.
- Unlimited number of Howitzer sleeves can be deployed at the toe in a single cluster.
- All Howitzer toe sleeves in a cluster open simultaneously.
- Howitzer toe sleeves can be configured with limited-entry ports to match frac design.
- Large bore ID.
- Compatible with industry wiper plugs.
- Activation pressure can be configured to reservoir and customer requirements.
- Locking mechanism keeps the Howitzer sleeve open once activated.
- Meets or exceeds all North American regulatory requirements.