



Case study: Cflex®

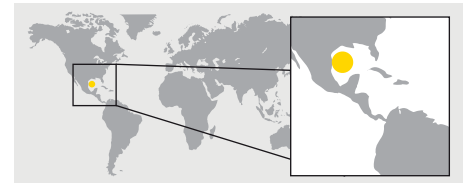
Cflex® provides reliable annulus integrity when primary cementing falls short in the Gulf of Mexico

Challenge

A major international operator anticipated significant operational difficulties in cementing the annulus of a horizontal well that intersected a low fracture gradient formation. In order to comply with regulatory requirements, 500ft of cement was required above the uppermost production zone at 10,091ft measured depth (MD), crossing the liner lap of the 9 5/8in and 13 5/8in casing at 9,825ft MD. Modeling and offset data indicated that traditional primary cementing methods would be unable to ensure well integrity, leading the operator to explore a contingency solution.

Solution

The operator selected Archer's Cflex® multistage cementing technology as a contingency in the event that primary cementing failed to provide sufficient cement coverage. The Cflex® was run integral with the 9 5/8in casing string to 9,391ft MD, 700ft above the upper-most production zone. As anticipated, the primary cement job provided insufficient zonal coverage. Cflex® was then operated to displace 100bbl of cement down to the upper-most production zone, isolating the 13 5/8in casing shoe at 9,825ft MD.



Region: Gulf of Mexico, United States

Well type: Oil & Gas

Case benefits

- Avoided the high cost and risk of tertiary remediation
- Compliance with regulatory requirements
- Secure well integrity

Key capabilities

- Unique seal tested to modified ISO 14310 VO standard
- Improved annulus integrity and zonal isolation
- Security and confidence in gas tight sealing capability and mechanical integrity
- Easy installation and single-trip operation of multiple Cflex® devices
- Precise and conclusive operation for open, close and lock; no risk of accidental lock
- Improved operational efficiency and effectiveness
- Versatility and flexibility for multiple applications
- Slim design minimizes ECD effects
- Large flow area ports maximize possible flow rate

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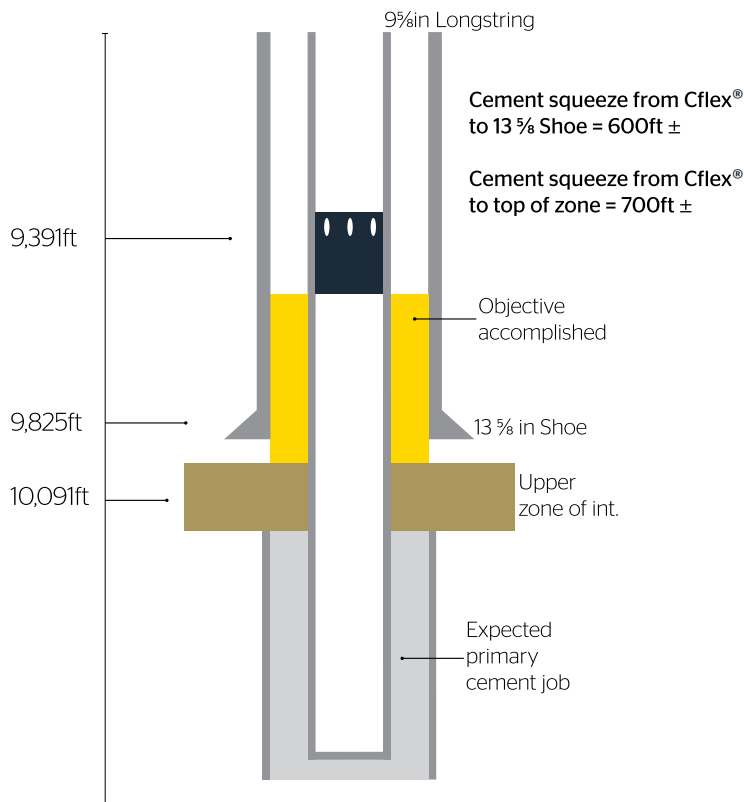
Result

Cement bond logging clearly demonstrated that 600ft of effective pressure barrier cement was in place above the production zone, crossing the 13 5/8 in and 9 5/8 in liner lap. The Cflex® was then locked closed to create a permanent VO rated gas tight seal.

The successful contingency operation allowed the operator to meet its regulatory requirements and move forward with completion operations without further delay, ultimately mitigating the costly, high risk tertiary remediation of perforating and squeezing cement.

Typical applications

- Controlled, secure and selective access to casing annulus
- Multistage cementing
- Annulus cleanout
- Fracturing



Cflex®



Cflex® multifunction operating tool controls Cflex® selectively and precisely.



Cflex® dart catcher

Archer is a global oil services company with a heritage that stretches back over 40 years. With a strong focus on safety and delivering the highest quality products and services, Archer operates in 40 locations over 19 countries providing drilling services, well integrity & intervention, plug & abandonment and decommissioning to its upstream oil and gas clients. **We are Archer.**