CWC FREEZE PLUG ISOLATES WIRELINE PACKOFF FOR RAPID, SUCCESSFUL RESULTS

Cudd Well Control helped an operator identify and quickly resolve a well control situation that required immediate attention to resume a critical fishing operation, despite the following conditions:

- 3,500-psi wellhead pressure
- Stuck wireline tools situated across all surface isolation valves, with wire pulled out of rope socket and wireline packoff
- Wireline packoff holding pressure with no wireline in it

After meeting with the operator to discuss our options, we killed the well using the bullhead method, but the integrity of the wireline packoff remained questionable as it could potentially fail while pumping kill fluid. Building on the successful use of a proprietary CWC freeze method in similar well control scenarios, we began work to isolate the wireline packoff with an ice plug that would allow simultaneous kill operations, installing the plug as a critical barrier.

Crews freezed the frac valve below the flow tee, allowing us to test the plug while providing isolation from the well pressure. We rigged up a specialized freeze hose across the frac valve and connected it to a nitrogen transport. Once the hoses were rigged up, we pumped bentonite gel and nitrogen through the freeze hose, closely monitoring the temperature of the nitrogen during the entire freeze operation.

After freezing overnight, crews confirmed that the ice plug had formed and pressure tested it. After successful positive and negative pressure tests, we began the kill operations with 14.1 ppg of mud, employing the ice plug as the primary barrier.

We achieved a successful kill with 150 bbl of mud pumped. After confirming the well was dead and with the freeze plug still holding, crews ensured the wireline tools were nippled down to the lowest point and installed a new frac valve. The well was now secure and ready for fishing operations once again.