

Expro Excellence Managed Pressure Drilling applications delivers a cost effective solution

PowerChokes



Objectives and background

- During connections, the well was becoming underbalanced and the customer was experiencing gas returns. This increased the likelihood of the well experiencing pressure control issues and concerns relating to flaring
- The customer was drilling in a formation which had a high pore pressure, this required a higher ECD and bottom hole pressure. The customer was looking for a solution to reduce the cost of drilling muds by mitigating the use of heavy drilling fluids
- The well plan called for a total depth of 20,308' and a run of 5.5" 23# P110 casing string
- Expro had worked with the customer previously but this is the first time the customer has utilised Expro's new ABP software to aid their drilling operations
- While conducting MPD operations, Expro's auto tuning software allowed operations to be fully automated through drilling and connection, using its patented ramp table technology
- Expro was able to rig up in a way that allowed the rig to hold a backpressure of 20-80PSI at surface while drilling at flow rates in excess of 700gpm. This was completed utilising the dual choke mode of the new ABP software, allowing flow to be managed through both chokes simultaneously

Value to the client

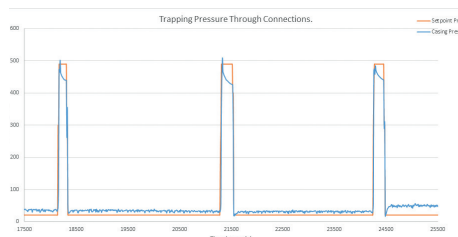
- Expro provided personnel and equipment for this application and assisted in calculating surface back pressure required to reduce the cost of our MPD operations for the customer
- Our customer did not have to weigh up the mud which resulted in time and cost savings
- Expro's dual choke mode was able to successfully reduce surface friction pressure allowing pressures as low as 20PSI to be held while drilling
- Our system is fully automated allowing a reduced amount of MPD operators on the rig
- We were able reduce the connection gas to negligible and avoided any associated NPT
- Our Automatic Back Pressure system's software allowed us to trap pressure without compromising on connection times allowing the rig to drill quicker

Expro Excellence

- Expro provided an MPD solution, which allowed the operator to drill with a lighter mud weight by applying a back pressure at surface, maintaining a high ECD and pressure downhole
- Expro completed MPD applications on another well utilising our Automatic Back Pressure software, which is capable of trapping pressure automatically during connections. As can be seen in figure 1, the pumps can be ramped up and down very quickly to minimise the connection time during MPD operations while maintaining a constant ECD/ bottom hole pressure
- Expro assisted in calculating the surface back pressure required to maintain a constant pressure profile downhole with our in house engineering team and hydraulic well modelling capabilities
- After visiting the rig site, we were able to provide a tailored solution for the customer's specific operational requirements leading to reduced rig up time and a cost effective solution



Cost effective



Contact

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