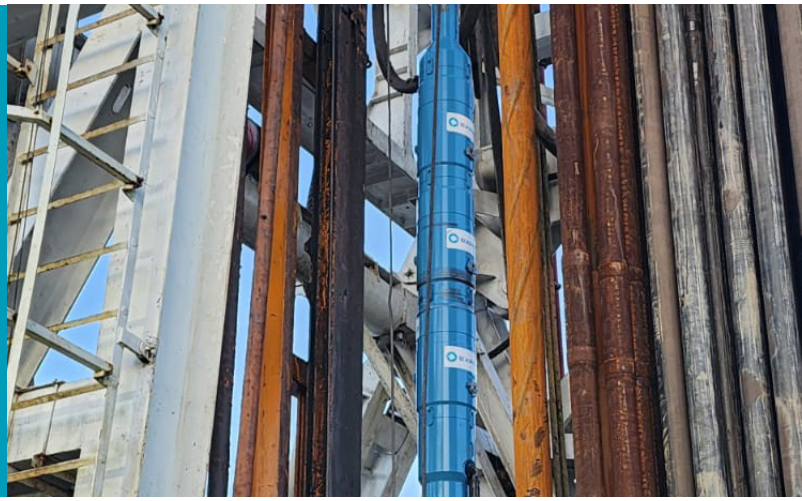
Expro Excellence

# Expro's proprietary line of rotating cement heads delivers proven improved primary cement job, safely, and without additional risk to the wellbore

## Well Construction | Cementing Technologies



### Objectives and background

- An operator who drills wells in the Marcelles and Utica shales in the Northeastern US, drilled three wells in the same area using the following parameters:
  - Well #1 – Centralized 1 per 3 joints. Not rotating casing during cement
  - Well #2 – Centralized 1 per 3 joints. Rotated casing during cement and pumped a cement additive that limits fluid migration through mud channels
  - Well #3 – Centralized 1 per 3 joints. Rotating casing during cement. Without the cement additive

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- Well #1 - the results from this bond log show that mud displacement was poor resulting in channeling and less than desired zonal isolation for completions. Laminar flow was dominant during cementing from lack of pipe rotation
- Well #2 - competent cement quality and zonal isolation were obtained through pipe rotation while cementing. Channeling has been reduced and turbulent flow achieved with the addition of pipe rotation. Additives pumped in the cement blend seemed to further increase zonal isolation and were validated with higher breakdown pressures
- Well #3 - similar characteristics from a cement quality and zonal isolation standpoint comparable to the second well. Again, pipe rotation created turbulent flow increasing mud displacement and significantly reduced channeling. Increased zonal isolation was confirmed during completions with higher breakdown pressures

### Value to the client

- The operator was able to quantifiably prove that fully automated cement heads that allow for reduced wellbore fluid static time, rotating while cementing or pipe movement while cementing, and keeping personnel out of the red zone can enable the operator to achieve their primary cement job objectives while safeguarding their rig personnel against increased risk during the operation
- Rotating or reciprocating the pipe to get the wellbore mud moving and breaking up the filter cake leads to a better cement bond and an improved chance of meeting zonal isolation and well barrier objectives the first time

**Safety**

**Operational efficiency**

**Reduction of rig time**

To view the original paper visit **aade.org**
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