UNCONVENTIONALS

CASE STUDY

SRC Energy and Halliburton Cementing Enhance Barrier Coverage

ROTATION FROM COMMANDER™ FULL BORE CEMENT HEAD HELPS ELIMINATE VISUAL CHANNELS

DENVER-JULESBURG BASIN, COLORADO

CHALLENGES

- Obtain better bond logs
- Reduce annular pressure caused by fluid/gas migration

SOLUTION

- LockCem™ cement, along with latex and foam cementing technologies, to improve bond logs
- Commander™ FB top-drive cementing head to eliminate annular pressure

RESULTS

- Rotation benefited the horizontal section by eliminating visual channels
- Achieved significant improvements in zonal isolation

OVERVIEW

SRC Energy was looking to develop new annular pressure mitigation plans to address changing requirements in the Denver-Julesburg Basin in Colorado. The Colorado Oil and Gas Conservation Commission had recently released a notice to operators regarding new regulations on the amount of annular pressure that is acceptable prior to and after stimulation before a well can be produced. Outlining the well challenges and aligning to the state regulations, SRC and Halliburton worked together to identify an integrated solution including three key cementing products (LockCem™ cement, tailored with latex and foam cementing technologies) and the new Commander™ Full Bore cement head in order to reduce annular pressures and improve bond logs.

CHALLENGES

SRC wanted to reduce uncertainty and the risk of channeling by adjusting their operational program to include new slurries and pipe rotation as best practices to address any gas migration and annular pressure issues moving forward. SRC and Halliburton estimated that proper mitigation of these issues would help improve zonal isolation.

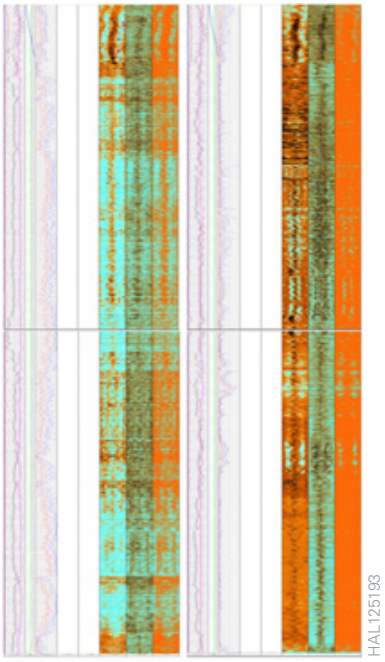
SOLUTION

Halliburton recommended its LockCem™ cement, along with latex and foam cementing technologies, and the Commander FB top-drive cementing head. For this latter tool, rotation would be run at 30 rpm for the entire cementing job, with a maximum torque of 29,000 ft-lb.

RESULTS

The rotation showed a drastic benefit in the horizontal section by eliminating visual channels. CAST-M™ bond logs were run in the horizontal section to determine the effectiveness of the rotation. The Halliburton solution ultimately provided significant improvements in zonal isolation.

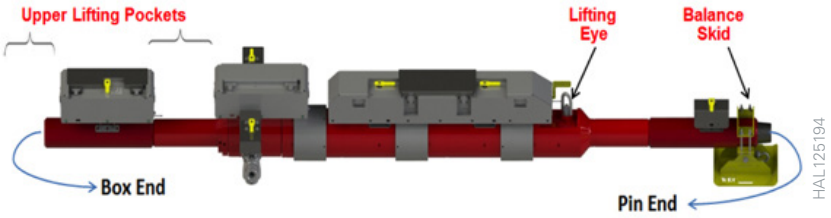
Extended Reach Horizontal logs



Latex *Latex/Rotation*

Commander™ FB Top Drive Cement Head

» Fullbore, two-chamber design
- Rotation was run at 30 rpm
- 7,500 lb
- Approximately 19 feet (5.8 meters) long
- Maximum allowable working pressure (MAWP) of 10,000 psi
- Maximum hook load of 700,000 lb



www.halliburton.com

HALLIBURTON