



## Jan, '09 – Well of the Month – 02-04 and 12-04-87-11 W5 CFOL

*PowerDrill™ saves \$700,000 for intermediate casing jobs on two horizontal wells in Evi.*

### Challenge

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- Minimize drilling time and costs with problem-free drilling from surface casing shoe to TD without the customary intermediate casing string at the end of the build section (approx. 1600 meters MD).
- Drill 200 mm OH from the surface casing shoe to HZ TD in the Slave Point formation at 1470 meters TVD (2097 and 2236 meters MD).
- Run production casing and cement with no fluid-related lost time.

### Recommendation/Plan

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Drill under surface shoe with inhibitive floc-water using New PHPA L and HighPerm™. Mud up with PowerDrill™ at 1000 meters, just above the Ireton formation. This would enable the operator to:

- Maintain good hole conditions and minimize enlargement in the upper hole by inhibiting reactive shale sequences with a PHPA excess of 1.5-2.0 kg/m<sup>3</sup> and additions of HighPerm™ at a rate of one pail for every 50-75 meters of new hole drilled. This would allow fluid properties in the horizontal interval to be managed without deference to upper-hole instability or washouts.
- Drill with PowerDrill™, a shear-thinning fluid that would enhance system hydraulics.

### Execution

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The wells were drilled with inhibitive floc-water to approximately 1050 meters. New PHPA L and HighPerm™ were both added every 50-75 meters through the water section to stabilize shale. The systems on both wells were mudded up to PowerDrill™ at 1050 meters, just above the Ireton formation. New PHPA L and HighPerm™ additions were continued to Total Depth. Total additions of both products were much higher on 12-04 due to significant losses. In both cases, fluid loss was lowered to 8.0 mL/30 min or less with Drillpac and NewEdge prior to entering the build section. Bentonite and Flowzan were used for viscosity.

### Results

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Both wells were drilled to total depth and cased. 02-04-87-11 W5 was completed to 2236 MD meters in 16 days and 12-04-87-11 W5 to 2097 MD meters in 12 days. Total fluid costs amounted to \$41,236 and \$68,147 respectively, the greater cost on 12-04 being attributable to lost circulation. These cost compared quite favorably with the cost of previous wells drilled in the area where an intermediate casing string was run.

## Summary/Operator Benefits

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PowerDrill™ performed exactly as designed, providing required inhibition and fluid properties with minimal hole erosion and optimal shale stability. These wells were drilled and completed with no major operational problems. Overall, CFOL benefited with an estimated \$700,000 savings in materials, services and rig time related to the elimination of the two intermediate casing strings.