



**AES DRILLING FLUIDS**

## CHALLENGES

- Drill an 8,000' curve and lateral section and place the 4 ½" liner
- Losses near the casing shoe with invert emulsion led to attempt to drill with water and avoid a sidetrack

## SOLUTION

- ENERLUBE lubricant added at the suction pit while drilling with water with partial returns to surface
- 6.5% v/v ENERLUBE pill spotted across the lateral on final wiper trip to aid the liner run

## RESULTS

- Torque reduction of 2,000 ft-lbs
- No issues during trips
- Reached total depth at 18,462' and placed liner, eliminating the need to sidetrack or abandon the well

## ENERLUBE<sup>+</sup> lubricant saves troublesome well in the Oklahoma East STACK

After severe losses using invert emulsion, the operator had no choice but to drill with water and sweeps or sidetrack and attempt to bypass the loss zone. ENERLUBE provided the lubricity to reach total depth without oil-based drilling fluid.

### Overview

A client was drilling a well in the East STACK of Oklahoma using tradition invert emulsion drilling fluid to drill the curve and lateral section. Shortly into the curve section, severe losses occurred and lost circulation material was ineffective. The client decided to attempt drilling the ~8,000' of remaining curve and lateral section with water and sweeps.

High torque became an issue as drilling continued. Walnut hulls were pumped in an attempt to improve lubricity with no effect. ENERLUBE was added while pumping water and torque lowered by 2,000 ft-lbs. Treatment continued while drilling with 50-80% returns to final depth at 18,642'.

A wiper trip was performed, spotting a 6.5% v/v ENERLUBE pill across the lateral. The 4 ½" liner was run to depth and cemented.

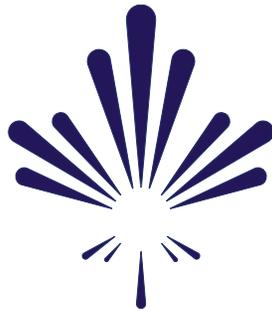


ENERLUBE was added directly to the suction pit, adjusting the tote valve to control the rate of addition

### Details

ENERLUBE was added at 2 gallons per minute at the suction pit starting at 11,772' until torque reduced by 2,000 ft-lbs from 14,000 ft-lbs. Additions were lowered to 1-2 gallons per minute or by half-totes while circulating with partial returns. Water additions ranged from 50-100 gallons per minute depending on losses.

Trips were trouble-free, including the wiper trip at total depth where the ENERLUBE pill was spotted.



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**[www.aesfluids.com](http://www.aesfluids.com)**

**[info@aesfluids.com](mailto:info@aesfluids.com)**

**888-556-4533**

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