

### Background

A horizontal directional drilling contractor was attempting a pilot bore to place a 20-in steel oil pipeline when an inadvertent return incident occurred, suspending operations for 5 weeks. To mitigate any future suspensions, a lost circulation materials (LCM) plan was requested; the material needed to be carefully chosen to ensure that it would have a minimal impact on the environment. Varied particle sizes and concentrations of nutshells, SAFE-CARB ground marble bridging agent, and fibers were proposed, along with a pumping procedure to cure the loss zone.

### Technology

SAFE-CARB\* ground marble bridging agent

# Lost Circulation Material Is Key Component in Reducing NPT

Full mud returns regained following lengthy suspension of activity



*After the LCM was pumped, a gentle squeeze was performed to force the LCM farther into the loss zone. After verifications were made that the LCM was properly in place, a temporary packer was positioned, and the operation was suspended over a national holiday. When operations resumed, full mud returns were regained, and drilling continued.*