Case History
Lost Circulation Materials

Engineered HYDRO-PLUG®
Lost Circulation Material
Helped Operator Cure
Severe Losses in Carbonate
Formation

Location: Egypt, Eastern Desert

OPERATOR’S CHALLENGE – Drilling in the Eastern Desert, Trans Globe encountered complete losses while drilling the 8.5” hole section to 3,338 ft. In the first attempt to cure the losses, a 100 ppb conventional lost circulation material (LCM) pill was unsuccessful. The operator continued drilling blind to 3,505 ft. to uncover the loss zone, with average losses of 70 barrels per hour (bph). In offset wells, the operator was not able to drill to total depth (TD) due to severe losses. Also in previous wells, successive cement plugs were pumped with no returns, the reservoir was damaged, and wire line logs were unable to be run to TD due to poor hole conditions.

HALLIBURTON’S SOLUTION – Halliburton Baroid’s technical team customized a pill to cure losses in the naturally fractured limestone formation. The pill consisted of a chemical sealant and sized particulate lost circulation materials:

- HYDRO-PLUG® “Engineered, Composite” Lost Circulation Material
- BARACARB® 600 Bridging Agent
- BAROFIBRE® Seepage LCM
- BAROLIFT® Sweeping Agent

A gentle hesitation squeeze was applied with 50-100 psi for 4 hours. This allowed the LCM pill to hydrate within the loss zone, sealing the fractures.

ECONOMIC VALUE CREATED – After applying the customized lost circulation solution, losses were secured and the well was drilled successfully to TD with normal seepage downhole losses of 10-20 bbl/hr. The HYDRO-PLUG lost circulation material pill helped stabilize the wellbore, eliminated non-productive time (NPT), and remediated any further significant losses of drilling fluid. Additional costs were avoided by eliminating the need for cement plugs, trips to remove BHA, or running a cement stinger. The total cost savings realized by using the HYDRO-PLUG treatment was estimated at $162,000, based on saving two days of rig time ($20,000), eliminating two cement plug jobs ($10,000), and avoiding further costs related to down hole loss volume and LCM treatments ($132,000).

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**PSD was modeled using DFG™ software**

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