



DOWNHOLE MOTOR TECHNICAL BULLETIN

TDT-TB005

SUBJECT: LCM (Lost Circulation Material) usage in Downhole Motors

CHANGE; DESCRIPTION; REASON: This bulletin documents the use of LCM when operating a Toro Downhole Motor.

OPERATION / INSTRUCTIONS: LCM is acceptable for use with a Toro Downhole Motor as long as the following considerations are observed:

- The amount of LCM should be kept to a minimum.
- A heavy “slug” or “pill” of natural (fibrous) material LCM should never be pumped through a Motor as it can plug the Motor and terminate operations.
- Abrasives in LCM should be kept to a minimum to avoid abrasion to the Motor components, resulting in reduced downhole performance.
- Sand content should be kept to a minimum of 1%.
- LCM should be added to the drilling fluid slowly, not exceeding 25 lbs. per bbl.
- No more than 10 ppb of fibrous LCM should be pumped through a Motor.

Synthetic polymers (non-fibrous) have been tested under ideal conditions as high as 80 lb./bbl. without plugging a Motor. However, Toro recommends that no more than 10 lb./bbl. of natural (fibrous) material combined with synthetic polymers not exceed a total of 25 lb./bbl.

Pictures on the following page show a Motor plugged with excessive natural (fibrous) LCM. As a result, the customer was forced to TOOH prematurely.

