Bentonite Diesel Oil Slurry

Lost Circulation Material

When mixed with water-free diesel, bentonite forms a semisolid slurry (BDO) that helps seal lost-circulation zones. BDO is used during drilling when muds containing fibrous, granular, and flaked materials are ineffective.

Applications

A 10-bbl batch of BDO with a density of 11.0 lb/gal contains 7 bbl of diesel oil and 27 sk (100 lb each) of bentonite. BDO slurries are effective at temperatures between 60° and 230°F (15.6° to 110°C).

A typical BDO slurry consists of 300 lb of bentonite per 1 bbl of diesel oil. The slurry is mixed with mud in the hole at a ratio of 3 to 8 bbl of BDO per 1 bbl of mud. Operators commonly begin a job at a ratio of 8:1 and gradually decrease the ratio to 3:1 by the end of the squeeze. Typically, the BDO slurry is pumped down the drillpipe while the mud is pumped down the annulus.

Compatibility

BDO slurries are not recommended for use in cementing oil wells.

Special Information

The following guidelines are recommended for jobs with BDO slurries:

- Drain all water and mud from the pumps and tanks.
- Use diesel oil to thoroughly flush the tub, mixer, pumps, and tanks on all trucks.
- Avoid BDO slurry contamination with mud or water in the suction lines and pumps.

Benefits

BDO slurries can provide the following benefits:

- They can help control severe lost circulation in areas where other lost circulation materials are ineffective.
- They can be effective in vugular and cavernous lost-circulation zones.
For more information on the benefits Bentonite Diesel Oil Slurry can bring to your cementing operations, contact your local Halliburton representative.