



The following is the cement plug recommendations that we have successfully used for many years. I also usually look at the mud log to see if there is a soft spot to begin the sidetrack.

The following are our recommendations for setting a good sidetrack plug first time :

If well considerations allows, pump a 20 barrel turbulent water flush ahead of the cement plug. Set a **300 foot** class 'A' neat cement plug from top of the fish (top of cement to be 50 feet above the kick off point, to allow for cement settling and later testing of cement for hardness). A 300 foot plug will give you enough cement plug for a second attempt if the first sidetrack attempt is unsuccessful. Slurry to be **16.5 ppg or more**, (important that this is achieved immediately after start of mixing cement, and keep a record of cement weights throughout cement job). Use NF1 defoamer or equivalent as required to control any aeration. Take **at least 6 samples** in foam cups at regular intervals and store in a safe place to monitor the cement hardness, and for the directional supervisor to inspect.
Note: All care should be taken to get the cement plug right the first time, if the cement plug is too patchy or light, it may never become hard enough to sidetrack off, in which case it may become necessary to set another cement plug.

If a tubing stinger is not available for the cement plug, and drill pipe has to be used, pull out of plug slowly to at least 30 feet above the top of the plug, and circulate the contents of the pipe and annulus plus at least 50%, (keep pipe moving while circulating).

Do not reverse circulate as this could put cement rings under the pin end of the drill pipe, which could cause problems later on, with these cement rings shaking loose and jamming inside the Downhole Motor.

After circulating at least 150% of hole volume, POOH & lay out the stinger, while WOC make up a bit with 3 x 16 or 18 jets + bit sub + drill collars etc., and RIH to the shoe and WOC for 24 hours.

At 24 hours plan to be 30 feet above the calculated top of the cement plug.

Pumping at normal circulation rate, circulate (**do not rotate**) down to feel for the plug (**measure kelly in to record the depth accurately**).

As soon as it starts to take any weight, drill 10 feet off the top of the contaminated cement, and then attempt to sit on cement with 15,000lb, check that the cement will hold this weight while circulating for 1 minute, if holding weight then dress off 10 feet of the plug and test drill the cement for hardness using the following parameters: **mark off 10 feet on the Kelly in 1 foot intervals, and time drill each foot with 40 RPM (set RPM first) and 10,000lb WOB, The plug should test at a minimum of 45 seconds to 1 minute per foot. (1 ½ to 2 minutes per foot is a very good plug after WOC for 24 hours)**

If the cement is not hard enough, then circulate the hole clean and WOC inside the shoe for a further 8 hours, the directional supervisor should then test drill the cement again.

When the cement is hard enough, dress off the plug to the KOP (kick off point), usually try to locate a soft spot if possible, circulate the hole clean and POOH to pick up the Hofco Powerdrill Hi-speed Sidetrack Motor.

Regards

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