

### Sidetracking from cement plug with RSS tool

#### Well Notes:

Operator	Well Name	Rig
Petro Operating	LG Everist 06	Ensign 140
Top Of Fish (TOF)	Bottom of Fish (BOF)	Inclination at sidetrack point
5386		45°
Volume of cement pumped	Expected top of cement (TOC)	
	4876 (excess to 4711)	

#### Goal:

Low side sidetrack off dressed cement plug placed on TOF using RSS assembly. Create 20ft of center-to-center well separation between LIH BHA and new well bore. Once the separation is confirmed then steer well back to intersect with the previous wellbore before KOP at 7936ft. If interception occurs then continue to RIH hole until 3 stands after LP (@9231 ft) and circulate 2 bottoms up to remove any trip gas accumulation and to condition mud and hole. RSS BHA will then be POOH, back reaming past the problem zone, and be replaced with a dumb iron BHA to perform full wiper run to TD @18898ft. If interception doesn't occur initially then drilling will continue with the RSS tool using the previously "as drilled well" as the target plan so interception may occur along the well path.

#### Procedure:

- Cement will be allowed 24 hours from placement to tagging TOC with RSS BHA
  - Ensure surface sample is retained for reference.
- Perform PJSM and review procedure with onsite team
- Pick up BHA as per directional ensuring tools have been strapped
- RIH and perform function test
- On the first stand that could encounter excess cement (4711ft) establish circulation at 450 gpm, and ensure tool is set to zero deflection.
- Wash and ream down with 80 rpm and 450 gpm, monitor motor differential and WOB to look for the start off good cement
- When 50ft of good cement has been drilled then pick up and prepare to start sidetracking.
  - If 4926ft is reached without good cement being encountered then stop, pick up and we will continue WOC.
- To begin sidetracking program the tool to 80% deflection with a low-side TF target and start drilling from the newly dressed cement top.
- Control drill to and maintain parameters to ensure that pad engagement is maintained.
  - At 80% deflection a DLS of 8-10°/100ft is expected so the near bit inclination at 10ft should show a change of 0.8 to 1° per 10ft drilled.
  - If 30ft is drilled without seeing a deviation of more than 1° from the previous well then stop and pull back above the start depth
  - Mudloggers will take continuous samples and report changes in formation/cement %
- Inclination will be dropped to 42.5° and held until 20ft of center-to-center distance from fish has been achieved at which point inclination will be brought back to 46° to parallel the previous wellbore and fish. Once fish is past then inclination will be built back up and azimuth adjusted to steer back to intercept well.
  - Sidetrack well will continue to use previous "as drilled" well path as the target well path until interception occurs or permitted TD is reached.

11. Once interception occurs reprogram tool deflection and continue to wash and ream in hole until 3 stands past the LP.
12. Perform 2 bottoms up
  1. Perform the first circulation through choke as trip gas may have accumulated
  2. Condition mud as per mud engineer's specifications to reduce filter cake thickness and water loss
13. Flow check and pull 3 stands wet and check hole conditions.
14. Pump dry job and flow check.
15. POOH to 5700ft, make-up top drive and wash ream back to 5500ft monitoring for any tight spots.
  1. Attempt to trough dry job slug for re-use
  2. Once passed sidetrack point pump slug again
16. POOH to surface and L/D RSS BHA
17. Pick up dumb iron BHA as per DD
18. RIH to stand that will pass sidetrack point. Make up the top drive and wash through the sidetrack and previous stuck zone.
19. Continue to wash in the hole and ream if required.
  1. Maintain safe but high block speeds to avoid drilling out of the hole
  2. Work through any bridges or tight spots carefully to avoid sidetracking
20. Upon reaching TD perform CUC