Hydraulic short trips for cleaner wellbores

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Challenges:

- Extended Length Lateral Drill Outs
- High Composite Plug Counts
- Heavy Metallic Components in Plug Slips
- Limited Flow Rates due to BHA restrictions

Standard CT Cleaning Method:

- Costly Wiper Trips back to Kick Off Point
- High Cost Running Meters & Lost Time
- Dropping Balls to Open/Close Circulation Tools

Solution: Unlimited Hydraulic Short Trips



- Allows fluid flow to be directed through to BHA (Motor etc.) Or By-Passed through large size circulating ports in Tool
- While in By-Pass Mode, higher flow rates are able to be achieved, boosting Annular Velocities
- Circulation rate increases are possible but at lower pressures than normal
- Replaces a traditional circulation sub in a BHA

Example BHA's



Down Hole Operation Example

• 66.7mm CT w/ 79.4mm Milling BHA (FR in Fluid System)



Lab Testing

TEST #5C MCC306-300 (DOUBLE PORT) 12/JAN/2016



Lab Testing – 73mm Tool



Surface Function Testing



60.3mm Coil w/ 73mm BHA

Example Job #1

L/min	Bypass CLOSED	Bypass OPEN	Pressure Drop
400	28.5	23.4	5.1
400	49.8	45	4.8
450	55.9	51	4.9
470	55	50.7	4.3

Example Job #2

L/min	Bypass CLOSED	Bypass OPEN	Pressure Drop
500	34	25.5	8.5
500	54	47	7
500	58.4	51	7.4

Case Study #1



Eagleford Hz Well

- 139.7mm 34.2 Kg/m
- 60.3mm CT
- 79.4mm BHA

 Flow increased and wiper trips eliminated with boosted flow rate from tool.

Case Study #2



West TX Hz Well

- 139.7mm 29.7 Kg/m
- 66.7mm CT
- 79.4mm BHA
- ~ 22 Kg of debris recovered during hydraulic short trips

Case Study #3



Permian Basin •139.7mm 29.7 Kg/m •60.3mm CT •79.4mm BHA Tool Opened and equivalent flow rate increased to 800 L/min with N₂ without Exposing Stator to Gas

