ADVANCE
DRILLING TOOLS

DAV MX™

250bbls of 16.6ppg cement slurry successfully displaced through DAV MX™ CircSub to treat Severe losses at 28,170ft on a Gulf of Mexico Deep Water well.

The DAV MX™ Circsub showcased its capabilities when it was run in a deepwater well for contingency whilst drilling the 12-¼ x 14-½" section. The Operator had already treated for persistent losses twice by circulating LCM through the BHA before opting to close the annular to minimise further losses. Later the Operator opted to activate the Circsub for the third, heavier treatment. The tool was activated once with a Standard Diverter Dart™ (SDD), allowing the 3rd treatment of LCM (331bbls at 105ppb) to bypass the BHA.

Soon after the string was POOH from 28,423ft to 28,170ft and severe losses of (140bbls/hr) were encountered. losses had begun to worsen and reached 154bbls/hr in static conditions. The Operator decided to prepare for treating with cement slurry. The service company pumped the spacer followed by 250bbls of 16.6ppg cement slurry, which was then displaced via the rig pumps with 850blbls, 15.6ppg SBM.

The LCM and slurry were both bypassed through the DAV MX™ Circsub ports, protecting the lower BHA whist ensuring the material was delivered effectively to the loss zone. The complexity and length of time taken to resolve this situations is evident from the 3 days spent on operations. The DAV MX™ circsub demonstrated it could handle cement displacement, potentially saving the Operator a trip out of hole.

CIRCUMSTANCES

The DAV MX™ is the Circsub of choice for Operators in the GOM. This particular event demonstrates the circsub ability to deal with cement effectively. This is just one of the reasons this particular Operator routinely run the circsub for contingency. In this section (drilling the 12-¼ x 14-½") the client had opted to run with the 6-5/8"

THE CHALLENGE

The Client had already treated for persistent losses twice through the BHA prior to looking to activate the DAV MX™ Circsub. They had already experienced loss rates of upto 120bbls/hr before closing the annular. After the third treatment was bypassed, 331bbls - 105ppb LCM through the Circsub ports, losses had begun to worsen reaching 154bbls/hr in static conditions. At this point the Operator moved to a cement slurry to try to cure the losses.

CORETRAX
AN EXPRO COMPANY

THE SOLUTION

The DAV MX™ Circsub was opened to bypass the lower BHA allowing cement slurry to be pumped through the Circsub ports. The latch and seal mechanism of the SDD ensured a full bypass and no cement ingress into the lower BHA. Because the SDD locks the valve open, it allows losses to be treated at lower circulating rates (pumping hard can make losses more severe) whilst ensuring the ports are fully open (max TFA) thus reducing any plugging risk. In this particular case it allowed treating losses with 250bbls of 16.6ppg cement slurry displaced through the standard ports at 9 bpm. Because you can treat with cement through the DAV MX™ Circsub, it can potentially save an Operator a trip out of hole if the treatment proves successful.

RIG & WELL INFORMATION

Location & Date	Gulf of Mexico, 7th - 9th of November, 2016
BHA	12-1/4" x 14-1/2" Drilling Assembly
Measured Depth (Bit Depth)	28,423ft (LCM Spotting) 28,170ft (Cement Spotting)
Drilling Fluid	15.6ppg OBM

TOOL & APPLICATION

Tool	8.00" OD, 6-5/8" Reg DAV MX™ CircSub with five standard OD nozzles (0.75")
Activator	1 x SDD
Application 1	Treating losses with LCM (331bbls at 105ppb)
Application 2	Tool still in bypass, treating losses with 250bbls of 16.6ppg Cement

CORETRAX
AN EXPRO COMPANY