DUAL-ACTION BYPASS SUB (DABS)

Specialized Tools: Circulating Tools

The DUAL-ACTION BYPASS SUB (DABS) tool from M-I SWACO is designed to run in the cleanup string when it is desirable to jet the riser and Blowout Preventer (BOP) while Running In Hole (RIH) and/or when Pulling Out Of Hole (POOH). It can also be used nearer the bottom of the string as a bypass valve above a drilling motor or small-diameter tail pipe.

Advantages

The DABS tool permits jetting operations while running in hole and/or when pulling out of hole.

Operating Parameters

Note that the balls do not need to be circulated down at this reduced rate. It is only when the ball nears the ball seat that these rates should be applied (see table below).

Operating parameters

Tool size, in.	Rotating speed	Maximum circulating rate when landing balls, gpm (bbl/min)	Maximum circulating rate in the open position, bbl/min
3½ IF	No limit	63 (1.5)	15
4½ IF	No limit	105 (2.5)	30
XTM50	No limit	105 (2.5)	30

These are general guidelines only and are subject to review, if required, for individual circumstances.

Features

- One-piece, full-strength mandrel
- Two sets of ports and two internal ball seats that can be moved to open/close ports
- Available in 4¾ and 6½ in. OD
- Also available as 11 and 16 in. (279 and 406 mm) jetting tools

Advantages

- Used to jet BOPs and risers
- Can be used to bypass drilling motors
- Can be run above small, non-draining pipe

Operation

The DABS unit is RIH with the cleanup string, self-filling through the open ports and circulating/jetting as required. A ball is dropped to close the ports, then drilling or circulating occurs as required (Figure 1). Dropping another ball opens the ports to trip out which allows self-draining and circulation/jetting to take place as required (Figure 2).

How it works

The tool is run in the open position to jet and clean as it moves through the riser and BOPs. The external jetting ports on the sub are then closed to circulate once again, and reopened when POOH, allowing jetting to occur.

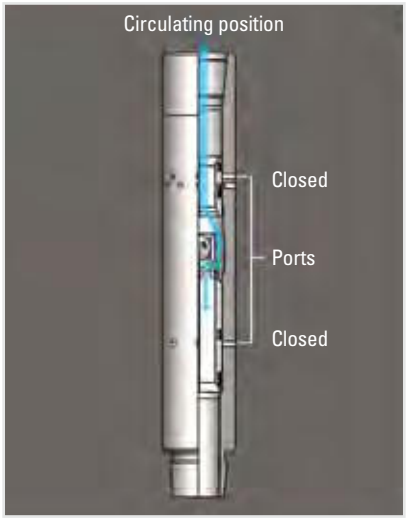

Figure 1. The lower ports are closed by dropping a ball and applying pressure.

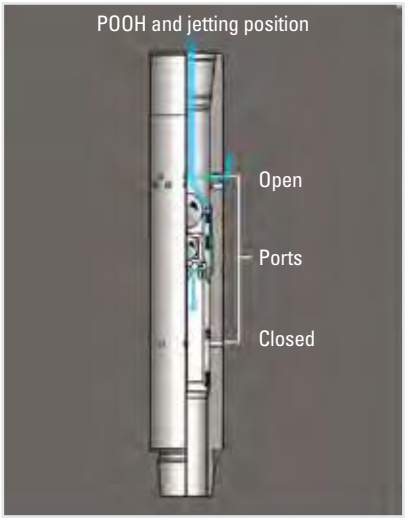

Figure 2. The upper ports can be opened by dropping a second ball and applying pressure.