

WELL ISOLATION TOOL (WIT)

SPECIALIZED TOOLS

FEATURES

- Ball-drop activation and deactivation
- Stabilizer and stabilizer-mill profiles ensure there are no casing restrictions and protect the diverter cup from possible damage
- Available in 7 in., 9 5/8 in. or 10 3/4 in. sizes
- Rotation possible during circulation

ADVANTAGES

- Boosts annular velocity while protecting the formation/open perforations from excessive surge/ECD pressures
- Built-in bypass channel around the annular-isolation diverter cup prevents surging or swabbing the well during trips
- Prevents losses under static as well as dynamic conditions

The WELL ISOLATION TOOL* (WIT) is a circulating tool with annular-isolation capabilities.

It allows the operator to isolate the wellbore (below the WIT's circulating ports) from hydrostatic and induced pressures and still circulate at increased rates. This is often done to control fluid loss to open perforations or an open-hole interval below the tool.

Applications

With the WELL ISOLATION TOOL, high circulation rates can be used to displace the upper part of a well without applying pressure to the lower part. It is most effective where there is no set-down point, such as a liner top for conventional weight-activated circulating tools. It is ideal where fluid loss to perforations or open hole sections would be expected below the tool, and it can be run above pressure-sensitive equipment such as formation isolation valves.

Operation

The tool is run in the hole in the open position, with full flow to the bit. In this configuration the internal bypass is open so the annular fluid can bypass the annular diverter cup.

In operation, the activation ball is dropped to a ball seat, and applied pressure shears the shear screws, moving the activation sleeve. This, in turn, closes the diverter cup bypass. Now, all flow through the string is directed out through the WIT ports above the diverter cup to the upper annulus. The tool isolates the open perforations or open-hole section below the full gauge diverter cup from the circulating fluid.

To reverse the procedure, the deactivation ball is dropped and pressure is applied to shear another set of screws and move the activation sleeve to re-open the bypass and re-establish circulation to the bit. The WIT then can be tripped out of the hole without swabbing the well.





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