



DST Benefits

INFLATABLE PACKER ELEMENTS

Provide greater expansion combined with longer sealing lengths to successfully seal in washed out, irregular, out of round holes, or soft formations.

RESETTING CAPABILITY

Allows multiple zone testing with just one trip in the hole saving valuable rig time.

UPWARD & DOWNWARD MOVEMENT OF DRILL STRING

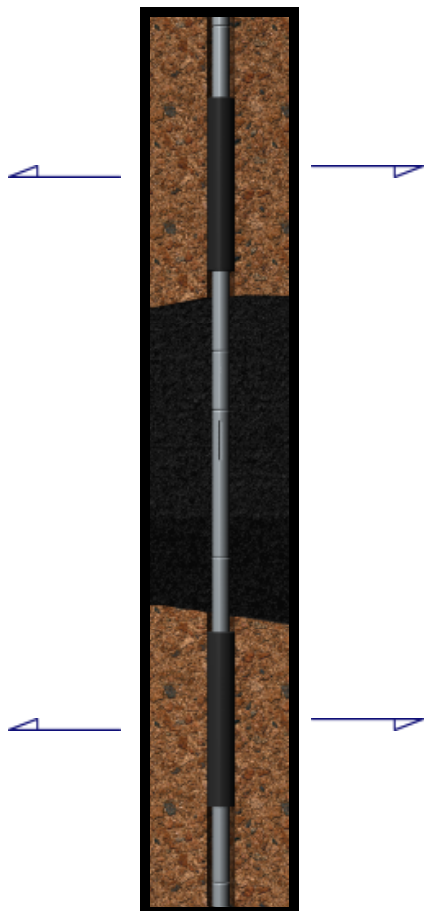
Operates the hydraulic tool to provide as many flow and shut-in periods as required for each drill stem test.

OUTSIDE RECORDER

Holds two electronic pressure gauges within the test interval to record formation pressure and temperature, plus packer inflation throughout a test.



How DST works



INFLATING THE PACKERS

Once the packers have been positioned adjacent to the test interval, drill pipe slips are set and the drill string is rotated. This operates the down hole inflation pump to inflate both packers simultaneously.

Usually this operation takes approximately 5 to 8 minutes when rotating at 60 RPM. After rotating, an upward pull is applied to the drill string. An increase on the weight indicator is a positive indication that the packers are inflated and set.

How DST works



OPENING TOOL FOR FLOW PERIODS

Setting weight on the tool opens the hydraulic tool within five minutes.

Formation fluids are then allowed to enter the drill string.

How DST works



CLOSING TOOL FOR SHUT IN PERIODS

Picking up and applying a slight upward pull to the drill string closes the hydraulic tool. By shifting drill string weight, multiple flow and shut-in periods may be obtained for each test.

How DST works



EQUALIZING DIFFERENTIAL PRESSURE AND DEFLATING PACKERS

Upon completion of a test, setting weight and rotating a half-turn to the right of the tool equalizes pressure across the packers. By picking up on the drill string after equalizing, the packers are deflated. The inflatable drill stem testing tools may be repositioned for additional testing, or retrieved.

Parts of a DST system

Electronic Recorders

Pacific Oilfield resources utilizes an electronic memory gauge which is referred to as a DMR or digital memory recorder.

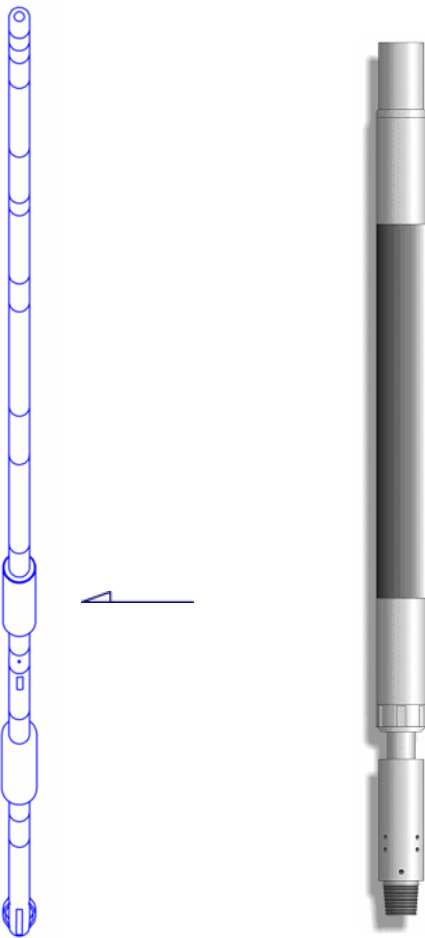
The DMR records pressure, temperature and time in an internal memory. The recorder may be programmed to take readings after a specified delay time and at specific time intervals.

When the DMR is recovered from the test string at the surface and the memory is downloaded into a portable computer located in the test unit. The computer will display the pressure and time data in a graphical form on the computer or provided as a hard copy print out.

The encrypted data is also stored on disc for further interpretation by POR personnel or is available to the client within hours of retrieval via satellite transmission directly to POR Corporate headquarters.



Parts of a DST system



INFLATE PACKERS

Used for providing test interval isolation during a test.

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The purpose of the packer is to effect a seal.

Right hand rotation of the drill stem activates a down-hole pump which utilizes the annular fluid to inflate the bottom and top packers at the same time.

The packer is inflated to approximately 1700 PSI above the hydrostatic weight of the drilling fluid.

The packer element is approximately 1.6m or 63" long. It conforms to the hole configuration and will expand three time (3X) as far as a conventional packer, sealing over its entire length