

Halliburton's Reservoir Description Tool (RDT™)

RDT Focused Probe Delivers Clean Sampling Faster, with Less Sanding

Halliburton's Reservoir Description Tool incorporates the RDT™ Focused Probe, using Oval Pad geometry to help deliver clean formation fluid samples in less time with fewer sanding issues.

Oval Pad geometry reduces forces acting on the sand face, which reduces the overall risk of sanding and contributes to greater success in recovering desired samples.

In addition, the pump processes produced solids in a way that reduces the risk of an abbreviated sampling job should any sanding occur.

During sampling, the Focused Probe design divides formation fluids into inner and outer flow sections, discarding fluids in the outer section, which will be more contaminated, while capturing the cleaner fluids in the inner section for analysis.

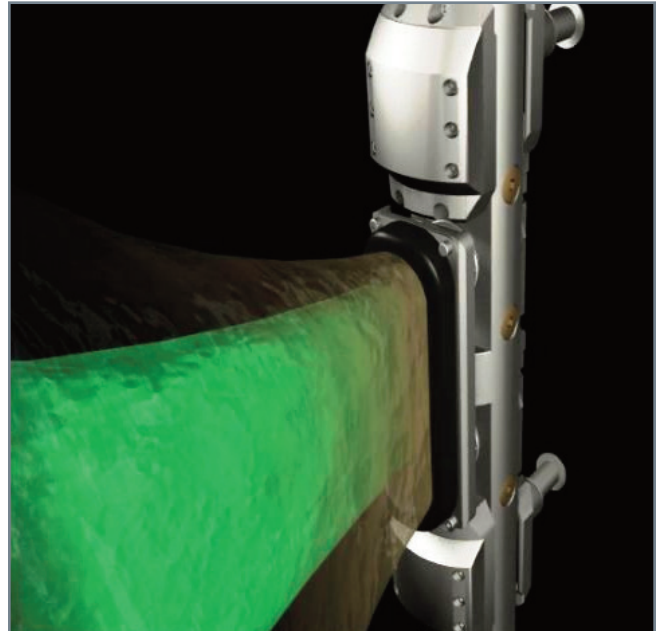
In addition to delivering a cleaner captured sample for analysis, the RDT Focused Probe sampling technique reduces cleanup time and improves overall efficiency of operations.

Features

- Focused Probe design divides formation fluids into inner and outer flow sections
- Oval Pad geometry reduces forces acting on the sand face
- Pump handles produced solids to mitigate risk of an abbreviated sampling job

Benefits

- Reduces Rig Time
 - Lowers Risk of Stuck Tool
 - Increases Operational Efficiency
- Increases Fluid Sample Purity
 - Reduces Uncertainty in Establishing Connectivity
 - Increases Confidence of Flow Assurance
- Reduces Risk of Sanding / Mitigates Effects
 - Greater Success in Sample Recovery



Oval Pad geometry of the RDT™ Focused Probe reduces sanding to deliver cleaner formation fluid samples faster.

HAL32533



Dimensions and Ratings

| | | | |
|-----------------|---------------------|------------------|------------|
| Max Temp | 350°F | Max Press | 20,000 psi |
| Max OD | 5.5 in (at Probe) | Weight | 385 lbs |
| | 4.75 in (remainder) | | |
| Length | 10.64 ft (make-up) | | |

Borehole Conditions

| | | | | |
|--|--|---|---|---|
| Borehole Fluids | Salt <input checked="" type="checkbox"/> | Fresh <input checked="" type="checkbox"/> | Oil <input checked="" type="checkbox"/> | Air <input checked="" type="checkbox"/> |
| Recommended Maximum Logging Speed | Stationary | | | |
| Tool Positioning | Centralized <input type="checkbox"/> | Eccentralized | <input type="checkbox"/> | |

Hardware Characteristics

| | |
|--------------------------|------------------------------------|
| Probe Spacing | 7.5 in |
| Probe OD | 1.13 in (standard) |
| Probe ID | 0.65 in (standard) |
| Filter | 0.018 in (standard) |
| Packer Diameter | 4.13 in (standard) |
| Packer Diameter | 3.00 in (optional) |
| Pretest Volume | 100/50 cc |
| Pretest Drawdown | 10,000/20,000 psi |
| Pretest Rate | 0.1 cc/sec - >15 cc/sec (variable) |
| Fluid Resistivity | 0.01 – 100 ohm-m |

Measurement

Strain Gauge Pressure Transducers

| Accuracy | Resolution | Repeatability |
|-----------------------------|---|----------------|
| +/- 0.1% | +/- 0.001% (+/- 0.2 psi for 20,000 psi gauge) | +/- 6 psi |
| Pressure Transducer | Probe 1 | |
| Pressure Transducer | Probe 2 | |
| Pressure Transducer | Flowline | |
| Pretest Displacement | Linear potentiometer | |
| Resistivity Cell | 0.01 Ohm-m | 0.01-100 Ohm-m |

Physical Strengths

| Hardware | Tensile | Connection |
|---------------------------|-------------|---|
| Tool Joints –Upper | 200,000 lbs | Thru flowline connection, 23-pin; hydraulic feedthrus w/ check valves |
| Tool Joints –Lower | 200,000 lbs | Thru flowline connection, 23-pin; hydraulic feedthrus w/ check valves |