EXPRO

Multiple Array Production Suite (MAPS)

In deviated and horizontal wells conventional logging tools are often inadequate to provide a comprehensive analysis of the downhole flowing conditions. MAPS is an innovative well logging technology which enables you to deploy multiple sensors to build a clearer and more accurate image of the flow regime. MAPS makes it possible to provide quantitative estimates of the volumetric flow rates of each phase with a greater degree of confidence. MAPS software shows you how your well is performing by creating detailed 3D images.

Features and benefits

- Complementary suite of well logging solutions:
  - Resistance Array Tool (RAT)
  - Capacitance Array Tool (CAT)
  - Spinner Array Tool (SAT)
- Can be run with any Sondex Ultrawire* tool
- Enhances reliability and reduces maintenance costs
- CATview software (optional) is available for 3D phase profiling
- Provides memory and real-time logging
- Logging can be performed upwards, downwards and stationary
- Detects thin phase layers on the high or low side of a well
- Tool orientation determined by internal relative bearing sensor
- Enables through tubing phase identification
- Allows radial fluid phase measurement
- All tools have collapsible bow-spring arms

CAT features

- 12 radial capacitance sensors
- Cross-sectional water holdup profiling
- Identification of water entry points
- Phase identification of well deviation
- Memory or surface readout operation
- Can be run with any Sondex Ultrawire* tools

RAT features

- 12 micro resistance sensors
- Cross-sectional water holdup profiling
- 3D imaging of water hold up profile with MAPview software
- Water holdup in any fluid regime in vertical to horizontal wells
- Memory and surface readout operation
- Can be run with any Sondex Ultrawire* tools

SAT features

- 6 miniature turbines
- Cross-sectional velocity profiling
- Reduced tool diameter
- Greater tolerance to well debris
- Memory or surface readout operation
- 3D imaging of velocity profile with MAPview software
- Phase velocities in segregated fluid streams in deviated and horizontal

Technical specifications

MAPS tool	CAT	RAT	SAT004	SAT005
Temperature rating	350°F (177°C)	350°F (177°C	350°F (177°C	350°F (177°C
Pressure rating	15,000 psi (103.4MPa)	15,000 psi (103.4MPa)	15,000 psi (103.4MPa	15,000 psi (103.4MPa
Tool diameter	1 11/16 in (43 mm)	1 11/16 in (43 mm)	1.72 in (43.69 mm)	2.125 in (53.98 mm)
Tool weight	17.3 lb (8.1 kg)	18.0 lb (8.2 kg)	17.2 lb (7.8 kg)	17.2 lb (7.8 kg)
Tool length	23.25 in (590.55 mm)	51.4 in (1.306 m)	45.5 in (1.156 m)	45.5 in (1.156 m)
Toolbus	Ultrawire*	Ultrawire*	Ultrawire*	Ultrawire*
Current consumption	28 mA	70 mA	25 mA	25 mA
Maximum opening	7-inch casing	7-inch casing	Up to 7-inch casing	Up to 7-inch casing
Number of sensors	12	12	6	6
Sensor measure point	18.2 in (462 mm)	15.7 in (398.8 mm)	16.5 in(419 mm)	16.5 in(419 mm)
Relative bearing accuracy	5°	5°	5°	5°
Relative bearing development range	5° to 175°	5° to 175°	5° to 175°	5° to 175°
Materials	Corrosion resistant	Corrosion resistant	Corrosion resistant	Corrosion resistant