




Schlumberger

PressureXpress



Fast, accurate
pressure and mobility
measurements

Applications

- High-quality pressure and mobility measurements on the first logging run
- Pressure profiles and mobility measurements to combine with petrophysical, seismic, and conventional log data to develop a static reservoir model
- Fracture stimulation design in formations targeted for multilevel or stage fracturing operations
- Identification of depleted zones in a wider mobility range
- Delineation of uneconomic zones to avoid during fracturing
- Measurements of reservoir fluid density with gradients

Benefits

- Pressure measurements and fluid mobilities in a fraction of the time required by multifunction formation testers
- Increased survey efficiency with minimized setting and retracting times
- Saved time and cost with the elimination of additional wireline runs solely for acquiring pressure measurement data
- Reduced risk of sticking
- Reduced overall expenditure for pressure testing

Features

- Combinable with Platform Express* and most Schlumberger openhole wireline services
- Optimized pressure test quality and reduced time on station
- Enhanced pretest system for more accurate and precise control of pretest volume and rate than conventional hydraulic pretest systems
- Rapid confirmation of all measurements, if desired, without retracting the tool

Fast and focused

The PressureXpress* service brings new efficiency to the formation pressure testing process by significantly reducing both the time and risk involved with multifunction formation testers. Unlike conventional formation pressure test tools that take formation fluid samples, the streamlined PressureXpress tool obtains only pressure and fluid mobility measurements during the first logging run.

Data you can use right away

The PressureXpress tool quickly generates a survey that provides pressure data for connectivity analysis, a pressure gradient for fluid density and fluid contact information, and fluid mobility and permeability data to aid in sampling-point selection.

PressureXpress data are the basis for accurate pressure profiles and mobility measurements that you can integrate with petrophysical, seismic, and conventional log data to obtain a more complete picture of your reservoir. With a comprehensive static reservoir model you can fine-tune your simulation and ultimately improve productivity. This combination of expert data can also improve the design of multilevel or stage fracturing operations in low-mobility formations and help identify depleted zones, thief zones, and zones to avoid during fracture stimulations.

A thorough understanding of fluid movement within the reservoir will help you characterize vertical and horizontal flow barriers, estimate permeability along the wellbore, individualize reservoir lenses, and monitor flood performance.

The PressureXpress tool is run with the Platform Express system to measure pressure and fluid mobility values during the first logging run.



No more weighing the value of pressure measurements against their cost

Have you ever had to forego important reservoir measurements because acquisition would require another logging run or long times spent stationary in the well? PressureXpress service has changed all that. Designed to be part of the primary logging run, the PressureXpress tool makes reservoir pressure and mobility measurements while stationary for less than a minute.

PressureXpress service also lowers the overall expense of pressure testing by increasing reliability and operational efficiency. Its streamlined design greatly reduces the possibility of sticking and incurring subsequent replacement costs.

Enhanced pretest system

The dynamically controlled pressure-pretest system integrated in the PressureXpress tool enables precise control of volume and drawdown rates in a wide mobility range. A pressure limit can also be set as necessary. The enhanced pretest system makes pressure testing possible in formations where conventional technology cannot function.

Multiple pretests can be performed at a given depth to verify the accuracy of a pressure measurement without having to cycle the tool, or they can be performed at multiple depths to produce a profile of pressure versus depth. A reservoir pressure gradient can be established if the zone of interest is sufficiently thick, mud supercharging effects are not present, and the flow regime is identified. The resulting profile can be converted directly to the density of the formation's continuous fluid phase for use in defining fluid contacts.

Data-enhancing software

The PressureXpress pressure profile can be interpreted using proprietary software that provides various pretest analysis techniques and generates general and detailed pretest summaries. PressureXpress Advisor* pretest quality indicator uses real-time Platform Express data to determine which zones are good candidates for successful reservoir pressure and fluid mobility measurements.

A PDPlot* interpretation can be performed specifically for pressure and gradient analysis. A concise PressureXpress wellsite report is generated, along with an optional display of other log data.

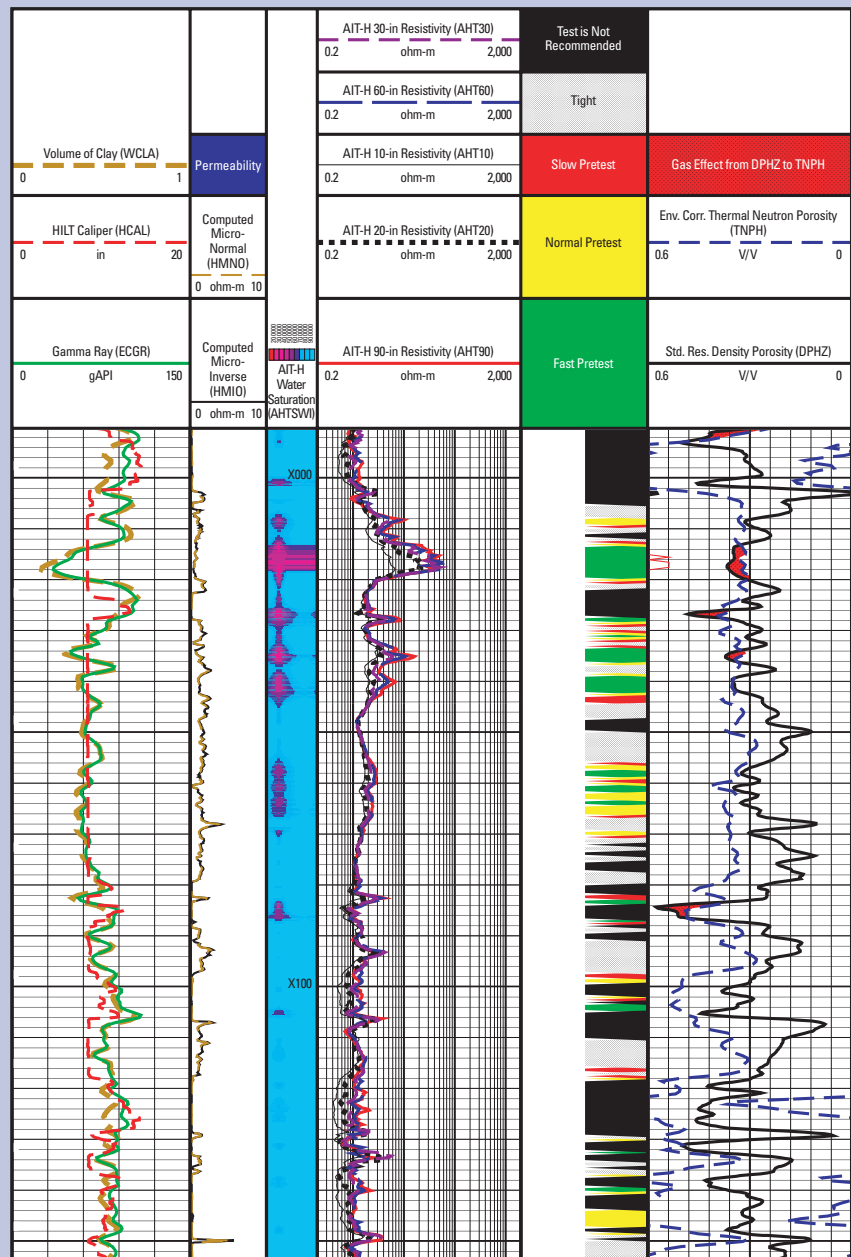
Superior sensor technology

The typical PressureXpress measurement cycle (from set to retract) takes a fraction of the time required by

conventional formation testers. This type of pressure measurement is made possible by the PressureXpress mechanical design and sensors that rapidly deliver high accuracy and resolution over a wide range of absolute pressure.

The PressureXpress tool integrates advanced versions of the CQG* Crystal Quartz Gauge and the Sapphire* pressure gauge, both of which provide

The PressureXpress Advisor log generated in real time from Platform Express data grades zones according to their relative suitability for pressure testing. Green, yellow, and red flags indicate fast, normal, and slow pretest conditions, respectively. A gray flag indicates a tight formation, and a black flag means that a pretest is not recommended.



superior accuracy and resolution compared with pressure sensors used in most other formation testers. CQG and Sapphire sensors are equipped with a dynamic temperature compensation algorithm and redesigned packaging that provide faster stabilization times after sudden pressure and temperature changes.

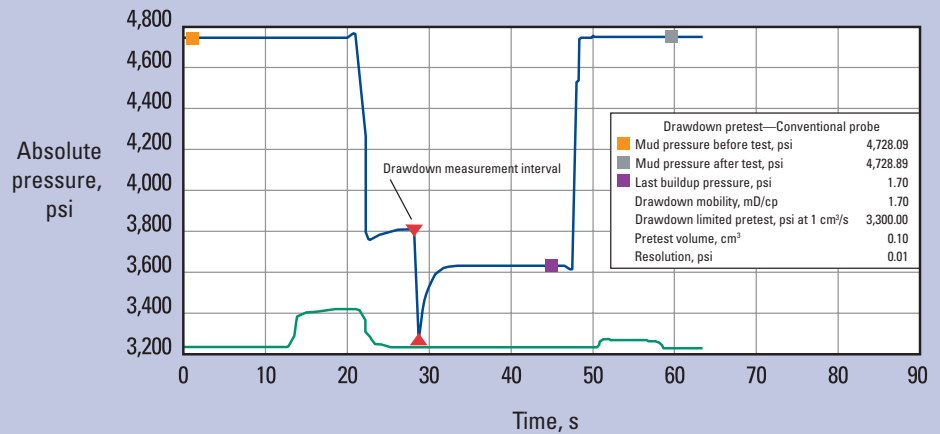
Tool design that minimizes sticking

The PressureXpress tool is combinable with the Platform Express tool and most openhole services in the first logging run. This combinability means that pressure measurements do not require a separate run.

The tool's OD and profile are designed to greatly reduce the risk of sticking. The short probe section has an eccentric 3 3/8-in diameter, and the remainder of the tool body has a diameter of only 3 3/8 in. The eccentric tool shape, combined with a slightly overbalanced setting force from the backup anchoring pistons, ensures an integral 1/2-in standoff from the formation during pretesting.

The smooth tool profile also minimizes mudcake scraping when the PressureXpress tool is run in the hole. There are no external tool angles over 20°.

PressureXpress service required a fraction of the time necessary for conventional testing tools to acquire the pressure reading.



The smooth profile and small OD of the PressureXpress tool minimize the risk of sticking.



PressureXpress Specifications

Length, ft [m]	21.1 [6.43]
OD, in [mm]	Tool: 3.375 [85.73] Probe section: 3.875 [98.43]
Hole size range, in [mm]	4.75 to 15.40 [120.65 to 391.16]
Max. temperature, degF [degC]	300 [148]
Max. pressure, psi [kPa]	20,000 [137,900] With CQG gauge: 15,000 [103,420]
Max. pretest volume, fl ozUS [cm ³]	1.18 [34.9]
Pretest rate range, fl ozUS/min [cm ³ /min]	0.1 to 4.05 [3 to 120]
Max. drawdown, psi [kPa]	6,500 [44,800]
Setting force, lbf [N]	5,127 [22,806]
Tension limit, lbf [N]	50,000 [222,411]
Compression limit, lbf [N]	22,000 [97,861]
Gauge accuracy, psi [kPa]	Sapphire gauge: ±5 [±34] CQG gauge: ±2 [±13.8] + 0.01% of pressure reading

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