

eHPIT - Electronic High-Pressure Invasion Tester



No more guess work. understanding your mud invasion or viability of LCM anywhere anytime.

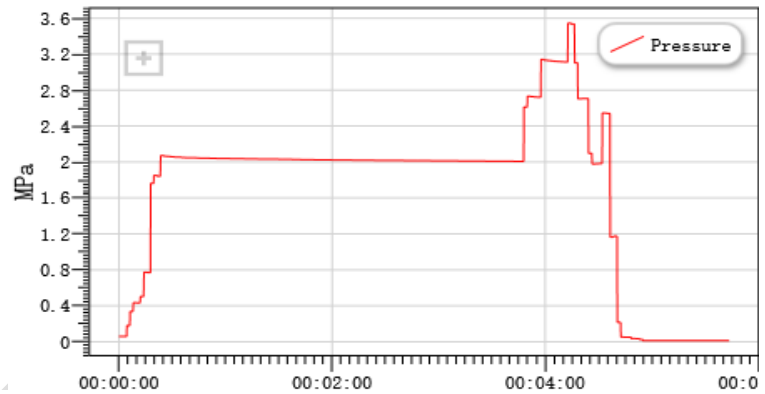
Vertechs eHPIT is a proprietary instrument designed to evaluate drilling fluids invasion or LCM performance. NO external energy (gas source or electricity) is needed to implement the test. It also provides the ability to choose a wide range of testing media, to give a variable testing range for all applications. Typical example test beds include 20-40 mesh sand or steel beads. Additionally, the transparent invasion observation window enables visible evaluation of depth and rate of invasion. All pressure data points are recorded and wirelessly transmitted to a proprietary software for analytics use. eHPIT helps you evaluate your drilling fluids performance in a better and smarter way!



Wireless Pressure Gauge

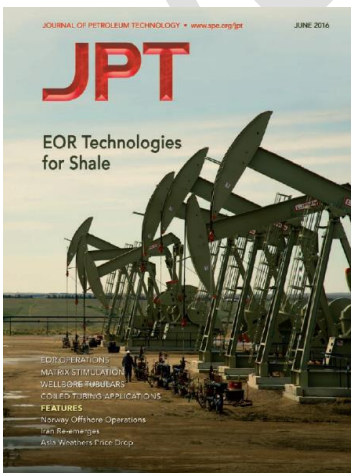
Transparent Observation Window

Pressure Chart



FEATURES

- Versatile LCM & mud invasion tester.
- Real-time wireless pressure data transmission & recording.
- Maximum testing pressure at 870 psi (6MPa).
- No external electricity or gas source required.
- Visible & intuitive evaluation of the test result.
- Portable and intrinsically safe.



TECHNOLOGY APPLICATIONS

Chris Carpenter, JPT Technology Editor

Manufacturing Roads

Cutting & wear-resistant range of hard-facing tools are used to harden mills for cutting steel and other metallic materials. They are made up of crushed tungsten carbide in a binding alloy. When deposited on a mill, the binding alloy erodes, leaving the tungsten carbide fragments in the tool. This forms a coarse cutting structure able to cut through abrasiveness deposits. The industry standard crushing process generates poorly shaped fragments that can be faulty in character and from which the better shaped fragments are then selected to be used in the manufacture of the rock. However, Vertechs' new process that breaks steel-cutting grades of tungsten carbide into uniform particles (Fig. 1). They have strong, sharp corners and, when, form a multitude of cutting faces, the majority creating several to negative steel-cutting

angles. The cutting structure produces clean cuttings that are circulated out of the hole easily. The fragments are regular in size which ensures that they are effective cutting structures in quicker and easier. The rods are also to allow full visual access to the cutting structure. For additional information, visit www.vertechs.com.

Predictive-Analytics Software

Robur Hydro introduced its FieldRisk model-based, predictive analytics software, which enables operators to generate an asset's performance real-time. To provide this understanding, the FieldRisk software can seamlessly integrate and interpret large volumes of production data, well test data, flowline data, and real-time sensor data. The software also integrates common petroleum engineering calculations, it helps identify and rank underperforming wells. Key performance indicators such as rate decline and model deviations are monitored constantly, and savings and alerts are generated to accurate well selection and provide actionable data to help operators make decisions relating to well remediation when and where it is needed. Because the FieldRisk software uses data from existing production and completion databases, operators can choose to add new data to the model, such as well test data, to improve the model. The software also has its own built-in model engine, which allows real-time integration between field data and well models without the need for additional well-modeling software. The FieldRisk software can be used in operations centers, in modern collaboration rooms, on tablet devices, or on mobile devices, and on conventional laptops and desktops. It works with minimal configuration and is easily deployed, so value can be realized with hours. For additional information, visit www.vertechs.com.

Invasion Tester

Testing of drilling fluids has numerous important factors, and increasing regulatory pressure means operators are faced with a need to increase the reliability of their fluid testing. Low fluid loss and minimal loss of solids are integral parts of modern drilling fluid design, and have become vital performance criteria. Considering the current industry specified testing to characterize the performance of both fluid loss and bridging capability in a drilling fluid has given the risk in working with conventional gas in remote locations. Vertechs has developed a unique test device called the High-Pressure Invasion Tester (eHPIT). The eHPIT operates on generating mechanical force in a confined test body that applies pressure up to 3,000 psi to the fluid sample. The results are visible in the observation tube, and the response is portable (Fig. 2). The test medium is



Fig. 1—Cutting & wear-resistant range of hard-facing tools are used to harden mills for cutting steel and other metallic materials. They are made up of crushed tungsten carbide in a binding alloy. When deposited on a mill, the binding alloy erodes, leaving the tungsten carbide fragments in the tool. This forms a coarse cutting structure able to cut through abrasiveness deposits. The industry standard crushing process generates poorly shaped fragments that can be faulty in character and from which the better shaped fragments are then selected to be used in the manufacture of the rock. However, Vertechs' new process that breaks steel-cutting grades of tungsten carbide into uniform particles (Fig. 1). They have strong, sharp corners and, when, form a multitude of cutting faces, the majority creating several to negative steel-cutting



Fig. 2—The eHPIT from Vertechs.



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