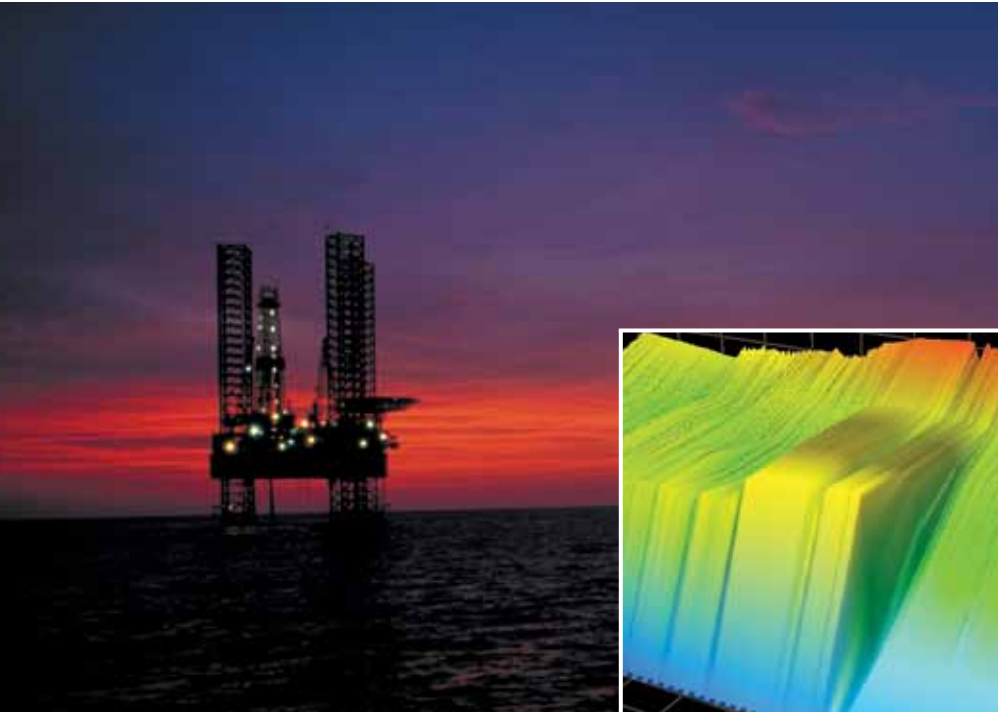


**Schlumberger**



Technology, expertise,  
quality, and service



**Slickline**

Measurement and activation services



#### Applications

- Time-lapse distributed temperature logging
- Three-phase production logging
- Casing or tubing corrosion logging
- Transient analysis
- Reservoir and production monitoring
- Downhole device activation
- Bottomhole sampling
- Bottomhole pressure measurement
- Thermal profiling and investigation

**Many cased hole services have traditionally used wireline conveyance to conduct data acquisition surveys and activate downhole devices. Schlumberger offers a comprehensive range of advanced cased hole slickline services that support data acquisition and the deployment of downhole monitoring, placement, and intervention devices in most wellsite environments.**

Through these services, clients are able to maximize wellsite operations and minimize logistical and administrative demands, mobilization costs, and environmental concerns.

The extensive range of cased hole slickline measurement and activation services available from Schlumberger allows clients to use just one provider for conveyance and service delivery.

By taking advantage of this total system approach and the Schlumberger innovative combination of advanced, field-proven technologies, clients can be confident that their results will be fast, accurate, and dependable.

Moreover, expertise, experience, reliability, and proven track record mean that clients can expect the support they need in managing well performance and meeting challenges at the wellsite.

# Experience has shown that a **total system approach** leads to **enhanced system performance**.

## **SLICKLINE-DEPLOYED SERVICES**

- Memory PS Platform\* production services platform
- SCMT\* slim cement mapping tool
- PipeView\* multifinger caliper tool
- OPTICall\* thermal profile and investigation service
- eFire-Slickline\* electronic firing head system
- Compact production sampler
- Downhole pressure and temperature gauges
- Comprehensive range of mechanical services and deployment methods

## **FEATURES**

- Small footprint with compact logging and sensor platforms
- Numerous data output and interpretation formats and support
- Range of individual and complementary services
- Integrated services based on advanced technologies
- Operational independence of conveyance method
- Only one platform needed to convey multiple tools
- No interference from stray voltage and radio frequencies

## **ADVANTAGES**

- Equipment required is minimal.
- Preparation time is relatively short.
- Operating time can be reduced.
- Operating costs can be consolidated.
- Safety is improved.

**Maximize wellsite operations.**  
**Minimize challenges, costs, and concerns.**



# Products and services once available only through conventional wireline conveyance are now available via slickline.



## ADVANCED WELL DRIFTING

*Identifies wellbore restrictions without multiple runs*

The Multi-Drift\* advanced well drifting solution was developed to reduce the need for multiple runs when investigating pipe ID or obstructions in the tubing. During wireline operations, obstructions can occur due to factors including scale, tubing collapse, and nipple restrictions. When this happens, multiple runs may have to be performed to determine the obstruction's throughbore, increasing the risks associated with slickline and deferred production. With the Multi-Drift solution, the throughbore can be determined to the nearest hundredth of an inch without changing the tool at the surface.

## PRODUCTION LOGGING TOOLS

*Provides advanced production logging measurements*

The Memory PS Platform service provides advanced production logging measurements using the same downhole tools and sensors for both real-time data transmission and recording in memory. In situations that preclude surface readouts, these measurements have the same accuracy and sensitivity as do those from real-time data transmissions. This service also supports the simultaneous use of the FloView\* holdup measurement tool and the GHOST\* gas holdup optical sensor tool. In combination, these tools can identify very small, difficult-to-measure phase contributions.

## FIBER-OPTIC SYSTEM

*Measures distributed temperature in real time*

The OPTICall thermal profile and investigation service captures reliable, accurate downhole distributed temperature data, on demand, in real time. By monitoring thermal profiles of gas-lifted wells, production wells, and injection wells, operators can identify the time, location, and, often, reason for changes in the mass flow, thereby leading to more effective drainage of the reservoir. The OpticLine\* fiber-optic line is easily deployed with standard slickline surface system equipment in existing wells, allowing rapid and effective intervention monitoring.

## CEMENT BOND TOOL

*Evaluates cement quality and integrity around the casing*

The SCMT slim cement mapping tool is a through-tubing cement evaluation tool combinable with the PS Platform basic measurement sonde for performing a variety of cement diagnostic tests. It produces cement bond and Variable Density\* cement bond quality log displays, with combined gamma ray, casing collar locator, and pressure and temperature measurements. Deployed in memory mode, two full sonic raw wave forms are digitized and stored downhole. The information is processed at the surface, with the processing and calibrations giving log data indistinguishable from the same data acquired in real time.



### **SLICKLINE FIRING HEAD**

*Gives operators total control of explosive operations*

The eFire-Slickline electronic firing head system uses a unique, coded sequence of tension pulls on the slickline to create pressure pulses that are processed by the dual safety circuit firing head. The operator can arm, execute, abort, or re-arm an operation at any time downhole. Applications include perforation, tubing punching, pipe backoff operations, explosive and chemical cutting, sampler activation, and plug and packer setting. This unique system can operate on slickline independently without the need for pressure setup runs or the restriction of predefined fixed timer settings.

### **PRODUCTION SAMPLER**

*Captures bottomhole samples on demand*

The compact production sampler is a timer-actuated or eFire-Slickline electronic firing system, modular bottomhole reservoir fluid sampling tool. The sampler eliminates the need for a separate wireline intervention to collect reservoir fluid during real-time or memory production logging. Sampling can be done on demand at the best depth or time to acquire the most representative sample. The modular sealed shipping sample chambers allow quicker redress for multiple-run operations and eliminate the need for complex sample transfer equipment and specialist personnel at the wellsite.

### **MULTIFINGER CALIPER TOOL**

*Measures internal diameter of tubing or casing*

The PipeView PS Platform multifinger memory caliper tool takes highly accurate measurements of the internal diameter of tubing and casing strings to identify wear, damage, and solid deposits. The caliper tool can be fitted with special extended fingers to log large-diameter boreholes. It includes an inclinometer and provides relative bearing measurements for finger wellbore alignment. The output provides penetration ratios or radium logs and images, automatic pipe quality reports, finger histograms for decentralization calculations and corrections, and 3D-View\* PipeView software data analysis and visualization.

### **PRESSURE GAUGES**

*Measure downhole pressure in a range of environments*

Schlumberger has a wide range of rugged downhole pressure gauges for general and specific applications, including fast-response gauges for PURE\* perforating operations and gauges for fracture and stimulation evaluations. The wide range of high-resolution gauges is suitable for high-temperature, corrosive, and other harsh environments and supports sophisticated data acquisition capabilities and results. This high level of performance and a customer-focused support network are backed by more than 75 years of Schlumberger pressure measurement experience.

The producing life of a well may span more than 50 years, and during that time, interventions are often required. With more than a million wells of all different sizes and styles in production around the world, thousands of different mechanical services are required to make these adjustments. This huge spectrum of needs can make simple services complex. Schlumberger offers a comprehensive suite of battery-powered devices and production logging tools that run on slickline and other conveyances, which involves a smaller crew, less equipment, and simpler operations than conventional wireline solutions.

### A COMMITMENT TO QUALITY

At Schlumberger, central to everything we do is our commitment to quality. This commitment is reflected in our continued investment in innovation, training, and support. Technological innovations, such as the new-generation firing head, add value to client operations through savings in time, effort, and costs. The state-of-the-art Schlumberger slickline training facility in Melun, France, enables personnel and clients to gain theoretical and practical knowledge and hands-on training. Personnel are also challenged to enhance their professional skills and expertise through broad exposure to slickline operations. The Schlumberger Slickline Center of Excellence in Sugar Land, Texas, along with other sensor research and development facilities worldwide, provides technical and operational support to the slickline community 24/7. The value we offer the industry enables us to follow through on our commitment to quality and to meet our clients' varied needs in the most challenging of environments.





# Slickline



Schlumberger slickline services support data acquisition and the deployment of downhole monitoring, placement, and intervention devices in most wellsite environments.

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