Reducing Nonproductive Time. Improving Production.

Slickline Services for Challenging Environments
Maintenance with Minimal NPT
Each moment that a well is inoperable means substantial losses for operators – even more so in wells with high-pressure, high-temperature, deepwater, remote or complex completion challenges.

Using depth and line tension as a guide along with an innate understanding of completions, Halliburton’s slickline experts provide creative, efficient well maintenance, remediation, control and safety solutions – without killing the well. This helps customers cut well intervention costs and boost production with minimal nonproductive time (NPT).

Solutions within Hours
When necessary, we can go from analysis and solution design to manufacturing and deployment within hours.

Making Slickline Even More Accurate
We pioneered Advanced® Slickline Technology, which took slickline beyond purely mechanical services. Our memory logging capabilities, precise depth measurements, real-time line tension monitoring and electronic inspections make slickline more accurate than ever before. This accuracy is what enables us to provide evaluation and perforating services traditionally conveyed on wireline or tubing.

Expanding Slickline Possibilities
Recently, Halliburton expanded slickline even further with our electro-mechanical tools, real-time telemetry, and riserless subsea intervention service capabilities. These innovations are taking slickline possibilities to a whole new level.

Set and Retrieve Wellbore Devices Without Explosives
Our industry-first DPU® (Downhole Power Unit) eliminates the need to use explosives to set plugs and packers. Because it’s a non-explosive device, the DPU tool eliminates regulatory issues related to shipping and handling explosives.

SUCCESS STORY
Fast-Tracked Solution Saved Operator $35 Million
One customer had a failed subsurface valve that was restricting production. To isolate the valve, Halliburton designed and manufactured an innovative slickline tool assembly in just 32 hours. Then, Halliburton conveyed the tool without a rig and increased production from 4,000 BOE per day to 7,000. This solution saved the customer approximately $35,000,000.

Our experience, reliability and efficiency make us the “go-to” team for the toughest challenges in the industry. When risks are high, oil companies from around the world call on Halliburton for swift, innovative solutions.

The Industry Standard
Halliburton invented slickline intervention more than 75 years ago and still leads the industry today. Our specialists, products, tools and processes continually set new standards.

• We are the original equipment manufacturer
• We have the best intervention tools in the industry
• We have the most highly trained personnel in the industry

Halliburton introduces first measuring line to supplement cementing services
Sets the first flow-control device under pressure on measuring line
Develops first round cross-sectional slickline
Vast Array of Services

Operators use slickline services for a variety of tasks, including:

- Running and retrieving wellbore devices, such as flow control devices or pressure/temperature gauges
- Exercising and locking open tubing retrievable sub-surface safety valves
- Operating downhole circulating devices
- Completion repair
- Workovers
- Running and setting packoff or straddle assemblies for tubing repair
- Cleaning for production restoration
- Retrieving production fluid samples
- Retrieving stuck tools
- Evaluating the reservoir, production, casing and cement
- Perforating multiple intervals
- Monitoring the reservoir
- Setting and retrieving wellbore devices using the DPU tool
- Initiating explosives with the Smart Electronic Triggering Device or Intelligent Triggering Device
- Pulling subsea wellhead plugs
- Decommissioning wells

### Challenge | Capability
---|---
Deep | We routinely operate at depths up to 26,000 feet (7,925 meters) with bottomhole pressures exceeding 15,000 psi.
High Pressure/High Temperature | We’ve conducted intervention operations on wells requiring 20,000 psi surface equipment and in wells up to 500°F (260°C).
Deep Water | We provide services for subsea wells in water depths greater than 8,500 feet (2,591 meters).
Remote Location | We have a large global footprint, which enables us to reach remote locations fast.
Complex Completions | We support large-bore tubing completions, multizone completions, prolific reservoirs and deepwater sand control completions.
Sour Service | Our OEM downhole service tools and flow control devices are suitable for the most extreme sour service environments.
High Angles | We routinely service wells with a greater than 65° deviation.
Riserless | We have performed numerous riserless interventions from lightweight vessels – setting records and firsts in the North Sea, Gulf of Mexico, Asia Pacific, West Africa and Brazil.

Overcoming Challenging Environments

As wells become deeper and more challenging, Halliburton has broadened slickline capabilities and developed multidisciplined crews to provide customers with even more reliability, efficiency and value.

Because of slickline's thin diameter and light weight, it can go where other conveyances can’t. It’s the most efficient means for well intervention and completion.

We create custom slickline solutions for virtually every challenge.
Uniquely Positioned for Challenging Environments
Halliburton is known for its ability to solve problems quickly. We understand the demands of challenging environments and complex wells. That’s why we:
• Design and manufacture our own tools
• Develop cross-trained personnel
• Have a large, global footprint
• Uphold the highest health, safety and environmental standards
• Design processes to reduce NPT
• Accommodate urgent needs
• Continually improve slickline capabilities

Extensive Experience
Halliburton has more than 855 multiskilled slickline employees worldwide. Together, they have more than 7,000 years of experience.

80 Percent Market Share in the Gulf
We perform 80 percent of the work on Gulf of Mexico deepwater rigs – in the largest fields and on the largest platforms.

SUCCESS STORY
Challenging Abandonment Project in North Sea
Results in Significant Cost Savings
An operator chose Halliburton for a plug and abandonment project in the North Sea because we are the one company that offers a truly integrated cased hole solution and multiskilled crews. Our integrated teamwork enabled us to complete work on seven wells in 39 days instead of the planned 59, leading to significant savings for the operator. Additionally, we were able to conduct the integrated cased hole well intervention services concurrent with ongoing drilling operations. The operator recognized Halliburton for “setting the lead on safety and delivery benchmarks.”

Develops first sub-surface, slickline-retrievable safety valve
Halliburton acquires Otis Engineering Corporation
Introduces and commercializes first Otis® X® and R® selective lock and nipple systems that are considered industry standard today
Invents first slickline-conveyed Electronic Triggering Device (ETD)
Training the Industry
We have world-class slickline training centers in the United States, Scotland and Egypt. The centers boast custom-designed training wells where we can demonstrate the full range of downhole tool operations. This is where we train personnel on all aspects of the business, including the latest in:

- Workovers and interventions
- Well completions
- Production and formation evaluation
- Tubing and casing evaluation
- Perforating

World-Class Education
Our instructor-led training program has been in place for more than 50 years. However, we also provide training via:

- Classroom
- Supervised apprenticeship programs
- Interactive instruction
- Video
- Distributed learning through Web-based tools

Safety Leadership
We are industry leaders in safety.

- All of our equipment is certified to the highest level of industry standards for hazardous zone operations
- We perform rigorous inspection and maintenance for downhole tools
- We implement safeguards worldwide
- We are recognized by the Occupational Safety and Health Administration (OSHA) for outstanding health and safety performance

Investing in Education
We spend more on training each employee in the first 18 months of employment than the cost of a typical four-year college degree at a public university in the United States.

SUCCESS STORY
Riserless intervention sets World Record
For one deepwater customer in the Gulf of Mexico, Halliburton completed a multiple-run, riserless slickline job from a lightweight intervention vessel. This set the record for the deepest and highest-pressure riserless job, which was later followed by another world record riserless intervention in deepwater Brazil.

1988
- Performs first riserless intervention in the North Sea

1992
- Introduces Advanced Slickline Services, bringing traditional e-line services to slickline
- Introduces first SL CollarTrak® real-time slickline collar locator and telemetry

1994

1995
- Creates first slickline-conveyed stackable modular gun system
We developed and commercialized the capability to pull subsea wellhead plugs on slickline from deepwater horizontal trees. One operator in West Africa recognized over $3 million in cost savings.

We created the first electro-mechanical device capable of setting and retrieving wellbore devices such as plugs and packers on slickline without explosives. To date, we’ve deployed over 5,000 of our DPU® tools on slickline.

First battery-powered Slickline DPU tool conveyed on tractor in Norwegian sector of the North Sea, allowing plug setting in horizontal wellbores without the use of coiled tubing.

We performed the deepest slickline operation in the Gulf of Mexico – 29,200 feet (8,900 meters) with a 55° deviation.

We set a world record for the deepest riserless intervention on a subsea completion from a lightweight vessel. It occurred in more than 6,000 feet (1,829 meters) of water.

We successfully executed the longest interval ever perforated with slickline – 645 feet (196 meters). The North Sea well had a 51° deviation and required 15,000 psi pressure control equipment.

SUCCESS STORY
Increased Production in Horizontal Well
A Middle East operator saw a 60 percent water production increase in a horizontal well. Halliburton deployed a 250 foot (76 meter) stackable straddle with swellable packers to isolate the unwanted water production. On completion of the isolation, water production was reduced by over 4,500 bbls/day.

SUCCESS STORY
Innovative Custom-Built Tool Saves Operator Hundreds of Thousands of Dollars
Halliburton helped save a Gulf of Mexico operator hundreds of thousands of dollars with its innovative “flipper-flapper” tool that allowed for the removal of the flapper from a failed subsurface safety valve that was impeding flow. The well was put back on production without having to kill the well and pull the completion, which could have resulted in significant cost to the operator. Variations of this innovative flipper-flapper have also been used in other parts of the world allowing through-tubing operations to set plugs and cut tubing below.
Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.