

RELAY™ Digital Slickline System

INTELLIGENT SLICKLINE CONVEYANCE FOR WELL INTERVENTION

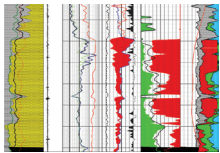
OVERVIEW

RELAY™ Digital Slickline system combines the versatility and efficiency of traditional slickline with the real-time data streaming capability of electric line.

PART OF OUR COMPREHENSIVE APPROACH

Halliburton offers a comprehensive strategy of Diagnose, Design, and Deliver to help operators realize maximum value from their existing wells.

Diagnose



We gather information about the well, the field, and our customers' unique objectives to create a complete understanding of the challenge.

Design



Using information gathered during the Diagnose phase, with existing data, we collaborate with our customers to design a solution that uses the ideal tools and equipment to effectively and economically improve well performance.

Deliver



Our team of multiskilled experts executes the risk-assessed program to ensure that it aligns with our customers' objectives.

This three-step approach is the key to using well intervention services to bring more value to our clients.

DIAGNOSE	CHALLENGES	DESIGN				DELIVER
		Cased Hole	Slickline	Combo Unit	RELAY System	
Well Integrity	Real-Time Logging	■		■	■	Well Maintenance & Intervention
	Memory Mode		■	■	■	
Flow Assurance	Real-Time Data & Control	■		■	■	Riserless Light-Well Intervention
	Footprint		■		■	
	Personnel on Board (POB)				■	

BENEFITS

- » **Versatile operations** – Adds onto any current slickline package for mechanical, diagnostic, perforating, plug setting, and pipe recovery operations
- » **Simplified logistics** – Less smaller lifts reduce costs and logistical challenges
- » **Reduced HSE exposure** – Minimizes HSE risks by reducing personnel, rig ups, PCE, and lifts
- » **Improved efficiency** – One rig up covers all slickline and electric line services with real-time slickline depth control and downhole assurance feedback
- » **Small footprint** – Unit size allows placement in tight spaces to perform services on and off the critical path

FEATURES

- » **Streaming data to and from downhole tools** – Command signals travel through the RELAY system, allowing operators to communicate with downhole tools in real time. Slick, small-diameter conveyance wire for efficient pressure control
- » **Mechanical strength comparable to traditional slickline** – The RELAY system wire is built to be rugged and strong enough to provide activation for mechanical tools and fishing operations for stuck equipment in the well
- » **Reduced footprint and versatility** – The RELAY system unit is comparable in size to a traditional slickline unit – perfect for tight spaces like offshore platforms
- » **Certified for hazardous zone operations** – This system is designed to be used in all kinds of environments, including hazardous zones

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Specifications

Diameter	0.160 in. (4.064 mm)
Working Pressure	15,000 psi (103,421 KPa)
Working Temperature	-40°F to 350°F (-40°C to 176°C)
Service Environment	H ₂ S, CO ₂ , CH ₄ , Brine, Methanol
Cycle Fatigue Life	Comparable to Stainless Steel Slickline

CUSTOMIZED SOLUTIONS

Halliburton is the leader in integrated cased-hole solutions, offering a wide array of services that are fully compatible with the RELAY™ system.

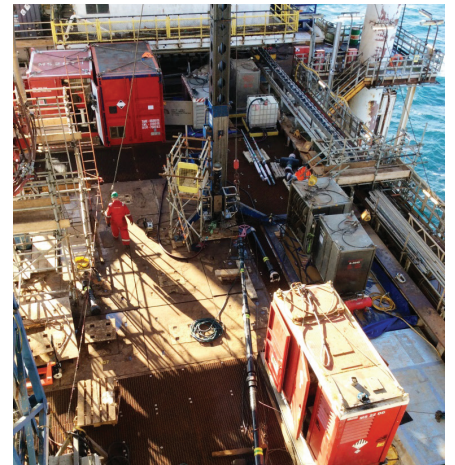
- » The Elite DPU® Downhole Power Unit produces a reliable force for setting wellbore tools on command
- » Command MaxFire® SL system can enable safe and consistent explosive trigger deployment on command
- » Reservoir Monitor Tool 3-Detector (RMT-3D™) pulsed-neutron tool can provide three independent measurements to evaluate saturations, porosity, and flow behind pipe
- » Acoustic Conformance Xaminer® (ACX™) service is part of a new-generation acoustic tool that uses hydrophone array technology to locate and describe communication paths and flow areas – vertically and radially in the wellbore area – and can create a 2D flow map of the leak
- » Electromagnetic Pipe Xaminer® (EPX™) service is the latest generation of corrosion monitoring tools that can analyze multiple strings of pipe in a single run
- » Production Logging, Multifinger Caliper Inspection, Cement Evaluation, and Cased-Hole PVT Fluid Sampling (ARMADA® tool)

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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Big Efficiency from a Small Footprint

In some situations, like a crowded offshore rig, operators may be constrained to working within a small footprint. The RELAY™ system is smaller, and still allows for real-time monitoring and control of downhole tools.