



**Weatherford<sup>®</sup>**

## Well Abandonment Services

Plug into a New Approach



# Get it Right the First Time

## Permanent Solutions to Your Well Abandonment Challenge

Thousands of wells await safe and permanent abandonment. It's critical that operators get the expert tools and professional services to correctly manage costs, safety, and complex government regulations.

Weatherford delivers the expertise, innovative technology, and a portfolio of integrated solutions to meet your abandonment needs, both onshore and offshore. We are a single-source provider for any stage of well abandonment. Drawing on our global expertise and breadth of capabilities, we offer a comprehensive assortment of abandonment products and services.

- Replace costly mobile and workover rigs with Rig-Free® technology
- Enable single-source efficiencies with a complete range of products
- Leverage a team of well-abandonment specialists with global experience
- Offset abandonment costs and extend production with effective intervention techniques

### **Total Project-Management Planning and Implementation**

As a global leader in well abandonment, our experienced specialists can manage pre-job planning, risk and cost assessments, compliance monitoring, engineering, event planning, final implementation, and contingency evaluation. Our proven, multiphase regimen provides a complete well-abandonment plan to guide your project from beginning to end.

### **Fit-for-Purpose Answers to Meet Regulations**

Weatherford can help you navigate the maze of compliance regulations safely and efficiently. Our extensive suite of fit-for-purpose products, technologies, and services are designed to meet or exceed international, regional, and environmental standards. Innovative technologies, such as the exclusive Rig-Free pulling and jacking unit, are significantly more cost efficient and transportable than cumbersome mobile-drilling and workover units.









# Rig-Free® Technology

## Modular Rigless Well Abandonment Systems

With our proprietary pulling and jacking units, we bring efficiency, power, and reliability to manage plug and abandonment. This Rig-Free innovation includes a small footprint and modular design that is ideal for use on platforms with downgraded derricks and structural limits, and that quickly skids from well to well. Rig-Free technology is optimized for any stage of late intervention or plugging and abandonment, including applications for jackup barges and cantilever systems.

- Plug and abandonment
- Conductor removal
- Slot recovery
- Tubular cutting, milling, and removal
- Plugging and abandoning
- Section milling
- Wireline and slickline diagnostics
- Pumping
- Fishing
- Re-entry

For adaptability, our Rig-Free unit can be placed directly on a platform or over a platform with cantilever beams.



### Heavy-Duty Pulling and Jacking Unit

Managing tubulars and conductors with ease, the heavy-duty pulling and jacking unit operates on platforms with no existing derrick systems. It can pull up to 220,000 lb (99,790 kg) in 60-ft increments and jack up to 600,000 lb (272,155 kg) in 5-ft (2-m) increments while holding 10,000 ft. (3,048 m) of 3 1/2-in. drill pipe. The modular, hydraulically powered mast sits directly above the well, and the blowout preventer can be placed beneath the unit.



### Well Diagnostics and Reservoir Isolation Services

For platforms with no derrick or downgraded derricks, we offer a proprietary pulling and jacking unit that is significantly safer and more cost efficient than jackup rigs, workover rigs, and snubbing units. This compact unit enables simultaneous operations with preexisting platform cranes.

## Light-Duty Pulling and Jacking Unit

The light-duty pulling and jacking unit is no lightweight. This unit pulls 35,000 lb (13,607 kg) and jacks up to 1,000,000 lb (453,592 kg). It shares many of the attributes and systems of its larger counterpart including power swivels and seamless changeover from mast-assisted to jacking operations. It is ideal for conductor pulling and many other intervention and abandonment tasks, especially in situations where space is at a premium and platform structural strength is low.



## Rig-Free Work Deck

Designed for well abandonment services, this work deck has an integrated 2-ton jib crane and a small footprint, making it ideal for small or satellite platforms. It is deployable directly on a platform deck or as a cantilever system, which can minimize crew sizes. This unit can be equipped with a power swivel stand that is capable of pulling 80,000 lb (36,287 kg) and applying 8,100 ft-lb (10,982 N-m) of torque for performing section milling as well as tubular running and removal.



## Conductor Removal

Whether your need is for slot recovery or well abandonment, our conductor removal service offers a complete line of solutions to handle all phases of the operation. From working on large platforms to the smallest single-jack platforms, we deliver the latest equipment and highly experienced personnel for utmost levels of safety and efficiency. Our Rig-Free units offer a variety of sizes and functions that adapt to all types of abandonment operations, including servicing rigs with limited deck space, load restrictions, and downgraded platforms.

### Conductor Removal Services

- Rig-Free technology
- M-Series internal cutting tools
- External cutting tools
- Boring and pinning systems
- Conductor cleaning system
- Conductor whipstocks
- Casing jacks

### Fishing and Tubular Removal

Our abandonment services feature an array of industry-leading fishing solutions, tubular running systems, and tool rentals for removing any well obstruction. Plus, our thru-tubing techniques enable intervention within production tubing and casings. For wells with aging casings or those that have sustained damage, we also offer a complete line of tools and services for managing any retrieval or restoration issue, from simple to complex.

# Subsea Wellhead Retrieval Services

We can meet most riser intervention challenges, including reducing the overall expense of subsea abandonment. Weatherford also provides proactive planning and guidance during all intervention stages. For subsea wells with mobile drilling units, we offer a complete portfolio of abandonment services:

- Wellhead recovery
- Deepwater tension cutting
- Vessel-deployed isolation and plugging
- Vessel-deployed cutting and recovery

## Mechanical Outside-Latch, Single-Trip (M.O.S.T.™) Subsea Tool

Ideal for subsea well abandonment and well suspension, the M.O.S.T. tool can cut and recover multiple casing strings in a single trip. It also preps for recycling the wellhead, saves significant amounts of rig time, and minimizes damage to seal surfaces.

A Weatherford exclusive, the M.O.S.T. tool has been successfully deployed globally in over 1,500 wells.

## Our Commitment to Quality and Safety

If we can't do it right and do it safely, we don't do it. In all Weatherford operations, our most important mission is pursuing the highest possible standards to maximize our quality, health, safety, and environmental performance. Our abandonment services, like any other Weatherford product or service, include our promise for safety and quality, including design, manufacturing, transporting, installing, servicing, and refurbishment.





# Well Abandonment Cutting Technology

Weatherford offers an array of tools and cutting solutions for managing expenses, safety, and stringent, ever-evolving regulations. We also offer organizational techniques and software applications designed to accomplish all your abandonment cutting quickly and efficiently. These solutions allow you to:

- Hoist multistring casings with minimal slippage using the proprietary external cutting, boring, and pinning systems
- Eliminate the need for hazardous chemicals and explosives using the internal downhole tubular cutting tool that runs on electric lines
- Enhance operator safety using the hydraulic multistring cutting saw with hydraulic clamping and cold-cutting capability

## Endura™ Dual-String Section Mill

The Weatherford Endura dual-string section mill (DSSM) mills the inner string of a casing, goes through the inner string, and mills the outer string. The tool removes all the casing strings and exposes the open hole, allowing you to set a cement plug against the open hole to create a rock-to-rock plug. This solution restricts migration of hydrocarbons by creating a more reliable and permanent seal.



For more information, contact us at  
**wellabandonment@weatherford.com**  
or call your authorized Weatherford representative.

## **Well Abandonment Technology from a Global Leader**

Weatherford provides a complete portfolio of industry-leading technology and outstanding experience for cessation of production and eventual abandonment of your oilfield. With our innovative approach, expert personnel, and unmatched operational-management disciplines, we consistently deliver solutions that reduce costs, mitigate risks, and ensure high integrity well abandonment.



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