Integrated Well Abandonment

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Schlumberger
INTEGRATED WELL ABANDONMENT SOLUTIONS FOR LAND, OFFSHORE, AND SUBSEA

As reservoirs mature and output levels change, oil and gas operators must regularly reassess the performance of every asset in production.

Integrated well abandonment services help meet your obligations to make uneconomic wells safe and guard against potential liabilities for the long term.

Secure the future profitability of production operations on- and offshore by identifying and closing off any loss-making assets.

Well abandonment eliminates the ongoing costs of maintaining uneconomic oil and gas platforms, shut-in wells, and aging subsea infrastructure.

By restoring the integrity of the reservoir caprock by sealing each well with a permanent, leak-free barrier, you can meet legal obligations and minimize liabilities once and for all.

And because any intervention can be a complex, high-risk operation, Schlumberger offers a fully managed service for well abandonment campaigns of any scale, with key technical offerings designed to keep costs—and risks—firmly under control.

Drive down land campaign costs
Ensure land-based assets progress through the final stage of production quickly and cost-effectively.
Engineer a better outcome offshore
Deliver high-efficiency abandonment campaigns for platform-based assets with long-term isolation in mission-critical offshore settings.

Migrate from subsea complexity to greater certainty
Ensure higher-precision, lower-risk subsea well abandonment operations.
An integrated approach managed through a single contact

Effective abandonment involves a number of services, each with its own specialized workflow. With Schlumberger, every project is delivered and managed through a single contract and one point of contact, maintaining a clear line of accountability.

01 APPRAISE  Assess value and liabilities
02 ENGINEER  Streamline job design
03 ACCESS    Ensure safe well access
04 PREPARE   Prepare with precision
05 ISOLATE   Prevent flow over the long term
06 VERIFY    Confirm isolation and barrier integrity
Assess value and liabilities

As operators incur costs for each day of a facility’s life, the time between the cessation of production (COP) and the removal of facilities can result in risk and expense. Schlumberger uses subsurface evaluation to determine where the wells already in place can be used to extend field life and defer decommissioning, and—when the time comes—how well abandonment can be a fast, safe, and cost-effective process.

The number of wells abandoned can be reduced where well abandonment activities can be run concurrently with production enhancement, all while eliminating the delay between COP and P&A lowers risks and delivers major savings.
Services Spotlight:
Asset Development and Improvement Ltd. (ADIL)
An expert team identifies opportunities to cut costs and simplify the process scheme to reduce ongoing maintenance. Team members also identify candidate wells with production enhancement potential and plan P&A work while production is ongoing.
Streamline job design

Well designs across a field may have initially followed a similar template, but differences during construction and the production life leave each well requiring its own individual abandonment plan aligned within the broader campaign strategy.

Schlumberger makes sure you’re working with the most up-to-date information possible from the start. We review the data acquired during a well’s lifecycle with the latest evaluation tools, performing dynamic modeling and simulation, and subsurface studies where required—all to engineer the optimal project design.
Services Spotlight:
Invizion well integrity services
By combining job design data with real-time measurements from the rig and cementing unit, Invizion services deliver the most accurate live representation of cementing operations. A higher level of control over cement placement ensures optimal results.
Ensure safe well access

Safeguarding personnel and the environment requires ensuring safe access and maintaining well control throughout the abandonment—challenges that can be compounded in complex scenarios such as HPHT and deepwater wells.

Schlumberger delivers and manages conventional rig-based intervention projects both on- and offshore. And our strategic Subsea Services Alliance uses Helix Energy Solutions vessels, strengthening our integrated well abandonment services portfolio with managed rigless intervention options.

- Cameron wellhead systems
- Cameron rig solutions
- Subsea wells
- Subsea decommissioning
- Subsea landing services
- MARS* multiple application reinjection system
Subsea Services Alliance

The Subsea Services Alliance was formed by Helix, OneSubsea, and Schlumberger to develop technologies and deliver equipment and services that optimize the value chain of subsea well intervention systems.
Prepare with precision

Maximizing the effectiveness of every well abandonment operation requires the highest standard of wellbore preparation. It’s critical to identify early on any job aspects that may lead to isolation issues and compromise the success of the project.

From casing evaluation to advanced cleanup tools, Schlumberger has what it takes to implement and manage a highly efficient wellbore preparation project.

- Isolation Scanner* cement evaluation service
- ReSOLVE* instrumented wireline intervention service
- Wireline pipe recovery and perforating services
- LIVE* digital slickline services
- OPTICall* thermal profile and investigation service
- ACTive* real-time downhole coiled tubing services
- Intervention fluids systems and wellbore conditioning
- Fishing and annular access
Services Spotlight:

Realtime downhole profiling

Schlumberger offers a range of distributed vibration (hDVS) and distributed temperature sensing (DTS) services for real-time profiling of the complete wellbore. These services provide definitive, on-demand data acquisition, insight into the integrity of the completion and identification of downhole problems. Furthermore, conveyance using slickline, wireline, or coiled tubing intervention methods gives us the flexibility to combine multiple downhole services in a single run, maximizing efficiency and effectiveness.
Prevent flow over the long term

Protecting downhole and surface environments requires long-term mechanical prevention of flow. To achieve this, Schlumberger can help you formulate and deploy the most effective sealing material at every interface. We use information acquired downhole to select the most effective packers and plugs, and to accurately pinpoint their placement in the wellbore.

In conjunction with these, Schlumberger has also created a range of cement systems with properties chosen specifically for their long-term isolation performance.

- Cementing services
- CemFIT* adaptive cement systems
- CemCRETE* concrete-based oilwell cementing technology
- Peak well systems
- BluePlug* cement retainers and bridge plugs
- Saltel expandable steel packers
Services Spotlight:

Saltel Expandable Steel Packers

This proprietary expandable stainless steel technology uses a patented thin layer of bonded elastomer to conform to the true wellbore shape. By sealing without welds or other potential failure points, operators can achieve effective long-term isolation.
06 VERIFY

Confirm isolation and barrier integrity

The project has been delivered to plan when the abandonment operations have been completed and the vital last step of the verification process has taken place to ensure the results are robust.

Schlumberger provides comprehensive measurement services that confirm every aspect of the abandonment operations process. These include accurately tagging the placement of each barrier in the wellbore, using wireline to evaluate the contents of the annulus, and running pressure tests at the surface.

With Schlumberger integrating and managing these services, documentation is standardized and a continuous chain of custody maintained throughout the process. Our work helps operators demonstrate compliance and gain long-term peace of mind.

- Annular barrier evaluation services
- CEMENTICS* zonal isolation software
- Downhole gauge systems
- Chain of custody
- PowerFlex* and PowerEcho* annular barrier evaluation services
Services Spotlight:

*PowerFlex* and *PowerEcho* annular barrier evaluation services

A new generation of ultrasonic tools enable robust, reliable measurement of annular content across all well fluid weights and cement densities. Enhanced wellsite processing enables a turnaround time of 2 hours or less.
Each well abandonment project is built on Schlumberger’s unrivalled subsurface knowledge to eliminate costly surprises on land, platforms, or in subsea wells. Our multiskilled crews reduce headcount and simplify project management.

Schlumberger service teams use the best technologies available, including proprietary chemistries, advanced engineering, and cutting-edge digital innovations. For a clear line of accountability, each project can be delivered and managed through a single contract and one point of contact.
LIVE Digital Slickline Services Reduce Operating Time by 50% for Plug and Abandonment
A single digital slickline unit was used to recover plugs, punch and perforate the tubing, and run a clean chemical cutter. By combining mechanical services and real-time cased services in a single unit, logistics were simplified and operating time halved.

Wellhead Retrieval System Saves USD 600,000 in Single-Run Offshore P&A Operation
ProLATCH* wellhead retrieval system enabled an operator to retrieve both wellhead and casing string together while leaving the wear bushing in place. The deepwater abandonment operation was completed in just 13.5 hours.

CT in Subsea Riserless Interventions Reduces P&A Operation Time by 40%
Schlumberger used riserless coiled tubing interventions to perform more efficient deepwater well abandonment operations. In addition to minimizing personnel and equipment exposure in a 14-well campaign, the average operation time of 22 hours per well was reduced by 40%.
ENDING SMARTER STARTS HERE

It’s never too early to start planning for the best well outcome. Talk to Schlumberger today about Integrated Well Abandonment and seal each well with confidence.

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