Weatherford's Drilling Rental Tools: Sub-Saharan Africa

Getting you the tools you need, when you need them, no matter where you are operating





Completion

Production

Intervention

Well construction

- Cementing products
- Drilling tools
 Performance drilling tools
- Power sections
- Pressure-control equipment
 Tubulars & handling tools
- Drilling-with-casing systems
- Inflatable packers
- Integrated drilling rigs
- Liner systems
 Mechanized rig systems
- Rig equipment sales
- Solid expandable systems
- Swellable well-construction technologies
- Tubular running services



Weatherford provides the broadest range of safe and reliable drilling rental tools, sparing you the cost and inconvenience of ownership and delivering the most efficient and cost-effective service possible. By understanding your drilling challenges, we guide you in the successful application of our products, reduce your risk exposure and enhance your drilling performance.

Drilling

We have created a portfolio of drilling services and products that make well construction safer, reduce nonproductive time and enhance reservoir deliverability.



Evaluation

Our extensive portfolio of conveyance systems, coupled with industryqualified measurements, are being applied to openhole and cased-hole wireline, slickline, LWD, well testing and geoscience services.



Completion

We provide everything from a comprehensive line of products for conventional completion in benign reservoir applications to engineered and integrated completion systems for complex and challenging environments.



Production

We help maximize reservoir recovery and optimize field production through artificial lift, well optimization services and products, and intelligent completion systems that remotely monitor and control well, facility or field production.



Intervention

Our intervention services help remediate wells that have mechanical or formation problems. We help prolong the life of these wells by providing systems to extend production or access and to retrieve remaining or "stranded" oil and natural gas reserves.

Our Selection of Drilling Rental Tools

Drilling Rental Tools

Drillpipe

One of the world's largest suppliers of tubular products, we have a wide selection of drillpipe available for rent. Renting offers a costeffective means to: supplement your existing supply; replace stock that does not comply with inspection criteria or your own quality expectations; meet needs that exceed the capacity of your inventory; and avert damage



to your own drillpipe in wells with an elevated risk of high-side loading. It can also help you preserve capital by reducing or eliminating storage and maintenance costs.

Alternative drillpipe

We rent alternatives to standard drillpipe, including off-size (5-1/2 in., 5-7/8 in.) and heavy-wall drillpipe. Though deviating only slightly from standard varieties, such alternatives can enhance drilling efficiency and reduce costs significantly. We can help you determine the potential time- and cost-savings benefits of using alternative drillpipe for a particular well.

Standard drillpipe

We carry a large inventory of standard 3- and 5-in. drillpipe, as well as transition pipe (typically heavyweight drillpipe) which is placed between the main drillstring and collar to reinforce an area susceptible to fatigue and add weight to the bit.

Premium drillpipe

Weatherford's premium drillpipe is designed to meet the demands of particularly challenging well profiles, including those with torque and drag loads that exceed the capacities of standard drillpipe. Our inventory includes high-strength (G-105, S-135) and ultra-high-strength drillpipe (V-150, Z-140), as well as high-torque and double-shouldered tool joints.

Hydroclean® series drillpipe

Especially pertinent to extended-reach drilling (ERD), Weatherford's proprietary Hydroclean series drillpipe helps improve cuttings-removal efficiency to minimize differential sticking.



Weatherford offers ready access to the tools you need to perform virtually any drilling or workover task, throughout Sub-Saharan Africa. Our vast inventory encompasses drillpipe of all varieties and sizes; high-performance drilling tools; and pressure-control equipment, including blowout preventers. Following are highlights of our extensive selection of rental tools, as well as some of the complementary drilling products and services we offer in the region.

Secondary drillstrings

Secondary strings typically require drillpipe that is smaller or larger than the drillpipe incorporated into primary strings. We carry 2 7/8-in., 3 1/2-in. and 6 5/8-in. drillpipe, all appropriate for secondary strings. Because these off-sizes have higher maintenance costs and tend to be used in lesser quantities, rental is generally a more cost-effective option than purchase.

Special-purpose drillstrings

We offer an array of drillpipe and accessories used in special-purpose drillstrings. These include drillpipe designed to minimize risk and the use of inhibitors in sour-gas environments; connectors that facilitate drillstem testing in high-pressure conditions; high-tension landing strings used to increase the depth of intermediate casing points in deepwater; and drillpipe for fracturing strings.

Drillstring accessories

We rent bottomhole assembles (BHAs), collars, drillstem subs and thread protectors, in addition to a variety of standard and specialty drillpipes.

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Pressure-control equipment



Pressure-control equipment plays a critical role in wellsite safety, as well as enabling unconventional drilling techniques. Our portfolio of rental pressure-control equipment includes blowout preventer (BOP) systems and components, as well as rotating control devices (RCDs).

BOP systems and components

Weatherford carries a range of BOP systems and accessories from major manufacturers, including Cameron, Hydril and Shaffer. Our selection features equipment certified to meet the most exacting performance and safety standards, as well as systems compatible with all standard onshore and offshore rig designs. We offer a cost-effective, rent-while-in-maintenance option that allows your operations to proceed while your own equipment is being re-certified. Components for rent include accumulator units, the primary control mechanisms for BOPs.

> BOP units Annular

- RAM

- **BOP** components
- Accumulator units
- Bonnet assemblies
- Shear
- Tandem boosters
 Double-studded adaptors
- Flanged crossovers
- Fracturing valves
- Lift plates
 RAMs
- RAMS
 Blind
- Pipe
- Shear
 Variable-bore
- Riser sections
- Single-gate valves
- Transport skids

Performance drilling tools

Weatherford rents a number of specialize and efficiency while drilling and completin the Dailey[®] series of high-performance do drilling reamer; and a number of innovative



Jars

Weatherford offers jars and related fishing tools designed to free stuck pipe quickly and cost effectively, even in extreme downhole conditions. These include our durable Dailey hydraulic fishing jar, equipped with hydraulic time-delay for enhanced reliability; the compatible Dailey HyPulse Jar Slinger® shock jar, which leverages a unique, synthetic-fluidbased spring mechanism to increase jarring force; and a Dailey lubricated bumper sub that facilitates control of the fishing string and significantly reduces BHA vibration.





Complementary drilling products

d tools to help you maximize safety ng your wells. Our portfolio features ownhole tools; the unique RipTide® e torque-and-drag-reduction systems.



Hole-enlargement tools

In addition to providing conventional reamers, we offer a unique hole-enlargement-while-drilling tool—the RipTide drilling reamer—that can expand holes up to 25 percent beyond bit diameter. Specific applications include expanding pilot holes and underreaming below casing with tight restrictions. The tool is equipped with several performanceenhancing features, such as a durable PDC cutting structure that provides high-impact strength and erosion resistance, and concentric cutter blocks that minimize vibration while drilling.

Shock tools

We rent tools that significantly reduce drillstring shock to enhance drilling efficiency, such as our Dailey R-A-M® roll-a-matic shock absorber, a field-proven first line of defense against excessive drill bit wear and drillstring damage caused by string shock and vibration.

Torque-and-drag reduction systems



We rent several tools that reduce mechanical friction to optimize drilling and completion, even in challenging high-angle, extended-reach wells. Our CRS[™] clamp-on roller system reduces friction while running tubulars, liners and completion products. The LoTAD[™] system reduces friction while drilling to minimize torque, drag and tool-joint wear. Our LoTORQ[™] and LoDRAG[™] roller centralizers use innovative rollers to reduce friction while running casing or liners.

Tubular running services

We offer an extensive selection of conventional tubular running equipment, complementing our portfolio of mechanized rig systems. Our offerings include bucking systems, handling tools, pick-up/lay-down machines and tongs.

Drilling services

Weatherford's drilling services can help you maximize efficiency while drilling horizontal or infill wells; drain reservoirs that require complex well trajectories; optimize well placement; and navigate around hazards. Our portfolio of advanced drilling technologies features record-setting measurement-while-drilling (MWD), logging-while-drilling (LWD) and rotary-steerable systems (RSS), as well as drilling motors.

Mechanized rig systems

In addition to renting tubulars, we offer mechanized rig equipment used for tubular running. These remotely operated systems take a proven technology—industrial robotics—from the manufacturing floor to the rig floor. Among their benefits, they enhance efficiency while making up, breaking out and handling tubulars of all varieties and sizes; keep rig hands out of high risk zones; and typically reduce personnel requirements.

Contact Us in Sub-Saharan Africa

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Sub-Saharan Africa Locations

Angola: Luanda, Cabinda, Soyo Chad Congo: Point Noire Gabon: Port Gentil South Africa: Johannesburg (SSA Region Office), Cape Town (Satellite Office), Midrand (Minerals), Alberton (Screenex Manufacturing) Equatorial Guinea: Malabo Nigeria: Lagos (Office), Port Harcourt (Base) Ghana: Takoradi Kenva: Nairobi Uganda: Kampala Senegal Tanzania: Mtwara, Dar Es Salaam Mozambique: Beira Ivory Coast: Abidian Cameroon: Duala

Weatherford established a presence in Sub-Saharan Africa in the mid-1970s, when we began supporting oil and gas operators on the continent's west coast. Today we are active in 16 countries throughout the region. These include burgeoning new hubs of exploration and production in East Africa, such as Uganda, as well as the prolific petroleum producers of West Africa. We made Johannesburg, South Africa our regional headquarters in 2010.

Our Operations in Sub-Saharan Africa

With operations throughout Sub-Saharan Africa and a longstanding presence in the region, we are well positioned to meet

your rental drilling tool and associated needs here. Following is a brief overview of our operations in Sub-Saharan Africa.

Personnel

Presence

More than 2,700 permanent employees and contractors support our regional efforts. We provide our personnel with extensive training to ensure that they are well prepared to meet client objectives and to apply best guality, health, safety, security, and environmental (QHSSE) practices. We also use a competence assurance program to evaluate the knowledge and skills of our personnel on an ongoing basis. As well as possessing technical skills, our employees-the majority of whom are nationals of the countries where they work-have a solid understanding of the local operating environments.

Product and service portfolio

Our regional product and service portfolio spans the life cycle of a welldrilling, evaluation, completion, production and intervention. Established offerings consist of multiple well construction and completion products and services, including rental tools. More recent additions include directional drilling services, well testing, wireline logging and land rigs. As our regional and global track records illustrate, we are highly adept at drawing on our range of competencies to deliver total project management services.

Quality, Health, Safety, Security and Environment (QHSSE)

An integrated management system (IMS) and a robust performance-tracking database are among the tools we use to ensure the highest QHSSE standards at our facilities and operation sites in Sub-Saharan Africa. Our IMS is compliant with several ISO and OHSAS standards. We use the Weatherford Performance Tracking System (WPTS) to track QHSSE incidents and corrective measures, and consequently to ensure fast and effective responses. WPTS also helps us identify the underlying causes of incidents, in turn stimulating the development of best QHSSE practices.

The IMS that Weatherford uses throughout Sub-Saharan Africa is compliant with the following standards:

- ISO 9000 (Quality Management System)
- ISO/TS 29001 (Quality Management System)
- ISO 14001 (Environmental Management System)
- OHSAS 18001 (Occupational Health and Safety Management Systems)

Rental tool support services in Sub-Saharan Africa

Based throughout the region. Weatherford's tool support specialists are available to help you select appropriate tools, arrange for delivery and pick-up, answer technical questions during operations and provide wellsite support, as needed.

Weatherford in Sub-Saharan Africa¹

Countries where Weatherford operates

Angola, Cameroon, Chad, Democratic Republic of the Congo (DRC)², Equatorial Guinea, Ethiopia, Gabon, Ghana, Ivory Coast, Mozambique, Nigeria, Republic of the Congo (ROC), Senegal, South Africa, Tanzania, Uganda

Regional headquarters Johannesburg (Bryanston), South Africa

General Manager, Sub-Saharan Africa Neil Robertson

¹Information current as of September 2012. ²We manage DRC projects from neighboring ROC, sending personnel to DRC as necessary and working from operator facilities





Weatherford's Rental Drilling Tools: Sub-Saharan Africa

Getting you the tools you need

For more information on our wide selection of rental drilling tools in Sub-Saharan Africa, contact an authorized Weatherford representative or visit **weatherford.com**.



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