

claxton[®]

MAKE IT HAPPEN.

Products and services from Claxton
to make your project happen

an **ACTEON** company

“Claxton are approachable, very responsive and provide fast, efficient, cost-effective solutions to our needs”

independent customer research



Claxton has long been a trusted name in the oilfield. As a business, we’ve grown significantly over the years in order to respond to our clients needs. However, throughout our growth, we’ve always asked ourselves three questions:

- Are we giving the best, most responsive, service we can?
- Is there a more cost effective and safe way of doing this?
- Can we offer a better solution to our clients?

In continually answering these questions, Claxton has built an enviable reputation and gained enormous experience in shallow water engineering.

The content of this brochure shows how those three simple questions have shaped a broad, deep product range for well systems, structures and pipelines and gained us a catalogue of innovation that we’re truly proud of.

We look forward to asking the same three questions of a solution to your own operating needs very soon.

Laura Claxton
Managing Director

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responsive

Claxton is responsive – but don't just take our word for it.

In 2008 and again in 2010 Claxton, through an independent research agency, carried out a study of our clients' perception of the company and our services. When we asked customers to tell us what they thought of Claxton one word was used time and again: **responsive**.

During the last 25 years we've taken a real pride in the pace at which we respond to our customers operating challenges. From a simple rental hub, to a full riser system, through to large scale one-off projects – you can be sure that Claxton will respond quickly, efficiently and safely.



Claxton, an Acteon company, leads the way in jack up engineering and services across the life of the asset – from pre-drilling to drilling, production and decommissioning.

Our services include rental equipment, modification and refurbishment, tailored engineering

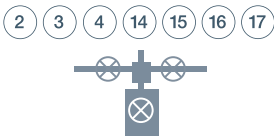
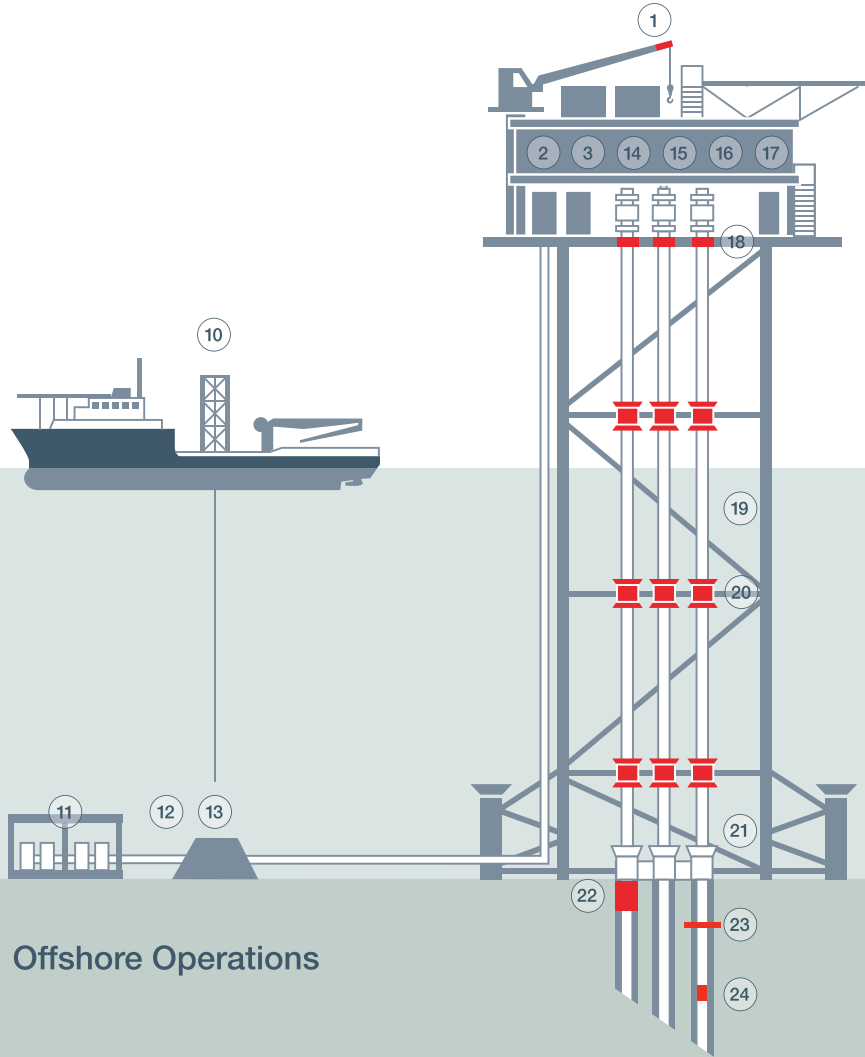
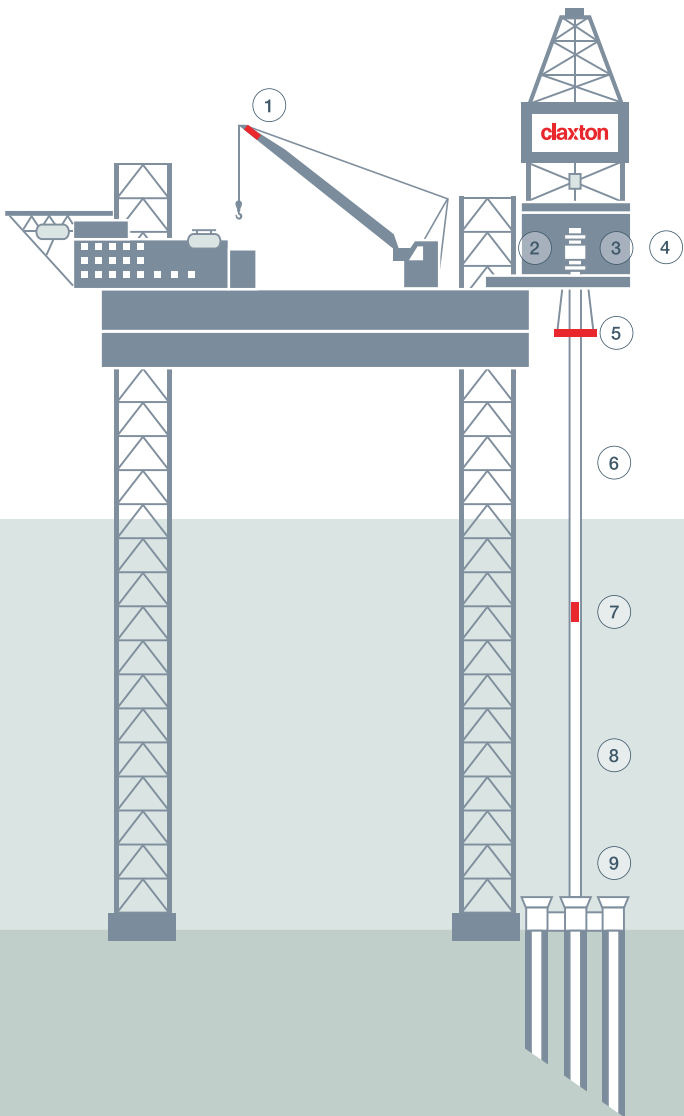
for project-specific applications and maintenance programs.

All our services are backed up by a world class in-house projects team and design-led engineering capability. We pride ourselves on the speed and quality of the service we provide for clients across the globe.



Acteon has an outstanding portfolio of complimentary products and services for the subsea marketplace. The experience shared by Acteon companies opens the opportunity for a different approach to subsea operations and services.

Find out more at www.acteon.com



Onshore Operations

Claxton Operations

Our services reveal Claxton's unique industry experience and deep understanding of operators needs. From riser design, right through to well abandonment services, Claxton has a suite of services with extraordinary breadth and depth.

- 1 Crane Camera Systems
- 2 Wellhead design/supply
- 3 Cold Cutting
- 4 Equipment rental
- 5 Tension Rings & Tension Systems
- 6 Drilling Risers/Riser design
- 7 Subsea/Downhole Cameras
- 8 Tie Back Tooling
- 9 Drilling Templates
- 10 Rigless Operations
- 11 Subsea Manifolds
- 12 Subsea Well Abandonment
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- 14 Wellhead Maintenance
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- 17 Workovers
- 18 Cellar Deck Centralizers
- 19 Decommissioning & Abandonment
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- 21 Slot Recovery
- 22 Cement top up
- 23 Abrasive Cutting
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Asset Life Extension

Claxton has a proven record of helping operators extend the life of assets - both large and small.



Asset Life Extension

As operators cope with maturing fields and challenging market conditions, it has become increasingly important to manage and extend the life of assets.

Claxton has a suite of field-proven products and services designed to support this aim, including:

- Additional guides on existing structures
- Conductor and tubing recovery
- Cold cutting
- Drilling and pinning
- Hot tapping
- Retrofit centralizers
- Platform slot recovery
- Maintenance programs
- Tailored engineering for custom applications.

Platform Slot Recovery

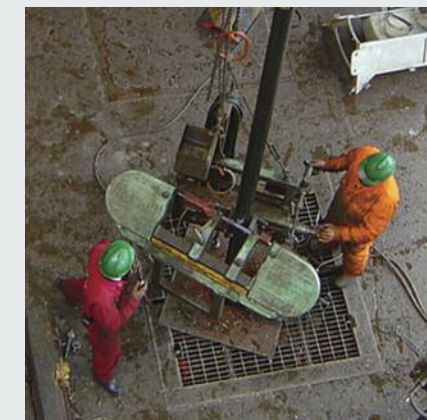
Slot recovery has proved to be a robust solution for operators looking to extend the life of their assets. Claxton has a long history of successful slot recovery operations.

Leading the way in slot recovery:

Claxton leads Slot Recovery operations. With over 15 years of on- and offshore decommissioning and slot-recovery experience we have developed many innovative solutions to the technical challenges presented by various difficult situations. These challenges have included performing rigless operations and working with fully cemented annuli and potentially unstable conductor connectors.

Slot Recovery from Claxton is supported by an extensive suite of rigless conductor recovery services

that have been used with successful and cost-effective results across the globe – we performed 16 slot and conductor recovery projects in 2010 alone.



Responsive | Fact

By providing a novel tooling package, Claxton saved a client £300,000 per well for a five well tubing recovery project. We supplied our bandsaws with personnel and lifting equipment to recover 1000m of tubing with an average string weight of 60,000lbs.

Camera Systems



Robust, field proven easy-to-use camera systems for rapid call-off all around the globe.



Camera Systems

Claxton sells more than just camera systems.

Having over two decades of working subsea under our belt, we understand the challenges operators face on their projects, the harsh treatment our equipment must withstand and the visual performance needed to make decisions.

It's thanks to this experience that our camera systems are among the best you can find anywhere.

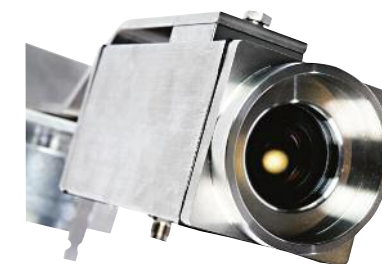
CamScan

A robust pan & tilt downhole camera with LED lighting, high image quality.



Crane Boom

Allows crane operators to monitor the area around their load. CraneCam is EEx rated and enhances crane safety.



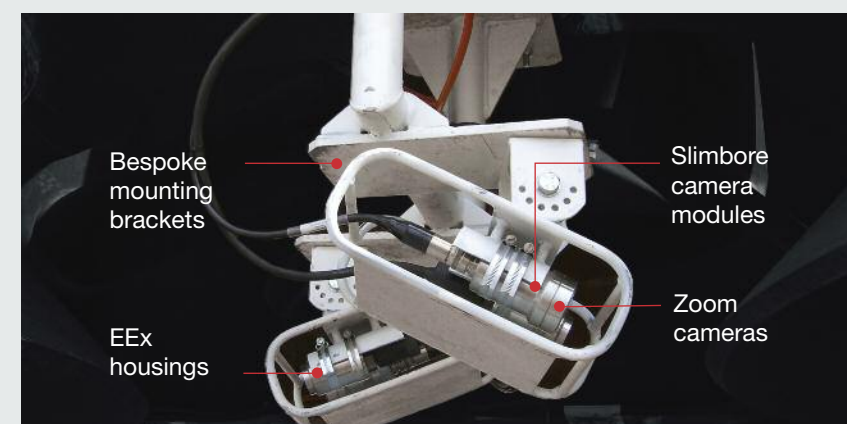
MultiCam

A full-function disposable camera for monitoring installation operations.



Ultra Low Light

Our low-light camera operates effectively down to 0.0003 lux, providing maximum visibility in the poorest conditions.



Responsive | Fact

In addition to the products in this brochure, we also offer multiple supply options to suit your application – for instance, we have slim-bore and zoom variants of CamScan cameras, and can engineer cost effective brackets for mounting cameras on equipment.

Cutting & Hot Tapping

Claxton has everything from robust bandsaws, to state of the art abrasive cutting – and hot tapping to 15,000psi



Cutting Tools

Claxton provides a suite of industry - leading cutting tools and services. We pioneered subsea abrasive cutting and provide robust band saws to name but a few of the options on offer.

- RAPIER™ casing and tubing bandsaws
- SABRE™ abrasive jet cutting
- Cold cutting equipment
- Cut verification systems
- Casing and tubing recovery packages.

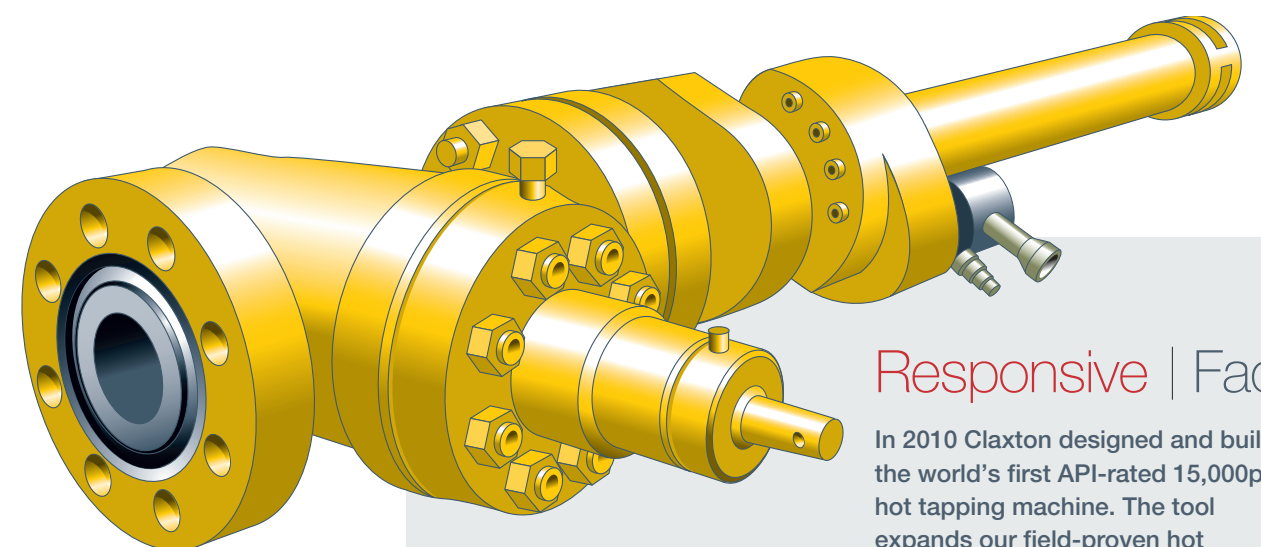
Hot Tapping

Claxton designs, supplies and operates systems for the provision of hot tapping into valves on wellheads, Christmas trees, check valves and all types of tubulars for both surface or subsea operations. We provide this service for the global upstream oil and gas industry as well as downstream petrochemical facilities and utilities – working on pipelines, flare lines, valves etc.

The Claxton system is robust, field-proven and backed by a business with decades of oil and gas experience.

Benefits of the Claxton Hot Tapping system:

- Full pressure containment to allow for simultaneous operations
- Proven to cut from standard steel pipe, through to super-hard materials like honeycomb stellite
- Range of machines for applications up to 15,000 PSI
- Modular systems provide flexible project applications
- Systems that enhance safety and operational efficiency
- Hot tap size is limited only by the pressure that may be present
- Equalisation-controlling orifice valve reduces dynamic shock to the pressure retaining components
- Fully trained field-personnel available

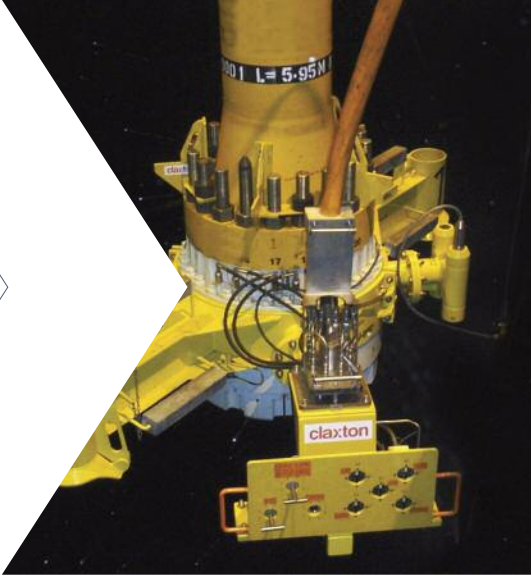


Responsive | Fact

In 2010 Claxton designed and built the world's first API-rated 15,000psi hot tapping machine. The tool expands our field-proven hot tapping fleet and subsea hot tapping experience into territory other companies will struggle to follow.

Drilling Risers & Tensioning

Claxton is the leading supplier of subsea risers and tensioning equipment – with multiple system options for your project.






Subsea Riser Systems

Claxton has been supplying jack up riser systems since 1990 and has pioneered a number of technologies in that time – including the first positive grip tension rings and supplying the first-ever 12,200psi API/NACE compliant riser.

Our riser project experience list extends to over 100 projects since 2005 alone. Email info@claxtonengineering.com for your copy and compare our record to other suppliers.

Claxton Riser System Overview

			
	12,200psi - Flange	5,000psi - Flange	5,000psi - Quick Connect
Joint Connector Type	SRP Shrink-Fit high performance flange	API, custom or SRP high performance flange	OilStates Merlin
Joint Make-Up	Optimised make-up with 100% ring-type bolt tensioners	Optimised make-up with 100% ring-type bolt tensioners	OilStates make-up tool & crew
Outer Diameter	24"	24"	24"
Inner Diameter	18.¾"	21"	21"
Wall Thickness	2.17"	1.½"	1.½"
Operating Pressure	12,200psi	5,000psi	5,000psi
Test Pressure	13,500psi	7,500psi	7,500psi
Coating	TSA Coating Norsok M501-7	TSA Coating Norsok M501-7	TSA Coating Norsok M501-7
Material	ASTM A182 F22-80ksi	X65, X80	X65, X80
Subsea H4 Connector	Vetco DWHD	Vetco E, ExF & EWHD	Vetco E, ExF & EWHD
Quick Connects	Vetco NT-2 & Drill-Quip Radial Bolt package	Vetco NT-2	Vetco NT-2
Riser Tensioning	Full suite of tensioning equipment 'from stock'	Full suite of tensioning equipment 'from stock'	Full suite of tensioning equipment 'from stock'

Drilling Risers & Tensioning

Tension Rings

Many operators, rig and drilling contractors already call Claxton thanks to our...

Unique Experience

Our designs are in successful use by numerous operators and have been much-copied by the competition. However, the technical expertise that created our tension rings can only be found within Claxton.

Flexible Supply

We have a well-earned reputation for flexibility, so if you have a project specific application remember our tension rings can be dressed with slips for non-standard pipe sizes.

Proven Quality

Our tension rings have been proven on rigs working all around the world... meaning you can trust them to perform on your project.

Rapid Mobilisation

Claxton has a large fleet of tensioning equipment, much of which is ready for 'from stock' call-off. Contact us today to discuss your requirements.

Slimline Tension Rings

The patented Claxton Slimline tension ring can be taken from a container directly onto the drill floor, installed offline and the riser and tension ring can be run through the rotary table together, saving rig time. Designed in-house by Claxton, the slimline tension ring maintains the rugged performance we expect of more traditional designs despite being significantly smaller.



Tension Systems

Claxton has supplied many major rig operators with riser tension systems that mitigate riser stress and enhance fatigue performance.

These systems apply a pre-calculated load (tension) to provide rigidity to the riser or conductor during drilling operations, and reduce the applied axial loading from the blowout preventer stack and well control equipment.

Our tension systems can be supplied 'from stock' for rental purposes – or rapidly manufactured to suit a specific rig or application. Claxton has supplied systems up to a record-breaking 1,000 tonnes.

Riser Tooling

Our fleet of riser systems is supported by a complete range of system connectors.

- H4 connectors (DWHD and ExF)
- High performance nipple-up packages (NT-2)
- Test stumps and skids
- Handling tools
- Adaptors, flanges and crossovers as required
- Bolt tensioning equipment
- Umbilicals and reels
- C-plates and tension rings
- Spools and clamps
- HPUs
- Overshot connectors.



Responsive | Fact

Having pioneered the first-ever fully adjustable riser tension ring, we didn't rest on our laurels. Our team instantly took the design and improved it to be smaller, lighter and easier to install. The result, our Slimline Positive Grip Tension Rings, can be pre-installed to the tension joint and run through the rotary table.

Decommissioning

Claxton's tools and processes have defined rigless decommissioning and have a proven record offshore.



Abandonment Services

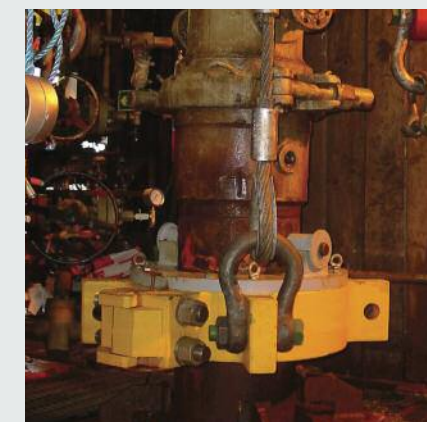
Claxton tools and processes have, in many ways, defined rigless decommissioning in the North Sea – and we've had input into many of the world's most significant abandonment campaigns.

We apply best-in-class technologies from our in-house team to safely and cost effectively abandon wells and recover conductors. These include the first subsea abrasive cutting system, SABRE™ and the multi-award winning SWAT™ suspended well abandonment tool.

Our experience, coupled with extensive in-house tailored engineering capabilities and a proven record of successful projects, makes Claxton the obvious choice for well abandonment.

Claxton specialises in the following:

- A suite of proprietary, field proven, abandonment tools and techniques
- Conductor recovery packages
- Wellhead and Christmas Tree removal
- Bespoke interfaces to connect to existing infrastructure - such as false rotary tables or load spreader beams
- A range of cut verification options
- Control-line and casing cutting
- Wellhead recovery tools
- Platform or subsea abandonment campaigns
- Supply of experienced and highly professional engineering personnel.



Responsive | Fact

We performed the first-ever rigless abandonment in the North Sea on a conductor with a fatigue failure – an operation that ran smoothly despite only a few weeks notice, a bespoke tooling package and zero margin for error. We've since used the same package to recover many conductors with the same speed and safety.

Decommissioning



SABRE™ - Abrasive Cutting

The Claxton SABRE™ abrasive cutting system is proven to simultaneously sever all the casings in a well, regardless of casing loading, eccentricity, or annuli contents.

Proven technology

SABRE™ has proven an invaluable tool and has seen successful use on some of the most significant abandonment campaigns. SABRE's abrasive jet exits the tool at transonic speeds – making light work of even composite materials such as cemented casings.

Using a jet of naturally occurring cutting components (garnet, water and air), SABRE™ has a low environmental impact. The system can be deployed from a vessel or platform, allowing simultaneous abrasive cutting of multiple well casings without impacting adjacent infrastructure.

Benefits of SABRE™:

- Casings can be cut and recovered simultaneously or individually
- Can cut down to 6.5" applications
- Modular system footprint can be adapted to wide range of applications/deck layouts
- Cutting manipulators available to suit all standard casing sizes.
- Proven on numerous successful campaigns.

SWAT™

We have abandoned over 100 suspended subsea wells in the North Sea for our customers. These category 2 wells all required a shallow cement plug spanning all the casing annuli.

SWAT™ is deployed from the back of vessel or through a moonpool, landed on the wellhead and then used to carry out casing perforation and placement of the required cement plugs in the well.

Benefits of SWAT™:

- Deployed from a vessel, removing the need a drilling rig
- A one-stop solution to place the final cement barrier across all annuli
- Deployed as part of a total suspended subsea well abandonment package
- Proven across multiple successful offshore campaigns.



Conductor/Casing Recovery

Claxton supplies a field-proven package of tools to recover conductors and casing strings, either to abandon wells or recover the platform slot – these tools packages are complemented by trained offshore personnel and Claxton's experienced project engineering department.

We can simultaneously recover the 30" conductor and all internal strings, regardless of casing eccentricity or cementing.

Recovery packages include:

- Rapier™ Casing Bandsaws – or appropriate cutting tool
- Double Drilling Units
- Hydraulic Power Units
- Lifting adaptors and equipment
- Offshore personnel
- Jacking or Torsion-based cut verification

A package similar to this was used by Claxton to recover a conductor successfully during the first-ever rigless abandonment in the North Sea.

Recovery Interfaces

Our in-house project and design teams have an enviable record in producing novel, cost effective interfaces to facilitate abandonment.

- Work decks to enable recovery without impacting adjacent operations
- False rotary tables
- Tubing recovery masts
- Spreader beams to enhance the recovery operation where the platform structural loading is insufficient to recover the conductor.



Responsive | Fact

We recently supplied a novel subsea drilling and pinning machine to secure a conductor with connector integrity issues. The subsea drilling unit had a unique high tensile drill bit that was released hydraulically to form a load pin after boring through the casings. Subsequently the conductor was recovered without incident or fear of connector failure.

Templates & Structures

A leader in drilling templates with an enviable record in engineering offshore structures.



Drilling Templates

Claxton has an proven track record in providing both standard and non-standard templates. Our templates, like many of our products, can be produced to tight timescales.



How our templates add value:

- Class-leading experience in the design and installation – we're confident that we're among the most experience template suppliers in the world
- Fast response and short lead times, due to a vast library of designs
- Preparation of detailed and optimised rig-specific installation procedures and equipment lists to minimise rig time required
- Designed to meet specific operating requirements
- Local fabrication to further reduce lead times.

Types of template supplied:

- **Bottom Founded** – for standard applications with relatively flat seabeds with an inclination that does not exceed project tolerances
- **Conductor Supported** – for applications where a conductor is in situ. Primarily where the seabed requires the template be supported
- **Conductor Installed** – the template is run with the conductor. The benefit being that installation work is primarily surface based – this application is useful for applications where an ROV is not available.



Responsive | Fact

Claxton has supplied over 3,000 centralizers and designed, built and installed 56 subsea drilling templates of all configurations and sizes. This project experience simply cannot be found anywhere else.

Templates & Structures

Centralizers

Claxton leads the way in offshore, conductor guide centralizers. During the last ten years we have installed over 3000 centralizers for clients around the world.

Critical Interface: Whilst appearing to be simple devices, centralizers provide a service at a critical interface between the platform structure and the well – where the conditions imposed upon them can be severe. Our extensive knowledge and total-system-approach means clients can be confident about our centralizers delivering the performance needed to protect the conductor over a long working life.

Centralizer Types Supplied

① Cellar Deck Centralizers

Uppermost centralizer, in air, helps to stabilise tree and flowlines

② Conductor Guide Centralizers (fixed)

Used at various levels on conductor from splash zone to seabed to stabilise conductor

③ Conductor Guide Centralizers (adjustable)

Similar to the fixed version but with adjustable blades to set gap – using patented Claxton technology

④ Can Type Guide Centralizers

Designed for deep water applications where there is significant vertical conductor movement

⑤ Retrofit Guide Centralizers

Used to replace lost or missing guide centralisers

⑥ Internal or Cementing Centralizers

To space out internal strings – allows cement flow

Claxton has a range of options within each of these types to cover numerous applications – contact us for more information.

Protective Structures

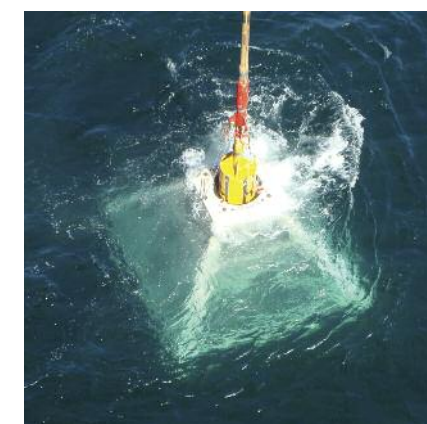
Claxton supplies overtrawable structures to protect assets such as wellheads, Xmas trees and manifolds from harsh environments and maritime activity.

Our structures are designed to Norsok standard U-001/ISO 13628-1 and can be remotely installed.

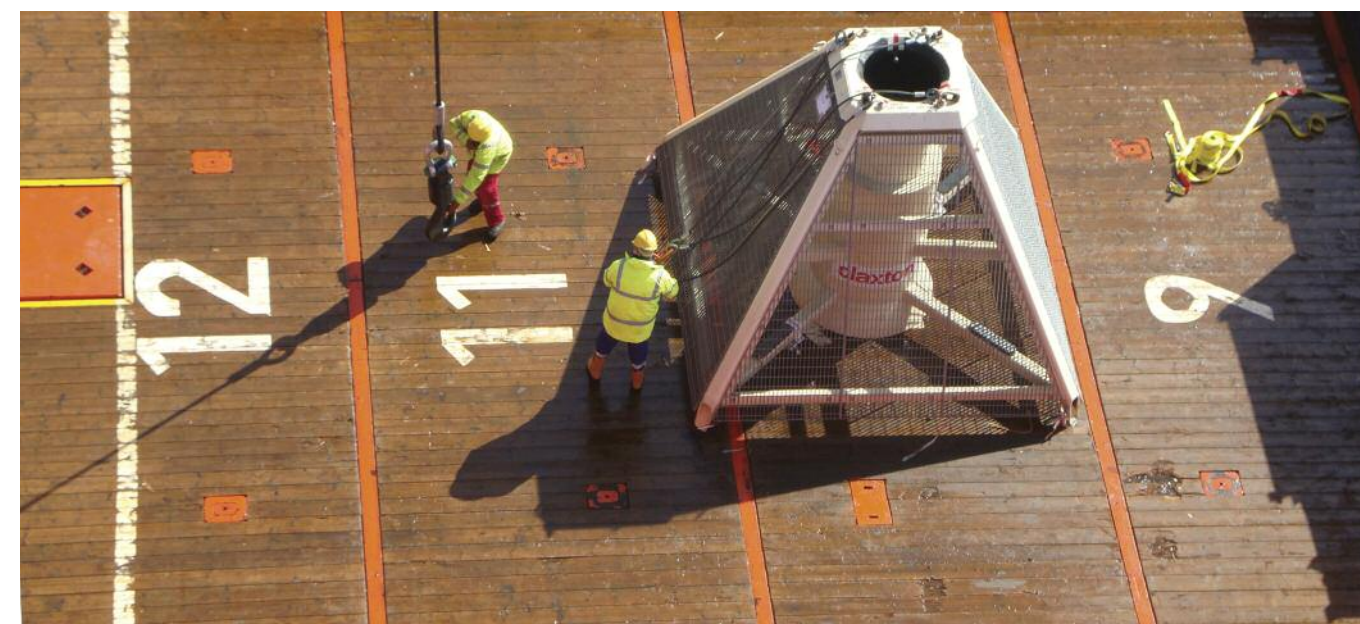
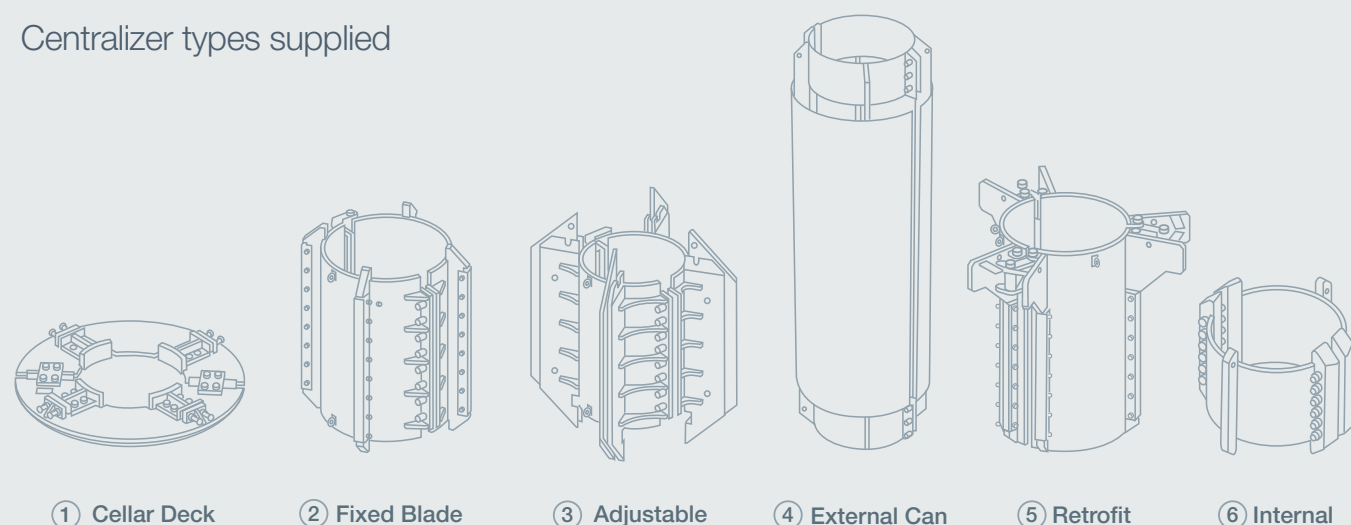
Claxton designs and builds subsea structures for installation from either a drilling rig or back of boat. We can assist with and seek verification from the local authorities and/or fishing/ trawling experts with experience from the particular area concerned.

We bring the benefits of our worldwide experience in subsea operations to

provide a full service from concept to installation, backed up with a suite of field-proven running tools, installation procedures and industry-leading camera systems to verify successful installation.



Centralizer types supplied



Tieback Engineering

A world-leader in tiebacks, Claxton has performed over 700 for clients all around the world.



Tieback Engineering

With more than 700 performed across the globe, our understanding of the tieback process is second to none.

Clients benefit from a wide range of custom designed tieback rental equipment, including tooling and down-hole camera systems. These have been developed to complement the major wellhead and mudline/subsea system manufacturers' components.

Benefits:

- Field-proven procedures that avoid costly mistakes
- Management of all interfaces (operator, drilling contractor, platform, equipment suppliers) allowing the client to focus resource elsewhere

- Incorporating tieback engineering into template design ensures cost effective operations

- Access to a wide range of specially designed tieback rental equipment for this field of operations

We're market leaders in tieback engineering for a reason – we take a full-service approach from planning, to procedures, to interface management to the actual offshore operations, including the provision of the specialist tooling. Tiebacks from Claxton are further enhanced via our tailored engineering capability.

Responsive | Fact

Our tieback experience allowed us to bespoke-design a tieback connector for wells with between 2.5 and 4.25 degrees inclination (normal maximum is 1.5 degrees) – enabling the operator to tieback successfully.



Wellhead Services

Being independent from major wellhead manufacturers enables Claxton to respond quickly to the needs of our customers.

Wellhead Systems

Claxton designs and manufactures high-quality wellhead systems to suit all casing size requirements – to full API specifications, including:

- Conventional stack-up wellhead systems that use mandrel casing hangers or slip-and-seal casing hangers
- Full-bore and slim-hole multi-bowl-style casing head systems for drill-through system technologies, which utilise primary mandrel hangers and packoffs for casing support with contingency slip-and-seal casing hangers
- Systems for gas and oil well applications, fully design-approved for use both on- and offshore.

Wellhead Services

Alongside full wellhead systems Claxton has a long history of providing wellhead services to enhance clients' operations. These include:

- **Wellhead installation** – provision of personnel and installation tooling
- **Wellhead maintenance** – complete wellhead testing, monitoring and repair services
- **Workovers** – cost-effectively replacing existing wellhead equipment
- **Retrofit parts** – Claxton can rapidly produce replacement parts to extend the operating life of existing wellhead equipment

- **WAVE** – a bespoke Well and Valve Equipment database to track and optimise wellhead maintenance
- **Valve Saver** – a synthetic lubricant with a proven ability to free stuck valves and extend operating life.



Responsive | Fact

Claxton Wellheads are available to meet the complete API 6A material specifications in pressures from 3,000 to 20,000psi. What's more, our systems are backed by Claxton's robust quality management – covering both design and manufacture. Claxton has the ISO/NQA 'triple crown' of ISO 9,001, 14,001 and QHSAS 18,001.

Rental Services

4,000 quality-assured rental items, waiting for immediate call-off on your project, now.



Rental Tools

Claxton holds a vast inventory of offshore rental tools, adaptors and equipment, including one of the largest stocks of drilling risers, subsea connectors, adaptors and associated tooling in the whole of Europe, possibly the world. This is supported by a range of well control equipment and an ability to rapidly refurbish and recertify client-owned equipment if required.

All of the following are available for rapid call off:

- API rated flanges
- Clamps
- Spools
- Hubs
- Gaskets and sealing rings
- Subsea camera systems
- Overshot connectors

- Riser systems and Riser joints
- Tension rings and Tension systems Gate valves
- Wellheads/Xmas tree assemblies
- BPV polished rod lubricators
- Hydraulic power units
- DSA's/double studded adaptors

Claxton has been supplying rental equipment to operators and rigs since 1985 – and naturally all of our equipment comes fully QA approved with the requisite certification. Additionally we have a proven record of rapid equipment supply and can even modify equipment at short notice to serve specific or unforeseen operation issues – thanks to our in-house team of design and FEA engineers.



Responsive | Fact

In 2010 Claxton expanded our already-strong QA department to ensure all our ever growing inventory of rental equipment is kept in first class condition, fully certified and ready for call-off at a moments notice.

Great Yarmouth - Main Base

Claxton

Bureside House
North River Road
Great Yarmouth
Norfolk, NR30 1TE
UK

T: +44 (0) 1493 744500

E: info@claxtonengineering.com

Aberdeen

Claxton

Tern Place House, Tern Place
Bridge of Don
Aberdeen
Scotland
AB23 8JX

T: +44 (0) 1224 452371

E: aberdeen@claxtonengineering.com

Dubai

Claxton

PO Box 262490
Jebel Ali Free Zone
Gate 5, South Side
FZS1 ALO5
Dubai

T: +971 4 8863540

E: dubai@claxtonengineering.com