

Linge topside arrives off Norway

The platform topside for the Statoil-operated Martin Linge field development in the Norwegian North Sea has reached Norway after a voyage from South Korea.

It will be installed at the offshore field during this summer.

The Dockwise-owned *Black Marlin* heavy lift semisubmersible vessel reached Norwegian waters near Stavanger on 27 March.

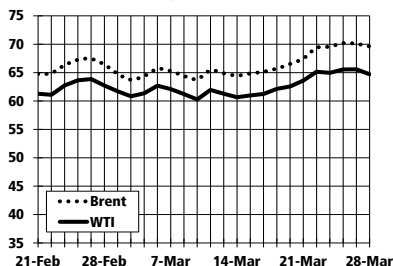
The utility and process modules for the Martin Linge platform were loaded out by ALE-Offshore Services at a Samsung Heavy Industries yard in South Korea last December. The accommodation module for the platform has been built by Apply Emtunga in Sweden.



OIL WATCH

Latest prices

Brent/WTI Crude Price (US \$ per barrel)



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Please Note:
 due to the holiday season
 the next edition of
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Apache strikes UK oil discovery

Apache has made a significant oil discovery on the **Garten** prospect in **Block 9/18a Area-W** in the UK North Sea.

Garten is located 6km south of the **Beryl Alpha** platform. The Garten discovery well targeted a downthrown structural closure and encountered more than 2,297m (700ft) of net oil pay in stacked, high quality Jurassic-aged sandstone reservoirs.

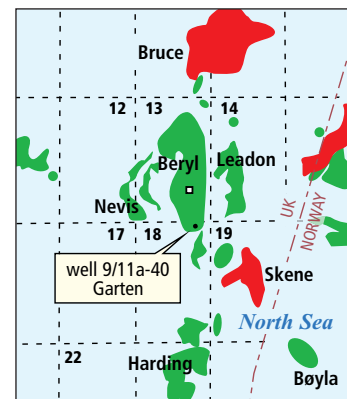
Recoverable resources are expected to exceed 10m bbl of light oil, which is at the high end of pre-drill estimates, said Apache, which has a 100% stake in the Garten Block.

John J. Christmann IV, Apache's CEO and president, said: "The Garten discovery marks our fourth commercial discovery in the **Beryl Area** in the past three years spanning several play types ranging from the Tertiary to the Triassic. Apache's strategy to focus on exploration near operated facilities is set to deliver significant production without the long cycle time of large scale projects."

The Garten discovery well will be suspended as a future producer and tied back to the Beryl Alpha platform. Apache is working closely with the Oil and Gas Authority (OGA) to obtain the regulatory approvals to initiate production, which is anticipated in Q1 2019.

Dr. Andy Samuel, chief executive at the OGA, said: "Garten marks the 2500th offshore exploration well on the UK Continental Shelf and is an excellent start for exploration drilling in 2018. Apache has created new opportunities by consistently investing in high-quality 3D seismic data to uncover near-field prospectivity around the prolific Beryl field. Modern data and the application of new technologies are key to stimulating exploration and successfully delivering the full potential of the UKCS."

The Garten potential "demonstrates the true value of a smart and nimble approach to exploration drilling," according to Oil & Gas UK's upstream policy director Michael Tholen.



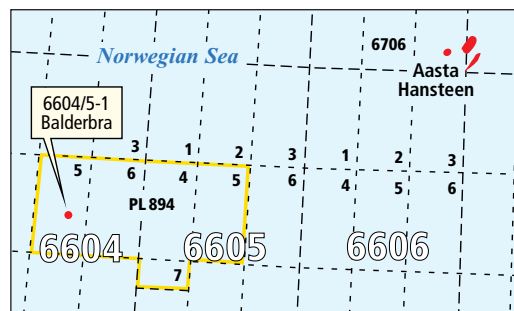
Wintershall wraps Norway well

Wintershall Norge is completing the drilling of exploration well **6604/5-1** in **Production Licence 894** (PL 894) offshore Norway – with the partners evaluating development potential.

The well was drilled around 115km southwest of the **Aasta Hansteen** field in the northern Norwegian Sea.

"The objective of the well was to prove petroleum in Upper Cretaceous reservoir rocks (the Springar formation). Well 6604/5-1 encountered three gross gas columns, totalling around 190m (623ft), of which the reservoir makes up 90m (295ft) distributed between three different sandstone zones in the Springar formation, with mainly moderate to poor reservoir quality. No gas/water contact was encountered in the well," said the Norwegian Petroleum Directorate (NPD).

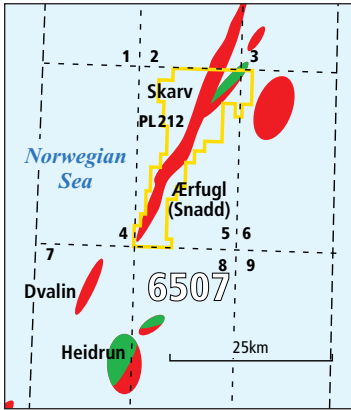
Preliminary estimates place the size of the discovery between 7-19 Bcm (247.1-670.7 Bcf) of recoverable gas and between 1-3 MMcm (35.3-105.9 MMcf) of recoverable condensate.



continued on page 3...

NORWAY

- Aker BP is drilling ahead with exploration well **6507/5-8** in **Production Licence 212** (PL 212) in the Norwegian Sea. The probe was spudded on 24 February using the *Deepsea Stavanger* semisubmersible rig. The well has a water depth of 408m (1,339ft).



- Aker BP is also drilling ahead with exploration well **34/2-5 S** in the Norwegian Sea of the North Sea using the *Transocean Arctic* semisub rig. This probe is located in **PL 790** and lies at a water depth of 388m (1,273ft). The well was spudded on 28 February.

- Spirit Energy is drilling ahead with appraisal well **6506/9-4 S** using the *Island Innovator* semisub rig. The probe was spudded on 3 February and lies in **PL 433** at a water depth of 300m (984ft).

- Spirit Energy Norge has made a small discovery with exploration well **35/9-14 A** on the **Tethys** prospect using the *Songa Enabler* semisub rig. The probe lies in the Norwegian North Sea at a water depth of 365m (1,198ft) and was spudded on 25 December 2017. The well is located in **PL 682** (see story on pg 6).

- Lundin Petroleum is pushing forward with appraisal well **16/4-11** in **PL 359**. The well is being drilled by the *COSL Innovator* semisubmersible rig at a water depth of 100m (328ft). The probe was spudded on 7 February (see story on pg 3).

- OMV is continuing operations with exploration well **6506/11-10** in the Norwegian Sea. The probe is located in **PL 644 B** and was spudded on by the *Deepsea Bergen* semisub rig on 28 November. The well has a water depth of 342m (1,122ft).

- Wintershall is drilling ahead with exploration well **6604/5-1** in **PL 894**

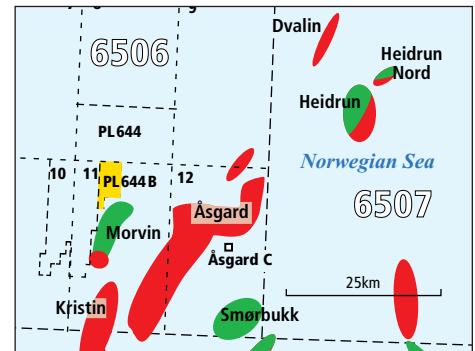
(PL 894) in the Norwegian Sea. The probe is being drilled using the *West Phoenix* semisub rig, which is operating at a water depth of 1,219m (4,000ft). The well was spudded on 10 January.

UNITED KINGDOM

- Apache is using the *WilPhoenix* rig to drill ahead with exploration well **9/18a-40** on the **Garten** prospect. The probe started on 5 February (see story on pg 1).

THE NETHERLANDS

- ONE is drilling ahead with exploration well **N/7-4A** using the *Prospector 1* rig. The probe was spudded on 17 February.



Services

Ampelmann wins UK-Dutch deal

Ampelmann has landed a six-year contract from Nederlandse Aardolie Maatschappij (NAM) and Shell to supply its A-type Enhanced Performance (AEP) gangway system.

The AEP will transfer personnel from Wagenborg Offshore's second Walk-to-Work Emergency Response and Rescue Vessel (W2W ERRV) *Kasteelborg*, to support gas production in the Dutch and UK sectors of the Southern North Sea.

"The AEP gangway system features an advanced motion compensation control system with precision controls to enable fast landing and comfortable people transfers. It is designed to transfer 20 personnel safely and efficiently in less than five minutes and move cargo loads of up to 100kg with the KIB

cargo basket from the vessel to offshore structures. It can operate in sea states up to 3.5 metre significant wave height," said Ampelmann.

The *Kasteelborg* vessel was converted from a standard offshore supply vessel to a specialised Walk-to-Work vessel in just 12 weeks at the Royal Niestern Sander shipyard in The Netherlands.

The dimensions of the AEP are the same as Ampelmann's original A-type gangway system. However, it boasts the ability to use smaller vessels to obtain similar or even better performance and operational stability. This ultimately saves cost by allowing flexible positioning on the vessel.

Joeri Poelmann, Ampelmann's manager sales and business development Europe & Africa, said: "As NAM/Shell is pursuing their strategy to simplify operations on unmanned offshore assets in the Southern North Sea, Wagenborg's latest Walk to Work vessel combined with Ampelmann's AEP will enable workers safe and easy access to carry out essential offshore maintenance activities.

"The gangway system significantly improves operational uptime on projects year-round and provides benefits to operators in rougher waters, including the North Sea, the coasts of South America, and the Middle East."

The *Kasteelborg* is also equipped with an additional accommodation module and motion compensated crane.

In Brief...

Vessel database review

The International Marine Contractors Association (IMCA) and the Oil Companies International Marine Forum have set up a joint committee to review, share and progress developments of the Offshore Vessel Inspection Database system.

IMCA said today that the committee plans to improve the efficiency of the vessel assurance process by pooling the knowledge and expertise of oil companies and their marine contractors. It would also maintain the highest standards of vessel assurance and risk management.

Lundin delineates probe

Lundin Norge has concluded appraisal well **16/4-11** in **Production Licence 359** (PL 359) offshore Norway.

The **16/4-6 S** discovery was proven in 2013 in Triassic reservoir rocks, and has been delineated by several wells. Well 16/4-11 was drilled around 2.5km south of the 16/4-6 S discovery well, 20km south of the **Edvard Grieg** field and around 190km southwest of Stavanger.

Prior to the drilling of 16/4-11, the operator's resource estimate for the discovery was between 4-10 MMcm (141.2-353.0 MMcf) of recoverable oil and between 1-3 Bcm (35.3-105.9 Bcf) recoverable gas, said the Norwegian Petroleum Directorate (NPD).

The objective of the well was to delineate the southwest flank of the 16/4-6 S (**Luno II**) discovery, to investigate the reservoir properties in previously undrilled reservoir units, as well as to investigate the type of oil and total oil column in this part of the discovery.

Well 16/4-11 encountered a total oil column of around 20m (66ft) in Triassic sandstones with good to very good reservoir quality. The oil/water contact was encountered at 1,947m (6,388ft) below sea level. The entire reservoir, including the water zone, mainly consists of sandstones with some con-

glomerate sandstone layers, and has a total thickness of around 400m (1,312ft) with variable reservoir quality, primarily from moderate to very good, added the NPD.

Preliminary estimates place the size of the discovery between 5-13 MMcm (176.5-458.9 MMcf) of recoverable oil and between 1-3 Bcm (35.3-105.9 Bcf) of recoverable gas.

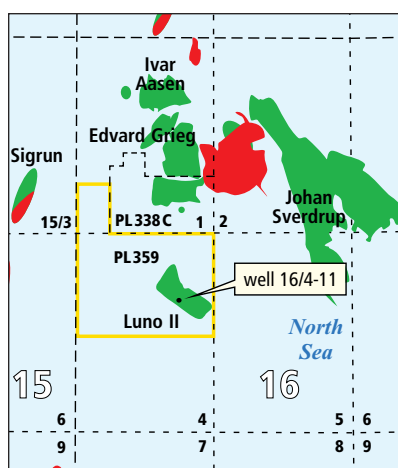
The licensees will evaluate the discovery as regards a potential development through linking the discovery to existing infrastructure on the Edvard Grieg field.

The well was not formation-tested, but extensive data acquisition and sampling have been carried out.

This is the fifth exploration well drilled in PL 359, and the fourth well on the 16/4-6 S (**Luno II**) oil/gas discovery. The licence was awarded in APA 2005.

Well 16/4-11 was drilled to a vertical depth of 2,450m (8,038ft) below the sea surface, and was terminated in Triassic or Permian rocks. Water depth at the site is 100m (328ft). The well will now be permanently plugged and abandoned.

● The well was drilled by the *COSL Innovator*, which will now drill appraisal well **16/1-28 S** on the **16/1-12 Rolvsnes** oil discovery in **PL 338 C**, where Lundin Norge is operator.



Wintershall wraps Norway well

...continued from page 1

“The licensees will evaluate the discovery together with other discoveries and prospects in the area with regard to a potential further development. The well was not formation-tested, but extensive data acquisition and sampling have been conducted,” added the NPD.

This is the first exploration well in PL 894. Well 6604/5-1 was drilled to a vertical depth of 3,819m (12,530ft) below the

sea surface, and was terminated in the Springar formation in the Upper Cretaceous. Water depth at the site is 1,219m (4,000ft). The well will now be permanently plugged and abandoned.

Well 6604/5-1 was drilled by the *West Phoenix* drilling facility, which will now move to Invergordon for reclassification.

Field Development

Arundel collaboration reaps rewards

The collaborative approach taken by BP and Subsea 7 to help unlock reserves from a stranded UK North Sea oil field has seen the pair rewarded.

BP and Subsea 7 were presented with the Collaboration Award during the SPE Offshore Achievement Awards in Aberdeen. The prize recognised the efforts of “a multi-company team working together to achieve outstanding results on an offshore oil and gas project.”

The two companies worked closely to bring the BP-operated **Arundel** field into production – 17 years after it was first discovered. The field is located in the Central North Sea 15km north of the **Andrew** platform and was discovered in 2000. However, developing the field posed too many challenges at the time.

BP and Subsea 7 used innovative techniques to insulate a new pipeline, upcycled existing equipment and adopted a flex-

ible approach to subsea vessel scheduling.

First oil from Arundel was achieved in September 2017. The field, which is tied back to the BP-operated Andrew platform, is forecast to hold around 5m bbl of recoverable oil.

BP's North Sea regional president, Mark Thomas, said: “Bringing such a challenging field safely online only 18 months after sanction is testament to the expertise and commitment of all those working on the project.”

“Arundel is a great example of a field which could have easily been stranded but which we managed to maximise the economic recovery of through innovative and collaborative working.”

Subsea 7's business unit director, Scott Cameron, added: “We are

delighted to receive this accolade with BP, which recognises the engineering, upcycling capabilities and innovative thinking demonstrated by the entire team.”

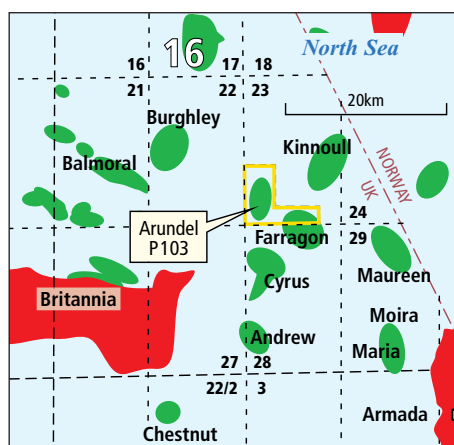


ABB wins EICT Valhall work

ABB Oil & Gas will supply the Electro, Instrument, Control, and Telecom (EICT) solutions to the **Valhall Flank West** unmanned wellhead, as part of Aker BP's Wellhead Platform Alliance.

"Aker BP's Wellhead Platform Alliance is a major advance for this industry, and proof that through innovating together, we can make a real difference for offshore operations," said Per Erik Holsten, managing director of ABB Oil, Gas and Chemicals. "The EICT agreement for Valhall Flank West gives us the opportunity to take our digital deliveries to a new level and show that smart digital solutions can improve on cost and productivity for operations."

The Wellhead Platform Alliance model integrates independent framework agreements for Engineering and Procurement, Construction and Hookup, and EICT. The agreements run for 10 years on a 6+4 model, and can be used separately or as part of future Wellhead Platform Alliance projects.

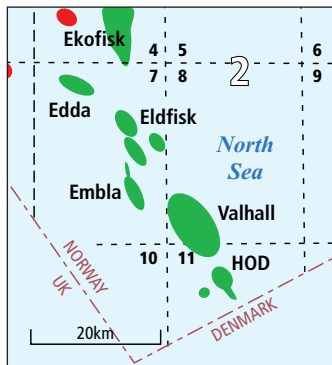
In ABB's role as EICT supplier, the company will employ

ABB Ability, the corporate portfolio of digital solutions that helps clients 'close the loop' and convert insight into action, the company noted.

"This will be an important tool for maximising the value our contribution for Aker BP," Magnus Dagestad, key account manager in ABB, said.

"ABB solutions for the platform will improve both production and uptime. Through sensor technology, installed equipment will report continuously on its current state, which enables real-time monitoring and condition-based maintenance," said Borghild Lunde, senior vice president, Oil, Gas and Chemicals for ABB in Norway. "This helps to keep maintenance costs down, reduce downtime, and minimise safety risks."

Lunde added: "When we can share data across the project, we can achieve more cost-effective operations. The data has always been there, but now it can be used in more effective ways."



Norway gives Aker BP duo green light

Norway's Ministry of Petroleum & Energy has approved Aker BP's development and operation plans for the **Valhall Flank West** and **Skogul** offshore fields.

The large **Valhall** oil field is located in the southern part of the Norwegian North Sea. Aker BP submitted the plans in December 2017.

The Valhall Flank West project aims to continue the development of the Tor formation in Valhall on the western flank of the field, with the startup of operation expected in Q4 2019.

Valhall Flank West will be developed using a new Normally Unmanned Installation (NUI) tied back to the Valhall field centre for processing and export.

The wellhead platform at Valhall Flank West will be fully electrified and will be designed to minimise the need for maintenance activities. The platform will be remotely operated from the Valhall field centre.

Recoverable reserves for Valhall Flank West are estimated to be around 60m boe. Aker BP has estimated total investment at around US \$712.9m (NOK 5.5 Bn).

"It is positive that there is a lot of activity on Valhall and that further investments will be made in the development of the field through the development of Valhall Flank West. Valhall is a field that has been in operation for a long time and will continue to produce for decades to come. The field has contributed enormous values to

Norwegian society," said Terje Søviknes, Minister of Petroleum and Energy.

The **Skogul** field is a smaller oil field with a marginal volume of associated gas. The development costs for Skogul are estimated at around \$194.4m (NOK 1.5 Bn).

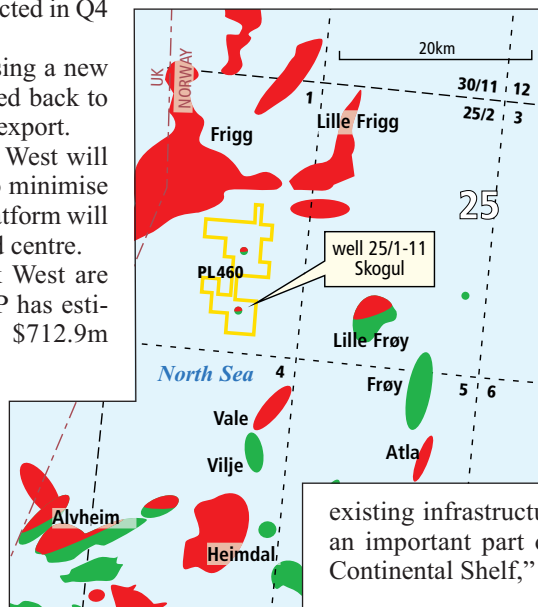
The Skogul field is located 30km north of the **Alvheim** Floating Production, Storage and Offloading (FPSO) vessel and will be developed as a subsea tieback to the **Alvheim** unit via **Vilje**.

Recoverable reserves are estimated to be around 10m boe. Production is planned to start in Q1 2020.

The production well at Skogul will be subsea production well number 35 in the **Alvheim Area**.

"It's important that companies get profitability from smaller discoveries. The Skogul field is just such a field and will contribute to value creation and government revenue. The development will largely be based on

existing infrastructure. This type of development is an important part of the future on the Norwegian Continental Shelf," Søviknes said.



Calendar
2018

APRIL

18
StocExpo Middle East Africa
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JUNE

25-29
27th World Gas Conference (WGC 2018)
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SEPTEMBER

26-27
Tank Storage Asia 2018
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DECEMBER

5-6 **Tank Storage Germany 2018**
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Decom Directory published

Decom North Sea has published a Decom Directory in conjunction with Scottish Enterprise and the Oil & Gas Authority (OGA), which provides details of companies which have the capability to service the UK/UKCS decommissioning sector.

Supported by EEEGR, FPAL, EIC, FEDF and NOF, the directory captures the capabilities of almost 300 supply chain companies which can service the UK/UKCS across 17 newly-defined supply chain activities within a decommissioning Work Break down Structure (WBS); from planning stages through to site remediation and long-term monitoring. Created with the assistance of EEEGR, the structure has been developed to align with the industry-recognised Oil & Gas UK WBS.

Tom Leeson, Decom North Sea's interim chief executive, said: "The Decom Directory will have a fundamental impact upon understanding the current capability to service UK/UKCS decommissioning activity.

"As the sector continues to evolve, the directory allows both operators and the supply chain to plan for the future, identify potential consortiums and manage supply peaks by categorising supply chain companies by key activity, capability, case history and geography.

"The directory also provides an understanding of whether companies provide this service as part of their core business, integrated services or whether they sub-contract the work; it will assist in identifying alternative contracting and commercial arrangements, ensuring the supply chain is ready to optimise the opportunities that arise."

David Rennie, head of Oil & Gas at Scottish Enterprise, said, "This directory is part of our approach in supporting the Supply Chain as set out in our Decommissioning Action Plan published last year.

"With decommissioning activity increasing over recent years, and an annual £1.5-2 Bn [US \$2.13-2.85 Bn] of expenditure forecast over the next five years, hundreds of supply chain companies in Scotland have already been and will continue to be involved in decommissioning projects. From complex large steel platforms to subsea wells and fields, a huge amount of planning and preparation goes into developing decommissioning programmes and executing the work.

"A considerable body of knowledge is being amassed and with a large number of assets due to cease production over the next decade, this experience will be brought to bear and consolidated. The directory will provide an invaluable guide to our capability in Scotland and will undoubtedly be a useful resource for all with an interest in decommissioning."

Bill Cattanach, head of Supply Chain at the OGA, said: "Decommissioning is happening now and as the majority of work will be executed by the Supply Chain it is paramount we have the necessary capability and capacity to carry out the work in a cost-efficient manner. The Decom Directory is a timely and valuable resource, which will highlight and promote the strong expertise, which exists in the UK's supply chain.

"From April, the OGA has mandated Supply Chain Action Plans for all decommissioning projects to promote a culture of collaborative engagement between operators and the supply chain. The directory will provide useful information in support of this efficiency initiative benefiting both operators and service companies by providing a comprehensive listing of companies and technological solutions which will contribute to the MER UK vision of reducing the overall cost of decommissioning the UKCS."

PD&MS bags North Sea trio

PD&MS Group has scooped three North Sea late-life contracts worth more than US \$14.1m (£10m), "making the firm the UKCS market leader" in the engineering and construction of topside modifications for the decommissioning sector.

Aberdeen-based PD&MS landed "a multimillion-pound" deal from Spirit Energy to decommission the topsides on two of its unmanned **Morecambe Bay** gas field drilling platforms, located in the East Irish Sea.

PD&MS is currently supporting similar decommissioning projects of North Sea installations for two major operators through offshore heavy lift contractor Allseas.

The two-year campaign for Spirit Energy will see the PD&MS team being responsible for decommissioning and operations on the **DP3** and **DP4** unmanned installations as they move into the end-of-life phase, after contributing to ongoing gas production from Spirit's Morecambe Bay gas fields.

The company will also assist with provision of independent intervention teams comprising operations and management personnel to support offshore visits during the preparation and construction phases.

PD&MS will also manage the pipeline cleaning scope and

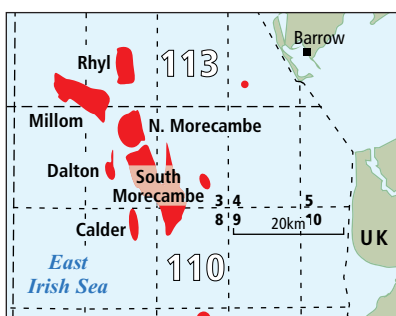
interface with the wells plugging and abandonment and heavy lift contractors appointed by Spirit Energy.

Around 10 new onshore positions at PD&MS and 15 offshore roles will be created to support the specialist provider of engineering, procurement and construction services for the global oil and gas industry during the project.

PD&MS's CEO, Simon Rio, said: "We have secured over £10m [\$14.1m] in decommissioning projects in the past six months and this most recent contract win sees PD&MS delivering on three significant North Sea decommissioning projects at the same time. The new award is testament to the ongoing dedication and expertise of our people, and our close alignment

to Spirit Energy's internal key drivers.

"Our team has extensive experience across all aspects of the decommissioning process from the initial project management, engineering and planning stages right through to arranging material disposal and site clearance. This ensures we can provide the most safe and appropriate construction and removal solutions while reducing all unnecessary complexity from projects. Our company culture and ethos not only ensures safe operations and the highest quality of work, but also helps to avoid costly liabilities for operators," Rio added.



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Minor Norway Tethys discovery

Spirit Energy Norge is completing exploration wells **35/9-13** and **35/9-14** and appraisal well **35/9-14 A** on the Måløy Slope in the Norwegian North Sea.

The wells, which lie in **Production Licence 682** (PL 682), were drilled around 6km north-west of the **Gjøa** field, 19km northeast of the **35/9-7 Nova** oil discovery and 66km west of Florø.

“The objective of well 35/9-13 was to prove petroleum in Upper Jurassic reservoir rocks (Intra Heather formation sandstones), to investigate the presence and quality of the reservoir rocks and to conduct extensive data acquisition in the event of a discovery. The objective of well 35/9-14 A was to delineate the discovery,” said the Norwegian Petroleum Directorate (NPD).

Well 35/9-13 was temporarily plugged and abandoned due to technical problems. 35/9-14 was drilled 35m (1,236ft) south-east of 35/9-13, with the same exploration target.

“Well 35/9-14 encountered an oil column of around 20m (66ft) in the Intra Heather formation, of which 10m (33ft) comprise the reservoir, which is composed of sandstones with poor reservoir properties. The oil/water contact was not encountered.

“Well 35/9-14 A encountered around 30m (98ft) of aquiferous Intra Heather formation sandstones with traces of hydrocarbons and with poor reservoir properties. The well is

classified as dry,” added the NPD.

Preliminary estimates place the size of the discovery between 0.3-1.0 MMcm (10.59-35.30 MMcf) of recoverable oil.

“Preliminary assessments indicate that the discovery is not currently profitable. The licensees will evaluate the discovery together with other nearby prospects as regards further follow-up,” noted the NPD.

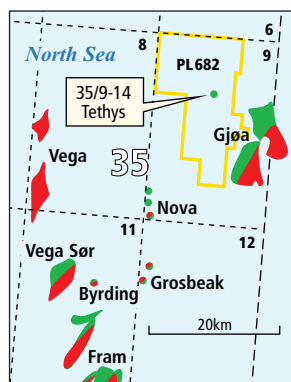
The wells were not formation-tested but extensive data acquisition and sampling have been conducted. Wells 35/9-13, 35/9-14 and 35/9-14 A were drilled to respective vertical depths of 3,191m (10,470ft), 3,625m (11,894ft) and 3,707m (12,163ft), and respective measured depths of 3,223m (10,575ft), 3,657m (11,999ft)

and 3,900m (12,796ft) below the sea surface. 35/9-13 was terminated in the Rødby formation in the Lower Cretaceous, while 35/9-14 and 35/9-14 A were both terminated in the Heather formation in the Middle Jurassic, said the NPD.

Water depth in the area is 365m (1,198ft). The wells will now be permanently plugged and abandoned.

The wells were drilled by the *Songa Enabler* drilling facility, which will now proceed to Kristiansund for maintenance, and then on to well operations on the **Snorre** field for Statoil.

The partners in PL 682 are: operator Spirit (30%), Cairn (30%), Wellesley Petroleum (20%) and Petoro (20%).



Technology

OGIC invests in trio of projects

Aberdeen-based Oil & Gas Innovation Centre (OGIC) has invested more than US \$426,853 (£300,000) into three new projects, which have “the potential to cut operational costs and improve efficiency in the oil and gas industry.”

“The projects will see three UK companies work with Scottish universities to develop innovative technology to solve current industry challenges and represent the latest investments by OGIC,” said the OGIC.

The first project will see Blue Gentoo work with the University of Aberdeen to develop an Intelligent Hydrate Tool (IHT). The tool will automatically control MonoEthylene Glycol (MEG) injection by monitoring hydrocarbon parameters – calculating both the MEG required and any subsequent injection adjustments in real time – without routine human intervention.

“The IHT will learn effective human and computer devised injection strategies for hydrate prevention, reusing them in the appropriate circumstances and providing a detailed justification of the adopted strategy. Combining AI technology, proven software and engineering techniques, the system also aims to enhance oil recovery, minimise production risks and offer environmental benefits,” said the OGIC.

The second undertaking will see Robert Gordon University working with Cambridge-based CorrosionRADAR Ltd, to take its new remote monitoring and analytics system to the next stage.

The device has been developed to monitor corrosion in isolation using permanently mounted sensors to locate problem areas within complex pipeline networks. The company will also work with University of Strathclyde, to support its short and long-term R&D strategy.

“In a further stage, Corrosion Radar will seek to partner with a firm to perform field trials and early adoption of the technology. The system will allow operators to move from reactive

inspections, to a more targeted, informed and condition based programme, minimising the risk of failure and costs,” added the OGIC.

The third venture will see Phoenix RDS work with Heriot-Watt University to develop a Flow Control Device (FCD), specially designed for injection. The project aims to identify ways to optimise the FCD so the required pressure drop during injection is achieved with minimal degradation of the fluid’s properties. The project also includes a field trial using scaled models to confirm the validity of the design.

Last year, OGIC pledged more than \$2.13m (£1.5m), supporting more than 25 projects both in the UK and overseas.

OGIC said: “The organisation provides a single access point to the knowledge and capabilities of Scottish universities for the oil and gas industry. It part-funds and provides management support to projects with the potential to deliver technology solutions to the exploration, production and decommissioning challenges facing the industry. Key aims for OGIC are to stimulate knowledge exchange and research activities and to provide an environment that supports the development of the next generation of business innovators, academics and entrepreneurs in Scotland.”

Ian Phillips, chief executive officer of OGIC, said: “These three projects provide an excellent insight into the range of opportunities available to technology developers, not only in the UK, but across the globe. Each innovation has the potential to solve real industry challenges, while delivering significant cost savings and minimising potential risks offshore.

“There are a number of companies out there that have the skills and expertise to develop ground-breaking technologies, but possibly don’t have the capital to get their ideas off the ground. That’s why it’s vitally important that support is given to small technology-focused businesses.”

Nord Stream 2 permit

Nord Stream 2 AG, a subsidiary of Gazprom and the operator of the **Nord Stream 2** pipeline project, has received a permit for the construction and operation of the pipeline system in the German Exclusive Economic Zone (EEZ).

Nord Stream 2 AG said that the German Federal Maritime and Hydrographic Agency of Germany (BSH) issued the permit for the 30km long route section in accordance with the Federal Mining Act.

The Stralsund Mining Authority previously approved the construction and operation in German territorial waters (within 12 nautical miles) and the landfall area back in January.

Jens Lange, permitting manager for Germany at Nord Stream 2 AG, said: "We are pleased that all necessary permits are now in place for the German route section, which has an overall length of 85km."

The company added that the permits were the result of an

extensive process carried out in accordance with national law since April 2017.

The national permitting procedures in the other four countries along the pipeline route – Russia, Finland, Sweden, and Denmark – are proceeding as planned.

"Further permits are expected to be issued in the coming months. Accordingly, scheduled construction works are to be implemented in 2018 as planned," the company said.

The two 1,200km Nord Stream 2 pipelines will mostly follow the route of

the existing Nord Stream pipeline in the Baltic Sea – from the coast of Russia to Greifswald on Germany's northern coast. The project will have the capacity to transport up to 55 Bcm (1,942 Tcf) of gas per year from Russia to Europe, connecting with pipelines within the European Union for onward transmission



Vessels

Subsea 7 sells *Seven Condor*

Subsea 7 has offloaded the 1982-built *Seven Condor* pipelaying vessel for scrap, according to reports.

The 2000-converted construction and flex-lay vessel *Seven Condor* is now travelling through the Mediterranean Sea on its way to Turkey where it is expected to be scrapped, reported VesselsValue. The value of the deal was not revealed.

The 145-metre long vessel with a gross tonnage of 8,354t was used for deepwater flexible pipelay projects. The vessel

spent years working offshore Brazil for state-owned Petrobras.

At the end of 2017, Subsea 7 had 35 vessels in its fleet, comprising 29 active vessels, five stacked vessels and one vessel under construction.

Total vessel utilisation was 55% in Q4 2017 (2016: 65%) and 61% for the full year (2016: 66%).

Active vessel utilisation, which excludes stacked vessels, was 62% for Q4 2017 and 71% for the full year.

Eidesvik bags PSV deal

Norway's Eidesvik has scooped a contract for one of its Platform Supply Vessels (PSVs).

Eidesvik said that compatriot Statoil awarded it a four-month contract for the *Viking Lady* PSV. The contract, which will start in Q2 2018, includes a six-month extension option. No other

details regarding the deal were disclosed.

The *Viking Lady* has a VS 493 AVANT LNG design and was built in 2009 by Westcon Yard in Ølensvåg, Norway. The PSV is 92 metres long, 21 metres wide and can accommodate 25 people.

Shell sells Iraq assets for \$406m

Shell has sealed a deal to sell the entire share capital of Shell Iraq, which holds the major's 19.6% stake in the West Qurna 1 oil field, to a subsidiary of Japan's Itochu Corporation for US \$406m.

Itochu will also assume debt of \$144m under the deal. The sale has received the necessary regulatory consent, is expected to complete in the next few days, and has an effective date of 31 December 2015, Shell said.

Following the deal, the West Qurna 1 venture will continue to be operated by ExxonMobil.

Shell's Upstream director, Andy Brown, said: "Iraq is an important country for the Shell Group, and exiting West

Qurna 1 allows us to focus our resources on other assets in our Iraq portfolio.

"Shell remains committed to working with its partners to redevelop Iraq's energy infrastructure by capturing associated gas, through the Basrah Gas Company joint venture, for domestic and regional consumption.

"This deal maintains the momentum behind Shell's \$30 Bn divestment programme and is in line with the drive to simplify our upstream portfolio and reshape the company into a world class investment," Brown added.

Shell's other businesses in the country will not be affected by this divestment.

World News

Cathay Smart fund launched

Total Energy Ventures (TEV), Hubei High Technology Investment Guiding Fund Management (Hubei High Tech), and Cathay Capital have signed a Heads of Agreement to launch the Cathay Smart Energy Fund investment fund dedicated to the Chinese energy sector.

The fund will focus its investments on emerging technologies and new business models in the Chinese sector, notably renewable energy, energy internet, energy storage, distributed energy, smart energy and low carbon activities.

Total said the fund would allow it "to explore new opportunities in China and identify new business models and technologies."

TEV and Hubei High Tech will invest around US \$50m in the fund each. Following the first closing, other partners will join the fund with a target final volume of capital of more than \$250m.

Chinese consortium APEC takes Irish equity

Ireland's Providence Resources and partner Lansdowne Oil & Gas have agreed to farm out a 50% stake in SEL 1/11, which holds the Barryroe field, offshore Ireland to a Chinese consortium led by APEC Energy Enterprise.

SEL 1/11 is operated by Providence's subsidiary EXOLA DAC with a 80% stake and the remaining 20% interest is held by Lansdowne. The block lies at a water depth of 100m (328ft) in the North Celtic Sea Basin and is located 50km off the south coast of Ireland.

The deal is expected to close in Q3 2018 and is conditional on completion of all ancillary legal documentation required to implement the terms of the FOA, and is subject to the approval of the Minister of State at the Department of Communications, Climate Action and Environment and the approval of the Chinese government.

After closing, the new partnership in SEL 1/11 will be: operator EXOLA (40%), APEC (50%) and Lansdowne (10%).

Tony O'Reilly, chief executive of Providence, said: "This is a significant transaction for Providence and Lansdowne which will deliver multiple new penetrations of the really extensive Barryroe field. In addition, it also provides for the acquisition of modern dynamic well test data that should assist in advancing the field to production."

The Chinese consortium, which also has JIC Capital Management as a member, is a vehicle for the investment and development of offshore oil and gas opportunities around the

world using Chinese drilling units, services and equipment.

Providence said today that, under the terms of the farm-out deal, in consideration for APEC being assigned a 50% stake in SEL 1/11, APEC will be directly responsible for paying 50% of all the cost obligations associated with the drilling of three vertical wells, plus any associated sidetracks and well testing.

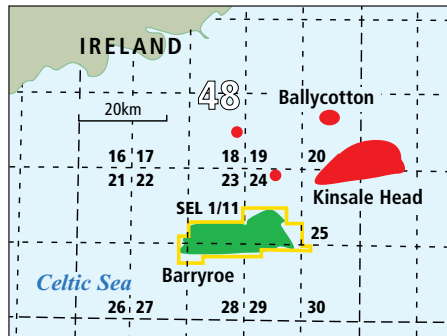
In addition, APEC will provide a drilling unit and related operational services for the drilling campaign.

Providence also said that APEC will finance, by way of a non-recourse loan facility, the remaining 50% of all costs of the Barryroe partners in respect of the drilling campaign.

The loan, drawable against the budget for the drilling programme, will incur an annual interest rate of LIBOR +5% and will be repayable from production cash flow from SEL 1/11 with APEC being entitled to 80% of production cash flow from SEL 1/11 until the loan is repaid in full.

Following repayment of the loan, APEC will be entitled to 50% of production cash flow from SEL 1/11 with EXOLA and Lansdowne being entitled to 40% and 10% of production cash flow, respectively.

EXOLA will act as the operator for the drilling campaign, with technical assistance being provided by the APEC consortium. After the completion of the drilling programme, APEC will have the right to become the operator for the development/production phase.



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