

DEEPWATER

INTERNATIONAL

WORLDWIDE DEEP & ULTRA-DEEP E&P NEWS, TECHNOLOGY AND ANALYSIS

FloaTEC captures Big Foot

Chevron has awarded a concept screening study for its **Big Foot** discovery in the deepwater Gulf of Mexico to FloaTEC.

The US major has tasked the contractor with evaluating a full range of options, including Tension Leg Platform, semisubmersible, FPSO and subsea concepts. *DI* hears that both wet and dry tree options will be considered.

The operator remains fairly open on its eventual path forward for its overall development strategy for the Walker Ridge area, with a pre-FEED process likely to kick off by late in the third quarter or possibly into the fourth quarter, it is understood.

The Big Foot award is a major boost for FloaTEC, which beat off strong competition from the likes of Technip, Fluor/Exmar, WorleyParsons Sea/Intec, Granherne/KBR for the prize (*see DI, 30 April 2007, page 1*).

It is also in the process of wrapping up a similar concept screening study for Nexen's **Knotty Head** deepwater discovery in **Green Canyon Block 512**, in which Chevron is also a partner.

The US operator last year revealed Big Foot in **WR 29** as an oil discovery, with the **Big Foot-2** well hitting 300ft (91m) of

net oil pay. The well was drilled in approximately 5,000ft (1,524m) of water. A sidetrack also hit the same pay intervals as the discovery well (*see DI, 7 August 2006, page 4*).

With Chevron's **St Malo (WR 678)**, **Jack (WR 759)** and **La Jolla/Das Bump (WR 723/4)** fields, plus others in the area such as BP's **Stones (WR 508)** and Petrobras's **Cascade (WR 206)** and **Chinook (WR 469)** all in development or under consideration, it wants to consider all options for the area as a whole before taking a definitive step forward into development of its assets there via the creation of one or more hubs and associated infrastructure.

Chevron owns a 60% working interest in Big Foot, with its partners Anadarko Petroleum (15%), Plains E&P (12.5%) and Shell (12.5%).

FloaTEC said it remains "very excited by the market prospects" and that it is "well positioned for our first EPC project, expected in 2008". It added that both Keppel FELS and J. Ray McDermott's new yards in Altamira, Mexico would give it "significant advantages" when it comes to building deepwater floating platforms.



Woodside to let Pluto hub off the leash

Woodside Petroleum wants to use its deepwater **Pluto** project off Western Australia as a central hub for a string of gas prospects, with the operator to take a key initial investment decision for the overall LNG scheme within the next couple of months that would pave the way for a string of follow-on subsea developments.

The company, which recently drilled a successful appraisal with its **Pluto-6** well, holds a 100% stake in the field, for which it has well known plans to start production by late 2010 to feed its LNG plant on the Burrup peninsula.

But *DI* hears the operator is also fast-tracking plans to complete two crucial deepwater wildcats in the fourth quarter of this year on its **Ixion** and **Belicoso** prospects, which it estimates could hold up to a further 1.5 Tcf of reserves each. Ixion lies in 4,265ft (1,300m) of water in **WA-370-P**, while Belicoso sits in **WA-347-P** in 4,593ft (1,400m) of water in what

Woodside calls its Cazadores blocks some 180km to the north west of Pluto.

In September last year of course it also drilled a successful exploration probe on its **Xena** prospect also near Pluto.

Woodside sees these prospects, and many others in the vicinity, as a likely succession of subsea tiebacks to the Pluto 'aggregation hub', and it believes being the "first mover" in the area could give it a key advantage over other LNG schemes. "Pluto could expand to facilitate development of Woodside's or others' exploration successes," it stated.

The initial Pluto reserves will be piped 200km to shore for processing as part of the LNG project. The likely development concept for the field revolves around a subsea production system with wells in water depths ranging from 1,312-3,281ft (400-1,000m) tied back to a platform facility in shallower water (up to 574ft/175m deep), before onward transportation to shore.



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News in Brief

● Awilco Offshore ASA has signed a contract for a drilling package for a semisubmersible drilling rig with National Oilwell Norway AS. This is the fourth drilling package AWO has ordered. AWO has three semisubs under construction at Yantai Raffles Shipyard in China, and an option for a fourth. The option for the fourth rig can be exercised until November 2008. This fourth drilling package is an upgraded version compared to the three packages the company has already ordered. The total contract value for this package is US \$197m.

● SapuraCrest Petroleum is stepping up its expansion plans to tackle the deepwater market, according to executive vice-chairman Datuk Shahril Shamsuddin. Over the past 18 months the group has committed more than US \$500m in asset acquisitions, including *Sapura 3000*, the country's first deepwater construction vessel that will be operational later this year. It is also planning to expand its fleet of Remote Operating Vehicles (ROVs) from eight currently to 15. The expansion will cost about \$50m.

● Eni and its partners BG and Chevron drilled a duster on their deepwater Gemini prospect in the Norwegian Sea.

● Oceanteam Power & Umbilical ASA has signed a contract for the DP2 cable lay and repair vessel *Team Oman* with Nexans Norway for umbilical repair work in the Middle East, once it has completed deepwater work for RASPETCO off Egypt. The fixed charter period is 55 days firm with an estimated value of US \$4m, with options for an additional workscope. DP2 CLV *Team Oman* is currently under contract with RASPETCO. The project is expected to start later this month and will follow directly after completion of the Raspetco deep water project. The *Team Oman* had been scheduled to return to the North Sea to support a pipeline trenching project for Gaz de France in the Dutch Sector.

● The *Sevan Piranema* is now permanently moored on the ultra-deepwater Piranema field off the north-east coast of Brazil. Petrobras is now in the process of completing the production and injection wells and installing the production riser.

● Aker Kvaerner has signed a contract with Subsea 7 for the manufacturing and supply of steel tube umbilicals for Norsk Hydro's Vega and Troll O2 developments in the North Sea. The contract, worth US \$75m, is one of Aker Kvaerner's largest standalone umbilical contracts to date. Aker Kvaerner Subsea will deliver approximately 60km of static and dynamic umbilicals to Subsea 7. Work on the umbilicals will start immediately. Delivery is scheduled for April 2009.

RIG MARKET

SeaDragon fires up with \$958m Pemex order

Swashbuckling rig contractor SeaDragon Offshore has secured its first contract for the SeaDragon Offshore I (*SDO I 'Oban B'*), in a deal with Mexico's Pemex worth up to an estimated US \$958m.

The unit is the first of three semisubmersible rigs planned to be built by SeaDragon, with the topsides to be constructed in Teesside, UK. Following the successful outcome of the Pemex tender and resulting contract of the *SDO I 'Oban B'*, SeaDragon intends to raise additional finance to construct the rig through an equity placement.

The Pemex contract will run over a 5-year term, with the rig expected to be on site on the **NEN-1** field in the Gulf of Mexico by January 2010 to start drilling in 5,000ft (1,524m) of water.

Construction of the *SDO I* has already started. Construction of the first hull will be completed in the Sevmash yard, Russia, in

2008. SeaDragon has recently agreed to take an option for the second hull (*SDO II*), which is due to be completed at the Vyborg yard, Russia to arrive in Teesside by the first quarter of 2009.

SeaDragon will complete the topside of the vessels in Teesside at the Haverton Hill yard used by the Tees Alliance Group (TAG). Module construction of *SDO I* is due to begin in October. The project will combine the project management skills of the SeaDragon management team, RDS (part of KCA DEU-TAG) and Moss Maritime, and will utilize TAG's construction capacity.

SeaDragon says it is actively seeking to secure a charter for the second semisub, starting in 2011.

It is also now in the process of securing an option on a further Russian hull and has agreed fit out times for an additional vessel from TAG.

Songa's universe expands

Songa Drilling has secured a contract for its *Songa Saturn* unit with a consortium of oil companies led by Nippon Oil Exploration Ltd. for drilling operations offshore Libya.

The contract is for four firm wells plus five option wells. The other companies in the consortium are CNPC International Ltd., Japex Libya Ltd. and Petrobras International. The revenue for the four firm wells is expected to be US \$75m, and if all five option wells are drilled the revenue expectation is another \$91m.

The *Songa Saturn* is currently operating under a 6+2 well contract for Noble off Equatorial Guinea, which is anticipated to last until early 2008. Thereafter the drillship will have a shorter yard-stay to mount equipment, which will increase its water depth

capacity to 3,800ft (1,158m). The *Songa Saturn* will thereafter move to Libya and drill one well for Hess before starting the above-mentioned consortium's contract in the second quarter of 2008. With this contract *Songa Saturn* has secured employment until early/mid 2009.

● *Songa Mercur* is on contract and under tow to Australia effective 1 July, having left Singapore. The rig is to drill for Santos in an initial firm period of 270 days with an option for a further 90 days at the same rate and thereafter 2 x 6 month options at market rate. Expected revenue is put at US \$81m for the firm day period. Chevron Australia had previously terminated its contract to use the rig, due to late delivery.

\$810m Ormen Lange award for West Navigator

Seadrill has clinched a letter of award from Norske Shell, on behalf of the operator Hydro, for the use of the drillship *West Navigator* on the deepwater **Ormen Lange** field in the Norwegian Sea.

The 4-year contract has an estimated value

of approximately US \$810m. The vessel is currently operating for Shell on the field under a well by well contract with an estimated duration including options to April 2009. The new contract replaces the current contract with effect from 1 January, 2009.

Seadrill signs up for new semi-tender

Seadrill has entered into an agreement with Singapore's Keppel O&M to build a new semisubmersible self-erecting tender rig.

Total capital expenditure for the semi-tender is estimated at US \$195m. The new rig is scheduled for delivery in the first quarter of 2010 and will be based on a similar but improved design and specification as Seadrill's *West Setia* and *West Berani*. The unit is targeted for deepwater drilling operations in

combination with floating wellhead platforms such as TLPs and Spars in benign waters.

Kjell Jacobsen, Chief Executive Officer of Seadrill Management AS, said: "The decision to add another advanced semi-tender rig to our existing tender rig fleet of 14 units is based on the continued strength of the offshore drilling market. We expect future growth in demand for tender rigs both in West Africa and Southeast Asia."

Pioneer in Eq Guinea bust-up with Block H partners

A dispute over farm-in agreements related to deepwater blocks off Equatorial Guinea has flared up between Dallas-based Pioneer Natural Resources and its co-partners.

One of the partners, Australian indie ROC Oil, said the essence of the dispute over Blocks H15 and H16 in the deep-water Rio Muni Basin was over farm-in agreements which the non-Pioneer participants of the Block H joint venture (ROC, Atlas Petroleum and Osborne Resources) entered into in 2004 with Pioneer by which that company gained equity in the Block H Production Sharing Contract.

At the time of the farm-ins, says ROC, Pioneer committed to pay ROC's share of the costs of two wells to be drilled in Block H in consideration for which Pioneer earned a 20% interest in the block from ROC, with ROC retaining a 15% interest which was to be free carried by Pioneer through the two wells. Immediately after it entered into the farm-in agreement with ROC, Pioneer also entered into broadly similar farm-in arrangements with the other Block H co-venturers. The first of the two farm-in wells, **H-1 (Bravo)**, was drilled in June 2004 and Pioneer thereby discharged its responsibility in that regard.

However, ROC maintains that Pioneer has breached its obligations with regard to the second well.

In August 2005, all the participants in the Block H JV, including Pioneer, resolved to drill the **H-2 (Aleta)** well in satisfaction of the JV's minimum work obligations for the first renewal of the exploration period under the PSC. That well would also have discharged Pioneer's obligations to ROC

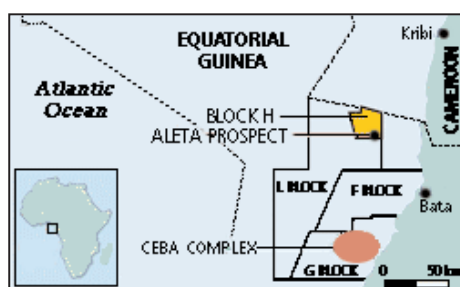
under the agreement. The Government of the Republic of Equatorial Guinea subsequently approved the drilling of the well and, until early this year, all participants in the Block H JV were proceeding on the basis that the well would be drilled, although the precise timing was subject to rig availability.

Earlier this year, Pioneer indicated that it did not wish to proceed with the drilling of the Aleta well and did not consider itself bound to fund either its own share of the costs of drilling the well or the carried share of the other co-venturers' interests, including ROC. Pioneer further indicated to ROC that there were two reasons for its change of view: the enactment last year of a new Hydrocarbons Law by the Republic of Equatorial Guinea and escalating costs of drilling the well.

ROC says its view is that Pioneer is not entitled to take the position it has.

In order to seek clarification of certain procedural matters under the terms of the JV agreement which governs Joint Venture operations, Pioneer commenced arbitration actions against ROC, Atlas and Osborne last month. Subsequently, ROC notified Pioneer of claims for breach of Pioneer's contractual obligations under the farm-in agreement between ROC and Pioneer and further advised Pioneer of its intention to pursue its claims through arbitration.

ROC added that it "understands that the other non-Pioneer co-venturers are also intending to move to arbitration with Pioneer. Until these disputes are resolved, it is unlikely that the drilling of the Aleta-1 well will proceed".



ODIM snaps up JMC...

ODIM is planning to buy Stavanger-based JMC for US \$17m with an eye on the still expanding deepwater market.

The company says that combined with its proprietary ODIM CTCU™ technology and existing infrastructure, the acquisition "will form a solid foundation for ODIM's goal of becoming a leading player in automated handling solutions in the

fast-growing deepwater segment". The agreement is subject to due diligence and board approval.

"We have previously communicated that we see a substantial potential in the deepwater segment based on our unique ODIM CTCU™ technology," said ODIM CEO Jogeir Romestrand.

...while Sevan mad about Mator

Floater specialist Sevan Marine has agreed to acquire 100% of the shares in Norway's Mator AS for a consideration in cash and Sevan shares.

The majority of the sellers are employees of Mator. The Sevan shares are subject to lock-up restrictions and certain key employees of Mator have agreed to stay with the company for a minimum period. The company provides services to the oil and gas industry within the areas of primary separation, gas handling and water treatment for increased production effi-

ciency and improved equipment regularity.

As part of the Sevan group, Mator will continue to offer its services to the offshore industry, as well as serving Sevan's ongoing and future projects and operations.

Sevan said in a statement that the acquisition enables it to offer a complete package of services to its clients and that, together with Kanfa, Kanf-Tec and Kanfa Aragon, Sevan would be able to provide cost-effective and efficient topside process solutions to the offshore industry.

Expansion-minded GDV announces its arrival

The subsea sector has a new entity on the scene in the shape of GDV Subsea AS, formed out of Oceanteam 2000 Ltd and GDV Offshore AS.

The subsea services contractor says that through these acquisitions it has gained well proven subsea diving experience and GDV's maritime operational experience. "The company will deliver complete solutions to the subsea market," it stated.

"Combined with extensive experience and new state-of-the-art vessels, the company will be able to deliver complete solu-

tions for its existing and future customer base. GDV's investment plan aims place the company as one of the top five players in the diving and subsea support market," it added.

The company has raised US \$103m in equity from a group of Norwegian institutional investors, which will be used to fund its vessel newbuild programme. It has ordered three vessels from Aker Yards Brevik and Bergen Yard and saturation diving systems from Dräger for a total value of approximately \$330m.

Pareto Private Equity acted as financial advisor to GDV Subsea.

Noble finds sister for Belinda off Eq Guinea

Noble Energy's plans for a potential deepwater development offshore West Africa's Equatorial Guinea have been significantly boosted by a find made with the first well drilled in a new block.

The company's **Benita** discovery in **Block I** saw the operator encounter what it describes as "an extremely high quality Miocene reservoir" containing 135ft (41.5m) of net hydrocarbon pay. Production tests from the well yielded flow rates of 1,038 b/d of condensate and 34.3 MMcf/d of natural gas, with production rates limited by the test facilities.

The **I-1** well, located in 2,880ft (886m) of water, was drilled to a total depth of 10,460 ft (3,218m). It sits approximately 21km south of the operator's late 2005 **Belinda** discovery, located in adjacent **Block O**.

As expected, said Noble, the reservoir section at the Benita discovery location was significantly thicker than at Belinda, which is also Miocene in age.

Additional appraisal work will be necessary to verify the areal extent of Benita, with any appraisal work to follow the drilling of an additional exploration well in Block I.

The company is currently carrying out a multi-well exploration and appraisal program designed to test a number of prospects in the region. The *Songa Saturn* drillship will next move back to Block O where it will drill a Belinda appraisal approximately 7.25km from the **O-1** discovery well.

Current plans are to return to Block I in the third quarter of

this year to drill the second exploration well.

Noble is the Technical Operator of Block I with a 40% participating interest. Its partners include Atlas Petroleum International Ltd. (54% participating interest) and Osborne Resources Ltd, a company within the PA Resources Group (6% participating interest). GEPetrol, the national oil company, has a 5% carried interest once commerciality has been determined.



Charles D. Davidson, Noble Energy's Chairman, President and CEO, said, "Benita represents the first well ever drilled in Block I and complements our Belinda discovery in Block O. While more drilling is needed to fully understand our resource potential in the area, we are encouraged by this new discovery and the potential commercial aspects of both blocks. We now have two discoveries with three wells drilled as we continue with our West Africa drilling program. Our next well, the Belinda appraisal well, will commence later this month."

The Minister of Mines, Industry and Energy, H.E. Atanasio Ela Ntugu Nsa, stated, "The Government of Equatorial Guinea is delighted that another discovery has been made in the Equatorial Guinea part of the Douala Basin. The Government believes that this new discovery further confirms the significant hydrocarbon potential of the Douala Basin and highlights the positive investment climate which currently exists within the Republic of Equatorial Guinea."

Pemex lines up six of the best

Pemex is planning to drill its sixth deepwater well before the end of this year as the state-owned operator continues its exploration efforts into its frontier deepwater zone.

"After we finish the fifth one, we will continue drilling," said Carlos Morales Gil, the operator's head of E&P. The company is currently drilling the **Lalail** well, which Morales said should be finished by September. Depending on the results,

Pemex will then choose the next drilling location. "We have several alternatives," said Morales.

Pemex's first four deepwater wells have all discovered oil or gas but Morales declined to make any predictions on Lalail. "We can't make any advanced analysis," he said. (see related *SeaDragon story, page 3*)

Otto reworks Philippines plans

Otto Energy has received written approval for revised work programmes submitted to the Department of Energy in the Philippines.

The revisions allow the company to adjust its drilling deadlines, with first wells now due by March 2009 in **Service Contracts 50** and **51** and by August 2009 in deepwater **SC 55**. The revised dates also fit with the planned delivery of a semi-submersible currently under construction in China by the third quarter of 2008.

The rig will be leased by Otto for 3 years for exploration drilling and extended production testing of the **Calauit** field

and any subsequent discoveries.

Otto has also completed its Trinity 2D and 3D seismic programmes over the service contract areas under budget and ahead of schedule. The data is being processed by CGGVeritas for delivery in September/October this year.

The shoot included 954km of 2D data shot over deepwater SC 55, in which Otto holds an 85% stake as operator.

The company is also expected to firm up substantial farm-in partners for all its permits over the course of 2008, now that it has the new seismic data.

Goliath North delayed

In Norwegian **Production Licence 229** the **Goliath North** exploration well has been postponed, according to partner DNO.

The well was originally planned to be drilled in the northern part of the Barents Sea block towards the end of this year. However, a new data acquisition program has been agreed and the management committee has decided to postpone the well.

The new data to be acquired, when combined with the exist-

ing database in the licence, will address and rank the total prospectivity and help to prioritise the drilling sequence at a later stage to unlock the significant exploration potential in the block.

DNO holds a 15% stake in the block, with Italy's Eni the operator with a 65% interest and Statoil holding the remainder.

DNO has previously estimated Goliath's reserves as being up to double the current resource estimate of 250m bbl.

TGS kicks off Greenland shooting spree

TGS-NOPEC Geophysical has kicked off the 2007 Greenland data acquisition season with the first of three programs designed to increase understanding of the region's subsurface geology.

These projects will add 164,000km of aeromagnetic data and 8,800km of 2D seismic data to the company's collection.

The first project, which started earlier this month, is the 62,000km Baffin Bay Aeromagnetic Survey. Covering the complete Greenland side of the bay, the data will be processed by TGS in Asker, Norway, and will be available for delivery in the fourth quarter.

Overlapping the aeromagnetic survey with a regular 60 x 60km grid will be the Baffin Bay 2D seismic program. Scheduled to start later in the summer, the 8,800km

project will also include open lines into the Canadian side of the bay. The project data will be processed and is scheduled to be available in the first quarter of 2008.

Later in the summer TGS will also begin the first phase of a new aeromagnetic acquisition project offshore northeast Greenland. Once complete, the survey will extend from the coast to the oceanic crust (as it is currently interpreted) and will be used as the foundation to develop a new geophysical atlas of the area, furthering other seismic and aeromagnetic planning. Phase one of the NE Greenland aeromagnetic survey will be processed by TGS and delivered to clients in the fourth quarter.

TGS' Greenland campaign is supported by strong industry pre-funding, it added.

PGS supplies high fibre diet for Chevron in GoM

Petroleum Geo-Services (PGS) is to deploy its first 4C Fiber-Optic seismic monitoring system for a permanent seabed installation in the deepwater Gulf of Mexico in the fourth quarter of this year.

The Norwegian seismic player will deploy the system for Chevron. PGS has developed what it describes as a unique fiber-optic technology for permanent installations. A prototype of the current design was successfully tested in collaboration with Chevron in the GoM last summer.

The fiber-optic system is a complete passive wet-end system that PGS says provides a higher reliability and durability than conventional electrical system. The unique multiplexing designs

offer very high channel count per cable, low noise and crosstalk properties as well as a high dynamic range.

Group President of PGS Data Processing & Technology, Sverre Stranden, said: "The first permanent deployment of our 4C fiber-optic seismic monitoring system is an important milestone for us. We are pleased to be working with Chevron, which has been very supportive in evaluating our fiber optic technology. The permanent seismic monitoring market is an emerging market with a significant potential. It is our intention to be a major market player."

Mark Koelmel, General Manager of Earth Science technology, Chevron Energy Technology Company, said: "Permanent seismic monitoring is becoming an important tool in the reservoir management toolkit. We are excited about this opportunity to work with the advanced technology provided by PGS."

Calendar 2007

SEPTEMBER

4-7
Offshore Europe
Rediscovering the Future
AECC, Aberdeen, Scotland
www.offshore-europe.co.uk

18-20
Brasil Subsea
Conference & Exhibition
Rio de Janeiro, Brazil
www.pennwellpetroleumgroup.com/events/

OCTOBER

10-12
Deep Offshore Technology
Stavanger Forum
Stavanger, Norway
www.dot07.events.pennnet.com

NOVEMBER

6-8
Deepwater Operations
Performance Amid a Sea
of Challenges
Galveston, USA
www.doce07.events.pennnet.com

28-29
Deepwater International IV
New Frontiers,
New Challenges
The Dorchester Hotel,
London, UK
Email: conferences@thomasenergypub.com

PIPELINES

Petrobras studies in the bag for INTEC

Petrobras has awarded INTEC Engineering a 2-year umbrella contract covering engineering support for the Brazilian major's subsea pipeline projects and related activities, with the option of an extension for a further 2 years.

The contractor, a subsidiary of Heerema, says the work will be performed by its office in Rio de Janeiro and includes FEED and detail engineering for several subsea pipelines and support for other related activities.

ities.

"We have been working for Petrobras for the last 3 years, performing FEED and detail engineering for some important subsea pipeline projects, including **Manati**, **Jubarte** and more recently **Mexilhao** and **Canapu**. Through this new umbrella contract, we will continue to support Petrobras' efforts in enlarging its deepwater pipelines network" said Francesco Santoro, General Manager of INTEC do Brasil.

Hydro finds Nemo for Ormen Lange South

Nemo Engineering AS has been awarded a US \$11m contract to supply two hot tap valve modules and associated equipment for the remote pipeline hot tap operations on the deepwater **Ormen Lange** Southern Field Development.

The equipment is to be used in remote operations planned for the hot tap tees that have already been installed on the 30-inch production pipelines to Nyhamna. The remote hot tap operations are scheduled to

take place during the first quarter of 2009 in a water depth of approximately 2,789ft (850m).

Hydro is the operator for Ormen Lange during the development phase. Nemo has previously and is currently already making deliveries to the Ormen Lange project.

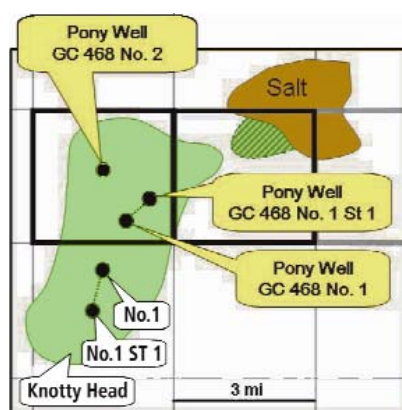
The Southern Field Development consists of one template and two flowlines tied back to the hot tap locations, one umbilical and one MEG line tied back to the existing Template A location.

Pony's progress reined in by rig inspection...

The drilling programme on Hess's high-profile **Pony-2** well in **Green Canyon Block 468** in the deep-water US Gulf has ground to a halt, as predicted by *DI*, with the delay understood to have pushed back the operator's plans for detailed FEED studies.

The *Ocean Baroness* has to head for dry dock for statutory Coast Guard ABS inspection and routine repairs. The cost of the demobilisation, repairs, inspection and remobilisation will be incurred by Diamond Offshore.

"While we had hoped to reach total depth of 32,500ft (9,906m) before this statutory inspection, various mechanical issues kept us from achieving this goal," said John O'Connor, President, Worldwide E&P at Hess. "The



Pony-2 well has been drilled and cased to approximately 23,000ft (7,010m) and we plan to resume drilling in late September."

Results from Pony-2 were originally scheduled to be known by the end of the second quarter.

DI reported on 30 April this year that Hess was understood to be reining in its plans for a Tension Leg Platform on Pony after encountering drilling difficulties, with delays of up to six months. The detailed FEED study is now not expected to kick off until later in the fourth quarter once the Pony-2 well results are known.

Total hydrocarbon resource on the Hess acreage is estimated to be between 100-600m boe. Hess has a 100% working interest in the discovery.

...while Chevron's Tahiti schedule shackled

Chevron is facing delays on its flagship US \$3.5 Bn **Tahiti** project in the deepwater Gulf of Mexico because of metallurgical problems discovered in the facility's mooring shackles.

Initial quality control testing of the existing shackles did not identify a problem, said the operator, probably through gritted teeth. Additional testing was ordered after Chevron's contractor discovered a metallurgical problem with shackles on a similar installation for another company. Metallurgical problems

were subsequently discovered in the Tahiti shackles as well.

To ensure the facility's safety and reliability, Chevron has begun the process to order new steel shackles and plan their installation.

Tahiti is scheduled for completion in mid-2008. Chevron says major components of the project are nearing completion and work on their installation is expected to continue "once timing for new shackles is determined". No such timing has yet been given.

BP's \$5 Bn PDO for Skarv/Idun FPSO

BP has filed a US \$5.08 Bn plan for development and operation (PDO) for its deepwater **Skarv** and **Idun** oil and gas fields in the Norwegian Sea.

Production start-up via an FPSO and subsea wells is planned for the third quarter of 2011, with total recoverable resources estimated at 106m bbl of oil and condensate and 48.3 Bcm of rich gas, BP said in a statement. It is already flagging up further resources identified in the area, and says these could be linked to the Skarv Idun production facilities at a later stage, almost certainly via multiple subsea tiebacks, *DI* hears.

Oil production capacity has been pegged at 85,000 b/d and gas output at 15 MMcm/d. The development consists of the

Skarv gas and oil field and the Idun gas field.

They will be developed via a large FPSO, subsea wells and an 80km gas export pipeline connecting to the Aasgard Transport System.

BP operates the development with a 23.8% stake, with its partners being Statoil (34.1%), Shell (28.1%), ExxonMobil (11.9%) and Norsk Hydro (2.1%).

Skarv and Idun lie between the **Norne** and **Heidrun** fields in water depths of between 1,148-1,476ft (350-450m). The fields are located in production licences PL212, PL262 and PL159.

Skarv was discovered in 1998, with Idun found the following year.

Rosa flowers for Total in Block 17

Sonangol and Total's deepwater **Rosa** field in **Block 17** offshore Angola started flowing oil to the **Girassol** FPSO some 15km away on 18 June.

Rosa, discovered in January 1998 in a water depth of 4,429ft (1,350m), is the first deepwater field of this size to be tied back to such a remote installation and in such water depths. The field has proven and probable reserves of 370m bbl and will maintain the FPSO's production plateau at 250,000 b/d until early in the next decade, according to Total.

The development will comprise 25 wells, including 11 for water injection and 14 producers, tied into four manifolds. The subsea installation consists of 64km of insulated production flowlines (Pipe in Pipe) and of 40km of water injection lines linking the field to the FPSO. A riser tower docked nearby the FPSO takes the fluid more than 3,937ft (1,200m) from the seabed up to the surface.

In order to receive the Rosa production, 5,600 tonnes of structure and equipment were installed on the FPSO.

With Rosa onstream, all of the produced water from the Girassol, **Jasmim** and Rosa fields will be reinjected in the reservoirs.

Sonangol is the Block 17 concessionaire. Total E&P Angola, operator, has a 40% interest, alongside partners Esso Exploration Angola (Block 17) Limited (20%), BP Exploration (Angola) Ltd. (16.67%), Statoil Angola Block 17 AS (13.33%) and Norsk Hydro Dezasstete a.s. (10%).

Block 17 is of course Total's major asset in Angola, composed of four major zones: Girassol and Dalia, both in production; Pazflor, in the bidding process before sanction (*see related story from DI, 11 June 2007, page 1*); and CLOV, based on the **Cravo**, **Lirio**, **Violeta** and **Orquidea** discoveries, the development of which is currently under study. It is also still carrying out studies into developing its **Gindungo**, **Canela** and **Gengibre** discoveries, amongst others, in the also highly-prolific **Block 32**.

Apache's \$85m masterpiece for Acergy off Oz

Apache Energy has awarded a US \$85m contract to Acergy for installation work on the deepwater Van Gogh field offshore Australia.

The operator awarded the contract on behalf of its joint venture with Inpex Corp. The workscope covers the installation and tie-in of flowlines, risers, manifolds and an FPSO mooring on the North West Shelf of Australia in a water depth of 1,312ft (400m), with offshore work to start in the third quarter of 2008.

Engineering work is starting immediately for offshore

installation and tie-in work from the multi-purpose heavy construction vessel *Toisa Proteus*, that recently joined the Acergy fleet.

Jeff Champion, Acergy's Vice President Asia and Middle East, said, "The Van Gogh contract award follows our move to dedicate the *Toisa Proteus* to the Asia and Middle East region and our increased capacity to engineer and execute construction projects in increasingly deeper waters of this rapidly expanding market."

Ormen Lange South package for FMC

FMC Technologies is to supply the subsea systems for Norsk Hydro's deepwater **Ormen Lange** Southern Field Development in the Norwegian North Sea, in a deal worth US \$166m in revenue to the US contractor.

The company's scope of supply includes six subsea trees, one eight-slot manifold with protection structures, related control systems and four pipeline end modules with connection equipment. The systems will be engineered and manufactured at FMC's facilities in Kongsberg, Norway and Dunfermline, Scotland. Deliveries are scheduled for the second quarter of 2009.

The Southern Field Development is an expansion of the

Ormen Lange field, where FMC supplied the initial subsea systems. The field lies at a water depth of 2,950ft (900m).

● FMC was also awarded a contract from Island Offshore to provide a second Riserless Light Well Intervention (RLWI) system for use by Statoil to help the operator increase oil recovery levels in the Norwegian North Sea. Operations will commence in the second quarter of 2008. The 4-year contract has a minimum value of approximately \$40m. The contract includes the use of a new vessel, the *Island Wellserver*, and a new RLWI system to be built by FMC. The system and services will be provided through FMC's facilities in Kongsberg.

Centrilift's ESP boost for Petrobras in Campos Basin

Brazilian major Petrobras and Baker Hughes Centrilift have successfully started a subsea pressure boosting system on the deepwater **Jubarte** field in the Campos Basin, with another seven due to start up on two other fields later this summer.

The one megawatt electrical submersible pumping (ESP) system was installed on the field in November 2005 but was only recently brought on line, following hook up of the field's Floating Production, Storage and Offloading (FPSO) vessel. The system is producing approximately 22,000 b/d in 4,600ft (1,402m) of water.

Petrobras plans to install an additional eight vertical booster stations using ESP technology at Jubarte in the coming months.

Centrilift has also supplied seven multiphase ESP systems to Petrobras for subsea pressure boosting on the deepwater **Espadarte** and **Golfinho** fields offshore Brazil.

Installation is currently underway with start up due this summer. Espadarte is a subsea development in 4,600ft of water in the Campos Basin. Flow rates are expected to total about 19,000 b/d per well. The subsea Golfinho field lies in 4,800ft (1,463m) of water offshore southeast Brazil and estimated flow rates from the field will be 28,000 b/d per well.

Peter Lawson, Centrilift subsea development manager, noted, "The successful start up of the ESP at Jubarte, after 17 months in the well, validates the trust Petrobras has shown in the use of ESP systems for deepwater pressure boost applications."

Oceanteam invests \$10m in ROV duo

Oceanteam Power & Umbilical ASA is to buy two new ROV (Remotely Operated Vehicle) systems after signing a contract with Perry Slingsby Systems Ltd.

The company will purchase two Triton XLS 150 HP Heavy Work class ROVs, which are of a proven design with a strong track record. Oceanteam is planning to use the systems in support of its installation projects onboard the North Ocean Vessels, but they will also be available to the general market

when not engaged on those projects.

The first ROV will be delivered in August this year. This investment represents a further step forward for Oceanteam's commitment to providing a complete solution to flexible product installation and maintenance.

The company puts the total investment for the two new ROVs at US \$10m.

First major success for Seastream venture off Oz

BHP Billiton has awarded a US \$200m contract to Wellstream International Ltd and the Seastream JV for the **Pyrenees** development offshore Western Australia.

Although not in deepwater, it's worth noting as it's the first major success for the Seastream venture, which is likely to play a growing role in the deep arena.

The Pyrenees development covers three separate fields - **Crosby**, **Ravensworth** and **Stickle** - all to be tied back to an FPSO in water depths of 820ft (250m).

The contracts cover the supply of approximately 60km of flexible risers and flowlines, scheduled for delivery in the fourth quarter of 2008, and associated installation work for the

project. The latter work will be undertaken by Seastream, with responsibility for the installation, and pre-commissioning of the entire subsea system including the FPSO turret and mooring system, subsea manifolds, mid-water arches, the flowlines and risers, umbilicals with associated flying leads, and the ties-in to the pre-installed tree flow bases.

A project office will be opened in Perth, Australia to provide in-country management capability.

The new DP3 pipelay/hook-up vessel *Jascon 25*, scheduled for delivery in April 2008, will undertake most of the offshore installation work.

Eni invests \$4.73 Bn in GoM's deep future

Eni has completed its US \$4.73 Bn acquisition of Dominion's mostly deepwater assets in the US Gulf, giving the Italian major a much increased foothold in the area.

The operator's equity production in the GoM is forecast to rise from the current level of 36,000 boe/d to more than 110,000 boe/d in the second half of this year. The main producing fields acquired by Eni are **Devils' Tower**, **Triton** and **Goldfinger** (75% operated), and **Front Runner** (37.5%). In addition, other key fields currently in the development phase are **San Jacinto** (53.5% operated), **Q** (50%), **Spiderman**

(36.7%) and **Thunderhawk** (25%).

The 2P equity reserves acquired are 222m boe and, in the period 2007-2010, production from the acquired assets will average in excess of 75,000 boe/d.

In addition, Eni says it will further enhance its portfolio in the GoM, adding new leases with significant exploration potential.

Eni, no stranger to the US having operated there since 1966, currently holds interests in 462 leases in the GoM (including 263 from the Dominion acquisition).

Petrobras and Hydro firm up Indian involvement

Brazil's Petrobras and Hydro of Norway are set to take up stakes in a prolific deepwater gas block in the Krishna-Godavari basin offshore India.

Petrobras will take a still unofficially confirmed 15% stake in the block operated by state-owned Oil & Natural Gas Corporation (ONGC), while Hydro will take 10% and has issued a statement confirming its participation in the block.

It is understood that the Brazilian major will jointly operate **Block KG-DWN-98/2** with ONGC, taking the initial 15% stake and acquiring a further 15% if a development plan is approved by India's Directorate General of Hydrocarbons. A signature bonus will be paid to ONGC when the deal is signed.

The KG-DWN-98/2 block features water depths of up to 9,843ft (3,000m), depths at which ONGC will need an experienced hand such as Petrobras onboard, and the two companies have already agreed deals that will see ONGC's overseas arm ONGC Videsh take stakes in deepwater blocks off Brazil.

Not to be left out, however, Hydro says it is to co-operate with ONGC to develop deepwater oil and gas blocks off both

India's east and west coasts. An initial agreement signed last week will see the Norwegian take a 10% stake in the KG-DWN-98/2 block, with a commitment to invest up to US \$26m in the appraisal phase, with an option similar to Petrobras's to double its interest thereafter.

ONGC also says Hydro will bring its deepwater expertise to its other 26 deepwater blocks. The strategic partnership is the result of talks going back to a 'Protocol of Intent' signed in September 2005.

"The support and co-operation of a strategic partnership with Norsk Hydro will not only help ONGC to build up the technology, knowledge and confidence to produce from deep-water acreage but will also help ONGC acquire sophisticated technology for completion of deepwater wells."

The Norwegian firm may go for participating interest in more NELP blocks once it examines the data in the next six months. Of ONGC's 26 deepwater blocks, 12 are in ultra-deepwater. ONGC has a 100% participating interest in 12 blocks and the remainder has other oil companies with various participating interests.

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 Annual subscription (incl. postage worldwide): £595

Printing:
 Four Point Printing, Chertsey, UK
 Registered as a newspaper at the Post Office.
 ISSN 1469-106X