

**General information**

Wellbore name	15/5-7
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Field	GINA KROG
Discovery	15/5-1 Gina Krog
Well name	15/5-7
Seismic location	3D Survey ST06M02.inline 1800& xline 660
Production licence	048
Drilling operator	StatoilHydro ASA
Drill permit	1187-L
Drilling facility	TRANSOCEAN WINNER
Drilling days	66
Entered date	04.07.2008
Completed date	07.09.2008
Release date	07.09.2010
Publication date	07.09.2010
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	HUGIN FM
Kelly bushing elevation [m]	26.0
Water depth [m]	119.0
Total depth (MD) [m RKB]	4037.0
Final vertical depth (TVD) [m RKB]	4031.0
Maximum inclination [°]	7
Oldest penetrated age	TRIASSIC
Oldest penetrated formation	SKAGERRAK FM
Geodetic datum	ED50
NS degrees	58° 33' 22.2" N
EW degrees	1° 39' 19.3" E
NS UTM [m]	6491564.70



EW UTM [m]	421754.96
UTM zone	31
NPDID wellbore	5842

Wellbore history

General

Well 15/5-7 was drilled on the Dagny Discovery in the southern Viking Graben area of the North Sea. The primary objective of the well was to prove an oil leg beneath the proven gas in the Dagny structure and establish hydrocarbon contacts. Further objectives were the hydrocarbon characteristics in the Hugin and Sleipner Formations and to test the permeability and productivity of the reservoir. The second objective was to collect a water sample in the Hugin Formation.

Operations and results

Appraisal well 15/5-7 was spudded with the semi-submersible installation Transocean Winner on 5 July 2008 and drilled to TD at 4037m in the Triassic Skagerrak Formation. No shallow gas was observed by the ROV at the wellhead or by the MWD while drilling the 36" hole or the 17 1/2" hole. Operational problems included repairs of leakage in the BOP in the 17 1/2" section (close to 5 days NPT), directional deviation in the 8 1/2" section and loss of MDT tool in hole at final logging. The lost MDT was pushed to bottom before plugging back. The well was drilled with spud mud down to 1048 m and with KCl/polymer/Glycol (Glydril) mud from 1048 m to TD.

The well penetrated rocks of Quaternary, Tertiary, Cretaceous and Jurassic age. The well penetrated the Hugin Formation reservoir at 3821 m (3815.3 m TVD), 59.7 m TVD shallower than prognosed. The well proved oil down to base of the Hugin Formation and it was decided to sidetrack the well for data acquisition in the water zone, including formation water sampling. Based on pressure gradients recorded in 15/5-7 and in the later sidetrack 15/5-7 A, the OWC was estimated at 3923 m TVD RKB. The sandstones of the Hugin Formations had good oil shows, otherwise no oil shows were recorded in the well.

Three cores were cut. The first core was cut in Hugin Formation, the second core covered the transition zones between the Hugin and Sleipner Formations and the third core was cut in the Sleipner Formation. MDT pressures were recorded in the oil bearing Hugin Formation and into the Sleipner Formation. MDT oil samples were taken at 3828.8 m, 3830.5 m (sampled during mini DST from 3830 - 3831 m), and at 3883 m (sampled during mini DST from 3882.2 - 3883.2 m).

The open hole was plugged back to 3036 m and prepared for sidetracking (15/5-7 A). The bore hole was abandoned on 7 September 2008 as an oil appraisal.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1045.00	4037.00



Cuttings available for sampling?	YES
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Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	3826.0	3880.5	[m]
2	3880.5	3927.4	[m]
3	3927.4	3940.0	[m]

Total core sample length [m]	114.0
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1105.0	[m]	DC	ICHRON
1125.0	[m]	DC	ICHRON
1145.0	[m]	DC	ICHRON
1175.0	[m]	DC	ICHRON
1195.0	[m]	DC	ICHRON
1215.0	[m]	DC	ICHRON
1245.0	[m]	DC	ICHRON
1265.0	[m]	DC	ICHRON
1285.0	[m]	DC	ICHRON
1305.0	[m]	DC	ICHRON
1325.0	[m]	DC	ICHRON
1345.0	[m]	DC	ICHRON
1365.0	[m]	DC	ICHRON
1385.0	[m]	DC	ICHRON
1405.0	[m]	DC	ICHRON
1425.0	[m]	DC	ICHRON
1445.0	[m]	DC	ICHRON
1465.0	[m]	DC	ICHRON
1485.0	[m]	DC	ICHRON
1505.0	[m]	DC	ICHRON
1525.0	[m]	DC	ICHRON
1545.0	[m]	DC	ICHRON
1565.0	[m]	DC	ICHRON



1585.0	[m]	DC	ICHRON
1605.0	[m]	DC	ICHRON
1625.0	[m]	DC	ICHRON
1645.0	[m]	DC	ICHRON
1665.0	[m]	DC	ICHRON
1685.0	[m]	DC	ICHRON
1705.0	[m]	DC	ICHRON
1725.0	[m]	DC	ICHRON
1745.0	[m]	DC	ICHRON
1765.0	[m]	DC	ICHRON
1785.0	[m]	DC	ICHRON
1805.0	[m]	DC	ICHRON
1825.0	[m]	DC	ICHRON
1845.0	[m]	DC	ICHRON
1865.0	[m]	DC	ICHRON
1885.0	[m]	DC	ICHRON
1905.0	[m]	DC	ICHRON
1925.0	[m]	DC	ICHRON
1945.0	[m]	DC	ICHRON
1965.0	[m]	DC	ICHRON
1985.0	[m]	DC	ICHRON
2005.0	[m]	DC	ICHRON
2025.0	[m]	DC	ICHRON
2045.0	[m]	DC	ICHRON
2065.0	[m]	DC	ICHRON
2085.0	[m]	DC	ICHRON
2595.0	[m]	DC	ICHRON
2605.0	[m]	DC	ICHRON
2615.0	[m]	DC	ICHRON
2625.0	[m]	DC	ICHRON
2635.0	[m]	DC	ICHRON
2645.0	[m]	DC	ICHRON
2655.0	[m]	DC	ICHRON
2669.0	[m]	DC	ICHRON
3666.0	[m]	DC	ICHRON
3672.0	[m]	DC	ICHRON
3681.0	[m]	DC	ICHRON
3687.0	[m]	DC	ICHRON
3693.0	[m]	DC	ICHRON
3699.0	[m]	DC	ICHRON



3705.0 [m]	DC	ICHRON
3711.0 [m]	DC	ICHRON
3720.0 [m]	DC	ICHRON
3729.0 [m]	DC	ICHRON
3735.0 [m]	DC	ICHRON
3741.0 [m]	DC	ICHRON
3747.0 [m]	DC	ICHRON
3753.0 [m]	DC	ICHRON
3756.0 [m]	DC	ICHRON
3762.0 [m]	DC	ICHRON
3768.0 [m]	DC	ICHRON
3774.0 [m]	DC	ICHRON
3780.0 [m]	DC	ICHRON
3786.0 [m]	DC	ICHRON
3792.0 [m]	DC	ICHRON
3798.0 [m]	DC	ICHRON
3804.0 [m]	DC	ICHRON
3810.0 [m]	DC	ICHRON
3816.0 [m]	DC	ICHRON
3835.6 [m]	CORE	ICHRON
3843.3 [m]	CORE	ICHRON
3844.5 [m]	CORE	ICHRON
3845.2 [m]	CORE	ICHRON
3867.3 [m]	CORE	ICHRON
3870.2 [m]	CORE	ICHRON
3873.4 [m]	CORE	ICHRON
3881.4 [m]	CORE	ICHRON
3882.9 [m]	CORE	ICHRON
3891.3 [m]	CORE	ICHRON
3894.9 [m]	CORE	ICHRON
3895.5 [m]	CORE	ICHRON
3900.0 [m]	CORE	ICHRON
3904.2 [m]	CORE	ICHRON
3907.2 [m]	CORE	ICHRON
3910.1 [m]	CORE	ICHRON
3914.7 [m]	CORE	ICHRON
3917.0 [m]	CORE	ICHRON
3917.5 [m]	CORE	ICHRON
3918.9 [m]	CORE	ICHRON
3919.2 [m]	CORE	ICHRON



3925.4	[m]	CORE	ICHRON
3926.2	[m]	CORE	ICHRON
3927.5	[m]	CORE	ICHRON
3929.5	[m]	CORE	ICHRON
3933.2	[m]	CORE	ICHRON
3937.7	[m]	CORE	ICHRON
3938.8	[m]	CORE	ICHRON
3939.0	[m]	CORE	ICHRON

Oil samples at the Norwegian Offshore Directorate

Test type	Bottle number	Top depth MD [m]	Bottom depth MD [m]	Fluid type	Test time	Samples available
DST		0.00	0.00	OIL		YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
145	NORDLAND GP
791	UTSIRA FM
991	HORDALAND GP
1732	GRID FM
2110	ROGALAND GP
2110	BALDER FM
2142	SELE FM
2190	LISTA FM
2222	HEIMDAL FM
2630	LISTA FM
2660	TY FM
2719	SHETLAND GP
2719	EKOFISK FM
2790	TOR FM
3053	HOD FM
3399	CROMER KNOLL GP
3399	RØDBY FM
3480	SOLA FM
3666	VIKING GP



3666	DRAUPNE FM
3762	HEATHER FM
3821	VESTLAND GP
3821	HUGIN FM
3919	SLEIPNER FM
4008	NO GROUP DEFINED
4008	SKAGERRAK FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
DP SAMPLE	3828	3883
DSI FMI	2250	4000
MDT	3825	4000
MDT	3830	3830
MDT MINIDST	3830	3830
MDT MINIDST	3882	3882
MWD - ARCVRES9 PP	1045	4037
MWD - ARCVRES9-TELE	192	1045
PEX HRLA	2600	4025
VSP	690	4010

Casing and leak-off tests

Casing type	Casing diam. [inch]	Casing depth [m]	Hole diam. [inch]	Hole depth [m]	LOT/FIT mud eqv. [g/cm3]	Formation test type
CONDUCTOR	30	194.0	36	198.0	0.00	LOT
SURF.COND.	20	1039.0	26	1048.0	1.92	LOT
INTERM.	13 3/8	2657.0	17 1/2	2669.0	1.65	LOT
OPEN HOLE		4037.0	8 1/2	4063.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
198	1.03			spud mud	
1048	1.06			spud mud	
2669	1.35			KCL/poly	



4037	1.49			KCL/poly	
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Pressure plots

The pore pressure data is sourced from well logs if no other source is specified. In some wells where pore pressure logs do not exist, information from Drill stem tests and kicks have been used. The data has been reported to the NPD, and further processed and quality controlled by IHS Markit.

Document name	Document format	Document size [MB]
5842 Formation pressure (Formasjonstrykk)	pdf	0.23

