

**General information**

Wellbore name	15/3-9
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Field	GUDRUN
Discovery	15/3-9
Well name	15/3-9
Seismic location	inline 2725 & xline 2721.seismic cube ST 208707
Production licence	187
Drilling operator	Statoil Petroleum AS
Drill permit	1306-L
Drilling facility	TRANSOCEAN LEADER
Drilling days	87
Entered date	19.05.2010
Completed date	13.08.2010
Release date	13.08.2012
Publication date	16.10.2012
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS
Discovery wellbore	YES
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	INTRA DRAUPNE FM SS
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	HUGIN FM
Kelly bushing elevation [m]	23.5
Water depth [m]	108.0
Total depth (MD) [m RKB]	4654.0
Final vertical depth (TVD) [m RKB]	4650.5
Maximum inclination [°]	6.9
Bottom hole temperature [°C]	154
Oldest penetrated age	MIDDLE JURASSIC
Oldest penetrated formation	SLEIPNER FM
Geodetic datum	ED50



NS degrees	58° 49' 14.04" N
EW degrees	1° 46' 20.71" E
NS UTM [m]	6520872.03
EW UTM [m]	429105.07
UTM zone	31
NPDID wellbore	6354

Wellbore history

**General**

Well 15/3-9 was drilled on the Brynhild prospect situated on the east flank of the south Viking Graben, west of the Utsira High. The Brynhild Prospect was interpreted as the eastwards continuation of the Gudrun Field. The main objective of the 15/3-9 well was to prove economical hydrocarbon columns in the Late Jurassic SST1 and the Late Jurassic SST2 of the Draupne Formation. The Hugin Formation was a secondary objective.

Operations and results

Wildcat well 15/3-9 (Brynhild) was drilled with the semi-submersible installation Transocean Leader. A pilot hole 15/3-U6 was drilled to 918 m. No shallow gas was observed by the ROV at the wellhead or by the MWD while drilling the pilot hole. The main well was spudded 15 m off the pilot-hole location on 19 May 2010 and drilled to the Ty Formation where the pipe got stuck. It was not possible to get it loose. A technical sidetrack, 15/3-9 S T2 was decided. The sidetrack was kicked off from 2350 m and the well was drilled to TD at 4654 m in the Middle Jurassic Sleipner Formation without further significant problems. The well was drilled with Seawater and SW/PAC sweeps down to 1001 m, with Performadril WBM from 1001 m to 2724 m (primary well and sidetrack), and with XP-07 OBM from 2724 m to TD.

The Late Jurassic Draupne Formation was encountered at 3975 m with top Intra Draupne Formation SST1 sandstone at 4112 m. The SST1 was oil bearing down to an oil water contact was at 4132 m TVD. The prognosed SST2 sandstone was encountered at 4226 m and was entirely water filled. The Hugin Formation was encountered at 4475 m and contained both gas and oil, each fluid type with its own down-to contact. The Draupne SST1 had a net to gross ratio of 0.75, while the net to gross ratio in the Hugin Formation was 0.16. Except for the petroleum bearing SST1 and Hugin reservoirs no oil shows were reported from the well.

Two cores were cut in sidetrack 15/3-9 T2, Core 1 in the Draupne SST1 (23 m), and Core 2 in the upper part of the Hugin Formation (32.15 m). The cored section in the Draupne SST1 extends from 4124 to 4147 m MD, while the cored section in the Hugin Formation extends from 4482 to 4514.17 m MD. Core 1 and Core 2 are shifted against the log curves with +2.13 m and +2.89 m, respectively. MDT fluid sampling was performed. Oil samples were taken at 4115 m and 4128 m in the Intra Draupne Formation SST1 sandstone. In the Hugin Formation a gas/condensate sample was taken at 4580.7 and an oil samples was taken at 4510 m. MDT water samples were taken at 4182.5 m and at 4528.7 m in the Hugin Formation.

The well was permanently abandoned on 13 August 2010 as an oil and gas discovery.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1010.00	2690.00



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	4124.0	4147.0	[m]
2	4482.0	4514.2	[m]

Total core sample length [m]	55.2
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2550.0	[m]	DC	PETROSTR
2570.0	[m]	DC	PETROS
2590.0	[m]	DC	PETROS
2610.0	[m]	DC	PETROS
2630.0	[m]	DC	PETROS
2650.0	[m]	DC	PETROS
2670.0	[m]	DC	PETROS
2690.0	[m]	DC	PETROS
2710.0	[m]	DC	PETROS
2721.0	[m]	DC	PETROS
2730.0	[m]	DC	PETROS
2750.0	[m]	DC	PETROS
2770.0	[m]	DC	PETROS
2790.0	[m]	DC	PETROS
2810.0	[m]	DC	PETROS
2830.0	[m]	DC	PETROS
2850.0	[m]	DC	PETROS
2870.0	[m]	DC	PETROS
2890.0	[m]	DC	PETROS
2910.0	[m]	DC	PETROS
2930.0	[m]	DC	PETROS
2950.0	[m]	DC	PETROS
2970.0	[m]	DC	PETROS
2990.0	[m]	DC	PETROS
3010.0	[m]	DC	PETROS



3030.0	[m]	DC	PETROS
3050.0	[m]	DC	PETROS
3070.0	[m]	DC	PETROS
3090.0	[m]	DC	PETROS
3110.0	[m]	DC	PETROS
3130.0	[m]	DC	PETROS
3150.0	[m]	DC	PETROS
3170.0	[m]	DC	PETROS
3190.0	[m]	DC	PETROS
3210.0	[m]	DC	PETROS
3230.0	[m]	DC	PETROS
3250.0	[m]	DC	PETROS
3270.0	[m]	DC	PETROS
3290.0	[m]	DC	PETROS
3310.0	[m]	DC	PETROS
3330.0	[m]	DC	PETROS
3350.0	[m]	DC	PETROS
3370.0	[m]	DC	PETROS
3390.0	[m]	DC	PETROS
3410.0	[m]	DC	PETROS
3430.0	[m]	DC	PETROS
3450.0	[m]	DC	PETROS
3470.0	[m]	DC	PETROS
3490.0	[m]	DC	PETROS
3510.0	[m]	DC	PETROS
3530.0	[m]	DC	PETROS
3550.0	[m]	DC	PETROS
3570.0	[m]	DC	PETROS
3590.0	[m]	DC	PETROS
3610.0	[m]	DC	PETROS
3630.0	[m]	DC	PETROS
3650.0	[m]	DC	PETROS
3670.0	[m]	DC	PETROS
3690.0	[m]	DC	PETROS
3710.0	[m]	DC	PETROS
3730.0	[m]	DC	PETROS
3740.0	[m]	DC	PETROS
3750.0	[m]	DC	PETROS
3760.0	[m]	DC	PETROS
3770.0	[m]	DC	PETROS



3780.0 [m]	DC	PETROS
3790.0 [m]	DC	PETROS
3800.0 [m]	DC	PETROS
3810.0 [m]	DC	PETROS
3820.0 [m]	DC	PETROS
3830.0 [m]	DC	PETROS
3840.0 [m]	DC	PETROS
3850.0 [m]	DC	PETROS
3860.0 [m]	DC	PETROS
3870.0 [m]	DC	PETROS
3880.0 [m]	DC	PETROS
3890.0 [m]	DC	PETROS
3900.0 [m]	DC	PETROS
3903.0 [m]	DC	PETROS
3912.0 [m]	DC	PETROS
3921.0 [m]	DC	PETROS
3957.0 [m]	DC	PETROS
3966.0 [m]	DC	PETROS
3969.0 [m]	DC	PETROS
3975.0 [m]	DC	PETROS
3981.0 [m]	DC	PETROS
3987.0 [m]	DC	PETROS
3993.0 [m]	DC	PETROS
3999.0 [m]	DC	PETROS
4005.0 [m]	DC	PETROS
4011.0 [m]	DC	PETROS
4017.0 [m]	DC	PETROS
4023.0 [m]	DC	PETROS
4029.0 [m]	DC	PETROS
4035.0 [m]	DC	PETROS
4041.0 [m]	DC	PETROS
4047.0 [m]	DC	PETROS
4053.0 [m]	DC	PETROS
4059.0 [m]	DC	PETROS
4071.0 [m]	DC	PETROS
4077.0 [m]	DC	PETROS
4083.0 [m]	DC	PETROS
4089.0 [m]	DC	PETROS
4095.0 [m]	DC	PETROS
4113.0 [m]	DC	PETROS



4116.0 [m]	DC	PETROS
4117.0 [m]	SWC	PETROS
4119.0 [m]	DC	PETROS
4122.0 [m]	DC	PETROS
4129.5 [m]	C	PETROS
4135.2 [m]	C	PETROS
4141.1 [m]	C	PETROS
4146.8 [m]	C	PETROS
4149.0 [m]	DC	PETROS
4152.0 [m]	DC	PETROS
4155.0 [m]	DC	PETROS
4158.0 [m]	DC	PETROS
4161.0 [m]	DC	PETROS
4164.0 [m]	DC	PETROS
4167.0 [m]	DC	PETROS
4170.0 [m]	DC	PETROS
4173.0 [m]	DC	PETROS
4176.0 [m]	DC	PETROS
4179.0 [m]	DC	PETROS
4182.0 [m]	DC	PETROS
4188.0 [m]	DC	PETROS
4191.0 [m]	DC	PETROS
4194.0 [m]	DC	PETROS
4197.0 [m]	DC	PETROS
4200.0 [m]	DC	PETROS
4203.0 [m]	DC	PETROS
4206.0 [m]	DC	PETROS
4209.0 [m]	DC	PETROS
4212.0 [m]	DC	PETROS
4215.0 [m]	DC	PETROS
4218.0 [m]	DC	PETROS
4221.0 [m]	DC	PETROS
4224.0 [m]	DC	PETROS
4227.0 [m]	DC	PETROS
4230.0 [m]	DC	PETROS
4234.0 [m]	DC	PETROS
4236.0 [m]	DC	PETROS
4239.0 [m]	DC	PETROS
4242.0 [m]	DC	PETROS
4245.0 [m]	DC	PETROS



4248.0 [m]	DC	PETROS
4251.0 [m]	DC	PETROS
4254.0 [m]	DC	PETROS
4257.0 [m]	DC	PETROS
4260.0 [m]	DC	PETROS
4263.0 [m]	DC	PETROS
4266.0 [m]	DC	PETROS
4269.0 [m]	DC	PETROS
4272.0 [m]	DC	PETROS
4275.0 [m]	DC	PETROS
4278.0 [m]	DC	PETROS
4281.0 [m]	DC	PETROS
4284.0 [m]	DC	PETROS
4287.0 [m]	DC	PETROS
4290.0 [m]	DC	PETROS
4293.0 [m]	DC	PETROS
4296.0 [m]	DC	PETROS
4299.0 [m]	DC	PETROS
4302.0 [m]	DC	PETROS
4305.0 [m]	DC	PETROS
4308.0 [m]	DC	PETROS
4311.0 [m]	DC	PETROS
4314.0 [m]	DC	PETROS
4317.0 [m]	DC	PETROS
4320.0 [m]	DC	PETROS
4323.0 [m]	DC	PETROS
4326.0 [m]	DC	PETROS
4332.0 [m]	DC	PETROS
4338.0 [m]	DC	PETROS
4344.0 [m]	DC	PETROS
4350.0 [m]	DC	PETROS
4356.0 [m]	DC	PETROS
4362.0 [m]	DC	PETROS
4368.0 [m]	DC	PETROS
4374.0 [m]	DC	PETROS
4380.0 [m]	DC	PETROS
4386.0 [m]	DC	PETROS
4392.0 [m]	DC	PETROS
4398.0 [m]	DC	PETROS
4404.0 [m]	DC	PETROS



4410.0 [m]	DC	PETROS
4428.0 [m]	DC	PETROS
4434.0 [m]	DC	PETROS
4440.0 [m]	DC	PETROS
4458.0 [m]	DC	PETROS
4467.0 [m]	DC	PETROS
4470.0 [m]	DC	PETROS
4476.0 [m]	DC	PETROS
4479.0 [m]	DC	PETROS
4482.5 [m]	C	PETROS
4484.4 [m]	C	PETROS
4487.6 [m]	C	PETROS
4490.6 [m]	C	PETROS
4493.5 [m]	C	PETROS
4495.3 [m]	C	PETROS
4497.2 [m]	C	PETROS
4501.4 [m]	C	PETROS
4504.5 [m]	C	PETROS
4506.4 [m]	C	PETROS
4509.7 [m]	C	PETROS
4512.5 [m]	C	PETROS
4513.9 [m]	C	PETROS
4517.0 [m]	DC	PETROS
4520.0 [m]	DC	PETROS
4523.0 [m]	DC	PETROS
4526.0 [m]	DC	PETROS
4529.0 [m]	DC	PETROS
4532.0 [m]	DC	PETROS
4535.0 [m]	DC	PETROS
4538.0 [m]	DC	PETROS
4541.0 [m]	DC	PETROS
4544.0 [m]	DC	PETROS
4547.0 [m]	DC	PETROS
4550.0 [m]	DC	PETROS
4553.0 [m]	DC	PETROS
4556.0 [m]	DC	PETROS
4559.0 [m]	DC	PETROS
4562.0 [m]	DC	PETROS
4565.0 [m]	DC	PETROS
4568.0 [m]	DC	PETROS



4571.0	[m]	DC	PETROS
4574.0	[m]	DC	PETROS
4577.0	[m]	DC	PETROS
4580.0	[m]	DC	PETROS
4583.0	[m]	DC	PETROS
4586.0	[m]	DC	PETROS
4589.0	[m]	DC	PETROS
4592.0	[m]	DC	PETROS
4595.0	[m]	DC	PETROS
4598.0	[m]	DC	PETROS
4601.0	[m]	DC	PETROS
4604.0	[m]	DC	PETROS
4607.0	[m]	DC	PETROS

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		4128.00	0.00	OIL		YES
DST		4510.00	0.00	OIL		YES
FMT		0.00	0.00			YES
FMT		4580.70	0.00	CONDE NSATE		NO

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
131	NORDLAND GP
678	UTSIRA FM
875	HORDALAND GP
1109	SKADE FM
1521	GRID FM
2209	ROGALAND GP
2209	BALDER FM
2259	SELE FM
2300	LISTA FM



2439	HEIMDAL FM
2610	TY FM
2714	SHETLAND GP
2714	EKOFISK FM
2792	JORSALFARE FM
3137	KYRRE FM
3304	TRYGGVASON FM
3615	BLODØKS FM
3625	SVARTE FM
3721	CROMER KNOLL GP
3721	RØDBY FM
3812	SOLA FM
3839	ÅSGARD FM
3975	VIKING GP
3975	DRAUPNE FM
4322	HEATHER FM
4475	VESTLAND GP
4475	HUGIN FM
4614	SLEIPNER FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CMR RR	3900	4658
DUAL OBMI	3900	4658
IPLT CMR HNGS	3900	4658
MDT	4115	4589
MDT	4115	4115
MDT HC	4580	4580
MDT MINI-DST VIT	4115	4117
MDT MINI-DST VIT RR	4489	4510
MSCT SWC	4581	4587
MSCT SWC RR	4111	4182
MSIP RT SCANNER	3900	4658
MSIP RT SCANNER	3900	4618
MWD - ARC PP POWERDRIVE V	207	2690
MWD - ARC PP SON VIS	131	921
MWD - ARC SON VIS TELE PPMOTOR	2721	3900



MWD - ARC TELE POWERDRIVE	2350	2721
MWD - GVR STETH ARC TELE	3900	4654
MWD - PP	131	207
ZOVSP GR TRISOR	606	4598

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	203.0	36	203.0	0.00	LOT
SURF.COND.	20	991.0	26	1001.0	1.78	LOT
INTERM.	14	2715.0	17 1/2	2721.0	1.71	LOT
INTERM.	9 7/8	3900.0	12 1/4	3903.0	2.13	LOT
OPEN HOLE		4654.0	8 1/2	4654.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
685	1.43	22.0		Performadril	
898	1.43	21.0		Performadril	
1000	1.45	29.0		Performadril	
1157	1.25	20.0		Performadril	
1493	2.04	36.0		OBM-Low ECD- HTHP	
1879	1.37	32.0		Performadril	
2566	1.45	28.0		Performadril	
2587	1.37	30.0		Performadril	
2690	1.37	32.0		Performadril	
2718	1.45	30.0		Performadril	
2721	1.47	27.0		XP-07 - #14	
2736	1.39	23.0		XP-07 - #14	
3204	1.41	21.0		XP-07 - #14	
3486	1.43	20.0		XP-07 - #14	
3535	1.49	24.0		XP-07 - #14	
3604	2.00	42.0		OBM-Low ECD- HTHP	
3741	1.62	26.0		XP-07 - #14	
3754	2.00	44.0		OBM-Low ECD- HTHP	



3900	2.02	63.0		OBM-Low ECD-HTHP	
3900	2.02	47.0		OBM-Low ECD-HTHP	
3900	1.62	25.0		XP-07 - #14	
3900	1.62	26.0		XP-07 - #14	
4004	2.02	39.0		OBM-Low ECD-HTHP	
4103	2.03	36.0		OBM-Low ECD-HTHP	
4146	2.04	36.0		OBM-Low ECD-HTHP	
4234	2.05	36.0		OBM-Low ECD-HTHP	
4365	2.02	34.0		OBM-Low ECD-HTHP	
4404	2.02	33.0		OBM-Low ECD-HTHP	
4514	2.02	33.0		OBM-Low ECD-HTHP	
4654	2.00	39.0		OBM-Low ECD-HTHP	

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]
6354_Formation_pressure_(Formasjonstrykk)	pdf	0.18

