

**General information**

Wellbore name	30/11-10
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	MUNIN
Discovery	30/11-10 (Krafla Nord)
Well name	30/11-10
Seismic location	3D survey MC3D-NVG05 inline 1698 & xline 3057
Production licence	035
Drilling operator	Statoil Petroleum AS
Drill permit	1548-L
Drilling facility	TRANSOCEAN LEADER
Drilling days	56
Entered date	01.11.2014
Completed date	26.12.2014
Plugged date	26.12.2014
Release date	26.12.2016
Publication date	26.12.2016
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS/CONDENSATE
Discovery wellbore	YES
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	TARBERT FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	NESS FM
3rd level with HC, age	MIDDLE JURASSIC
3rd level with HC, formation	ETIVE FM
Kelly bushing elevation [m]	23.5
Water depth [m]	104.0
Total depth (MD) [m RKB]	4079.0
Final vertical depth (TVD) [m RKB]	4078.0
Maximum inclination [°]	2.9
Bottom hole temperature [°C]	140



Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	DRAKE FM
Geodetic datum	ED50
NS degrees	60° 14' 4.27" N
EW degrees	2° 30' 37.16" E
NS UTM [m]	6677786.79
EW UTM [m]	472879.26
UTM zone	31
NPDID wellbore	7595

Wellbore history

General

Well 30/11-10 was drilled on the Krafla North prospect located on the edge of the Horda Platform towards the Viking Graben. Krafla North is located north of and close to the 30/11-8 S Krafla discovery. The primary objective was to prove reserves in the Tarbert, Ness, and Etive formations of the Brent Group.

Operations and results

Wildcat well 30/11-10 was spudded with the semi-submersible installation Transocean Leader on 1 November 2014 and drilled to TD at 4079 m in the Early Jurassic Drake Formation. For field development data, acquisition purposes a 12 1/4" pilot hole was drilled from below 20" shoe and down through Skade, Oligocene and Grid sands to 1652 m. No significant problem was encountered in the operations. The well was drilled with spud mud down to 807 m and with XP-07 oil based mud from 807 m to TD.

Top Brent Group, Tarbert Formation was encountered at 3445 m. The well proved oil in Tarbert and Etive Formations and rich gas-condensate in the Ness Formation. The upper part of Tarbert down to 3554 m had poor reservoir properties. The Brent Group succession proved oil-down-to (ODT) situations in most of the reservoir intervals. However, an in-well oil-water contact was estimated 3659 m in the Tarbert Formation based on PVT and pressure data. Shows were described throughout the Brent Group, including the Rannoch Formation. In the cored section of upper Drake Formation, weak residual shows were observed.

Two cores were cut. Core number 1 recovered 54.5 meters from 3575 to 3629 m in the Tarbert Formation while core number 2 recovered 43.8 meters from 3997.2 m in the Rannoch Formation to 4041 m in the Drake Formation. MDT fluid samples were taken at 1025 m (water), 1313.5 m (water), 1463.5 (water), 3555.2 m (oil), 3590.3 m (oil), 3610.8 m (oil), 3663.8 m (water), 3896.7 m (oil), 3950.1 m (water), and 3994.2 m (oil).

The well was permanently abandoned on 26 December 2014 as an oil and gas/condensate well.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate



Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
810.00	4079.00

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	3575.0	3629.5	[m]
2	3997.2	4040.5	[m]

Total core sample length [m]	97.8
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
894.0	[m]	DC	PETROSTR
900.0	[m]	DC	PETROS
1023.0	[m]	DC	PETROS
1044.0	[m]	DC	PETROS
1068.0	[m]	DC	PETROS
1080.0	[m]	DC	PETROS
1095.0	[m]	DC	PETROS
1110.0	[m]	DC	PETROS
1125.0	[m]	DC	PETROS
1140.0	[m]	DC	PETROS
1155.0	[m]	DC	PETROS
1170.0	[m]	DC	PETROS
1185.0	[m]	DC	PETROS
1200.0	[m]	DC	PETROS
1215.0	[m]	DC	PETROS
1230.0	[m]	DC	PETROS
1245.0	[m]	DC	PETROS
1260.0	[m]	DC	PETROS
1275.0	[m]	DC	PETROS
1290.0	[m]	DC	PETROS
1305.0	[m]	DC	PETROS
1311.0	[m]	DC	PETROS



1365.0	[m]	DC	PETROS
1380.0	[m]	DC	PETROS
1395.0	[m]	DC	PETROS
1410.0	[m]	DC	PETROS
1426.0	[m]	DC	PETROS
1441.0	[m]	DC	PETROS
1456.0	[m]	DC	PETROS
1600.0	[m]	DC	PETROS
1630.0	[m]	DC	PETROS
1651.0	[m]	DC	PETROS
1680.0	[m]	DC	PETROS
1710.0	[m]	DC	PETROS
1740.0	[m]	DC	PETROS
1760.0	[m]	DC	PETROS
1840.0	[m]	DC	PETROS
1850.0	[m]	DC	PETROS
1880.0	[m]	DC	PETROS
1910.0	[m]	DC	PETROS
1940.0	[m]	DC	PETROS
1970.0	[m]	DC	PETROS
2000.0	[m]	DC	PETROS
2030.0	[m]	DC	PETROS
2060.0	[m]	DC	PETROS
2090.0	[m]	DC	PETROS
2120.0	[m]	DC	PETROS
2150.0	[m]	DC	PETROS
2180.0	[m]	DC	PETROS
2200.0	[m]	DC	PETROS
2220.0	[m]	DC	PETROS
2240.0	[m]	DC	PETROS
2260.0	[m]	DC	PETROS
2280.0	[m]	DC	PETROS
2300.0	[m]	DC	PETROS
2320.0	[m]	DC	PETROS
2340.0	[m]	DC	PETROS
2360.0	[m]	DC	PETROS
2380.0	[m]	DC	PETROS
2400.0	[m]	DC	PETROS
2420.0	[m]	DC	PETROS
2440.0	[m]	DC	PETROS



2460.0	[m]	DC	PETROS
2480.0	[m]	DC	PETROS
2500.0	[m]	DC	PETROS
2520.0	[m]	DC	PETROS
2610.0	[m]	DC	PETROS
2640.0	[m]	DC	PETROS
2670.0	[m]	DC	PETROS
2700.0	[m]	DC	PETROS
2730.0	[m]	DC	PETROS
2760.0	[m]	DC	PETROS
2790.0	[m]	DC	PETROS
2820.0	[m]	DC	PETROS
2850.0	[m]	DC	PETROS
2880.0	[m]	DC	PETROS
2910.0	[m]	DC	PETROS
2940.0	[m]	DC	PETROS
2970.0	[m]	DC	PETROS
3000.0	[m]	DC	PETROS
3030.0	[m]	DC	PETROS
3060.0	[m]	DC	PETROS
3090.0	[m]	DC	PETROS
3120.0	[m]	DC	PETROS
3150.0	[m]	DC	PETROS
3180.0	[m]	DC	PETROS
3210.0	[m]	DC	PETROS
3240.0	[m]	DC	PETROS
3380.0	[m]	DC	PETROS
3390.0	[m]	DC	PETROS
3400.0	[m]	DC	PETROS
3409.0	[m]	DC	PETROS
3417.0	[m]	DC	PETROS
3418.0	[m]	DC	PETROS
3436.0	[m]	DC	PETROS
3445.0	[m]	DC	PETROS
3454.0	[m]	DC	PETROS
3463.0	[m]	DC	PETROS
3472.0	[m]	DC	PETROS
3481.0	[m]	DC	PETROS
3490.0	[m]	DC	PETROS
3499.0	[m]	DC	PETROS



3508.0 [m]	DC	PETROS
3517.0 [m]	DC	PETROS
3526.0 [m]	DC	PETROS
3535.0 [m]	DC	PETROS
3544.0 [m]	DC	PETROS
3553.0 [m]	DC	PETROS
3562.0 [m]	DC	PETROS
3571.0 [m]	DC	PETROS
3575.0 [m]	C	PETROS
3581.3 [m]	C	PETROS
3585.0 [m]	C	PETROS
3590.4 [m]	C	PETROS
3595.6 [m]	C	PETROS
3597.3 [m]	C	PETROS
3605.0 [m]	C	PETROS
3619.1 [m]	C	PETROS
3619.8 [m]	C	PETROS
3620.2 [m]	C	PETROS
3621.7 [m]	C	PETROS
3623.4 [m]	C	PETROS
3628.5 [m]	C	PETROS
3634.0 [m]	DC	PETROS
3643.0 [m]	DC	PETROS
3652.0 [m]	DC	PETROS
3661.0 [m]	DC	PETROS
3670.0 [m]	DC	PETROS
3679.0 [m]	DC	PETROS
3688.0 [m]	DC	PETROS
3697.0 [m]	DC	PETROS
3706.0 [m]	DC	PETROS
3715.0 [m]	DC	PETROS
3724.0 [m]	DC	PETROS
3733.0 [m]	DC	PETROS
3742.0 [m]	DC	PETROS
3751.0 [m]	DC	PETROS
3760.0 [m]	DC	PETROS
3769.0 [m]	DC	PETROS
3778.0 [m]	DC	PETROS
3787.0 [m]	DC	PETROS
3796.0 [m]	DC	PETROS



3805.0 [m]	DC	PETROS
3814.0 [m]	DC	PETROS
3823.0 [m]	DC	PETROS
3832.0 [m]	DC	PETROS
3841.0 [m]	DC	PETROS
3850.0 [m]	DC	PETROS
3859.0 [m]	DC	PETROS
3868.0 [m]	DC	PETROS
3877.0 [m]	DC	PETROS
3886.0 [m]	DC	PETROS
3895.0 [m]	DC	PETROS
3904.0 [m]	DC	PETROS
3913.0 [m]	DC	PETROS
3922.0 [m]	DC	PETROS
3931.0 [m]	DC	PETROS
3940.0 [m]	DC	PETROS
3949.0 [m]	DC	PETROS
3958.0 [m]	DC	PETROS
3967.0 [m]	DC	PETROS
3976.0 [m]	DC	PETROS
3985.0 [m]	DC	PETROS
3994.0 [m]	DC	PETROS
3997.4 [m]	C	PETROS
4000.7 [m]	C	PETROS
4003.4 [m]	C	PETROS
4003.9 [m]	C	PETROS
4007.3 [m]	C	PETROS
4012.5 [m]	C	PETROS
4019.5 [m]	C	PETROS
4025.5 [m]	C	PETROS
4033.5 [m]	C	PETROS
4037.0 [m]	C	PETROS
4039.0 [m]	DC	PETROS
4048.0 [m]	DC	PETROS
4057.0 [m]	DC	PETROS
4066.0 [m]	DC	PETROS
4075.0 [m]	DC	PETROS
4079.0 [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
MINI		3590.30	0.00	OIL		YES
MINI		3610.70	0.00	OIL		NO
MINI		3896.70	0.00	OIL		YES
MINI		3994.20	0.00	OIL		YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
128	NORDLAND GP
128	UNDIFFERENTIATED
527	UTSIRA FM
777	HORDALAND GP
777	UNDIFFERENTIATED
810	SKADE FM
1063	UNDIFFERENTIATED
1595	NO FORMAL NAME
1755	GRID FM
1837	NO FORMAL NAME
2186	ROGALAND GP
2186	BALDER FM
2249	SELE FM
2272	HERMOD FM
2296	SELE FM
2352	LISTA FM
2493	VÅLE FM
2544	SHETLAND GP
2544	JORSALFARE FM
2824	KYRRE FM
3238	TRYGGVASON FM
3304	SVARTE FM
3378	VIKING GP
3378	HEATHER FM



3445	BRENT GP
3445	TARBERT FM
3744	NESS FM
3992	ETIVE FM
3997	RANNOCH FM
4013	DUNLIN GP
4013	DRAKE FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT PEX HNGS	3399	4041
AIT PPC MSIP PEX HNGS	798	1631
CMR ECS GR	3389	4065
MDT GR	2100	2291
MDT GR	3448	4002
MDT GR	3555	3994
MDT GR	3590	3897
MDT GR	3663	3897
MSCT GR	3447	3897
MSCT GR	3652	3997
MSCT GR	3654	3995
MSCT GR	3997	3999
MWD - ARCVRES6 TELE	3400	4079
MWD - ARCVRES9 TELE	177	2100
MWD - PDX5 ARCVRES9 TELE	2100	3401
MWD - TELE	128	183
NGI PPC MSIP PPC GR	3100	4048
PS PO LFA SC1 CMR GR	798	1631

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	178.4	36	184.0	0.00	
SURF.COND.	20	798.2	26	807.0	0.00	
		810.0		810.0	1.35	FIT
PILOT HOLE		1652.0	12 1/4	1652.0	0.00	
INTERM.	14	2088.0	17 1/2	2103.0	1.74	LOT



LINER	9 5/8	3399.5	12 1/4	3404.0	1.90	FIT
OPEN HOLE		4079.0	8 1/2	4079.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
128	1.35	15.0		Spud Mud	
138	1.03	27.0		Spud Mud	
183	1.35	15.0		Spud Mud	
324	1.60	20.0		Kill Fluid- SW/Bentonite	
331	1.03	12.0		Spud Mud	
588	1.60	20.0		Kill Fluid- SW/Bentonite	
588	1.03	12.0		Spud Mud	
588	1.60	20.0		Kill Fluid- SW/Bentonite	
807	1.22	18.0		OBM-Low ECD	
807	1.35	15.0		Spud Mud	
810	1.22	19.0		OBM-Low ECD	
1748	1.22	22.0		OBM-Low ECD	
1998	1.35	20.0		OBM-Low ECD	
2052	1.22	22.0		OBM-Low ECD	
2200	1.40	26.0		OBM-Low ECD	
2587	1.33	23.0		OBM-Low ECD	
3152	1.43	25.0		OBM-Low ECD	
3158	1.82	43.0		OBM-Low ECD	
3213	1.35	21.0		OBM-Low ECD	
3284	1.83	41.0		OBM-Low ECD	
3331	1.50	29.0		OBM-Low ECD	
3364	1.83	48.0		OBM-Low ECD	
3401	1.50	29.0		OBM-Low ECD	
3445	1.83	44.0		OBM-Low ECD	
3546	1.63	35.0		OBM-Low ECD	
3733	1.70	36.0		OBM-Low ECD	
3997	1.80	38.0		OBM-Low ECD	
4079	1.83	40.0		OBM-Low ECD	