General information

Wellbore name	30/11-10 A
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	MUNIN
Discovery	30/11-8 S Munin
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	1549-L
Drilling facility	TRANSOCEAN LEADER
Drilling days	45
Entered date	28.12.2014
Completed date	13.02.2015
Plugged and abondon date	13.02.2015
Release date	13.02.2017
Publication date	13.02.2017
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	TARBERT FM
Kelly bushing elevation [m]	23.5
Water depth [m]	104.0
Total depth (MD) [m RKB]	3948.0
Final vertical depth (TVD) [m RKB]	3696.0
Maximum inclination [°]	44.4
Bottom hole temperature [°C]	129
Oldest penetrated age	MIDDLE JURASSIC
Oldest penetrated formation	NESS 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	7602

Wellbore history

General

Well 30/11-10 A was drilled as a geological sidetrack to 30/11-10 in order to appraise the Krafla discovery made by well 30/11-8 S in 2011. Krafla is located south of and close to the Krafla North discovery made by the 30/11-10 well, on the edge of the Horda Platform towards the Viking Graben. The primary objective was to reduce uncertainty in oil-in-place in Krafla and to verify communication with Krafla North. Secondary objective was to obtain high-quality fluid samples from Krafla Tarbert Formation.

Operations and results

Wildcat well 30/11-10 A was kicked off from 2001 m in 30/11-10 on 28 December 2014. It was drilled with the semi-submersible installation Transocean Leader to TD at 3948 m (3696 m TVD) m in the Middle Jurassic Ness Formation. On 10 January 2015, at 3777 m in the 8 1/2" section, drilling was discontinued for 12 days due to damaged top drive and bad weather. Otherwise, no significant problem was encountered in the operations. The well was drilled with XP-07 oil based mud from kick-off to TD.

Top Brent Group, Tarbert Formation was penetrated at 3610 m (3359.2 m TVD). Hydrocarbons were proven in the Tarbert Formation from 3654 m (3403 m TVD) with a main oil bearing sandstone between 3717 to 3731 m (3466 to 3480 m TVD). Pressure points and logs indicate an OWC around 3753 m (3502 m TVD). Shows were described in Tarbert and Ness formations.

No cores were cut in the well. Pressures in Tarbert Formation are close to those seen in 30/11-10 Krafla North, but variable pressure measurements in Krafla North did not provide reliable gradients so communication within Tarbert between Krafla and Krafla North cannot be concluded. Pressures within the Ness Formation does not support communication between Krafla and Krafla North. MDT fluid samples were taken at 3655.5 m (oil), 3660.4 m (water), 3683.5 m (oil), 3693.5 m (oil), 3719.1 m (oil), 3764.3 m (water).

The well was permanently abandoned on 13 February 2015 as an oil appraisal well.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
2010.00	3948.00

Cuttings available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
3547.0	[m]	DC	PETROSTR
3559.0	[m]	DC	PETROS
3571.0	[m]	DC	PETROS
3583.0	[m]	DC	PETROS
3595.0	[m]	DC	PETROS
3604.0	[m]	DC	PETROS
3607.0	[m]	DC	PETROS
3610.0	[m]	DC	PETROS
3613.0	[m]	DC	PETROS
3616.0	[m]	DC	PETROS
3619.0	[m]	DC	PETROS
3622.0	[m]	DC	PETROS
3625.0	[m]	DC	PETROS
3631.0	[m]	DC	PETROS
3640.0	[m]	DC	PETROS
3649.0	[m]	DC	PETROS
3658.0	[m]	DC	PETROS
3664.0	[m]	DC	PETROS
3676.0	[m]	DC	PETROS
3682.0	[m]	DC	PETROS
3694.0	[m]	DC	PETROS
3700.0	[m]	DC	PETROS
3709.0	[m]	DC	PETROS
3730.0	[m]	DC	PETROS
3736.0	[m]	DC	PETROS
3745.0	[m]	DC	PETROS
3751.0	[m]	DC	PETROS
3769.0	[m]	DC	PETROS
3781.0	[m]	DC	PETROS
3793.0	[m]	DC	PETROS
3805.0	[m]	DC	PETROS
3814.0	[m]	DC	PETROS
3820.0	[m]	DC	PETROS
3826.0	[m]	DC	PETROS
3832.0	[m]	DC	PETROS
3844.0	[m]	DC	PETROS

3853.0	[m]	DC	PETROS
3862.0	[m]	DC	PETROS
3868.0	[m]	DC	PETROS
3883.0	[m]	DC	PETROS
3895.0	[m]	DC	PETROS
3907.0	[m]	DC	PETROS
3919.0	[m]	DC	PETROS
3928.0	[m]	DC	PETROS
3940.0	[m]	DC	PETROS
3949.0	[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
MDT		3693.50	0.00	OIL		YES
MDT		3683.50	0.00	OIL		YES
MDT		3719.00	0.00	OIL		YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
2001	HORDALAND GP
2194	ROGALAND GP
2194	BALDER FM
2259	SELE FM
2282	HERMOD FM
2317	SELE FM
2392	LISTA FM
2582	VÅLE FM
2644	SHETLAND GP
2644	JORSALFARE FM
3024	KYRRE FM
3482	TRYGGVASON FM
3539	SVARTE FM
3610	BRENT GP

3610	TARBERT FM
3858	NESS FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT PEX HNGS	3495	3955
CMR RCS GR	3429	3955
MDT	3655	3719
MDT	3660	3764
MDT	3719	3719
MDT MINIDST	3683	3683
MWD - ARCVIS6 TELE	3532	3948
MWD - ARCVIS8 XCEED TELE	2007	3532
MWD - GWD TELE	2001	2001
NGI SS	2865	3955
XL ROCK	3654	3760

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	1.35	FIT
PILOT HOLE		1652.0	12 1/4	1652.0	0.00	
LINER	9 5/8	3529.0	12 1/4	3532.0	0.00	
		3535.0		3535.0	2.15	FIT
OPEN HOLE		3948.0	8 1/2	3948.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
2654	1.35	20.0		OBM-Low ECD	
3271	1.35	20.0		OBM-Low ECD	
3323	1.30	15.0		OBM-Low ECD	
3323	1.46	31.0		OBM-Low ECD	
3331	1.35	19.0		OBM-Low ECD	

3390	1.46	29.0		OBM-Low ECD	
3390	1.35	20.0		OBM-Low ECD	
3478	1.46	29.0		OBM-Low ECD	
3489	1.35	21.0		OBM-Low ECD	
3532	1.39	23.0		OBM-Low ECD	
3532	1.39	23.0		OBM-Low ECD	
3532	1.35	19.0		OBM-Low ECD	
3689	1.37	21.0		OBM-Low ECD	
3770	1.40	22.0		OBM-Low ECD	
3881	1.45	31.0		OBM-Low ECD	
3949	1.46	25.0		OBM-Low ECD	