

**General information**

Wellbore name	16/1-17
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	16/1-17
Seismic location	
Production licence	338
Drilling operator	Lundin Norway AS
Drill permit	1409-L
Drilling facility	TRANSOCEAN WINNER
Drilling days	38
Entered date	11.02.2013
Completed date	20.03.2013
Release date	20.03.2015
Publication date	18.05.2015
Purpose - planned	WILDCAT
Reentry	NO
Content	SHOWS
Discovery wellbore	NO
Kelly bushing elevation [m]	26.0
Water depth [m]	110.0
Total depth (MD) [m RKB]	2070.0
Final vertical depth (TVD) [m RKB]	2070.0
Maximum inclination [°]	1.2
Bottom hole temperature [°C]	85
Oldest penetrated age	PRE-DEVONIAN
Oldest penetrated formation	BASEMENT
Geodetic datum	ED50
NS degrees	58° 50' 17.95" N
EW degrees	2° 19' 23.32" E
NS UTM [m]	6522396.52
EW UTM [m]	460929.42
UTM zone	31
NPDID wellbore	7113



Wellbore history

General

Well 16/1-17 was drilled on the Jorvik Prospect on the Utsira High, about 5 km east of 16/1-8, the discovery well on the Edvard Grieg field. The objective of the well was to prove petroleum in Pre-Jurassic sandstone and conglomerate rocks.

Operations and results

Wildcat well 16/1-17 was spudded with the semi-submersible installation Transocean Winner on 9 January 2013 and drilled to TD at 2070 m in granitic Basement rock. Due to shallow gas warnings, a 9 7/8" pilot hole was drilled to 610 m. No shallow gas was observed. Operations proceeded without significant problems. The well was drilled with seawater and high viscosity pills down to 615 m and with Glydril water based mud from 615 m to TD. Geochemical analyses of cuttings and cores show traces of diesel-like hydrocarbons in the mud.

A conglomeratic/sandy section was penetrated from 1869 m to top basement at 1987 m. Poor dating suggest the section to belong to either the Triassic Hegre Group, or the Permian Rotliegend Group. The cores show oil in the conglomeratic part of this section between 1882 m and 1952 m. The shows correspond to increased gas readings on the logs. Moveable oil was sampled here, at high drawdown in tight formation, but no fluid gradients were established. The uppermost part of the basement, 1987.45 to 1993.5 m core was covered by core #5. This is an extremely weathered felsic basement. No granitic wash or regolith was observed in core at the top of the interval. Pressure measurements in the water filled fractured basement indicate a pressure regime analogous to the Edvard Grieg field and the 16/1-12 discovery.

Five cores were cut covering the interval from 1856 m in the Early Cretaceous, throughout the conglomeratic/sandy unit, to 1993 m; six meter into the basement. The total recovery was 100%. MDT fluid samples were taken in the conglomeratic section at 1915.8 m (oil and water), and 1944.6 m (oil and water), and at 1944.61 m (oil and water), and in the basement at 2017.71 m (water).

The well was permanently abandoned on 19 March 2013 as a dry well with shows

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
615.00	2070.00

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	1856.0	1883.5	[m]
2	1883.5	1911.3	[m]
3	1911.3	1939.0	[m]
4	1939.0	1965.8	[m]
5	1965.8	1993.5	[m]

Total core sample length [m]	137.5
Cores available for sampling?	YES

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		1915.20	0.00	OIL	05.03.2013 - 00:00	NO

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
136	NORDLAND GP
758	UTSIRA FM
902	NO FORMAL NAME
965	HORDALAND GP
976	SKADE FM
1124	NO FORMAL NAME
1507	NO FORMAL NAME
1667	ROGALAND GP
1667	BALDER FM
1678	SELE FM
1717	LISTA FM
1789	VÅLE FM
1806	SHETLAND GP
1806	EKOFISK FM
1822	TOR FM
1850	HOD FM
1860	CROMER KNOLL GP



1860	SOLA FM
1861	ÅSGARD FM
1870	HEGRE GP
1988	BASEMENT

Logs

Log type	Log top depth [m]	Log bottom depth [m]
FMI	1822	2068
FMI MSIP	1240	2061
MDT DP	1915	1944
MDT SATURN	2012	2012
MSCT	1830	2063
MWD - GR PWD DEN SON RES NEU SPE	1818	2064
MWD - GR RES DEN NEU SON DIR PWD	604	1820
MWD - GR RES DIR PWD	1818	1856
MWD - GR RES SON DIR PWD	135	605
PEX HRLA ECS HNGS ADT	1818	2070
VSI	135	2060
XPT MRX	1850	2055

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	214.0	36	216.0	0.00	
SURF.COND.	20	600.0	26	608.0	1.64	LOT
PILOT HOLE		610.0	9 7/8	610.0	0.00	
INTERM.	9 5/8	1818.0	12 1/4	1825.0	1.51	LOT
OPEN HOLE		2070.0	8 1/2	2070.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
300	1.35	25.0		Water Based	
440	1.06	24.0		Water Based	



900	1.30	23.0		Water Based	
1468	1.35	20.0		Water Based	
1825	1.35	22.0		Water Based	
1856	1.20	19.0		Water Based	
1938	1.21	16.0		Water Based	
2070	1.20	18.0		Water Based	