General information

Wellbore name	6407/10-5
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Well name	6407/10-5
Seismic location	DN0902 inline 2115 & xline 3333
Production licence	793
Drilling operator	A/S Norske Shell
Drill permit	1592-L
Drilling facility	TRANSOCEAN BARENTS
Drilling days	25
Entered date	25.08.2015
Completed date	18.09.2015
Release date	18.09.2017
Publication date	18.09.2017
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	40.0
Water depth [m]	336.0
Total depth (MD) [m RKB]	2890.0
Final vertical depth (TVD) [m RKB]	2889.0
Maximum inclination [°]	3.9
Oldest penetrated age	LATE JURASSIC
Oldest penetrated formation	INTRA MELKE FM SS
Geodetic datum	ED50
NS degrees	64° 12' 41.65'' N
EW degrees	7° 16' 34.29'' E
NS UTM [m]	7121899.98
EW UTM [m]	416326.48
UTM zone	32
NPDID wellbore	7763

Wellbore history

General

Well 6407/10-5 was drilled to test the Portrush prospect, southeast of the Njord Field, in the southern part of the Halten Terrace in the Norwegian Sea. The primary objective was to prove oil in the Late Jurassic sequence (Rogn Formation) in a hanging wall trap downthrown of the Vingleia Fault Complex. The secondary objective was to evaluate potential intra-Melke Formation reservoirs.

Operations and results

Wildcat well 6407/10-5 was spudded with the semi-submersible installation Transocean Barents on 25 August 2015 and drilled to TD at 2890 m in the Late Jurassic Intra Melke Formation Sandstone. A 9 7/8" shallow gas pilot hole was drilled to 452 m. No shallow gas was seen. No significant problem was encountered in the operations. The well was drilled with Seawater and bentonite spud mud down to 452 m, with Seawater/KCl mud from 452 m to 1104 m and with Innovert NS Oil based mud from 1104 m to TD.

A water bearing intra-Lange Formation was penetrated at 2460 m. Top Spekk Formation was encountered at 2518 m. Geochemical analyses show that Spekk Formation is immature and comparatively lean in well position with TOC not more than 2.5 %wt. Top Melke Formation was penetrated at 2646. The Melke Formation contain two sandstones in the intervals 2660 to 2694 m and 2789 m to TD. The two are separated by red-brown coloured claystone. MWD logs and MDT pressure points confirm that all Jurassic reservoirs are water bearing. No definitive hydrocarbon fluorescence was noted throughout the entire well that was distinguishable from oil based mud and mineral fluorescence.

No cores were cut. The MDT was run on wireline for pressure points, but no fluid sample was taken. The aquifer pressure trend in the Rogn and upper part of the Melke shows 56 bar overpressure to the hydrostatic. Pressure points in the lower part of the Melke are approximately two bar above the Rogn/upper Melke water gradient

The well was permanently abandoned on 18 September 2015 as a dry well.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1110.00	2890.90

Cuttings available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1110.0	[m]	DC	PETROSTR
1130.0	[m]	DC	PETROS
1150.0	[m]	DC	PETROS
1170.0	[m]	DC	PETROS
1190.0	[m]	DC	PETROS
1210.0	[m]	DC	PETROS
1230.0	[m]	DC	PETROS
1250.0	[m]	DC	PETROS
1270.0	[m]	DC	PETROS
1290.0	[m]	DC	PETROS
1310.0	[m]	DC	PETROS
1330.0	[m]	DC	PETROS
1350.0	[m]	DC	PETROS
1370.0	[m]	DC	PETROS
1390.0	[m]	DC	PETROS
1410.0	[m]	DC	PETROS
1430.0	[m]	DC	PETROS
1460.0	[m]	DC	PETROS
1480.0	[m]	DC	PETROS
1500.0	[m]	DC	PETROS
1520.0	[m]	DC	PETROS
1530.0	[m]	DC	PETROS
1540.0	[m]	DC	PETROS
1550.0	[m]	DC	PETROS
1560.0	[m]	DC	PETROS
1570.0	[m]	DC	PETROS
1590.0	[m]	DC	PETROS
1610.0	[m]	DC	PETROS
1630.0	[m]	DC	PETROS
1650.0	[m]	DC	PETROS
1670.0	[m]	DC	PETROS
1690.0	[m]	DC	PETROS
1700.0	[m]	DC	PETROS
1710.0	[m]	DC	PETROS
1720.0	[m]	DC	PETROS
1730.0	[m]	DC	PETROS
1740.0	[m]	DC	PETROS
1750.0	[m]	DC	PETROS
1760.0	[m]	DC	PETROS

1770.0	[m]	DC	PETROS
1780.0	[m]	DC	PETROS
1790.0	[m]	DC	PETROS
1800.0	[m]	DC	PETROS
1810.0	[m]	DC	PETROS
1820.0	[m]	DC	PETROS
1830.0	[m]	DC	PETROS
1840.0	[m]	DC	PETROS
1850.0	[m]	DC	PETROS
1870.0	[m]	DC	PETROS
1890.0	[m]	DC	PETROS
1910.0	[m]	DC	PETROS
1930.0	[m]	DC	PETROS
1950.0	[m]	DC	PETROS
1970.0	[m]	DC	PETROS
1990.0	[m]	DC	PETROS
2010.0	[m]	DC	PETROS
2030.0	[m]	DC	PETROS
2050.0	[m]	DC	PETROS
2070.0	[m]	DC	PETROS
2080.0	[m]	DC	PETROS
2090.0	[m]	DC	PETROS
2100.0	[m]	DC	PETROS
2110.0	[m]	DC	PETROS
2120.0	[m]	DC	PETROS
2130.0	[m]	DC	PETROS
2140.0	[m]	DC	PETROS
2150.0	[m]	DC	PETROS
2154.0	[m]	DC	PETROS
2160.0	[m]	DC	PETROS
2180.0	[m]	DC	PETROS
2190.0	[m]	DC	PETROS
2210.0	[m]	DC	PETROS
2230.0	[m]	DC	PETROS
2240.0	[m]	DC	PETROS
2250.0	[m]	DC	PETROS
2260.0	[m]	DC	PETROS
2270.0	[m]	DC	PETROS
2280.0	[m]	DC	PETROS
2290.0	[m]	DC	PETROS

2310.0	[m]	DC	PETROS
2330.0	[m]	DC	PETROS
2350.0	[m]	DC	PETROS
2370.0	[m]	DC	PETROS
2390.0	[m]	DC	PETROS
2410.0	[m]	DC	PETROS
2435.0	[m]	DC	PETROS
2440.0	[m]	DC	PETROS
2445.0	[m]	DC	PETROS
2450.0	[m]	DC	PETROS
2455.0	[m]	DC	PETROS
2460.0	[m]	DC	PETROS
2465.0	[m]	DC	PETROS
2470.0	[m]	DC	PETROS
2475.0	[m]	DC	PETROS
2480.0	[m]	DC	PETROS
2485.0	[m]	DC	PETROS
2490.0	[m]	DC	PETROS
2495.0	[m]	DC	PETROS
2500.0	[m]	DC	PETROS
2505.0	[m]	DC	PETROS
2510.0	[m]	DC	PETROS
2515.0	[m]	DC	PETROS
2518.0	[m]	DC	PETROS
2524.0	[m]	DC	PETROS
2530.0	[m]	DC	PETROS
2536.0	[m]	DC	PETROS
2542.0	[m]	DC	PETROS
2548.0	[m]	DC	PETROS
2554.0	[m]	DC	PETROS
2560.0	[m]	DC	PETROS
2566.0	[m]	DC	PETROS
2572.0	[m]	DC	PETROS
2578.0	[m]	DC	PETROS
2584.0	[m]	DC	PETROS
2590.0	[m]	DC	PETROS
2596.0	[m]	DC	PETROS
2602.0	[m]	DC	PETROS
2608.0	[m]	DC	PETROS
2614.0	[m]	DC	PETROS

2620.0	[m]	DC	PETROS
2626.0	[m]	DC	PETROS
2632.0	[m]	DC	PETROS
2638.0	[m]	DC	PETROS
2644.0	[m]	DC	PETROS
2650.0	[m]	DC	PETROS
2656.0	[m]	DC	PETROS
2662.0	[m]	DC	PETROS
2668.0	[m]	DC	PETROS
2677.0	[m]	DC	PETROS
2683.0	[m]	DC	PETROS
2689.0	[m]	DC	PETROS
2695.0	[m]	DC	PETROS
2701.0	[m]	DC	PETROS
2707.0	[m]	DC	PETROS
2713.0	[m]	DC	PETROS
2719.0	[m]	DC	PETROS
2725.0	[m]	DC	PETROS
2731.0	[m]	DC	PETROS
2737.0	[m]	DC	PETROS
2743.0	[m]	DC	PETROS
2749.0	[m]	DC	PETROS
2755.0	[m]	DC	PETROS
2761.0	[m]	DC	PETROS
2767.0	[m]	DC	PETROS
2776.0	[m]	DC	PETROS
2782.0	[m]	DC	PETROS
2794.0	[m]	DC	PETROS
2800.0	[m]	DC	PETROS
2806.0	[m]	DC	PETROS
2812.0	[m]	DC	PETROS
2818.0	[m]	DC	PETROS
2824.0	[m]	DC	PETROS
2830.0	[m]	DC	PETROS
2836.0	[m]	DC	PETROS
2842.0	[m]	DC	PETROS
2848.0	[m]	DC	PETROS
2854.0	[m]	DC	PETROS
2860.0	[m]	DC	PETROS
2866.0	[m]	DC	PETROS

2872.0	[m]	DC	PETROS
2878.0	[m]	DC	PETROS
2884.0	[m]	DC	PETROS
2890.0	[m]	DC	PETROS

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
376	NORDLAND GP
376	NAUST FM
836	KAI FM
1001	HORDALAND GP
1001	BRYGGE FM
1540	ROGALAND GP
1540	TARE FM
1606	TANG FM
1792	SHETLAND GP
1792	NISE FM
2011	KVITNOS FM
2236	CROMER KNOLL GP
2236	LYSING FM
2257	LANGE FM
2513	LYR FM
2518	VIKING GP
2518	SPEKK FM
2588	ROGN FM
2647	MELKE FM
2660	INTRA MELKE FM SS

Logs

Log type	Log top depth [m]	Log bottom depth [m]
MDT GR	2245	2891
MWD - GR RES APWD	376	1104
MWD - GR RES DEN NEU APWD	2155	2890
MWD - GR RES DEN NEU DT APWD	1104	2890
VSI4	446	2870

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	20	449.6	36	452.0	0.00	
PILOT HOLE		452.0	9 7/8	452.0	0.00	
INTERM.	13 5/8	1097.3	17 1/2	1104.0	1.73	LOT
INTERM.	9 5/8	2150.3	12 1/4	2155.0	1.76	LOT
OPEN HOLE		2890.0	8 1/2	2890.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
452	1.30			Fresh Water Bentonite	
1104	1.45			INNOVERT	
1104	1.36			KCl / NaCl /Glycol polymer mud	
1430	1.50			INNOVERT	
2050	1.51			INNOVERT	
2155	1.45			INNOVERT	
2155	1.52			INNOVERT	
2200	1.45			INNOVERT	
2344	1.47			INNOVERT	
2402	1.45			INNOVERT	
2550	1.52			INNOVERT	
2600	1.45			INNOVERT	
2890	1.46			INNOVERT	