General information

Wellbore name	6305/8-2
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Field	ORMEN LANGE
Discovery	6305/5-1 Ormen lange
Well name	6305/8-2
Seismic location	
Production licence	250
Drilling operator	A/S Norske Shell
Drill permit	1542-L
Drilling facility	TRANSOCEAN BARENTS
Drilling days	59
Entered date	24.09.2014
Completed date	21.11.2014
Release date	21.11.2016
Publication date	21.11.2016
Purpose - planned	APPRAISAL
Reentry	NO
Content	GAS
Discovery wellbore	NO
1st level with HC, age	PALEOCENE
1st level with HC, formation	EGGA FM (INFORMAL)
Kelly bushing elevation [m]	40.0
Water depth [m]	616.0
Total depth (MD) [m RKB]	3078.0
Final vertical depth (TVD) [m RKB]	3078.0
Maximum inclination [°]	2.8
Oldest penetrated age	LATE CRETACEOUS
Oldest penetrated formation	SPRINGAR FM
Geodetic datum	ED50
NS degrees	63° 19' 42.05'' N
EW degrees	5° 21' 36.69'' E
NS UTM [m]	7024521.08
EW UTM [m]	618191.06

UTM zone	31
NPDID wellbore	7579

Wellbore history

General

Well 6305/8-2 was drilled to appraise the southern part of the Ormen Lange Field in the Sothern Norwegian Sea. The objective of well 6305/8-2 was to delineate the field to the south, as it was unclear whether the area was optimally drained or not by existing production wells.

Operations and results

Appraisal well 6305/8-2 was spudded with the semi-submersible installation Transocean Barents on 24 September 2014 and drilled to TD at 3078 m in the Late Cretaceous Springar Formation. No significant problem was encountered in the operations. The well was drilled with seawater and bentonite sweeps down to 1499 m, with KCl/polymer/glycol mud from 1499 m to 2897 m, and with Innovert NS oil based mud from 2897 m to TD.

Top of the Egga Informal Formation Reservoir was encountered at 2906.5 m 23.5 m deeper than prognosed. Below Egga from 3005 to 3015 m an undifferentiated unit was penetrated before entering the Maastrichtian age Jorsalfare Formation. The Egga contained a 28-metre gas column down to a current GDT at 2936.0 m, and an underlying water zone with very good reservoir quality. The water zone in the lower part of Egga has extreme core permeabilities in the several Darcy range, often exceeding five Darcy. Below the GDT, the interpretation indicated a swept zone down to ca 2950 m followed by a residual gas zone down to ca 2969 m. All sands are fully water bearing below this depth. Both the undifferentiated unit and the Jorsalfare Formation were aquiferous with very good and poor to very good reservoir quality, respectively. The water zone is 70 metres in total. Wireline pressure measurements show depletion due to production in the D-template area. Pressure depletion relative to the closest exploration well 6305/7-1 vary from a high of 88.5 bar to a low of 7.4 bar.

Four consecutive cores were cut from 2898 to 3006.5 m, from the shale unit above the reservoir and down through the whole of Egga. MDT water samples were taken at 2991.7 m in Egga and at 3012 m in the underlying undifferentiated unit.

The well was permanently abandoned on 21 November 2014 as a gas 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]
1500.00	3078.00

Cuttings available for sampling?	YES

Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	2910.0	2924.4	[m]
2	2924.4	2952.2	[m]
3	2952.2	2978.0	[m]
4	2978.0	3005.8	[m]

Total core sample length [m]	95.8
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
656	NORDLAND GP
656	NAUST FM
1465	KAI FM
1614	HORDALAND GP
1614	BRYGGE FM
2527	ROGALAND GP
2527	TARE FM
2680	TANG FM
2891	UNDIFFERENTIATED
2907	EGGA FM (INFORMAL)
3005	UNDIFFERENTIATED
3015	SHETLAND GP
3015	JORSALFARE FM
3047	SPRINGAR FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
DEN SON CAL GR	731	2897
GR RES DEN NMR SPEC GR	2830	3080
MDT MFRAC	2904	3046
MFRAC	2904	2975

MFRAC	2920	2960
MIC RES SON CBL VDL	2576	3081
MWD - DI	655	737
MWD - GR RES PWD DI	724	2000
MWD - GR RES PWD DI	1794	2897
MWD - GR RES PWD SON NEU DEN DI	2896	3068
MWD - PWD DI	2889	3077
VSP GR	655	1980
VSP GR	1675	2879
VSP GR	1790	2897
VSP GR	2711	3062

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	36	734.1	42	737.7	0.00	
SURF.COND.	20	1492.4	26	1496.6	1.25	LOT
PROD.	13 5/8	1996.4	17 1/2	2001.0	1.35	LOT
LINER	9 5/8	2896.5	12 1/4	2897.0	1.21	LOT
OPEN HOLE		3078.0	8 1/2	3078.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
655	1.03			Seawater	
1480	1.25			KCl / NaCl /Glycol polymer mud	
1480	1.30			P&D Mud	
1498	1.30			KCl/Polymer Displacement	
1499	1.25			KCl / NaCl /Glycol polymer mud	
1714	1.28			KCl / NaCl /Glycol polymer mud	
1863	1.32			KCl / NaCl /Glycol polymer mud	
2001	1.35			KCl / NaCl /Glycol polymer mud	

2029	1.41			KCl / NaCl /Glycol polymer mud	
2897	1.20			INNOVERT NS OBM	
2897	1.41			KCl / NaCl /Glycol polymer mud	
2925	1.20			INNOVERT NS OBM	
3078	1.35			Bentonite mud	
3078	1.35			Polymer Mud / Glycol	
3078	1.22			INNOVERT NS OBM	
3078	1.22			INNOVERT NS OBM	