



## **General information**





Wellbore name	6305/4-2 S
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Press release	<a href="#">link to press release</a>
Factmaps in new window	<a href="#">link to map</a>
Main area	NORWEGIAN SEA
Field	<a href="#">ORMEN LANGE</a>
Discovery	<a href="#">6305/5-1 Ormen lange</a>
Well name	6305/4-2
Seismic location	inline 4119 & crossline 5608 on OLSH 0801
Production licence	<a href="#">209</a>
Drilling operator	A/S Norske Shell
Drill permit	1322-L
Drilling facility	<a href="#">WEST NAVIGATOR</a>
Drilling days	100
Entered date	04.11.2010
Completed date	11.02.2011
Release date	11.02.2013
Publication date	11.02.2013
Purpose - planned	APPRAISAL
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	36.0
Water depth [m]	1086.0
Total depth (MD) [m RKB]	2985.0
Final vertical depth (TVD) [m RKB]	2905.0
Maximum inclination [°]	25.4
Oldest penetrated age	LATE CRETACEOUS
Oldest penetrated formation	NISE FM
Geodetic datum	ED50
NS degrees	63° 38' 14.9" N
EW degrees	5° 17' 54.12" E
NS UTM [m]	7058837.63
EW UTM [m]	613859.59
UTM zone	31
NPDID wellbore	6441



## Wellbore history

### General

The Ormen Lange appraisal well 6305/4-2 S was drilled within the DHI limits in the NW of the Ormen Lange field in the Norwegian Sea. The main objectives were to appraise the fluid content and reservoir quality of the Egga Reservoir Unit (Egga informal Formation), and to investigate the degree of pressure communication between the planned northern area C-template and the existing central area A-and B-templates

### Operations and results

Appraisal well 6305/4-2 S was spudded with the dynamic positioning drilling vessel West Navigator on 4 November 2010 and drilled to TD at 2985 m (2905 m TVD) in the Late Cretaceous Nise Formation. Ormen Lange appraisal well 6305/4-2 S encountered challenges while drilling the deeper sections. Some cavings were observed in the 17.5" section through Brygge Formation. TD was therefore called shallower due to a rump up in pore pressure. Tight spots and cavings were also observed while drilling the 8.5" section. During the first wire line 8.5" logging run, the string became differentially stuck and fishing operations were required to retrieve the string. The well was drilled with seawater/PHB sweeps and displacement mud down to 1738.5 m and with Aqua-Drill Deepwater mud from 1738.5 m to TD.

Top of the Egga Reservoir Unit was encountered at 2835 m (2768.3 m TVD), 2.7 m shallow to prognosis. The base was penetrated at 2864 m (2794.5 m TVD) giving 27.3 m TVD gross reservoir. Of this 22.7 m TVD was net reservoir. The reservoir properties were as prognosed; average porosity and permeability was 27% and 261.5 mD respectively. The reservoir was water bearing and the pressure (298.4 bar) indicated high pressured water, most likely marginally depleted, and supported a hydrodynamic aquifer model. The results confirmed the interpretation of the seismic Direct Hydrocarbon Indication (DHI) in the area as a paleo-gas/water contact (i.e. DHI is not the current field outline).

A total of 42.94 m of cores were cut in three cores. Cores 1 and 2 were cut in the interval 2844 m to 2901.5 m and core 3 from 2879 m to 2901.5 m. The overall recovery was 98.7%. No wire line fluid samples were taken. Seventy-three mud gas samples were captured in isotubes.

The well was permanently abandoned on 11 February 2011 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]
1740.00	2984.00



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	2844.2	2856.0	[m ]
2	2858.0	2865.0	[m ]
3	2879.0	2903.0	[m ]

Total core sample length [m]	42.8
Cores available for sampling?	YES

### Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
1122	<a href="#">NORDLAND GP</a>
1122	<a href="#">NAUST FM</a>
1718	<a href="#">KAI FM</a>
1771	<a href="#">HORDALAND GP</a>
1771	<a href="#">BRYGGE FM</a>
2389	<a href="#">ROGALAND GP</a>
2389	<a href="#">TANG FM</a>
2567	<a href="#">TARE FM</a>
2835	<a href="#">EGGA FM (INFORMAL)</a>
2878	<a href="#">SHETLAND GP</a>
2878	<a href="#">SPRINGAR FM</a>
2938	<a href="#">NISE FM</a>

### Logs

Log type	Log top depth [m]	Log bottom depth [m]
FMI PPC MSIP	2675	2730
GPIT MSIP PPC PEX	2210	2686
HRLA CMR PEX ECS HNGS	2665	2869
MWD - ARC	1122	2682
MWD - TELE ECO GVR	2682	2985
MWD - TELE ECO STETH	2682	2973

**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	1196.0	36	1207.0	0.00	LOT
SURF.COND.	20	1732.0	26	1738.0	1.32	LOT
INTERM.	13 3/8	2231.0	17 1/2	2231.0	1.47	LOT
INTERM.	9 5/8	2681.0	12 1/4	2682.0	1.50	LOT
OPEN HOLE		2985.0	8 1/2	2985.0	0.00	LOT

**Drilling mud**

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1122	1.03			Seawater	
1739	1.23			Seawater	
1739	1.03			Seawater	
2231	1.28			Seawater	
2859	1.36			Aqua Drill DW	
2902	1.36			Aqua Drill DW	
2930	1.36			Aqua Drill DW	
2985	1.03			Seawater	
2985	1.03			Seawater	
2985	1.36			Aqua Drill DW	
2985	1.36			Aqua Drill DW	

**Pressure plots**

The pore pressure data is sourced from well logs if no other source is specified. In some wells where pore pressure logs do not exist, information from Drill stem tests and kicks have been used. The data has been reported to the NPD, and further processed and quality controlled by IHS Markit.

Document name	Document format	Document size [MB]
<a href="#">6441 Formation pressure (Formasjonstrykk)</a>	PDF	0.28

