General information

Wellbore name	6305/7-1
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Field	ORMEN LANGE
Discovery	6305/5-1 Ormen lange
Well name	6305/7-1
Seismic location	BPN 9603- INLINE 2008 & X-LINE 3170
Production licence	208
Drilling operator	BP Norway Limited U.A.
Drill permit	932-L
Drilling facility	OCEAN ALLIANCE
Drilling days	54
Entered date	08.07.1998
Completed date	30.08.1998
Release date	30.08.2000
Publication date	18.12.2002
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS
Discovery wellbore	NO
1st level with HC, age	PALEOCENE
1st level with HC, formation	EGGA (INFORMAL)
Kelly bushing elevation [m]	26.0
Water depth [m]	857.0
Total depth (MD) [m RKB]	3377.0
Final vertical depth (TVD) [m RKB]	3376.9
Maximum inclination [°]	2.6
Bottom hole temperature [°C]	100
Oldest penetrated age	LATE CRETACEOUS
Oldest penetrated formation	SPRINGAR FM
Geodetic datum	ED50
NS degrees	63° 21' 47.6'' N
EW degrees	5° 15' 43.73'' E
NS UTM [m]	7028228.30
EW UTM [m]	613145.72

UTM zone	31
NPDID wellbore	3535

Wellbore history

General

Well 6305/7-1 was the first well drilled in licence PL 208 and the second in the Møre Basin deep-water area. The well was targeted at the Barden prospect at Tertiary level. The main objectives of the well were to establish the presence, quality and fluid content of the Lower Tertiary Egga Member in the Tang Formation and to penetrate a seismic flat-spot within this unit.

Operations and results

Wildcat well 6305/7-1 was spudded in 857 m water depth with the semi-submersible installation "Ocean Alliance" on 6 July 1998 and drilled to TD at 3377 m in the Late Cretaceous Springar Formation. The well was drilled water based with seawater and hi-vis pills down to 1708 m and with KCl/NaCl/PAC mud from 1708 m to TD. Drilling went without major problems but was suspended from 20 July to 1 August (10 days) due to fishing regulations. Top Egga Member sandstone was penetrated at 2911 m. The reservoir was recognized by an abrupt increase in LWD resistivity and a decrease in LWD gamma. A total of 4 cores were cut from the Egga Member and top of the Springar Formation in the interval 2917 m to 3012.5 m with a total recovery of 94 m (98%). MDT samples were taken at 2921 and 2937 m in the Egga Member sandstone. The samples contained dry gas (93.5 % methane). Wire line coring and sampling proved a gas column from 2915 m to 2939.5 m. Both the reservoir thickness of the Egga formation and the net to gross were better than expected. The well was plugged and abandoned on 30 August 1998 and was classified as a gas appraisal well for the Ormen Lange 6305/5-1 gas discovery.

Testing

A drill stem test was performed in the interval 2915 m to 2931 m. The test flowed dry gas (93.3 % methane) with a GOR of 11000 Sm3/Sm3

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1710.00	3377.00

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	2917.0	2943.8	[m]

2	2944.0	2971.2	[m]
3	2971.0	2984.9	[m]
4	2985.5	3011.8	[m]

Total core sample length [m]	94.1
Cores available for sampling?	YES

Core photos


2917-2922m


2922-2927m


2927-2932m


2932-2937m


2937-2942m


2942-2944m


2944-2949m


2949-2954m


2954-2959m


2959-2964m


2964-2969m


2969-2971m


2971-2976m


2976-2981m


2981-2985m


2985-2990m


2990-2995m


2995-3000m


3000-3005m


3005-3010m


3010-3012m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2917.7	[m]	C	GEUS
2923.2	[m]	C	GEUS
2930.1	[m]	C	GEUS
2951.4	[m]	C	GEUS
2952.6	[m]	C	OD
2955.6	[m]	C	GEUS
2958.2	[m]	C	GEUS
2959.4	[m]	C	OD
2959.7	[m]	C	GEUS
2961.5	[m]	C	OD
2961.8	[m]	C	GEUS
2963.7	[m]	C	GEUS
2965.3	[m]	C	OD
2965.5	[m]	C	GEUS
2968.8	[m]	C	GEUS
2969.0	[m]	C	OD
2971.3	[m]	C	GEUS
2973.9	[m]	C	OD
2974.4	[m]	C	GEUS
2976.5	[m]	C	OD
2977.0	[m]	C	GEUS
2980.0	[m]	C	GEUS
2980.6	[m]	C	OD
2982.0	[m]	C	GEUS
2983.6	[m]	C	GEUS
2987.2	[m]	C	GEUS
2989.0	[m]	C	OD
2989.0	[m]	C	GEUS
2989.4	[m]	C	GEUS

2992.2	[m]	C	GEUS
2992.5	[m]	C	GEUS
2992.7	[m]	C	GEUS
2993.4	[m]	C	GEUS
2995.0	[m]	C	GEUS
2995.1	[m]	C	OD
2995.7	[m]	C	GEUS
2995.7	[m]	C	GEUS
2998.5	[m]	C	GEUS
3001.0	[m]	C	GEUS
3001.1	[m]	C	OD
3006.3	[m]	C	OD
3007.7	[m]	C	GEUS
3009.8	[m]	C	OD
3010.7	[m]	C	GEUS

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
DST	DST 1	2931.00	2915.00	CONDENSATE	23.08.1998 - 00:00	NO

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
883	NORDLAND GP
883	NAUST FM
1529	HORDALAND GP
1529	BRYGGE FM
2562	ROGALAND GP
2562	TARE FM
2657	TANG FM
2911	EGGA FM (INFORMAL)
2992	SHETLAND GP
2992	SPRINGAR FM

Composite logs

Document name	Document format	Document size [MB]
3535	pdf	0.33

Geochemical information

Document name	Document format	Document size [MB]
3535_1	pdf	1.96
3535_2	pdf	1.86
3535_3	pdf	1.82
3535_4	pdf	0.97

Documents - reported by the production licence (period for duty of secrecy expired)

Document name	Document format	Document size [MB]
3535_6305_7_1_COMPLETION_LOG	.pdf	2.10
3535_6305_7_1_COMPLETION_REPORT	.pdf	56.29

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2915	2931	23.8

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0			28.960	90

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	58	638000	0.770	0.610	11000

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CSAT GR	1920	2780
CSAT GR	2720	3360
CST GR	2832	3360
FMI DSI	2000	3373
HALS DSI PEX EMS	883	2819
MDT GR	2914	3047
MWD - DIR	904	925
MWD - DIR FE	2819	2917
MWD - DIR FE	2917	2919
MWD - DIR PWD GR	941	2819
MWD - RLL GR	2944	3012
PEX GPIT	2761	3380

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	907.0	36	907.0	0.00	LOT
INTERM.	13 3/8	1696.0	17 1/2	1696.0	1.40	LOT
INTERM.	9 5/8	2810.0	12 1/4	2819.0	0.00	LOT
LINER	7	3377.0	8 1/2	3377.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
961	1.03	20.0		WATER BASED MUD	
1269	1.03	15.0		WATER BASED MUD	
1708	0.00			WATER BASED MUD	
2071	1.28	40.0		WATER BASED MUD	
2819	1.30	44.0		WATER BASED MUD	
2852	1.30	27.0		WATER BASED MUD	
2944	1.30	33.0		WATER BASED MUD	

2968	1.30	29.0		WATER BASED MUD	
2980	1.30	28.0		WATER BASED MUD	
2993	1.30	28.0		WATER BASED MUD	
3377	1.08	1.0		WATER BASED MUD	

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]
3535_Formation_pressure_(Formasjonstrykk)	PDF	0.29