General information

Wellbore name	6607/12-3
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Discovery	6607/12-3
Well name	6607/12-3
Seismic location	3D survey MC3D NON 2010.inline 3053 & xline2972
Production licence	385
Drilling operator	Statoil Petroleum AS
Drill permit	1418-L
Drilling facility	WEST ALPHA
Drilling days	66
Entered date	22.10.2012
Completed date	26.12.2012
Release date	26.12.2014
Publication date	11.03.2015
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS
Discovery wellbore	YES
1st level with HC, age	LATE CRETACEOUS
1st level with HC, formation	LANGE FM
2nd level with HC, age	EARLY JURASSIC
2nd level with HC, formation	ILE FM
3rd level with HC, age	EARLY JURASSIC
3rd level with HC, formation	ÅRE FM
Kelly bushing elevation [m]	18.0
Water depth [m]	363.0
Total depth (MD) [m RKB]	4306.0
Final vertical depth (TVD) [m RKB]	4305.0
Maximum inclination [°]	5.2
Bottom hole temperature [°C]	159
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	ÅRE FM

Geodetic datum	ED50
NS degrees	66° 9' 37.23'' N
EW degrees	7° 56' 34.01'' E
NS UTM [m]	7338371.01
EW UTM [m]	452317.27
UTM zone	32
NPDID wellbore	7039

Wellbore history

General

Well 6607/12-3 was drilled on the Jette prospect on the Dønna Terrace in the Norwegian Sea. The reservoir was assumed to be of a stacked type with several sealed reservoir levels. The primary objectives were to prove an economical hydrocarbon volume in the Jette structure, prove resources in all reservoirs and encounter the hydrocarbon-water contacts.

Operations and results

Wildcat well 6607/12-3 was spudded with the semi-submersible installation West Alpha on 22 October 2012. During drilling 26” section a water kick with possible gas was taken at 1033 m. This resulted in a technical sidetrack at 769 m and a 20” casing was set at 985.2 m before the BOP and riser were connected. Further drilling proceeded without significant problems to TD at 4306 m in the Early Jurassic Åre Formation. The well was drilled with seawater and bentonite sweeps down to 990 m, with Performadril Spec 6a mud from 990 m to 2109 m, and with XP-07 Spec 14a oil based mud from 2109 m to TD.

Gas was present in 4.3 m net pay sandstone stringers around 3781 m (Cenomanian) in the Lange Formation. The expected Garn Formation was not present in this well. The Ile Formation was encountered at 3996.6 m and contained gas. The gas/water contact was indicated at 4003 m based on Log data and PVT samples. Tofte Formation was encountered at 4140.8 m and had some shows, but was water bearing according to petrophysical analyses. Top Tilje was encountered at 4171.8 m. The uppermost interval consisted of inter-bedded claystone/sandstone with poor reservoir quality. However, at approximately 4205 m, a more “clean” sandstone interval was encountered. This sandstone was water bearing as well. The Åre Formation had one meter gas-bearing sandstone at 4283 m. Hydrocarbon shows (fluorescence) were described in the Ile Formation from 3995 to 4054 m, in the Tofte Formation from 4138 m to 4162 m, and in the Båt Group from 4225 m to 4255 m, otherwise no oil shows were seen in the well.

Two cores were cut. Core 1 was cut from 4001 m to 4055 m in the Ile Formation with 97% recovery. Core 2 was cut in the Tilje Formation from 4204 m to 4258 m cores were cut and no wire line logs were run in the well. MDT fluid samples were taken at 3778.8 m in the Lange Formation (gas), 3996.5 m in the Ile Formation (gas), 4088 m in the Ile Formation (water), and at 4283 m in the Åre Formation (gas).

The well was permanently abandoned on 26 December 2012 as a gas discovery

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1000.00	4305.00

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	4001.0	4054.9	[m]
2	4204.1	4257.4	[m]

Total core sample length [m]	107.2
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		0.00	0.00	CONDENSATE		YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
381	NORDLAND GP
381	NAUST FM
1348	KAI FM
1644	HORDALAND GP
1644	BRYGGE FM
1798	ROGALAND GP
1798	TARE FM
1900	TANG FM
1940	SHETLAND GP
1940	SPRINGAR FM

2122	NISE FM
2783	KVITNOS FM
2982	CROMER KNOLL GP
2982	LYSING FM
3005	LANGE FM
3837	LYR FM
3855	VIKING GP
3855	MELKE FM
3946	FANGST GP
3946	NOT FM
3997	ILE FM
4113	BÅT GP
4113	ROR FM
4141	TOFTE FM
4164	ROR FM
4172	TILJE FM
4271	ÅRE FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT LDS APS HNGS GR	3950	4309
CMR	3905	4306
MDT	3277	3806
MDT	3960	3997
MDT	3964	4296
MDT DP	3996	4283
MSIP	3850	4306
MWD - DVDM6 TELE	4258	4306
MWD - ECOSCOPE	4001	4204
MWD - PDX5 ARCVRES TELE VSON	990	3898
MWD -ECOSCOPE STETHOSCOPE	3998	4001
SBT	2100	3896

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	444.0	36	450.0	0.00	
SURF.COND.	20	985.0	26	990.0	1.57	FIT
INTERM.	14	2100.0	17 1/2	2109.0	1.76	FIT
INTERM.	9 5/8	3896.0	12 1/4	3898.0	1.88	FIT
OPEN HOLE		4306.0	8 1/2	4306.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1000	1.50	37.0		Performadril	
1050	1.31	14.0		Performadril	
1640	1.42	39.0		Performadril	
1747	1.43	41.0		Performadril	
1803	1.50	51.0		Performadril	
2109	1.50	51.0		Performadril	
2242	1.55	29.0		XP-07 - #14	
3246	1.67	29.0		XP-07 - #14	
3467	1.64	39.0		XP-07 - #14	
3898	1.78	34.0		XP-07 - #14	
3898	1.80	35.0		XP-07 - #14	
3919	1.78	33.0		XP-07 - #14	
4001	1.78	34.0		XP-07 - #14	
4222	1.67	27.0		XP-07 - #14	
4306	1.67	27.0		XP-07 - #14	

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]
7039_Formation_pressure_(Formasjonstrykk)	PDF	0.27