

**General information**

Wellbore name	6407/7-9 S
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	6407/7-9 S
Well name	6407/7-9
Seismic location	ST14204Z15. inline: 5733; xline: 1313
Production licence	107
Drilling operator	Statoil Petroleum AS
Drill permit	1636-L
Drilling facility	SONGA DELTA
Drilling days	36
Entered date	15.08.2016
Completed date	20.09.2016
Release date	20.09.2018
Publication date	20.09.2018
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS/CONDENSATE
Discovery wellbore	YES
1st level with HC, age	EARLY JURASSIC
1st level with HC, formation	TILJE FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	ILE FM
3rd level with HC, age	CRETACEOUS
3rd level with HC, formation	LANGE FM
Kelly bushing elevation [m]	29.0
Water depth [m]	323.0
Total depth (MD) [m RKB]	4143.0
Final vertical depth (TVD) [m RKB]	4134.0
Maximum inclination [°]	9.7
Bottom hole temperature [°C]	153
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	ÅRE FM
Geodetic datum	ED50



NS degrees	64° 18' 59.25" N
EW degrees	7° 9' 24.4" E
NS UTM [m]	7133747.71
EW UTM [m]	410870.09
UTM zone	32
NPDID wellbore	8029

Wellbore history

General

Well 6407/7-9 S was drilled to test the Njord North Flank 2 prospect about 6 km north of the producing Njord Field in the Norwegian Sea. The primary objective was to prove hydrocarbon potential in the Early-Middle Jurassic Tilje and Ile formations. The secondary objective was to test the hydrocarbon potential in the Åre Formation.

Operations and results

Wildcat well 6407/7-9 S was spudded with the semi-submersible installation Songa Delta on 15 August 2016 and drilled to TD at 4143 m (4134 m TVD) m in the Early Jurassic Åre Formation. Drilling to TD proceeded without significant problems, but during P&A and preparing for sidetracking pulling of the 9 5/8" casing hanger caused severe problems and four days NPT. The well was drilled with seawater and hi-vis pills down to 1175 m and with XP07 oil based mud from 1175 m to TD.

Top of the primary reservoir targets, the Ile Formation was reached at 3623 m (3614.8 m TVD). A 102-metre oil column was encountered in the Ile formation, and a 157-metre gas/condensate column in the Tilje Formation. The reservoir properties in both reservoirs are poor to moderate. The well did not encounter a reservoir in the Åre formation. A few thin sand layers were encountered in the Early Cretaceous Lange formation, some with petroleum, but with poor reservoir properties. An oil-water contact in the Ile Formation at 3727 m (3719 m TVD) was established based on logs and sampling. Otherwise, all hydrocarbon columns were in oil down-to situations. No shows were observed outside of the hydrocarbon-bearing reservoirs

Two cores were cut. Ile was cored from 3636 to 3690 m with 100% recovery. Tilje was cored from 3901 to 4010 m with 100% recovery. MDT fluid samples were taken in the Ile Formation at 3641.8 m (oil), 3725.4 m (oil), 3729 m (water), and in the Tilje Formation at 3916 m (gas condensate) and at 4017.2 m (gas condensate). Isotubes to collect further gas, including in the Lange Formation, proved to contain only air and no formation gas.

The wellbore was plugged back for sidetracking on 20 September 2016. It is classified as an oil/gas/condensate discovery.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1190.00	4143.00



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	3636.0	3690.8	[m]
2	3901.0	4009.8	[m]

Total core sample length [m]	163.6
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1190.0	[m]	DC	APT
1230.0	[m]	DC	APT
1270.0	[m]	DC	APT
1310.0	[m]	DC	APT
1350.0	[m]	DC	APT
1390.0	[m]	DC	APT
1420.0	[m]	DC	APT
1470.0	[m]	DC	APT
1510.0	[m]	DC	APT
1550.0	[m]	DC	APT
1590.0	[m]	DC	APT
1630.0	[m]	DC	APT
1670.0	[m]	DC	APT
1710.0	[m]	DC	APT
1750.0	[m]	DC	APT
1790.0	[m]	DC	APT
1830.0	[m]	DC	APT
1870.0	[m]	DC	APT
1910.0	[m]	DC	APT
1950.0	[m]	DC	APT
1990.0	[m]	DC	APT
2030.0	[m]	DC	APT
2070.0	[m]	DC	APT
2110.0	[m]	DC	APT



2150.0	[m]	DC	APT
2190.0	[m]	DC	APT
2230.0	[m]	DC	APT
2270.0	[m]	DC	APT
2350.0	[m]	DC	APT
2390.0	[m]	DC	APT
2430.0	[m]	DC	APT
2470.0	[m]	DC	APT
2510.0	[m]	DC	APT
2550.0	[m]	DC	APT
2590.0	[m]	DC	APT
2630.0	[m]	DC	APT
2670.0	[m]	DC	APT
2710.0	[m]	DC	APT
2750.0	[m]	DC	APT
2790.0	[m]	DC	APT
2830.0	[m]	DC	APT
2870.0	[m]	DC	APT
2910.0	[m]	DC	APT
2950.0	[m]	DC	APT
2990.0	[m]	DC	APT
3030.0	[m]	DC	APT
3070.0	[m]	DC	APT
3110.0	[m]	DC	APT
3150.0	[m]	DC	APT
3190.0	[m]	DC	APT
3220.0	[m]	DC	APT
3240.0	[m]	DC	APT
3260.0	[m]	DC	APT
3264.0	[m]	SWC	APT
3280.0	[m]	DC	APT
3300.0	[m]	DC	APT
3320.0	[m]	DC	APT
3340.0	[m]	DC	APT
3360.0	[m]	DC	APT
3380.0	[m]	DC	APT
3400.0	[m]	DC	APT
3423.0	[m]	DC	APT
3444.0	[m]	DC	APT
3459.0	[m]	DC	APT



3465.0 [m]	DC	APT
3471.0 [m]	DC	APT
3477.0 [m]	DC	APT
3483.0 [m]	DC	APT
3489.0 [m]	DC	APT
3495.0 [m]	DC	APT
3501.0 [m]	DC	APT
3507.0 [m]	DC	APT
3513.0 [m]	DC	APT
3519.0 [m]	DC	APT
3525.0 [m]	DC	APT
3531.0 [m]	DC	APT
3537.0 [m]	DC	APT
3543.0 [m]	DC	APT
3549.0 [m]	DC	APT
3555.0 [m]	DC	APT
3561.0 [m]	DC	APT
3567.0 [m]	DC	APT
3573.0 [m]	DC	APT
3579.0 [m]	DC	APT
3585.0 [m]	DC	APT
3591.0 [m]	DC	APT
3597.0 [m]	DC	APT
3603.0 [m]	DC	APT
3609.0 [m]	DC	APT
3615.0 [m]	DC	APT
3618.0 [m]	DC	APT
3624.0 [m]	DC	APT
3624.0 [m]	SWC	APT
3630.0 [m]	DC	APT
3636.0 [m]	DC	APT
3638.6 [m]	C	APT
3641.6 [m]	C	APT
3643.6 [m]	C	APT
3646.8 [m]	C	APT
3648.2 [m]	C	APT
3651.8 [m]	C	APT
3655.1 [m]	C	APT
3659.0 [m]	C	APT
3662.3 [m]	C	APT



3665.7	[m]	C	APT
3667.6	[m]	C	APT
3672.0	[m]	C	APT
3672.4	[m]	C	APT
3675.9	[m]	C	APT
3678.6	[m]	C	APT
3682.9	[m]	C	APT
3686.3	[m]	C	APT
3689.4	[m]	C	APT
3690.0	[m]	DC	APT
3690.5	[m]	C	APT
3696.0	[m]	DC	APT
3702.0	[m]	DC	APT
3708.0	[m]	DC	APT
3714.0	[m]	DC	APT
3720.0	[m]	DC	APT
3726.0	[m]	DC	APT
3732.0	[m]	DC	APT
3738.0	[m]	DC	APT
3744.0	[m]	DC	APT
3750.0	[m]	DC	APT
3756.0	[m]	DC	APT
3762.0	[m]	DC	APT
3768.0	[m]	DC	APT
3774.0	[m]	DC	APT
3780.0	[m]	DC	APT
3786.0	[m]	DC	APT
3792.0	[m]	DC	APT
3798.0	[m]	DC	APT
3804.0	[m]	DC	APT
3810.0	[m]	DC	APT
3816.0	[m]	DC	APT
3822.0	[m]	DC	APT
3828.0	[m]	DC	APT
3834.0	[m]	DC	APT
3840.0	[m]	DC	APT
3846.0	[m]	DC	APT
3852.0	[m]	DC	APT
3855.0	[m]	DC	APT
3861.0	[m]	DC	APT



3867.0	[m]	DC	APT
3873.0	[m]	DC	APT
3879.0	[m]	DC	APT
3885.0	[m]	DC	APT
3891.0	[m]	DC	APT
3897.0	[m]	DC	APT
3902.8	[m]	C	APT
3907.0	[m]	C	APT
3909.6	[m]	C	APT
3911.6	[m]	C	APT
3914.5	[m]	C	APT
3917.8	[m]	C	APT
3920.9	[m]	C	APT
3924.4	[m]	C	APT
3927.1	[m]	C	APT
3930.9	[m]	C	APT
3933.8	[m]	C	APT
3934.7	[m]	C	APT
3937.4	[m]	C	APT
3942.6	[m]	C	APT
3945.3	[m]	C	APT
3947.1	[m]	C	APT
3950.8	[m]	C	APT
3954.5	[m]	C	APT
3956.4	[m]	C	APT
3960.8	[m]	C	APT
3963.9	[m]	C	APT
3965.7	[m]	C	APT
3969.6	[m]	C	APT
3970.1	[m]	C	APT
3973.7	[m]	C	APT
3977.2	[m]	C	APT
3981.9	[m]	C	APT
3983.2	[m]	C	APT
3985.3	[m]	C	APT
3989.9	[m]	C	APT
3992.8	[m]	C	APT
3995.4	[m]	C	APT
3999.6	[m]	C	APT
4001.7	[m]	C	APT



4003.7	[m]	C	APT
4008.7	[m]	C	APT
4011.0	[m]	DC	APT
4017.0	[m]	DC	APT
4023.0	[m]	DC	APT
4029.0	[m]	DC	APT
4035.0	[m]	DC	APT
4041.0	[m]	DC	APT
4047.0	[m]	DC	APT
4053.0	[m]	DC	APT
4059.0	[m]	DC	APT
4065.0	[m]	DC	APT
4071.0	[m]	DC	APT
4080.0	[m]	DC	APT
4086.0	[m]	DC	APT
4092.0	[m]	DC	APT
4098.0	[m]	DC	APT
4107.0	[m]	DC	APT
4113.0	[m]	DC	APT
4119.0	[m]	DC	APT
4125.0	[m]	DC	APT
4131.0	[m]	DC	APT
4137.0	[m]	DC	APT
4143.0	[m]	DC	APT

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
352	NORDLAND GP
352	NAUST FM
1133	KAI FM
1295	HORDALAND GP
1295	BRYGGE FM
1840	ROGALAND GP
1840	TARE FM
1925	TANG FM
2093	SHETLAND GP
2093	SPRINGAR FM
2162	NISE FM



2436	KVITNOS FM
2807	CROMER KNOLL GP
2807	LYSING FM
2867	LANGE FM
3235	NO FORMAL NAME
3397	LANGE FM
3438	LYR FM
3443	VIKING GP
3443	SPEKK FM
3458	MELKE FM
3537	FANGST GP
3537	NOT FM
3623	ILE FM
3738	BÅT GP
3738	ROR FM
3860	TILJE FM
4068	ÅRE FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT PEX MSIP ECS	3102	4138
MDT HC MINIDST	3260	4065
MDT PP CMR	3260	4064
MWD - ARC6 TELE675	3636	4143
MWD - ARC9 TELE	402	1183
MWD - PDX5 ARC9 TELE	1183	3636
MWD - TELE	352	402
SWC XL ROCK	3260	4066
SWC XL ROCK	3866	4064
ZOVSP	940	4130

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	402.0	36	403.0	0.00	
SURF.COND.	13 3/8	1175.0	17 1/2	1183.0	0.00	
		1213.0		0.0	1.61	FIT



INTERM.	9 5/8	3102.0	12 1/4	3111.0	1.91	LOT
OPEN HOLE		4143.0	8 1/2	4143.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1115	1.57	26.0		XP-07	
1120	1.54	24.0		XP-07	
1183	1.39	20.0		XP-07	
1303	1.45	27.0		XP-07	
1782	1.54	35.0		XP-07	
2275	1.54	33.0		XP-07	
2639	1.54	27.0		XP-07	
2922	1.34	20.0		XP-07	
2922	1.54	24.0		XP-07	
2922	1.60	34.0		XP-07	
3111	1.60	27.0		XP-07	
3111	1.54	23.0		XP-07	
3139	1.60	34.0		XP-07	
3596	1.60	25.0		XP-07	
3881	1.60	30.0		XP-07	
4010	1.60	28.0		XP-07	
4143	1.60	32.0		XP-07	