General information

Wellbore name	6403/6-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Well name	6403/6-1
Seismic location	3D survey MC3DMGS2002 3D-inline 3428 & xline 4342
Production licence	322
Drilling operator	Statoil ASA (old)
Drill permit	1111-L
Drilling facility	EIRIK RAUDE
Drilling days	105
Entered date	10.04.2006
Completed date	23.07.2006
Release date	23.07.2008
Publication date	20.08.2008
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	25.0
Water depth [m]	1721.0
Total depth (MD) [m RKB]	4120.0
Final vertical depth (TVD) [m RKB]	4120.0
Maximum inclination [°]	2.7
Bottom hole temperature [°C]	118
Oldest penetrated age	LATE CRETACEOUS
Oldest penetrated formation	LYSING FM
Geodetic datum	ED50
NS degrees	64° 36' 30.46'' N
EW degrees	3° 43' 9.58'' E
NS UTM [m]	7165192.95
EW UTM [m]	534417.98
UTM zone	31
NPDID wellbore	5296

Wellbore history

General

Wildcat well 6403/6-1 is located ca 80 km west-northwest of the 6405/7-1 Ellida oil discovery. It was drilled on the Edvarda structure, located along the Jan-Mayen Lineament in the transition zone between the Møre Basin in the south and the Vøring Basin in the north. The objective of the well was to verify the presence of hydrocarbons in reservoir formations of Campanian age in the Nise Formation and the Lysing member of the Kvitnos Formation. An additional objective was to test for the presence of reservoirs in Paleocene and Maastrichtian deposits.

Operations and results

Well 6406/3-1 was spudded on 10 April 2006 with the semi-submersible installation Eirik Raude and drilled to TD at 4120 m in the Late Cretaceous Kvitnos Formation. An 8 1/2" pilot hole, designated 6403/6-U-1, was spudded on 6 April 2006 and drilled to a total depth of 2400 m prior to drilling the main hole. The objective of the pilot hole was to detect for possibly overpressured sands in the shallow formations whilst secondarily, to get good logging data of the upper section. Both the pilot and the main holes were drilled without significant technical problems and within time budget.

The pilot 6403/6-U-1was drilled with Seawater/Bentonite all through. The main hole was drilled with Seawater/CMC down to 2394 m, with the Ultradrill mud system from 2394 m to 2748 m, with Ultradrill DeepWater mud system (with hydrate inhibition) from 2748 m to 3177 m, and with Ultradrill mud from 3177 m to TD. The Ultradrill mud contains the "Ultrafree NS" agent, a Linear Alfa Olefin (LAO) component. Gas chromatographic analyses showed that it contained two (not one) major olefins in addition to many more organic compounds.

Well 6403/6-1 was spudded 44 m from the pilot hole location in 1721 m of water depth. The well was drilled vertically through Quaternary, Tertiary and Late Cretaceous formations to a total depth of 4120 m, in the Lysing member. The primary Nise Formation target was penetrated at 3047.5 m and consisted of interbedded sandstones, siltstones and shales. One core was cut from 3058 m to 3084.5 m. Extensive wire line data acquisition was performed, including MDT pressure testing and sidewall cores. No fluid samples were acquired due to the very tight nature of the sands. No shows were recorded while drilling, but traces of migrated hydrocarbons were interpreted from post-well organic geochemical analyses in an SWC at 3056.5 m in the uppermost Nise Formation. The secondary target, the Lysing member, was encountered at 4018 m, the base not being penetrated. This formation consisted of interbedded shales and sands with very poor reservoir properties. The coring criteria were not met, but an extensive wire line data acquisition program was performed. The reservoir quality was such that neither pre-tests nor fluid samples could be acquired. No shows were recorded.

The well was permanently abandoned on 23 July 2006 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]
2405.00	4119.00

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	3058.1	3084.4	[m]

Total core sample length [m]	26.2
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1773.0	[m]	ROV	PETROSTR
1802.0	[m]	ROV	PETROS
1831.0	[m]	ROV	PETROS
1861.0	[m]	ROV	PETROS
1946.0	[m]	ROV	PETROS
1977.0	[m]	ROV	PETROS
2035.0	[m]	ROV	PETROS
2092.0	[m]	ROV	PETROS
2151.0	[m]	ROV	PETROS
2180.0	[m]	ROV	PETROS
2235.0	[m]	ROV	PETROS
2259.0	[m]	ROV	PETROS
2286.0	[m]	ROV	PETROS
2312.0	[m]	ROV	PETROS
2370.0	[m]	ROV	PETROS
2400.0	[m]	ROV	PETROS
2410.0	[m]	DC	PETROS
2420.0	[m]	DC	PETROS
2430.0	[m]	DC	PETROS
2440.0	[m]	DC	PETROS
2450.0	[m]	DC	PETROS
2460.0	[m]	DC	PETROS

2470.0	[m]	DC	PETROS
2480.0	[m]	DC	PETROS
2490.0	[m]	DC	PETROS
2500.0	[m]	DC	PETROS
2510.0	[m]	DC	PETROS
2520.0	[m]	DC	PETROS
2530.0	[m]	DC	PETROS
2540.0	[m]	DC	PETROS
2550.0	[m]	DC	PETROS
2560.0	[m]	DC	PETROS
2570.0	[m]	DC	PETROS
2580.0	[m]	DC	PETROS
2590.0	[m]	DC	PETROS
2600.0	[m]	DC	PETROS
2610.0	[m]	DC	PETROS
2620.0	[m]	DC	PETROS
2630.0	[m]	DC	PETROS
2640.0	[m]	DC	PETROS
2650.0	[m]	DC	PETROS
2670.0	[m]	DC	PETROS
2690.0	[m]	DC	PETROS
2700.0	[m]	DC	PETROS
2710.0	[m]	DC	PETROS
2720.0	[m]	DC	PETROS
2730.0	[m]	DC	PETROS
2740.0	[m]	DC	PETROS
2748.0	[m]	DC	PETROS
2760.0	[m]	DC	PETROS
2770.0	[m]	DC	PETROS
2780.0	[m]	DC	PETROS
2790.0	[m]	DC	PETROS
2800.0	[m]	DC	PETROS
2810.0	[m]	DC	PETROS
2820.0	[m]	DC	PETROS
2830.0	[m]	DC	PETROS
2840.0	[m]	DC	PETROS
2850.0	[m]	DC	PETROS
2860.0	[m]	DC	PETROS
2870.0	[m]	DC	PETROS
2880.0	[m]	DC	PETROS

2890.0	[m]	DC	PETROS
2900.0	[m]	DC	PETROS
2910.0	[m]	DC	PETROS
2920.0	[m]	DC	PETROS
2930.0	[m]	DC	PETROS
2940.0	[m]	DC	PETROS
2950.0	[m]	DC	PETROS
2960.0	[m]	DC	PETROS
2970.0	[m]	DC	PETROS
2990.0	[m]	DC	PETROS
3000.0	[m]	DC	PETROS
3010.0	[m]	DC	PETROS
3020.0	[m]	DC	PETROS
3030.0	[m]	DC	PETROS
3039.0	[m]	DC	PETROS
3048.0	[m]	DC	PETROS
3054.0	[m]	DC	PETROS
3060.0	[m]	DC	PETROS
3087.0	[m]	DC	PETROS
3093.0	[m]	DC	PETROS
3099.0	[m]	DC	PETROS
3105.0	[m]	DC	PETROS
3111.0	[m]	DC	PETROS
3117.0	[m]	DC	PETROS
3123.0	[m]	DC	PETROS
3129.0	[m]	DC	PETROS
3135.0	[m]	DC	PETROS
3141.0	[m]	DC	PETROS
3147.0	[m]	DC	PETROS
3153.0	[m]	DC	PETROS
3159.0	[m]	DC	PETROS
3165.0	[m]	DC	PETROS
3171.0	[m]	DC	PETROS
3177.0	[m]	DC	PETROS
3183.0	[m]	DC	PETROS
3195.0	[m]	DC	PETROS
3201.0	[m]	DC	PETROS
3207.0	[m]	DC	PETROS
3213.0	[m]	DC	PETROS
3219.0	[m]	DC	PETROS

3225.0	[m]	DC	PETROS
3231.0	[m]	DC	PETROS
3237.0	[m]	DC	PETROS
3243.0	[m]	DC	PETROS
3249.0	[m]	DC	PETROS
3255.0	[m]	DC	PETROS
3261.0	[m]	DC	PETROS
3267.0	[m]	DC	PETROS
3273.0	[m]	DC	PETROS
3282.0	[m]	DC	PETROS
3288.0	[m]	DC	PETROS
3294.0	[m]	DC	PETROS
3300.0	[m]	DC	PETROS
3306.0	[m]	DC	PETROS
3312.0	[m]	DC	PETROS
3317.0	[m]	DC	PETROS
3324.0	[m]	DC	PETROS
3330.0	[m]	DC	PETROS
3336.0	[m]	DC	PETROS
3342.0	[m]	DC	PETROS
3354.0	[m]	DC	PETROS
3360.0	[m]	DC	PETROS
3372.0	[m]	DC	PETROS
3378.0	[m]	DC	PETROS
3384.0	[m]	DC	PETROS
3390.0	[m]	DC	PETROS
3396.0	[m]	DC	PETROS
3402.0	[m]	DC	PETROS
3408.0	[m]	DC	PETROS
3414.0	[m]	DC	PETROS
3420.0	[m]	DC	PETROS
3429.0	[m]	DC	PETROS
3432.0	[m]	DC	PETROS
3438.0	[m]	DC	PETROS
3444.0	[m]	DC	PETROS
3450.0	[m]	DC	PETROS
3456.0	[m]	DC	PETROS
3462.0	[m]	DC	PETROS
3468.0	[m]	DC	PETROS
3474.0	[m]	DC	PETROS

3480.0	[m]	DC	PETROS
3486.0	[m]	DC	PETROS
3492.0	[m]	DC	PETROS
3501.0	[m]	DC	PETROS
3504.0	[m]	DC	PETROS
3510.0	[m]	DC	PETROS
3516.0	[m]	DC	PETROS
3522.0	[m]	DC	PETROS
3528.0	[m]	DC	PETROS
3534.0	[m]	DC	PETROS
3540.0	[m]	DC	PETROS
3546.0	[m]	DC	PETROS
3552.0	[m]	DC	PETROS
3558.0	[m]	DC	PETROS
3564.0	[m]	DC	PETROS
3570.0	[m]	DC	PETROS
3576.0	[m]	DC	PETROS
3582.0	[m]	DC	PETROS
3588.0	[m]	DC	PETROS
3594.0	[m]	DC	PETROS
3600.0	[m]	DC	PETROS
3606.0	[m]	DC	PETROS
3612.0	[m]	DC	PETROS
3618.0	[m]	DC	PETROS
3627.0	[m]	DC	PETROS
3630.0	[m]	DC	PETROS
3636.0	[m]	DC	PETROS
3642.0	[m]	DC	PETROS
3648.0	[m]	DC	PETROS
3651.0	[m]	DC	PETROS
3663.0	[m]	DC	PETROS
3666.0	[m]	DC	PETROS
3672.0	[m]	DC	PETROS
3678.0	[m]	DC	PETROS
3684.0	[m]	DC	PETROS
3690.0	[m]	DC	PETROS
3696.0	[m]	DC	PETROS
3702.0	[m]	DC	PETROS
3708.0	[m]	DC	PETROS
3714.0	[m]	DC	PETROS

3720.0	[m]	DC	PETROS
3738.0	[m]	DC	PETROS
3744.0	[m]	DC	PETROS
3750.0	[m]	DC	PETROS
3756.0	[m]	DC	PETROS
3762.0	[m]	DC	PETROS
3768.0	[m]	DC	PETROS
3774.0	[m]	DC	PETROS
3780.0	[m]	DC	PETROS
3789.0	[m]	DC	PETROS
3798.0	[m]	DC	PETROS
3807.0	[m]	DC	PETROS
3816.0	[m]	DC	PETROS
3825.0	[m]	DC	PETROS
3834.0	[m]	DC	PETROS
3843.0	[m]	DC	PETROS
3852.0	[m]	DC	PETROS
3861.0	[m]	DC	PETROS
3870.0	[m]	DC	PETROS
3879.0	[m]	DC	PETROS
3891.0	[m]	DC	PETROS
3903.0	[m]	DC	PETROS
3915.0	[m]	DC	PETROS
3924.0	[m]	DC	PETROS
3933.0	[m]	DC	PETROS
3942.0	[m]	DC	PETROS
3951.0	[m]	DC	PETROS
3960.0	[m]	DC	PETROS
3969.0	[m]	DC	PETROS
3978.0	[m]	DC	PETROS
3987.0	[m]	DC	PETROS
3996.0	[m]	DC	PETROS
4005.0	[m]	DC	PETROS
4014.0	[m]	DC	PETROS
4023.0	[m]	DC	PETROS
4032.0	[m]	DC	PETROS
4041.0	[m]	DC	PETROS
4050.0	[m]	DC	PETROS
4059.0	[m]	DC	PETROS
4068.0	[m]	DC	PETROS

4077.0	[m]	DC	PETROS
4086.0	[m]	DC	PETROS
4095.0	[m]	DC	PETROS
4110.0	[m]	DC	PETROS
4119.0	[m]	DC	PETROS

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
1746	NORDLAND GP
1746	NAUST FM
1786	KAI FM
1906	HORDALAND GP
1906	BRYGGE FM
2140	ROGALAND GP
2140	TARE FM
2256	TANG FM
2439	SHETLAND GP
2439	SPRINGAR FM
3048	NISE FM
3475	KVITNOS FM
4018	CROMER KNOLL GP
4018	LYSING FM

Composite logs

Document name	Document format	Document size [MB]
5296_6403_6_1	pdf	0.52

Geochemical information

Document name	Document format	Document size [MB]
5296_01_6403_6_1_gch_transfer_1	txt	0.00
5296_02_6403_6_1_gch_results_1	txt	0.22
5296_1	pdf	0.28
5296_2	pdf	1.79

Logs

Log type	Log top depth [m]	Log bottom depth [m]
DSI HRLA PEX HNGS	1883	2560
DSI HRLA PEX HNGS	2464	2750
DSI PEX HRLA HNGS	2740	2976
FMI MSIP	3768	4120
MDT	2983	3050
MDT	2983	3066
MDT-DP GR	3053	3235
MSCT GR	2405	2545
MSCT GR	2762	2993
MSCT GR	3784	4112
MSIP FMI HNGS	2983	3773
MWD - ONTRACK	1843	2400
MWD - ONTRACK ECD GR APX DIR	2749	2983
MWD - ONTRACK ECD GR RES DIR	2395	2749
MWD - ONTRACK ECD GR RES DIR	2983	4120
MWD - ONTRACK ORD CCN APX	1746	1758
MWD - ONTRACK ORD CCN APX	2122	2122
PEX HRLA ECS	2983	3772
PEX HRLA HNGS	2347	4110
PEX HRLA HNGS	3768	4120
VSI GR	1758	2348
VSI GR	2150	2740
VSI GR	2654	3029

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	1843.0	36	1845.0	0.00	LOT
SURF.COND.	20	2394.0	26	2394.0	1.19	LOT
INTERM.	16	2548.0	17 1/2	2560.0	1.29	LOT
INTERM.	13 3/8	2741.0	14 3/4	2748.0	1.34	LOT
INTERM.	9 5/8	2983.0	12 1/4	2983.0	1.46	LOT
INTERM.	7	3768.0	8 1/2	3775.0	1.50	LOT
OPEN HOLE		4120.0	6	4120.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
2400	1.08	30.0		ULTRADRILL	
2560	1.12	16.0		ULTRADRILL	
2608	1.14			ULTRADRILL	
2675	1.18	17.0		ULTRADRILL	
2850	1.22	16.0		ULTRADRILL	
2983	1.23	15.0		ULTRADRILL	
3000	1.25	15.0		ULTRADRILL	
3027	1.23	18.0		ULTRADRILL	
3138	1.23	17.0		ULTRADRILL	
3579	1.18	15.0		ULTRADRILL	
3768	1.29	20.0		ULTRADRILL	
3775	1.18	16.0		ULTRADRILL	
3782	1.21	15.0		ULTRADRILL	
4120	1.29	20.0		ULTRADRILL	

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
3068.74	[m]