General information

Wellbore name	6201/11-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Discovery	6201/11-1
Well name	6201/11-1
Seismic location	MS 85 - 407 SP. 812
Production licence	130
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	556-L
Drilling facility	DEEPSEA BERGEN
Drilling days	86
Entered date	13.08.1987
Completed date	06.11.1987
Release date	06.11.1989
Publication date	18.05.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	LATE TRIASSIC
1st level with HC, formation	LUNDE FM
Kelly bushing elevation [m]	23.0
Water depth [m]	381.0
Total depth (MD) [m RKB]	3850.0
Final vertical depth (TVD) [m RKB]	3846.0
Maximum inclination [°]	7.6
Oldest penetrated age	EARLY TRIASSIC
Oldest penetrated formation	TEIST FM (INFORMAL)
Geodetic datum	ED50
NS degrees	62° 1' 52.73'' N
EW degrees	1° 30' 50.37'' E
NS UTM [m]	6878724.50
EW UTM [m]	422247.77
UTM zone	31
NPDID wellbore	1134

Wellbore history

General

Well 6201/11-1 was drilled on the Albert structure as the first well on the Norwegian side of the Nordfjord Horst. The best well for correlation is expected to be UK well 211/2-1 which was terminated in rocks of possibly Rhaetian age and was dry. The primary objective for the well was to test the hydrocarbon potential in Triassic sandstones in the A prospect. A secondary objective was to test the structural closure in the Lista/Sele Formation and to acquire geological information related to remaining prospects in the block.

Operations and results

Wildcat well 6201/11-1 was spudded with the Semi-submersible installation Deepsea Bergen on 13 August 1987 and drilled to TD at 3850 m in the Early Triassic Teist Formation. A 12 1/4" pilot hole was drilled with returns to seabed from 30" casing shoe to 930 m. The well started flowing water. It was plugged back and cement was dressed to 650 m. Opened to 26" hole and sat 20" casing already at 641 m. Possible source of water flow was between 650 m to 719 m, but most likely a stronger source was below 719 m. The 17 1/2" hole was drilled to 1808 m where the well kicked due to rapid pore pressure increase near section TD. The well was plugged back and 13 3/8" casing set at 1735 m. At 3384 m there was a problem with hole stability and drilling was stopped. It was decided to set 7" liner. The well was drilled with seawater and bentonite down to 479 m, with gypsum/PAC polymer mud from 479 m to 2701 m, and with gel/lignosulfonate mud from 3384 m to TD.

Oil shows appeared in limestones already in the Hordaland Group at 1325 m down to 1725 m. From 1725 m in the Hordaland Group to 1970 m in the Balder Formation oil shows was recorded on claystones. Below 2000 m oil shows were recorded in sandstones. Top reservoir came in as prognosed at 2678 m and was hydrocarbon bearing. There were good oil shows on cores down to 2881 m, and the logs show possible oil saturation down to the same depth. It was difficult to evaluate the logs due to a cemented reservoir. The porosity and permeability are low, and it was hard to take RFT-measurements. Two RFT segregated samples were taken, one sample at 2716 m and one at 3187 m. Nine cores were cut in the Lunde Formation, five in the interval 2701 m to 2785 m, and four from 2822 m to 2917.5 m. The well was permanently abandoned as an oil discovery on 6 November 1987.

Testing

Three drill stem tests were performed in the Lunde Formation. DST 1 was performed in the intervals 2818 m to 2832 m and 2839 m to 2852 m; DST 2 from 2746.5 m to 2771 m and DST 3 from 2713 m to 2717 m. DST 1 and 2 did not produce to the surface. DST 3 produced ca. 91 Sm3 oil and 72600 Sm3 gas per day through a 10.3 mm choke during the main flow. Oil density was 0.835 g/cm3 and gas gravity was 0.630 (air = 1). Due to a tightly cemented reservoir, the proven resources in this hole are relatively small.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
680.00	3850.00

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	2701.0	2712.3	[m]
2	2729.0	2739.3	[m]
3	2740.0	2765.7	[m]
4	2767.5	2777.5	[m]
5	2779.5	2785.0	[m]
6	2822.0	2835.1	[m]
7	2836.0	2846.0	[m]
8	2853.5	2881.3	[m]
9	2881.5	2918.6	[m]

Total core sample length [m]	150.6
Cores available for sampling?	YES

Core photos


2701-2705m


2706-2710m


2711-2712m


2729-2733m


2734-2738m


2739-2739m


2740-2744m


2745-2749m


2750-2754m


2755-2759m


2760-2764m


2765-2766m


2767-2771m


2772-2778m


2777-2778m


2779-2783m


2784-2785m


2822-2826m


2827-2831m


2832-2835m


2837-2840m


2841-2845m


2853-2857m


2858-2862m


2863-2867m


2868-2872m


2873-2877m


2878-2881m


2881-2885m


2886-2890m


2891-2895m


2896-2900m


2901-2905m


2906-2910m


2911-2915m


2916-2918m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1820.0	[m]	DC	STAT.
1831.0	[m]	SWC	STAT.

1850.0	[m]	DC	STAT.
1860.0	[m]	DC	STAT.
1867.0	[m]	SWC	STAT.
1892.5	[m]	SWC	STAT.
1918.2	[m]	SWC	STAT.
1940.0	[m]	DC	STAT.
1970.0	[m]	DC	STAT.
2010.0	[m]	DC	STAT.
2028.5	[m]	SWC	STAT.
2044.0	[m]	SWC	STAT.
2061.0	[m]	SWC	STAT.
2080.0	[m]	DC	STAT.
2100.0	[m]	DC	STAT.
2130.0	[m]	DC	STAT.
2154.0	[m]	SWC	STAT.
2170.0	[m]	DC	STAT.
2210.0	[m]	DC	STAT.
2230.0	[m]	DC	STAT.
2240.0	[m]	DC	STAT.
2252.0	[m]	SWC	STAT.
2280.0	[m]	DC	STAT.
2300.0	[m]	DC	STAT.
2310.0	[m]	DC	STAT.
2330.0	[m]	DC	STAT.
2340.0	[m]	DC	STAT.
2360.0	[m]	DC	STAT.
2370.0	[m]	DC	STAT.
2390.0	[m]	DC	STAT.
2400.0	[m]	DC	STAT.
2420.0	[m]	DC	STAT.
2430.0	[m]	DC	STAT.
2433.0	[m]	SWC	STAT.
2450.0	[m]	DC	STAT.
2460.0	[m]	DC	STAT.
2527.0	[m]	SWC	STAT.
2540.0	[m]	DC	STAT.
2550.0	[m]	DC	STAT.
2570.0	[m]	DC	STAT.
2600.0	[m]	DC	STAT.
2616.0	[m]	SWC	STAT.

2630.0	[m]	DC	STAT.
2640.0	[m]	DC	STAT.
2655.0	[m]	SWC	STAT.
2665.0	[m]	SWC	STAT.
2675.0	[m]	SWC	STAT.
2680.0	[m]	DC	STAT.
2690.0	[m]	DC	STAT.
2700.0	[m]	DC	STAT.
2701.9	[m]	C	STAT.
2702.5	[m]	C	STAT.
2705.5	[m]	C	STAT.
2709.6	[m]	C	STAT.
2711.8	[m]	C	STAT.
2712.2	[m]	C	STAT.
2730.5	[m]	C	STAT.
2736.8	[m]	C	STAT.
2739.3	[m]	C	STAT.
2747.0	[m]	C	STAT.
2772.4	[m]	C	STAT.
2793.0	[m]	SWC	STAT.
2800.0	[m]	SWC	STAT.
2812.0	[m]	SWC	STAT.
2950.0	[m]	DC	STAT.
2968.0	[m]	SWC	STAT.
2980.0	[m]	DC	STAT.
3010.0	[m]	DC	STAT.
3040.0	[m]	DC	STAT.
3070.0	[m]	DC	STAT.
3100.0	[m]	DC	STAT.
3130.0	[m]	DC	STAT.
3249.0	[m]	DC	STAT.
3264.0	[m]	DC	STAT.
3279.0	[m]	DC	STAT.
3294.0	[m]	DC	STAT.
3310.0	[m]	DC	STAT.
3324.0	[m]	DC	STAT.
3340.0	[m]	DC	STAT.
3370.0	[m]	DC	STAT.
3384.0	[m]	DC	STAT.
3480.0	[m]	SWC	STAT.

3495.0	[m]	DC	STAT.
3555.0	[m]	DC	STAT.
3585.0	[m]	DC	STAT.
3600.0	[m]	DC	STAT.
3615.0	[m]	DC	STAT.
3630.0	[m]	DC	STAT.
3645.0	[m]	DC	STAT.
3660.0	[m]	DC	STAT.
3675.0	[m]	DC	STAT.
3690.0	[m]	DC	STAT.
3705.0	[m]	DC	STAT.
3720.0	[m]	SWC	STAT.
3750.0	[m]	SWC	STAT.
3750.0	[m]	DC	STAT.
3765.0	[m]	DC	STAT.
3795.0	[m]	DC	STAT.
3840.0	[m]	DC	STAT.

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	TEST3	2712.60	2716.70		30.10.1987 - 12:30	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
404	NORDLAND GP
1261	UTSIRA FM
1292	HORDALAND GP
1776	ROGALAND GP
1776	BALDER FM
1832	LISTA FM
2031	SHETLAND GP
2031	JORSALFARE FM
2170	KYRRE FM
2678	HEGRE GP

2678	LUNDE FM
3532	LOMVI FM
3628	TEIST FM

Composite logs

Document name	Document format	Document size [MB]
1134	pdf	0.64

Geochemical information

Document name	Document format	Document size [MB]
1134_1	pdf	1.69
1134_2	pdf	0.89

Documents - older Norwegian Offshore Directorate WDSS reports and other related documents

Document name	Document format	Document size [MB]
1134_01_WDSS_General_Information	pdf	0.44
1134_02_WDSS_completion_log	pdf	0.31

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

Document name	Document format	Document size [MB]
1134_6201_11_1_COMPLETION_REPORT_AND_LOG	pdf	25.20

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
3.0	2713	2717	10.3

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
3.0				

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
3.0	91	72000	0.835	0.630	798

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR	613	3383
CST GR	1753	2626
CST GR	2655	2968
CST GR	3404	3822
DIL BHC GR	404	3382
DLL MSFL GR	2600	3847
LDL CNL GR	404	2618
LDL CNL GR	3101	3383
LDL CNL GR	3383	3849
LDL CNL SGR	2600	3072
MWD - GR RES DIR	404	2695
MWD - GR RES DIR	2739	2814
MWD - GR RES DIR	2904	3382
RFT GR	2681	2725
RFT GR	2681	3229
RFT GR	2715	2805
SHDT GR	2600	3849
TEMP	404	2300
VSP	500	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	479.0	36	481.0	0.00	LOT
SURF.COND.	20	641.0	26	930.0	1.35	LOT

INTERM.	13 3/8	1735.0	17 1/2	1808.0	1.60	LOT
INTERM.	9 5/8	2599.0	12 1/4	2620.0	1.84	LOT
LINER	7	3383.0	8 1/2	3384.0	2.30	LOT
OPEN HOLE		3850.0	6	3850.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
327	1.06			WATER BASED	18.05.1987
550	1.30	5000.0		WATER BASED	19.08.1987
650	1.30	6200.0		WATER BASED	20.08.1987
650	1.15			WATER BASED	24.08.1987
650	1.05	9999.0		WATER BASED	21.08.1987
650	1.05	100.0		WATER BASED	24.08.1987
675	1.15	7500.0	5.6	WATER BASED	24.08.1987
780	1.15	6100.0	5.1	WATER BASED	25.08.1987
930	1.30	7000.0		WATER BASED	18.08.1987
1426	1.20	6900.0	5.5	WATER BASED	26.08.1987
1698	1.24	7500.0	5.6	WATER BASED	27.08.1987
1750	1.35	7000.0	7.5	WATER BASED	31.08.1987
1750	1.35	7000.0	5.5	WATER BASED	03.09.1987
1753	1.45	6600.0	4.5	WATER BASED	03.09.1987
1794	1.35	6800.0	6.3	WATER BASED	28.08.1987
1808	1.35	2800.0	6.3	WATER BASED	31.08.1987
1808	1.35	2300.3	4.0	WATER BASED	31.08.1987
1808	1.48	6400.0	7.5	WATER BASED	09.09.1987
1808	1.51	2200.0	4.5	WATER BASED	09.09.1987
1808	1.51	4900.0	5.0	WATER BASED	09.09.1987
1836	1.45	7200.0	5.5	WATER BASED	04.09.1987
2166	1.45	3000.0	6.3	WATER BASED	09.09.1987
2439	1.48	2800.0	6.8	WATER BASED	09.09.1987
2620	1.51	5000.0	5.5	WATER BASED	10.09.1987
2620	1.51	5000.0	4.5	WATER BASED	11.09.1987
2620	1.70	6000.0	6.5	WATER BASED	14.09.1987
2682	1.70	5500.0	6.0	WATER BASED	14.09.1987
2688	1.70	90.0	4.5	WATER BASED	28.09.1987
2688	1.70	36.0	4.5	WATER BASED	24.09.1987
2688	1.70	34.0	5.0	WATER BASED	20.10.1987

2688	1.70	38.0	4.0	WATER BASED	02.10.1987
2689	1.07	68.0	4.5	WATER BASED	19.10.1987
2689	1.70	34.0	5.0	WATER BASED	21.10.1987
2689	1.70	31.0	4.5	WATER BASED	22.10.1987
2689	1.70	35.0	6.0	WATER BASED	26.10.1987
2689	1.70	30.0	5.0	WATER BASED	26.10.1987
2689	1.70	30.0	5.0	WATER BASED	27.10.1987
2689	1.70	32.0	5.5	WATER BASED	28.10.1987
2689	1.70	30.0	10.0	WATER BASED	29.10.1987
2689	1.70	29.0	8.0	WATER BASED	30.10.1987
2689	1.70	32.0	5.5	WATER BASED	02.11.1987
2689	1.70	32.0	5.0	WATER BASED	02.11.1987
2689	1.70	28.0	4.0	WATER BASED	02.11.1987
2689	1.70	34.0	5.0	WATER BASED	23.10.1987
2689	1.70	34.0	5.0	WATER BASED	26.10.1987
2689	1.70	67.0	4.5	WATER BASED	28.09.1987
2689	1.70	93.0	5.0	WATER BASED	28.09.1987
2689	1.70	38.0	5.0	WATER BASED	29.09.1987
2689	1.70	38.0	5.0	WATER BASED	30.09.1987
2689	1.70	39.0	5.0	WATER BASED	01.10.1987
2689	1.70	32.0	5.5	WATER BASED	16.09.1987
2689	1.70	34.0	4.5	WATER BASED	18.09.1987
2689	1.70	33.0	4.0	WATER BASED	18.09.1987
2689	1.70	3500.0	3.8	WATER BASED	21.09.1987
2689	1.70	9100.0	4.2	WATER BASED	21.09.1987
2689	1.70	4700.0	7.2	WATER BASED	21.09.1987
2689	1.70	4100.0	4.2	WATER BASED	22.09.1987
2689	1.70	4000.0	3.8	WATER BASED	23.09.1987
2689	1.70	36.0	5.0	WATER BASED	25.09.1987
2737	1.70	24.0	4.0	WATER BASED	14.09.1987
2767	1.70	31.0	3.0	WATER BASED	16.09.1987
3280	1.70	63.0	4.5	WATER BASED	19.10.1987
3384	1.51	2300.0	3.0	WATER BASED	05.10.1987
3384	1.70	4900.0	7.2	WATER BASED	05.10.1987
3387	1.51	55.0	3.0	WATER BASED	05.10.1987
3448	1.51	23.0	4.5	WATER BASED	06.10.1987
3448	1.51	57.0	4.5	WATER BASED	07.10.1987
3454	1.51	24.0	5.5	WATER BASED	08.10.1987
3454	1.51	25.0	4.0	WATER BASED	09.10.1987
3454	1.51	28.0	4.0	WATER BASED	14.10.1987

3454	1.51	28.0	6.0	WATER BASED	16.10.1987

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
2731.00	[m]
2733.70	[m]
2749.40	[m]
2751.10	[m]
2752.80	[m]
2754.70	[m]
2760.60	[m]
2768.70	[m]
2822.80	[m]
2824.70	[m]
2828.70	[m]
2830.70	[m]
2729.60	[m]
2832.60	[m]
2841.80	[m]
2845.60	[m]
2857.90	[m]
2862.50	[m]
2867.50	[m]
2879.90	[m]
2914.70	[m]
2889.90	[m]

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]
1134_Formation_pressure_(Formasjonstrykk)	PDF	0.28