

**General information**

Wellbore name	25/5-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	FRØY
Discovery	25/5-1 Frøy
Well name	25/5-1
Seismic location	EL 8503 - 417 SP. 600
Production licence	102
Drilling operator	Elf Petroleum Norge AS
Drill permit	543-L
Drilling facility	NORTRYM
Drilling days	82
Entered date	12.05.1987
Completed date	01.08.1987
Release date	01.08.1989
Publication date	17.12.2003
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	HUGIN FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	SLEIPNER FM
Kelly bushing elevation [m]	25.0
Water depth [m]	118.0
Total depth (MD) [m RKB]	3429.0
Final vertical depth (TVD) [m RKB]	3429.0
Maximum inclination [°]	3.6
Bottom hole temperature [°C]	122
Oldest penetrated age	TRIASSIC
Oldest penetrated formation	NO GROUP DEFINED
Geodetic datum	ED50
NS degrees	59° 43' 47.19" N
EW degrees	2° 34' 13.46" E



NS UTM [m]	6621549.92
EW UTM [m]	475841.98
UTM zone	31
NPDID wellbore	884

Wellbore history

**General**

Well 25/5-1 was drilled on a Jurassic structure straddling the two blocks 25/5 and 25/2. It is located near the crest of a westward tilted Jurassic fault block in the northern part of block 25/5. The northern extension of this structure was drilled in 1977 by well 25/2-6 which is located in the southern part of the neighbouring block 25/2, in a down dip position relative to well 25/5-1. Well 25/2-6 was plugged and abandoned with limited oil shows in sandstones of the Early Jurassic Statfjord Formation. The main objectives of well 25/5-1 were to test the hydrocarbon potential of the middle Jurassic Vestland Group sandstones and the Early Jurassic Statfjord Formation sandstones up dip of well 25/2-6.

Operations and results

Wildcat well 25/5-1 was spudded 12 May 1987 by Norcem semi-submersible rig Nortrym and completed 1 August 1987 at a depth of 3430 m in the Triassic Group. Drilling proceeded without significant problems. There was no sign of shallow gas. One core was cut in the Draupne Formation between 2916 and 2925 m. Top reservoir (Hugin Formation) was encountered at 2984 m. Five cores were cut between 2990 - 3081 m in the Hugin and Sleipner formations and into the Drake Formation. The logs showed that the whole reservoir section contained oil down to base Sleipner / top Drake Formation, which formed a lithological sand / shale contact at 3060 m. RFT pressure measurements indicated an oil/water contact at ca 65 m below this level, implying a vertical oil column of 166 m. Due to this the hole was decided to be sidetracked to find the oil/water contact in the Sleipner Formation. Top Statfjord came in at 3232 m, and 3 cores were cut in the interval 3235 - 3291 m. There were shows down to 3264 m; below this depth the sandstones were water bearing. The Triassic was also water bearing. RFT fluid samples were taken at 3025 m and 2989.5 m. Both samples contained oil and mud filtrate.

The well was plugged and abandoned on 1 August 1987 as an oil discovery.

Testing

Three DSTs were performed, two of them with re-runs due to technical problems.

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DST 1 tested the interval 3233 to 3254 m in the Statfjord Group. This test did not produce formation flow to surface, but a bottom hole sample was taken, containing mud filtrate and water.

DST 2A and 2B tested the interval 3025 to 3045 m in the Middle Sleipner Formation. DST 2A did not obtain reliable data due to technical problems. Bottom hole samples were taken. The re-run DST 2B produced 437 Sm³ oil/day through a 32/64 choke. The GOR was 201 m³/m³ and the oil density was 0.8373 g/cm³.

DST 3A and 3B tested the interval 2987 to 3002 m in the Upper Sleipner Formation. DST 3A had technical problems and only the clean-up flow and the first build-up gave valid data. Maximum temperature measured at 2986.4 m was 106.4 C. The re-run DST 3B produced 442 Sm³/oil/day through a 32/64 choke. The GOR was 186 Sm³/Sm³ and the oil density was 0.825 g/cm³.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
620.00	3430.00



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
2	2990.0	3007.8	[m]
3	3008.5	3027.3	[m]
4	3027.5	3046.2	[m]
5	3046.2	3063.5	[m]
6	3064.0	3080.4	[m]
7	3235.1	3253.0	[m]
8	3253.5	3272.0	[m]
9	3272.6	3291.0	[m]

Total core sample length [m]	143.9
Cores available for sampling?	YES

Core photos



2990-2995m



2995-3000m



3000-3005m



3005-3007m



3008-3013m



3013-3018m



3018-3023m



3023-3027m



3027-3032m



3032-3037m



3037-3042m



3042-3048m



3046-3051m



3051-3056m



3056-3061m



3061-3063m



3064-3069m



3069-3074m



3074-3079m



3079-3080m



3235-3240m



3240-3245m



3245-3250m



3250-3253m



3253-3258m



3258-3263m



3263-3268m



3268-3272m



3272-3277m



3277-3282m



3282-3287m



3287-3291m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2922.4	[m]	C	APT
2923.8	[m]	C	APT
2950.0	[m]	DC	
2972.0	[m]	DC	
2980.0	[m]	DC	
2982.0	[m]	DC	
2983.0	[m]	DC	
2987.0	[m]	DC	



2990.3 [m]	C	
2990.3 [m]	C	OD
2990.8 [m]	C	APT
2991.4 [m]	C	APT
2992.3 [m]	C	
2992.3 [m]	C	APT
2992.3 [m]	C	OD
2992.8 [m]	C	APT
2992.8 [m]	C	OD
2993.7 [m]	C	OD
2994.2 [m]	C	APT
2994.5 [m]	C	APT
2994.5 [m]	C	OD
2994.5 [m]	C	
2994.8 [m]	C	APT
2995.0 [m]	DC	
2996.0 [m]	C	OD
2996.3 [m]	C	
2996.9 [m]	C	APT
2997.3 [m]	C	
2998.2 [m]	C	OD
2998.3 [m]	C	
2998.7 [m]	C	APT
2998.8 [m]	C	APT
2998.9 [m]	C	APT
2999.0 [m]	C	OD
2999.3 [m]	C	
3000.0 [m]	C	APT
3000.5 [m]	C	
3000.5 [m]	C	OD
3001.7 [m]	C	APT
3002.5 [m]	C	
3003.5 [m]	C	OD
3004.5 [m]	C	
3004.8 [m]	C	APT
3005.0 [m]	C	APT
3005.5 [m]	C	
3005.5 [m]	C	APT
3006.5 [m]	C	OD
3006.5 [m]	C	



3006.6	[m]	C	APT
3007.8	[m]	C	APT
3008.5	[m]	C	APT
3008.7	[m]	C	OD
3008.8	[m]	C	APT
3008.8	[m]	C	
3009.1	[m]	C	APT
3009.2	[m]	C	APT
3009.7	[m]	C	OD
3009.8	[m]	C	
3010.5	[m]	C	
3011.5	[m]	C	
3012.3	[m]	C	OD
3013.5	[m]	C	
3015.4	[m]	C	
3016.4	[m]	C	OD
3016.5	[m]	C	OD
3017.5	[m]	C	
3019.5	[m]	C	
3020.4	[m]	C	OD
3021.5	[m]	C	
3023.5	[m]	C	
3025.5	[m]	C	
3025.7	[m]	C	OD
3027.0	[m]	C	
3028.5	[m]	C	
3030.5	[m]	C	
3031.5	[m]	C	OD
3032.5	[m]	C	
3034.7	[m]	C	OD
3034.8	[m]	C	
3034.8	[m]	C	APT
3035.5	[m]	C	
3037.5	[m]	C	
3038.2	[m]	C	APT
3038.4	[m]	C	APT
3038.5	[m]	C	OD
3039.5	[m]	C	
3040.5	[m]	C	APT
3041.5	[m]	C	



3042.3	[m]	C	APT
3042.8	[m]	C	APT
3042.8	[m]	C	OD
3043.1	[m]	C	OD
3043.3	[m]	C	APT
3044.0	[m]	C	
3044.7	[m]	C	APT
3044.8	[m]	C	
3044.8	[m]	C	APT
3045.4	[m]	C	APT
3045.5	[m]	C	OD
3046.5	[m]	C	APT
3046.5	[m]	C	APT
3046.7	[m]	C	APT
3046.9	[m]	C	APT
3047.8	[m]	C	
3048.2	[m]	C	APT
3048.8	[m]	C	APT
3048.8	[m]	C	OD
3049.0	[m]	C	
3049.2	[m]	C	APT
3049.5	[m]	C	APT
3050.4	[m]	C	APT
3051.0	[m]	C	
3051.8	[m]	C	APT
3052.0	[m]	C	APT
3052.0	[m]	C	OD
3052.4	[m]	C	APT
3052.7	[m]	C	APT
3053.2	[m]	C	APT
3053.8	[m]	C	
3054.0	[m]	C	OD
3054.2	[m]	C	APT
3054.4	[m]	C	APT
3054.6	[m]	C	APT
3055.0	[m]	C	
3055.3	[m]	C	APT
3055.3	[m]	C	OD
3055.9	[m]	C	APT
3056.5	[m]	C	



3056.6 [m]	C	APT
3057.5 [m]	C	APT
3057.6 [m]	C	OD
3058.7 [m]	C	APT
3060.9 [m]	C	APT
3061.0 [m]	C	
3078.0 [m]	C	
3094.0 [m]	C	
3125.5 [m]	C	
3131.0 [m]	C	
3142.0 [m]	C	
3155.5 [m]	C	
3171.0 [m]	C	
3190.0 [m]	C	
3212.0 [m]	C	
3220.5 [m]	C	
3235.8 [m]	C	
3236.8 [m]	C	
3238.3 [m]	C	
3240.0 [m]	C	
3240.3 [m]	C	
3241.3 [m]	C	
3242.8 [m]	C	
3244.0 [m]	C	
3244.5 [m]	C	
3245.8 [m]	C	
3247.0 [m]	C	
3248.3 [m]	C	
3249.8 [m]	C	
3251.3 [m]	C	
3254.0 [m]	C	
3255.5 [m]	C	
3256.0 [m]	C	
3257.3 [m]	C	
3258.5 [m]	C	
3259.0 [m]	C	
3261.0 [m]	C	
3263.0 [m]	C	
3264.5 [m]	C	
3266.0 [m]	C	



3268.0	[m]	C	
3280.0	[m]	C	
3285.5	[m]	C	
3289.0	[m]	C	
3334.5	[m]	C	
3340.0	[m]	C	
3349.0	[m]	C	
3362.0	[m]	C	
3376.0	[m]	C	
3383.0	[m]	C	
3386.7	[m]	C	
3392.5	[m]	C	
3399.0	[m]	C	
3408.0	[m]	C	

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		0.00	0.00			YES
DST	DST3	3002.00	2987.00			YES
DST	DST3B	3254.00	3233.00		31.07.1987 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
143	NORDLAND GP
444	UTSIRA FM
920	HORDALAND GP
951	SKADE FM
1102	NO FORMAL NAME
1287	GRID FM
1345	NO FORMAL NAME
2169	ROGALAND GP
2169	BALDER FM
2200	INTRA BALDER FM SS



2214	BALDER FM
2240	SELE FM
2275	LISTA FM
2400	TY FM
2570	VÅLE FM
2588	SHETLAND GP
2588	HARDRÅDE FM
2802	KYRRE FM
2900	CROMER KNOLL GP
2905	VIKING GP
2905	DRAUPNE FM
2955	HEATHER FM
2984	VESTLAND GP
2984	HUGIN FM
2996	SLEIPNER FM
3060	DUNLIN GP
3060	DRAKE FM
3129	AMUNDSEN FM
3232	STATFJORD GP
3374	NO GROUP DEFINED

Composite logs

Document name	Document format	Document size [MB]
884	pdf	0.51

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

Document name	Document format	Document size [MB]
884 01 WDSS General Information	pdf	0.44
884 02 WDSS completion log	pdf	0.27

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





Document name	Document format	Document size [MB]
884_25_5_1_COMPLETION_REPORT_AND_LOG	pdf	26.28

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	3233	3254	12.7
2.0	3045	3025	12.7
2.1	3045	3025	12.7
3.0	3002	2987	12.7
3.1	2987	3002	12.7

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				
2.0		8.000		
2.1	30.000	11.000	30.000	
3.0		10.000		
3.1			32.000	

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0					
2.0	396	71000	0.827	0.705	178
2.1	437	88000	0.837	0.705	201
3.0	339	74000	0.825	0.790	217
3.1	442	82000	0.825	0.815	186

Logs

Log type	Log top depth [m]	Log bottom depth [m]
BGT	598	1972
CBL VDL	310	2910
CST GR	2086	3410
DIL LSS GR	598	3427
DLL MSFL GR	2910	3425





LDT CNL EPT NGT	2910	3429
LDT CNL GR	2910	3149
LDT GR	598	2916
MWD	219	3426
RFT GR	0	2989
RFT GR	2985	3058
RFT GR	3234	3399
SHDT GR	1977	3429
VSP	1100	3425

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	203.0	36	612.0	0.00	LOT
SURF.COND.	20	600.0	26	815.0	1.14	LOT
INTERM.	13 3/8	1978.0	17 1/2	2218.0	1.66	LOT
INTERM.	9 5/8	2910.5	12 1/4	2941.0	1.86	LOT
LINER	7	3429.0	8 1/2	3429.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1187	1.09	30.0	7.8	WATER BASED	21.05.1987
1358	1.10	28.0	5.8	WATER BASED	21.05.1987
1857	1.13	32.0	8.8	WATER BASED	25.05.1987
1996	1.15	24.0	6.8	WATER BASED	25.05.1987
2218	1.13	18.0	4.9	WATER BASED	29.05.1987
2239	1.13	19.0	4.9	WATER BASED	02.06.1987
2497	1.14	18.0	4.4	WATER BASED	02.06.1987
2581	1.14	182.0	5.8	WATER BASED	02.06.1987
2641	1.14	19.0	4.9	WATER BASED	03.06.1987
2729	1.14	19.0	5.8	WATER BASED	04.06.1987
2746	1.14	19.0	4.9	WATER BASED	09.06.1987
2883	1.14	23.0	6.8	WATER BASED	09.06.1987
2916	1.14	26.0	6.8	WATER BASED	09.06.1987
2925	1.15	26.0	6.8	WATER BASED	09.06.1987
2941	1.21	28.0	5.3	WATER BASED	15.06.1987



2967	1.22	35.0	7.3	WATER BASED	16.06.1987
2994	1.22	34.0	5.3	WATER BASED	16.06.1987
3079	1.22	31.0	5.8	WATER BASED	22.06.1987
3142	1.22	28.0	5.8	WATER BASED	22.06.1987
3147	1.22	28.0	5.8	WATER BASED	22.06.1987
3162	1.22	26.0	5.8	WATER BASED	22.06.1987
3235	1.24	27.0	5.8	WATER BASED	23.06.1987
3254	1.24	31.0	5.8	WATER BASED	24.06.1987
3291	1.24	31.0	5.8	WATER BASED	25.06.1987
3333	1.24	29.0	5.8	WATER BASED	26.06.1987
3430	1.24	32.0	5.8	WATER BASED	29.06.1987

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]
884 Formation pressure (Formasjonstrykk)	pdf	0.22

