



General information





Wellbore name	35/10-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	35/10-1
Well name	35/10-1
Seismic location	NOD4 - 84 - 06 & SP. 2030
Production licence	173
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	692-L
Drilling facility	DEEPSEA BERGEN
Drilling days	169
Entered date	01.08.1991
Completed date	16.01.1992
Release date	16.01.1994
Publication date	15.12.2006
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	PALEOCENE
1st level with HC, formation	LISTA FM
Kelly bushing elevation [m]	23.0
Water depth [m]	361.0
Total depth (MD) [m RKB]	3986.0
Final vertical depth (TVD) [m RKB]	3982.0
Maximum inclination [°]	5.9
Bottom hole temperature [°C]	147
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	61° 7' 2.05" N
EW degrees	3° 13' 34.87" E
NS UTM [m]	6776027.74
EW UTM [m]	512197.93
UTM zone	31
NPDID wellbore	1822



Wellbore history

General

Wildcat well is located on the Marflo Spur, ca 15 km west of the Fram and Vega discoveries. The main objective was to test the hydrocarbon potential of the Middle Jurassic Brent Group sandstones located in a rotated fault block. A secondary target was the Early Jurassic Cook Formation.

Operations and results

Well 35/10-1 was spudded with the semi-submersible installation Deepsea Bergen on 1 August 1991 and drilled to TD at 3986 m in the Early Jurassic Statfjord Formation. A 9 7/8" pilot hole was drilled to 760 m where MWD indicated potential sand with shallow gas at 753 m. Pilot hole was therefore plugged back to 740 m before opening up to 26" and running 20" casing. Electric logs did not confirm gas in the sand layer. The 17 1/2" hole was drilled to 1895 m. The well started flowing (oil kick from 2 m thick Lista sand at 1892 m). The well was shut in and the drill pipe became stuck. The well was plugged back and sidetracked from kick-off point at 735 m. At 3326 m in the 8 1/2" hole the well started flowing (salt water kick from the Brent Group). The hole was plugged back and 7" liner was run with shoe at 3288 m. Further problems with lost circulation and gain caused by coal beds occurred at 3986 m. The well was plugged back and abandoned at this depth. Before logging, the well was plugged back to 3920 m; hence no electric logs were run beyond 3860 m. The well was drilled with seawater/hi-vis pills /CMC EHV down to 736 m and with Gyp/PAC mud from 736 m to 1895 m. At this point an IMCOSPOT/PIPELAX pill was added to free the stuck pipe, without success. From sidetrack at 735 m the well was drilled to 3040 m using Gyp/PAC mud, and from 3040 m to TD the well was drilled with AncoTemp/bentonite/causticised lignite.

A 2 meter thick sand layer from 1891 m to 1893 m in the Lista Formation, proved to be oil bearing (well kick, FMT sample at 1892 m). Both the Primary and secondary objectives proved to be water bearing, although low saturation of hydrocarbons were observed throughout the Brent Group. Log evaluation indicated water saturation of 50-100% in the Brent and Dunlin Groups. A well kick at 3325 m confirmed water in the top of the Brent Group (Tarbert Formation). In the Cook Formation, there was low saturation of hydrocarbons, but FMT pressure points indicated a possible gas-cap in the top, from 3525 m to 3543 m.

Oils shows were recorded in the sand from 1891 - 1893 m in the Lista Formation and in the Shetland Formation from 2011 m to 2140 m. Poor shows were observed in the sandy sequences of the Brent Group. Fair shows were recorded on the cores from 3602 m to 3658 m in the Dunlin Group and very poor shows were seen from 3658 m down to top Statfjord Formation at 3826 m.

A total of 257.2 m core was recovered in 19 conventional cores from 3329 m to 3657.7 m in the Brent and Dunlin Groups. FMT fluid sampling was performed after sidetracking. Samples were taken in the Lista Formation at 1892 m (ca 2 litre with 37 deg. API oil), and in the Cook Formation at 3536.5 m (leakage in sample chamber: only mud filtrate and formation water was recovered) and at 3598 m (mud filtrate and ca 13 l gas).

The well was permanently abandoned on 16 January 1992 as a minor oil discovery.

Testing

No drill stem test was performed



Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
750.00	3984.00

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	3329.0	3340.8	[m]
2	3342.0	3360.5	[m]
3	3360.0	3388.0	[m]
4	3388.2	3396.5	[m]
5	3396.5	3400.6	[m]
6	3401.0	3414.8	[m]
7	3415.0	3416.8	[m]
8	3416.8	3419.4	[m]
9	3419.4	3422.7	[m]
10	3422.8	3432.0	[m]
11	3432.0	3437.0	[m]
12	3438.0	3450.7	[m]
13	3450.8	3469.1	[m]
14	3469.0	3486.1	[m]
15	3489.0	3511.5	[m]
16	3511.1	3517.9	[m]
17	3575.0	3602.5	[m]
18	3602.0	3630.0	[m]
19	3630.0	3657.7	[m]

Total core sample length [m]	267.0
Cores available for sampling?	YES

Core photos



3329-3334m



3334-3339m



3339-3340m



3342-3347m



3347-3352m



3352-3357m



3357-3360m



3360-3365m



3365-3370m



3370-3375m



3375-3380m



3380-3385m



3385-3388m



3388-3393m



3393-3396m



3396-3400m



3401-3406m



3406-3411m



3411-3414m



3415-2416m



3416-3419m



3419-3422m



3422-3427m



3427-3432m



3432-3437m



3438-3443m



3443-3448m



3448-3450m



3450-3455m



3455-3460m



3460-3465m



3465-3469m



3469-3474m



3474-3479m



3479-3484m



3484-3486m



3489-3494m



3494-3499m



3499-3504m



3504-3509m



3509-3511m



3511-3516m



3516-3517m



3575-3580m



3580-3585m



3585-3590m



3590-3595m



3595-3600m



3600-3602m



3602-3607m



3607-3612m



3612-3617m



3617-3622m



3622-3627m



3627-3630m



3630-3635m



3635-3640m



3640-3645m



3645-3650m



3650-3655m



3655-3657m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
930.0	[m]	DC	PALEO
940.0	[m]	DC	PALEO
950.0	[m]	SWC	STATO
970.0	[m]	DC	PALEO
980.0	[m]	DC	PALEO
999.0	[m]	SWC	STATO
1010.0	[m]	DC	PALEO
1030.0	[m]	DC	PALEO
1040.0	[m]	DC	PALEO
1060.0	[m]	DC	PALEO
1070.0	[m]	DC	PALEO
1090.0	[m]	DC	PALEO
1110.0	[m]	SWC	STATO
1120.0	[m]	DC	PALEO
1140.0	[m]	DC	PALEO
1150.0	[m]	DC	PALEO
1170.0	[m]	DC	PALEO
1190.0	[m]	SWC	STATO
1200.0	[m]	DC	PALEO
1220.0	[m]	DC	PALEO
1230.0	[m]	DC	PALEO
1250.0	[m]	DC	PALEO
1264.0	[m]	SWC	STATO
1280.0	[m]	DC	PALEO
1290.0	[m]	DC	PALEO
1305.0	[m]	SWC	STATO
1320.0	[m]	DC	PALEO
1340.0	[m]	DC	PALEO
1350.0	[m]	DC	PALEO



1370.0 [m]	DC	PALEO
1380.0 [m]	SWC	STATO
1400.0 [m]	DC	PALEO
1410.0 [m]	DC	PALEO
1425.0 [m]	SWC	STATO
1460.0 [m]	DC	PALEO
1470.0 [m]	DC	PALEO
1493.0 [m]	SWC	STATO
1510.0 [m]	DC	PALEO
1520.0 [m]	DC	PALEO
1540.0 [m]	DC	PALEO
1550.0 [m]	DC	PALEO
1570.0 [m]	DC	PALEO
1580.0 [m]	DC	PALEO
1610.0 [m]	DC	PALEO
1630.0 [m]	DC	PALEO
1640.0 [m]	DC	PALEO
1660.0 [m]	DC	PALEO
1670.0 [m]	DC	PALEO
1690.0 [m]	DC	PALEO
1700.0 [m]	SWC	STATO
1720.0 [m]	DC	PALEO
1750.0 [m]	SWC	STATO
1760.0 [m]	SWC	STATO
1775.0 [m]	SWC	STATO
1791.5 [m]	SWC	STATO
1811.5 [m]	SWC	STATO
1821.5 [m]	SWC	STATO
1826.5 [m]	SWC	STATO
1916.5 [m]	SWC	STATO
1922.5 [m]	SWC	STATO
1926.5 [m]	SWC	STATO
1961.5 [m]	SWC	STATO
1981.5 [m]	SWC	STATO
2001.5 [m]	SWC	STATO
2006.5 [m]	SWC	STATO
2019.7 [m]	SWC	STATO
2036.0 [m]	DC	PALEO
2050.0 [m]	DC	PALEO
2070.0 [m]	DC	PALEO



2090.0	[m]	DC	PALEO
2101.5	[m]	SWC	STATO
2120.0	[m]	DC	PALEO
2130.0	[m]	DC	PALEO
2150.0	[m]	DC	PALEO
2160.0	[m]	DC	PALEO
2180.0	[m]	DC	PALEO
2190.0	[m]	DC	PALEO
2210.0	[m]	DC	PALEO
2220.0	[m]	DC	PALEO
2240.0	[m]	DC	PALEO
2250.0	[m]	DC	PALEO
2270.0	[m]	DC	PALEO
2280.0	[m]	DC	PALEO
2300.0	[m]	DC	PALEO
2310.0	[m]	DC	PALEO
2330.0	[m]	DC	PALEO
2340.0	[m]	DC	PALEO
2360.0	[m]	DC	PALEO
2370.0	[m]	DC	PALEO
2390.0	[m]	DC	PALEO
2400.0	[m]	DC	PALEO
2420.0	[m]	DC	PALEO
2430.0	[m]	DC	PALEO
2440.0	[m]	DC	PALEO
2460.0	[m]	DC	PALEO
2480.0	[m]	DC	PALEO
2501.5	[m]	SWC	STATO
2510.0	[m]	DC	PALEO
2530.0	[m]	DC	PALEO
2540.0	[m]	DC	PALEO
2560.0	[m]	DC	PALEO
2570.0	[m]	DC	PALEO
2590.0	[m]	DC	PALEO
2601.5	[m]	SWC	STATO
2620.0	[m]	DC	PALEO
2630.0	[m]	DC	PALEO
2650.0	[m]	DC	PALEO
2660.0	[m]	DC	PALEO
2680.0	[m]	DC	PALEO



2690.0	[m]	DC	PALEO
2710.0	[m]	DC	PALEO
2720.0	[m]	DC	PALEO
2740.0	[m]	DC	PALEO
2750.0	[m]	DC	PALEO
2770.0	[m]	DC	PALEO
2780.0	[m]	DC	PALEO
2801.5	[m]	SWC	STATO
2810.0	[m]	DC	PALEO
2830.0	[m]	DC	PALEO
2840.0	[m]	DC	PALEO
2860.0	[m]	DC	PALEO
2870.0	[m]	DC	PALEO
2890.0	[m]	DC	PALEO
2901.5	[m]	SWC	STATO
2920.0	[m]	DC	PALEO
2930.0	[m]	DC	PALEO
2950.0	[m]	DC	PALEO
2960.0	[m]	DC	PALEO
2980.0	[m]	DC	PALEO
2990.0	[m]	DC	PALEO
2996.5	[m]	SWC	STATO
3016.5	[m]	SWC	STATO
3031.5	[m]	SWC	STATO
3045.0	[m]	SWC	STATO
3057.5	[m]	SWC	STATO
3069.0	[m]	SWC	STATO
3083.0	[m]	SWC	STATO
3085.0	[m]	SWC	STATO
3090.0	[m]	SWC	STATO
3100.0	[m]	SWC	STATO
3110.0	[m]	SWC	STATO
3118.0	[m]	SWC	STATO
3130.0	[m]	SWC	STATO
3140.0	[m]	SWC	STATO
3146.0	[m]	SWC	STATO
3153.5	[m]	SWC	STATO
3167.0	[m]	SWC	STATO
3177.0	[m]	SWC	STATO
3186.0	[m]	DC	PALEO



3193.0 [m]	SWC	STATO
3201.0 [m]	DC	PALEO
3210.5 [m]	SWC	STATO
3219.0 [m]	DC	PALEO
3226.0 [m]	SWC	STATO
3234.0 [m]	DC	PALEO
3240.0 [m]	SWC	STATO
3251.0 [m]	SWC	STATO
3260.0 [m]	DC	STATO
3260.0 [m]	SWC	STATO
3270.0 [m]	DC	PALEO
3279.0 [m]	DC	PALEO
3288.0 [m]	DC	PALEO
3297.0 [m]	DC	PALEO
3304.0 [m]	SWC	STATO
3306.0 [m]	DC	PALEO
3315.0 [m]	DC	PALEO
3324.0 [m]	DC	PALEO
3332.3 [m]	C	STATO
3332.7 [m]	C	STATO
3340.7 [m]	C	STATO
3343.3 [m]	C	STATO
3343.9 [m]	C	STATO
3346.8 [m]	C	STATO
3350.8 [m]	C	STATO
3361.5 [m]	C	STATO
3366.8 [m]	C	STATO
3375.5 [m]	C	STATO
3378.8 [m]	C	STATO
3387.5 [m]	C	STATO
3391.3 [m]	C	STATO
3395.6 [m]	C	STATO
3399.6 [m]	C	STATO
3408.5 [m]	C	STATO
3418.7 [m]	C	STATO
3426.0 [m]	C	STATO
3435.0 [m]	C	STATO
3442.0 [m]	C	STATO
3448.0 [m]	C	STATO
3450.2 [m]	C	STATO



3457.0 [m]	C	STATO
3460.1 [m]	C	STATO
3461.6 [m]	C	STATO
3473.1 [m]	C	STATO
3482.5 [m]	C	STATO
3490.9 [m]	C	STATO
3492.0 [m]	C	STATO
3500.0 [m]	C	STATO
3510.0 [m]	C	STATO
3517.9 [m]	C	STATO
3529.0 [m]	SWC	STATO
3537.0 [m]	DC	PALEO
3548.0 [m]	SWC	STATO
3555.0 [m]	DC	PALEO
3575.9 [m]	C	STATO
3584.0 [m]	C	STATO
3592.0 [m]	C	STATO
3597.1 [m]	C	STATO
3610.0 [m]	C	STATO
3618.4 [m]	C	STATO
3626.9 [m]	C	STATO
3630.8 [m]	C	STATO
3639.4 [m]	C	STATO
3642.7 [m]	C	STATO
3650.4 [m]	C	STATO
3656.7 [m]	C	STATO
3666.0 [m]	DC	PALEO
3672.0 [m]	DC	PALEO
3690.0 [m]	DC	PALEO
3697.0 [m]	SWC	STATO
3708.0 [m]	DC	PALEO
3718.5 [m]	SWC	STATO
3729.0 [m]	DC	PALEO
3741.5 [m]	SWC	STATO
3747.0 [m]	DC	PALEO
3754.0 [m]	SWC	STATO
3759.0 [m]	DC	PALEO
3773.0 [m]	SWC	STATO
3783.5 [m]	SWC	STATO
3792.0 [m]	DC	PALEO



3801.0	[m]	DC	PALEO
3810.0	[m]	DC	PALEO
3822.0	[m]	DC	PALEO
3827.0	[m]	SWC	STATO
3843.0	[m]	DC	PALEO
3850.0	[m]	SWC	STATO
3861.0	[m]	DC	PALEO
3870.0	[m]	DC	PALEO
3885.0	[m]	DC	PALEO
3900.0	[m]	DC	PALEO
3912.0	[m]	DC	PALEO
3930.0	[m]	DC	PALEO
3942.0	[m]	DC	PALEO
3960.0	[m]	DC	PALEO
3972.0	[m]	DC	PALEO
3984.0	[m]	DC	PALEO

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
384	NORDLAND GP
912	UTSIRA FM
948	HORDALAND GP
1203	GRID FM
1252	HORDALAND GP
1755	ROGALAND GP
1755	BALDER FM
1824	SELE FM
1841	LISTA FM
1994	VÅLE FM
2005	SHETLAND GP
2005	JORSALFARE FM
2227	KYRRE FM
3007	TRYGGVASON FM
3043	BLODØKS FM
3058	SVARTE FM
3066	CROMER KNOLL GP
3066	RØDBY FM
3081	SOLA FM



3085	MIME FM
3098	VIKING GP
3098	DRAUPNE FM
3146	HEATHER FM
3324	BRENT GP
3324	TARBERT FM
3344	NESS FM
3449	ETIVE FM
3460	RANNOCH FM
3507	DUNLIN GP
3507	DRAKE FM
3509	COOK FM
3649	AMUNDSEN FM
3665	JOHANSEN FM
3806	AMUNDSEN FM
3826	STATFJORD GP

Composite logs

Document name	Document format	Document size [MB]
1822	pdf	0.76

Geochemical information

Document name	Document format	Document size [MB]
1822_1	pdf	4.13

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

Document name	Document format	Document size [MB]
1822_01_WDSS_General_Information	pdf	0.64
1822_02_WDSS_completion_log	pdf	0.14

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





Document name	Document format	Document size [MB]
1822 35 10 1 COMPLETION REPORT AND LOG	pdf	32.74

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL	382	2860
CBL VDL	2855	3284
CBL VDL GR	384	1786
CBL VDL GR	2820	3025
CN GR	1786	3029
CN GR	3016	3290
CN GR	3285	3652
CN GR	3286	3856
CORGUN GR	905	1790
CORGUN GR	1792	3027
CORGUN GR	3031	3260
CORGUN GR	3304	3850
DIFL ACL ZDL GR	445	735
DIFL ACL ZDL GR	730	1808
DIFL ACL ZDL GR	1786	3032
DIFL ACL ZDL GR	3016	3290
DIFL ACL ZDL GR	3286	3652
DIFL ACL ZDL MLL GR	3286	3856
DIPLOG GR	3016	3290
DIPLOG GR	3286	3425
DIPLOG GR	3375	3857
FMT GR	913	1222
FMT GR	1826	2011
FMT GR	3324	3841
FMT GR	3328	3330
FMT GR	3536	3564
FMT GR	3594	3841
MWD - GR RES DIR	454	3326
SWAL GR	730	1781
SWAL GR	1729	2980
TEMP SONAN	350	1740





VSP	875	3848
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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	445.0	36	446.0	0.00	LOT
INTERM.	20	730.0	26	732.0	1.49	LOT
INTERM.	13 3/8	1789.0	17 1/2	1790.0	1.55	LOT
INTERM.	9 5/8	3020.0	12 1/4	3022.0	1.69	LOT
LINER	7	3288.0	8 1/2	3986.0	2.15	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
493	1.25			WATER BASED	
740	1.25			WATER BASED	
759	1.25			WATER BASED	
770	1.20	20.0		WATER BASED	
1021	1.20	24.0		WATER BASED	
1136	1.20	22.0		WATER BASED	
1266	1.20	22.0		WATER BASED	
1370	1.20	18.0		WATER BASED	
1500	1.20	18.0		WATER BASED	
1570	1.23	17.0		WATER BASED	
1685	1.23	16.0		WATER BASED	
1796	1.20	21.0		WATER BASED	
1820	1.27	17.0		WATER BASED	
1855	1.27	19.0		WATER BASED	
2024	1.35	23.0		WATER BASED	
2115	1.39	21.0		WATER BASED	
2315	1.39	24.0		WATER BASED	
2459	1.39	31.0		WATER BASED	
2625	1.39	27.0		WATER BASED	
2751	1.39	29.0		WATER BASED	
2769	1.39	27.0		WATER BASED	
2821	1.39	28.0		WATER BASED	
2918	1.39	25.0		WATER BASED	



2969	1.39	25.0		WATER BASED	
3028	1.39	21.0		WATER BASED	
3039	1.39	21.0		WATER BASED	
3165	1.55	21.0		WATER BASED	
3275	1.55	19.0		WATER BASED	
3279	1.58	17.0		WATER BASED	
3325	1.86	31.0		WATER BASED	
3329	1.84	42.0		WATER BASED	
3360	1.84	42.0		WATER BASED	
3388	1.85	27.0		WATER BASED	
3396	1.86	39.0		WATER BASED	
3410	1.86	35.0		WATER BASED	
3417	1.86	39.0		WATER BASED	
3431	1.86	40.0		WATER BASED	
3438	1.86	38.0		WATER BASED	
3450	1.86	36.0		WATER BASED	
3489	1.86	35.0		WATER BASED	
3512	1.86	36.0		WATER BASED	
3518	1.86	30.0		WATER BASED	
3575	1.86	31.0		WATER BASED	
3602	1.86	28.0		WATER BASED	
3630	1.86	27.0		WATER BASED	
3657	1.86	23.0		WATER BASED	
3706	1.85	22.0		WATER BASED	
3824	0.00	23.0		WATER BASED	
3932	0.00	28.0		WATER BASED	
3965	1.84	31.0		WATER BASED	
3986	1.83	20.0		WATER BASED	
3987	1.83	25.0		WATER BASED	

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
1550.00	[m]
1340.00	[m]
1430.00	[m]
1310.00	[m]
1280.00	[m]
1370.00	[m]
1400.00	[m]



1460.00	[m]
1250.00	[m]
1050.00	[m]
3597.30	[m]
3600.00	[m]
3600.25	[m]
3600.70	[m]
3601.73	[m]
3604.25	[m]
3614.95	[m]
3616.50	[m]
3619.75	[m]
3620.88	[m]
3622.68	[m]
3641.15	[m]
3643.07	[m]
3645.45	[m]
3649.19	[m]
3649.71	[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.

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