

**General information**

Wellbore name	34/11-3
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	KVITEBJØRN
Discovery	34/11-1 Kvitebjørn
Well name	34/11-3
Seismic location	TFE 91R95W- INLINE 792 & CROSSLINE 1860
Production licence	193
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	853-L
Drilling facility	DEEPSEA TRYM
Drilling days	169
Entered date	01.08.1996
Completed date	16.01.1997
Release date	16.01.1999
Publication date	15.12.2006
Purpose - planned	APPRAISAL
Reentry	NO
Content	GAS/CONDENSATE
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	BRENT GP
Kelly bushing elevation [m]	25.0
Water depth [m]	208.0
Total depth (MD) [m RKB]	4482.0
Final vertical depth (TVD) [m RKB]	4476.0
Maximum inclination [°]	7
Bottom hole temperature [°C]	162
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	61° 5' 45.25" N
EW degrees	2° 31' 6.51" E
NS UTM [m]	6773725.82



EW UTM [m]	474033.73
UTM zone	31
NPDID wellbore	2866

Wellbore history

General

Appraisal well 34/11-3 was drilled on the 34/11-1 Kvitebj ørn Discovery in the Northern North Sea. The primary objective was to confirm hydrocarbon reserves in the Brent Group in this discovery. Secondary objective was to test the Early Jurassic Statfjord and Cook Formations. A third objective was to investigate properties of the Lista Formation of the Rogaland Group, which had significant shows in 34/11-1.

Operations and results

Well 34/11-3 was spudded with the semi-submersible installation Deepsea Trym on 1 August 1996 and drilled to TD at 4482 m in the Early Jurassic Statfjord Formation. When drilling 8 1/2" hole at 4032 m a kick situation was experienced. A total of 23.8 days was spent before the operation could be continued. After drilling to TD problems occurred with the BOP connector. A cement plug was set and the well suspended for repairs of the connector. When drilling out the cement plug the well was unintentionally sidetracked at 4009 m. 34/11-3T2 was drilled to final TD at 4230 m (4234 m loggers depth). The well was drilled with bentonite and seawater down to 1115 m, with ANCO-2000 mud from 1115 m to 3985 m, and with ANCO THERM mud from 3985 m to TD (including sidetrack).

No shows were observed in cuttings from the Rogaland Group, but in core 1 thin sandstone laminae with weak shows were observed. The top of the Brent Group was penetrated 14.5 m shallower than prognosed, and was proven to be gas/condensate bearing down to 4196.2 m. No GWC was found. No visual shows were observed in the Cook Formation.

In the Statfjord Formation, weak shows were seen, and a weak HC odour from the core was noted.

All conventional cores were cut in the original hole while all reservoir logging was performed in the sidetrack. Only MWD logs exist from the lower part of the original hole. A total of 101.8 m conventional core was recovered in 12 cores. Core 1 was cut from 2027 m to 2035.6 m in the Lista Formation, cores 2 - 11 were cut in the interval 4040 m to 4183 m in the Brent Group, and core 12 was cut from 4480 m to 4480.3 m at final TD. An FMT segregated fluid sample was taken at 4044.6 m (gas, filtrate, and 0.5 l condensate), and two MDT fluid samples were taken at 4044.5 m, and 4144.7 m. The 1-gallon MDT sample chambers contained only small volumes of mud, filtrate, some solids and hydrocarbons, the 450 cc chambers were sent to PVT lab.

The well was permanently abandoned on 16 January 1997 as a gas/condensate appraisal well.

Testing

No drill stem test was performed



Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1120.00	4481.00

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	2027.0	2035.6	[m]
2	4040.0	4047.4	[m]
3	4048.5	4050.6	[m]
4	4054.0	4060.0	[m]
5	4060.5	4068.3	[m]
6	4071.5	4072.6	[m]
7	4073.5	4078.3	[m]
8	4078.5	4082.1	[m]
9	4082.1	4085.6	[m]
10	4095.0	4111.3	[m]
11	4142.0	4182.5	[m]
12	4480.0	4480.3	[m]

Total core sample length [m]	101.9
Cores available for sampling?	YES

Core photos



2027-2032m



2032-2035m



4040-4045m



4045-4047m



4048-4050m





4054-4059m



4059-4060m



4060-4065m



4065-4068m



4071-4072m



4073-4078m



4078-4078m



4078-4082m



4082-4085m



4095-4100m



4100-4105m



4105-4110m



4110-4111m



4142-4147m



4147-4152m



4152-4157m



4157-5162m



4162-4167m



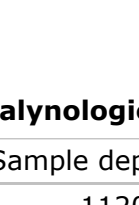
4167-4172m



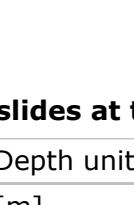
4172-4177m



4177-4182m



4182-4183m



4480-4481m



Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1120.0	[m]	DC	GEOSTR
1140.0	[m]	DC	GEOSTR
1160.0	[m]	DC	GEOSTR
1180.0	[m]	DC	GEOSTR
1200.0	[m]	DC	GEOSTR
1220.0	[m]	DC	GEOSTR
1240.0	[m]	DC	GEOSTR



1260.0	[m]	DC	GEOSTR
1280.0	[m]	DC	GEOSTR
1300.0	[m]	DC	GEOSTR
1320.0	[m]	DC	GEOSTR
1340.0	[m]	DC	GEOSTR
1360.0	[m]	DC	GEOSTR
1380.0	[m]	DC	GEOSTR
1400.0	[m]	DC	GEOSTR
1410.0	[m]	DC	GEOSTR
1440.0	[m]	DC	GEOSTR
1460.0	[m]	DC	GEOSTR
1480.0	[m]	DC	GEOSTR
1500.0	[m]	DC	GEOSTR
1520.0	[m]	DC	GEOSTR
1540.0	[m]	DC	GEOSTR
1560.0	[m]	DC	GEOSTR
1580.0	[m]	DC	GEOSTR
1600.0	[m]	DC	GEOSTR
1620.0	[m]	DC	GEOSTR
1640.0	[m]	DC	GEOSTR
1660.0	[m]	DC	GEOSTR
1680.0	[m]	DC	GEOSTR
1700.0	[m]	DC	GEOSTR
1720.0	[m]	DC	GEOSTR
1740.0	[m]	DC	GEOSTR
1760.0	[m]	DC	GEOSTR
1780.0	[m]	DC	GEOSTR
1800.0	[m]	DC	GEOSTR
1820.0	[m]	DC	GEOSTR
1840.0	[m]	DC	GEOSTR
1860.0	[m]	DC	GEOSTR
1870.0	[m]	DC	GEOSTR
1879.0	[m]	DC	GEOSTR
1888.0	[m]	DC	GEOSTR
1894.0	[m]	DC	GEOSTR
1906.0	[m]	DC	GEOSTR
1915.0	[m]	DC	GEOSTR
1924.0	[m]	DC	GEOSTR
1930.0	[m]	DC	GEOSTR
1942.0	[m]	DC	GEOSTR



1951.0	[m]	DC	GEOSTR
1960.0	[m]	DC	GEOSTR
1969.0	[m]	DC	GEOSTR
1978.0	[m]	DC	GEOSTR
1987.0	[m]	DC	GEOSTR
1996.0	[m]	DC	GEOSTR
2005.0	[m]	DC	GEOSTR
2014.0	[m]	DC	GEOSTR
2023.0	[m]	DC	GEOSTR
2056.0	[m]	DC	GEOSTR
2068.0	[m]	DC	GEOSTR
2077.0	[m]	DC	GEOSTR
2086.0	[m]	DC	GEOSTR
2095.0	[m]	DC	GEOSTR
2104.0	[m]	DC	GEOSTR
2113.0	[m]	DC	GEOSTR
2119.0	[m]	DC	GEOSTR
2130.0	[m]	DC	GEOSTR
2140.0	[m]	DC	GEOSTR
2150.0	[m]	DC	GEOSTR
2170.0	[m]	DC	GEOSTR
2190.0	[m]	DC	GEOSTR
2210.0	[m]	DC	GEOSTR
2230.0	[m]	DC	GEOSTR
2250.0	[m]	DC	GEOSTR
2270.0	[m]	DC	GEOSTR
2290.0	[m]	DC	GEOSTR
2310.0	[m]	DC	GEOSTR
2330.0	[m]	DC	GEOSTR
2350.0	[m]	DC	GEOSTR
2370.0	[m]	DC	GEOSTR
2390.0	[m]	DC	GEOSTR
2410.0	[m]	DC	GEOSTR
2430.0	[m]	DC	GEOSTR
2460.0	[m]	DC	GEOSTR
2470.0	[m]	DC	GEOSTR
2490.0	[m]	DC	GEOSTR
2510.0	[m]	DC	GEOSTR
2530.0	[m]	DC	GEOSTR
2550.0	[m]	DC	GEOSTR



2570.0	[m]	DC	GEOSTR
2590.0	[m]	DC	GEOSTR
2610.0	[m]	DC	GEOSTR
2630.0	[m]	DC	GEOSTR
2650.0	[m]	DC	GEOSTR
2670.0	[m]	DC	GEOSTR
2690.0	[m]	DC	GEOSTR
2710.0	[m]	DC	GEOSTR
2730.0	[m]	DC	GEOSTR
2750.0	[m]	DC	GEOSTR
2780.0	[m]	DC	GEOSTR
2790.0	[m]	DC	GEOSTR
2810.0	[m]	DC	GEOSTR
2840.0	[m]	DC	GEOSTR
2850.0	[m]	DC	GEOSTR
2870.0	[m]	DC	GEOSTR
2890.0	[m]	DC	GEOSTR
2910.0	[m]	DC	GEOSTR
2930.0	[m]	DC	GEOSTR
2950.0	[m]	DC	GEOSTR
2980.0	[m]	DC	GEOSTR
2990.0	[m]	DC	GEOSTR
3000.0	[m]	DC	GEOSTR
3030.0	[m]	DC	GEOSTR
3050.0	[m]	DC	GEOSTR
3070.0	[m]	DC	GEOSTR
3090.0	[m]	DC	GEOSTR
3110.0	[m]	DC	GEOSTR
3130.0	[m]	DC	GEOSTR
3150.0	[m]	DC	GEOSTR
3170.0	[m]	DC	GEOSTR
3190.0	[m]	DC	GEOSTR
3210.0	[m]	DC	GEOSTR
3230.0	[m]	DC	GEOSTR
3250.0	[m]	DC	GEOSTR
3270.0	[m]	DC	GEOSTR
3290.0	[m]	DC	GEOSTR
3310.0	[m]	DC	GEOSTR
3330.0	[m]	DC	GEOSTR
3350.0	[m]	DC	GEOSTR



3370.0	[m]	DC	GEOSTR
3390.0	[m]	DC	GEOSTR
3410.0	[m]	DC	GEOSTR
3430.0	[m]	DC	GEOSTR
3440.0	[m]	DC	GEOSTR
3470.0	[m]	DC	GEOSTR
3490.0	[m]	DC	GEOSTR
3510.0	[m]	DC	GEOSTR
3520.0	[m]	DC	GEOSTR
3540.0	[m]	DC	GEOSTR
3550.0	[m]	DC	GEOSTR
3570.0	[m]	DC	GEOSTR
3580.0	[m]	DC	GEOSTR
3600.0	[m]	DC	GEOSTR
3610.0	[m]	DC	GEOSTR
3630.0	[m]	DC	GEOSTR
3640.0	[m]	DC	GEOSTR
3660.0	[m]	DC	GEOSTR
3670.0	[m]	DC	GEOSTR
3690.0	[m]	DC	GEOSTR
3700.0	[m]	DC	GEOSTR
3720.0	[m]	DC	GEOSTR
3730.0	[m]	DC	GEOSTR
3750.0	[m]	DC	GEOSTR
3762.0	[m]	DC	GEOSTR
3777.0	[m]	DC	GEOSTR
3798.0	[m]	DC	GEOSTR
3813.0	[m]	DC	GEOSTR
3825.0	[m]	DC	GEOSTR
3840.0	[m]	DC	GEOSTR
3855.0	[m]	DC	GEOSTR
3867.0	[m]	DC	GEOSTR
3888.0	[m]	DC	GEOSTR
3900.0	[m]	DC	GEOSTR
3915.0	[m]	DC	GEOSTR
3930.0	[m]	DC	GEOSTR
3945.0	[m]	DC	GEOSTR
3960.0	[m]	DC	GEOSTR
3978.0	[m]	DC	GEOSTR
3990.0	[m]	DC	GEOSTR



4005.0 [m]	DC	GEOSTR
4014.0 [m]	DC	GEOSTR
4017.0 [m]	DC	GEOSTR
4035.0 [m]	DC	GEOSTR
4038.0 [m]	DC	GEOSTR
4193.0 [m]	DC	GEOSTR
4202.0 [m]	DC	GEOSTR
4211.0 [m]	DC	GEOSTR
4219.0 [m]	DC	GEOSTR
4235.0 [m]	DC	GEOSTR
4253.0 [m]	DC	GEOSTR
4265.0 [m]	DC	GEOSTR
4280.0 [m]	DC	GEOSTR
4295.0 [m]	DC	GEOSTR
4310.0 [m]	DC	GEOSTR
4325.0 [m]	DC	GEOSTR
4340.0 [m]	DC	GEOSTR
4355.0 [m]	DC	GEOSTR
4370.0 [m]	DC	GEOSTR
4385.0 [m]	DC	GEOSTR
4400.0 [m]	DC	GEOSTR
4415.0 [m]	DC	GEOSTR
4430.0 [m]	DC	GEOSTR
4445.0 [m]	DC	GEOSTR
4463.0 [m]	DC	GEOSTR
4478.0 [m]	DC	GEOSTR

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
233	NORDLAND GP
912	UTSIRA FM
986	HORDALAND GP
1904	ROGALAND GP
1904	BALDER FM
1959	SELE FM
1964	LISTA FM
2118	SHETLAND GP
3771	CROMER KNOLL GP



3960	VIKING GP
3960	DRAUPNE FM
4010	HEATHER FM
4035	BRENT GP
4035	TARBERT FM
4050	NESS FM
4140	ETIVE FM
4155	RANNOCH FM
4197	DUNLIN GP
4197	DRAKE FM
4261	COOK FM
4304	BURTON FM
4360	AMUNDSEN FM
4471	STATFJORD GP

Geochemical information

Document name	Document format	Document size [MB]
2866 1	pdf	2.78

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

Document name	Document format	Document size [MB]
2866 34 11 3 COMPLETION LOG	pdf	16.38
2866 34 11 3 COMPLETION REPORT	pdf	21.02

Logs

Log type	Log top depth [m]	Log bottom depth [m]
DIPLOG GR CHT	3972	4205
DLL MAC CNL ZDL GR SPL	1089	3458
DLL MAC ZDL GR	3466	3982
DPIL GR CHT	3972	4226
DPIL ZDL CNL DSL CHT	3972	4227
FMT GR	4031	4036
FMT GR	4040	4144





FMT QD GR CHT	0	0
HDIL MLL MAC DGR CHT	3750	4227
MDT GR	0	0
MDT GR	4037	4156
MDT GR	4040	4186
MWD - DPR	293	1100
MWD - DPR	3981	4488
MWD - DPR MDP	3477	3981
MWD - DPR2 TF4	1110	2344
MWD - DPR2A TF4	2344	3463
SWC GR	4008	4209
VSP GR	1540	3452
VSP GR	3285	4095
VSP GR	4080	4224
ZDL CNL GR	3452	3452

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	293.0	36	293.0	0.00	LOT
SURF.COND.	20	1089.0	26	1115.0	1.66	LOT
INTERM.	13 3/8	3465.0	17 1/2	3477.0	1.98	LOT
INTERM.	9 5/8	3972.0	12 1/4	3985.0	2.10	LOT
OPEN HOLE		4230.0	8 1/2	4230.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1115	1.20	19.0		BENTONITE/FW	
1175	1.39	24.0		KCL/PAC/XANVIS	
1649	1.39	26.0		KCL/PAC/XANVIS	
1765	1.39	18.0		KCL/PAC/XANVIS	
2217	1.53	21.0		KCL/PAC/XANVIS	
2980	1.53	20.0		ANCO 2000	
3477	1.55	28.0		ANCO 2000	
3477	1.55	21.0		ANCO 2000	
3985	1.87	42.0		ANCO 2000	



4022	1.98	42.0		ANCOTEMP/BENT.	
4034	2.00	43.0		ANCOTEMP/BENT.	
4039	2.00	42.0		ANCOTEMP/BENT.	
4040	2.00	45.0		ANCOTEMP/BENT.	
4054	2.00	46.0		ANCOTEMP/BENT.	
4072	2.00	43.0		ANCOTEMP/BENT.	
4079	2.00	35.0		ANCOTEMP/BENT.	
4085	2.00	30.0		ANCOTEMP/BENT.	
4230	2.00	36.0		ANCOTEMP/BENT.	
4482	2.00	39.0		ANCOTEMP/BENT.	

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
4095.55	[m]
4110.80	[m]
4147.00	[m]
4163.30	[m]
4171.40	[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]
2866 Formation pressure (Formasjonstrykk)	pdf	0.22

