General information

Wellbore name	35/10-2
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	35/10-2
Well name	35/10-2
Seismic location	ST 9303-INLINE 3500 & CROSSLINE 2500
Production licence	173
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	843-L
Drilling facility	TRANSOCEAN ARCTIC
Drilling days	103
Entered date	16.04.1996
Completed date	22.08.1996
Plugged and abondon date	22.08.1996
Release date	22.08.1998
Publication date	15.12.2006
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS
Discovery wellbore	YES
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	TARBERT FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	NESS FM
Kelly bushing elevation [m]	24.0
Water depth [m]	372.5
Total depth (MD) [m RKB]	4677.0
Final vertical depth (TVD) [m RKB]	4675.0
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	61° 2' 22.67'' N
EW degrees	3° 2' 30.6'' E
NS UTM [m]	6767362.83
EW UTM [m]	502259.88

UTM zone	31
NPDID wellbore	2783

Wellbore history

General

Wildcat well 35/10-2 is located on the Flatfisk Slope approximately mid-way between the Fram and the Kvitebj ørn Discoveries in the Northern North Sea. The primary objective for the well was to explore the hydrocarbon potential of the Middle Jurassic Brent reservoir. The secondary objective was to explore the hydrocarbon potential of the Paleocene sandstones of the Goliath -prospect. Furthermore, the well would test the reservoir potential of the "intra Dunlin" (Cook Formation) and Statfjord sandstones. Planned TD was 5000 m MSL.

Operations and results

Well 35/10-2 was spudded with the semi-submersible installation Transocean Arctic on 16 April 1996. The original well path, 35/10-2, was drilled down to a total depth of 3301 m, where the mud motor parted. A technical sidetrack, named 35/10-2 T2 was necessary. This was kicked off at 2563 and the well was drilled down to TD for the well at 4677 m in the Early Jurassic Statfjord Formation. In the 8 3/8" section, severe problems were encountered due to mud losses. The hole was cemented back once to try and seal off the loss zones. The well was drilled with bentonite down to 1460 m, with ANCO 2000 mud from 1460 m to 3990 m, and with AncoTherm mud from 3990 m to TD

No reservoir quality sandstones of any thickness were found in the Tertiary. The seismic anomaly thought to represent the Goliath prospect, was in fact caused by a sequence of thin siltstones and very fine sandstones at 1953-1955 m in the Sele Formation. Good oil shows were observed in this interval. The top of the Brent Group was penetrated at 4149 m, almost 90 m higher than prognosed, and the reservoir proved to hold a gas column of approximately 72 m. The well penetrated sandstones in the Early Jurassic, (Cook, Amundsen and Statfjord Formations), but no hydrocarbons were observed in these. Due to this the well was not drilled to the planned TD.

Nine conventional cores were cut in the well. Two of these were cut from 1960 m to 1974.5 m in the Lista Formation, one was cut from 2018 m to 2023.5 m in the Lista Formation, and the remaining 6 were cut from 4154 m to 4240 m in the Brent Group. FMT samples were taken in the Ness Formation at 4217.9 m (one sample: mix of mud filtrate and formation water) and at 4199.3 m (three samples: mainly mud filtrate with 1 litre gas in one of the samples).

The well was permanently abandoned on 22 August 1996 as a gas discovery.

Testing

No drill stem test was performed

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1470.00	4677.00

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	1960.0	1966.5	[m]
2	1966.5	1974.0	[m]
3	2018.0	2023.0	[m]
4	4154.0	4162.3	[m]
5	4162.3	4169.3	[m]
6	4169.5	4184.6	[m]
7	4185.5	4206.2	[m]
8	4207.0	4223.2	[m]
9	4224.0	4238.8	[m]

Total core sample length [m]	100.9
Cores available for sampling?	YES

Core photos


1960-1965m


1965-1966m


1966-1971m


1971-1974m


2018-2022m


4145-4159m


4159-4162m


4162-4167m


4167-4169m


4169-4174m


4174-4179m


4179-4184m


4184-4185m


4185-4190m


4190-4195m


4195-4200m


4200-4205m


4205-4206m


4207-4212m


4212-4217m


4217-4222m


4222-4223m


4224-4229m


4229-4234m


4234-4238m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1470.0	[m]	DC	GEOCH
1490.0	[m]	DC	GEOCH
1510.0	[m]	DC	GEOCH
1530.0	[m]	DC	GEOCH
1550.0	[m]	DC	GEOCH
1570.0	[m]	DC	GEOCH
1590.0	[m]	DC	GEOCH
1610.0	[m]	DC	GEOCH
1630.0	[m]	DC	GEOCH
1650.0	[m]	DC	GEOCH
1670.0	[m]	DC	GEOCH
1690.0	[m]	DC	GEOCH
1710.0	[m]	DC	GEOCH
1730.0	[m]	DC	GEOCH
1750.0	[m]	DC	GEOCH
1770.0	[m]	DC	GEOCH
1780.0	[m]	DC	GEOCH
1794.0	[m]	DC	GEOCH
1806.0	[m]	DC	GEOCH
1821.0	[m]	DC	GEOCH
1836.0	[m]	DC	GEOCH
1845.0	[m]	DC	GEOCH

1860.0	[m]	DC	GEOCH
1875.0	[m]	DC	GEOCH
1887.0	[m]	DC	GEOCH
1896.0	[m]	DC	GEOCH
1905.0	[m]	DC	GEOCH
1914.0	[m]	DC	GEOCH
1923.0	[m]	DC	GEOCH
1932.0	[m]	DC	GEOCH
1941.0	[m]	DC	GEOCH
1950.0	[m]	DC	GEOCH
1959.0	[m]	DC	GEOCH
1968.0	[m]	DC	GEOCH
1977.0	[m]	DC	GEOCH
1986.0	[m]	DC	GEOCH
1995.0	[m]	DC	GEOCH
2004.0	[m]	DC	GEOCH
2013.0	[m]	DC	GEOCH
2025.0	[m]	DC	GEOCH
2034.0	[m]	DC	GEOCH
2043.0	[m]	DC	GEOCH
2052.0	[m]	DC	GEOCH
2064.0	[m]	DC	GEOCH
2073.0	[m]	DC	GEOCH
2082.0	[m]	DC	GEOCH
2091.0	[m]	DC	GEOCH
2100.0	[m]	DC	GEOCH
2115.0	[m]	DC	GEOCH
2130.0	[m]	DC	GEOCH
2150.0	[m]	DC	GEOCH
2170.0	[m]	DC	GEOCH
2190.0	[m]	DC	GEOCH
2210.0	[m]	DC	GEOCH
2230.0	[m]	DC	GEOCH
2250.0	[m]	DC	GEOCH
2270.0	[m]	DC	GEOCH
2290.0	[m]	DC	GEOCH
2310.0	[m]	DC	GEOCH
2330.0	[m]	DC	GEOCH
2350.0	[m]	DC	GEOCH
2370.0	[m]	DC	GEOCH

2390.0	[m]	DC	GEOCH
2410.0	[m]	DC	GEOCH
2430.0	[m]	DC	GEOCH
2450.0	[m]	DC	GEOCH
2470.0	[m]	DC	GEOCH
2490.0	[m]	DC	GEOCH
2510.0	[m]	DC	GEOCH
2530.0	[m]	DC	GEOCH
2550.0	[m]	DC	GEOCH
2570.0	[m]	DC	GEOCH
2590.0	[m]	DC	GEOCH
2610.0	[m]	DC	GEOCH
2630.0	[m]	DC	GEOCH
2650.0	[m]	DC	GEOCH
2670.0	[m]	DC	GEOCH
2690.0	[m]	DC	GEOCH

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
397	NORDLAND GP
903	UTSIRA FM
946	HORDALAND GP
1258	GRID FM
1874	ROGALAND GP
1874	BALDER FM
1934	SELE FM
1963	LISTA FM
2086	VÅLE FM
2106	SHETLAND GP
2106	JORSALFARE FM
2355	KYRRE FM
3414	TRYGGVASON FM
3645	BLODØKS FM
3698	CROMER KNOLL GP
3698	RØDBY FM
3795	SOLA FM
3820	ÅSGARD FM
3921	VIKING GP

3921	DRAUPNE FM
4018	HEATHER FM
4149	BRENT GP
4149	TARBERT FM
4183	NESS FM
4245	ETIVE FM
4280	RANNOCH FM
4319	BROOM FM
4353	DUNLIN GP
4353	DRAKE FM
4368	COOK FM
4450	BURTON FM
4471	AMUNDSEN FM
4601	STATFJORD GP

Geochemical information

Document name	Document format	Document size [MB]
2783_1	pdf	3.29

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

Document name	Document format	Document size [MB]
2783_35_10_2_COMPLETION_REPORT_AND_COMPLETION_LOG	pdf	26.32

Logs

Log type	Log top depth [m]	Log bottom depth [m]
DIPL MAC GR	3602	4501
DLL MAC CNL ZDL SL	1452	3450
DLL ZDL GR	3437	3990
DPIL MAC GR	4236	4663
FMT QDYNE GR	2015	2016
FMT QDYNE GR	4148	4154
FMT QDYNE GR	4150	4473

FMT QDYNE GR	4150	4473
FMT QDYNE GR	4199	0
FMT QDYNE GR	4199	0
FMT QDYNE GR PT	4157	4636
FMT QDYNE GR PT	4395	4663
MAC GR	3375	3990
MDT GR	4395	4485
MWD - DPR	483	4579
SWC GR	1950	2034
SWC GR	3474	3821
SWC GR	3823	3985
SWC GR	3985	4322
SWC GR	3989	4632
SWC GR	4317	4672
VSP GR	640	3440
VSP GR	3320	4420
ZDL CNL GR	3925	4501
ZDL CNL GR	4465	4677

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	482.0	36	484.0	0.00	LOT
SURF.COND.	20	1452.0	26	1455.0	1.69	LOT
INTERM.	13 3/8	3437.0	17 1/2	3438.0	1.86	LOT
INTERM.	9 7/8	3978.0	12 1/4	3978.0	2.04	LOT
OPEN HOLE		4677.0	8 3/8	4677.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
483	1.03			DUMMY	
1050	1.03			DUMMY	
1439	1.03			DUMMY	
1752	1.45			ANCO 2000	
2018	1.47	20.0		ANCO 2000	
2156	1.47	20.0		ANCO 2000	

2581	1.49	30.0		ANCO 2000	
2773	1.49	36.0		ANCO 2000	
3026	1.49	28.0		ANCO 2000	
3201	1.49	29.0		ANCO 2000	
3301	1.47	21.0		ANCO 2000	
3301	1.47	30.0		ANCO 2000	
3450	1.51	32.0		ANCO 2000	
3450	1.51	32.0		ANCO 2000	
3958	1.70	36.0		ANCO 2000	
3990	1.81	43.0		ANCO 2000	
4097	1.89	33.0		ANCO 2000	
4142	1.84	26.0		ANCO 2000	
4149	1.81	28.0		ANCO 2000	
4154	1.84	22.0		ANCO 2000	
4233	1.84	25.0		ANCO 2000	
4505	1.84	28.0		ANCO 2000	
4538	1.81	25.0		ANCO 2000	
4677	1.81	19.0		ANCOTEMP/BENT.	

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
4235.70	[m]
4227.50	[m]
4225.25	[m]
4220.76	[m]
4216.35	[m]
4207.85	[m]
4179.87	[m]
4164.74	[m]
4157.80	[m]
4156.20	[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]
2783_Formation_pressure_(Formasjonstrykk)	pdf	0.22