General information

Wellbore name	35/11-7
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	FRAM
Discovery	35/11-7
Well name	35/11-7
Seismic location	MN 88-813 & SP. 541
Production licence	090
Drilling operator	Mobil Exploration Norway INC
Drill permit	737-L
Drilling facility	WEST DELTA
Drilling days	69
Entered date	23.07.1992
Completed date	29.09.1992
Release date	29.09.1994
Publication date	25.04.2005
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS
Discovery wellbore	YES
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	SOGNEFJORD FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	BRENT GP
Kelly bushing elevation [m]	29.0
Water depth [m]	355.0
Total depth (MD) [m RKB]	2895.0
Final vertical depth (TVD) [m RKB]	2895.0
Maximum inclination [°]	1.8
Bottom hole temperature [°C]	110
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	61° 1' 59.74'' N
EW degrees	3° 35' 26.23'' E

NS UTM [m]	6766796.52
EW UTM [m]	531912.04
UTM zone	31
NPDID wellbore	1979

Wellbore history

General

The 35/11-7 well is located in the southeastern part of the block, 2.5 kilometres east of the 35/11-4 discovery.

The primary objective of the well was the middle Jurassic Brent Group and the secondary objective was the Middle Jurassic Fensfjord Formation. A tertiary objective was the Late Jurassic Sognefjord Formation.

Operations and results

Wildcat well 35/11-7 was spudded with the semi submersible installation West Delta on 23 July 1992 and drilled to TD at 2895 m in the Early Jurassic Statfjord Formation. Operations went smoothly with little downtime. The well was drilled with seawater and viscous pills down to 966 m and with KCl/PHPA/PHB/PAC mud from 966 m to TD.

Traces of oil were seen in reservoir quality sandstone units within the Paleocene Lista Formation. No FMT samples were taken and no detailed petrophysical analysis was carried out at this level. Good hydrocarbon bearing sandstones were found in the Late Jurassic Sognefjord Formation from 1796 m. From FMT and log data the gas-oil contact is at 1800.5 m and the oil-water contact at 1851.5 m with a gross hydrocarbon column of 31.7 m. The Middle Jurassic Fensfjord Formation was found to be water wet with no shows. The Brent Group from 2423.5 m has a gross hydrocarbon column of 58.1 m. From FMT and petrophysical analysis a gas-oil contact is present at 2469.9 m and an oil-water contact at 2504.8 m. A total of eleven cores were cut in the Late and Middle Jurassic reservoirs. Five consecutive cores were taken in the Sognefjord Formation with 93 m cut and 95% recovered. Six cores were cut in the Brent Group (Ness through to Oseberg Formations), with 113 m cut and 98.8 % recovered. FMT measurements indicate moderate to good permeabilities in the Sognefjord Formation and Brent Groups. Eight segregated samples were taken, proving gas and oil in the Sognefjord Formation and gas and condensate in the Brent Group.

The well was permanently abandoned on 1 October 1992 as an oil and gas discovery.

Testing

Two drill stem tests were undertaken. DST 1 from 2476 m to 2491 m in the Brent Group tested 1105 m3 of oil and 374000 Sm3 of gas /day, corresponding to a GOR of 338 Sm3/m3. DST 2 from 1829.4 m to 1846.4 m in the Sognefjord Formation tested 1285 m3 of oil and 53000 Sm3 of gas /day on a fully open choke. This gives a GOR of 41 Sm3/m3.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
980.00	2893.00

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	1801.0	1827.5	[m]
2	1828.0	1841.6	[m]
3	1841.6	1868.0	[m]
4	1868.8	1883.0	[m]
5	1884.5	1892.0	[m]
6	2000.0	2001.1	[m]
7	2429.5	2440.0	[m]
8	2440.0	2457.0	[m]
9	2458.0	2486.3	[m]
10	2486.3	2513.0	[m]
11	2514.0	2541.0	[m]

Total core sample length [m]	198.8
Cores available for sampling?	YES

Core photos


1801-1806m


1806-1811m


1811-1816m


1816-1821m


1821-1826m


1826-1827m


1828-1833m


1833-1838m


1838-1841m


1841-1846m


1846-1851m


1851-1856m


1856-1861m


1861-1866m


1866-1868m


1868-1873m


1873-1878m


1878-1883m


1884-1889m


1889-1892m


2000-2001m


2429-2434m


2434-2439m


2439-2440m


2440-2445m


2445-2450m


2450-2455m


2455-2456m


2458-2463m


2463-2468m


2468-2473m


2473-2478m


2478-2483m


2483-2486m


2486-2491m


2491-2496m


2496-2501m


2501-2506m


2506-2511m


2511-2513m


2514-2519m


2519-2524m


2524-2529m


2529-2534m


2534-2539m


2539-2541m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
975.0	[m]	SWC	MOBIL
1000.0	[m]	SWC	MOBIL
1025.0	[m]	SWC	MOBIL
1050.0	[m]	SWC	MOBIL
1072.0	[m]	SWC	MOBIL
1088.0	[m]	SWC	MOBIL
1090.0	[m]	DC	MOBIL
1100.0	[m]	SWC	MOBIL
1120.0	[m]	DC	MOBIL
1140.0	[m]	DC	MOBIL
1150.0	[m]	SWC	MOBIL
1170.0	[m]	SWC	MOBIL
1188.0	[m]	SWC	MOBIL
1207.0	[m]	SWC	MOBIL
1224.0	[m]	SWC	MOBIL
1242.0	[m]	SWC	MOBIL
1257.5	[m]	SWC	MOBIL
1273.0	[m]	SWC	MOBIL
1286.0	[m]	SWC	MOBIL
1294.0	[m]	SWC	MOBIL
1310.0	[m]	DC	MOBIL
1324.0	[m]	SWC	MOBIL
1343.0	[m]	SWC	MOBIL

1350.0	[m]	SWC	MOBIL
1360.0	[m]	SWC	MOBIL
1370.0	[m]	SWC	MOBIL
1387.0	[m]	SWC	MOBIL
1407.0	[m]	SWC	MOBIL
1425.0	[m]	SWC	MOBIL
1440.0	[m]	DC	MOBIL
1450.0	[m]	DC	MOBIL
1465.0	[m]	SWC	MOBIL
1488.0	[m]	SWC	MOBIL
1520.0	[m]	DC	MOBIL
1528.0	[m]	SWC	MOBIL
1537.0	[m]	SWC	MOBIL
1548.0	[m]	SWC	MOBIL
1562.0	[m]	SWC	MOBIL
1580.0	[m]	DC	MOBIL
1590.0	[m]	SWC	MOBIL
1615.0	[m]	SWC	MOBIL
1627.5	[m]	SWC	MOBIL
1638.0	[m]	SWC	MOBIL
1657.0	[m]	SWC	MOBIL
1670.0	[m]	DC	MOBIL
1686.0	[m]	SWC	MOBIL
1693.0	[m]	SWC	MOBIL
1706.0	[m]	SWC	MOBIL
1718.0	[m]	SWC	MOBIL
1727.0	[m]	SWC	MOBIL
1739.0	[m]	SWC	MOBIL
1748.0	[m]	SWC	MOBIL
1758.5	[m]	SWC	MOBIL
1771.0	[m]	DC	MOBIL
1777.0	[m]	DC	MOBIL
1785.0	[m]	SWC	MOBIL
1798.0	[m]	DC	MOBIL
1801.0	[m]	C	MOBIL
1802.0	[m]	C	MOBIL
1812.0	[m]	C	MOBIL
1819.0	[m]	C	MOBIL
1828.0	[m]	C	MOBIL
1832.0	[m]	C	MOBIL

1843.0	[m]	C	MOBIL
1866.0	[m]	C	MOBIL
1876.5	[m]	C	MOBIL
1886.0	[m]	C	MOBIL
1892.9	[m]	C	MOBIL
1903.0	[m]	DC	MOBIL
1912.0	[m]	DC	MOBIL
1921.0	[m]	DC	MOBIL
1930.0	[m]	DC	MOBIL
1939.0	[m]	DC	MOBIL
1957.0	[m]	SWC	MOBIL
1966.0	[m]	DC	MOBIL
1975.0	[m]	DC	MOBIL
1984.0	[m]	DC	MOBIL
1989.5	[m]	SWC	MOBIL
2002.0	[m]	DC	MOBIL
2008.0	[m]	SWC	MOBIL
2022.5	[m]	SWC	MOBIL
2032.0	[m]	DC	MOBIL
2041.0	[m]	DC	MOBIL
2050.0	[m]	DC	MOBIL
2059.0	[m]	DC	MOBIL
2068.0	[m]	DC	MOBIL
2077.0	[m]	DC	MOBIL
2086.0	[m]	DC	MOBIL
2095.0	[m]	SWC	MOBIL
2107.0	[m]	DC	MOBIL
2125.0	[m]	DC	MOBIL
2135.0	[m]	SWC	MOBIL
2143.0	[m]	DC	MOBIL
2152.0	[m]	DC	MOBIL
2164.0	[m]	DC	MOBIL
2173.0	[m]	DC	MOBIL
2200.0	[m]	SWC	MOBIL
2209.0	[m]	DC	MOBIL
2218.0	[m]	DC	MOBIL
2227.0	[m]	DC	MOBIL
2236.0	[m]	DC	MOBIL
2254.0	[m]	DC	MOBIL
2263.0	[m]	DC	MOBIL

2272.0	[m]	DC	MOBIL
2281.0	[m]	DC	MOBIL
2290.0	[m]	DC	MOBIL
2308.0	[m]	DC	MOBIL
2317.0	[m]	DC	MOBIL
2324.0	[m]	SWC	MOBIL
2335.0	[m]	DC	MOBIL
2344.0	[m]	DC	MOBIL
2353.0	[m]	DC	MOBIL
2362.0	[m]	DC	MOBIL
2368.0	[m]	DC	MOBIL
2383.0	[m]	DC	MOBIL
2391.0	[m]	SWC	MOBIL
2398.0	[m]	DC	MOBIL
2413.0	[m]	DC	MOBIL
2420.0	[m]	SWC	MOBIL
2428.0	[m]	DC	MOBIL
2434.0	[m]	C	MOBIL
2444.0	[m]	C	MOBIL
2450.0	[m]	C	MOBIL
2486.0	[m]	C	RRI
2506.0	[m]	C	RRI
2510.0	[m]	C	RRI
2512.0	[m]	C	RRI
2515.0	[m]	C	RRI
2518.0	[m]	C	RRI
2521.0	[m]	C	MOBIL
2521.0	[m]	C	RRI
2525.0	[m]	C	MOBIL
2525.0	[m]	C	RRI
2529.0	[m]	C	RRI
2538.0	[m]	C	RRI
2539.0	[m]	C	RRI
2540.0	[m]	C	RRI
2541.0	[m]	C	MOBIL
2542.0	[m]	DC	MOBIL
2551.0	[m]	DC	MOBIL
2557.0	[m]	DC	MOBIL
2566.0	[m]	DC	MOBIL
2572.0	[m]	DC	MOBIL

2589.0	[m]	SWC	MOBIL
2610.0	[m]	SWC	MOBIL
2620.0	[m]	DC	MOBIL
2632.0	[m]	DC	MOBIL
2641.0	[m]	DC	MOBIL
2649.0	[m]	SWC	MOBIL
2662.0	[m]	DC	MOBIL
2671.0	[m]	DC	MOBIL
2680.0	[m]	DC	MOBIL
2689.0	[m]	DC	MOBIL
2710.0	[m]	DC	MOBIL
2719.0	[m]	DC	MOBIL
2734.0	[m]	DC	MOBIL
2743.0	[m]	DC	MOBIL
2752.0	[m]	DC	MOBIL
2761.0	[m]	DC	MOBIL
2770.0	[m]	DC	MOBIL
2779.0	[m]	DC	MOBIL
2800.0	[m]	DC	MOBIL
2809.0	[m]	DC	MOBIL
2830.0	[m]	DC	MOBIL
2848.0	[m]	DC	MOBIL
2878.0	[m]	DC	MOBIL

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	DST1	2476.00	2499.00		12.09.1992 - 16:00	YES
DST	DST2	2476.00	2491.00	OIL	21.09.1992 - 16:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
384	NORDLAND GP
687	UTSIRA FM
711	HORDALAND GP

1295	ROGALAND GP
1295	BALDER FM
1344	SELE FM
1410	LISTA FM
1487	NO FORMAL NAME
1527	LISTA FM
1591	NO FORMAL NAME
1626	LISTA FM
1715	VÅLE FM
1735	SHETLAND GP
1735	HARDRÅDE FM
1779	KYRRE FM
1793	VIKING GP
1793	DRAUPNE FM
1796	SOGNEFJORD FM
1964	HEATHER FM
2104	FENSFJORD FM
2181	HEATHER FM
2424	BRENT GP
2424	NESS FM
2454	ETIVE FM
2511	RANNOCH FM
2528	OSEBERG FM
2584	DUNLIN GP
2584	DRAKE FM
2592	COOK FM
2687	AMUNDSEN FM
2791	JOHANSEN FM
2840	STATFJORD GP

Composite logs

Document name	Document format	Document size [MB]
1979	pdf	0.46

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

Document name	Document format	Document size [MB]
1979_01_WDSS_General_Information	pdf	0.52
1979_02_WDSS_completion_log	pdf	0.18

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

Document name	Document format	Document size [MB]
1979_35_11_7_COMPLETION_LOG	pdf	2.25
1979_35_11_7_COMPLETION_REPORT	pdf	47.06

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2476	2491	15.9
2.0	1829	1846	15.9

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0		12.000	24.000	90
2.0		12.000	24.000	75

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	662	195384	0.802	0.700	295
2.0	636	39643	0.802	0.730	62

Logs

Log type	Log top depth [m]	Log bottom depth [m]
DIFL ACL GR CHT	1770	2890
DIFL ACL ZDEN CN GR CHT	1774	2314
DIFL ACL ZDEN GR CHT	901	1772
DIP GR	1788	2890
DLL MLL GR CHT	1770	2891
FMT HP GR	1490	1765

FMT HP GR	1797	1947
FMT HP GR	1809	0
FMT HP GR	1815	2879
FMT HP GR	1868	0
FMT HP GR	2437	0
FMT HP GR	2462	0
FMT HP GR	2475	0
MWD - DIR	433	452
MWD - RES GR DIR	279	413
MWD - RES GR DIR	452	2895
SWC GR	975	1758
SWC GR	1777	2370
SWC GR	1785	2849
VELOCITY	500	2550
ZDEN CN SL	1770	2891

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	443.0	36	446.0	0.00	LOT
INTERM.	13 3/8	954.0	17 1/2	966.0	1.77	LOT
INTERM.	9 5/8	1774.0	12 1/4	1781.0	1.77	LOT
LINER	7	2895.0	8 1/2	2895.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
434	1.06	66.0		WATER BASED	
452	1.06	64.0		WATER BASED	
452	1.06	64.0		WATER BASED	
556	1.13	19.0		WATER BASED	
609	1.13	54.0		WATER BASED	
725	1.13	48.0		WATER BASED	
966	1.13	49.0		WATER BASED	
1036	1.14	30.0		WATER BASED	
1342	1.14	20.0		WATER BASED	
1630	1.14	16.0		WATER BASED	

1778	1.18	17.0		WATER BASED	
1781	1.24	18.0		WATER BASED	
1894	1.16	18.0		WATER BASED	
2218	1.14	25.0		WATER BASED	
2374	1.14	24.0		WATER BASED	
2428	1.14	28.0		WATER BASED	
2430	1.15	28.0		WATER BASED	
2441	1.15	28.0		WATER BASED	
2486	1.14	27.0		WATER BASED	
2519	1.14	27.0		WATER BASED	
2541	1.14	27.0		WATER BASED	
2620	1.10	10.0		WATER BASED	
2678	1.14	27.0		WATER BASED	
2679	1.14	25.0		WATER BASED	
2785	1.14	28.0		WATER BASED	
2890	1.14	27.0		WATER BASED	
2895	1.14	24.0		WATER BASED	

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]
1979_Formation_pressure_(Formasjonstrykk)	pdf	0.22