



General information

Wellbore name	36/7-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	GJØA
Discovery	36/7-1
Well name	36/7-1
Seismic location	NH 8902-INLINE 928 & CROSSLINE 900
Production licence	153
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	842-L
Drilling facility	WEST VANGUARD
Drilling days	38
Entered date	31.03.1996
Completed date	07.05.1996
Release date	07.05.1998
Publication date	23.05.2006
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS
Discovery wellbore	YES
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	INTRA DRAUPNE FM SS
2nd level with HC, age	LATE JURASSIC
2nd level with HC, formation	SOGNEFJORD FM
3rd level with HC, age	MIDDLE JURASSIC
3rd level with HC, formation	FENSFJORD FM
Kelly bushing elevation [m]	22.0
Water depth [m]	358.0
Total depth (MD) [m RKB]	2841.0
Final vertical depth (TVD) [m RKB]	2839.0
Maximum inclination [°]	8.8
Bottom hole temperature [°C]	81
Oldest penetrated age	PRE-DEVONIAN
Oldest penetrated formation	BASEMENT
Geodetic datum	ED50



NS degrees	61° 21' 13.49" N
EW degrees	4° 0' 57.22" E
NS UTM [m]	6802775.15
EW UTM [m]	554334.61
UTM zone	31
NPDID wellbore	1794

Wellbore history

General

Well 36/7-1 is located on the Måløy slope, ca 4 km SE of the 35/9-1 Gjøa Discovery well. It was the third exploration well to be drilled in the licence area and tested the hydrocarbon potential of the A-East structure. The primary target was the transgressive sands of the Sognefjord and Fensfjord formations. Brent Group sandstone was secondary target.

Operations and results

Wildcat well 36/7-1 was spudded with the semi-submersible installation West Vanguard on 31 March 1996 and drilled to TD at 2841 m in basement rock. No significant technical problems were encountered in the operations. The well was drilled with seawater and hi-vis sweeps (spud mud) mud down to 1256 m and with ANCO 2000 mud from 1256 m to TD.

The well discovered oil and gas in Intra Draupne sandstones and the Sognefjord Formations of Late Jurassic age as well as in middle jurassic Fensfjord Formation. The Brent Group was dry. The reservoir consists of sandstone, siltstone and shale. The free oil and free water levels were clearly defined from the MDT pressure data and were consistent with the fluid contacts apparent from the logs. The FOL was at 2337.6 m (2315.0 m TVD MSL), and the FWL was at 2372.1 m, (2349.5 m TVD MSL). Proven gross gas column was 217 m (2120 -2337 m) and proven gross oil column was 34.5 m (2337 - 2371.5 m). Reported oil shows began at 1910 m and ended at 2429 m. Evaluation of MDT data from well 36/7-1 showed the same pressure environment within the oil zone of the Fensfjord Formation as in the wells 36/7-1 and 35/9-2.

A total of 280 m core was retrieved in nine cores from the interval 2124 m to 2429.5 m in the Sognefjord and Fensfjord Formations. MDT sampling was performed at 2443.5 m in the water zone.

The well was permanently abandoned on 7 May 1996 as an oil and gas discovery.

Testing

A successful production test was performed in an approximately 12 m thick sandstone layer within the oil zone (2362.9 - 2367.9 m). Production was 1025 Sm³ /day on a 64/64 choke. The fluid contained 0.15% CO₂ and the gas/oil ratio was 166 Sm³/Sm³. The oil density was 0.82 g/cm³. No water was produced.

Cuttings at the Norwegian Offshore Directorate



Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1260.00	2842.00

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	2124.0	2142.9	[m]
2	2143.0	2169.7	[m]
3	2171.0	2199.0	[m]
4	2199.0	2226.8	[m]
5	2247.0	2272.9	[m]
6	2275.0	2308.3	[m]
7	2309.0	2345.6	[m]
8	2346.0	2383.1	[m]
9	2383.0	2429.5	[m]

Total core sample length [m]	280.8
Cores available for sampling?	YES

Core photos

2124-2129m



2129-2134m



2134-2139m



2139-2142m



2143-2148m



2148-2153m



2153-2158m



2158-2163m



2163-2168m



2168-2169m



2171-2176m



2176-2181m



2181-2186m



2186-2191m



2191-2196m



2196-2199m



2199-2204m



2204-2209m



2209-2214m



2214-2219m



2219-2224m



2224-2226m



2247-2252m



2252-2257m



2257-2262m



2262-2267m



2267-2272m



2272-2273m



2275-2280m



2280-2285m



2285-2290m



2290-2295m



2295-2300m



2305-2308m



2309-2314m



2314-2319m



2319-2324m



2324-2329m



2329-2334m



2334-2339m



2339-2344m



2344-2345m



2346-2351m



2151-2356m



2356-2361m



2361-2366m



2366-2371m



2371-2376m



2376-2381m



2381-2383m



2383-2388m



2388-2393m



2393-2398m



2398-2403m



2403-2408m



2408-2413m



2413-2418m



2418-2423m



2423-2428m



2428-2430m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1260.0	[m]	DC	RRI
1270.0	[m]	DC	RRI
1280.0	[m]	DC	RRI
1300.0	[m]	DC	RRI
1310.0	[m]	DC	RRI
1320.0	[m]	DC	RRI
1330.0	[m]	DC	RRI
1340.0	[m]	DC	RRI
1357.0	[m]	SWC	RRI



1400.0 [m]	DC	RRI
1409.0 [m]	DC	RRI
1420.0 [m]	DC	RRI
1430.0 [m]	DC	RRI
1440.0 [m]	DC	RRI
1450.0 [m]	DC	RRI
1460.0 [m]	DC	RRI
1470.0 [m]	DC	RRI
1480.0 [m]	DC	RRI
1490.0 [m]	DC	RRI
1500.0 [m]	DC	RRI
1510.0 [m]	DC	RRI
1520.0 [m]	DC	RRI
1530.0 [m]	DC	RRI
1540.0 [m]	DC	RRI
1550.0 [m]	DC	RRI
1560.0 [m]	DC	RRI
1570.0 [m]	DC	RRI
1580.0 [m]	DC	RRI
1590.0 [m]	DC	RRI
1600.0 [m]	DC	RRI
1610.0 [m]	DC	RRI
1620.0 [m]	DC	RRI
1630.0 [m]	DC	RRI
1640.0 [m]	DC	RRI
1650.0 [m]	DC	RRI
1660.0 [m]	DC	RRI
1670.0 [m]	DC	RRI
1682.0 [m]	SWC	RRI
1690.0 [m]	DC	RRI
1700.0 [m]	DC	RRI
1710.0 [m]	DC	RRI
1720.0 [m]	DC	RRI
1730.0 [m]	DC	RRI
1740.0 [m]	DC	RRI
1750.0 [m]	DC	RRI
1760.0 [m]	DC	RRI
1770.0 [m]	DC	RRI
1780.0 [m]	DC	RRI
1790.0 [m]	DC	RRI



1800.0 [m]	DC	RRI
1810.0 [m]	DC	RRI
1823.0 [m]	SWC	RRI
1840.0 [m]	DC	RRI
1850.0 [m]	DC	RRI
1860.0 [m]	DC	RRI
1870.0 [m]	DC	RRI
1880.0 [m]	DC	RRI
1892.0 [m]	SWC	RRI
1910.0 [m]	SWC	RRI
1920.0 [m]	DC	RRI
1930.0 [m]	DC	RRI
1940.0 [m]	DC	RRI
1950.0 [m]	DC	RRI
1960.0 [m]	DC	RRI
1970.0 [m]	DC	RRI
1980.0 [m]	DC	RRI
1990.0 [m]	DC	RRI
2000.0 [m]	DC	RRI
2008.0 [m]	SWC	RRI
2012.0 [m]	SWC	RRI
2025.0 [m]	SWC	RRI
2035.0 [m]	SWC	RRI
2045.0 [m]	SWC	RRI
2055.0 [m]	SWC	RRI
2062.0 [m]	SWC	RRI
2071.0 [m]	SWC	RRI
2079.0 [m]	SWC	RRI
2088.0 [m]	SWC	RRI
2104.0 [m]	SWC	RRI
2125.0 [m]	C	RRI
2136.0 [m]	C	RRI
2137.6 [m]	C	FUGRO
2140.9 [m]	C	FUGRO
2141.7 [m]	C	FUGRO
2142.9 [m]	C	FUGRO
2143.3 [m]	C	FUGRO
2145.5 [m]	C	RRI
2146.9 [m]	C	FUGRO
2150.4 [m]	C	FUGRO



2151.7	[m]	C	FUGRO
2152.9	[m]	C	RRI
2153.4	[m]	C	FUGRO
2156.4	[m]	C	FUGRO
2158.0	[m]	C	FUGRO
2159.5	[m]	C	FUGRO
2160.8	[m]	C	FUGRO
2162.9	[m]	C	FUGRO
2163.6	[m]	C	RRI
2173.7	[m]	C	RRI
2177.2	[m]	C	RRI
2205.4	[m]	C	RRI
2208.8	[m]	C	RRI
2226.8	[m]	C	RRI
2235.0	[m]	DC	RRI
2253.8	[m]	C	RRI
2257.8	[m]	C	RRI
2261.9	[m]	C	RRI
2266.1	[m]	C	RRI
2294.4	[m]	C	FUGRO
2298.0	[m]	C	RRI
2312.7	[m]	C	FUGRO
2317.8	[m]	C	RRI
2317.8	[m]	C	FUGRO
2325.6	[m]	C	FUGRO
2337.3	[m]	C	FUGRO
2339.2	[m]	C	RRI
2344.0	[m]	C	RRI
2344.4	[m]	C	FUGRO
2346.7	[m]	C	FUGRO
2347.0	[m]	C	RRI
2354.2	[m]	C	FUGRO
2357.9	[m]	C	RRI
2372.6	[m]	C	RRI
2377.5	[m]	C	RRI
2378.5	[m]	C	RRI
2380.5	[m]	C	FUGRO
2382.8	[m]	C	FUGRO
2393.8	[m]	C	RRI
2395.6	[m]	C	RRI



2395.7 [m]	C	FUGRO
2397.0 [m]	C	FUGRO
2399.5 [m]	C	FUGRO
2403.0 [m]	C	FUGRO
2404.5 [m]	C	RRI
2405.5 [m]	C	FUGRO
2407.3 [m]	C	FUGRO
2409.6 [m]	C	FUGRO
2411.5 [m]	C	FUGRO
2412.9 [m]	C	RRI
2413.6 [m]	C	FUGRO
2416.1 [m]	C	FUGRO
2418.9 [m]	C	FUGRO
2420.5 [m]	C	FUGRO
2422.6 [m]	C	FUGRO
2424.3 [m]	C	FUGRO
2428.3 [m]	C	FUGRO
2429.4 [m]	C	FUGRO
2440.0 [m]	DC	FUGRO
2440.0 [m]	DC	RRI
2442.0 [m]	DC	FUGRO
2445.0 [m]	DC	FUGRO
2447.0 [m]	DC	FUGRO
2450.0 [m]	DC	FUGRO
2450.0 [m]	DC	RRI
2452.0 [m]	DC	FUGRO
2455.0 [m]	DC	FUGRO
2456.0 [m]	DC	FUGRO
2460.0 [m]	DC	FUGRO
2460.0 [m]	DC	RRI
2462.0 [m]	DC	FUGRO
2465.0 [m]	DC	FUGRO
2467.0 [m]	DC	FUGRO
2470.0 [m]	DC	FUGRO
2470.0 [m]	DC	RRI
2472.0 [m]	DC	FUGRO
2475.0 [m]	DC	FUGRO
2477.0 [m]	DC	FUGRO
2480.0 [m]	DC	FUGRO
2480.0 [m]	DC	RRI



2482.0	[m]	DC	FUGRO
2485.0	[m]	DC	FUGRO
2487.0	[m]	DC	FUGRO
2490.0	[m]	DC	FUGRO
2490.0	[m]	DC	RRI
2497.0	[m]	DC	FUGRO
2500.0	[m]	DC	FUGRO
2500.0	[m]	DC	RRI
2510.0	[m]	DC	RRI
2522.0	[m]	DC	RRI
2530.0	[m]	DC	RRI
2540.0	[m]	DC	RRI
2550.0	[m]	DC	RRI
2560.0	[m]	DC	RRI
2570.0	[m]	DC	RRI
2580.0	[m]	DC	RRI
2587.0	[m]	DC	RRI
2595.0	[m]	DC	RRI
2605.0	[m]	DC	RRI
2615.0	[m]	DC	RRI
2630.0	[m]	DC	RRI
2640.0	[m]	DC	RRI
2640.0	[m]	DC	RRI
2650.0	[m]	DC	RRI
2660.0	[m]	DC	RRI
2680.0	[m]	DC	RRI
2690.0	[m]	DC	RRI
2700.0	[m]	DC	RRI
2711.0	[m]	DC	RRI
2720.0	[m]	DC	RRI
2730.0	[m]	DC	RRI
2740.0	[m]	DC	RRI
2750.0	[m]	DC	RRI
2760.0	[m]	DC	RRI
2770.0	[m]	DC	RRI
2775.0	[m]	DC	RRI
2785.0	[m]	DC	RRI
2795.0	[m]	DC	RRI
2805.0	[m]	DC	RRI
2815.0	[m]	DC	RRI



2825.0	[m]	DC	RRI
2832.0	[m]	DC	RRI
2842.0	[m]	DC	RRI

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	2368.00	2363.00		01.05.1996 - 07:47	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
380	NORDLAND GP
608	ROGALAND GP
1281	SHETLAND GP
1281	JORSALFARE FM
1323	KYRRE FM
1958	BLODØKS FM
1976	SVARTE FM
2020	CROMER KNOLL GP
2020	RØDBY FM
2046	ÅSGARD FM
2120	VIKING GP
2120	INTRA DRAUPNE FM SS
2171	SOGNEFJORD FM
2207	HEATHER FM
2235	FENSFJORD FM
2510	KROSSFJORD FM
2560	HEATHER FM
2662	BRENT GP
2662	NESS FM
2700	ETIVE FM
2727	RANNOCH FM
2770	DUNLIN GP
2770	NO FORMAL NAME
2808	STATFJORD GP



2808	NO FORMAL NAME
2834	BASEMENT

Composite logs

Document name	Document format	Document size [MB]
1794_36_7_1	pdf	0.46

Geochemical information

Document name	Document format	Document size [MB]
1794_1	pdf	11.21

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

Document name	Document format	Document size [MB]
1794_36_7_1_COMPLETION_REPORT_AND_COMPLETION_LOG	pdf	20.84

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2363	2368	25.4

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0	24.000	22.000	24.000	83

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	1025	171175	0.820	0.800	167





Logs

Log type	Log top depth [m]	Log bottom depth [m]
CST GR	1287	2116
DLL MSFL SDT LDL CNL GR AMS	1253	2835
FMI NGT AMS	1253	2834
MDT GR	2443	0
MDT GR ACTS	2135	2778
MWD - GR RES DIR	380	2841
VSP	1035	2820

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	440.0	36	440.0	0.00	LOT
SURF.COND.	13 3/8	1251.0	17 1/2	1251.0	1.46	LOT
OPEN HOLE		2124.0	12 1/4	2124.0	0.00	LOT
OPEN HOLE		2841.0	8 1/2	2841.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
440	1.20			WATER BASED	
979	1.05			WATER BASED	
1256	1.20	8.0		WATER BASED	
2142	1.20	12.0		WATER BASED	
2305	1.23	16.0		WATER BASED	
2777	1.20	15.0		WATER BASED	
2832	1.21	22.0		WATER BASED	
2841	1.21	23.0		WATER BASED	

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
2368.53	[m]
2362.25	[m]
2331.47	[m]



2317.48	[m]
2305.02	[m]
2276.78	[m]
2270.55	[m]
2251.50	[m]
2204.52	[m]
2193.50	[m]
2183.63	[m]
2173.50	[m]
2161.75	[m]
2132.67	[m]
2124.45	[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]
1794 Formation pressure (Formasjonstrykk)	pdf	0.22

