General information

Wellbore name	34/8-7 R
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	34/8-7
Well name	34/8-7
Seismic location	NH 9001- REKKE 809 & KOLONNE 1200
Production licence	120
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	725-L2
Drilling facility	POLAR PIONEER
Drilling days	84
Entered date	19.11.1992
Completed date	10.02.1993
Plugged and abondon date	10.02.1993
Release date	10.02.1995
Publication date	24.09.2003
Purpose - planned	WILDCAT
Reentry	YES
Reentry activity	TESTING
Content	GAS
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	BRENT GP
2nd level with HC, age	EARLY JURASSIC
2nd level with HC, formation	COOK FM
3rd level with HC, age	EARLY JURASSIC
3rd level with HC, formation	STATFJORD GP
Kelly bushing elevation [m]	23.0
Water depth [m]	334.0
Total depth (MD) [m RKB]	5460.0
Final vertical depth (TVD) [m RKB]	5441.4
Maximum inclination [°]	12.8
Bottom hole temperature [°C]	181
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	LUNDE FM

Geodetic datum	ED50
NS degrees	61° 19' 9.07'' N
EW degrees	2° 33' 32.15'' E
NS UTM [m]	6798582.22
EW UTM [m]	476383.07
UTM zone	31
NPDID wellbore	2057

Wellbore history

General

Well 34/8-7 is located on the western flank of the Tampen Spur and is situated approximately 7.4 kilometres due east of well 34/8-4S, in the Visund prospect. This was the third exploration well to be drilled in the licence area. The primary objective of well 34/8-7 was to test the Jurassic Brent Group and Statfjord Formation in the hanging wall of the Visund Fault. The secondary objectives were to establish a good seismic to well correlation and to fulfil licence obligations.

Operations and results

Exploration well 34/8-7 was spudded with the semi-submersible rig "Polar Pioneer" on 21 March 1992 and drilled to TD at 5460 m in the Triassic Hegre Group. The well was drilled with spud mud down to 1444 m and with KCl/PHPA/Polymer mud from 1444 m to 3288 m. From 3288 m the mud system was gradually changed to a HTHP (high temperature stable polymers) mud. Still, towards TD of the well it was evident that some of the chemical/polymers was decomposing and forming carbonates.

Conglomeratic density flow deposits (Intra Draupne Formation sandstone) were found in the upper part of the Draupne Formation. From a gross thickness of 134.5m, 5.75m of net sand were identified of which 5.25m were regarded as net pay. An average porosity value 9.4% and average Sw of 50.1% were computed for the pay section. A core cut in the Intra Draupne sandstone gave 5.2 % core porosity on average.

The primary objective Brent Group was encountered at 4632.5 m. The entire Brent Group was interpreted as being gas bearing. From a gross thickness of 134.5m, 36.5m of net sand were recognised with 36.5m of net pay. An average porosity of 9.8% and average Sw of 30.4% were determined. A core cut in the Brent Group, gave an average porosity of 9.9 %. The sandy member of Cook Formation was found to be gas bearing, but poor reservoir properties reduced the net pay to only 2.0 m with an average porosity of 8.3 % and average Sw of 36.1 %.

No net pay was identified in the Amundsen sand.

The Statfjord Formation came in at 5118 m. It was 88.5 m thick of which 22.5 m was net sand and 18.75 m was identified as net gas bearing pay. Cores cut in the Statfjord Formation gave an average core porosity of 7.1 % porosity.

A total of five cores were cut in isolated intervals throughout the well. Core number 1 was cut in the Intra Draupne Sandstone, core number 2 was cut in the Tarbert and Ness Formations, cores number 3 and 4 were cut in the Statfjord Formation, while core number 5 was cut in the Hegre Group. Attempts to take RFT pre-test in the Draupne equivalent conglomerate proved to be unsuccessful due to the tight nature of the Formation. Because of hole washouts and high down hole temperature and pressure anomalies, no RFT pressure measurements could be obtained in the Brent Group and Statfjord Formations.

After running the liner as part of preparing for drill stem testing, "Polar Pioneer" had to be released for other purposes. The well was therefore suspended on 16 July 1992 with the provision that testing of the reservoir zones would be performed at a later date. The well was re-entered (34/8-7 R) with the semi-submersible installation "Polar Pioneer" on 19 November 1992 for testing. It was permanently abandoned as a gas discovery on 10 February 1993.

Testing

Well 34/8-7 R was tested in two intervals. In Test 1 in the Statfjord Formation (5117.8 m ? 5210.0 m) no production was achieved. Test 2 in the Brent Group (4671.7 m ? 4731.0 m) produced gas.

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Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
358	NORDLAND GP
1071	UTSIRA FM
1095	NO FORMAL NAME
1160	HORDALAND GP
1406	NO FORMAL NAME
1413	NO FORMAL NAME
1630	NO FORMAL NAME
1654	NO FORMAL NAME
1875	ROGALAND GP
1875	BALDER FM
1928	LISTA FM
2022	HEIMDAL FM
2037	LISTA FM
2081	SHETLAND GP
2081	JORSALFARE FM
2320	KYRRE FM
3260	TRYGGVASON FM
3826	SVARTE FM
4034	CROMER KNOLL GP
4034	RØDBY FM
4298	SOLA FM
4374	ÅSGARD FM
4466	VIKING GP
4466	INTRA DRAUPNE FM SS
4584	DRAUPNE FM
4595	HEATHER FM
4633	BRENT GP
4633	TARBERT FM
4655	NESS FM
4699	ETIVE FM
4714	RANNOCH FM
4764	BROOM FM
4767	DUNLIN GP
4767	DRAKE FM
4808	COOK FM

4953	BURTON FM
4970	AMUNDSEN FM
5086	NO FORMAL NAME
5106	NO FORMAL NAME
5118	STATFJORD GP
5208	HEGRE GP
5208	LUNDE FM

Geochemical information

Document name	Document format	Document size [MB]
2057_1	pdf	1.93
2057_2	pdf	0.36

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	5118	5210	6.3
2.0	4671	4731	19.0

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0			86.400	170
2.0			7.600	150

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0					
2.0		18673		0.720	

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	444.5	36	446.0	0.00	LOT
INTERM.	18 5/8	1436.0	26	1438.0	1.65	LOT

INTERM.	13 3/8	3264.0	17 1/2	3264.0	1.89	LOT
INTERM.	9 5/8	3945.0	12 1/4	3947.0	2.00	LOT
LINER	7	5460.0	8 1/2	5460.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1050	1.39	9.0		WATER BASED	
2496	1.39	8.0		WATER BASED	
3690	1.39	9.0		WATER BASED	
3792	1.84	30.0		WATER BASED	
3792	1.84	30.0		WATER BASED	
4611	1.84	22.0		WATER BASED	
4711	1.84	22.0		WATER BASED	
4797	1.84	23.0		WATER BASED	
5210	1.78	23.0		WATER BASED	