General information

Wellbore name	34/8-3
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	VISUND
Discovery	34/8-1 Visund
Well name	34/8-3
Seismic location	NH 8404 - 321 SP 275
Production licence	120
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	581-L
Drilling facility	POLAR PIONEER
Drilling days	63
Entered date	14.07.1988
Completed date	14.09.1988
Release date	14.09.1990
Publication date	21.12.2012
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS
Discovery wellbore	NO
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	BRENT GP
Kelly bushing elevation [m]	23.0
Water depth [m]	382.0
Total depth (MD) [m RKB]	3328.0
Final vertical depth (TVD) [m RKB]	3320.0
Maximum inclination [°]	9.6
Bottom hole temperature [°C]	122
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	61° 24' 28.04'' N
EW degrees	2° 32' 45.06'' E
NS UTM [m]	6808456.80
EW UTM [m]	475751.35

UTM zone	31
NPDID wellbore	940

Wellbore history

General

Well 34/8-3 was drilled on the A-structure on the Visund Field. This is a NNE-SSW oriented elongated fault block with the Pre-Cretaceous strata dipping towards WNW. The A-Central fault divides the A-structure into the A-North and A-South compartments. The primary objectives of the well were to test the hydrocarbon potential of the Brent Group on the A-North compartment. Planned TD was 50 m into the Statfjord Formation.

Operations and results

Wildcat well 34/8-3 was spudded with the semi-submersible installation Polar Pioneer on 14 July 1988 and drilled to TD at 3328 m (3320 m TVD) in the Early Jurassic Statfjord Formation. There were no problems with shallow gas. 9 5/8" casing was set at 2597 m instead of 2800 m due to higher pressure than prognosed in formation of Cretaceous age. Below 2600 m the well started to build some angle, up to 9.6 deg at the most. This resulted in 8 meter discrepancy between measured depth and vertical depth towards TD. The well was drilled with seawater and hi-vis pills down to 1302 m and with KCl/polymer mud from 1302 m to TD.

Oil shows were recorded in thin sandstone stringers in the Kyrre Formation between 2364 m and 2555 m. The Brent Group was encountered at 2837 m. It contained a 90 m gas column and a 13 m oil column. The gas/oil contact was at 2929 m. The oil/water contact could not be established, but DST 1 produced clean oil from the interval 2935 to 2947 m. Oil shows were recorded on sandstone on cores down to 2951 m.

Seven cores were cut in the interval 2839.0 to 2957.5 m in the Brent Group. The core depths are 1 m shallow compared to logger's depth. One RFT wire line fluid sample was taken at 2936 m. The 2 3/4 gallon chamber contained 9 litres water and mud filtrate, 0.6 litres oil and 0.14 Sm3 gas.

Since the oil/water contact was not found, it was decided to sidetrack. The well bore was plugged back to 845 m and permanently abandoned on 14 September 1988 as an oil and gas appraisal well.

Testing

Three drill stem tests were performed in the well.

DST 1 tested the interval from 2935 to 2947 m in the oil zone in the Rannoch Formation. It produced 68 Sm3 oil and 18200 Sm3 gas /day through a 4.76 mm (12/64") choke. The GOR was 268 Sm3/Sm3, the oil density was 0.847 g/cm3, and the gas gravity was 0.635 (air = 1) with 1 % CO2 and 0 ppm H2S. The bottom hole temperature was 108.9 deg C, measured at 2895.8 m.

DST 2 tested the interval from 2905 to 2921 m in the gas zone in the Rannoch Formation. It produced 613 Sm3 oil and 1540000 Sm3 gas /day through a 28.58 mm (72/64") choke. The GOR was 2520 Sm3/Sm3, the oil density was 0.0.775 g/cm3, and the gas gravity was 0.640 (air = 1) with 1.6 % CO2 and 1 ppm H2S. The bottom hole temperature was 110.8 deg C, measured at 2850.11 m.

DST 3 tested the interval from 2868 to 2880 m in the gas zone in the Etive Formation. It produced 554 Sm3 oil and 1540000 Sm3 gas /day through a 25.4 mm (64/64") choke.

The GOR was 2780 Sm3/Sm3, the oil density was 0.782 g/cm3, and the gas gravity was 0.648 (air = 1) with 1.5 % CO2 and 1 ppm H2S. The bottom hole temperature was 110.4 deg C, measured at 2825.56 m.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1320.00	3327.00

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	2839.0	2849.0	[m]
2	2849.0	2871.0	[m]
3	2871.0	2895.0	[m]
4	2895.0	2898.5	[m]
5	2899.0	2927.0	[m]
6	2927.0	2946.0	[m]
7	2946.0	2957.1	[m]

Total core sample length [m]	117.6
Cores available for sampling?	YES

Core photos


2839-2843m


2846-2851m


2851-2856m


2856-2861m


2861-2866m


2866-2873m


2873-2878m


2878-2883m


2878-2883m


2883-2888m


2888-2893m


2893-2897m


2898-2903m


2903-2908m


2908-2913m


2913-2918m


2923-2927m


2918-2923m


2927-2932m


2932-2937m


2937-2942m


2942-2947m


2947-2953m


2953-2957m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2641.0	[m]	SWC	HYDRO
2690.0	[m]	SWC	HYDRO
2733.0	[m]	SWC	HYDRO
2770.0	[m]	SWC	HYDRO
2810.0	[m]	DC	HYDRO
2820.0	[m]	DC	HYDRO
2824.0	[m]	SWC	HYDRO
2827.5	[m]	SWC	HYDRO
2828.0	[m]	SWC	HYDRO

2835.0	[m]	SWC	HYDRO
2837.0	[m]	SWC	HYDRO
2839.0	[m]	C	HYDRO
2839.9	[m]	C	HYDRO
2840.0	[m]	DC	HYDRO
2842.0	[m]	C	HYDRO
2852.0	[m]	C	HYDRO
2852.5	[m]	C	HYDRO
2855.0	[m]	DC	HYDRO
2855.1	[m]	C	HYDRO
2860.9	[m]	C	HYDRO
2861.0	[m]	C	HYDRO
2866.0	[m]	C	HYDRO
2876.2	[m]	C	HYDRO
2880.3	[m]	C	HYDRO
2931.0	[m]	C	HYDRO
2931.0	[m]	C	HYDRO
2933.4	[m]	C	HYDRO
2934.0	[m]	C	HYDRO
2935.2	[m]	C	HYDRO
2942.1	[m]	C	HYDRO
2947.0	[m]	C	HYDRO
2952.4	[m]	C	HYDRO
2955.0	[m]	DC	HYDRO
2956.8	[m]	C	HYDRO
2957.2	[m]	C	HYDRO
2962.0	[m]	DC	HYDRO
2970.0	[m]	DC	HYDRO
2985.0	[m]	DC	HYDRO
2995.7	[m]	SWC	HYDRO
2997.5	[m]	SWC	HYDRO
3000.0	[m]	DC	HYDRO
3015.0	[m]	DC	HYDRO
3030.0	[m]	SWC	HYDRO
3034.0	[m]	SWC	HYDRO
3045.5	[m]	SWC	HYDRO
3075.0	[m]	SWC	HYDRO
3128.0	[m]	SWC	HYDRO
3155.0	[m]	SWC	HYDRO
3165.0	[m]	SWC	HYDRO

3180.0	[m]	SWC	HYDRO
3220.0	[m]	SWC	HYDRO
3273.0	[m]	SWC	HYDRO
3277.0	[m]	SWC	HYDRO

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		0.00	0.00			YES
DST	TEST1	2935.00	2947.00		18.08.1988 - 00:00	YES
DST	DST2	2905.00	2921.00		30.08.1988 - 00:00	YES
DST	DST3	2868.00	2880.00	CONDENSATE	08.09.1988 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
405	NORDLAND GP
1119	UTSIRA FM
1175	HORDALAND GP
1820	ROGALAND GP
1820	BALDER FM
1862	LISTA FM
2012	SHETLAND GP
2012	JORSALFARE FM
2300	KYRRE FM
2795	CROMER KNOLL GP
2827	VIKING GP
2827	DRAUPNE FM
2837	BRENT GP
2837	NESS FM
2867	ETIVE FM
2897	RANNOCH FM
2964	BROOM FM
2965	DUNLIN GP

2965	DRAKE FM
3007	COOK FM
3118	BURTON FM
3155	AMUNDSEN FM
3278	STATFJORD GP

Geochemical information

Document name	Document format	Document size [MB]
940_GCH_1	pdf	0.58

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

Document name	Document format	Document size [MB]
940_02_WDSS_completion_log	pdf	0.22

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

Document name	Document format	Document size [MB]
940_34_8_3_Completion_log	pdf	5.06
940_34_8_3_Completion_report	pdf	15.67

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2935	2947	4.8
2.0	2905	2921	28.6
3.0	2868	2880	25.4

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				109
2.0				110
3.0				110

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	68	18200	0.847	0.635	268
2.0	613	1540000	0.775	0.640	2520
3.0	554	1540000	0.782	0.648	2776

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AMS	2597	3328
CBL VDL	1200	3232
CST GR	2733	3306
DIL LSS GR SP	1090	3328
DLL MSFL	2597	3328
LDL CNL	1090	3328
MWD	402	2838
NGS	2597	3328
RFT	2842	3302
SHDT	2597	3312
VSP	800	3230

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	491.0	36	970.0	0.00	LOT
INTERM.	13 3/8	1302.0	17 1/2	1317.0	1.63	LOT
INTERM.	9 5/8	2598.0	12 1/4	2622.0	1.86	LOT
LINER	7	3312.0	8 1/2	3328.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
419	1.03			WATER BASED	15.07.1988
482	1.03			WATER BASED	19.07.1988

491	1.03			WATER BASED	19.07.1988
970	1.03			WATER BASED	19.07.1988
1317	1.03			WATER BASED	19.07.1988
1317	1.03			WATER BASED	21.07.1988
1317	1.20	15.0	8.0	WATER BASED	27.07.1988
1864	1.36	22.0	13.0	WATER BASED	27.07.1988
2312	1.41	26.0	16.0	WATER BASED	27.07.1988
2390	1.52	19.0	6.0	WATER BASED	13.09.1988
2390	1.52	20.0	8.0	WATER BASED	14.09.1988
2390	1.52	20.0	8.0	WATER BASED	15.09.1988
2469	1.46	24.0	9.0	WATER BASED	27.07.1988
2622	1.52	26.0	8.0	WATER BASED	27.07.1988
2622	1.52	25.0	8.0	WATER BASED	27.07.1988
2622	1.52	25.0	8.0	WATER BASED	28.07.1988
2627	1.52	20.0	6.0	WATER BASED	01.08.1988
2749	1.52	24.0	8.0	WATER BASED	01.08.1988
2839	1.60	25.0	8.0	WATER BASED	01.08.1988
2870	1.60	23.0	6.0	WATER BASED	01.08.1988
2897	1.70	24.0	8.0	WATER BASED	09.09.1988
2897	1.70	25.0	8.0	WATER BASED	08.09.1988
2933	1.70	24.0	9.0	WATER BASED	02.09.1988
2933	1.70	24.0	9.0	WATER BASED	05.09.1988
2933	1.70	25.0	9.0	WATER BASED	06.09.1988
2933	1.70	24.0	8.0	WATER BASED	07.09.1988
2957	1.60	24.0	6.0	WATER BASED	04.08.1988
2992	1.60	23.0	7.0	WATER BASED	08.08.1988
3066	1.60	21.0	7.0	WATER BASED	08.08.1988
3169	1.60	24.0	7.0	WATER BASED	08.08.1988
3216	1.60	24.0	8.0	WATER BASED	08.08.1988
3264	1.60	22.0	10.0	WATER BASED	09.08.1988
3316	1.66	25.0	9.0	WATER BASED	23.08.1988
3316	1.66	21.0	10.0	WATER BASED	23.08.1988
3316	1.70	25.0	9.0	WATER BASED	30.08.1988
3316	1.70	24.0	9.0	WATER BASED	31.08.1988
3316	1.66	25.0	10.0	WATER BASED	19.08.1988
3316	1.66	24.0	10.0	WATER BASED	19.08.1988
3316	1.69	24.0	9.0	WATER BASED	25.08.1988
3316	1.69	24.0	9.0	WATER BASED	26.08.1988
3316	1.69	24.0	9.0	WATER BASED	29.08.1988
3316	1.70	24.0	9.0	WATER BASED	30.08.1988

3328	1.60	23.0	9.0	WATER BASED	15.08.1988
3328	1.60	23.0	9.0	WATER BASED	10.08.1988
3328	1.60	23.0	9.0	WATER BASED	11.08.1988
3328	1.60	24.0	9.0	WATER BASED	12.08.1988
3328	1.66	29.0	6.0	WATER BASED	15.08.1988
3328	1.66	29.0	7.0	WATER BASED	15.08.1988
3328	1.66	29.0	10.0	WATER BASED	16.08.1988

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]
940_Formation_pressure_(Formasjonstrykk)	pdf	0.22