



General information





Wellbore name	35/8-3
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	35/8-3 (Aurora)
Well name	35/8-3
Seismic location	LINJE 79 - 2 - 30 SP 590
Production licence	058
Drilling operator	Norwegian Gulf Exploration Company AS
Drill permit	580-L
Drilling facility	TREASURE SCOUT
Drilling days	102
Entered date	06.07.1988
Completed date	15.10.1988
Release date	15.10.1990
Publication date	01.08.2010
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS
Discovery wellbore	YES
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	INTRA HEATHER FM SS
Kelly bushing elevation [m]	23.0
Water depth [m]	373.0
Total depth (MD) [m RKB]	3944.0
Final vertical depth (TVD) [m RKB]	3944.0
Maximum inclination [°]	12.9
Bottom hole temperature [°C]	141
Oldest penetrated age	MIDDLE JURASSIC
Oldest penetrated formation	RANNOCH FM
Geodetic datum	ED50
NS degrees	61° 21' 5.35" N
EW degrees	3° 32' 2.63" E
NS UTM [m]	6802217.37
EW UTM [m]	528566.79
UTM zone	31
NPDID wellbore	1288



Wellbore history

General

Well 35/8-3 was drilled in the southern end of the Sogn Graben in the Northern North Sea. The primary objective was to assess the hydrocarbon potential of the Brent Group sandstones, which flowed gas-condensate in wells 35/8-1 and 35/8-2. The Brent Group was expected to be 212 m thick and to be encountered at a depth of 3631 m subsea. Secondary objectives were Late Jurassic Intra-Heather Formation sandstones, and possible Intra-Early Cretaceous sandstones.

Operations and results

Wildcat well 35/8-3 was spudded with the semi-submersible installation Treasure Scout on 6 July 1988 and drilled to TD at 3944 m (3947 m logger's depth) in the Middle Jurassic Brent Group. No shallow gas was observed. While drilling the 12 1/4" section the drill string got stuck in Heather sands at 3539 m. After 7 days unsuccessful fishing the hole was plugged back to 3308 m. It was sidetracked from 3371 m and drilled to section TD at 3560 m. The BHA got stuck a second time at 3863 m in the 8 1/2" section. After 5 days with several fishing attempts by jarring the BHA was fished after spotting a diesel based fluid. The diesel was circulated out and the well was drilled to its final TD. The well was drilled with spud mud down to 830 m, with Drispac and seawater from 830 m to 2174 m, and with KCl/polymer mud from 2174 m to TD.

Hydrocarbon indications while drilling were minor except in the Late Jurassic Heather sands. Log analyses of the Heather sands indicated a probable gross gas column of 70 m with a net pay of 31.9 m. Average porosity in the net sand was 15.6% with an estimated average water saturation of 22%. An RFT pressure-depth plot confirmed a gas column with an estimated 0.162 psi/ft (3.66 KPa/m) pressure gradient. No gas/water contact was apparent. Shows were encountered while drilling the Brent Group sands, but analyses of wire line logs and RFT's indicated the interval was water bearing. No reservoir rocks were encountered in the Early Cretaceous age formations.

One conventional core was cut from 3830 to 3848.4 m. Recovery was 100% and consisted of sands and shales of the Ness Formation, Brent Group. Two RFT fluid samples were taken at 3467 m (0.04 Sm² gas and 10 litres mud filtrate with trace of oil), and at 3859.5 m (10 litres mud filtrate and formation water, no gas or oil).

The well was permanently abandoned on 15 October 1988 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]
840.00	3944.00

Cuttings available for sampling?	YES
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Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	3830.0	3848.0	[m]

Total core sample length [m]	18.0
Cores available for sampling?	YES

Core photos


3830-3835m



3835-3840m



3840-3845m



3845-3848m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
2730.0	[m]	DC	RRI
2745.0	[m]	DC	RRI
2760.0	[m]	DC	RRI
2775.0	[m]	DC	RRI
2790.0	[m]	DC	RRI
2805.0	[m]	DC	RRI
2824.0	[m]	DC	RRI
2840.0	[m]	DC	RRI
2857.0	[m]	DC	RRI
2875.0	[m]	DC	RRI
2890.0	[m]	DC	RRI
2905.0	[m]	DC	RRI
2926.0	[m]	DC	RRI
2941.0	[m]	DC	RRI
2959.0	[m]	DC	RRI
2978.0	[m]	DC	RRI
3002.0	[m]	DC	RRI
3018.0	[m]	DC	RRI



3034.0	[m]	DC	RRI
3048.0	[m]	DC	RRI
3146.0	[m]	DC	RRI
3176.0	[m]	DC	RRI
3206.0	[m]	DC	RRI
3236.0	[m]	DC	RRI
3266.0	[m]	DC	RRI
3294.0	[m]	DC	RRI

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
396	NORDLAND GP
730	HORDALAND GP
1468	ROGALAND GP
1468	BALDER FM
1530	LISTA FM
1663	NO FORMAL NAME
1720	LISTA FM
1774	VÅLE FM
1787	NO FORMAL NAME
1792	SHETLAND GP
1792	JORSALFARE FM
1960	KYRRE FM
3122	BLODØKS FM
3127	SVARTE FM
3140	CROMER KNOLL GP
3140	RØDBY FM
3216	ÅSGARD FM
3318	VIKING GP
3318	DRAUPNE FM
3395	HEATHER FM
3465	INTRA HEATHER FM SS
3547	HEATHER FM
3810	BRENT GP
3810	TARBERT FM
3820	NESS FM
3880	ETIVE FM
3896	RANNOCH FM



Geochemical information

Document name	Document format	Document size [MB]
1288_1	pdf	1.48
1288_11	pdf	1.18
1288_2	pdf	1.57

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

Document name	Document format	Document size [MB]
1288_01_WDSS_General_Information	pdf	0.23
1288_02_WDSS_completion_log	pdf	0.26

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

Document name	Document format	Document size [MB]
1288_35_8_3_COMPLETION_REPORT_AND_LOG	pdf	22.26

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CST GR	2180	3557
CST GR	3575	3942
DIS LSS GR SP	2160	3560
DIS LSS GR SP CAL	819	2141
DLL MAFL GR SP	3300	3556
DLL MSFL GR SP CAL	3545	3941
LDL CNL GR CAL	2160	3561
LDL CNL GR CAL	3545	3946
LSS GR	3545	3943
RFT GR	3814	3946
RFT HP GR	3441	3467
SHDT	3545	3946





VSP	500	3945
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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	531.0	36	845.0	0.00	LOT
SURF.COND.	20	818.5	26	1022.0	1.42	LOT
INTERM.	13 3/8	2159.5	17 1/2	2174.0	1.65	LOT
INTERM.	9 5/8	3545.5	12 1/4	3560.0	1.84	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
440	1.32	13.0	4.0	WATER BASED	12.10.1988
440	1.32	11.0	3.0	WATER BASED	13.10.1988
685	0.00			WATER BASED	15.08.1988
845	0.00			WATER BASED	16.08.1988
1150	1.14	15.0	6.2	WATER BASED	19.08.1988
1205	1.14	14.0	6.2	WATER BASED	19.08.1988
1474	1.14	14.0	6.2	WATER BASED	19.08.1988
1786	1.15	15.0	5.7	WATER BASED	19.08.1988
1862	1.18	16.0	5.2	WATER BASED	19.08.1988
1974	1.18	15.0	6.2	WATER BASED	19.08.1988
2023	1.32	13.0	8.0	WATER BASED	11.10.1988
2043	1.32	13.0	8.0	WATER BASED	10.10.1988
2148	1.18	14.0	5.7	WATER BASED	19.08.1988
2174	1.18	14.0	3.8	WATER BASED	19.08.1988
2174	1.18	13.0	3.3	WATER BASED	19.08.1988
2174	1.18	14.0	5.7	WATER BASED	19.08.1988
2271	1.18	14.0	5.7	WATER BASED	19.08.1988
2320	1.18	12.0	4.8	WATER BASED	19.08.1988
2474	1.20	10.0	4.8	WATER BASED	19.08.1988
2500	1.32	13.0	8.0	WATER BASED	10.10.1988
2524	1.20	12.0	4.8	WATER BASED	19.08.1988
2697	1.25	12.0	6.7	WATER BASED	19.08.1988
2843	1.25	10.0	4.8	WATER BASED	19.08.1988
2885	1.25	10.0	4.8	WATER BASED	22.08.1988



2974	1.25	9.0	4.8	WATER BASED	22.08.1988
2995	1.26	13.0	7.2	WATER BASED	22.08.1988
3062	1.26	13.0	7.6	WATER BASED	22.08.1988
3127	1.26	13.0	6.2	WATER BASED	22.08.1988
3166	1.26	13.0	7.2	WATER BASED	22.08.1988
3216	1.27	11.0	5.7	WATER BASED	22.08.1988
3291	1.27	11.0	5.2	WATER BASED	22.08.1988
3292	1.27	11.0	4.8	WATER BASED	22.08.1988
3300	1.32	13.0	6.7	WATER BASED	29.08.1988
3345	1.32	16.0	6.2	WATER BASED	29.08.1988
3371	1.32	15.0	7.2	WATER BASED	30.08.1988
3377	1.29	11.0	4.8	WATER BASED	22.08.1988
3379	1.32	14.0	5.7	WATER BASED	31.08.1988
3396	1.32	14.0	5.7	WATER BASED	02.09.1988
3402	1.32	14.0	5.7	WATER BASED	02.09.1988
3426	1.32	17.0	6.2	WATER BASED	05.09.1988
3435	1.03	13.0	6.7	WATER BASED	22.08.1988
3450	1.61	20.0	12.0	WATER BASED	10.10.1988
3463	1.32	18.0	1.6	WATER BASED	05.09.1988
3467	1.30	13.0	5.7	WATER BASED	22.08.1988
3492	1.31	12.0	5.7	WATER BASED	22.08.1988
3500	1.32	13.0	6.2	WATER BASED	22.08.1988
3502	1.32	18.0	7.6	WATER BASED	05.09.1988
3539	1.32	14.0	6.7	WATER BASED	23.08.1988
3539	1.32	14.0	7.2	WATER BASED	24.08.1988
3539	1.32	14.0	7.2	WATER BASED	25.08.1988
3539	1.32	17.0	7.2	WATER BASED	26.08.1988
3539	1.32	17.0	7.2	WATER BASED	29.08.1988
3539	1.32	13.0	7.2	WATER BASED	22.08.1988
3560	1.32	17.0	8.0	WATER BASED	08.09.1988
3560	1.32	17.0	7.5	WATER BASED	13.09.1988
3560	1.32	16.0	7.5	WATER BASED	06.09.1988
3560	1.32	17.0	7.5	WATER BASED	08.09.1988
3560	1.32	17.0	7.5	WATER BASED	09.09.1988
3560	1.32	16.0	7.0	WATER BASED	13.09.1988
3563	1.48	16.0	7.5	WATER BASED	14.09.1988
3598	1.48	18.0		WATER BASED	14.09.1988
3610	1.48	20.0	6.0	WATER BASED	15.09.1988
3674	1.61	20.0	7.0	WATER BASED	16.09.1988
3732	1.61	24.0	7.5	WATER BASED	19.09.1988



3737	1.61	25.0	8.0	WATER BASED	19.09.1988
3750	1.61	20.0	6.0	WATER BASED	07.10.1988
3763	1.61	27.0	5.5	WATER BASED	19.09.1988
3784	1.61	27.0	5.0	WATER BASED	20.09.1988
3806	1.61	24.0	5.0	WATER BASED	21.09.1988
3833	1.61	24.0	5.0	WATER BASED	22.09.1988
3853	1.61	21.0	5.0	WATER BASED	23.09.1988
3944	1.61	20.0	5.5	WATER BASED	26.09.1988
3944	1.61	20.0	5.5	WATER BASED	27.09.1988
3944	1.61	20.0	4.0	WATER BASED	29.09.1988
3944	1.61	20.0	4.0	WATER BASED	30.09.1988
3944	1.61	20.0	5.0	WATER BASED	04.10.1988
3944	1.61	19.0	5.0	WATER BASED	04.10.1988
3944	1.61	20.0	6.0	WATER BASED	05.10.1988
3944	1.61	23.0	6.0	WATER BASED	26.09.1988
3944	1.61	20.0	5.5	WATER BASED	28.09.1988
3944	1.61	20.0	6.0	WATER BASED	06.10.1988

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]
1288 Formation pressure (Formasjonstrykk)	pdf	0.22

