General information

Wellbore name	34/10-47 S
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Field	GULLFAKS SØR
Discovery	34/10-47 S Gulltopp
Well name	34/10-47
Seismic location	ST9607-inline 2401 & CDP 2056
Production licence	050 B
Drilling operator	Statoil ASA (old)
Drill permit	1042-L
Drilling facility	DEEPSEA TRYM
Drilling days	42
Entered date	22.09.2002
Completed date	02.11.2002
Release date	02.11.2004
Publication date	01.12.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	BRENT GP
Kelly bushing elevation [m]	25.0
Water depth [m]	140.0
Total depth (MD) [m RKB]	4027.0
Final vertical depth (TVD) [m RKB]	2445.2
Oldest penetrated age	MIDDLE JURASSIC
Oldest penetrated formation	RANNOCH FM
Geodetic datum	ED50
NS degrees	61° 10' 52.5'' N
EW degrees	2° 3' 11.1'' E
NS UTM [m]	6783505.97
EW UTM [m]	449075.98
UTM zone	31
NPDID wellbore	4609

Wellbore history

General

Well 34/10-47 S was drilled in the southeastern part of the Tampen Spur area 3 - 4 km north of the Gullveig Field and about 5 km west of Gullfaks. The main objective of well 34/10-47 S was to investigate the hydrocarbon potential in sandstones in the Late Jurassic Aurora prospect and secondary to investigate the hydrocarbon potential of the Middle Jurassic Brent Group in prospect Dolly, segment N7. The N7 structure is a rotated fault block and the trap is defined by a protrusion on the main fault. The third objective was to sidetrack into the underlying Statfjord Formation in N7 (well 34/10-47 A).

Operations

The wildcat well34/10-47 S was spudded on 22 September 2002 with the semi-submersible installationDeepsea Trym and drilled deviated through the Middle Jurassic Rannoch Formation as the stratigraphically oldest sediments in the well path to the final TD at 4027 m (2445.2 m TVD RKB) in the Late Cretaceous Shetland Group. The well was first lost due to stuck pipe a few metres into the Brent reservoir at 2880 m MD. A technical sidetrack was therefore performed from 2428 m MD in the lower part of the Shetland Group. The sidetrack was drilled to TD without significant problems. The well was drilled with CMC/seawater down to 725 m, with Glydril (water based with glycol) mud from 725 m to 1939 m, and with Versavert OBM from 1939 m to TD. No shallow gas was registered neither on gas readings or resistivity logs. In the 17 1/2" section the real time log had some missing parts due to high ROP. Gamma ray values are 5-6 times higher than expected but in some intervals the GR reads lower values due to influence from the KCl-mud.

The main target of the well 34/10-47 S, the Aurora prospect, proved to be non-existing. Well 34/10-47 S continued and drilled into the Brent prospect (secondary objective) in the N7 segment and penetrated a 65 m thick hydrocarbon column in the Brent Group. The discovery was oil and it was documented different oil-water contacts in the upper and lower Brent Group. Total hydrocarbon column is estimated to be 150 m TVD. Pressure testing showed that the hydrocarbon filled part of the Brent reservoir in well 34/10-47 S is depleted with 29-57 bars. One wire line log run was performed to acquire formation pressure and fluid samples. Eleven fluid samples were collected in the reservoir and the samples consisted mainly of oil. Four of the samples were analysed offshore. The average oil density (reservoir conditions) measured was 0.688 g/ccm and average Bo was 1.383. In the Tarbert Formation the formation pressure points give a gradient of 0.0664 bar/m i.e. an oil density at reservoir conditions of 0.677 g/cm3. No coring was performed in the well.

Well 34/10-47 S was plugged 2 November 2002 as an oil discovery.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
730.00	2843.00

Cuttings available for sampling?	YES

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	OIL		YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
165	NORDLAND GP
945	UTSIRA FM
968	HORDALAND GP
1698	ROGALAND GP
1698	BALDER FM
1765	LISTA FM
1916	SHETLAND GP
2444	CROMER KNOLL GP
2458	VIKING GP
2458	DRAUPNE FM
2489	HEATHER FM
2876	BRENT GP
2876	TARBERT FM
2910	BRENT GP
2910	RANNOCH FM
3000	BRENT GP
3000	RANNOCH FM
3285	ETIVE FM
3355	NESS FM
3580	TARBERT FM
3804	VIKING GP
3804	HEATHER FM
3923	DRAUPNE FM
3964	SHETLAND GP

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

Document name	Document format	Document size [MB]
4609_34_10_47_S_COMPLETION_LOG	.pdf	4.05
4609_34_10_47_S_COMPLETION_REPORT	.PDF	0.39

Logs

Log type	Log top depth [m]	Log bottom depth [m]
MDT GR	2979	3775
MWD LWD - 675 VADN APWD	1944	2880
MWD LWD - CDR PWD	224	1939
MWD LWD - ROP	165	227
MWD LWD - ROP	1939	1944
MWD LWD - VISION 675	2428	2450
MWD LWD - VISION 675 VADN APWD	2450	4027

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	223.0	36	227.0	0.00	LOT
SURF.COND.	20	719.0	26	725.0	1.63	LOT
INTERM.	13 3/8	1931.0	17 1/2	1939.0	1.76	LOT
OPEN HOLE		4027.0	8 1/2	4027.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
227	1.05			seawater	
725	1.20			seawater	
1939	1.25			glydrill	
1944	1.50			versavert	
2880	1.63			versavert	
4027	1.63			versavert	

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]
4609_Formation_pressure_(Formasjonstrykk)	pdf	0.22