

**General information**

Wellbore name	34/4-10 R
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	34/4-10 (Beta Brent)
Well name	34/4-10
Seismic location	MN 9601 INLINE 1220- CROSSLINE 2054
Production licence	057
Drilling operator	Saga Petroleum ASA
Drill permit	968-L2
Drilling facility	TRANSOCEAN ARCTIC
Drilling days	37
Entered date	13.03.2000
Completed date	18.04.2000
Plugged and abandon date	18.04.2000
Release date	18.04.2002
Publication date	29.05.2002
Purpose - planned	WILDCAT
Reentry	YES
Reentry activity	DRILLING/PLUGGING
Content	OIL
Discovery wellbore	YES
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	BRENT GP
Kelly bushing elevation [m]	24.0
Water depth [m]	357.0
Total depth (MD) [m RKB]	4246.0
Final vertical depth (TVD) [m RKB]	4244.0
Maximum inclination [°]	4.6
Bottom hole temperature [°C]	139
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	STATFJORD GP
Geodetic datum	ED50
NS degrees	61° 37' 33.27" N
EW degrees	2° 4' 30.41" E
NS UTM [m]	6833018.73



EW UTM [m]	450962.75
UTM zone	31
NPDID wellbore	4051

Wellbore history

General

The purpose of the well 34/4-10 was to test the hydrocarbon potential of the Delta prospect located NW of the Snorre Field in block 34/4. The Delta prospect is a NE-SW oriented structural trap at the rim of the Marulk Basin. The main objective was to test the lithology and the presence of hydrocarbons in possible sandstone units within the Heather Formation. The well had as secondary target the Brent Group. Planned TD for the well was 50 m into the Statfjord Formation.

Operations and results

The well was spudded with the semi-submersible rig "Transocean Arctic" 12 February 2000 and reached a total depth of 4246 m in Statfjord Formation 7 April 2000. After 13 3/8" casing at 2380 m the well was temporarily plugged and abandoned due to onshore rig-repair at Ågotnes. After 13 days the well was re-entered as 34/4-10 R. The well was drilled water based to 2385 m and oil based from 2385 m to TD.

In the Upper Jurassic sequences no sandstones were found and therefore no core was taken. The Heather Formation was therefore thinner than prognosed. However, a 103 m thick oil bearing, Aalenian to lower Bajocian, Brent sequence was proven. It is an oil down to situation with 10 m net pay. MDT sampling was carried out in the oil column at 3966.5 m. Six sample bottles were filled, 5 SPMC bottles (450 cc) and 1 MRSC 1 gallon sample chamber. About 50 litres of formation fluid was pumped out before sampling was commenced resulting in a draw down during sampling of about 165 bar. PVT analysis indicated a moderately light oil (GOR 135 sm³/sm³, 0.850g/cc - 0.69 g/cc at reservoir conditions) with about 30% sample contamination by mud filtrate.

One 30 m core was taken in the best sandstone interval from 3953.0 - 3980.4 m. The core shows a classical prograding sequence from lower shore face to upper shore face, with a sequence boundary/ ravinement surface near the top. Above this a sandy transgressive interval is interpreted. At the top of the Brent sequence an unconformity is interpreted at 3937 m. Both the formation pressure and the temperature were high. The Statfjord Formation was water bearing. The well was permanently plugged and abandoned as an oil discovery 18 April 2000.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1320.00	4245.00

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	3953.0	3980.4	[m]

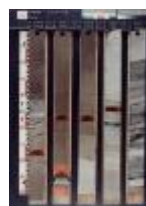
Total core sample length [m]	27.4
Cores available for sampling?	YES

Core photos

3953-3958m



3958-3963m



3963-3968m



3968-3973m



3973-3978m



3978-3980m

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
MDT		0.00	0.00			YES
MDT		3966.50	0.00	OIL	09.04.2000 - 20:09	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
381	NORDLAND GP



1241	UTSIRA FM
1249	HORDALAND GP
1741	ROGALAND GP
1741	BALDER FM
1780	LISTA FM
1910	SHETLAND GP
1910	JORSALFARE FM
2195	KYRRE FM
3323	TRYGGVASON FM
3773	CROMER KNOLL GP
3773	RØDBY FM
3782	MIME FM
3790	VIKING GP
3790	DRAUPNE FM
3885	HEATHER FM
3937	BRENT GP
3937	UNDIFFERENTIATED
4040	DUNLIN GP
4040	DRAKE FM
4066	COOK FM
4186	STATFJORD GP

Composite logs

Document name	Document format	Document size [MB]
4051	pdf	0.43

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

Document name	Document format	Document size [MB]
4051_34_4_10_R_COMPLETION_REPORT	.pdf	63.12

Logs





Log type	Log top depth [m]	Log bottom depth [m]
AIT DSI VSP GR	3460	4236
AIT IPLT LDS APS CMR	3665	4235
MCST GR	3726	4240
MDT	3939	3951
MDT GR W/SAMPLE	3767	4240
MWD CDR ISONIC	2364	3672
MWD V675R ADN	3949	4242
MWD V675R ISONIC	3664	3902
MWD V675R ISONIC ADN	3821	3949
VSP GR	2400	3500

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
INTERM.	9 5/8	3674.0	12 1/4	3674.0	2.04	LOT
OPEN HOLE		4246.0	8 1/2	4246.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
2380	1.54	27.0		WATER BASED	
2695	1.50	28.0		OIL BASED	
3474	1.55	30.0		OIL BASED	
3505	1.56	30.0		OIL BASED	
3650	1.56	29.0		OIL BASED	
3674	1.61	28.0		OIL BASED	
3710	1.61	35.0		OIL BASED	
3775	1.62	38.0		OIL BASED	
3905	1.62	36.0		OIL BASED	
3921	1.62	37.0		OIL BASED	
3953	1.76	38.0		OIL BASED	
3981	1.80	41.0		OIL BASED	
4074	1.83	40.0		OIL BASED	
4246	1.83	44.0		OIL BASED	
4246	1.83	44.0		OIL BASED	

**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]
4051 Formation pressure (Formasjonstrykk)	pdf	0.21

