

**General information**

Wellbore name	34/7-18
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	TORDIS
Discovery	34/7-18
Well name	34/7-18
Seismic location	GE - 8431R: ROW 95 & COLUMN 1075
Production licence	089
Drilling operator	Saga Petroleum ASA
Drill permit	690-L
Drilling facility	WEST ALPHA
Drilling days	60
Entered date	20.07.1991
Completed date	17.09.1991
Release date	17.09.1993
Publication date	28.02.2008
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	PALEOCENE
1st level with HC, formation	LISTA FM
Kelly bushing elevation [m]	18.0
Water depth [m]	242.5
Total depth (MD) [m RKB]	2443.0
Final vertical depth (TVD) [m RKB]	2443.0
Maximum inclination [°]	2.6
Bottom hole temperature [°C]	83
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	DRAKE FM
Geodetic datum	ED50
NS degrees	61° 19' 10.75" N
EW degrees	2° 6' 40.26" E
NS UTM [m]	6798878.30
EW UTM [m]	452410.07



UTM zone	31
NPDID wellbore	1819

Wellbore history

**General**

Well 34/7-18 is located on the Vigdis Field on Tampen Spur in the Northern North Sea. It was designed to drill and test a Jurassic Prospect (Segment IV of the C Plus structure), between the Snorre and Tordis Fields. The well was drilled in a high position on a gently dipping structure where the top of the Brent Group is eroded. The primary objective was to test the presence, reservoir quality and fluid contacts in the prospect. A secondary objective was to test the pressure regimes in the Jurassic sequence, including possible depletion associated with pressure communication, previously identified in the nearby Tordis Field. A boulder bed was expected at 303 m, and shallow gas could occur at 394 m and 546 m.

Operations and results

Wildcat well 34/7-18 was spudded with the semi-submersible installation West Alpha on 20 July 1991 and drilled to TD at 2443 m in the Early Jurassic Drake Formation. Problems with retrieving core no 2 led to 4 days lost while fishing. During plug and abandon the cut and pull tool twisted off and 9 x 8" DC and 7 x 5" HWDP was left on seabed. Three days were lost while clearing the seabed and cutting the casing and retrieving the well head, which was eventually retrieved using explosives. Shallow gas was encountered in the pilot hole and a boulder bed was indicated from drilling parameters at 342 m. The well was drilled with spud mud down to 1115 m, and with KCl mud from 1115 m to TD.

In the Nordland and Hordaland Groups, the well penetrated mainly claystones with relatively minor sandstone intervals. A Paleocene oil discovery was made, and two cores were cut in the Lista Formation, Rogaland Group. These were cut in the interval 1774 - 1782 m, of which 6.3 m were recovered. RFT pressure measurements and fluid sampling, the latter without success, were carried out in addition to a drill stem test.

The top of the Brent Group reservoir was penetrated at 2284 m which was 20 m shallower than prognosed. The Jurassic section comprised an eroded Middle Jurassic Brent Group and the Early Jurassic Dunlin Group. A total of 3 cores were cut in the Brent Group between 2285 and 2306 m, with a recovery of 20.5 m. The upper part of a sandstone interpreted to be a Ness Formation sandstone (2284 - 2290 m) had traces of oil with a calculated oil saturation up to 25% in the best zones. No oil gradient and hence no OWC could be established from the pressure gradient analysis. Small amounts (40 - 300 ml) of oil were recovered in RFT samples from 2284.5 and 2284.6 m.

Apart from the zones with live oil minor shows were recorded in sand layers in the interval 1375 to 1585 m in the Hordaland Group and in siltstone laminae in the interval 2120 to 2250 m in the Shetland Group. No shows were recorded below 2288.5 m.

The pressure gradient of the Brent Group showed the same depletion as observed in well 34/7-17A, indicating pressure communication in the Lower Brent between the Tordis Field, well 34/7-17A and well 34/7-18.

The well was permanently abandoned on 17 September 19921 as a minor oil discovery.

Testing

One DST test was performed in the interval 1770 - 1783.5 m in an intra-Lista Formation Sandstone. The maximum oil rate was 130 Sm³/day. Due to sand and clay plugging, flow was sluggish and reliable rates were not obtained. The well test summary reports 46 Sm³oil/day as a reference rate, measured during the main flow through a 7.9 mm choke. A gas rate of ca 9000 Sm³ /day was measured at the same time. Maximum down hole temperature measured in the test was 60.9 deg C.

**Cuttings at the Norwegian Offshore Directorate**

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1120.00	2441.00

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
2	1775.0	1780.3	[m]
3	2285.0	2287.7	[m]
4	2286.0	2289.8	[m]
5	2290.0	2306.0	[m]

Total core sample length [m]	27.8
Cores available for sampling?	YES

Core photos

1775-1780m



1780-1780m



2285-2286m



2286-2289m



2290-2295m



2295-2300m



2300-2305m



2305-2306m

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
261	NORDLAND GP
1054	UTSIRA FM



1064	HORDALAND GP
1238	NO FORMAL NAME
1339	NO FORMAL NAME
1374	NO FORMAL NAME
1500	NO FORMAL NAME
1652	ROGALAND GP
1652	BALDER FM
1683	LISTA FM
1770	NO FORMAL NAME
1783	LISTA FM
1807	SHETLAND GP
1807	JORSALFARE FM
2027	KYRRE FM
2274	CROMER KNOLL GP
2274	RØDBY FM
2283	MIME FM
2284	BRENT GP
2284	NESS FM
2298	ETIVE FM
2328	RANNOCH FM
2399	DUNLIN GP
2399	DRAKE FM

Geochemical information

Document name	Document format	Document size [MB]
1819_1	pdf	0.34
1819_2	pdf	2.20

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

Document name	Document format	Document size [MB]
1819_01_WDSS_General_Information	pdf	0.55
1819_02_WDSS_completion_log	pdf	0.15

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





Document name	Document format	Document size [MB]
1819 34 7 18 COMPLETION REPORT AND LOG	pdf	15.96

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	1770	1784	8.0

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0	6.000		25.000	61

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	46		0.890		

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR	825	1706
CBL VDL GR	1400	1861
DLL MSFL LSS LDL GR AMS	1099	1681
DLL MSFL LSS LDL SNL GR AMS	1681	2427
FMS GR AMS	1706	2429
MWD CDR - GR RES DIR TEMP	361	2443
RFT	1780	2355
SHDT GR AMS	1098	1685
VELOCITY	840	2420

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	361.0	36	361.0	0.00	LOT
INTERM.	20	1099.0	26	1115.0	1.62	LOT





INTERM.	13 3/8	1709.0	17 1/2	1770.0	1.75	LOT
INTERM.	9 5/8	1889.0	12 1/4	2443.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
361	1.05			WATER BASED	23.07.1991
386	1.05			WATER BASED	23.07.1991
1115	1.30	34.0	26.0	WATER BASED	30.07.1991
1115	1.05			WATER BASED	24.07.1991
1115	1.05			WATER BASED	25.07.1991
1115	1.20			WATER BASED	26.07.1991
1115	1.20			WATER BASED	29.07.1991
1115	1.30			WATER BASED	30.07.1991
1121	1.30	23.0	17.0	WATER BASED	30.07.1991
1359	1.36	28.0	19.0	WATER BASED	31.07.1991
1404	1.47	24.0	20.0	WATER BASED	01.08.1991
1409	1.45	28.0	20.0	WATER BASED	02.08.1991
1423	1.30	28.0	21.0	WATER BASED	05.08.1991
1611	1.30	28.0	26.0	WATER BASED	06.08.1991
1681	1.35	30.0	25.0	WATER BASED	06.08.1991
1681	1.35	31.0	26.0	WATER BASED	06.08.1991
1730	1.40	35.0	25.0	WATER BASED	08.08.1991
1730	1.44	31.0	23.0	WATER BASED	09.08.1991
1730	1.44	21.0	23.0	WATER BASED	12.08.1991
1730	1.44	30.0	22.0	WATER BASED	13.08.1991
1730	1.45	31.0	22.0	WATER BASED	13.08.1991
1730	1.44	21.0	23.0	WATER BASED	13.08.1991
1770	1.44	29.0	24.0	WATER BASED	08.08.1991
1775	1.50	29.0	17.0	WATER BASED	14.08.1991
1775	1.51	29.0	18.0	WATER BASED	15.08.1991
1782	1.50	29.0	18.0	WATER BASED	16.08.1991
1782	1.51	29.0	19.0	WATER BASED	19.08.1991
1782	1.50	21.0	18.0	WATER BASED	20.08.1991
1782	1.51	23.0	19.0	WATER BASED	20.08.1991
1879	1.56	24.0	21.0	WATER BASED	20.08.1991
2110	1.62	29.0	26.0	WATER BASED	21.08.1991
2179	1.65	31.0	21.0	WATER BASED	22.08.1991



2233	1.65	31.0	18.0	WATER BASED	02.09.1991
2237	1.65	30.0	17.0	WATER BASED	04.09.1991
2237	1.55	26.0	30.0	WATER BASED	04.09.1991
2237	1.55	26.0	30.0	WATER BASED	04.09.1991
2237	1.55	26.0	30.0	WATER BASED	06.09.1991
2237	1.55	26.0	30.0	WATER BASED	06.09.1991
2237	1.55	26.0	30.0	WATER BASED	09.09.1991
2237	1.55	26.0	27.0	WATER BASED	10.09.1991
2237	1.55	26.0	27.0	WATER BASED	10.09.1991
2237	1.55	26.0	30.0	WATER BASED	10.09.1991
2237	1.55	26.0	27.0	WATER BASED	11.09.1991
2237	1.55	24.0	17.0	WATER BASED	04.09.1991
2237	1.55	26.0	27.0	WATER BASED	12.09.1991
2237	1.54	27.0	25.0	WATER BASED	13.09.1991
2285	1.65	29.0	17.0	WATER BASED	23.08.1991
2286	1.65	29.0	16.0	WATER BASED	27.08.1991
2286	1.65	30.0	20.0	WATER BASED	27.08.1991
2286	1.65	37.0	24.0	WATER BASED	27.08.1991
2286	1.65	37.0	24.0	WATER BASED	27.08.1991
2286	1.65	37.0	24.0	WATER BASED	29.08.1991
2286	1.65	29.0	18.0	WATER BASED	23.08.1991
2286	1.65	32.0	18.0	WATER BASED	29.08.1991

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]
1819 Formation pressure (Formasjonstrykk)	pdf	0.22

