



General information

Wellbore name	34/10-33 C
Type	EXPLORATION
Purpose	APPRAISAL
Status	RE-CLASS TO TEST
Factmaps in new window	link to map
Main area	NORTH SEA
Field	GULLFAKS SØR
Discovery	34/10-2 Gullfaks Sør
Well name	34/10-33
Seismic location	ST 8134- 156 SP. 296
Production licence	050
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	614-L
Drilling facility	DEEPSEA BERGEN
Drilling days	23
Entered date	10.07.1989
Completed date	01.08.1989
Release date	01.08.1991
Publication date	01.01.2012
Purpose - planned	APPRAISAL
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]	134.0
Total depth (MD) [m RKB]	3752.0
Final vertical depth (TVD) [m RKB]	3587.0
Maximum inclination [°]	46.1
Bottom hole temperature [°C]	120
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	DRAKE FM
Geodetic datum	ED50
NS degrees	61° 7' 34.44" N
EW degrees	2° 12' 57.1" E
NS UTM [m]	6777262.00
EW UTM [m]	457756.18



UTM zone	31
NPDID wellbore	1384

Wellbore history

General

Well 34/10-33 C is a sidetrack from appraisal well 34/10-33 B on the Gullfaks South Discovery. The B sidetrack was drilled to perform a long-period test from a horizontal well through the upper part of the Brent Group, as part of the development of the Gullfaks South discovery. As the test in the B sidetrack failed the C-sidetrack was drilled with the same main objectives, but this sidetrack was not to be drilled horizontally. The test should provide information about requirement for pressure support during oil production, pressure communication in the gas cap during production, treatment of oil with high wax content, and it should collect liquid samples from the reservoir. Secondary objectives for the C sidetrack was to penetrate a complete Rannoch formation down flanks from well 34/10-33 and to establish the oil/water contact in the lower part of the pressure regime (Etive/Rannoch formations).

Operations and results

The well 34/10-33 B was abandoned and an EZSV set at 3280 metres. Appraisal well 34/10-33 C was kicked off on 10 July 1989 through the 9 5/8" casing from a Packstock tool set at 3279 metres in the Tarbert Formation. The well bore was drilled with the semi-submersible installation Deepsea Bergen to TD at 3752 m (3587 m TVD) in the Early Jurassic Drake Formation. No significant problems occurred while drilling this well. The well was drilled with Interdrill NT oil based mud from kick-off to TD.

FMT pressure points defined a gas/oil contact at 3302 m (3242 m TVD MSL) +/- 5 m and an oil/water contact at 3604 m (3460 m TVD MSL) +/- 20 m. Logs and sidewall cores indicated oil down to 3617 m (3467 m TVD MSL). Further shows evaluation from cuttings is uncertain due to oil based mud. The FMT measurements proved a pressure barrier within the interval 3521 - 3550 m (3398 - 3418 TVD MSL) in the Ness Formation.

Twenty-three sidewall cores were retrieved, but no conventional cores were cut in this well. An FMT wire line fluid sample was taken at 3641 m (3483 m TVD MSL) below OWC in the water zone.

After long-term testing the well was suspended on 16 September 1989 as an oil and gas appraisal well.

Testing

A long-term test was conducted, producing a total of 60 000 Sm³ oil. During the test, from 1 August up to 16 September, the well was classified as test well under the name 34/10-T-33 C.

**Cuttings at the Norwegian Offshore Directorate**

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
3283.00	3751.00

Cuttings available for sampling?	YES
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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	DST 1B	0.00	0.00		11.04.1990 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
157	NORDLAND GP
963	UTSIRA FM
974	HORDALAND GP
1029	NO FORMAL NAME
1139	NO FORMAL NAME
1247	NO FORMAL NAME
1514	NO FORMAL NAME
1562	NO FORMAL NAME
1610	NO FORMAL NAME
1821	ROGALAND GP
1821	BALDER FM
1897	LISTA FM
2048	SHETLAND GP
2048	JORSALFARE FM
2340	KYRRE FM
3008	CROMER KNOLL GP
3008	MIME FM
3012	VIKING GP
3012	DRAUPNE FM
3045	HEATHER FM
3215	BRENT GP
3215	TARBERT FM



3345	NESS FM
3601	ETIVE FM
3617	RANNOCH FM
3722	DUNLIN GP
3722	DRAKE FM

Geochemical information

Document name	Document format	Document size [MB]
1384_1	pdf	0.53
1384_2	pdf	0.71

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

Document name	Document format	Document size [MB]
1384_01_WDSS_General_Information	pdf	0.24
1384_02_WDSS_completion_log	pdf	0.14

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

Document name	Document format	Document size [MB]
1384_34_10_33_C_Completion_log	pdf	0.60
1384_34_10_33_C_Completion_report	pdf	31.75

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	3448	3517	20.6

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0	23.000	16.000	42.000	





Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	1635	305558	0.859	0.680	186

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR	3160	3706
DIFL ACL CDL CN GR	3271	3755
DIPS GR	3285	3757
FMT HP GR	3281	3658
FMT HP GR	3290	3507
MWD - GR DIR	3281	3752
SWC GR	3350	3612

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	219.0	36	220.0	0.00	LOT
CONDUCTOR	30	225.0	36	225.0	0.00	LOT
INTERM.	20	453.0	26	461.0	1.43	LOT
INTERM.	13 3/8	1828.0	17 1/2	1838.0	1.53	LOT
INTERM.	9 5/8	3272.0	12 1/4	3493.0	1.70	LOT
LINER	7	3751.0	8 1/2	3753.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
3342	1.55	33.0	10.0	OIL BASED	19.07.1989
3348	1.55	21.0	3.5	WATER BASED	28.02.1990
3348	1.55	18.0	2.5	WATER BASED	02.03.1990
3348	1.55	15.0	3.5	WATER BASED	27.03.1990
3348	1.55	16.0	3.0	WATER BASED	13.03.1990
3348	1.55	16.0	3.0	WATER BASED	14.03.1990
3348	1.55	17.0	2.5	WATER BASED	05.03.1990
3409	1.55	33.0	10.0	OIL BASED	19.07.1989



3418	1.55	15.0	3.5	WATER BASED	27.03.1990
3418	1.55	15.0	3.5	WATER BASED	27.03.1990
3430	1.37	34.0	10.0	OIL BASED	19.07.1989
3448	1.65	17.0	3.0	WATER BASED	19.03.1990
3448	1.65	17.0	3.0	WATER BASED	19.03.1990
3448	1.55	15.0	3.0	WATER BASED	22.03.1990
3448	1.55	15.0	3.0	WATER BASED	23.03.1990
3448	1.55	15.0	2.5	WATER BASED	26.03.1990
3448	1.55	16.0	3.0	WATER BASED	16.03.1990
3448	1.65	17.0	3.0	WATER BASED	19.03.1990
3448	1.55	15.0	3.0	WATER BASED	20.03.1990
3448	1.55	14.0	3.0	WATER BASED	22.03.1990
3448	1.55	17.0	3.0	WATER BASED	02.04.1990
3448	1.45	19.0	3.0	WATER BASED	04.04.1990
3448	1.45	17.0	3.0	WATER BASED	10.04.1990
3448	1.48	20.0	3.5	WATER BASED	17.04.1990
3448	1.48	20.0	2.5	WATER BASED	23.04.1990
3448	1.49	25.0	6.0	WATER BASED	24.04.1990
3448	1.55	15.0	3.0	WATER BASED	12.03.1990
3448	1.55	26.0	4.0	WATER BASED	27.02.1990
3448	1.55	18.0	2.5	WATER BASED	05.03.1990
3448	1.55	17.0	2.5	WATER BASED	05.03.1990
3448	1.55	18.0	2.5	WATER BASED	05.03.1990
3448	1.55	17.0	2.0	WATER BASED	06.03.1990
3448	1.55	15.0	3.5	WATER BASED	08.03.1990
3448	1.55	13.0	3.0	WATER BASED	08.03.1990
3448	1.55	14.0	3.0	WATER BASED	09.03.1990
3448	1.55	16.0	3.0	WATER BASED	12.03.1990
3448	1.55	15.0	3.0	WATER BASED	12.03.1990
3448	1.55	15.0	3.5	WATER BASED	29.03.1990
3448	1.55	15.0	3.0	WATER BASED	30.03.1990
3448	1.55	20.0	5.0	WATER BASED	02.04.1990
3448	1.55	17.0	3.0	WATER BASED	02.04.1990
3448	1.55	16.0	3.0	WATER BASED	02.04.1990
3448	1.55	20.0	3.0	WATER BASED	06.04.1990
3448	1.45	17.0	3.0	WATER BASED	06.04.1990
3448	1.45	17.0	3.0	WATER BASED	10.04.1990
3448	1.45	18.0	3.0	WATER BASED	10.04.1990
3448	1.48	18.0	3.5	WATER BASED	10.04.1990
3448	1.48	18.0	3.0	WATER BASED	17.04.1990



3448	1.48	20.0	3.5	WATER BASED	17.04.1990
3448	1.48	20.0	3.5	WATER BASED	17.04.1990
3448	1.48	20.0	3.5	WATER BASED	17.04.1990
3448	1.48	21.0	3.5	WATER BASED	17.04.1990
3448	1.48	21.0	3.5	WATER BASED	17.04.1990
3448	1.48	20.0	3.0	WATER BASED	18.04.1990
3448	1.48	20.0	3.5	WATER BASED	19.04.1990
3448	1.48	18.0	2.5	WATER BASED	23.04.1990
3448	1.48	23.0	4.5	WATER BASED	23.04.1990
3448	1.47	23.0	4.5	WATER BASED	25.04.1990
3581	1.55	35.0	10.0	OIL BASED	19.07.1989
3715	1.55	17.0	5.5	WATER BASED	26.07.1989
3715	1.55	16.0	9.5	WATER BASED	28.07.1989
3715	1.55	15.0	5.5	WATER BASED	31.07.1989
3715	1.55	12.0	4.0	WATER BASED	31.07.1989
3715	1.55	15.0	5.0	WATER BASED	31.07.1989
3730	1.55	35.0	10.5	OIL BASED	20.07.1989
3751	1.57	47.0	14.0	OIL BASED	26.07.1989
3751	1.55	38.0	9.5	OIL BASED	26.07.1989
3752	1.55	38.0	10.0	OIL BASED	21.07.1989
3752	1.55	37.0	10.5	OIL BASED	26.07.1989
3752	1.55	37.0	10.5	OIL BASED	26.07.1989

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]
1384 Formation pressure (Formasjonstrykk)	pdf	0.22

