

**General information**

Wellbore name	34/10-6
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	GULLFAKS
Discovery	34/10-1 Gullfaks
Well name	34/10-6
Seismic location	ST 37.5 SP 295
Production licence	050
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	231-L
Drilling facility	BORGNY DOLPHIN
Drilling days	71
Entered date	13.11.1979
Completed date	22.01.1980
Release date	22.01.1982
Publication date	05.12.2012
Purpose - planned	APPRAISAL
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	25.0
Water depth [m]	222.5
Total depth (MD) [m RKB]	2363.0
Bottom hole temperature [°C]	63
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	DRAKE FM
Geodetic datum	ED50
NS degrees	61° 14' 37.09" N
EW degrees	2° 13' 43.68" E
NS UTM [m]	6790330.87
EW UTM [m]	458607.45
UTM zone	31
NPDID wellbore	429

**Wellbore history****General**

Well 34/10-6 was drilled on the northern part of the Delta structure in block 34/10 in the northern North Sea. It was the fifth well drilled on the structure. All four foregoing wells had tested oil in the Brent Group. The primary objective was to test Middle Jurassic Brent Group. Secondary objectives were sandstones of Early Jurassic age.

Operations and results

Appraisal well 34/10-6 was spudded with the semi-submersible installation Borgny Dolphin on 13 November 1979 and drilled to TD at 2362 m. A total of 14.6% of the rig time was lost due to waiting on weather. The other main causes of downtime was technical failure during cementing of the 9 5/8" casing, followed by two squeeze jobs, repair of subsea equipment and lost circulation. The lost circulation was experienced on several occasions when drilling the 8 1/2" hole. The main reason for this was that the 9 5/8" casing (and 13 3/8" casing) were set too high, causing low formation integrity at the casing shoes. The well was drilled with spud mud down to 308 m and with seawater/polymer from 308 m to TD.

The Brent Group sandstones were encountered at 2075 m, about 100 m below the OWC established in the previous wells drilled on the Delta structure. The Brent Group was 215 m thick with 145 m net of good reservoir sands (average porosity = 27.8 %). The Brent Group was water bearing. Oil shows were seen from 1580 m to 1632 m in the Balder Formation, and from 1710 m to 1812 m in the Lista Formation and top Shetland Group, otherwise no evidence of hydrocarbons was seen in the well.

No conventional cores were cut. The RFT tool was run for pressure points, but no wire line fluid samples were taken.

The well was permanently abandoned on 22 January 1980 as a dry well.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
320.00	2362.00

Cuttings available for sampling?	YES
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Palynological slides at the Norwegian Offshore Directorate



Sample depth	Depth unit	Sample type	Laboratory
320.0	[m]	DC	RRI
520.0	[m]	DC	RRI
720.0	[m]	DC	RRI
920.0	[m]	DC	RRI
1120.0	[m]	DC	RRI
1220.0	[m]	DC	RRI
1320.0	[m]	DC	RRI
1520.0	[m]	DC	RRI
1711.0	[m]	DC	RRI
1813.0	[m]	DC	RRI
1966.0	[m]	DC	RRI
1990.0	[m]	DC	
1993.0	[m]	DC	
2020.0	[m]	DC	RRI
2068.0	[m]	DC	RRI
2101.0	[m]	DC	RRI

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		3037.50	0.00		06.04.1991 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
248	NORDLAND GP
946	UTSIRA FM
975	NO FORMAL NAME
1005	HORDALAND GP
1100	NO FORMAL NAME
1155	NO FORMAL NAME
1217	NO FORMAL NAME
1317	NO FORMAL NAME
1347	NO FORMAL NAME
1382	NO FORMAL NAME



1435	NO FORMAL NAME
1455	NO FORMAL NAME
1578	ROGALAND GP
1578	BALDER FM
1638	LISTA FM
1757	SHETLAND GP
1757	JORSALFARE FM
1990	CROMER KNOLL GP
1995	VIKING GP
1995	DRAUPNE FM
1997	HEATHER FM
2075	BRENT GP
2075	TARBERT FM
2105	NESS FM
2165	ETIVE FM
2197	RANNOCH FM
2273	BROOM FM
2290	DUNLIN GP
2290	DRAKE FM

Geochemical information

Document name	Document format	Document size [MB]
429_GCH_1	pdf	0.43
429_GCH_2	pdf	0.77

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

Document name	Document format	Document size [MB]
429_01_WDSS_General_Information	pdf	0.12
429_02_WDSS_completion_log	pdf	0.17

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





Document name	Document format	Document size [MB]
429_34_10_6_Palaeontological_Stratigraphical_Final_Report	pdf	2.71
429_34_10_6_Paleontological_Study	pdf	0.81
429_34_10_6_Petrophysical_Evaluation	pdf	1.47
429_34_10_6_Source_Rock_Analyses	pdf	0.33

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL	500	1805
CBL VDL	1450	1802
CYBERDIP	1803	2361
FDC CNL GR CAL	1801	2362
FDC GR CAL	623	1814
HDT	1802	2363
ISF SON GR SP	222	2362
VELOCITY	475	2355

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	308.0	36	308.5	0.00	LOT
SURF.COND.	20	650.0	26	665.0	1.50	LOT
INTERM.	13 3/8	1558.0	17 1/2	1571.0	1.79	LOT
INTERM.	9 5/8	1802.0	12 1/4	1815.0	2.03	LOT
OPEN HOLE		2363.0	8 1/2	2363.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
283	1.06			waterbased	
950	1.41	41.0		waterbased	
1613	1.50	52.0		waterbased	
1670	1.65	52.0		waterbased	
1818	1.79	56.0		waterbased	





2173	1.76	54.0		waterbased	
2338	1.77	56.0		waterbased	

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]
429 Formation pressure (Formasjonstrykk)	pdf	0.21

