



General information





Wellbore name	34/10-31
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	34/10-31
Seismic location	ST 8488 - 2111 SP. 516
Production licence	050
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	502-L
Drilling facility	WEST VENTURE OLD
Drilling days	67
Entered date	01.02.1986
Completed date	08.04.1986
Release date	08.04.1988
Publication date	21.12.2012
Purpose - planned	APPRAISAL
Reentry	NO
Content	GAS
Discovery wellbore	NO
1st level with HC, age	PLIOCENE
1st level with HC, formation	NORDLAND GP
Kelly bushing elevation [m]	32.0
Water depth [m]	132.0
Total depth (MD) [m RKB]	420.0
Final vertical depth (TVD) [m RKB]	420.0
Maximum inclination [°]	1.6
Oldest penetrated age	PLIOCENE
Oldest penetrated formation	NORDLAND GP
Geodetic datum	ED50
NS degrees	61° 10' 32.4" N
EW degrees	2° 11' 15.46" E
NS UTM [m]	6782786.74
EW UTM [m]	456303.61
UTM zone	31
NPDID wellbore	887



Wellbore history

General

Well 34/10-31 was drilled on the Gullfaks Field to drain possible shallow gas sands at the platform A location on the Gullfaks Field.

Operations and results

Appraisal well 34/10-31 was spudded with the semi-submersible installation West Venture on 8 April 1986 and drilled to TD at 420 m in Pliocene sediments in the Nordland Group. No significant problem was encountered in the operations. The well was drilled with water based mud.

Top Pliocene was encountered at 295 m. Electric logs through the 12 1/4" section proved three shallow gas sand layers at 344 - 346 m, 350 - 352 m, and 384.5 and 385.5 m. Average gas saturation in the three sands were estimated to 60%, 15%, and 40%, respectively.

No cores were cut and no fluid samples were taken. Cuttings samples were taken every 5 m from 270 m to TD.

The well was permanently abandoned on 14 December 1985.

Testing

A production test was conducted from the interval 344 to 346.5 m. Shallow gas was produced from 17 February up to 4 April when it was terminated due to an upcoming strike. A total of 2453203 Sm³ gas was produced at an average rate of ca 65000 Sm³ gas/day during the main draining flow. The gas gravity was 0.552 - 0.560 (air = 1). The reservoir temperature was reported to be 14 deg C.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
275.00	420.00

Cuttings available for sampling?	NO
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Lithostratigraphy

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

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





Document name	Document format	Document size [MB]
887 34 10 31 Completion log	pdf	0.43
887 34 10 31 Completion report	pdf	7.97

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	342	345	4.0
2.0	344	347	9.5
2.1	344	347	34.9
2.2	344	347	34.9
2.3	344	347	50.6
2.4	344	347	50.8
2.5	344	347	50.8
2.6	344	347	50.8
2.7	344	347	50.8
2.8	344	347	50.8
2.9	344	347	50.8
3.0	344	347	50.8
3.1	344	347	50.8
3.2	344	347	50.8
3.3	344	347	50.8
3.4	344	347	50.8
3.5	344	347	50.8
3.6	344	347	50.8
3.7	344	347	50.8
3.8	344	347	50.8

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0	2.000	2.000		
2.0	3.000	3.000		
2.1			3.000	
2.2			3.000	
2.3			3.000	
2.4			8.000	
2.5			8.000	
2.6			8.000	





2.7			8.000	
2.8			1.000	
2.9			1.000	
3.0				
3.1				
3.2				
3.3			1.000	
3.4			1.000	
3.5			1.000	
3.6			1.000	
3.7			1.000	
3.8	2.000		2.000	

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0					
2.0		37000			
2.1		57000			
2.2		57000			
2.3		76000			
2.4		70000			
2.5		68000			
2.6		67000			
2.7		67000			
2.8		62000			
2.9		61000			
3.0		64000			
3.1		64000			
3.2		67000			
3.3		66000			
3.4		65000			
3.5		64000			
3.6		64000			
3.7		63000			
3.8		63000			

Logs



Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR	167	389
ISF BHC MSFL GR	419	310
LDL CNL CAL GR	310	419
MWD	240	420

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	240.5	36	270.0	0.00	LOT
INTERM.	13 3/8	310.0	17 1/2	315.0	1.23	LOT
INTERM.	9 5/8	412.0	12 1/4	420.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
181	1.03	1.0		WATER BASED	10.04.1986
315	1.10	8.0	14.0	WATER BASED	05.02.1986
315	1.10	8.0	14.0	WATER BASED	17.02.1986
315	1.12	1.0		WATER BASED	17.02.1986
315	1.12	1.0		WATER BASED	18.02.1986