

**General information**

Wellbore name	33/6-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	33/6-1
Seismic location	
Production licence	049
Drilling operator	Norsk Agip AS
Drill permit	212-L
Drilling facility	FERNSTAR
Drilling days	89
Entered date	09.04.1979
Completed date	06.07.1979
Release date	06.07.1981
Publication date	01.07.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	25.0
Water depth [m]	306.0
Total depth (MD) [m RKB]	3900.0
Final vertical depth (TVD) [m RKB]	3898.0
Maximum inclination [°]	3.5
Bottom hole temperature [°C]	103
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	LUNDE FM
Geodetic datum	ED50
NS degrees	61° 32' 14.83" N
EW degrees	1° 51' 57.55" E
NS UTM [m]	6823341.21
EW UTM [m]	439704.03
UTM zone	31
NPDID wellbore	406



Wellbore history

General

Well 33/6-1 is located in the Marulk Basin northwest of the Snorre Field in the southeastern sector of block 33/6. The location was selected on the crestal area of the most attractive feature in the licence: a fault bounded, tilted block. The closure was considered dependent upon the sealing properties of the NE-SW fault to the south of the prospect. The primary objective of the well was to test the Middle-Early Jurassic Brent-Statfjord reservoirs. Planned TD was in the Late Triassic Hegre Group

Operations and results

Exploration well 33/6-1 was spudded on April 9, 1979 in 306 m water depth, the deepest drilling location to that date. Semi-submersible installation Fernstar was used to drill the well. Due to soft bottom conditions and problems with stabilizing the temporary guide base on the sea floor the well was re-spudded twice, the last and successful attempt on April 15. The well reached TD at 3900 m in the Early Jurassic Statfjord Formation. The well was drilled with seawater and pre-hydrated bentonite down 434 m, with seawater/HPD polymer/bentonite from 434 m to 695 m, with KCl/Dextrid/seawater from 695 m to 1690 m, and with lignosulphonate/fresh water from 1690 m to TD.

The most significant horizons, the top of the Paleocene Seismic Marker and top Cretaceous, came in 13 meters lower and 37,5 meters higher than expected, respectively. The pre-Cretaceous section deviated significantly from prognosis. This was caused by a very crude depth conversion model due to lack of well control in the area and a much thinner Brent thickness than prognosed. All pre-Cretaceous targets were found however. The Late Kimmerian unconformity was encountered 133.5 m high to prognosis. The Late Jurassic shale was 65.5 m thick, 35 meters thicker than prognosed and consisted of 30 m of Draupne Formation plus 35.5 m of Heather Formation.

The primary target Brent Group was penetrated at 3603 m, 97 meters higher than prognosed, and only 44 m thick versus the expected 155 m. The Brent reservoir was water wet. This was evident on the logs and was confirmed by no shows on the cuttings, mud, or on core. The Dunlin Group came in at 3647.5 m, 297 m higher than prognosed, and was 144.5 m thick compared to the expected 265 m

The secondary target Statfjord Formation was encountered at 3792 m, 328 m higher than prognosed and was 70 m thick, 10 meters more than predicted. The Statfjord reservoir was water wet. Again this was evident on the logs and was confirmed by no shows on the cuttings, mud, or on core.

Two cores were cut. The first core was cut from 3607 m to 3616 m in the Brent Group and the second from 3802 m to 3807 m in the Statfjord Formation. No fluid samples were taken in this well.

The well was permanently abandoned on 6 July 1979 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]
450.00	3900.00

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
1	3607.0	3615.5	[m]
2	3802.0	3806.6	[m]

Total core sample length [m]	13.1
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1300.0	[m]	DC	GEOCH
1330.0	[m]	DC	GEOCH
1360.0	[m]	DC	GEOCH
1390.0	[m]	DC	GEOCH
1400.0	[m]	DC	GEOCH
1420.0	[m]	DC	GEOCH
1420.0	[m]	DC	RRI
1440.0	[m]	DC	RRI
1450.0	[m]	DC	GEOCH
1460.0	[m]	DC	RRI
1480.0	[m]	DC	RRI
1480.0	[m]	DC	GEOCH
1500.0	[m]	DC	RRI
1510.0	[m]	DC	GEOCH
1520.0	[m]	DC	GEOCH
1540.0	[m]	DC	GEOCH
1560.0	[m]	DC	GEOCH
1570.0	[m]	DC	GEOCH
1580.0	[m]	DC	RRI
1600.0	[m]	DC	RRI
1600.0	[m]	DC	GEOCH
1620.0	[m]	DC	RRI



1630.0 [m]	DC	GEOCH
1640.0 [m]	DC	RRI
1660.0 [m]	DC	RRI
1660.0 [m]	DC	GEOCH
1680.0 [m]	DC	RRI
1690.0 [m]	DC	GEOCH
1700.0 [m]	DC	RRI
1720.0 [m]	DC	RRI
1720.0 [m]	DC	GEOCH
1740.0 [m]	DC	RRI
1750.0 [m]	DC	GEOCH
1760.0 [m]	DC	RRI
1780.0 [m]	DC	GEOCH
1780.0 [m]	DC	RRI
1800.0 [m]	DC	RRI
1810.0 [m]	DC	GEOCH
1820.0 [m]	DC	RRI
1840.0 [m]	DC	RRI
1840.0 [m]	DC	GEOCH
1860.0 [m]	DC	RRI
1870.0 [m]	DC	GEOCH
1880.0 [m]	DC	RRI
1900.0 [m]	DC	RRI
1900.0 [m]	DC	GEOCH
1930.0 [m]	DC	GEOCH
1960.0 [m]	DC	GEOCH
1995.0 [m]	DC	GEOCH
2110.0 [m]	SWC	AGIP
2130.0 [m]	SWC	AGIP
2221.0 [m]	SWC	AGIP
2235.0 [m]	SWC	AGIP
2630.0 [m]	SWC	AGIP
2730.0 [m]	SWC	AGIP
2870.0 [m]	SWC	AGIP
2950.0 [m]	SWC	AGIP
3200.0 [m]	DC	OD
3215.0 [m]	SWC	AGIP
3257.0 [m]	SWC	AGIP
3260.0 [m]	DC	OD
3280.0 [m]	DC	OD



3300.0	[m]	SWC	AGIP
3305.0	[m]	DC	OD
3320.0	[m]	DC	OD
3330.0	[m]	DC	OD
3360.0	[m]	DC	OD
3368.0	[m]	SWC	AGIP
3400.0	[m]	DC	OD
3403.0	[m]	SWC	AGIP
3437.0	[m]	SWC	AGIP
3455.0	[m]	DC	OD
3468.0	[m]	SWC	AGIP
3525.0	[m]	SWC	AGIP
3542.0	[m]	SWC	AGIP
3592.0	[m]	SWC	AGIP
3601.0	[m]	SWC	AGIP
3604.0	[m]	SWC	AGIP
3605.0	[m]	C	AGIP
3610.0	[m]	C	AGIP
3645.0	[m]	SWC	AGIP
3674.0	[m]	SWC	AGIP
3712.0	[m]	SWC	AGIP
3730.0	[m]	SWC	AGIP
3750.0	[m]	SWC	AGIP
3772.0	[m]	SWC	AGIP
3777.0	[m]	SWC	AGIP
3787.0	[m]	SWC	AGIP
3789.0	[m]	SWC	AGIP
3801.0	[m]	C	AGIP
3814.0	[m]	SWC	AGIP
3835.0	[m]	SWC	AGIP
3843.0	[m]	SWC	AGIP
3871.0	[m]	SWC	AGIP
3883.0	[m]	SWC	AGIP
3895.0	[m]	SWC	AGIP

Lithostratigraphy

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



1072	UTSIRA FM
1138	HORDALAND GP
1723	ROGALAND GP
1723	BALDER FM
1768	LISTA FM
1893	SHETLAND GP
3241	CROMER KNOLL GP
3537	VIKING GP
3537	DRAUPNE FM
3567	HEATHER FM
3603	BRENT GP
3603	RANNOCH FM
3647	DUNLIN GP
3647	DRAKE FM
3697	COOK FM
3731	BURTON FM
3755	AMUNDSEN FM
3792	STATFJORD GP
3862	HEGRE GP
3862	LUNDE FM

Composite logs

Document name	Document format	Document size [MB]
406	pdf	0.52

Geochemical information

Document name	Document format	Document size [MB]
406_1	pdf	2.13
406_2	pdf	0.21
406_3	pdf	0.67

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





Document name	Document format	Document size [MB]
406_01_WDSS_General_Information	pdf	0.11
406_02_WDSS_completion_log	pdf	0.23

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

Document name	Document format	Document size [MB]
406_1_Completion_Report_and_Completion_Log	pdf	26.33

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL	315	692
CBL	1900	3532
FDC CNL GR	1960	3901
HDT	1959	3898
HRT	300	1627
ISF BHC SP GR	434	3901
VSP	623	3900

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	434.0	36	440.0	0.00	LOT
SURF.COND.	20	695.0	26	715.0	1.26	LOT
INTERM.	13 3/8	1960.0	17 1/2	1987.0	1.65	LOT
INTERM.	9 5/8	3527.0	12 1/4	3550.0	1.91	LOT
OPEN HOLE		3900.0	8 1/2	3900.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
644	1.11			water based	
850	1.10			water based	





1139	1.23			water based	
1987	1.27			water based	
2338	1.38			water based	
3333	1.42			water based	
3424	1.45			water based	
3550	1.51			water based	
3846	1.53			water based	