General information

Wellbore name	25/5-5
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	25/5-5 (Tir)
Well name	25/5-5
Seismic location	EL 9201- CROSSLINE 1086 & inline 491
Production licence	102
Drilling operator	Elf Petroleum Norge AS
Drill permit	827-L
Drilling facility	VILDKAT EXPLORER
Drilling days	28
Entered date	27.10.1995
Completed date	23.11.1995
Release date	23.11.1997
Publication date	15.02.2006
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	YES
1st level with HC, age	PALEOCENE
1st level with HC, formation	HEIMDAL FM
Kelly bushing elevation [m]	25.0
Water depth [m]	122.0
Total depth (MD) [m RKB]	2600.0
Final vertical depth (TVD) [m RKB]	2596.0
Maximum inclination [°]	8.3
Bottom hole temperature [°C]	89
Oldest penetrated age	PALEOCENE
Oldest penetrated formation	VÅLE FM
Geodetic datum	ED50
NS degrees	59° 33' 16.17'' N
EW degrees	2° 20' 40.46'' E
NS UTM [m]	6602133.73
EW UTM [m]	462949.90
UTM zone	31
NPDID wellbore	2661

Wellbore history

General

Exploration well 25/5-5 is located a few km east-southeast of the Heimdal field. The objective was the turbiditic sands of the Heimdal Formation, which is the reservoir for the Heimdal gas field. The Jotun oil discovery (8 km south) and a minor oil discovery on 25/4 -2 (5 km north-northwest) are also in Heimdal turbiditic sands. The prognosed TD of the well was 2600 m in the Ty / Våle Formations in case of a discovery, or 2250 m in the Heimdal Formation, in case of a dry well. The chosen location was on the highest structural point of the 25/5-5 closure. Oil with a possible gas cap was the anticipated reservoir fluid

Operations and results

Wildcat well 25/5-5 was spudded with the semi-submersible installation Vildkat Explorer on 27 October 1995 and drilled to TD at 2600 m in the Paleocene Våle Formation. No significant operational problems were encountered in this well and TD was reached in less than 9 days after spud. The well was drilled with seawater and hi-vis pills down to 1206 m and with Safemul oil based mud from 1206 m to TD. Due to the choice of OBM system, the 8 1/2" diameter was drilled in preference to 12 1/4" to minimize mud and cuttings volumes.

Top Heimdal Formation was found at 2158.5 m, 13 m above prognosis. The formation was 334 m thick. The reservoir was oil-bearing, with an OWC at 2176.3 m. There was no recognised gas cap. As prognosed, the reservoir properties were very good. Two cores were cut from 2162.5 m to 2199.75 m in sandstone of the Heimdal Formation. The cored interval was hydrocarbon bearing, with the OWC clearly defined on the lower core. The MDT tool was run to obtain pressure and fluid samples from the reservoir. Pressure depletion from production of the Heimdal Field was confirmed. From the pressure plot some vertical barrier effects were evident in the deeper part of the aquifer zone, below 2206 m. In the upper part of the Heimdal Sand, however, no pressure barriers could be seen. Four sample bottles from 2172.1 m were transported onshore for transfer to PVT bottles. It was confirmed that the sample quality was satisfactory. Two samples from 2160.5 and 2161.6 m plugged during filling, probably due to sand production. To check for hydrocarbon fluid the samples were drained on the rig.

The well was permanently abandoned on 23 November 1995 as an oil discovery.

Testing

One test was performed in the interval 2158.50 - 2169.50 m in the reservoir. The test produced 428 m3 / day of oil and 15578 m3 /day of gas on 96/64" choke. The GOR was 36.4 m3/m3 with a wellhead pressure of 8.9 bars. The API gravity was near 35 deg.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1220.00	2600.00

Cuttings available for sampling?	YES

Cores at the Norwegian Offshore Directorate

Core sample number	Core sample - top depth	Core sample - bottom depth	Core sample depth - uom
1	2162.5	2172.3	[m]
2	2172.3	2199.8	[m]

Total core sample length [m]	37.3
Cores available for sampling?	YES

Core photos


2162-2167m


2167-2172m


2172-2172m


2172-2177m


2177-2182m


2182-2187m


2187-2192m


2192-2197m


2197-2199m

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		2169.50	2158.80		15.11.1995 - 00:00	YES

Lithostratigraphy

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

430	UTSIRA FM
947	HORDALAND GP
1032	SKADE FM
1044	NO FORMAL NAME
1420	GRID FM
1433	NO FORMAL NAME
2023	ROGALAND GP
2023	BALDER FM
2075	SELE FM
2123	LISTA FM
2159	HEIMDAL FM
2493	LISTA FM
2531	VÅLE FM

Composite logs

Document name	Document format	Document size [MB]
2661	pdf	0.34

Geochemical information

Document name	Document format	Document size [MB]
2661_1	pdf	1.57

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

Document name	Document format	Document size [MB]
2661_25_5_5_COMPLETION_REPORT_AND_LOG	pdf	45.37

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	2170	2159	38.1

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0	2.000	1.000	20.000	

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	428	15578	0.880	0.700	36

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT DSI GR	1198	2596
CBL VDL CCL GR	1586	2206
CCL GR	2045	2145
CCL GR	2045	2145
IPL CNL EPT	1198	2599
MDT GR	2158	2275
MWD LWD - DGR EWR	213	1206
MWD LWD - DGR EWR 4	1209	2600
SWC GR	2040	2555
UIB GR	1198	2580
VSP	490	2580

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	208.0	36	210.0	0.00	LOT
SURF.COND.	13 3/8	1198.0	17 1/2	1200.0	0.00	LOT
OPEN HOLE		2600.0	8 1/2	2600.0	1.81	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
145	1.02			WATER BASED	
212	1.02			WATER BASED	

693	1.02			WATER BASED	
920	1.03			WATER BASED	
2160	1.26	35.0		OIL BASED	
2217	1.03			WATER BASED	
2600	1.26	39.0		OIL BASED	

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]
2661_Formation_pressure_(Formasjonstrykk)	pdf	0.22