

**General information**

Wellbore name	25/1-4
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	NORDØST FRIGG
Discovery	25/1-4 Nordøst Frigg
Well name	25/1-4
Seismic location	LINE 73 595950 SP.70
Production licence	024
Drilling operator	Elf Petroleum Norge AS
Drill permit	108-L
Drilling facility	DEEPSEA DRILLER
Drilling days	60
Entered date	01.04.1974
Completed date	30.05.1974
Release date	30.05.1976
Publication date	29.06.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS
Discovery wellbore	YES
1st level with HC, age	EOCENE
1st level with HC, formation	FRIGG FM
Kelly bushing elevation [m]	25.0
Water depth [m]	107.0
Total depth (MD) [m RKB]	2795.0
Bottom hole temperature [°C]	76
Oldest penetrated age	LATE CRETACEOUS
Oldest penetrated formation	HARDRÅDE FM
Geodetic datum	ED50
NS degrees	59° 59' 52.51" N
EW degrees	2° 15' 54.8" E
NS UTM [m]	6651562.60
EW UTM [m]	459011.74
UTM zone	31
NPDID wellbore	350



Wellbore history

General

Exploration well 25/1-4 was located on a lower Eocene structure straddling the 25/1 and 30/10 blocks limit, north-east of the main Frigg Field. It was drilled to explore additional gas reserves in the Frigg area. A "Bright spot" phenomenon interpreted as a gas/oil or water table is clearly visible on all the seismic sections crossing the structure. Possible Danian and Maastrichtian reservoirs were considered secondary objectives.

Operations and results

Well 25/1-4 was spudded with the semi-submersible installation Deepsea Driller on 1 April 1974 and drilled to TD at 2795 m in Maastrichtian marls.

The top of the Eocene reservoir (Frigg Formation) at 1967.8 was detected by C1 traces (maximum 3%). Based on shows on cores and electrical logs gas/oil and oil/water contacts were found at 2005.6 m and 2009 m, respectively. The contacts were not the same as on the Frigg Field, implying that this discovery was not in communication with the main Frigg Field. Background gas was weak to nil below 2010 and cuttings or sidewall cores below this depth showed no direct fluorescence or cut. Paleocene was penetrated at 2058 m with well-developed sand bodies as is usual in the area. Hence, the Paleocene contained 190 m net sands of which 25 m consisted of calcareous sandstone and 90 m of shaly sands. All Paleocene sands were water wet. In the Maastrichtian chalk some gas shows were recorded on the section 2757 m to 2763 m. Some hydrocarbon saturation was inferred by logs, but an FIT at 2760 m recovered 2.750 l of mud with only oil traces after a 25 minutes flow period.

Coring started at 1922 m, 45.8 m above the Eocene sands. Eight conventional cores were cut from this point down to 2028 m. Two wire line tests were conducted in the oil-bearing zone at 2006.5 m and 2007.5 m. The latter recovered 5.15 l of oil and 4.75 l of mud filtrate.

The well was permanently abandoned on 30 May 1974 as an oil and gas discovery.

Testing

One drill stem test was carried out through the 7" liner in the Eocene gas zone (perforations at 1991.20 m to 1995.8 m, 1983.20 m to 1987.2, and 1969.7 m to 1974.3 m). Gas flow was stabilized around 610000 m³/day on 3/4" choke (with 5.04 Sm³ associated condensate/day) and 831400 m³/day on a 1" choke (5.04 Sm³ associated condensate/day).

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
450.00	2795.00

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	1922.0	1933.0	[m]
2	1935.5	1949.5	[m]
3	1953.5	1970.5	[m]
4	1970.5	1976.5	[m]
5	1984.0	1990.0	[m]
6	1993.0	1999.0	[m]
7	2001.0	2010.0	[m]
8	2010.0	2023.5	[m]

Total core sample length [m]	82.5
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1780.0	[m]	DC	
1800.0	[m]	DC	
1820.0	[m]	DC	
1840.0	[m]	DC	
1860.0	[m]	DC	
1880.0	[m]	DC	
1900.0	[m]	DC	
1921.0	[m]	DC	
1925.0	[m]	C	IGS
1941.0	[m]	C	IGS
1954.0	[m]	C	IGS
1970.0	[m]	C	IGS
1976.0	[m]	C	IGS
2035.0	[m]	DC	
2055.0	[m]	DC	
2067.0	[m]	SWC	
2075.0	[m]	DC	
2095.0	[m]	DC	
2115.0	[m]	DC	
2119.0	[m]	SWC	
2135.0	[m]	DC	
2155.0	[m]	DC	



2175.0 [m]	DC	
2176.0 [m]	SWC	
2195.0 [m]	DC	
2215.0 [m]	DC	
2235.0 [m]	DC	
2247.0 [m]	SWC	
2255.0 [m]	DC	
2275.0 [m]	DC	
2300.0 [m]	DC	
2320.0 [m]	DC	
2340.0 [m]	DC	
2360.0 [m]	DC	
2371.0 [m]	SWC	
2380.0 [m]	DC	
2400.0 [m]	DC	
2420.0 [m]	DC	
2440.0 [m]	DC	
2445.0 [m]	DC	
2450.0 [m]	DC	
2455.0 [m]	DC	
2460.0 [m]	DC	
2465.0 [m]	DC	
2480.0 [m]	DC	
2482.0 [m]	SWC	
2500.0 [m]	DC	
2512.0 [m]	SWC	
2520.0 [m]	DC	
2532.0 [m]	SWC	
2540.0 [m]	DC	
2557.0 [m]	SWC	
2557.0 [m]	SWC	
2565.0 [m]	DC	
2603.0 [m]	SWC	
2630.0 [m]	SWC	
2673.5 [m]	SWC	
2745.0 [m]	SWC	
2789.0 [m]	SWC	
2793.0 [m]	SWC	

**Lithostratigraphy**

Top depth [mMD RKB]	Lithostrat. unit
133	NORDLAND GP
952	HORDALAND GP
1968	FRIGG FM
2058	ROGALAND GP
2058	BALDER FM
2316	SELE FM
2561	LISTA FM
2643	TY FM
2687	SHETLAND GP
2687	HARDRÅDE FM

Composite logs

Document name	Document format	Document size [MB]
350	pdf	0.32

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

Document name	Document format	Document size [MB]
350_01_WDSS_General_Information	pdf	0.25

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

Document name	Document format	Document size [MB]
350_10_Crude_oil_analysis	PDF	0.76
350_11_CPI_data	PDF	8.36
350_12_Prognosis	PDF	0.35
350_13_Drilling_report	PDF	5.39
350_1_Completion_Report_and_Completion_log	pdf	3.22
350_2_Test_FIT	PDF	11.32
350_3_Well_summary	PDF	5.75





350 4 CPI	PDF	0.96
350 5 Test	PDF	0.62
350 6 Core	PDF	1.87
350 7 Palynology	PDF	0.42
350 8 Log evaluation	PDF	11.21
350 9 Test analysis	PDF	3.56

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	1969	1995	19.0

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

Test number	Oil [Sm3/day]	Gas [Sm3/day]	Oil density [g/cm3]	Gas grav. rel.air	GOR [m3/m3]
1.0	5	610000			

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL	1250	1907
CBL	1758	2051
CCL PERF	1969	1974
CCL PERF	1983	1987
CCL PERF	1991	1995
DLL	1907	2786
FDC CNL	1907	2078
FDC CNT	1907	2770
GR	132	420
GR SL	420	1919
GR SL	1907	2077
GR SL	1907	2792
HDT	1907	2791
IES	425	1920





IES	1907	2078
IES	1907	2770
MLL ML	1907	2770
SWC	2067	2793
SWC	2067	2793

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	164.0	36	166.0	0.00	LOT
INTERM.	13 3/8	424.0	17 1/2	425.0	0.00	LOT
INTERM.	9 5/8	1907.0	12 1/4	1910.0	0.00	LOT
LINER	7	2795.0	8 1/2	2795.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
920	1.30	60.0	12.0	water based	
1840	1.38	75.0	12.0	water based	
1930	1.25	47.0	12.0	water based	
2028	1.25	48.0	14.0	water based	
2563	1.25	46.0	10.0	water 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]
350 Formation pressure (Formasjonstrykk)	pdf	0.22

