



General information





Wellbore name	25/1-8 S
Type	EXPLORATION
Purpose	APPRAISAL
Status	SUSPENDED
Factmaps in new window	link to map
Main area	NORTH SEA
Field	FRIGG
Discovery	25/1-1 Frigg
Well name	25/1-8
Seismic location	L 73 - 59 - 54 SP. 1105
Production licence	024
Drilling operator	Elf Petroleum Norge AS
Drill permit	466-L
Drilling facility	BYFORD DOLPHIN
Drilling days	59
Entered date	28.05.1985
Completed date	25.07.1985
Release date	25.07.1987
Publication date	30.09.2011
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL/GAS
Discovery wellbore	NO
1st level with HC, age	EOCENE
1st level with HC, formation	FRIGG FM
Kelly bushing elevation [m]	25.0
Water depth [m]	102.0
Total depth (MD) [m RKB]	2650.0
Final vertical depth (TVD) [m RKB]	2572.0
Bottom hole temperature [°C]	65
Oldest penetrated age	PALEOCENE
Oldest penetrated formation	LISTA FM
Geodetic datum	ED50
NS degrees	59° 54' 3.28" N
EW degrees	2° 6' 9.79" E
NS UTM [m]	6640871.09
EW UTM [m]	449800.69
UTM zone	31
NPDID wellbore	472



Wellbore history

General

The Frigg Field was discovered by well 25/1-1 in 1971 and set in production in May 1977. Well 25/1-8 S was drilled to monitor changes in gas/fluid contact, uncover permeability barriers and pressure gradients in the Frigg Formation, refine the geological model, and provide ties for seismic interpretations. Before production started the Frigg Field fluid contacts were: OWC = 1955.9 m TVD MSL and GOC = 1948.2 m TVD MSL. Due to the close proximity to the Odin pipeline, the well had to be drilled with a slight deviation. The well was to be entered several times to monitor further changes in the gas/water contact as a response to field production.

Operations and results

Appraisal well 25/1-8 S was spudded with the semi-submersible installation Byford Dolphin on 28 May 1985 and drilled to TD at 2650 m (2572 m TVD / 2547 m TVD MSL) in the Paleocene Lista Formation.

Top Frigg Formation came in at 1930.2 m (1853 m TVD MSL). The formation was gas-bearing with a water saturation of only 6.1% in the gas zone down to the gas/water contact (GWC) at 1901.5 m TVD MSL. A residual gas zone with 74.9% water saturation was found from 1901.5 m TVD MSL down to 1909.3 m TVD MSL. Within this zone, at 1903.5 m TVD MSL was a thin oil layer, which indicated a fingering effect caused by edge water drive. Otherwise the original oil-leg in Frigg had been all swept by water since production start. A three phase zone (oil+gas+water) with 51.5% water saturation was seen below the gas zone from 1909.3 m TVD MSL down to the original GOC at 1948.2 m TVD MSL, and from 1948.2 TVD MSL down to 1981.1 m TVD MSL there was a zone of residual oil and water with 88.2% water saturation. Below 1981.1 m TVD MSL there was only water in the porosity.

A total of 9 cores were cut in the interval between 1939 and 2112 m, covering the whole Frigg gas sand including the fluid contacts. Fifty-six RFT pressure measurements were recorded on three different runs. They proved no pressure barriers throughout the hydrocarbon bearing sands of the Frigg Formation and 10 m into the water zone at 1990 m TVD MSL. The Frigg Formation below this level had 6 pressure barriers based on the RFT data. No wire line fluid samples were taken.

The well was suspended on 25 July 1985 for later re-entry and monitoring of the reservoir parameters. It is classified as a gas appraisal well

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
200.00	2650.00

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	1939.0	1948.9	[m]
2	1950.0	1953.2	[m]
3	1953.2	1968.3	[m]
4	1971.0	1996.5	[m]
5	1997.8	1999.0	[m]
6	2025.0	2055.0	[m]
7	2055.0	2082.5	[m]
8	2082.5	2094.4	[m]
9	2094.4	2110.5	[m]

Total core sample length [m]	140.4
Cores available for sampling?	YES

Core photos

1939-1942m



1942-1946m



1946-1950m



1950-1952m



1952-1956m



1956-1960m



1960-1964m



1964-1968m



1970-1974m



1974-1977m



1978-1982m



1982-1986m



1986-1990m



1990-1994m



1994-1996m



1997-1999m



2025-2029m



2029-2033m



2033-2037m



2037-2041m



2041-2045m



2045-2049m



2049-2050m



2053-2057m



2057-2061m



2061-2064m



2065-2069m



2069-2070m



2080-2084m



2084-2087m



2098-2102m



2102-2106m



2106-2110m

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
127	NORDLAND GP
731	HORDALAND GP
1930	FRIGG FM
2232	ROGALAND GP
2232	BALDER FM
2237	INTRA BALDER FM SS
2250	BALDER FM
2329	HERMOD FM
2532	LISTA FM

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

Document name	Document format	Document size [MB]
472_01_WDSS_General_Information	pdf	0.28
472_02_WDSS_completion_log	pdf	0.20

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

Document name	Document format	Document size [MB]
472_25_1_8_S_COMPLETION_LOG	pdf	1.57
472_25_1_8_S_COMPLETION_REPORT	pdf	0.83

Logs

Log type	Log top depth [m]	Log bottom depth [m]
BGT	187	1896
CBL VDL	120	1015
CBL VDL	748	1868
CBL VDL	1741	2117
CET	1740	2120
CST	0	0
DISFL LSS GR	1812	2644
DLL MSFL GR	1912	2150
ISF LSS GR	187	2108
LDT CNL	1912	2644
LDT GR	187	1897
RFT	1930	2103
RFT	1930	2240
RFT	1941	2508
SHDT	1912	2645
TDT	1910	2128
VSP WA	300	2460

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	187.5	36	190.0	0.00	LOT
INTERM.	13 3/8	1015.0	17 1/2	1030.0	1.44	LOT
INTERM.	9 5/8	1910.0	12 1/4	1921.0	1.69	LOT
LINER	7	2201.0	8 1/2	2650.0	1.40	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
165	1.07	120.0		WATER BASED	29.05.1985
190	1.07	150.0		WATER BASED	31.05.1985
209	1.04			WATER BASED	03.06.1985
527	1.08	18.0	19.0	WATER BASED	03.06.1985
594	1.07	19.0	15.5	WATER BASED	03.06.1985
897	1.09	21.0	15.5	WATER BASED	04.06.1985
1030	1.10	24.0	17.0	WATER BASED	04.06.1985
1030	1.15	26.0	14.0	WATER BASED	05.06.1985
1030	1.15	26.0	14.0	WATER BASED	10.06.1985
1030	1.15	26.0	14.0	WATER BASED	05.06.1985
1030	1.15	26.0	14.0	WATER BASED	10.06.1985
1072	1.11	30.0	10.5	WATER BASED	10.06.1985
1279	1.12	33.0	12.5	WATER BASED	13.06.1985
1451	1.14	12.0	25.0	WATER BASED	13.06.1985
1587	1.16	32.0	12.0	WATER BASED	13.06.1985
1739	1.16	26.0	10.0	WATER BASED	13.06.1985
1908	1.20	23.0	11.0	WATER BASED	17.06.1985
1921	1.23	26.0	8.0	WATER BASED	19.06.1985
1921	1.23	26.0	8.0	WATER BASED	28.06.1985
1921	1.06	15.0	5.0	WATER BASED	28.06.1985
1921	1.23	26.0	8.0	WATER BASED	18.06.1985
1921	1.05	19.0	5.0	WATER BASED	02.07.1985
1921	1.23	26.0	8.0	WATER BASED	17.06.1985
1921	1.23	26.0	8.0	WATER BASED	18.06.1985
1921	1.23	26.0	8.0	WATER BASED	19.06.1985
1921	1.23	26.0	8.0	WATER BASED	28.06.1985
1921	1.06	15.0	5.0	WATER BASED	28.06.1985
1921	1.05	19.0	5.0	WATER BASED	02.07.1985



1925	1.04	17.0	5.0	WATER BASED	02.07.1985
1927	1.05	18.0	5.0	WATER BASED	03.07.1985
1929	1.06	27.0	9.5	WATER BASED	04.07.1985
1950	1.07	24.0	8.5	WATER BASED	04.07.1985
1970	1.08	24.0	8.0	WATER BASED	08.07.1985
2053	1.08	27.0	7.5	WATER BASED	08.07.1985
2099	1.10	28.0	8.0	WATER BASED	08.07.1985
2112	1.10	23.0	6.5	WATER BASED	08.07.1985
2192	1.10	24.0	8.5	WATER BASED	09.07.1985
2419	1.10	22.0	8.0	WATER BASED	11.07.1985
2591	1.10	28.0	7.0	WATER BASED	11.07.1985
2650	1.13	30.0	9.0	WATER BASED	14.07.1985
2650	1.13	52.0	10.0	WATER BASED	16.07.1985
2650	1.13	52.0	10.0	WATER BASED	16.07.1985

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
1948.00	[m]

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]
472 Formation pressure (Formasjonstrykk)	pdf	0.22

