

**General information**

Wellbore name	30/7-2
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	NORTH SEA
Field	MARTIN LINGE
Discovery	30/7-2
Well name	30/7-2
Seismic location	LINE 550114 SP.570
Production licence	040
Drilling operator	Norsk Hydro Produksjon AS
Drill permit	137-L
Drilling facility	POLYGLOMAR DRILLER
Drilling days	96
Entered date	06.08.1975
Completed date	09.11.1975
Release date	09.11.1977
Publication date	30.04.2010
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]	23.0
Water depth [m]	111.0
Total depth (MD) [m RKB]	2591.0
Final vertical depth (TVD) [m RKB]	2591.0
Maximum inclination [°]	5
Bottom hole temperature [°C]	69
Oldest penetrated age	LATE CRETACEOUS
Oldest penetrated formation	JORSALFARE FM
Geodetic datum	ED50
NS degrees	60° 29' 26.06" N
EW degrees	2° 1' 40.85" E
NS UTM [m]	6706599.29
EW UTM [m]	446588.17



UTM zone	31
NPDID wellbore	385

Wellbore history

**General**

Well 30/7-2 was drilled from a location 150 ft (46 m) east of well 30/7-1, which was junked for technical reasons. The well is located in the eastern part of the East Shetland Basin in the North Sea. The well location is due west of the Oseberg Field and ca 3.5 km from the UK Border. The primary objective was to investigate structural closure at Eocene and Paleocene with possible sand development.

Operations and results

Well was spudded with the semi-submersible installation on 6 August 1975. While drilling the 36" hole at 167 m, the drill string stuck. After several unsuccessful attempts to free the pipe, a string shot was run and the hole was plugged. The well was re-spudded on 9 August 9 after having moved the rig 200 ft (61 m) south-southeast. From 28 August up to 10 September operations were more or less suspended at a depth between 991 and 1001 m due to technical problems with the BOP. The well was drilled with gel/seawater mud down to 485 m, with seawater/gel and Drispac from 485 m to 1001 m, and with seawater/gel/Drispac and Lignosulfonate (Unical) from 1001 m to TD.

Two minor shows were reported from Late Eocene. The first, at 1226 m, is a sandstone with patchy yellow to whitish fair to weak fluorescence with a medium to slow cut. There was no visible oil stain on the sample. The second, in a thin sandstone stringer, at 1525 m, gave a dull gold fluorescence with a slow streaming cut. At approximately 1700 a thin sandstone gave a gold fluorescence and a white, milky, streaming cut. The samples had a slight oil stain.

The well penetrated the Frigg Formation from 1748 to 1909m. It was hydrocarbon bearing with a gas/oil contact at 1762.8 m and an oil/water contact at 1783 m according to the CPI log. The oil in the reservoir seems to be biodegraded with virtually no light components (98% C10+), while the gas is extremely dry (99.6% CH4). Below the OWC at 1783m some sandstone stringers with oil were present with the thickest zone at 1807.5 - 1810.5 m. Cored sandstones from 1975 m to 1989 m in the Hermod Formation had good oil shows. In the sandstone/limestone stringers from 2140 m to 2200 m, 2340 m to 2395 m and 2505 to 2530 m, weak to fair shows were encountered. From 2500 m to TD at 2591 m a substantial increase in the background gas was recorded.

Six cores were cut from 1753 m to 1821.7 m and two more cores were cut from 1970 m to 1989.2 m. Five FIT tests were attempted, of which FIT 1 was a misrun. FIT 2 at 2010 m recovered mud, mud filtrate and possibly some gas. The formation was apparently too tight for proper flow to occur. FIT 3 at 1978 m recovered mud and mud filtrate. FIT 4 at 1808.5 m recovered 2 litres of 21.4 deg API oil and 2.3 litres mixed sand, oil, and water. FIT 5 at 1753 m recovered gas.

The well was permanently abandoned on 9 November 1975 as an oil and gas discovery.

Testing

Two drill stem tests were performed.

DST 1 at 1796.5 to 1801.4 m produced no formation fluids to the surface, but formation water and sand was recovered from the drill string after the test. No show of oil was detected.

DST 2 at 1766 to 1776.5 m produced 80 - 140 Sm³ oil and gas/day. Oil gravity was 22.2 deg API and the gas gravity was 0.564 (air = 1). DST 2 also produced a lot of sand that created problems for the test. The content of sand produced with the fluids exceeded 14% by volume at the start of the flow, decreasing to less than 1% after 4 hours.

**Cuttings at the Norwegian Offshore Directorate**

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
200.00	2591.00

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	1753.0	1764.5	[m]
2	1765.2	1780.0	[m]
3	1780.2	1792.4	[m]
4	1792.4	1800.6	[m]
5	1802.5	1816.2	[m]
6	1819.0	1821.7	[m]
7	1970.0	1979.0	[m]
8	1983.7	1989.2	[m]

Total core sample length [m]	77.6
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
134	NORDLAND GP
444	UTSIRA FM
655	NO FORMAL NAME
860	HORDALAND GP
1748	FRIGG FM
1909	ROGALAND GP
1909	BALDER FM
1933	SELE FM
1947	HERMOD FM
2025	SELE FM
2048	HERMOD FM
2088	LISTA FM
2350	VÅLE FM
2371	SHETLAND GP



2371 [JORSALFARE FM](#)

Composite logs

Document name	Document format	Document size [MB]
385	pdf	0.43

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

Document name	Document format	Document size [MB]
385 01 WDSS General Information	pdf	0.26

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

Document name	Document format	Document size [MB]
385 01 30 7 2 Analysis of Samples from DST	pdf	2.24
385 01 30 7 2 Biostratigraphic Analysis of 14 Sidewall Cores	pdf	2.84
385 01 30 7 2 Biostratigraphy from 1725-2475m	pdf	3.08
385 01 30 7 2 Completion log	pdf	1.26
385 01 30 7 2 Completion Report	pdf	26.75
385 01 30 7 2 Core 1-8 Lithological Description Poro-Perm	pdf	3.59
385 01 30 7 2 Core Report	pdf	1.22
385 01 30 7 2 Core Show report	pdf	0.99
385 01 30 7 2 Drilling Program	pdf	2.36
385 01 30 7 2 Final Geological Report	pdf	5.07
385 01 30 7 2 Gas Analysis	pdf	0.08
385 01 30 7 2 Geological Prognosis	pdf	1.50
385 01 30 7 2 Grain Size distribution Analysis	pdf	4.07
385 01 30 7 2 Idel Mud Log	pdf	12.34
385 01 30 7 2 Mud Log	pdf	12.87
385 01 30 7 2 Reservoir Evaluation Eocene Discovery	pdf	5.36





385_01_30_7_2_Reservoir_Evaluation_Eocene_Discovery_2	pdf	5.42
385_01_30_7_2_Reservoir_Fluid_Study_PVT_Study	pdf	24.47
385_01_30_7_2_Reservoir_Sampling_Report-Surface_Sample	pdf	0.51
385_01_30_7_2_Well_Summary_Final_Report	pdf	3.30
385_01_30_7_2_Rapport_av_GC_MS_analyse_av_raaoljen	pdf	0.17

Drill stem tests (DST)

Test number	From depth MD [m]	To depth MD [m]	Choke size [mm]
1.0	1797	1801	0.0
2.0	1765	1777	0.0

Test number	Final shut-in pressure [MPa]	Final flow pressure [MPa]	Bottom hole pressure [MPa]	Downhole temperature [°C]
1.0				
2.0				

Test number	Oil [Sm ³ /day]	Gas [Sm ³ /day]	Oil density [g/cm ³]	Gas grav. rel.air	GOR [m ³ /m ³]
1.0					
2.0					

Logs

Log type	Log top depth [m]	Log bottom depth [m]
BHC GR	110	1005
BHC GR	1002	1699
BHC GR	1688	1898
BHC GR	1850	2590
CBL	900	1500
CBL	1660	1830
CNL FDC	482	1700
CNL FDC	1688	1898
CNL FDC	1850	2590





DLL MSFL	1688	1898
DLL MSFL	1850	2073
HDT	1688	2589
IES	1002	1699
IES	1688	1816
IES	1688	1898
IES	1850	2590
TL	1	987

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	198.0	36	199.0	0.00	LOT
SURF.COND.	20	482.0	26	485.0	0.00	LOT
INTERM.	13 3/8	1002.0	17 1/2	1010.0	0.00	LOT
INTERM.	9 5/8	1690.0	12 1/4	1700.0	0.00	LOT
LINER	7	1860.0	8 1/2	2591.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
485	1.06	80.0		waterbased	
1100	1.07	47.0		waterbased	
1753	1.27	59.0		waterbased	
2137	1.24	42.0		waterbased	
2591	1.32	45.0		waterbased	

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]
385 Formation pressure (Formasjonstrykk)	pdf	0.20

