General information

Wellbore name	7224/7-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Factmaps in new window	link to map
Main area	BARENTS SEA
Well name	7224/7-1
Seismic location	ST 8611 - 332 SP. 2480
Production licence	137
Drilling operator	Den norske stats oljeselskap a.s
Drill permit	575-L
Drilling facility	ROSS RIG (2)
Drilling days	68
Entered date	13.04.1988
Completed date	19.06.1988
Release date	19.06.1990
Publication date	02.12.2004
Purpose - planned	WILDCAT
Reentry	NO
Content	SHOWS
Discovery wellbore	NO
Kelly bushing elevation [m]	23.5
Water depth [m]	269.0
Total depth (MD) [m RKB]	3067.0
Final vertical depth (TVD) [m RKB]	3064.0
Maximum inclination [°]	7.3
Bottom hole temperature [°C]	119
Oldest penetrated age	EARLY TRIASSIC
Oldest penetrated formation	HAVERT FM
Geodetic datum	ED50
NS degrees	72° 17' 6.34'' N
EW degrees	24° 18' 2.98'' E
NS UTM [m]	8023008.80
EW UTM [m]	408353.14
UTM zone	35
NPDID wellbore	1245

Wellbore history

General

Well 7224/7-1 was drilled in Lopparyggen Øst area on the Bjarmeland Platform. The hole was drilled on the Samson Dome structure with closure on all pre-Oligocene levels. The well was designed to test sandstone reservoirs of Early Jurassic/Late Triassic and Early Triassic ages and carbonaceous rocks of Permian age. In addition, the well was to test the geophysical and structural interpretation, and improve the geological, geochemical and paleontological understanding of a new area in the Barents Sea. Planned TD was originally at 4400 m, into Permian carbonates. However, as the result from well 7226/11-1 about 70 km further east turned out to be negative regarding the Permian rocks, it was decided to reduce TD to 3200 m.

Operations and results

Wildcat well 7224/7-1 was spudded with the semi-submersible rig Ross Rig 13 April 1988 and drilled to TD at 3067 m in Triassic rocks. During drilling Statoil reported increasing pressure and relatively high connection gas readings. At 2352 m gas flowed in from the formation. During further drilling the pore pressure increased to 1.48 SG in the formation at 2621 m, and Statoil decided to stop drilling and set casing at 2658 m. The 9 5/8" casing was set at 2644 m. Further drilling to TD went without significant problems. The well was drilled with seawater and hi-vis pills down to 664 m and with Newdrill polymer / Drispac from 664 m to TD. There was no shallow gas in the hole.

Middle Jurassic sandstone (Stø Formation) came in at 894 m. Jurassic/Late Triassic reservoir section had good reservoir quality. In the Triassic section several minor sand zones of Anisian age in the Kobbe formation was penetrated. Bottom Smithian sandstone (Klappmyss), prognosed at 2730 m, was not encountered as expected. Shows were recorded in the Stø, Nordmela and Tubåen formations from 894 m to 931 m, but logs and RFT tests showed that the sandstones were water bearing. The petrophysical evaluation indicated that the section from 1660 to approximately 1775 in the Kobbe Formation was gas bearing, and shows were recorded from 1658 m to 1784 m, 1856 m to 1871 m, and 1922 m to 2027 m. However, analysis from core and RFT measurements showed that the formation had very poor to no permeability. Three cores were cut in Early Jurassic-Late Triassic (Stø, Nordmela and Tubåen formations), and two in Middle Triassic rocks (Kobbe Formation). One RFT fluid sample was taken in the Stø Formation at 902 m. It contained water. In the Kobbe Formation four successful formation pressures out of 26 attempts, and one set of gas samples were achieved by the RFT.

After expected reservoir level was penetrated without encountering reservoir sand, Statoil requested to stop further drilling. The well was plugged and abandoned on 19 June 1988 with shows.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
665.00	3067.00

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	898.0	907.5	[m]
2	907.5	925.1	[m]
3	926.0	931.0	[m]
4	1725.0	1732.5	[m]
5	1734.0	1740.7	[m]

Total core sample length [m]	46.2
Cores available for sampling?	YES

Core photos


898-903m


903-907m


907-912m


913-917m


917-922m


923-925m


926-931m


1725-1730m


1730-1733m


1734-1739m


1739-1741m

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
403.0	[m]	SWC	STAT
415.0	[m]	SWC	STAT
430.0	[m]	SWC	STAT
442.0	[m]	SWC	STAT
454.0	[m]	SWC	STAT
466.0	[m]	SWC	STAT
478.0	[m]	SWC	STAT
490.0	[m]	SWC	STAT
502.0	[m]	SWC	STAT
526.0	[m]	SWC	STAT
550.0	[m]	SWC	STAT
562.0	[m]	SWC	STAT
574.0	[m]	SWC	STAT
586.0	[m]	SWC	STAT
598.0	[m]	SWC	STAT
610.0	[m]	SWC	STAT
621.0	[m]	SWC	STAT
633.0	[m]	SWC	STAT
645.0	[m]	SWC	STAT
663.5	[m]	SWC	STAT
677.0	[m]	DC	STAT
692.0	[m]	DC	STAT
707.0	[m]	DC	STAT
722.0	[m]	DC	STAT
750.0	[m]	SWC	STAT
764.0	[m]	DC	STAT
773.0	[m]	DC	STAT
785.0	[m]	DC	STAT
797.1	[m]	SWC	STAT
815.1	[m]	SWC	STAT
827.0	[m]	DC	STAT
840.1	[m]	SWC	STAT
851.1	[m]	SWC	STAT
862.1	[m]	SWC	STAT
876.1	[m]	SWC	STAT
886.1	[m]	SWC	STAT
898.4	[m]	C	STAT
900.8	[m]	C	ICHRON
907.2	[m]	C	STAT

912.3	[m]	C	STAT
913.3	[m]	C	ICHRON
914.4	[m]	C	ICHRON
916.2	[m]	C	ICHRON
916.8	[m]	C	ICHRON
917.6	[m]	C	ICHRON
920.4	[m]	C	STAT
921.9	[m]	C	ICHRON
923.3	[m]	C	ICHRON
924.1	[m]	C	STAT
925.1	[m]	C	ICHRON
926.0	[m]	C	STAT
926.4	[m]	C	ICHRON
926.6	[m]	C	ICHRON
928.1	[m]	C	STAT
929.6	[m]	C	STAT
929.9	[m]	C	ICHRON
930.9	[m]	C	STAT
947.0	[m]	DC	STAT
962.5	[m]	SWC	STAT
1029.0	[m]	SWC	STAT
1043.0	[m]	DC	STAT
1058.0	[m]	DC	STAT
1065.0	[m]	SWC	OD
1073.0	[m]	DC	STAT
1087.9	[m]	SWC	STAT
1095.0	[m]	SWC	OD
1103.0	[m]	DC	STAT
1115.0	[m]	DC	STAT
1125.0	[m]	SWC	OD
1156.0	[m]	SWC	STAT
1176.9	[m]	SWC	STAT
1185.0	[m]	SWC	OD
1188.0	[m]	DC	STAT
1203.0	[m]	DC	STAT
1215.0	[m]	SWC	OD
1217.4	[m]	SWC	STAT
1238.4	[m]	SWC	STAT
1246.4	[m]	SWC	STAT
1254.0	[m]	SWC	OD

1263.0	[m]	SWC	STAT
1282.0	[m]	SWC	OD
1282.5	[m]	SWC	STAT
1302.5	[m]	SWC	STAT
1310.0	[m]	SWC	OD
1317.0	[m]	DC	STAT
1329.0	[m]	DC	STAT
1339.0	[m]	SWC	STAT
1343.5	[m]	SWC	OD
1357.5	[m]	SWC	STAT
1372.5	[m]	SWC	STAT
1380.0	[m]	SWC	OD
1391.0	[m]	SWC	STAT
1407.0	[m]	DC	STAT
1409.0	[m]	SWC	OD
1419.5	[m]	SWC	STAT
1434.5	[m]	SWC	STAT
1443.0	[m]	SWC	OD
1450.0	[m]	SWC	STAT
1464.0	[m]	DC	STAT
1469.0	[m]	SWC	OD
1478.0	[m]	SWC	STAT
1494.0	[m]	DC	STAT
1497.0	[m]	SWC	OD
1512.0	[m]	SWC	STAT
1534.0	[m]	SWC	OD
1539.0	[m]	DC	STAT
1547.5	[m]	SWC	STAT
1565.0	[m]	DC	STAT
1565.0	[m]	SWC	OD
1580.0	[m]	SWC	STAT
1592.0	[m]	SWC	OD
1593.5	[m]	SWC	STAT
1607.0	[m]	SWC	STAT
1624.0	[m]	DC	STAT
1624.0	[m]	DC	FUGRO
1624.0	[m]	SWC	OD
1630.0	[m]	DC	FUGRO
1635.0	[m]	SWC	STAT
1639.0	[m]	DC	FUGRO

1648.0	[m]	DC	STAT
1648.0	[m]	DC	FUGRO
1660.0	[m]	DC	FUGRO
1660.0	[m]	SWC	OD
1669.0	[m]	DC	FUGRO
1670.0	[m]	SWC	STAT
1678.0	[m]	DC	FUGRO
1681.5	[m]	SWC	STAT
1685.0	[m]	SWC	OD
1688.0	[m]	DC	FUGRO
1696.0	[m]	SWC	STAT
1697.0	[m]	DC	FUGRO
1710.0	[m]	SWC	OD
1711.0	[m]	DC	STAT
1725.0	[m]	C	STAT
1725.4	[m]	C	FUGRO
1727.7	[m]	C	STAT
1728.9	[m]	C	FUGRO
1730.8	[m]	C	FUGRO
1730.8	[m]	C	ICHRON
1734.0	[m]	C	STAT
1735.0	[m]	C	FUGRO
1738.0	[m]	C	FUGRO
1738.0	[m]	SWC	OD
1738.0	[m]	SWC	OD
1739.8	[m]	C	FUGRO
1740.7	[m]	C	STAT
1740.8	[m]	C	FUGRO
1740.8	[m]	C	ICHRON
1754.0	[m]	DC	FUGRO
1756.0	[m]	DC	STAT
1775.0	[m]	DC	FUGRO
1782.0	[m]	SWC	STAT
1793.0	[m]	DC	FUGRO
1802.0	[m]	SWC	STAT
1803.0	[m]	DC	FUGRO
1815.0	[m]	SWC	STAT
1815.0	[m]	SWC	OD
1817.0	[m]	DC	FUGRO
1830.0	[m]	SWC	STAT

1835.0	[m]	DC	FUGRO
1853.0	[m]	DC	FUGRO
1859.5	[m]	SWC	STAT
1859.5	[m]	SWC	OD
1871.0	[m]	DC	FUGRO
1875.0	[m]	SWC	STAT
1888.5	[m]	SWC	STAT
1889.0	[m]	DC	FUGRO
1903.5	[m]	SWC	OD
1903.5	[m]	SWC	STAT
1910.0	[m]	DC	FUGRO
1918.0	[m]	DC	STAT
1928.0	[m]	DC	FUGRO
1930.0	[m]	SWC	OD
1930.0	[m]	SWC	STAT
1945.0	[m]	DC	STAT
1952.0	[m]	DC	FUGRO
1963.0	[m]	SWC	STAT
1973.0	[m]	DC	FUGRO
1979.0	[m]	DC	STAT
1991.0	[m]	SWC	STAT
1994.0	[m]	DC	FUGRO
2006.0	[m]	DC	STAT
2015.0	[m]	SWC	STAT
2021.0	[m]	DC	FUGRO
2033.0	[m]	SWC	STAT
2042.0	[m]	DC	FUGRO
2056.0	[m]	SWC	STAT
2060.0	[m]	DC	FUGRO
2077.0	[m]	SWC	STAT
2078.0	[m]	DC	FUGRO
2091.0	[m]	SWC	STAT
2099.0	[m]	DC	FUGRO
2108.0	[m]	DC	STAT
2123.0	[m]	DC	FUGRO
2125.0	[m]	SWC	STAT
2138.0	[m]	DC	STAT
2138.0	[m]	DC	FUGRO
2150.0	[m]	DC	STAT
2153.0	[m]	DC	FUGRO

2155.0	[m]	SWC	STAT
2174.0	[m]	DC	FUGRO
2182.0	[m]	SWC	STAT
2195.0	[m]	DC	FUGRO
2198.0	[m]	DC	STAT
2201.0	[m]	DC	FUGRO
2211.0	[m]	SWC	STAT
2216.0	[m]	DC	STAT
2222.0	[m]	DC	FUGRO
2230.0	[m]	SWC	STAT
2240.0	[m]	SWC	STAT
2255.0	[m]	DC	STAT
2270.0	[m]	DC	STAT
2291.0	[m]	DC	STAT
2303.0	[m]	DC	STAT
2312.0	[m]	SWC	STAT
2335.0	[m]	SWC	STAT
2345.0	[m]	DC	STAT
2361.0	[m]	SWC	STAT
2376.5	[m]	SWC	STAT
2395.5	[m]	SWC	STAT
2420.0	[m]	DC	STAT
2438.0	[m]	DC	STAT
2451.0	[m]	SWC	STAT
2468.0	[m]	DC	STAT
2486.0	[m]	SWC	STAT
2492.0	[m]	DC	STAT
2499.0	[m]	SWC	STAT
2528.0	[m]	DC	STAT
2543.0	[m]	DC	STAT
2569.5	[m]	SWC	STAT
2586.0	[m]	SWC	STAT
2600.0	[m]	DC	STAT
2617.5	[m]	SWC	STAT
2636.0	[m]	DC	STAT
2676.5	[m]	SWC	STAT
2717.0	[m]	SWC	STAT
2732.0	[m]	DC	STAT
2745.0	[m]	SWC	STAT
2765.0	[m]	SWC	STAT

2778.0	[m]	SWC	STAT
2800.0	[m]	SWC	STAT
2825.0	[m]	DC	STAT
2828.0	[m]	SWC	STAT
2834.0	[m]	DC	STAT
2861.0	[m]	DC	STAT
2876.0	[m]	DC	STAT
2893.0	[m]	SWC	STAT
2912.0	[m]	SWC	STAT
2922.0	[m]	SWC	STAT
2942.0	[m]	DC	STAT
2955.0	[m]	SWC	STAT
2969.0	[m]	DC	STAT
2977.5	[m]	SWC	STAT
2978.0	[m]	DC	STAT
2987.0	[m]	DC	STAT
2999.0	[m]	SWC	STAT
3015.0	[m]	SWC	STAT
3037.5	[m]	SWC	STAT
3056.0	[m]	DC	STAT
3059.0	[m]	DC	STAT
3061.5	[m]	SWC	STAT
3065.0	[m]	DC	STAT

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
RFT	RFT	902.00	0.00			YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
293	NORDLAND GP
385	SOTBAKKEN GP
385	TORSK FM
401	ADVENTDALEN GP

401	KOLMULE FM
762	KNURR FM
792	HEKKINGEN FM
861	FUGLEN FM
894	KAPP TOSCANA GP
894	STØ FM
919	NORDMELA FM
930	TUBÅEN FM
931	FRUHOLMEN FM
1028	SNADD FM
1642	SASSENDALEN GP
1642	KOBBE FM
2222	KLAPPMYSS FM
2663	HAVERT FM

Composite logs

Document name	Document format	Document size [MB]
1245	pdf	0.58

Geochemical information

Document name	Document format	Document size [MB]
1245_1	pdf	1.41

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

Document name	Document format	Document size [MB]
1245_01_WDSS_General_Information	pdf	0.25
1245_02_WDSS_completion_log	pdf	0.25

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

Document name	Document format	Document size [MB]
1245_7224_7_1_COMPLETION_REPORT_AND_LOG	pdf	24.38

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CBL VDL GR	292	1919
CBL VDL GR	292	2645
CST GR	359	663
CST GR	700	1810
CST GR	797	1249
CST GR	1065	1930
CST GR	1263	1936
CST GR	1922	2650
CST GR	2650	3061
DIL BHC GR	355	663
DIL LSS MSFL GR	652	3068
LDL CNL NGS	652	3070
LDL GR	353	663
MWD - GR RES	355	3067
RFT HP GR	902	944
RFT HP GR	1679	1936
RFT HP GR	1984	2661
RFT HP GR	2440	2864
SHDT GR	652	3070
VSP	800	3060

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	354.0	36	531.0	0.00	LOT
SURF.COND.	20	651.0	26	664.0	1.69	LOT
INTERM.	13 3/8	1919.0	17 1/2	1945.0	1.61	LOT
INTERM.	9 5/8	2644.0	12 1/4	2704.0	1.84	LOT
OPEN HOLE		3067.0	8 1/2	3067.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
335	0.00			WATER BASED	20.06.1988
658	1.03			WATER BASED	28.04.1988
660	1.03	2000.0	25.0	WATER BASED	18.04.1988
705	1.32	1100.0	1.3	WATER BASED	16.06.1988
705	1.33	5000.0	1.2	WATER BASED	17.06.1988
841	1.25	1200.0	3.8	WATER BASED	28.04.1988
850	1.25	1200.0	3.4	WATER BASED	29.04.1988
850	1.25	1100.0	3.0	WATER BASED	02.05.1988
850	1.25	1100.0	3.4	WATER BASED	02.05.1988
898	1.25	1100.0	3.4	WATER BASED	28.04.1988
923	1.25	1100.0	3.4	WATER BASED	28.04.1988
1136	1.25	1300.0	3.0	WATER BASED	02.05.1988
1294	1.25	1200.0	3.8	WATER BASED	03.05.1988
1415	1.25	1200.0	4.2	WATER BASED	04.05.1988
1530	1.25	1100.0	4.7	WATER BASED	05.05.1988
1646	1.25	1300.0	4.2	WATER BASED	06.05.1988
1682	1.30	1700.0	5.9	WATER BASED	09.05.1988
1682	1.30	2400.0	6.3	WATER BASED	09.05.1988
1682	1.30	1600.0	5.1	WATER BASED	13.05.1988
1682	1.30	2200.0	5.5	WATER BASED	13.05.1988
1682	1.30	1500.0	4.7	WATER BASED	09.05.1988
1740	1.30	1500.0	4.7	WATER BASED	09.05.1988
1743	1.30	2400.0	5.1	WATER BASED	10.05.1988
1852	1.30	2200.0	6.4	WATER BASED	13.05.1988
1945	1.30	2200.0	5.5	WATER BASED	13.05.1988
1945	1.30	1600.0	5.1	WATER BASED	13.05.1988
1979	1.30	3000.0	8.5	WATER BASED	18.05.1988
2087	1.21	2400.0	6.8	WATER BASED	18.05.1988
2167	1.21	2500.0	7.6	WATER BASED	19.05.1988
2207	1.21	2400.0	6.4	WATER BASED	20.05.1988
2337	1.21	2300.0	5.5	WATER BASED	24.05.1988
2380	1.32	2500.0	6.7	WATER BASED	24.05.1988
2441	1.35	2900.0	6.8	WATER BASED	24.05.1988
2471	1.36	2400.0	7.6	WATER BASED	24.05.1988
2498	1.62	1900.0	5.1	WATER BASED	15.06.1988

2519	1.40	2500.0	7.6	WATER BASED	25.05.1988
2540	1.40	2800.0	8.0	WATER BASED	26.05.1988
2551	1.62	2000.0	5.1	WATER BASED	14.06.1988
2621	1.50	3200.0	8.5	WATER BASED	27.05.1988
2658	1.58	2500.0	5.9	WATER BASED	30.05.1988
2658	1.58	2200.0	5.5	WATER BASED	30.05.1988
2658	1.58	2200.0	5.1	WATER BASED	31.05.1988
2658	1.58	2500.0	5.5	WATER BASED	01.06.1988
2704	1.58	2300.0	4.7	WATER BASED	06.06.1988
2762	1.58	2300.0	5.1	WATER BASED	06.06.1988
2794	1.63	2200.0	4.7	WATER BASED	06.06.1988
2842	1.62	2300.0	5.1	WATER BASED	07.06.1988
2889	1.62	2300.0	5.5	WATER BASED	08.06.1988
2933	1.62	2400.0	5.9	WATER BASED	09.06.1988
2982	1.62	2300.0	5.9	WATER BASED	10.06.1988
3067	1.62	5500.0	6.8	WATER BASED	13.06.1988
3067	1.62	5100.0	5.0	WATER BASED	13.06.1988
3067	1.62	2200.0	4.2	WATER BASED	13.06.1988

Thin sections at the Norwegian Offshore Directorate

Depth	Unit
907.50	[m]
914.75	[m]
919.50	[m]
922.75	[m]
928.75	[m]
1726.05	[m]
1726.65	[m]
1732.40	[m]
1732.05	[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]
1245_Formation_pressure_(Formasjonstrykk)	pdf	0.27