



General information





Wellbore name	6407/11-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Well name	6407/11-1
Seismic location	3D survey: PGS14005 Nearest Inline: 6677. Nearest X-line 4457
Production licence	751
Drilling operator	Equinor Energy AS
Drill permit	1727-L
Drilling facility	DEEPSEA BERGEN
Drilling days	21
Entered date	17.11.2018
Completed date	07.12.2018
Plugged and abandon date	07.12.2018
Release date	13.01.2020
Publication date	17.01.2020
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	23.0
Water depth [m]	314.0
Total depth (MD) [m RKB]	2175.0
Final vertical depth (TVD) [m RKB]	2175.0
Maximum inclination [°]	0.81
Bottom hole temperature [°C]	87
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	ÅRE FM
Geodetic datum	ED50
NS degrees	64° 12' 22.82" N
EW degrees	7° 29' 33.28" E
NS UTM [m]	7121050.51
EW UTM [m]	426814.42
UTM zone	32
NPDID wellbore	8565



Wellbore history

General

Well 6407/11-1 was drilled to test the Gunnvald prospect in the Froan Basin south-east of the Njord Field and south-west of the Draugen Field in the Norwegian Sea. The primary objective was to test migration of hydrocarbons into the Froan Basin, targeting the Tofte Formation as primary objective, and the Tilje Formation (Heidi prospect) as secondary

Operations and results

Wildcat well 6407/11-1 was spudded with the semi-submersible installation Deepsea Bergen on 17 November 2018 and drilled to TD at 2175 m in the Early Jurassic Åre Formation. Operations proceeded without significant problems. The well was drilled with seawater and hi-vis pills down to 967 m and with water-based KCl/GEM/Polymer mud from 967 m to TD.

The well penetrated top Spekk Formation at 1743 m overlying the Rogn Formation from 1771 to 1774 m. The Rogn Formation lie unconformably on the Tofte Formation at 1774 m, while top Tilje Formation came in at 1937 m. The Tofte Formation is 110 m thick with ca 75 metres effective reservoir sandstone of good to very good reservoir quality. The Tilje Formation is 105 m thick with ca 47 m of effective reservoir sandstone of mainly good to very good reservoir quality. All reservoir sections were water wet. Gas levels were generally low throughout the well and there were no petroleum odour. A weak oil show was noted on core #2 at 1771 m in the Rogn Formation: no petroleum odour, no oil stain, spotted, moderate, yellow direct fluorescence, slow cloudy white cut, bluish white residual ring. No visible residue was observed.

The interval from 1753 to 1787 m was cored in two cores. The cored section includes Spekk hot shale, Rogn sandstone and Tofte sandstone. Core recovery was 100% and 98% in cores #1 and #2, respectively. Core-log depth shift is +0.4 m for bot cores. No fluid sample was taken.

The well was permanently abandoned on 7 December 2018 as a dry well.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
970.00	2176.00

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	1753.0	1760.0	[m]
2	1760.0	1786.5	[m]

Total core sample length [m]	33.5
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
980.0	[m]	DC	APT
1000.0	[m]	DC	APT
1020.0	[m]	DC	APT
1040.0	[m]	DC	APT
1060.0	[m]	DC	APT
1080.0	[m]	DC	APT
1100.0	[m]	DC	APT
1120.0	[m]	DC	APT
1140.0	[m]	DC	APT
1160.0	[m]	DC	APT
1180.0	[m]	DC	APT
1200.0	[m]	DC	APT
1220.0	[m]	DC	APT
1240.0	[m]	DC	APT
1260.0	[m]	DC	APT
1280.0	[m]	DC	APT
1300.0	[m]	DC	APT
1320.0	[m]	DC	APT
1340.0	[m]	DC	APT
1350.0	[m]	DC	APT
1360.0	[m]	DC	APT
1370.0	[m]	DC	APT
1380.0	[m]	DC	APT
1390.0	[m]	DC	APT
1400.0	[m]	DC	APT
1410.0	[m]	DC	APT
1420.0	[m]	DC	APT
1430.0	[m]	DC	APT
1440.0	[m]	DC	APT



1450.0 [m]	DC	APT
1460.0 [m]	DC	APT
1470.0 [m]	DC	APT
1480.0 [m]	DC	APT
1490.0 [m]	DC	APT
1500.0 [m]	DC	APT
1510.0 [m]	DC	APT
1520.0 [m]	DC	APT
1530.0 [m]	DC	APT
1540.0 [m]	DC	APT
1550.0 [m]	DC	APT
1560.0 [m]	DC	APT
1570.0 [m]	DC	APT
1580.0 [m]	DC	APT
1590.0 [m]	DC	APT
1600.0 [m]	DC	APT
1610.0 [m]	DC	APT
1620.0 [m]	DC	APT
1630.0 [m]	DC	APT
1640.0 [m]	DC	APT
1650.0 [m]	DC	APT
1660.0 [m]	DC	APT
1670.0 [m]	DC	APT
1680.0 [m]	DC	APT
1690.0 [m]	DC	APT
1700.0 [m]	DC	APT
1710.0 [m]	DC	APT
1720.0 [m]	DC	APT
1729.0 [m]	DC	APT
1735.0 [m]	DC	APT
1738.0 [m]	DC	APT
1741.0 [m]	DC	APT
1747.0 [m]	DC	APT
1750.0 [m]	DC	APT
1753.0 [m]	DC	APT
1753.4 [m]	C	APT
1754.4 [m]	C	APT
1755.9 [m]	C	APT
1756.0 [m]	DC	APT
1759.2 [m]	C	APT



1760.2 [m]	C	APT
1761.7 [m]	C	APT
1762.7 [m]	C	APT
1763.7 [m]	C	APT
1764.7 [m]	C	APT
1765.7 [m]	C	APT
1766.7 [m]	C	APT
1767.7 [m]	C	APT
1768.7 [m]	C	APT
1769.2 [m]	C	APT
1770.7 [m]	C	APT
1771.8 [m]	C	APT
1772.7 [m]	C	APT
1773.8 [m]	C	APT
1778.6 [m]	C	APT
1779.4 [m]	C	APT
1780.4 [m]	C	APT
1781.2 [m]	C	APT
1781.8 [m]	C	APT
1782.2 [m]	C	APT
1782.9 [m]	C	APT
1786.3 [m]	C	APT
1795.0 [m]	DC	APT
1804.0 [m]	DC	APT
1813.0 [m]	DC	APT
1822.0 [m]	DC	APT
1825.0 [m]	SWC	APT
1831.0 [m]	DC	APT
1843.0 [m]	DC	APT
1852.0 [m]	DC	APT
1861.0 [m]	DC	APT
1868.0 [m]	SWC	APT
1876.0 [m]	DC	APT
1888.0 [m]	DC	APT
1897.0 [m]	DC	APT
1906.0 [m]	DC	APT
1915.0 [m]	DC	APT
1924.0 [m]	DC	APT
1933.0 [m]	DC	APT
1945.0 [m]	DC	APT



1947.0	[m]	SWC	APT
1949.2	[m]	SWC	APT
1954.0	[m]	DC	APT
1955.0	[m]	SWC	APT
1963.0	[m]	DC	APT
1972.0	[m]	DC	APT
1981.0	[m]	DC	APT
1990.0	[m]	DC	APT
1999.0	[m]	DC	APT
2008.0	[m]	DC	APT
2017.0	[m]	DC	APT
2026.0	[m]	DC	APT
2038.0	[m]	DC	APT
2047.0	[m]	DC	APT
2056.0	[m]	DC	APT
2065.0	[m]	DC	APT
2074.0	[m]	DC	APT
2083.0	[m]	DC	APT
2092.0	[m]	DC	APT
2101.0	[m]	DC	APT
2110.0	[m]	DC	APT
2119.0	[m]	DC	APT
2128.0	[m]	DC	APT
2137.0	[m]	DC	APT
2146.0	[m]	DC	APT
2155.0	[m]	DC	APT
2164.0	[m]	DC	APT
2176.0	[m]	DC	APT

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
337	NORDLAND GP
337	NAUST FM
838	HORDALAND GP
838	BRYGGE FM
1345	ROGALAND GP
1345	TARE FM
1424	TANG FM



1579	SHETLAND GP
1579	SPRINGAR FM
1736	CROMER KNOLL GP
1736	LYR FM
1743	VIKING GP
1743	SPEKK FM
1771	ROGN FM
1774	BÅT GP
1774	TOFTE FM
1884	ROR FM
1937	TILJE FM
2042	ÅRE FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
GR RES DEN NEU	1664	2175
MWD LWD - GR RES	337	2175
RT SCANNER	1664	2175
XL ROCK	1664	2175
XL ROCK	2000	2175

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	382.0	36	382.0	0.00	
INTERM.	13 3/8	961.0	17 1/2	967.0	1.58	FIT
INTERM.	9 5/8	1663.9	12 1/4	1665.0	1.53	FIT
OPEN HOLE		2175.0	8 1/2	2175.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
700	1.39	17.0		KCl/Polymer/GEM	
967	1.35	16.0		KCl/Polymer/GEM	
1420	1.37	17.0		KCl/Polymer/GEM	



1666	1.35	18.0		KCl/Polymer/GEM	
1666	1.20	12.0		KCl/Polymer/GEM	
1769	1.21	11.0		KCl/Polymer/GEM	
1905	1.20	13.0		KCl/Polymer/GEM	
1973	1.21	11.0		KCl/Polymer/GEM	
2175	1.39	15.0		KCl/Polymer/GEM	
2175	1.22	10.0		KCl/Polymer/GEM	