

**General information**

Wellbore name	7220/7-3 S
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	BARENTS SEA
Field	JOHAN CASTBERG
Discovery	7220/7-3 S (Drivis)
Well name	7220/7-3
Seismic location	WG08STR10-BIN:inline 1317 & xline 2603
Production licence	532
Drilling operator	Statoil Petroleum AS
Drill permit	1509-L
Drilling facility	WEST HERCULES
Drilling days	66
Entered date	28.02.2014
Completed date	05.05.2014
Release date	05.05.2016
Publication date	05.05.2016
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS
Discovery wellbore	YES
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	STØ FM
2nd level with HC, age	EARLY JURASSIC
2nd level with HC, formation	NORDMELA FM
Kelly bushing elevation [m]	31.0
Water depth [m]	345.0
Total depth (MD) [m RKB]	2097.0
Final vertical depth (TVD) [m RKB]	2059.0
Maximum inclination [°]	34.6
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	FRUHOLMEN FM
Geodetic datum	ED50
NS degrees	72° 24' 8.73" N
EW degrees	20° 8' 2.69" E



NS UTM [m]	8041437.29
EW UTM [m]	673066.48
UTM zone	33
NPDID wellbore	7414

Wellbore history

General

Well 7220/7-3 S was drilled to test the Drivis prospect on the Bjørnøyrenna Fault Complex in the Barents Sea, about 15 kilometres southwest of the 7220/8-1 Johan Castberg discovery. The primary exploration target was to prove petroleum in reservoir rocks from the Middle and Early Jurassic Age (the Stø and Nordmela formations). Flat spots at these levels were believed to be gas-oil and oil-water contacts. The secondary exploration target was to prove petroleum in reservoir rocks from the Late Triassic Age (the Fruholmen formation).

Operations and results

Wildcat well 7220/7-3 S was spudded with the semi-submersible installation West Hercules on 28 February 2014 and drilled to TD at 2097 m (2059 m TVD) in the Late Triassic Fruholmen Formation. No shallow gas was observed even though a shallow gas warning Class 2 was given through the Tertiary Torsk Formation. TD of the 17 1/2" section was set shallower than planned due to stuck pipe. Otherwise, no significant problem was encountered in the operations. The well was drilled with seawater and sweeps down to 736 m and with KCl/GEM/Polymer mud from 736 m to TD.

Top Stø Formation was encountered at 1448 m and top Nordmela Formation at 1525 m. There was a 68-metre gross gas column in the Stø Formation and an 86-metre gross oil column in the Stø and Nordmela formations. The GOC is at 1516 m and the OWC is at 1604 m. The reservoir quality in the Stø formation is very good. The reservoir quality in the Nordmela Formation is variable, but about half of the oil zone was encountered in sandstone with very good reservoir quality. Oil shows of variable quality are described from the OWC and down to 1766 in the Tubåen Formation. The Fruholmen Formation has poor reservoir properties, and is mostly water bearing, but petroleum was recovered in an MDT sample from 1952.2 m. In this petroleum, the gas and light oil components were less mature than in the oil in Nordmela, while the heavier fraction (C15+) was similar to the oil in Nordmela. There were also some oil shows in the interval 1907 to 1925 m in Nordmela.

A total of 140.7 m core was recovered in two cores from the interval 1457 m to 1597.6 m in the Stø and Nordmela formations. The recovery was 100%. MDT fluid samples were taken at 1458 m (gas), 1545.5 m (oil), 1578 m (oil), 1609.5 m (water), and at 1952.2 m (oil).

The well was permanently abandoned on 5 May 2014 as an oil and gas discovery.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate



Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
715.00	2096.00

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	1457.0	1527.4	[m]
2	1527.4	1597.6	[m]

Total core sample length [m]	140.6
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
740.0	[m]	DC	ROBERTSO
770.0	[m]	DC	ROBERT
800.0	[m]	DC	ROBERT
830.0	[m]	DC	ROBERT
865.0	[m]	DC	ROBERT
895.0	[m]	DC	ROBERT
920.0	[m]	DC	ROBERT
940.0	[m]	DC	ROBERT
960.0	[m]	DC	ROBERT
980.0	[m]	DC	ROBERT
1000.0	[m]	DC	ROBERT
1020.0	[m]	DC	ROBERT
1040.0	[m]	DC	ROBERT
1060.0	[m]	DC	ROBERT
1080.0	[m]	DC	ROBERT
1100.0	[m]	DC	ROBERT
1120.0	[m]	DC	ROBERT
1140.0	[m]	DC	ROBERT
1160.0	[m]	DC	ROBERT
1180.0	[m]	DC	ROBERT
1200.0	[m]	DC	ROBERT
1220.0	[m]	DC	ROBERT



1240.0 [m]	DC	ROBERT
1260.0 [m]	DC	ROBERT
1280.0 [m]	DC	ROBERT
1300.0 [m]	DC	ROBERT
1320.0 [m]	DC	ROBERT
1340.0 [m]	DC	ROBERT
1360.0 [m]	DC	ROBERT
1362.0 [m]	DC	ROBERT
1380.0 [m]	DC	ROBERT
1400.0 [m]	DC	ROBERT
1406.0 [m]	DC	ROBERT
1412.0 [m]	DC	ROBERT
1424.0 [m]	DC	ROBERT
1430.0 [m]	DC	ROBERT
1436.0 [m]	DC	ROBERT
1442.0 [m]	DC	ROBERT
1448.0 [m]	DC	ROBERT
1454.0 [m]	DC	ROBERT
1457.5 [m]	C	ROBERT
1463.3 [m]	C	ROBERT
1469.8 [m]	C	ROBERT
1474.1 [m]	C	ROBERT
1480.1 [m]	C	ROBERT
1486.4 [m]	C	ROBERT
1489.5 [m]	C	ROBERT
1496.8 [m]	C	ROBERT
1502.0 [m]	C	ROBERT
1508.6 [m]	C	ROBERT
1514.3 [m]	C	ROBERT
1520.5 [m]	C	ROBERT
1526.5 [m]	C	ROBERT
1530.6 [m]	C	ROBERT
1536.2 [m]	C	ROBERT
1542.3 [m]	C	ROBERT
1548.7 [m]	C	ROBERT
1551.8 [m]	C	ROBERT
1555.3 [m]	C	ROBERT
1562.4 [m]	C	ROBERT
1567.7 [m]	C	ROBERT
1574.4 [m]	C	ROBERT



1581.8 [m]	C	ROBERT
1586.4 [m]	C	ROBERT
1589.9 [m]	C	ROBERT
1595.7 [m]	C	ROBERT
1597.5 [m]	C	ROBERT
1604.0 [m]	DC	ROBERT
1610.0 [m]	DC	ROBERT
1616.0 [m]	DC	ROBERT
1622.0 [m]	DC	ROBERT
1628.0 [m]	DC	ROBERT
1634.0 [m]	DC	ROBERT
1640.0 [m]	DC	ROBERT
1646.0 [m]	DC	ROBERT
1652.0 [m]	DC	ROBERT
1658.0 [m]	DC	ROBERT
1664.0 [m]	DC	ROBERT
1670.0 [m]	DC	ROBERT
1679.0 [m]	DC	ROBERT
1685.0 [m]	DC	ROBERT
1691.0 [m]	DC	ROBERT
1697.0 [m]	DC	ROBERT
1706.0 [m]	DC	ROBERT
1712.0 [m]	DC	ROBERT
1718.0 [m]	DC	ROBERT
1724.0 [m]	DC	ROBERT
1730.0 [m]	DC	ROBERT
1736.0 [m]	DC	ROBERT
1742.0 [m]	DC	ROBERT
1751.0 [m]	DC	ROBERT
1757.0 [m]	DC	ROBERT
1763.0 [m]	DC	ROBERT
1769.0 [m]	DC	ROBERT
1775.0 [m]	DC	ROBERT
1781.0 [m]	DC	ROBERT
1787.0 [m]	DC	ROBERT
1793.0 [m]	DC	ROBERT
1799.0 [m]	DC	ROBERT
1814.0 [m]	DC	ROBERT
1829.0 [m]	DC	ROBERT
1844.0 [m]	DC	ROBERT



1859.0	[m]	DC	ROBERT
1874.0	[m]	DC	ROBERT
1889.0	[m]	DC	ROBERT
1904.0	[m]	DC	ROBERT
1919.0	[m]	DC	ROBERT
1934.0	[m]	DC	ROBERT
1949.0	[m]	DC	ROBERT
1967.0	[m]	DC	ROBERT
1979.0	[m]	DC	ROBERT
1994.0	[m]	DC	ROBERT
2009.0	[m]	DC	ROBERT
2024.0	[m]	DC	ROBERT
2039.0	[m]	DC	ROBERT
2054.0	[m]	DC	ROBERT
2069.0	[m]	DC	ROBERT
2084.0	[m]	DC	ROBERT
2096.0	[m]	DC	ROBERT

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
MDT		1543.30	0.00	OIL	23.09.2014 - 00:00	YES
MDT		1952.20	0.00	OIL	23.09.2014 - 00:00	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
376	NORDLAND GP
376	NAUST FM
466	SOTBAKKEN GP
466	TORSK FM
1180	ADVENTDALEN GP
1180	KOLMULE FM
1402	KOLJE FM
1417	KNURR FM
1426	FUGLEN FM



1448	KAPP TOSCANA GP
1448	STØ FM
1526	NORDMELA FM
1710	TUBÅEN FM
1858	FRUHOLMEN FM
1858	KRABBE MBR
2026	REKE MBR

Logs

Log type	Log top depth [m]	Log bottom depth [m]
ARCRES9 TELE	428	737
CMR HRLA PEX ECS HNGS	1359	1800
FMI PPC1B MSIP PPC2B GR	1877	1900
MDT	1458	1952
MDT	1545	1545
MINIFRAC	0	0
PD ARC TELE SON ADN	737	1362
PD RAB6 DVDM6 TELE675 VSONIC6	1362	2097
TELE	376	427
USIT CBL	894	1355
VSP	744	744

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	36	425.1	42	428.0	0.00	
INTERM.	13 3/8	708.7	17 1/2	736.0	1.26	FIT
LINER	9 5/8	1359.0	12 1/4	1400.0	1.65	LOT
OPEN HOLE		2097.0	8 1/2	2097.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
710	1.06	15.0		Spud Mud	
730	1.11	11.0		KCl/Polymer/GEM	



736	1.06	11.0		KCl/Polymer/GEM	
736	1.06	9.0		Spud Mud	
737	1.14	19.0		KCl/Polymer/GEM	
838	1.12	18.0		KCl/Polymer/GEM	
847	1.12	20.0		KCl/Polymer/GEM	
1049	1.23	27.0		KCl/Polymer/GEM	
1058	1.13	26.0		KCl/Polymer/GEM	
1362	1.12	20.0		KCl/Polymer/GEM	
1397	1.20	28.0		KCl/Polymer/GEM	
1466	1.23	28.0		KCl/Polymer/GEM	
2096	1.23	27.0		KCl/Polymer/GEM	