General information

Wellbore name	7220/6-2 R
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	BARENTS SEA
Discovery	7220/6-2 R (Neiden)
Well name	7220/6-2
Seismic location	LN11M04 inline 7758 & crossline 3828
Production licence	609
Drilling operator	Lundin Norway AS
Drill permit	1590-L2
Drilling facility	LEIV EIRIKSSON
Drilling days	31
Entered date	23.10.2016
Completed date	22.11.2016
Plugged and abondon date	22.11.2016
Release date	22.11.2018
Publication date	22.11.2018
Purpose - planned	WILDCAT
Reentry	YES
Reentry activity	DRILLING/TESTING/PLUGGING
Content	OIL/GAS
Discovery wellbore	YES
1st level with HC, age	PERMIAN
1st level with HC, formation	ØRN FM
Kelly bushing elevation [m]	25.0
Water depth [m]	387.0
Total depth (MD) [m RKB]	1318.0
Final vertical depth (TVD) [m RKB]	1318.0
Oldest penetrated formation	BASEMENT
Geodetic datum	ED50
NS degrees	72° 34' 13.1'' N
EW degrees	20° 58' 19.66'' E
NS UTM [m]	8062692.32
EW UTM [m]	699378.62
UTM zone	33
NPDID wellbore	8026

Wellbore history

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General

Well 7220/6-2 and its re-entry 7220/6-2 R were drilled to test the Neiden prospect on the western side of the Loppa High in the Barents Sea. The well location is ca 4 km north-northwest of the Obelix well 7220/6-1, which had shows and traces of live oil in the Permian Ørn Formation. The primary objectives were to test the reservoir properties and hydrocarbon potential in sandstones within the Triassic Snadd Formation and in the carbonates of the Ørn Formation. Wellbore 7220/6-2 was drilled with Island Innovator and was suspended in the Triassic Snadd Formation on 4 November 2015 due to rig classification in the Barents Sea for the prevailing winter. The re-entry 7220/6-2 R was drilled to test the Permian target not reached by 7220/6-2.

Operations and results

Well 7220/6-2 was re-entered on 23 October 2016. Well 7220/6-2 R was drilled with the semi-submersible installation Leiv Eiriksson to TD at 1318 m, 99 m into metamorphic basement rock. Operations proceeded without significant problems. The well was drilled with KCl/Polymer/GEM water based mud all through.

Snadd claystones were found to rest directly upon carbonates of the Permian Ørn Formation. The Ørn Formation was encountered in the 7220/6-2 R at 1059.5 m. The formation had a gross thickness of 168.9 m of carbonates, and was mainly composed of dolomites, dolomitic limestones, dolomitic conglomerates and cherts. The Ørn Formation yielded both gas and oil and contained a gross 31 m hydrocarbon column. The Gas-Oil contact is indicated to be in the interval 1067 to 1077 m. An Oil-Water contact was identified at 1091 m. Oil shows (spotty direct and cut fluorescence, but no odour) continued below the OWC and down to top basement at 1270 m

A total of 43.8 m core was cut in seven cores in the intervals 1050 to 1053.3 m and 1062 to 1102.5. Total recovery for all seven cores was 96.9%. MDT fluid samples were taken at 1066 m (gas), 1074.4 m (oil), 1078.7 m (oil), 1091 m (oil), 1096 m (water) and 1119.5 m (water).

The well was permanently abandoned on 22 November 2016 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]
983.00	1317.00

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	1050.0	1052.8	[m]
2	1062.0	1070.3	[m]
3	1070.7	1073.4	[m]
4	1073.4	1085.5	[m]
5	1085.6	1097.4	[m]
6	1097.4	1099.8	[m]
7	1099.9	1102.5	[m]

Total core sample length [m]	42.7
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
412	NORDLAND GP
412	UNDIFFERENTIATED
481	SOTBAKKEN GP
481	TORSK FM
510	KAPP TOSCANA GP
510	SNADD FM
1060	GIPSDALEN GP
1060	ØRN FM
1229	FALK FM
1270	BASEMENT

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CMR NEXT UBI XPT	931	1315
FMI MSIP	931	1316
MDT	1066	1119
MSCT	1044	1300

MWD - GR PWD RES ST DEN CAL NEU	979	1317
PEX HRLA ADT	830	1319
VSP	335	1310

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	478.0	36	478.0	0.00	
SURF.COND.	13 3/8	494.8	20	497.0	1.26	FIT
PILOT HOLE		497.0	9 7/8	497.0	0.00	
LINER	9 5/8	605.2	12 1/4	606.0	1.44	FIT
LINER	7	978.0	8 1/2	979.0	1.40	FIT
OPEN HOLE		1317.8	6	1317.8	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
430	1.15	16.0		KCL/Gem	
498	1.14	16.0		KCL/Gem	
734	1.14	13.0		KCL/Gem	
1055	1.15	19.0		KCL/Gem	
1105	1.14	16.0		KCL/Gem	
1105	1.16	14.0		KCL/Gem	
1207	1.14	17.0		KCL/Gem	
1323	1.14	22.0		KCL/Gem	