



General information





Wellbore name	7130/4-1
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	7130/4-1 (Ørnen)
Well name	7130/4-1
Seismic location	St9802LNR13 .inline 1717 & crossline 3224
Production licence	708
Drilling operator	Lundin Norway AS
Drill permit	1600-L
Drilling facility	TRANSOCEAN ARCTIC
Drilling days	48
Entered date	22.11.2015
Completed date	08.01.2016
Release date	17.04.2017
Publication date	21.06.2017
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS
Discovery wellbore	YES
1st level with HC, age	CARBONIFEROUS
1st level with HC, formation	SOLDOGG FM
Kelly bushing elevation [m]	24.0
Water depth [m]	288.0
Total depth (MD) [m RKB]	3184.0
Final vertical depth (TVD) [m RKB]	3184.0
Maximum inclination [°]	2.3
Oldest penetrated age	CARBONIFEROUS
Oldest penetrated formation	SOLDOGG FM
Geodetic datum	ED50
NS degrees	71° 31' 58.72" N
EW degrees	30° 10' 7.78" E
NS UTM [m]	7939401.90
EW UTM [m]	399934.23
UTM zone	36
NPDID wellbore	7788



Wellbore history

General

Well 7130/4-1 was drilled to test the Ørnen prospect on the Finmark Platform in the Barents Sea. The primary objective was to test the hydrocarbon potential of the Late Permian age Røye Formation spiculites. Secondary objective was to test the Ørn Formation carbonates. In a discovery case, the well had an option to target the deeper sandstones of the Carboniferous Soldogg Formation.

Operations and results

Wildcat well 7130/4-1 was spudded with the semi-submersible installation Transocean Arctic on 22 November 2015 and drilled to TD at 3184 m in the Early Carboniferous Soldogg Formation. A 9 7/8" pilot hole was drilled from 382 to 588 m to look for shallow gas. No shallow gas or water flow was encountered. No significant problem was encountered in the operations. The well was drilled with seawater and hi-vis pills down to 588 m and with GEM/KCl mud from 588 m to TD.

The main target consisting of Late Permian Røye Formation spiculites and carbonates was encountered at 2055 m. The spiculite reservoir extended from 2055 to 2093.5 m, with a reservoir quality poorer than expected. Sampling registered only water with no indications of movable hydrocarbons. Only mineral fluorescence was reported at the wellsite. Further analysis of the core in the laboratory revealed traces of oil stain, bleeding oil, hydrocarbon odour and bright yellowish white direct fluorescence associated with fracturing and permeable laminae in the uppermost part of the 'Røye I' interval.

The secondary target, Permo-Carboniferous carbonates of the Bjarmeland Group, was encountered at 2231 m. The carbonates had minor hydrocarbon shows and poor reservoir characteristics. Subsequently, the well was deepened into the third target, the Lower Carboniferous sandstones of the Soldogg Formation, encountering moderate to good sands with a 5-metre gas column from 3029 to 3034 m.

Two cores were cut from 2045 m above the spiculite interval to 2096.5 m thus capturing the whole Røye spiculite interval. The core recovery was 100%. MDT fluid samples were taken at 2055.9 m (water), 3031.6 m (gas), and 3081.2 m (water).

The well was permanently abandoned on 8 January 2016 as a 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]
600.00	3184.00

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	2045.0	2070.3	[m]
2	2070.3	2096.4	[m]

Total core sample length [m]	51.4
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
312	NORDLAND GP
335	ADVENTDALEN GP
335	KOLJE FM
561	KNURR FM
575	HEKKINGEN FM
601	FUGLEN FM
605	KAPP TOSCANA GP
605	STØ FM
612	FRUHOLMEN FM
626	SNADD FM
663	UNDEFINED GP
690	SNADD FM
727	UNDEFINED GP
747	SNADD FM
754	SASSENDALEN GP
754	KOBBE FM
1302	HAVERT FM
1895	UNDEFINED GP
2055	TEMPELFJORDEN GP
2055	RØYE FM
2231	BJARMELAND GP
2231	ISBJØRN FM
2320	GIPSDALEN GP
2320	ØRN FM
2496	FALK FM
2680	BILLEFJORDEN GP
2680	BLÆREROT FM



2781	TETTEGRAS FM
2996	SOLDOGG FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CN ZDL ORIT XMAC RTEK MLL	1766	3175
GR GW VSP	688	3148
MAXCORE GR	1884	3143
MDT GR	1899	3146
MWD - OTK BCPM SSDK	356	586
MWD - OTKII BCPM	309	370
MWD - OTKII BCPM SSDK LTK GR ABR	1739	3184
MWD - OTKII BCPM SSDK NBGR	547	1804
XLR GR	1884	2766

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	378.0	36	582.6	0.00	
SURF.COND.	20	583.5	26	588.0	1.79	LOT
PILOT HOLE		588.0	9 7/8	588.0	0.00	
INTERM.	13 3/8	1798.7	17 1/2	1806.0	1.76	LOT
OPEN HOLE		3184.0	8 1/2	3184.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
0	1.40	28.0		Water Based	
382	1.40	28.0		Water Based	
627	1.20	14.0		Water Based	
1049	1.20	14.0		Water based	
1600	1.20	27.0		Water Based	
1950	1.20	27.0		Water Based	
2510	1.15	26.0		Water Based	
3006	1.16	22.0		Water Based	



3184	1.17	25.0		Water Based	
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