

General information

Wellbore name	31/7-1
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	31/7-1 (Brasse)
Well name	31/7-1
Seismic location	Inline 2414. Xline 2615 (LN11M03)
Production licence	740
Drilling operator	Faroe Petroleum Norge AS
Drill permit	1620-L
Drilling facility	TRANSOCEAN ARCTIC
Drilling days	31
Entered date	23.05.2016
Completed date	22.06.2016
Release date	22.06.2018
Publication date	22.06.2018
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS
Discovery wellbore	YES
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	SOGNEFJORD FM
Kelly bushing elevation [m]	24.0
Water depth [m]	118.6
Total depth (MD) [m RKB]	2780.0
Final vertical depth (TVD) [m RKB]	2780.0
Maximum inclination [°]	1.3
Bottom hole temperature [°C]	109
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	JOHANSEN FM
Geodetic datum	ED50
NS degrees	60° 25' 31.55" N
EW degrees	3° 1' 28.23" E
NS UTM [m]	6698949.76
EW UTM [m]	501349.50

UTM zone	31
NPDID wellbore	7954

Wellbore history

General

Well 31/7-1 was drilled to test the Brasse prospect on the northern part of the Bjørgvin Arch between the Brage and Oseberg Sør fields in the North Sea. The primary exploration target for the wells was to prove and delineate petroleum in Middle Jurassic reservoir rocks (the Fensfjord Formation). The secondary exploration target was also in Middle Jurassic reservoir rocks (the Brent Group) and the third exploration target was in the Lower Jurassic (the Cook Formation and the Statfjord Group).

Operations and results

Wildcat well 31/7-1 was spudded with the semi-submersible installation Transocean Arctic on 23 May 2016 and drilled to TD at 2780 m in the Early Jurassic Johansen Formation. No significant problem was encountered in the operations. The well was drilled with seawater and hi-vis pills down to 908 m and with KCl/polymer/GEM mud from 908 m to TD.

The well encountered the Sognefjord Formation at 2154 m, just below the Draupne shales and overlaying the Fensfjord Formation. The Sognefjord sandstones/siltstones were found to be gas and oil bearing. Hydrocarbons columns of 18 m gas and 24.4 m oil were identified. MDT pressure data proved a GOC at 2172 m and an OWC at 2196.4 m GOC. The Sognefjord Formation has 76 m gross reservoir, 28.76 m net reservoir, of which 21.13 m is net pay. Top Fensfjord was encountered at 2230 m. The Fensfjord Formation is mainly siltstones, and it is water bearing. Top Brent Group was encountered 6 m higher than prognosis, and all reservoirs were water bearing. The Cook Formation and the Statfjord Group were also water bearing. Oil shows were described in the hydrocarbon bearing part of the Sognefjord Formation, with weak shows below the OWC down to 2219 m. These were the only oil shows described in the well.

Two cores were cut in succession from 2165 to 2249 m with 100% recovery. MDT fluid samples were taken at 2158.3 m (gas), 2170.95 m (gas), 2182.2 m (oil), and at 2200.98 m (water).

The well bore was plugged back for sidetracking and abandoned on 22 June 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]
920.00	2780.00
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	2165.0	2194.6	[m]
2	2194.6	2248.6	[m]

Total core sample length [m]	83.6
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
143	NORDLAND GP
679	UTSIRA FM
837	HORDALAND GP
837	NO FORMAL NAME
1835	ROGALAND GP
1835	BALDER FM
1905	SELE FM
1950	LISTA FM
2080	VÅLE FM
2085	SHETLAND GP
2085	HARDRÅDE FM
2143	VIKING GP
2143	DRAUPNE FM
2154	SOGNEFJORD FM
2230	FENSFJORD FM
2373	BRENT GP
2373	TARBERT FM
2390	NESS FM
2415	ETIVE FM
2425	OSEBERG FM
2449	DUNLIN GP
2449	DRAKE FM
2598	COOK FM
2618	AMUNDSEN FM
2756	JOHANSEN FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
LWD - DIR	143	209
LWD - GR ECD RES DIR	209	908
LWD - GR ECD RES DIR DEN NEU SON	2115	2780
LWD - GR ECD RES DIR SON	209	2115
MDT GR	2155	2231
MSCT GR	2145	2775
MSIP GR	2040	2770
PEX HRLA CMR	2070	2510
USIT CBL GR	1692	2106
VSP GR	2090	2770

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	209.0	36	209.0	0.00	
SURF.COND.	13 3/8	902.0	17 1/2	908.0	1.70	FIT
PILOT HOLE		908.0	9 7/8	908.0	0.00	
INTERM.	9 5/8	2107.0	12 1/4	2115.0	1.67	LOT
OPEN HOLE		2780.0	8 1/2	2780.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
854	1.40	16.0		KCL/Polymer/GEM	
1009	1.40	16.0		KCL/Polymer/GEM	
2000	1.40	16.0		KCL/Polymer/GEM	
2000	1.25	16.0		KCL/Polymer/GEM	
2280	1.24	15.0		KCL/POLYMER/GEM	
2481	1.25	16.0		KCl/Polymer/Glycol	
2674	1.24	18.0		KCL/POLYMER/GEM	
2780	1.25	17.0		KCl/Polymer/Glycol	
2780	1.24	18.0		KCl/Polymer/Glycol	

