

**General information**

Wellbore name	31/11-1 S
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Well name	31/11-1
Seismic location	CGG18M01 in-line 8009. x-line 18593
Production licence	785 S
Drilling operator	Equinor Energy AS
Drill permit	1845-L
Drilling facility	DEEPSEA ATLANTIC
Drilling days	26
Entered date	20.04.2021
Completed date	28.06.2021
Plugged and abandon date	28.06.2021
Release date	07.01.2022
Publication date	07.01.2022
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	30.0
Water depth [m]	289.0
Total depth (MD) [m RKB]	3284.0
Final vertical depth (TVD) [m RKB]	3165.0
Maximum inclination [°]	24
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	HEGRE GP
Geodetic datum	ED50
NS degrees	60° 6' 4.87" N
EW degrees	3° 34' 31.79" E
NS UTM [m]	6662994.04
EW UTM [m]	532003.00
UTM zone	31
NPDID wellbore	9241



Wellbore history

General

Well 31/11-1 S was drilled to test the Stovegolvet prospect in the central part of the Stord Basin in the North Sea in North Sea. The primary objective was to test the hydrocarbon potential in the Early Jurassic Johansen Formation. The secondary objective was to test the Sognefjord, Fensfjord and Krossfjord formation in the Late Jurassic Viking Group.

Operations and results

A 9 7/8" pilot hole was drilled to 820m MD to check for shallow gas. No shallow gas or shallow water flow was

observed. Wildcat well 31/11-1 S was spudded with the semi-submersible installation Deepsea Atlantic on 20 April 2021 and drilled to TD at 3284 m (3165 m TVD) m in the Late Triassic Lunde Formation. Operations proceeded without significant problems. The well was drilled with seawater and hi-vis pills down to 820 m, with Carbosea oil-based mud from 820 m to 2273 m, and with water-based Perflow CM mud from 2273 m to TD.

The Viking group was encountered at 2191 m (2158 m TVD) with a 112 m TVD thick high gamma ray Draupne Formation on top. Below was the Heather formation with intercalated Sognefjord, Fensfjord and Krossfjord sands with moderate to good reservoir properties. A 63 m TVD thick Brent Group, Rannoch Formation, was penetrated between the Viking Group and top Dunlin Group with top at 2827 m (2744 m TVD). A 63 m TVD thick Johansen Formation with moderate reservoir properties was encountered at 2929 m (2839 m TVD). No high gas readings observed in any of the sections. Gas readings were far below 1% in all sections. The highest gas readings recorded was 0.54% in the Heather Formation. No oil shows were seen.

No cores were cut. No fluid sample was taken. The 9 5/8" casing was set in the middle of the Draupne Formation, at 2227.1 m. Cuttings samples from the Draupne Formation below this depth was characterised as "bad". A limited number of pressure points taken while drilling and on wireline showed water gradients in all measured formations. Horner corrected wireline temperatures gave a formation temperature of 107 °C at 2653 m.

The well was permanently abandoned on 28 June 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]
830.00	3284.00

Cuttings available for sampling?	YES
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Lithostratigraphy



Top depth [mMD RKB]	Lithostrat. unit
319	NORDLAND GP
319	NAUST FM
692	HORDALAND GP
692	UNDIFFERENTIATED
1434	ROGALAND GP
1434	BALDER FM
1456	SELE FM
1476	LISTA FM
1565	SHETLAND GP
1565	KYRRE FM
1595	TRYGGVASON FM
1614	BLODØKS FM
1628	SVARTE FM
1673	CROMER KNOLL GP
1673	RØDBY FM
1895	SOLA FM
1942	ÅSGARD FM
2191	VIKING GP
2191	DRAUPNE FM
2313	HEATHER FM
2317	SOGNEFJORD FM
2412	HEATHER FM
2615	FENSFJORD FM
2678	KROSSFJORD FM
2721	HEATHER FM
2758	BRENT GP
2758	RANNOCH FM
2827	DUNLIN GP
2827	DRAKE FM
2898	COOK FM
2906	BURTON FM
2929	JOHANSEN FM
2998	AMUNDSEN FM
3008	STATFJORD GP
3008	NANSEN FM
3043	EIRIKSSON FM
3120	HEGRE GP
3120	LUNDE FM



Logs

Log type	Log top depth [m]	Log bottom depth [m]
DSL CN ZDL XMAC RTEX STAR	1970	2718
DSL FTEX	2318	2706
GR DEN MREX	2300	2700
GR MAX COR	2299	2731
MWD - OT	339	822
MWD - OT GR RES	2273	2790
MWD - OT ST	822	2273
MWD - ZT AT	2791	3284
MWD - ZT AT ORD CCN TT MT	2790	3200

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	339.6	30	340.0	0.00	
INTERM.	20	815.0	26	820.0	1.48	FIT
INTERM.	9 5/8	2265.0	12 1/4	2273.0	1.74	LOT
LINER	7	2790.0	8 1/2	2791.0	1.62	LOT
OPEN HOLE		3284.0	6	3284.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
571	1.25	26.0	6.5	CARBOSEA	
2277	1.21	13.0	11.5	Perfflow CM	
2299	1.22	14.0	12.5	Perfflow CM	
3284	1.23	14.0	12.5	Perfflow CM	
3284	1.25	15.0	11.5	Perfflow CM	