General information

Wellbore name	31/2-21 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	31/2-21
Seismic location	Survey NH9401 WIM 11:il2896 & xl 4342
Production licence	550
Drilling operator	Tullow Oil Norge AS
Drill permit	1476-L
Drilling facility	BORGLAND DOLPHIN
Drilling days	38
Entered date	28.04.2014
Completed date	04.06.2014
Release date	04.06.2016
Publication date	04.06.2016
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	31.0
Water depth [m]	349.0
Total depth (MD) [m RKB]	3217.0
Final vertical depth (TVD) [m RKB]	3009.0
Maximum inclination [°]	31.3
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	COOK FM
Geodetic datum	ED50
NS degrees	60° 58' 16.97'' N
EW degrees	3° 28' 1.74'' E
NS UTM [m]	6759849.93
EW UTM [m]	525290.05
UTM zone	31
NPDID wellbore	7416

Wellbore history

General

Well 31/2-21 S was drilled to test the Gotama prospect between the Troll and the Fram Fields in the northern North Sea. The primary exploration target was to prove petroleum in Late Jurassic reservoir rocks (Intra Draupne Formation Sandstone). The secondary exploration target was proving petroleum in Late and Middle Jurassic reservoir rocks (Sognefjord, Fensfjord, Krossfjord formations and the Brent Group).

Operations and results

Wildcat well 31/2-21 S was spudded with the semi-submersible installation Borgland Dolphin on 28 April 2014 and drilled to TD at 3217 m (3009 m TVD) in the Early Jurassic Cook Formation. No significant problem was encountered in the operations. The well was drilled with seawater and sweeps down to 921 m and with Performadril mud with 4-5% glycol from 921 m to TD.

The Intra Draupne Formation reservoir was not present in the well. Reservoirs with medium to good quality were found in Sognefjord Formation, Krossfjord/Fensfjord Formation, Brent Group and Cook Formation. All reservoir sections proved to be water wet on the MWD/LWD logs. At 2300m, a dark yellow direct fluorescence (mineral fluorescence?) with no cut fluorescence and no residual ring was described. Except for this there were not described any shows in the well.

No cores were cut A dry hole wire line program was run. No fluid samples were taken.

The well was permanently abandoned on 4 June 2014 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]
930.00	3218.00

Cuttings available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
380	NORDLAND GP
796	UTSIRA FM
895	HORDALAND GP
1558	ROGALAND GP

1558	BALDER FM
1606	SELE FM
1664	LISTA FM
1968	VÅLE FM
2004	SHETLAND GP
2004	JORSALFARE FM
2059	VIKING GP
2059	DRAUPNE FM
2180	HEATHER FM
2192	SOGNEFJORD FM
2562	FENSFJORD FM
2932	BRENT GP
2932	NESS FM
2998	ETIVE FM
3013	RANNOCH FM
3032	OSEBERG FM
3074	DUNLIN GP
3074	DRAKE FM
3123	COOK FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
MWD LWD - DEN NEU FMT	2006	3217
MWD LWD - DIR	379	924
MWD LWD - GR AB RES SON DIR PWD	2006	3217
MWD LWD - GR RES SON DIR PWD	379	930
MWD LWD - GR RES SON DIR PWD	924	2006

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	458.3	36	464.0	0.00	
SURF.COND.	20	914.5	26	921.0	1.65	LOT
OPEN HOLE		924.0	17 1/2	924.0	0.00	
PILOT HOLE		930.0	9 7/8	930.0	0.00	

INTERM.	9 5/8	1999.7	12 1/4	2006.0	1.62	LOT
OPEN HOLE		2150.0	8 1/2	2150.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
379	1.49	22.0		KCL	
463	1.49	22.0		KCL	
463	1.34	22.0		KCL	
494	1.34	22.0		KCL	
790	1.49	22.0		KCL	
882	1.34	19.0		KCL	
921	1.29	19.0		PERFORMADRIL	
921	1.34	19.0		KCL	
921	1.29	19.0		PERFORMADRIL	
930	1.34	11.0		KCL	
1414	1.29	26.0		PERFORMADRIL	
2007	1.26	33.0		PERFORMADRIL	
2017	1.24	17.0		PERFORMADRIL	
2192	1.24	25.0		PERFORMADRIL	
2652	1.24	26.0		PERFORMADRIL	
3217	1.29	27.0		PERFORMADRIL	
3217	1.24	29.0		PERFORMADRIL	
3217	1.02	1.0		sea water	
3217	1.02	1.0		sea water	
3217	1.02	1.0		sea water	
3217	1.29	27.0		PERFORMADRIL	
3218	1.29	21.0		PERFORMADRIL	
3218	1.02	1.0		sea water	
3218	1.02	1.0		sea water	
3218	1.29	30.0		PERFORMADRIL	
3218	1.29	21.0		PERFORMADRIL	