

**General information**

Wellbore name	30/4-3 S
Type	EXPLORATION
Purpose	WILDCAT
Status	RE-CLASS TO DEV
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Field	MARTIN LINGE
Discovery	30/4-3 S
Well name	30/4-3
Seismic location	
Production licence	043
Drilling operator	Total E&P Norge AS
Drill permit	1623-L
Drilling facility	MAERSK INTREPID
Drilling days	116
Entered date	16.06.2016
Completed date	09.10.2016
Release date	09.10.2018
Publication date	09.10.2018
Purpose - planned	WILDCAT
Reclassified to wellbore	30/4-A-9
Reentry	NO
Content	GAS/CONDENSATE
Discovery wellbore	YES
1st level with HC, age	MIDDLE JURASSIC
1st level with HC, formation	TARBERT FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	NESS FM
3rd level with HC, age	EOCENE
3rd level with HC, formation	FRIGG FM
Kelly bushing elevation [m]	57.7
Water depth [m]	115.0
Total depth (MD) [m RKB]	4605.0
Final vertical depth (TVD) [m RKB]	4201.0
Maximum inclination [°]	36.9
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	DUNLIN GP



Geodetic datum	ED50
NS degrees	60° 30' 22.44" N
EW degrees	2° 0' 53.37" E
NS UTM [m]	6708354.28
EW UTM [m]	445889.57
UTM zone	31
NPDID wellbore	7961

Wellbore history

General

Well 30/4-3 S was drilled to test the Herja prospect North-East of the Martin Linge development area located between Martin Linge Central (30/7-8 R) and Martin Linge East (30/4-2) discoveries in the North Sea. The primary objective was to prove hydrocarbon accumulations within the Middle Jurassic Brent sandstones.

Operations and results

Wildcat well 30/4-3 S was spudded with the jack-up installation Mærsk Intrepid on 16 June 2016 and drilled to TD at 4605 m (4201 m TVD) m in the Early Jurassic Dunlin Group. Operations proceeded without significant problems. The well was drilled with seawater and bentonite sweeps down to 258 m, with Sildril water-based mud from 258 m to 1219 m, with Glydril water-based mud from 1219 m to 2225 m, with NABM EMS 4600 oil-based mud from 2225 m to 4144 m, and with WARP NABM mud from 4144 m to TD.

The well confirmed oil in the Eocene Frigg Formation, from top of the Frigg sandstone at 1829 m (1810 m TVD) down to the free water level at 1835 m (1815 m TVD). Top of the primary exploration target Brent Group was penetrated at 4250 m. Good quality reservoirs were encountered within the Tarbert, Ness and Etive Formations. Tarbert and Ness were found to be gas bearing, while the Etive Formation was water bearing. XPT pressure points showed a gas down to situation at 4377m (4004 m TVD) at base Tarbert. Both Tarbert and Ness show gas gradients, but Ness is 10 bar overpressured compared to Tarbert. Hydrocarbon shows in this well were not described, due to masking by the mud (NABM) and the loose sand in Frigg Formation.

No conventional cores were cut. MDT fluid samples were taken at 4253 m (gas), 4337.4 m (gas), 4459.9 m (gas), 4495 m (gas), and 4552.5 m (water).

The well was permanently abandoned on 9 October 2016 as a gas-condensate discovery.

Testing

No drill stem test was performed.

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
173	NORDLAND GP



173	UNDIFFERENTIATED
315	UTSIRA FM
712	HORDALAND GP
712	SKADE FM
1006	NO FORMAL NAME
1829	FRIGG FM
1997	ROGALAND GP
1997	BALDER FM
2122	HERMOD FM
2166	SELE FM
2215	LISTA FM
2392	SHETLAND GP
2392	EKOFISK FM
2418	JORSALFARE FM
2761	KYRRE FM
3904	TRYGGVASON FM
3974	BLODØKS FM
3994	SVARTE FM
4079	VIKING GP
4079	DRAUPNE FM
4131	HEATHER FM
4250	BRENT GP
4250	TARBERT FM
4377	NESS FM
4549	ETIVE FM
4556	RANNOCH FM
4583	DUNLIN GP
4583	UNDIFFERENTIATED

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT APS TLD HNGS GR	4119	4600
GYRO	150	252
IBCHD CBL GR	3200	4142
LWD - DEN CALI NEU GR	4240	4605
LWD - ECD DI GR	172	258
LWD - ECD GR RES DI SON	4160	4605
LWD - GR RES ECD DI	4150	4605



LWD - GR RES ECD DI GYRO	260	1219
LWD - GR RES ECD DI NBI	1219	3525
LWD - INC GR RES MPRES ECD DI CA	3525	4150
MDT GR	4150	4495
MDT GR	4150	4552
MDT GR	4150	4337
PPC MSIP GR DOBMI GR	4137	4600
WAVSP GR	2112	4001
XLR GR	4162	4555
XPT GR	4251	4557

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	254.5	36	258.0	0.00	
SURF.COND.	20	1210.5	26	1219.0	1.60	FIT
LINER	17	2195.0	17 1/2	2225.0	1.72	LOT
INTERM.	13 5/8	3516.3	16	3525.0	1.95	FIT
INTERM.	10	4147.1	12 1/4	4150.0	2.17	FIT
OPEN HOLE		4605.0	8 1/2	4605.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
237	1.03	1.0		Sea water	
1215	1.10	23.0		Silicate	
1219	1.11	23.0		Silicate	
1231	1.39	19.0		KCl/Polymer-Glycol	
1503	1.42	18.0		KCl/Polymer-Glycol	
2225	1.62	34.0		NABM	
2225	1.42	19.0		KCl/Polymer-Glycol	
2225	1.42	18.0		KCl/Polymer-Glycol	
3525	1.62	30.0		NABM	
3528	1.80	42.0		NABM	
3757	1.85	49.0		NABM	
4015	1.86	48.0		NABM	



4150	2.04	49.0		NABM	
4150	1.84	46.0		NABM	
4204	2.06	2.0		NABM	
4404	2.04	55.0		NABM	
4605	2.04	61.0		NABM	