

**General information**

Wellbore name	8/10-6 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	8/10-6
Seismic location	seismic survey : CE1202.Inline 1552 & crossline 2109
Production licence	405
Drilling operator	Centrica Resources (Norge) AS
Drill permit	1524-L
Drilling facility	MÆRSK GIANT
Drilling days	49
Entered date	29.05.2014
Completed date	16.07.2014
Release date	16.07.2016
Publication date	16.07.2016
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	44.0
Water depth [m]	66.0
Total depth (MD) [m RKB]	2256.0
Final vertical depth (TVD) [m RKB]	1945.0
Maximum inclination [°]	50
Bottom hole temperature [°C]	98
Oldest penetrated age	PERMIAN
Oldest penetrated formation	ZECHSTEIN GP
Geodetic datum	ED50
NS degrees	57° 3' 9.92" N
EW degrees	3° 3' 42.12" E
NS UTM [m]	6323401.91
EW UTM [m]	503743.02
UTM zone	31
NPDID wellbore	7485



Wellbore history

General

Well 8/10-6 S was drilled on the Butch SW prospect, a salt-induced structure on the Sørvestlandet high, approximately 13 km SE of the Ula Field in the North Sea. The Butch structure has three potentially separate prospects, divided by radial faulting from the salt diapir. The north-west prospect (Butch) was tested by well 8/10-4 S and sidetracks 8/10-4 A&B and found oil in Ula Formation sandstones. The eastern compartment (Butch East) was tested by 8/10-5 S and sidetrack 8/10-5 A and was dry. The primary objective of drilling 8/10-6 S was to test the hydrocarbon potential in the Ula Formation in the Butch south-west compartment. A secondary objective was to penetrate the underlying Zechstein salts to establish a seismic tie.

Operations and results

Wildcat well 8/10-6 S was spudded with the jack-up installation Mærsk Giant on 29 May 2014 and drilled to TD at 2256 m (1945 m TVD) m, 60 m into the Permian Zechstein Group. The well was drilled deviated in order to avoid significant shallow gas warnings and to allow the borehole to intersect the target Ula Formation at angle close to perpendicular. A 12 1/4" pilot hole was drilled to a planned depth of 703 m to check for shallow gas. This was deepened to 722 m after observing elevated concentrations heavier alkanes in drilled gas, over the interval 657 m to 702 m. otherwise no shallow gas was seen. Some hole problems were experienced in the 17 1/2" section where volumes of large tabular cavings were produced. The cavings originated from the uppermost part of the Hordaland Group. This correspond to the same problem interval in 8/10-4 B, which was abandoned after excessive cavings production and hole collapse. The well was drilled with Spud mud down to 180 m, with Glydril mud from 180 m to 703 m, with Versatec oil based mud from 703 m to 1995 m, and with Warp oil based mud from 1995 m to TD.

The target Ula Formation was found to be water wet, and potential reservoir properties in the Farsund Formation were not developed. No oil shows above the oil based mud was described in the well. Chromatograph ratios detected elevated amounts of heavier hydrocarbons over the interval 811 to 1090 m in the basal Nordland Group and upper Hordaland Group.

One conventional core was cut through the Ula Formation from 2057.0 to 2111.0 m with 99% recovery. No fluid sample was taken. Wireline and circulation temperatures at TD were rather high in this well compared to the other Butch wells, corresponding to a gradient close to 50 °C/km.

The well was permanently abandoned on 16 July 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]
190.00	2255.00



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	2057.0	2110.5	[m]

Total core sample length [m]	53.5
Cores available for sampling?	YES

Palynological slides at the Norwegian Offshore Directorate

Sample depth	Depth unit	Sample type	Laboratory
1970.0	[m]	DC	PETROSTR
1980.0	[m]	DC	PETROS
1990.0	[m]	DC	PETROS
1995.0	[m]	DC	PETROS
2001.0	[m]	DC	PETROS
2007.0	[m]	DC	PETROS
2013.0	[m]	DC	PETROS
2019.0	[m]	DC	PETROS
2025.0	[m]	DC	PETROS
2031.0	[m]	DC	PETROS
2037.0	[m]	DC	PETROS
2043.0	[m]	DC	PETROS
2049.0	[m]	DC	PETROS
2055.0	[m]	DC	PETROS
2057.0	[m]	DC	PETROS
2067.0	[m]	DC	PETROS
2077.0	[m]	DC	PETROS
2087.0	[m]	DC	PETROS
2097.0	[m]	DC	PETROS
2107.0	[m]	DC	PETROS
2112.0	[m]	DC	PETROS

Lithostratigraphy



Top depth [mMD RKB]	Lithostrat. unit
110	NORDLAND GP
945	HORDALAND GP
1369	ROGALAND GP
1400	SELE FM
1425	LISTA FM
1529	VIDAR FM
1543	LISTA FM
1549	VÅLE FM
1566	SHETLAND GP
1566	EKOFISK FM
1599	TOR FM
1725	HOD FM
1824	CROMER KNOLL GP
1824	RØDBY FM
1851	SOLA FM
1864	TUXEN FM
1877	ÅSGARD FM
1985	TYNE GP
1985	MANDAL FM
2020	FARSUND FM
2051	ULA FM
2110	SKAGERRAK FM
2196	ZECHSTEIN GP

Logs

Log type	Log top depth [m]	Log bottom depth [m]
GYRO	139	1442
LWD - GABI GR RES PWD DIR	1989	2057
LWD - GABI GR RES SON DEN CALI N	1479	1986
LWD - GR PWD DEN SON RES NEU FPT	1985	2251
LWD - GR RES SON PWD DIR	722	1418
LWD - PWD DIR	170	716
LWD - PWD RES GR DIR SON	170	716
PPC SS IS PPC GR LEH	1	2257
USIT CBL	487	1417



VSI-4	665	2250
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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	179.7	36	179.7	0.00	
SURF.COND.	20	719.0	26	722.0	1.77	LOT
INTERM.	13 3/8	1482.0	17 1/2	1486.0	1.86	LOT
LINER	9 5/8	1994.0	12 1/4	1995.0	1.87	LOT
OPEN HOLE		2256.0	8 1/2	2256.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1486	1.65	64.0		Versatec	
1650	1.65	55.0		Versatec	
1973	1.67	52.0		Versatec	
1995	1.67	51.0		Versatec	
2057	1.68	29.0		Warp	
2111	1.67	29.0		Warp	
2256	1.67	44.0		Versatec	