

**General information**

Wellbore name	35/9-6 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
Discovery	35/9-6 S
Well name	35/9-6
Seismic location	NH9202RD07:inline 2041 & crossline 3763
Production licence	420
Drilling operator	RWE Dea Norge AS
Drill permit	1320-L
Drilling facility	BREDFORD DOLPHIN
Drilling days	70
Entered date	29.09.2010
Completed date	07.12.2010
Release date	07.12.2012
Publication date	07.12.2012
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS
Discovery wellbore	YES
1st level with HC, age	LATE JURASSIC
1st level with HC, formation	INTRA HEATHER FM SS
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	BRENT GP
3rd level with HC, age	EARLY JURASSIC
3rd level with HC, formation	DUNLIN GP
Kelly bushing elevation [m]	25.0
Water depth [m]	369.0
Total depth (MD) [m RKB]	3740.0
Final vertical depth (TVD) [m RKB]	3689.0
Maximum inclination [°]	29.3
Bottom hole temperature [°C]	125
Oldest penetrated age	LATE TRIASSIC
Oldest penetrated formation	LUNDE FM
Geodetic datum	ED50



NS degrees	61° 22' 16.29" N
EW degrees	3° 41' 33.54" E
NS UTM [m]	6804492.08
EW UTM [m]	537025.98
UTM zone	31
NPDID wellbore	6429

Wellbore history

**General**

Well 35/9-6 S was drilled on the Titan Prospect on the Måløy slope in the northern North Sea close to several hydrocarbon discoveries. The most important of these are the Gjøa field to the east and Aurora and Vega to the west. The objective was to test four target levels in the Jurassic with the Tarbert and Etive formations as primary targets and Callovian Intra Heather Formation sandstone and Cook Formation sandstone as secondary targets.

Operations and results

Wildcat well 35/9-6 S was spudded with the semi-submersible installation Bredford Dolphin on 29 September and drilled to TD at 3740 m (3689 m TVD) in Late Triassic sediments of the Lunde Formation. The well was drilled with Seawater with Hi-Vis Sweeps down to 465.5 m, with KCl/GEM mud (3-5 % glycol) from 465.5 m to 1723 m, with Performadril mud (3-5 % glycol) from 1723 m to 2925 m, and with Performadril HT mud (3-5 % glycol) from 2925 m to TD.

Oil and Gas-Condensate, was encountered over a gross column of 434 meters in the Viking, Brent and Dunlin Groups. Hydrocarbons were proven in 5 different stratigraphic levels:

- Intra Heather Formation sandstone of Callovian age with top at 3256.9 m (3206.4 m TVD) contained oil
- Tarbert Formation with top at 3426.6 m (3376.1 m TVD) contained oil
- Etive Formation with top at 3505.5 m (3455 m TVD) contained gas-condensate
- Intra Drake Formation sandstone layers with top Drake Formation at 3552.3 m (3501.7 m TVD) contained gas-condensate
- Cook Formation with top at 3624.5 m (3573.8 m) contained gas-condensate

No oil shows were reported above BCU.

Seven conventional cores were taken in the well. Cores 1 to 4 were cut in the Heather Formation from 3266 m to 3318.5 m. These cores are shifted -1.5 m, -2.85 m, -2.45 m, and -1.65 m relative to logger's depth, respectively. Core 5 was cut from 3434 m to 3461 m in the Tarbert Formation; core 6 was cut from 3517 m to 3560 m in the Etive and Rannoch formations; and core 7 was cut from 3679 m to 3695 m in the Cook Formation. The core-log shifts for cores 5, 6, and 7 were 0.0 m, -0.9 m, and -0.95 m, respectively. MDT fluid samples were taken at 3258.93 m in Intra Heather Formation SST(oil), 3484.84 m in the Tarbert Formation (oil), 3512.32 m in the Etive Formation (retrograde gas), at 3592.1 m in the Drake Formation (retrograde gas), and at 3658.85 m in the Cook Formation (volatile oil).

The well was permanently abandoned on 7 December 2010 as an oil and gas discovery.

Testing

No drill stem test was performed.

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**Cuttings at the Norwegian Offshore Directorate**

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
480.00	3740.00

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	3266.0	3273.4	[m]
2	3275.0	3295.7	[m]
3	3295.0	3314.0	[m]
4	3316.0	3318.8	[m]
5	3434.0	3460.1	[m]
6	3517.0	3558.8	[m]
7	3679.0	3693.0	[m]

Total core sample length [m]	131.8
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
394	NORDLAND GP
561	UTSIRA FM
605	SKADE FM
790	GRID FM
989	FRIGG FM
1229	ROGALAND GP
1229	BALDER FM
1276	SELE FM
1323	LISTA FM
1628	TY FM
1677	SHETLAND GP
1677	JORSALFARE FM
1841	KYRRE FM



2802	TRYGGVASON FM
2989	BLODØKS FM
2991	SVARTE FM
3030	CROMER KNOLL GP
3030	RØDBY FM
3114	VIKING GP
3114	HEATHER FM
3426	BRENT GP
3426	TARBERT FM
3486	NESS FM
3505	ETIVE FM
3515	RANNOCH FM
3552	DUNLIN GP
3552	DRAKE FM
3624	COOK FM
3691	STATFJORD GP
3710	HEGRE GP
3710	LUNDE FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CMR XPT GR	3145	3721
FMI MSIP PPC GPIT GR	2550	2730
HRLA TLD APS HNGS	2915	3715
MDT DP	3259	3658
MDT GR	3259	3512
MDT GR	3474	3634
MDT GR	3484	3658
MSCT GR	2722	3255
MWD - DGR EWR PWD DIR BAT	475	789
MWD - DIR	370	465
MWD - DIR ABG DGR EWR PWD ALD CT	1723	3266
MWD - DIR DGR EWR PWD ALD CTN BA	3266	3740
MWD - PWD DIR	475	789
VSI GR	600	2730

**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	461.0	36	461.7	0.00	LOT
SURF.COND.	20	783.0	26	789.0	0.00	LOT
PILOT HOLE		789.0	9 7/8	789.0	0.00	LOT
INTERM.	13 3/8	1716.0	17 1/2	1723.0	1.64	LOT
INTERM.	9 5/8	2916.7	12 1/4	2925.0	1.85	LOT
OPEN HOLE		3740.0	8 1/2	3740.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
370	1.03			Spudmud	
465	1.35	16.0		KCL GEM	
475	1.35	15.0		KCL GEM	
535	1.35	23.0		KCL GEM	
750	1.35	20.0		KCL GEM	
789	1.35	23.0		KCL GEM	
1257	1.18	23.0		KCl/Gem	
1687	1.25	19.0		Performadril	
1723	1.18	24.0		KCl/Gem	
1863	1.25	21.0		Performadril	
2716	1.25	38.0		Performadril	
2816	1.60	38.0		Performadril HT	
3038	1.60	37.0		Performadril	
3316	1.60	37.0		Performadril HT	
3434	1.60	43.0		Performadril HT	
3461	1.60	41.0		Performadril HT	
3665	1.60	40.0		Performadril HT	
3736	1.61	41.0		Performadril HT	
3740	1.60	41.0		Performadril HT	