



General information





Wellbore name	35/12-4 A
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	35/12-2 (Grosbeak)
Well name	35/12-4
Seismic location	MN9201SG9603M06-inline3634 & xline1951
Production licence	378
Drilling operator	Wintershall Norge ASA
Drill permit	1362-L
Drilling facility	SONGA DELTA
Drilling days	22
Entered date	26.06.2011
Completed date	17.07.2011
Release date	17.07.2013
Publication date	17.07.2013
Purpose - planned	APPRAISAL
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	29.0
Water depth [m]	360.0
Total depth (MD) [m RKB]	3413.0
Final vertical depth (TVD) [m RKB]	2585.0
Maximum inclination [°]	55.1
Bottom hole temperature [°C]	100
Oldest penetrated age	MIDDLE JURASSIC
Oldest penetrated formation	RANNOCH FM
Geodetic datum	ED50
NS degrees	61° 11' 6.76" N
EW degrees	3° 41' 29.4" E
NS UTM [m]	6783775.12
EW UTM [m]	537183.78
UTM zone	31
NPDID wellbore	6617



Wellbore history

General

Well 35/12-4 A is a sidetrack to well 35/12-4 S on the Ryggsteinen Ridge/Uer Terrace structural elements in the Northern North Sea. Both well bores are appraisal wells to the 35/12-2 Grosbeak discovery, a multi-level discovery, with hydrocarbons in the Sognefjord Formation (gas), in the Fensfjord Formation (oil) and in the Ness Formation (oil). Well 35/12-4 S proved a 14 m oil column in the Fensfjord Formation and a 40 m oil column in the Ness Formation. Well bore 35/12-4 A was sidetracked to appraise the oil in the Ness Formation in a position northwards and down flanks of 35/12-2 and 35/12 -4 S.

Operations and results

Appraisal well 35/12-4 A was kicked off on 26 June 2011 from the primary well bore 35/12-4 S. The well was sidetracked at 902 m MD through a windows in the 13 3/8" casing. It was drilled with the semi-submersible installation Songa Delta to TD at 3413 m (2585 m TVD) in the Middle Jurassic Rannoch Formation. No significant problems were encountered in the operations. The well was drilled with Carbo-sea oil based mud from kick-off to TD.

While the Draupne Formation was not present in the primary well the sidetrack well penetrated a thick Draupne Formation section from 2836 m to 2967 m (2239.5 m to 2318 m). No Fensfjord Formation was encountered in the 35/12-4 A sidetrack. The Middle Jurassic Ness Formation came in at 3230 m (2475 m TVD), but was shaled out above the previous known contact from 35/12-2 and 35/12-4 S at ca 2485 m TVD. Weak hydrocarbon shows were however seen in the upper part of the Ness Fm. The underlying water wet sandstones had an average porosity of 19 % when using a 10 % cut-off.

No cores were cut in the sidetrack well. A total of 20 pressure tests were attempted with the RCI tool, obtaining 17 good tests. No fluid samples were taken to surface, but fluid scanning was performed at three stations, all showing formation water in the Ness Formation.

The well was permanently abandoned on 17 July as a dry well with shows.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
910.00	3413.00

Cuttings available for sampling?	YES
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**Lithostratigraphy**

Top depth [mMD RKB]	Lithostrat. unit
389	NORDLAND GP
539	UTSIRA FM
644	NO FORMAL NAME
650	HORDALAND GP
650	NO FORMAL NAME
798	NO FORMAL NAME
1074	NO FORMAL NAME
1305	ROGALAND GP
1305	BALDER FM
1367	SELE FM
1431	LISTA FM
1585	NO FORMAL NAME
1723	LISTA FM
1995	VÅLE FM
2037	SHETLAND GP
2037	JORSALFARE FM
2156	KYRRE FM
2792	TRYGGVASON FM
2836	VIKING GP
2836	DRAUPNE FM
2967	HEATHER FM
3230	BRENT GP
3230	NESS FM
3351	ETIVE FM
3373	RANNOCH FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
EARTH IMAGER	3150	3413
LWD - NB RES ECD GR DIR AC	910	3047
LWD - NEU NB ECD GR RES CAL DEN	3047	4313
LWD - RES ECD GR DIR	894	910
RCI	3238	3372



SLAM GR DEN NEU RES AC CAL	389	3413
VSP	640	3340

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
INTERM.	13 3/8	907.0	17 1/2	907.0	0.00	LOT
INTERM.	9 5/8	3038.0	12 1/4	3042.0	0.00	LOT
OPEN HOLE		3413.0	8 1/2	3413.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1463	1.35	37.0		Carbosea	
2813	1.24	22.0		Carbosea	
3047	1.37	26.0		Carbosea	
3325	1.24	21.0		Carbosea	
3413	1.24	22.0		Carbosea	