

**General information**

Wellbore name	6506/11-9 S
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Well name	6506/11-9
Seismic location	inline2273 & crossline 2342 -Site survey ST0808
Production licence	477
Drilling operator	Centrica Resources (Norge) AS
Drill permit	1402-L
Drilling facility	WEST ALPHA
Drilling days	118
Entered date	09.05.2012
Completed date	03.09.2012
Release date	03.09.2014
Publication date	13.01.2015
Purpose - planned	WILDCAT
Reentry	NO
Content	SHOWS
Discovery wellbore	NO
Kelly bushing elevation [m]	18.0
Water depth [m]	249.0
Total depth (MD) [m RKB]	5330.0
Final vertical depth (TVD) [m RKB]	4972.0
Maximum inclination [°]	31.6
Bottom hole temperature [°C]	167
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	ÅRE FM
Geodetic datum	ED50
NS degrees	65° 10' 18.54" N
EW degrees	6° 37' 21.26" E
NS UTM [m]	7229882.11
EW UTM [m]	388624.07
UTM zone	32
NPDID wellbore	6852



Wellbore history

General

Well 6506/11-9 S tested the Cooper Prospect on the Halten Terrace in the Norwegian Sea between the Morvin and Smørbukk Fields. The primary objective of the well was to test the hydrocarbon potential of the Middle and Early

Jurassic Fangst and Båt Groups, specifically the Garn and Ile Formations. The Early Cretaceous Lysing and Intra Lange Formations were regarded as secondary targets.

Operations and results

Wildcat well 6506/11-9 S was spudded with the semi-submersible installation West Alpha on 9 May 2012 and drilled to TD at 5330 m (4972 m TVD) in the Early Jurassic Åre Formation. The well path assumes an 'S' shape and the surface location was purposely offset from the target to avoid locating the rig in an area of cold-water corals. The well was drilled with KCl water based mud down to 1170 m, with Versatec oil based mud from 1170 m to 2130 m, and with Versatherm oil based mud from 2130 m to TD.

Hydrocarbon recognition was partly masked by oil based mud but significant heavy hydrocarbon gases and moderate to strong shows were observed in the relatively thin, interbedded sandstones of the Lysing Formation between 3516 and 3594 m.

Hydrocarbon shows were observed also in Intra-Lange sands. The reservoirs in both Lysing and Lange was fragmented, with a low reservoir nett to gross ratio. The Garn Formation was encountered at 4716 m. Good hydrocarbon shows were encountered in the Garn Formation and on the cores in the Upper Ile Formation down to 4828 m, but pervasive secondary silica cementation resulted in extensive permeability destruction in the Garn Formation. The Tofte and Tilje Formations were interpreted as being water wet.

Two conventional cores were cut sequentially in the Garn and underlying Not Formations. A further three cores were taken in the Ile Formation, based on indeterminate shows. One core was cut in the Tilje Formation, based on hydrocarbon shows that were subsequently interpreted as being due to recirculated hydrocarbons from the overlying oil bearing horizon. MDT fluid samples were taken at 4765 m (contaminated oil), 4767 m (oil, water and filtrate), 4831 m (water), and 5246.7 m (water).

The well was permanently abandoned on 3 September 2012 on as a dry well with shows.

Testing

The 7" liner was perforated over the entire Garn Formation from 4718 m to 4780 m and an attempt was made to perform a DST. The well failed to flow during the DST and the decision was made to abandon further testing, due to tight reservoir.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1220.00	5330.00

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	4731.0	4754.6	[m]
2	4755.5	4800.6	[m]
3	4815.0	4841.3	[m]
4	4852.5	4878.9	[m]
5	4880.5	4903.7	[m]
6	5110.0	5138.3	[m]

Total core sample length [m]	172.9
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
267	NORDLAND GP
701	NAUST FM
1457	KAI FM
1905	HORDALAND GP
1905	BRYGGE FM
2126	ROGALAND GP
2126	TARE FM
2221	TANG FM
2275	SHETLAND GP
2275	SPRINGAR FM
2671	NISE FM
2945	KVITNOS FM
3494	CROMER KNOLL GP
3494	LYSING FM
3597	LANGE FM
4513	LYR FM
4549	VIKING GP
4549	SPEKK FM
4560	MELKE FM
4716	FANGST GP
4716	GARN FM



4778	NOT FM
4821	ILE FM
4970	BÅT GP
4970	ROR FM
4994	TOFTE FM
5085	ROR FM
5104	TILJE FM
5282	ÅRE FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT PPC DSI GPIT PPC GR	4612	5032
CMR HXPT GR	4625	5320
LDS APS HNGS	4612	5032
LWD - GR PWD DEN RES NEU DI	4801	5330
LWD - GVR GR RES NEU DEN SON	4700	4815
LWD - GVR STET RES GR NEU DEN SO	4615	4731
LWD - PDGR DI PWD RES GR SON	1211	2536
LWD - PDGR FPWD PWD RES GR NEU D	2536	4615
LWD - PWD RES GR DI	357	1211
LWD - PWD RES GR DI SON	357	1200
LWD-DI	267	357
PMIT GR CCL	280	4605
PS HY PO PQ HY PO IFA MS1-2 GR	4744	4922
PS XLD HY PO LFA MS GR	5021	5246
SC PO PALE PS HY PO IFA AMS GR	4763	4830
USIT VBL	4520	4787
VSI2 GR	604	5020

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	350.0	36	352.0	0.00	
PILOT HOLE		1200.0	9 7/8	1200.0	0.00	
SURF.COND.	29	1206.0	26	1211.0	1.72	FIT



INTERM.	13 3/8	2530.0	17 1/2	2536.0	1.90	FIT
SURF.COND.	9 5/9	4609.0	12 1/4	4615.0	2.08	FIT
LINER	7	4864.0	8 1/2	5330.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
375	1.15	16.0		KCl mud	
544	1.21	15.0		KCl mud	
1150	1.21	16.0		KCl mud	
1200	1.19	17.0		KCl mud	
1211	1.02			SEAWATER	
2530	1.74	56.0		Versatherm OBM	
2536	1.59	58.0		Versatec OBM	
3596	1.76	64.0		Versatherm OBM	
4616	1.83	60.0		Versatherm OBM	
4616	1.93	1.0		OBM	
4616	1.76	58.0		Versatherm OBM	
4661	1.93	74.0		Versatherm OBM	
4783	1.91	68.0		Versatherm OBM	
4852	1.91	66.0		Versatherm OBM	
4903	1.91	58.0		Versatherm OBM	
5137	1.91	59.0		Versatherm OBM	
5225	1.91	58.0		Versatherm OBM	
5330	1.02	1.0		Inhibited seawater	
5330	1.91	71.0		Versatherm OBM	