



General information

Wellbore name	6406/1-4
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Discovery	6406/1-2 (Sklinna)
Well name	6406/1-4
Seismic location	EN03M1 INLINE 2480 & CROSSLINE 1485
Production licence	256
Drilling operator	Eni Norge AS
Drill permit	1102-L
Drilling facility	OCEAN VANGUARD
Drilling days	133
Entered date	16.08.2005
Completed date	26.12.2005
Release date	26.12.2007
Publication date	26.12.2007
Purpose - planned	APPRAISAL
Reentry	NO
Content	SHOWS
Discovery wellbore	NO
Kelly bushing elevation [m]	22.0
Water depth [m]	363.0
Total depth (MD) [m RKB]	4596.0
Final vertical depth (TVD) [m RKB]	4593.0
Maximum inclination [°]	3.1
Bottom hole temperature [°C]	157
Oldest penetrated age	MIDDLE TRIASSIC
Oldest penetrated formation	RED BEDS (INFORMAL)
Geodetic datum	ED50
NS degrees	64° 54' 34.09" N
EW degrees	6° 8' 30.84" E
NS UTM [m]	7201599.89
EW UTM [m]	364794.60
UTM zone	32
NPDID wellbore	5183



Wellbore history

General

Well 6406/1-4 is located west of the Kristin Field on the western margin of the Sklinna Ridge off shore Mid Norway. It was drilled to appraise the gas condensate discovery 6406/1-2 and was a continuation of the interrupted 6406/1-3. The primary objective was to prove economical hydrocarbon reserves in the Late Cretaceous Lange Unit 3 Unit of the Cromer Knoll Group. Secondary objective was the hydrocarbon potentials of the Cretaceous Lange Sequence 1 and 2 sandstones.

Operations and results

Appraisal well 6406/1-4 was spudded with the semi-submersible installation Ocean Vanguard on 16 August 2005 and drilled to TD at 4596 m in silty to sandy calcareous claystone of Triassic (Ladinian - Carnian) age. The well took 133 days to complete compared to the planned 70 days. The main reason for this was a problem with an anchor winch. This was observed while drilling the 17 1/2" section. The well was temporary abandoned and taken to Kristiansund for repairs. Total time lost before normal operations were resumed was 41 days. The well was drilled with seawater and bentonite sweeps down to 1310 m, with water based Performadril mud (a KCl mud) from 1310 m to 2315 m, and with XP-07 oil based mud from 2315 m to TD.

The top of the Late Cretaceous Lange Unit 3 was found at 4311 m, 27 m deeper than prognosis. The top of the Lange 1 + 2 Units was found at 4379 m, 2 meter deeper than prognosis, with only a few thin sandstone layers. No moveable hydrocarbons were reported from the well, but shows were observed on cuttings from the Lange Unit 3. The shows were evaluated to be residual and described as even, dull to very dull yellowish to dull golden direct fluorescence with slow to very slow weak dull yellowish/golden cut fluorescence. No Jurassic sediments were present in the well. The well penetrates a hiatus at BCU from Middle Albian to the Middle/Late Triassic.

No cores were cut in the well. One MDT sampling was performed at 4316.8 m using dual packer. Fluid analyser showed water at this depth. Seven water samples were taken using 4 SPMC, 2 MPSR and 1 Gallon MRSC.

The well was permanently abandoned on 26 December 2005 as a 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]
1320.00	4596.00

Cuttings available for sampling?	YES
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**Lithostratigraphy**

Top depth [mMD RKB]	Lithostrat. unit
385	NORDLAND GP
385	NAUST FM
1595	KAI FM
2078	HORDALAND GP
2078	BRYGGE FM
2479	ROGALAND GP
2479	TARE FM
2549	TANG FM
2601	SHETLAND GP
2601	SPRINGAR FM
2671	NISE FM
2749	KVITNOS FM
3440	CROMER KNOLL GP
3440	LYSING FM
3453	LANGE FM
4558	RED BEDS (INFORMAL)

Logs

Log type	Log top depth [m]	Log bottom depth [m]
AIT IPLT ECS ACTS	4088	4605
CMR GR ATCS	4105	4518
MDT GR ATCS	4313	4488
MWD - GR RES DIR	4113	4596
MWD - GR RES DIR SONIC	462	2315
MWD - GR RES SONIC DENS NEU DIR	2315	4113
OBMI DSI GR ATCS	4071	4593
VSP GR ATCS	1284	4596

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	457.0	36	457.0	0.00	LOT
SURF.COND.	20	1299.0	26	1300.0	1.57	LOT



INTERM.	13 3/8	2304.0	17 1/2	2304.0	2.02	LOT
INTERM.	9 5/8	4101.0	12 1/4	4101.0	2.06	LOT
OPEN HOLE		4596.0	8 3/8	4596.0	0.00	LOT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1310	1.39	27.0		PERFORMADRILL	
1360	1.39	25.0		PERFORMADRILL	
2315	1.50	42.0		PERFORMADRILL	
4113	1.85	59.0		OIL BASED XP 07	
4360	1.88	53.0		OIL BASED XP 07	
4596	1.88	50.0		OIL BASED XP 07	

Pressure plots

The pore pressure data is sourced from well logs if no other source is specified. In some wells where pore pressure logs do not exist, information from Drill stem tests and kicks have been used. The data has been reported to the NPD, and further processed and quality controlled by IHS Markit.

Document name	Document format	Document size [MB]
5183 Formation pressure (Formasjonstrykk)	pdf	0.27

