



General information

Wellbore name	6406/12-4 A
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	6406/12-4
Seismic location	PGS 14005 IL 5660 XL 5851
Production licence	586
Drilling operator	VNG Norge AS
Drill permit	1595-L
Drilling facility	TRANSOCEAN ARCTIC
Drilling days	32
Entered date	18.08.2015
Completed date	17.09.2015
Plugged and abandon date	17.09.2015
Release date	17.09.2017
Publication date	17.09.2017
Purpose - planned	WILDCAT
Reentry	NO
Content	DRY
Discovery wellbore	NO
Kelly bushing elevation [m]	25.5
Water depth [m]	319.0
Total depth (MD) [m RKB]	4058.0
Final vertical depth (TVD) [m RKB]	3824.5
Maximum inclination [°]	32.1
Bottom hole temperature [°C]	134
Oldest penetrated age	JURASSIC
Oldest penetrated formation	MELKE FM
Geodetic datum	ED50
NS degrees	64° 1' 7.48" N
EW degrees	6° 46' 31.29" E
NS UTM [m]	7101175.99
EW UTM [m]	391272.15
UTM zone	32
NPDID wellbore	7774



Wellbore history

General

Well 6406/12-4 A is a geological sidetrack to well 6406/12-4 S. It was drilled on the flank of the Frøya High close to the southern end of the Halten Terrace in the Norwegian Sea. The primary objective was to prove petroleum in Late Jurassic reservoir rocks (sandstone in the Intra Spekk and Intra Melke formations) in a southern segment adjacent to the 6406/12-3 S Pil discovery.

Operations and results

Well 6406/12-4 A was sidetracked on 18 August 2015 from the 20" casing shoe at 1259 m in well 6406/12-4 S. The well was drilled with the semi-submersible installation Transocean Arctic to TD at 4058 m (3824.5 m TVD) in the Late Jurassic Melke Formation. No significant problem was encountered in the operations. The well was drilled with XP-07 oil based mud from kick-off to TD.

The Spekk Formation was encountered at 3495 m (3263 m TVD). At 3522 m (3289 m TVD) ca 7 metres of Rogn Formation was penetrated. This sandstone was tight without shows. A 529 m TVD thick sandy Melke Formation came in at 3529 m (3296 m TVD). The Melke Formation was highly deformed and disturbed by older strata being dumped down the slope off the Vingleia Fault complex as a series of slumps and slides. Petrophysical data, pressure and fluid sample point to a water-wet near hydrostatic pressured Melke Formation. Only weak shows were recorded below 3900 m.

No cores were cut. An RCX fluid sample acquired at 3962.9 m MDRT contained formation water.

The well was permanently abandoned on 17 September 2015 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]
1210.00	4058.00

Cuttings available for sampling?	YES
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Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
345	NORDLAND GP
345	NAUST FM



1085	KAI FM
1160	HORDALAND GP
1160	BRYGGE FM
1826	ROGALAND GP
1826	TARE FM
1935	TANG FM
2135	SHETLAND GP
2135	SPRINGAR FM
2232	NISE FM
2449	KVITNOS FM
2974	CROMER KNOLL GP
2974	LANGE FM
3443	LYR FM
3495	VIKING GP
3495	SPEKK FM
3522	ROGN FM
3529	INTRA MELKE FM SS

Logs

Log type	Log top depth [m]	Log bottom depth [m]
DSL CN ZDL ORIT XMAC HDIL	3425	4058
DSL FLEX MREX	3478	4058
GR GEOWAVES	1504	4039
GR GXPL ORIT UXPL	3425	4050
GR R6TC IFX RLVP RCX	3558	4003
MWD - DIR GR RES PWD NEU DEN SON	3436	4058
MWD - DIR GR RES PWD SON	1204	2179
MWD - DIR NBGR GR RES PWD SON	2179	3436

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	411.3	36	415.0	0.00	
SURF.COND.	20	1203.5	26	1210.0	1.66	FIT
PILOT HOLE		1210.0	9 7/8	1210.0	0.00	



INTERM.	13 3/8	2172.6	17 1/2	2179.0	1.99	LOT
INTERM.	9 5/8	3430.0	12 1/4	3436.0	2.01	LOT
OPEN HOLE		4058.0	8 1/2	4058.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
1213	1.53	34.0		XP07 Low ECD	
1710	1.54	36.0		XP07 Low ECD	
2179	1.54	32.0		XP07 Low ECD	
2709	1.54	40.0		XP07 Low ECD	
3436	1.54	40.0		XP-07 Low ECD	
3628	1.49	37.0		XP-07 Low ECD	
3910	1.49	38.0		XP-07 Low ECD	
4058	1.49	38.0		XP-07 Low ECD	