

General information

Wellbore name	6507/3-13
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Discovery	6507/3-13
Well name	6507/3-13
Seismic location	ST11M01 Inline: 5513 Xline: 4720
Production licence	159 B
Drilling operator	Equinor Energy AS
Drill permit	1757-L
Drilling facility	TRANSOCEAN SPITSBERGEN
Drilling days	36
Entered date	27.04.2019
Completed date	01.06.2019
Plugged date	01.06.2019
Plugged and abandon date	07.06.2019
Release date	01.06.2021
Publication date	10.11.2021
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL/GAS
Discovery wellbore	YES
1st level with HC, age	LATE CRETACEOUS
1st level with HC, formation	LYSING FM
2nd level with HC, age	EARLY CRETACEOUS
2nd level with HC, formation	LANGE FM
Kelly bushing elevation [m]	40.0
Water depth [m]	368.0
Total depth (MD) [m RKB]	3420.0
Final vertical depth (TVD) [m RKB]	3420.0
Oldest penetrated age	EARLY CRETACEOUS
Oldest penetrated formation	LYR FM
Geodetic datum	ED50
NS degrees	65° 59' 26.44" N
EW degrees	7° 44' 43.02" E

NS UTM [m]	7319626.15
EW UTM [m]	443032.06
UTM zone	32
NPDID wellbore	8720

Wellbore history

General

Well 6507/3-13 was drilled to test the Snadd Outer Outer and Black Vulture prospects on the Dønna Terrace in the Norwegian Sea. The primary objective was to prove mobile gas in the Snadd Outer Outer prospect (Lysing Formation). The secondary objective was to prove hydrocarbon presence in the Black Vulture prospect (Lange Formation). Planned TD was in the Spekk Formation

Operations and results

Wildcat well 6507/3-13 was spudded with the semi-submersible installation Transocean Spitsbergen on 27 April 2019 and drilled to TD at 3420 m in the Early Cretaceous Lyr Formation. Operations proceeded without significant problems however, after plugging back for side-tracking severe losses occurred leading to permanent abandonment and cancelling of the planned side-track 6507/3-13 A. Also, a lower than prognosed formation integrity on the 9 5/8" shoe prevented to set TD in the Spekk Formation. The well was drilled with seawater and hi-vis pills down to 1302 m and with XP-07 oil-based mud from 1302 m to TD.

Top of primary target Lysing Formation sandstone (Snadd Outer Outer) was penetrated at 2834 m. It was 26 m thick and gas-bearing down to a gas-water contact at ca 2841 m. Top of secondary target intra-Lange Formation sandstones (Black Vulture) was penetrated at 3171 m. The Black Vulture consisted of relatively thin sandstones with hydrocarbon indications interbedded in claystone. It extended down to 3317 m with a main reservoir sand from 3255 to 3280 m. Oil was proven in a 4-meter thick interval above the main reservoir interval. The main reservoir was hydrocarbon bearing, however with a complex fluid distribution. Oil was sampled above a water zone. Below this an oil sample was acquired, and in the deepest sand gas/condensate was sampled. No contacts were established in the Lange sandstones.

Oil shows were recorded only in the hydrocarbon bearing target reservoirs.

Two cores were cut. Core 1 was cut from 2840 to 2886 m in the Lysing Formation and underlying Lange claystone with 102% recovery. Core 2 was cut from 3258.85 to 3273 m in the Lange Formation sandstones with 95.8% recovery. MDT fluid samples were taken at 2838 m (gas), 2858.9 m (water), 3193.12 m (oil), 3260.2 m (oil), 3263.87 m (water), 3271.62 m (oil), and 3277.32 m (gas condensate).

The well was permanently abandoned on 22 May 2019 as an oil and gas discovery.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1310.00	3420.00

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	2840.0	2886.0	[m]
2	3258.9	3273.0	[m]

Total core sample length [m]	60.2
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
408	NORDLAND GP
408	UNDIFFERENTIATED
655	NAUST FM
1354	KAI FM
1711	HORDALAND GP
1711	BRYGGE FM
1857	ROGALAND GP
1857	TARE FM
1922	TANG FM
1986	SHETLAND GP
1986	SPRINGAR FM
2178	NISE FM
2461	KVITNOS FM
2834	CROMER KNOLL GP
2834	LYSING FM
2859	LANGE FM
3377	LYR FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
MDT CMR	2810	3360
MSCT	3188	3260
MSIP PEX XPT	1297	2743
MWD - ABG DGR EWR M5 PWD PCDC	473	1302
MWD - DGR ADR AGR PWD PCDC	2746	3420
MWD - DGR EWR P4 PWD PCDC	1302	2746
VSI4	368	3409
XLR	2834	3279
XPT PEX CMR	2690	3420
ZAIT MSIP NEXT PEX	2690	3420

Casing and leak-off tests

Casing type	Casing diam. [inch]	Casing depth [m]	Hole diam. [inch]	Hole depth [m]	LOT/FIT mud eqv. [g/cm ³]	Formation test type
CONDUCTOR	36	470.0	42	470.0	0.00	
SURF.COND.	13 3/8	1297.0	17 1/2	1297.0	1.58	FIT
INTERM.	9 5/8	2740.0	12 1/4	2740.0	1.82	FIT
OPEN HOLE		3420.0	8 1/2	3420.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm ³]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
408	1.35	11.0		Spud Mud	
468	1.03	1.0		Seawater	
473	1.35	14.0		Spud Mud	
537	1.03	1.0		Seawater	
1302	1.03	1.0		Seawater	
1302	1.35	14.0		Spud Mud	
1403	1.54	22.0		XP-07	
1403	1.45	16.0		XP-07	
1550	1.67	24.0		XP-07	
1550	1.51	20.0		XP-07	
2746	1.51	20.0		XP-07	
2746	1.67	21.0		XP-07	
2752	1.67	20.0		XP-07	

3268	1.67	22.0		XP-07	
3268	1.68	21.0		XP-07	
3420	1.67	24.0		XP-07	