

**General information**

Wellbore name	6507/4-1
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	6507/4-1 (Warka)
Well name	6507/4-1
Seismic location	CP19303-4010
Production licence	1009
Drilling operator	ConocoPhillips Skandinavia AS
Drill permit	1829-L
Drilling facility	LEIV EIRIKSSON
Drilling days	91
Entered date	12.08.2020
Completed date	10.11.2020
Plugged and abandon date	10.11.2020
Release date	10.11.2022
Publication date	10.11.2022
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS
Discovery wellbore	YES
1st level with HC, age	EARLY CRETACEOUS
1st level with HC, formation	LANGE FM
Kelly bushing elevation [m]	25.0
Water depth [m]	400.0
Total depth (MD) [m RKB]	4985.0
Final vertical depth (TVD) [m RKB]	4985.0
Maximum inclination [°]	2.3
Oldest penetrated age	EARLY CRETACEOUS
Oldest penetrated formation	LYR FM
Geodetic datum	ED50
NS degrees	65° 38' 14.32" N
EW degrees	7° 1' 18.48" E
NS UTM [m]	7281100.23
EW UTM [m]	408950.31



UTM zone	32
NPDID wellbore	9110

Wellbore history

General

Well 6507/4-1 was drilled to test the Warka prospect on the Dønna Terrace in the Norwegian Sea. The primary objective was to prove reservoir presence, quality, and age (Late Albian - early Cenomanian age) of Intra Lange sandstones, and prove presence, saturation, and quality of hydrocarbons in the reservoir. A secondary objective was to test a possible deeper sand of Aptian age, the Warszawa lead.

Operations and results

Wildcat well 6507/4-1 was spudded with the semi-submersible installation Leiv Eiriksson on 12 August 2020 and drilled to TD at 4985 m in the Early Cretaceous Lange Formation. Operations on this deep well proceeded without significant problems. The well was drilled with seawater and hi-vis pills down to 817 m, with KCl mud from 817 to 1420 m, with Innovert NS oil-based mud from 1420 to 2606.5 m, with BaraECD 3.2 oil-based mud from 2606 to TD.

Three main Cretaceous sandstone sections were penetrated by the well: the Lysing Formation from 3037 to 3109 m, a K54 section from 3915 to 3971 m, and the target Late Albian Warka sandstone from 4608 to 4650 m. No Warszawa sandstones were present in the Aptian. The Warka sandstones were gas-condensate bearing with close to 39 m pay in both well tracks, the other sandstones were water bearing.

The cored Warka sandstone in the side-track had weak shows consistent with a lean gas-condensate: slow diffuse moderate yellowish to bluish white cut fluorescence, 30% weak bluish white fluorescent residue. Otherwise, there were no shows above OBM in the well.

A bypass coring side-track was made to core the Warka sandstones. This side-track, 6507/4-1 T2, was kicked off at 4386 m and TD'd at 4708 m. Five cores were cut in succession from 4546 to 4660.25 m. In total 111 meter core (97.3%) was recovered. Reservoir fluid samples were collected from the Lange K48 Warka sands with MDT in the main wellbore

6507/4-1 and with ORA in side-track wellbore 6507/4-1 T2. Samples were taken at 4631.09 m in the main bore and at 4631.22 m in the side-track. All samples contained gas-condensate.

The well was permanently abandoned on 10 November 2020 as a 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]
830.00	4985.00



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	4546.0	4570.7	[m]
2	4571.2	4594.5	[m]
3	4594.5	4612.1	[m]
4	4614.5	4632.4	[m]
5	4632.5	4660.3	[m]

Total core sample length [m]	111.2
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
425	NORDLAND GP
1429	KAI FM
1844	HORDALAND GP
1844	BRYGGE FM
1910	ROGALAND GP
1910	TARE FM
1951	TANG FM
2024	SHETLAND GP
2024	SPRINGAR FM
2197	NISE FM
2558	KVITNOS FM
3037	CROMER KNOLL GP
3037	LYSING FM
3109	LANGE FM
3915	NO FORMAL NAME
3971	LANGE FM
4608	NO FORMAL NAME
4650	LANGE FM

**Logs**

Log type	Log top depth [m]	Log bottom depth [m]
HXPT CMR LEHF	4380	4695
LWD - OT	425	817
LWD - OT	1420	4717
LWD - OT	4520	4700
LWD - OT ST	493	1420
LWD - OT TT ST	4717	4985
MDT	4600	4649
ORA	4611	4647
QAIT HASPS NEXT HL DS HNGS NGI G	4375	4711
QAIT MSIP HAPS HLDS HNGS LEHF	4250	4705
QAIT MSIP HAPS HLDS HNGS LEHF	4375	4985
QAIT SSC HAPS HLDS HNGS GR	2570	4380
VSI	4055	4970

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	490.5	36	493.0	0.00	
INTERM.	20	812.0	26	817.0	1.43	LOT
LINER	17	1410.0	17 1/2	1420.0	1.72	LOT
INTERM.	13 3/8	2599.0	16	2605.0	1.82	LOT
INTERM.	9 7/8	4375.0	12 1/4	4405.0	2.12	LOT
OPEN HOLE		4708.0	8 1/2	4708.0	0.00	
OPEN HOLE		4985.0	8 1/2	4985.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
518	1.03	10.0	0.4	Water Base	
550	1.50	21.0	4.3	Oil Base	
817	1.25		16.7	Water Base	
1420	1.26	17.0	11.4	Water Base	



1475	1.46	29.0	4.7	Oil Base	
1958	1.55	39.0	9.0	Oil Base	
2135	1.50	21.0	2.8	Oil Base	
2263	1.72	41.0	5.7	Oil Base	
2552	1.74		5.7	Oil Base	
2605	1.57	30.0	7.1	Oil Base	
3302	1.64	24.0	4.7	Oil Base	
3870	1.43	29.0	6.2	Oil Base	
4116	1.72	33.0	6.2	Oil Base	
4200	1.84	42.9	5.7	Oil Base	
4296	1.72	30.0	4.7	Oil Base	
4717	1.82	39.0	5.2	Oil Base	
4794	1.83	34.0	3.7	Oil Base	
4886	1.86	39.0	3.7	Oil Base	
4985	1.87	36.0	5.2	Oil Base	