



General information

Wellbore name	6506/11-10
Type	EXPLORATION
Purpose	WILDCAT
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORWEGIAN SEA
Field	BERLING
Discovery	6506/11-10 Berling
Well name	6506/11-10
Seismic location	OMV 13 M01; Inline 2676. Xline 2851
Production licence	644 B
Drilling operator	OMV (Norge) AS
Drill permit	1679-L
Drilling facility	DEEPSEA BERGEN
Drilling days	140
Entered date	28.11.2017
Completed date	17.04.2018
Release date	17.04.2020
Publication date	17.04.2020
Purpose - planned	WILDCAT
Reentry	NO
Content	GAS/CONDENSATE
Discovery wellbore	YES
1st level with HC, age	EARLY CRETACEOUS
1st level with HC, formation	LANGE FM
2nd level with HC, age	MIDDLE JURASSIC
2nd level with HC, formation	GARN FM
Kelly bushing elevation [m]	23.0
Water depth [m]	342.0
Total depth (MD) [m RKB]	4536.0
Final vertical depth (TVD) [m RKB]	4536.0
Maximum inclination [°]	2
Oldest penetrated age	EARLY JURASSIC
Oldest penetrated formation	ROR FM
Geodetic datum	ED50
NS degrees	65° 13' 50.54" N
EW degrees	6° 25' 47.44" E



NS UTM [m]	7236795.23
EW UTM [m]	379866.36
UTM zone	32
NPDID wellbore	8317

Wellbore history

General

Well 6506/11-10 was drilled to test the Hades and Iris prospects on the western margin of the Halten Terrace on the eastern flank of the Sklinna Ridge in the Norwegian Sea. The primary objective (Hades) was to test the hydrocarbon potential in Early Cretaceous intra-Lange Formation sandstones (Breiflabb Sandstone Member in the NORLEX stratigraphy). Secondary objective (Iris) was to test the hydrocarbon potential in the Middle Jurassic Garn Formation.

Operations and results

Wildcat well 6506/11-10 was spudded with the semi-submersible installation Deepsea Bergen on 28 November 2017. A 36" section was drilled first, followed by a 9 7/8" pilot hole to 1407 m to check for shallow gas. Then the 26" section was drilled before the BOP and riser was installed with 20" casing at 1409 m. Final TD was set at 4536 m in the Early Jurassic Ror Formation. Operations proceeded without significant problems. The well was drilled with seawater and hi-vis pills down to 1428 m, with Glydril mud from 1428 m to 2652 m, and with Rheguard oil-based mud from 2652 m to TD.

The primary objective intra-Lange Formation sandstone was penetrated from 3933 to 3976 m. It consists of interlayered sandstones and claystones with an 8 m massive sandstone on top and was found gas-filled from top to a gas-down-to contact at 3968 m. Relatively high resistivities and sampling of water with oil at 3998.3 m indicate some hydrocarbon saturation also below 3968 m. The secondary objective Garn Formation was encountered at 4223 m and was gas-bearing down to a gas-water contact at 4318 m. This reservoir can be divided in two units: an upper fine-grained micaceous and cemented unit and a coarser grained, highly porous and permeable unit below 4292 m. This unit have permeabilities reaching 24 Darcy. Oil shows in the well were weak and questionable due to masking by the oil-based mud.

Three cores were cut in the well. Core 1 was cut from 3942 to 3970 m in the intra-Lange sandstone with 92.2% recovery. Core 2 was cut from 4231 to 4246 m in the Garn Formation with 65.4% recovery. Core 3 was cut from 4313 to 4341 m in the Garn Formation with 65.2% recovery. MDT fluid samples were taken at 3940 m (gas), 3944 (gas), 3998.3 m (water with oil), 4051.2 m (water), 4295.7 m (gas), 4305.4 (gas), and at 4380.3 m (water with oil)

The well was permanently abandoned on 17 April 2018 as a gas/condensate discovery.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate



Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1435.00	4537.00

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	3942.0	3967.8	[m]
2	4231.0	4240.8	[m]
3	4313.0	4331.3	[m]

Total core sample length [m]	53.9
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
365	NORDLAND GP
563	NAUST FM
1503	KAI FM
1931	HORDALAND GP
1931	BRYGGE FM
2066	ROGALAND GP
2066	TARE FM
2092	TANG FM
2196	SHETLAND GP
2196	SPRINGAR FM
2398	NISE FM
2527	KVITNOS FM
3201	CROMER KNOLL GP
3201	LYSING FM
3275	LANGE FM
3933	NO FORMAL NAME
3976	LANGE FM
4201	LYR FM
4223	VIKING GP
4223	SPEKK FM



4225	FANGST GP
4225	GARN FM
4439	NOT FM
4473	ILE FM
4517	BÅT GP
4517	ROR FM

Logs

Log type	Log top depth [m]	Log bottom depth [m]
ECS LDS CMR GR	4165	4530
LWD - ABG GT EWR SOL PWD DIR	3817	4230
LWD - DGR EWR P4PWD	365	431
LWD - DGR EWR P4PWD DIR	433	1428
LWD - DGR EWR P4XBAT PWD DIR	433	1427
LWD - DGR EWR P4XBAT PWD DIR	1428	2652
LWD - DGR SOL EWR P4 ALD CTN PWD	4230	4536
LWD - GPDGR EWR SOL ALD CTN XBAT	2652	3817
MDT GR	3810	4051
MDT GR	4163	4380
MSCT GR	4224	4380
PPC APS CMR GR	3810	4165
PPC MSIP PPC NGIT GR	3810	4165
QAIT APS PPC MSIP GR	4165	4538
QAIT HLDS ECS GR	3810	4165
USIT CBL GR	3739	4154
USIT CBL GR	3806	2646
VSP GR	4217	4308
XLROCK GR	3993	4063

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	431.0	36	431.0	0.00	
SURF.COND.	20	1409.0	26	1428.0	0.00	
PILOT HOLE		1427.0	9 7/8	1427.0	1.71	LOT



INTERM.	13 3/8	2647.0	17 1/2	2652.0	2.01	LOT
INTERM.	9 7/8	3810.0	12 1/4	3817.0	2.15	FIT
LINER	7	4163.0	8 1/2	4165.0	2.17	FIT
OPEN HOLE		4536.0	6	4536.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
409	1.49	17.0		Kill mud	
990	1.30	15.0		RheGuard	
1050	1.59	17.0		Kill mud	
1076	1.62	15.0		RheGuard	
1076	1.30	15.0		RheGuard	
1301	1.59	27.0		Kill mud	
1428	1.02	7.0		Kill mud	
1428	1.29	7.0		Kill mud	
1428	1.29	20.0		Spud mud	
1480	1.46	20.0		Glydril	
2062	1.62	24.0		Glydril	
2652	1.62	24.0		Glydril	
2652	1.67	34.0		Rheguard	
2660	1.71	33.0		Rheguard	
3072	1.83	47.0		RheGuard	
3314	1.72	46.0		Rheguard	
3465	1.77	53.0		Rheguard	
3636	1.80	58.0		Rheguard	
3817	1.80	43.0		RheGuard	
3817	1.82	60.0		Rheguard	
3842	1.78	35.0		RheGuard	
3907	1.80	40.0		RheGuard	
3958	1.80	44.0		RheGuard	
3958	1.82	49.0		RheGuard	
4077	1.83	44.0		RheGuard	
4110	1.84	45.0		RheGuard	
4140	1.96	68.0		RheGuard	
4140	1.91	58.0		RheGuard	
4162	1.86	46.0		RheGuard	
4162	1.96	59.0		RheGuard	



4165	1.91	55.0		RheGuard	
4170	1.96	55.0		RheGuard	
4422	1.96	50.0		RheGuard	
4422	1.97	51.0		RheGuard	
4530	1.96	53.0		RheGuard	
4536	1.83	46.0		RheGuard	
4536	1.98	53.0		RheGuard	