

General information

Wellbore name	25/8-21 S
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Discovery	25/8-19 S (Iving)
Well name	25/8-21
Seismic location	PGS20M05VIK. IL 36361. XL 132580
Production licence	820 S
Drilling operator	MOL Norge AS
Drill permit	1857-L
Drilling facility	TRANSOCEAN BARENTS
Drilling days	39
Entered date	13.05.2021
Completed date	20.06.2021
Plugged and abondon date	20.06.2021
Release date	20.06.2023
Publication date	12.09.2023
Purpose - planned	APPRAISAL
Reentry	NO
Content	OIL/GAS
Discovery wellbore	NO
1st level with HC, age	LATE TRIASSIC
1st level with HC, formation	SKAGERRAK FM
2nd level with HC, formation	BASEMENT
Kelly bushing elevation [m]	40.0
Water depth [m]	128.0
Total depth (MD) [m RKB]	2703.0
Final vertical depth (TVD) [m RKB]	2627.0
Maximum inclination [°]	20.6
Bottom hole temperature [°C]	105
Oldest penetrated age	PRE-DEVONIAN
Oldest penetrated formation	BASEMENT
Geodetic datum	ED50
NS degrees	59° 19' 44.75" N
EW degrees	2° 20' 25.1" E

NS UTM [m]	6577036.33
EW UTM [m]	462459.85
UTM zone	31
NPDID wellbore	9309

Wellbore history

General

Well 25/8-21 S was drilled to appraise the Skagerrak Formation Iving oil discovery made in well 25/8-19 S and 25/8-19 A. The Iving discovery is located at the northern part of the Utsira High in the North Sea. The primary objective of the appraisal well was to establish the oil-water contact in the Triassic Skagerrak Formation in Segment 1 of the Iving structure. The well was planned to penetrate 50 m into pre-Permian basement.

Operations and results

Appraisal well 25/8-21 S was spudded with the semi-submersible installation Transocean Barents on 13 May 2021 and drilled to TD at 2703 m (2627 m TVD) m in Basement rock. The well is vertical down to 1000 m, building to a ca 19 sail angle from ca 1450 m to TD. Operations proceeded without significant problems. The well was drilled with seawater and hi-vis pills down to 1040 m and with Innovert oil-based mud from 1040 m to TD.

Top Skagerrak Formation/BCU was penetrated at 2390.5 m. The middle Skagerrak Formation contained gas over oil in sandstones of poor to good reservoir quality. The gas/oil and oil/water contacts were derived from pressure gradients to be at 2511.5 m (2445.5 m TVD) and 2534.3 m (2467.4 m TVD), respectively. Pressure data indicates communication in the Skagerrak reservoir between the discovery (25/8-19 S & A) and the appraisal well.

Oil was also encountered in the lower part of the Skagerrak Formation with an oil sample at 2633 m (2561 m TVD), and a separate oil column of about 50 metres was encountered in basement rock. The reservoir properties in the Lower Skagerrak and in the Basement was poor and hydrocarbon contacts were not established. Oil shows, mostly discontinuous, were recorded from 2522 m and downwards to 2641 m, the strongest were in the upper part down to 2585 m.

Two cores were cut in succession from 2483 to 2593 m in the Skagerrak Formation. Core recoveries were 99.64% and 100% respectively for core 1 and 2. The core-log depth shift is -0.7 m for Core 1 and -1.2 m for core 2. RDT fluid samples were taken at 2507.32 m (gas), 2524.91 m (oil), 2543.94 m (water), 2559.75 m (water), and 2633.24 m (oil).

The well was permanently abandoned on 20 June 2021 as an oil and gas appraisal well.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

Cutting sample, top depth [m]	Cutting samples, bottom depth [m]
1060.00	2703.00

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	2483.0	2537.8	[m]
2	2538.0	2593.0	[m]

Total core sample length [m]	109.8
Cores available for sampling?	YES

Lithostratigraphy

Top depth [mMD RKB]	Lithostrat. unit
168	NORDLAND GP
168	UNDIFFERENTIATED
500	UTSIRA FM
708	HORDALAND GP
708	SKADE FM
1021	GRID FM
1065	UNDIFFERENTIATED
1853	NO FORMAL NAME
1870	ROGALAND GP
1870	BALDER FM
1953	SELE FM
2034	LISTA FM
2144	VÅLE FM
2161	TY FM
2286	SHETLAND GP
2286	EKOFISK FM
2310	STATFJORD GP
2391	HEGRE GP
2391	UNDIFFERENTIATED
2391	SKAGERRAK FM
2633	BASEMENT

Logs

Log type	Log top depth [m]	Log bottom depth [m]
CSNG GEM XMR	2240	2703
HRSCT	2010	2441
LWD - GR RES DIR PWD	233	1040
LWD - GR RES DIR PWD DEN NEU CAL	2441	2703
LWD - GR RES DIR PWD DN NE SO CA	2010	2441
LWD - GR RES DIR SON PWD	167	1040
LWD - GR RES DIR SON PWD	1040	2010
RDT DPS	2010	2441
RDT DPS EPS SPS	2507	2674
VSP	1735	2635
XSI HFB16 CAST	2368	2703

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
INTERM.	30	233.2	36	233.2	0.00	
INTERM.	20	1032.8	26	1040.0	1.50	FIT
INTERM.	13 5/8	2004.5	16	2010.0	1.59	LOT
LINER	9 5/8	2440.0	12 1/4	2441.0	2.03	FIT
OPEN HOLE		2524.0	8 1/2	2524.0	2.33	FIT
OPEN HOLE		2703.0	8 1/2	2703.0	0.00	FIT

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
168	1.04		36.0	Oil	
168	1.04		36.0	Water	
217	1.03		1.0	Water	
234	1.04		73.0	Water	
350	1.31		11.0	Oil	
568	1.04		36.0	Water	

1040	1.31		6.2	Oil	
1040	1.30		23.0	Water	
1043	1.31		6.7	Oil	
2410	1.22		15.0	Oil	
2441	1.14		17.0	Oil	
2703	1.14		15.0	Oil	