

**General information**

Wellbore name	16/1-31 A
Type	EXPLORATION
Purpose	APPRAISAL
Status	P&A
Press release	link to press release
Factmaps in new window	link to map
Main area	NORTH SEA
Field	EDVARD GRIEG
Discovery	16/1-8 Edvard Grieg
Well name	16/1-31
Seismic location	LN09M02 Inline36234 xline1284283
Production licence	338
Drilling operator	Lundin Norway AS
Drill permit	1766-L
Drilling facility	LEIV EIRIKSSON
Drilling days	43
Entered date	11.05.2019
Completed date	22.06.2019
Plugged and abandon date	22.06.2019
Release date	22.06.2021
Publication date	10.11.2021
Purpose - planned	WILDCAT
Reentry	NO
Content	OIL
Discovery wellbore	NO
1st level with HC, formation	BASEMENT
Kelly bushing elevation [m]	25.0
Water depth [m]	111.0
Total depth (MD) [m RKB]	2650.0
Final vertical depth (TVD) [m RKB]	2002.6
Maximum inclination [°]	64.9
Oldest penetrated age	INDETERMINATE
Oldest penetrated formation	BASEMENT
Geodetic datum	ED50
NS degrees	58° 51' 47.5" N
EW degrees	2° 18' 12.35" E
NS UTM [m]	6525178.00
EW UTM [m]	459820.31



UTM zone	31
NPDID wellbore	8758

Wellbore history

General

Well 16/1-31 A was drilled in the northern margin of the Edvard Grieg Field on the Utsira High in the North Sea. The primary objective was to appraise the reservoir quality, fluid properties, hydrocarbon potential and productivity of potential reservoir rocks on the eastward continuation of the Edvard Grieg basement high.

Operations and results

Appraisal well 16/1-31 A was spudded with the semi-submersible installation Leiv Eiriksson on 11 May 2019 and drilled to TD at 2650 m (2002.6 m TVD) m in granitic basement rocks. Operations proceeded without significant problems. The well was drilled with seawater and hi-vis pills down to 1404 m, with Innovert oil-based mud from 1404 m to 2267 m, and with Baradril N water-based mud from 2267 m to TD.

The Tellus East appraisal well encountered a gross oil column of 60 metres in porous, weathered basement reservoir. Top reservoir was encountered at 2350.1 m (1874.8 m TVD). The oil/water contact is estimated to be between 2492 and 2497 m (1935 and 1937 m TVD). No oil shows were observed above top reservoir. Partly continuous shows with petroleum odour, stain, cut, and direct fluorescence were seen in basement down to 2390 m. Below this depth sporadic shows were observed with direct and cut fluorescence, but without odour or stain down to 2460 m.

Three cores were cut in succession from 2357 to 2369.05 m with 85% total recovery. MDT pressure data indicated ca 4 bars depletion relative to the 16/1-13 Edvard Grieg well. MDT fluid samples were taken at 2351.51 m (oil), 2362.01 m (water), 2389.5 m (oil), 2410.4 m (oil), 2452.71 m (oil), 2492.70 m (oil and water), 2497.68 m (water), 2513.91 m (water), and 2538.0 m (water). The oil composition indicated same oil as in the Edvard Grieg oil population.

The well was permanently abandoned on 22 June 2019 as an oil 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]
630.00	2649.00

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	2357.0	2363.2	[m]
2	2363.2	2364.0	[m]
3	2365.8	2369.1	[m]

Total core sample length [m]	10.3
Cores available for sampling?	YES

Logs

Log type	Log top depth [m]	Log bottom depth [m]
	0	0

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.	13 3/8	1404.0	17 1/2	1397.0	0.00	
LINER	9 5/8	2267.0	12 1/4	2266.0	0.00	
OPEN HOLE		2650.0	8 1/2	2650.0	0.00	

Drilling mud

Depth MD [m]	Mud weight [g/cm3]	Visc. [mPa.s]	Yield point [Pa]	Mud type	Date measured
574	1.30	16.0		HP WBM	
1064	1.30	23.0		HP WBM	
1269	1.30	22.0		HP WBM	
1405	1.49	30.0		Yellow INNOVERT	
1936	1.50	32.0		Yellow INNOVERT	
2271	1.50	33.0		Yellow INNOVERT	
2271	1.12	13.0		BARADRIL-N	
2410	1.12	12.0		BARADRIL-N	
2650	1.12	13.0		BARADRIL-N	
2650	1.30	11.0		BARADRIL-N	