## General information

| | |
|---|---|
| Wellbore name | 7120/1-5 |
| Type | EXPLORATION |
| Purpose | APPRAISAL |
| Status | P&A |
| Press release | link to press release |
| Factmaps in new window | link to map |
| Main area | BARENTS SEA |
| Discovery | 7120/1-3 (Gohta) |
| Well name | 7120/1-5 |
| Seismic location | LN12M03. In-line 29784 cross-line 23622 |
| Production licence | 492 |
| Drilling operator | Lundin Norway AS |
| Drill permit | 1644-L |
| Drilling facility | LEIV EIRIKSSON |
| Drilling days | 66 |
| Entered date | 02.03.2017 |
| Completed date | 07.05.2017 |
| Release date | 07.05.2019 |
| Publication date | 07.05.2019 |
| Purpose - planned | APPRAISAL |
| Reentry | NO |
| Content | SHOWS |
| Discovery wellbore | NO |
| Kelly bushing elevation [m] | 25.0 |
| Water depth [m] | 344.0 |
| Total depth (MD) [m RKB] | 2527.0 |
| Final vertical depth (TVD) [m RKB] | 2527.0 |
| Maximum inclination [°] | 2 |
| Bottom hole temperature [°C] | 97 |
| Oldest penetrated age | PERMIAN |
| Oldest penetrated formation | RØYE FM |
| Geodetic datum | ED50 |
| NS degrees | 71° 56' 16'' N |
| EW degrees | 20° 14' 58.18'' E |
| NS UTM [m] | 7982371.09 |
| EW UTM [m] | 474027.54 |
| UTM zone | 34 |
| NPDID wellbore | 8070 |

## Wellbore history

### General

Well 7120/1-5 was drilled as an appraisal well on the Gotha discovery in the southern part of the Loppa High in the Barents Sea. The objectives were to test the distribution and quality of the Permo-Triassic conglomerate, test the quality of the Permian reservoir, to reduce the uncertainty of the time-depth conversion and to provide information relating to additional prospectivity in the southern Loppa High area. Planned TD was 2920 m.

### Operations and results

Appraisal well 7120/1-5 was spudded with the semi-submersible installation Leiv Eiriksson on 2 March 2017 and drilled to TD at 2527 m in the Late Permian Røye Formation. After coring in the 8 ½" section the rate of penetration was very slow, and since the well proved only shows and no moveable hydrocarbons at Gotha reservoir level TD was set earlier than planned. The well was drilled with seawater and hi-vis pills down to 662 m and with Performadril water-based mud from 662 m to TD.

A 285 metres gross sequence of Permian age spiculitic carbonates with poor reservoir quality was penetrated from 2241.5 m to TD. The Permo-Triassic conglomerate was absent. No pressure gradients could be established due to poor reservoir quality and/or wellbore damage resulting in seal failure. Minor oil shows were observed in siltstones and sandstones of the upper Snadd Formation in the interval from 885 to 955 m. These were typically described as having no odour, no stain, weak yellow direct fluorescence, slow diffuse weak bluish white cut fluorescence, weak cream fluorescent residue, no visible residue. The Røye Formation spiculitic carbonates had intermittent oil shows all through, generally described as no to weak hydrocarbon odour, no to rarely spotty stain, dull greenish yellow to dull yellow direct fluorescence, slow streaming to blooming dull blue white cut fluorescence, dull bluish white to greenish yellow fluorescent residue. No visible residue.

A total of 156 m of conventional core were cut in 7 cores in the Permian interval from 2243.6 to 2399.77 m with generally excellent recovery. Core-log shifts, in meters, for the seven cores were (in succession from core 1 to core section): -0.64, -0.08, -0.08, -0.29, -0.37, -0.81, -0.81. No fluid sample was taken.

The well was permanently abandoned on 7 May 2017 as a dry well with shows.

### Testing

No drill stem test was performed.

## Cuttings at the Norwegian Offshore Directorate

| Cutting sample, top depth [m] | Cutting samples, bottom depth [m] |
|---|---|
| 670.00 | 2529.00 |

| | |
|---|---|
| Cuttings available for sampling? | YES |

## Cores at the Norwegian Offshore Directorate

| Core sample number | Core sample - top depth | Core sample - bottom depth | Core sample depth - uom |
|---|---|---|---|
| 1 | 2243.6 | 2244.1 | [m ] |
| 2 | 2244.6 | 2271.6 | [m ] |
| 3 | 2271.6 | 2299.2 | [m ] |
| 4 | 2299.2 | 2318.2 | [m ] |
| 5 | 2318.2 | 2345.1 | [m ] |
| 6 | 2345.2 | 2372.5 | [m ] |
| 7 | 2372.5 | 2395.8 | [m ] |

| | |
|---|---|
| Total core sample length [m] | 151.6 |
| Cores available for sampling? | YES |

## Lithostratigraphy

| Top depth [mMD RKB] | Lithostrat. unit |
|---|---|
| 369 | NORDLAND GP |
| 369 | NAUST FM |
| 453 | SOTBAKKEN GP |
| 453 | TORSK FM |
| 686 | KAPP TOSCANA GP |
| 686 | SNADD FM |
| 2240 | UNDEFINED GP |
| 2240 | UNDIFFERENTIATED |
| 2242 | TEMPELFJORDEN GP |
| 2242 | RØYE FM |

## Logs

| Log type | Log top depth [m] | Log bottom depth [m] |
|---|---|---|
| FMI PPC MSIP GR JAR | 368 | 2505 |
| MDT GR JAR | 2258 | 2349 |
| MSCT GR | 2221 | 2442 |
| MSCT GR | 2240 | 2523 |
| MWD - CCN ORD OTK SDTK ZTK | 1047 | 2218 |
| MWD - CCN ORD OTK SDTK ZTK ST | 2195 | 2527 |
| MWD - OTK | 369 | 662 |

| | | |
|---|---|---|
| MWD - OTK SDTK | 609 | 1117 |
| MWD - OTK SDTK ZTK | 2114 | 2243 |
| UBI HRLA ADT PEX GR JAR | 2211 | 2526 |
| XPT LTS CMR GR JAR | 2211 | 2511 |
| ZOVSP | 384 | 2518 |

**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 | 435.5 | 36 | 437.5 | 0.00 | |
| SURF.COND. | 20 | 655.5 | 26 | 662.0 | 1.36 | LOT |
| PILOT HOLE | | 662.0 | 9 7/8 | 662.0 | 0.00 | |
| INTERM. | 13 3/8 | 1115.1 | 17 1/2 | 0.0 | 1.39 | LOT |
| INTERM. | 9 5/8 | 2210.5 | 12 1/4 | 2218.0 | 1.50 | LOT |
| OPEN HOLE | | 2527.0 | 8 1/2 | 2527.0 | 0.00 | |

**Drilling mud**

| Depth MD [m] | Mud weight [g/cm3] | Visc. [mPa.s] | Yield point [Pa] | Mud type | Date measured |
|---|---|---|---|---|---|
| 421 | 1.05 | 50.0 | | Bentonite Sweeps | |
| 421 | 1.50 | 45.0 | | Displacement mud | |
| 506 | 1.23 | 15.0 | | Performadril | |
| 580 | 1.05 | 50.0 | | Bentonite Sweeps | |
| 580 | 1.50 | 35.0 | | Displacement mud | |
| 600 | 1.23 | 16.0 | | Performadril | |
| 662 | 1.03 | 50.0 | | SWEEPS | |
| 662 | 1.20 | 12.0 | | PERFORMADRIL | |
| 662 | 1.39 | 20.0 | | Displacement mud | |
| 673 | 1.20 | 15.0 | | PERFORMADRIL | |
| 883 | 1.21 | 18.0 | | PERFORMADRIL | |
| 1086 | 1.22 | 21.0 | | PERFORMADRIL | |
| 1448 | 1.23 | 21.0 | | Performadril | |
| 1585 | 1.22 | 20.0 | | Performadril | |
| 1962 | 1.21 | 21.0 | | Performadril | |
| 2105 | 1.22 | 22.0 | | Performadril | |
| 2110 | 1.21 | 20.0 | | Performadril | |
| 2158 | 1.20 | 20.0 | | Performadril | |

| | | | | | |
|---|---|---|---|---|---|
| 2160 | 1.15 | 15.0 | | Performadril | |
| 2217 | 1.14 | 20.0 | | Performadril | |
| 2218 | 1.21 | 19.0 | | Performadril | |
| 2223 | 1.14 | 20.0 | | Performadril | |
| 2270 | 1.15 | 18.0 | | Performadril | |
| 2316 | 1.15 | 17.0 | | Performadril | |
| 2527 | 1.15 | 15.0 | | Performadril | |