## General information

| | |
|---|---|
| Wellbore name | 35/11-21 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 |
| Discovery | 35/12-2 (Grosbeak) |
| Well name | 35/11-21 |
| Seismic location | Inline: 8175. XLine: 28062 |
| Production licence | 248 I |
| Drilling operator | Wellesley Petroleum AS |
| Drill permit | 1721-L |
| Drilling facility | TRANSOCEAN ARCTIC |
| Drilling days | 42 |
| Entered date | 06.09.2018 |
| Completed date | 17.10.2018 |
| Plugged and abondon date | 17.10.2018 |
| Release date | 17.10.2020 |
| Publication date | 17.10.2020 |
| Purpose - planned | APPRAISAL |
| Reentry | NO |
| Content | OIL/GAS |
| Discovery wellbore | NO |
| 1st level with HC, age | MIDDLE JURASSIC |
| 1st level with HC, formation | NESS FM |
| 2nd level with HC, age | MIDDLE JURASSIC |
| 2nd level with HC, formation | FENSFJORD FM |
| 3rd level with HC, age | LATE JURASSIC |
| 3rd level with HC, formation | SOGNEFJORD FM |
| Kelly bushing elevation [m] | 24.0 |
| Water depth [m] | 360.0 |
| Total depth (MD) [m RKB] | 2931.0 |
| Final vertical depth (TVD) [m RKB] | 2638.0 |
| Maximum inclination [°] | 58.65 |
| Oldest penetrated age | EARLY JURASSIC |
| Oldest penetrated formation | COOK FM |
| Geodetic datum | ED50 |

| | |
|---|---|
| NS degrees | 61° 9' 28.17'' N |
| EW degrees | 3° 38' 56.48'' E |
| NS UTM [m] | 6780701.21 |
| EW UTM [m] | 534929.97 |
| UTM zone | 31 |
| NPDID wellbore | 8549 |

## Wellbore history

### General

Well 35/11-21 A was drilled to appraise the 35/12-2 Grosbeak discovery on the Ryggsteinen Ridge in the North Sea. The objective was to prove extension of the Fensfjord Formation discovery, a northern extension of Ness Formation sand, and to establish fluid contacts in Brent Group.

### Operations and results

Appraisal well 35/11-21 A was kicked off at 1010 m in primary well 35/11-21 S on 6 September 2018. It was drilled with the semi-submersible installation Transocean Arctic to TD at 2931 m in the Early Jurassic Cook Formation. Operations proceeded without significant problems. The well was drilled with Innovert NS oil-based mud from kick-off to TD.

The Sognefjord Formation was encountered at 2281.0 m (1964.0 m TVD). It contained a 45 m gas column of which 20 m was effective reservoir sandstone with very good reservoir properties. The Fensfjord Formation was encountered at 2389.0 m (2071.8 m TVD). Fensfjord contained an oil column of about 8 m, of which 2 m was effective reservoir in sandstone with moderate to good reservoir properties. Top Brent Group, Ness Formation was encountered at 2724.9 m (2407.6 m TVD). Ness contained a total oil column of 50 m, of which 15 m was effective reservoir sandstone with good reservoir properties. The Brent Group oil-water contact was not found. Weak shows were described in silty sandstones in the Heather Formation above the Sognefjord Formation and above the Fensfjord Formation, otherwise there were no oil shows observed outside of the hydrocarbon-bearing reservoir sections.

Five cores were cut with 100% recovery. Three were cut from 2275 to 2437.32 m in the Viking Group, and two were cut from 2730.5 to 2839.26 m. MDT fluid samples were taken at 2297.01 m (gas), 2317.02 m (gas), 2389.5 m (gas), 2393.94 m (oil), 2415.99 m (water), 2736.00 m (oil), 2763.5 m (oil), 2792.99 m (water), and 2820 m (water).

The well was permanently abandoned on 17 October 2018 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] |
|---|---|
| 1010.00 | 2931.00 |

| | |
|---|---|
| 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 | 2275.0 | 2327.6 | [m ] |
| 2 | 2327.6 | 2382.6 | [m ] |
| 3 | 2382.6 | 2437.3 | [m ] |
| 4 | 2730.5 | 2784.7 | [m ] |
| 5 | 2785.0 | 2839.3 | [m ] |

| | |
|---|---|
| Total core sample length [m] | 270.8 |
| Cores available for sampling? | YES |

### Lithostratigraphy

| Top depth [mMD RKB] | Lithostrat. unit |
|---|---|
| 384 | NORDLAND GP |
| 384 | NO FORMAL NAME |
| 579 | UTSIRA FM |
| 720 | HORDALAND GP |
| 720 | NO FORMAL NAME |
| 1145 | NO FORMAL NAME |
| 1399 | ROGALAND GP |
| 1399 | BALDER FM |
| 1513 | SELE FM |
| 1745 | LISTA FM |
| 1769 | NO FORMAL NAME |
| 1821 | LISTA FM |
| 1843 | NO FORMAL NAME |
| 1849 | LISTA FM |
| 1904 | NO FORMAL NAME |
| 1925 | LISTA FM |
| 2019 | VÅLE FM |
| 2055 | SHETLAND GP |
| 2055 | JORSALFARE FM |
| 2127 | KYRRE FM |

| | |
|---|---|
| 2264 | VIKING GP |
| 2264 | HEATHER FM |
| 2281 | SOGNEFJORD FM |
| 2320 | HEATHER FM |
| 2389 | FENSFJORD FM |
| 2467 | HEATHER FM |
| 2519 | INTRA HEATHER FM SS |
| 2543 | HEATHER FM |
| 2725 | BRENT GP |
| 2725 | NESS FM |
| 2792 | ETIVE FM |
| 2809 | RANNOCH FM |
| 2847 | OSEBERG FM |
| 2874 | DUNLIN GP |
| 2874 | DRAKE FM |
| 2897 | COOK FM |

**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 | 449.5 | 36 | 449.5 | 0.00 | |
| INTERM. | 13 3/8 | 990.0 | 17 1/2 | 996.0 | 1.46 | FIT |
| INTERM. | 9 7/8 | 2128.0 | 12 1/4 | 2134.0 | 1.51 | FIT |
| OPEN HOLE | | 2931.0 | 8 1/2 | 2931.0 | 0.00 | |

**Drilling mud**

| Depth MD [m] | Mud weight [g/cm3] | Visc. [mPa.s] | Yield point [Pa] | Mud type | Date measured |
|---|---|---|---|---|---|
| 958 | 1.34 | 18.0 | | INNOVERT OBM | |
| 1450 | 1.34 | 22.0 | | INNOVERT OBM | |
| 2134 | 1.34 | 21.0 | | INNOVERT OBM | |
| 2202 | 1.24 | 16.0 | | INNOVERT OBM | |
| 2326 | 1.25 | 16.0 | | INNOVERT OBM | |
| 2467 | 1.24 | 16.0 | | INNOVERT OBM | |
| 2681 | 1.34 | 23.0 | | Innovert OBM | |
| 2681 | 1.24 | 18.0 | | Innovert OBM | |
| 2931 | 1.24 | 15.0 | | INNOVERT OBM | |