## General information

| | |
|---|---|
| Wellbore name | 34/7-25 S |
| Type | EXPLORATION |
| Purpose | WILDCAT |
| Status | P&A |
| Factmaps in new window | link to map |
| Main area | NORTH SEA |
| Field | TORDIS |
| Discovery | 34/7-25 S |
| Well name | 34/7-25 |
| Seismic location | CTM 94-INLINE 1052 & CROSSLINE 1389 |
| Production licence | 089 |
| Drilling operator | Saga Petroleum ASA |
| Drill permit | 852-L |
| Drilling facility | DEEPSEA BERGEN |
| Drilling days | 46 |
| Entered date | 31.07.1996 |
| Completed date | 14.09.1996 |
| Release date | 14.09.1998 |
| Publication date | 28.02.2008 |
| Purpose - planned | WILDCAT |
| Reentry | NO |
| Content | OIL |
| Discovery wellbore | YES |
| 1st level with HC, age | LATE JURASSIC |
| 1st level with HC, formation | INTRA DRAUPNE FM SS |
| Kelly bushing elevation [m] | 23.0 |
| Water depth [m] | 187.0 |
| Total depth (MD) [m RKB] | 3235.0 |
| Final vertical depth (TVD) [m RKB] | 2596.0 |
| Maximum inclination [°] | 52.1 |
| Bottom hole temperature [°C] | 94 |
| Oldest penetrated age | EARLY JURASSIC |
| Oldest penetrated formation | DRAKE FM |
| Geodetic datum | ED50 |
| NS degrees | 61° 15' 9.24'' N |
| EW degrees | 2° 8' 41.14'' E |
| NS UTM [m] | 6791381.74 |
| EW UTM [m] | 454110.02 |

| | |
|---|---|
| UTM zone | 31 |
| NPDID wellbore | 2863 |

## Wellbore history

**General**

Well 34/7-25 S is located near the southern extension of the Tordis field and North of the Gullfaks field in the Tampen area in the Northern North Sea. The main objective of the well was to test the presence of sand and hydrocarbon in a Late Jurassic prospect (the Southern Triangle Upper Jurassic (STUJ) prospect). The STUJ prospect was defined between Base Cretaceous Unconformity (BCU) and a Base Draupne reflector. Secondary objectives were to obtain pressure measurements in the Brent Group, test presence of sand and hydrocarbons in the Cretaceous and in the Paleocene and prove migration route.

**Operations and results**

Well 34/7-25 S was spudded with the semi-submersible installation Deepsea Bergen on 31 July 1996 and drilled to TD at 3235 m (2596 m TVD) in the Early Jurassic Drake Formation. No significant problems occurred during operations. The well was drilled with spud mud down to 1271 m and with oil based mud (Anco Vert) from 1271 m to TD. No shallow gas was encountered.

Well 34/7-25 S penetrated several sands in the interval from 1250 m to 1700 m within the Hordaland Group. Weak shows were described in the interval 2275 to 2295 m in the Lista Formation. The shows had no odour and no stain in the description, due to oil based mud. The Cretaceous section had only traces of thin sandstone beds in the Shetland Group. The well successfully encountered 27.5 m TVD oil bearing sandstones belonging to the Draupne Formation, with top at 2791 m (2193 m TVD). No OWC was proven. The uppermost 2 m was cemented and had the same log response as the limestone of the Cromer Knoll Group. The next 21 m (2195 - 2216 TVD) showed excellent reservoir properties with porosity around 30% and permeability between 6 and 7 Darcy. This upper massive sandstone was bioturbated and showed a coarsening up character. The lower part of the Draupne Formation comprised sandstones interbedded with more silty parts. This part of the formation had a very high gamma response due to a high content of uranium isotopes. The sand beds in this section had oil shows but petrophysical interpretation concluded that it had no HC saturation. The top Heather Formation was penetrated at 2822 m (2220.5 m TVD). Between the sandy Draupne Formation and the shaly Heather Formation there was an unconformity of Callovian - Volgian age. Pressure measurements in the Late Jurassic showed communication with the Tordis field.

Two cores were cut at 2805 to 2860.2 m within the Viking Group with close to 100 % overall recovery. No wire line fluid samples were taken since the main zone was going to be tested.

The well was permanently abandoned on 14 September 1996 as an oil discovery.

**Testing**

The interval 2791 - 2816 m (2193.0 - 2214.6 m TVD) in the Intra Draupne Formation sand was perforated and tested. After the clean-up flow and build-up the well was opened for the 48 hour main flow period. The final flow rate was 1045 Sm3 oil and 102200 Sm3 gas/day through a 15.9 mm choke at a wellhead pressure of 124 bar and a GOR of 94 Sm3/m3 at separator conditions. The oil density was 0.844 g/cm3, and the gas gravity was 0.72 (air = 1). The maximum bottom hole temperature in the test was measured to 82 deg C.

## Cuttings at the Norwegian Offshore Directorate

| Cutting sample, top depth [m] | Cutting samples, bottom depth [m] |
|---|---|
| 430.00 | 3235.00 |

| 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 | 2805.0 | 2831.5 | [m ] |
| 2 | 2832.0 | 2860.2 | [m ] |

| Total core sample length [m] | 54.7 |
|---|---|
| Cores available for sampling? | YES |

**Core photos**


2805-2810m


2810-2815m


2815-2810m


2820-2825m


2825-2830m


2830-2831m


2832-2837m


2837-2842m


2842-2847m


2847-2852m


2852-2857m


2857-2860m

**Palynological slides at the Norwegian Offshore Directorate**

| Sample depth | Depth unit | Sample type | Laboratory |
|---|---|---|---|
| 1270.0 | [m] | DC | RRI |
| 1310.0 | [m] | DC | RRI |
| 1350.0 | [m] | DC | RRI |
| 1390.0 | [m] | DC | RRI |
| 1430.0 | [m] | DC | RRI |
| 1470.0 | [m] | DC | RRI |
| 1510.0 | [m] | DC | RRI |
| 1550.0 | [m] | DC | RRI |
| 1590.0 | [m] | DC | RRI |
| 1630.0 | [m] | DC | RRI |
| 1670.0 | [m] | DC | RRI |
| 1710.0 | [m] | DC | RRI |
| 1750.0 | [m] | DC | RRI |
| 1790.0 | [m] | DC | RRI |
| 1830.0 | [m] | DC | RRI |
| 1910.0 | [m] | DC | RRI |
| 1950.0 | [m] | DC | RRI |
| 1990.0 | [m] | DC | RRI |
| 2030.0 | [m] | DC | RRI |
| 2070.0 | [m] | DC | RRI |
| 2110.0 | [m] | DC | RRI |
| 2160.0 | [m] | DC | RRI |
| 2190.0 | [m] | DC | RRI |
| 2230.0 | [m] | DC | RRI |
| 2270.0 | [m] | DC | RRI |
| 2310.0 | [m] | DC | RRI |
| 2330.0 | [m] | DC | RRI |
| 2350.0 | [m] | DC | RRI |
| 2370.0 | [m] | DC | RRI |
| 2390.0 | [m] | DC | RRI |
| 2410.0 | [m] | DC | RRI |
| 2430.0 | [m] | DC | RRI |
| 2450.0 | [m] | DC | RRI |
| 2490.0 | [m] | DC | RRI |
| 2510.0 | [m] | DC | RRI |
| 2530.0 | [m] | DC | RRI |
| 2550.0 | [m] | DC | RRI |
| 2570.0 | [m] | DC | RRI |
| 2590.0 | [m] | DC | RRI |

| | | | |
|---|---|---|---|
| 2610.0 | [m] | DC | RRI |
| 2630.0 | [m] | DC | RRI |
| 2650.0 | [m] | DC | RRI |
| 2670.0 | [m] | DC | RRI |
| 2690.0 | [m] | DC | RRI |
| 2710.0 | [m] | DC | RRI |
| 2730.0 | [m] | DC | RRI |
| 2750.0 | [m] | DC | RRI |
| 2770.0 | [m] | DC | RRI |
| 2790.0 | [m] | DC | RRI |
| 2961.0 | [m] | DC | RRI |
| 2970.0 | [m] | DC | RRI |
| 2985.0 | [m] | DC | RRI |
| 2988.0 | [m] | DC | RRI |
| 2997.0 | [m] | DC | RRI |
| 3006.0 | [m] | DC | RRI |
| 3015.0 | [m] | DC | RRI |
| 3024.0 | [m] | DC | RRI |
| 3033.0 | [m] | DC | RRI |
| 3042.0 | [m] | DC | RRI |
| 3051.0 | [m] | DC | RRI |
| 3060.0 | [m] | DC | RRI |
| 3069.0 | [m] | DC | RRI |
| 3078.0 | [m] | DC | RRI |
| 3087.0 | [m] | DC | RRI |
| 3097.0 | [m] | DC | RRI |
| 3105.0 | [m] | DC | RRI |
| 3114.0 | [m] | DC | RRI |
| 3123.0 | [m] | DC | RRI |
| 3132.0 | [m] | DC | RRI |
| 3141.0 | [m] | DC | RRI |
| 3150.0 | [m] | DC | RRI |
| 3159.0 | [m] | DC | RRI |
| 3168.0 | [m] | DC | RRI |
| 3177.0 | [m] | DC | RRI |
| 3186.0 | [m] | DC | RRI |
| 3195.0 | [m] | DC | RRI |
| 3204.0 | [m] | DC | RRI |
| 3222.0 | [m] | DC | RRI |
| 3228.0 | [m] | DC | RRI |

| | | | |
|---|---|---|---|
| 3235.0 | [m] | DC | RRI |

## Lithostratigraphy

| Top depth [mMD RKB] | Lithostrat. unit |
|---|---|
| 210 | NORDLAND GP |
| 966 | UTSIRA FM |
| 1005 | UNDIFFERENTIATED |
| 1076 | HORDALAND GP |
| 1264 | NO FORMAL NAME |
| 1323 | NO FORMAL NAME |
| 1370 | NO FORMAL NAME |
| 1495 | NO FORMAL NAME |
| 1535 | NO FORMAL NAME |
| 1635 | NO FORMAL NAME |
| 1674 | NO FORMAL NAME |
| 1695 | NO FORMAL NAME |
| 2049 | ROGALAND GP |
| 2049 | BALDER FM |
| 2120 | LISTA FM |
| 2331 | SHETLAND GP |
| 2331 | JORSALFARE FM |
| 2634 | KYRRE FM |
| 2775 | CROMER KNOLL GP |
| 2775 | RØDBY FM |
| 2785 | MIME FM |
| 2791 | VIKING GP |
| 2791 | INTRA DRAUPNE FM SS |
| 2822 | HEATHER FM |
| 2920 | BRENT GP |
| 2920 | TARBERT FM |
| 2980 | NESS FM |
| 3086 | ETIVE FM |
| 3101 | RANNOCH FM |
| 3178 | BROOM FM |
| 3183 | DUNLIN GP |
| 3183 | DRAKE FM |

## Geochemical information

| Document name | Document format | Document size [MB] |
|---|---|---|
| 2863_1 | pdf | 0.21 |
| 2863_2 | pdf | 1.45 |
| 2863_3 | pdf | 0.17 |

## Documents - reported by the production licence (period for duty of secrecy expired)

| Document name | Document format | Document size [MB] |
|---|---|---|
| 2863_34_7_25_S_COMPLETION_REPORT_AND_COMPLETION_LOG | pdf | 26.82 |

## Drill stem tests (DST)

| Test number | From depth MD [m] | To depth MD [m] | Choke size [mm] |
|---|---|---|---|
| 1.0 | 2817 | 2791 | 15.9 |

| Test number | Final shut-in pressure [MPa] | Final flow pressure [MPa] | Bottom hole pressure [MPa] | Downhole temperature [°C] |
|---|---|---|---|---|
| 1.0 | | | 30.000 | 82 |

| Test number | Oil [Sm3/day] | Gas [Sm3/day] | Oil density [g/cm3] | Gas grav. rel.air | GOR [m3/m3] |
|---|---|---|---|---|---|
| 1.0 | 1039 | 101920 | 0.840 | 0.730 | 98 |

## Logs

| Log type | Log top depth [m] | Log bottom depth [m] |
|---|---|---|
| DIPL DAC ZDL GR TTRM | 350 | 1235 |
| DIPL MAC DSL TTRM | 2232 | 3235 |
| FMT QDYNE GR TTRM | 2232 | 3235 |
| HEXDIP GR TTRM | 2232 | 3235 |
| MRIL ZDL CNC GR TTRM | 2232 | 3235 |
| MWD DPR - DIR GR RES | 258 | 3235 |
| PVFT QDYNE GR TTRM | 2232 | 3235 |

| | | |
|---|---|---|
| SWC | 2805 | 2832 |
| SWC | 2832 | 2860 |
| VELOCITY | 1265 | 3155 |

### 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 | 258.0 | 36 | 260.0 | 0.00 | LOT |
| SURF.COND. | 18 5/8 | 393.0 | 26 | 394.0 | 1.48 | LOT |
| INTERM. | 13 3/8 | 1253.0 | 17 1/2 | 1255.0 | 1.70 | LOT |
| INTERM. | 9 5/8 | 2232.0 | 12 1/4 | 2233.0 | 0.00 | LOT |
| LINER | 7 | 3235.0 | 8 1/2 | 3235.0 | 0.00 | LOT |

### Drilling mud

| Depth MD [m] | Mud weight [g/cm3] | Visc. [mPa.s] | Yield point [Pa] | Mud type | Date measured |
|---|---|---|---|---|---|
| 363 | 1.25 | | | SPUD MUD | |
| 1088 | 1.22 | 20.0 | | KCL MUD | |
| 1380 | 1.39 | 21.0 | | PSEUDO OIL BASE | |
| 1380 | 1.25 | 24.0 | | KCL MUD | |
| 1384 | 1.39 | 20.0 | | PSEUDO OIL BASE | |
| 4103 | 1.48 | 33.0 | | PSEUDO OIL BASE | |
| 4193 | 1.50 | 33.0 | | PSEUDO OIL BASE | |
| 4690 | 1.54 | 36.0 | | PSEUDO OIL BASE | |

### Pressure plots

The pore pressure data is sourced from well logs if no other source is specified. In some wells where pore pressure logs do not exist, information from Drill stem tests and kicks have been used. The data has been reported to the NPD, and further processed and quality controlled by IHS Markit.

| Document name | Document format | Document size [MB] |
|---|---|---|
| 2863_Formation_pressure_(Formasjonstrykk) | pdf | 0.22 |