## General information

| | |
|---|---|
| Wellbore name | 2/5-13 |
| Type | EXPLORATION |
| Purpose | WILDCAT |
| Status | P&A |
| Press release | link to press release |
| Factmaps in new window | link to map |
| Main area | NORTH SEA |
| Well name | 2/5-13 |
| Seismic location | 3D survey VGCNS-05-inline6648 & crossline 18857 |
| Production licence | 296 |
| Drilling operator | StatoilHydro Petroleum AS |
| Drill permit | 1203-L |
| Drilling facility | WEST EPSILON |
| Drilling days | 119 |
| Entered date | 25.09.2008 |
| Completed date | 21.01.2009 |
| Release date | 21.01.2011 |
| Publication date | 03.01.2011 |
| Purpose - planned | WILDCAT |
| Reentry | NO |
| Content | DRY |
| Discovery wellbore | NO |
| Kelly bushing elevation [m] | 45.5 |
| Water depth [m] | 65.0 |
| Total depth (MD) [m RKB] | 4675.0 |
| Final vertical depth (TVD) [m RKB] | 4675.0 |
| Maximum inclination [°] | 0.8 |
| Bottom hole temperature [°C] | 169 |
| Oldest penetrated age | LATE TRIASSIC |
| Oldest penetrated formation | SKAGERRAK FM |
| Geodetic datum | ED50 |
| NS degrees | 56° 42' 3.6'' N |
| EW degrees | 3° 23' 27'' E |
| NS UTM [m] | 6284311.84 |
| EW UTM [m] | 523933.48 |
| UTM zone | 31 |
| NPDID wellbore | 5948 |

## Wellbore history

**General**

Well 2/5-13 was drilled on the Steinbit Terrace in the North Sea. The objective of the well was to test the hydrocarbon potential in the Verona prospect, with the Ula Formation as the primary target, and the Bryne/Skagerrak fm's sandstones as the secondary target.

**Operations and results**

Wildcat well 2/5-13 was spudded with the jack-up installation West Epsilon on 25 September 2008 and drilled to TD at 4675 in Late Triassic, Carnian age sediments of the Skagerrak Formation. The well started with a 36" hole down to 224 m followed by a 9 7/8" pilot hole down to 953 m. No shallow gas was observed by the ROV or by the MWD in the pilot hole. The rig had 21 days down time after completion of the well due to bad weather. Also, problems with obtaining good pressure test on the 9 7/8" liner hanger at 4211 m caused 77 hours down time. The well was drilled with spud mud down to 953 m and with XP-07 oil based mud from 953 m to TD.

The well penetrated rocks of Quaternary, Tertiary, Cretaceous, Jurassic, and Triassic age. No Ula Formation reservoir sandstone was present in the well. This was confirmed by biostratigraphic analysis. The secondary objective sandstones of the Bryne and Skagerrak Formations were however penetrated. Top Bryne Formation was found at 4525 m, 37 m shallower than prognosis, whereas Top Skagerrak Formation was found at 4567 m, 15 m deeper than prognosis. No hydrocarbons were proven in the well. No oil shows were observed in the cuttings. A pore pressure of 2.03 g/cm³ was measured at 4531 m, close to the top of the reservoir, with the LWD formation pressure tool.

No cores were cut and no wire line fluid samples were taken.

The well was completed on 21 January 2009 as a dry well. The rig waited on weather for 21 days, up to 14 February, before it could move off location.

**Testing**

No drill stem test was performed.

## Cuttings at the Norwegian Offshore Directorate

| Cutting sample, top depth [m] | Cutting samples, bottom depth [m] |
|---|---|
| 230.00 | 4675.00 |

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

## Palynological slides at the Norwegian Offshore Directorate

| Sample depth | Depth unit | Sample type | Laboratory |
|---|---|---|---|
| 630.0 | [m] | DC | FUGRO |
| 670.0 | [m] | DC | FUGRO |

| | | | |
|---|---|---|---|
| 710.0 | [m] | DC | FUGRO |
| 750.0 | [m] | DC | FUGRO |
| 790.0 | [m] | DC | FUGRO |
| 830.0 | [m] | DC | FUGRO |
| 870.0 | [m] | DC | FUGRO |
| 910.0 | [m] | DC | FUGRO |
| 950.0 | [m] | DC | FUGRO |
| 990.0 | [m] | DC | FUGRO |
| 1030.0 | [m] | DC | FUGRO |
| 1070.0 | [m] | DC | FUGRO |
| 1110.0 | [m] | DC | FUGRO |
| 1150.0 | [m] | DC | FUGRO |
| 1190.0 | [m] | DC | FUGRO |
| 1230.0 | [m] | DC | FUGRO |
| 1270.0 | [m] | DC | FUGRO |
| 1310.0 | [m] | DC | FUGRO |
| 1350.0 | [m] | DC | FUGRO |
| 1390.0 | [m] | DC | FUGRO |
| 1430.0 | [m] | DC | FUGRO |
| 1470.0 | [m] | DC | FUGRO |
| 1510.0 | [m] | DC | FUGRO |
| 1550.0 | [m] | DC | FUGRO |
| 1590.0 | [m] | DC | FUGRO |
| 1630.0 | [m] | DC | FUGRO |
| 1670.0 | [m] | DC | FUGRO |
| 1710.0 | [m] | DC | FUGRO |
| 1750.0 | [m] | DC | FUGRO |
| 1790.0 | [m] | DC | FUGRO |
| 1830.0 | [m] | DC | FUGRO |
| 1870.0 | [m] | DC | FUGRO |
| 1910.0 | [m] | DC | FUGRO |
| 1950.0 | [m] | DC | FUGRO |
| 1990.0 | [m] | DC | FUGRO |
| 2030.0 | [m] | DC | FUGRO |
| 2070.0 | [m] | DC | FUGRO |
| 2110.0 | [m] | DC | FUGRO |
| 2150.0 | [m] | DC | FUGRO |
| 2190.0 | [m] | DC | FUGRO |
| 2230.0 | [m] | DC | FUGRO |
| 2270.0 | [m] | DC | FUGRO |

| | | | |
|---|---|---|---|
| 2310.0 | [m] | DC | FUGRO |
| 2350.0 | [m] | DC | FUGRO |
| 2430.0 | [m] | DC | FUGRO |
| 2470.0 | [m] | DC | FUGRO |
| 2510.0 | [m] | DC | FUGRO |
| 2550.0 | [m] | DC | FUGRO |
| 2590.0 | [m] | DC | FUGRO |
| 2630.0 | [m] | DC | FUGRO |
| 2670.0 | [m] | DC | FUGRO |
| 2710.0 | [m] | DC | FUGRO |
| 2750.0 | [m] | DC | FUGRO |
| 2790.0 | [m] | DC | FUGRO |
| 2830.0 | [m] | DC | FUGRO |
| 2870.0 | [m] | DC | FUGRO |
| 2950.0 | [m] | DC | FUGRO |
| 2990.0 | [m] | DC | FUGRO |
| 3030.0 | [m] | DC | FUGRO |
| 3070.0 | [m] | DC | FUGRO |
| 3110.0 | [m] | DC | FUGRO |
| 3150.0 | [m] | DC | FUGRO |
| 4243.0 | [m] | DC | FUGRO |
| 4246.0 | [m] | DC | FUGRO |
| 4249.0 | [m] | DC | FUGRO |
| 4252.0 | [m] | DC | FUGRO |
| 4255.0 | [m] | DC | FUGRO |
| 4258.0 | [m] | DC | FUGRO |
| 4261.0 | [m] | DC | FUGRO |
| 4264.0 | [m] | DC | FUGRO |
| 4267.0 | [m] | DC | FUGRO |
| 4273.0 | [m] | DC | FUGRO |
| 4276.0 | [m] | DC | FUGRO |
| 4279.0 | [m] | DC | FUGRO |
| 4282.0 | [m] | DC | FUGRO |
| 4285.0 | [m] | DC | FUGRO |
| 4288.0 | [m] | DC | FUGRO |
| 4291.0 | [m] | DC | FUGRO |
| 4294.0 | [m] | DC | FUGRO |
| 4297.0 | [m] | DC | FUGRO |
| 4300.0 | [m] | DC | FUGRO |
| 4303.0 | [m] | DC | FUGRO |

| | | | |
|---|---|---|---|
| 4306.0 | [m] | DC | FUGRO |
| 4309.0 | [m] | DC | FUGRO |
| 4312.0 | [m] | DC | FUGRO |
| 4324.0 | [m] | DC | FUGRO |
| 4327.0 | [m] | DC | FUGRO |
| 4330.0 | [m] | DC | FUGRO |
| 4333.0 | [m] | DC | FUGRO |
| 4336.0 | [m] | DC | FUGRO |
| 4339.0 | [m] | DC | FUGRO |
| 4342.0 | [m] | DC | FUGRO |
| 4345.0 | [m] | DC | FUGRO |
| 4348.0 | [m] | DC | FUGRO |
| 4351.0 | [m] | DC | FUGRO |
| 4354.0 | [m] | DC | FUGRO |
| 4357.0 | [m] | DC | FUGRO |
| 4360.0 | [m] | DC | FUGRO |
| 4366.0 | [m] | DC | FUGRO |
| 4369.0 | [m] | DC | FUGRO |
| 4372.0 | [m] | DC | FUGRO |
| 4375.0 | [m] | DC | FUGRO |
| 4378.0 | [m] | DC | FUGRO |
| 4381.0 | [m] | DC | FUGRO |
| 4384.0 | [m] | DC | FUGRO |
| 4450.0 | [m] | DC | FUGRO |
| 4495.0 | [m] | DC | FUGRO |
| 4498.0 | [m] | DC | FUGRO |
| 4501.0 | [m] | DC | FUGRO |
| 4504.0 | [m] | DC | FUGRO |
| 4507.0 | [m] | DC | FUGRO |
| 4510.0 | [m] | DC | FUGRO |
| 4513.0 | [m] | DC | FUGRO |
| 4516.0 | [m] | DC | FUGRO |
| 4519.0 | [m] | DC | FUGRO |
| 4522.0 | [m] | DC | FUGRO |
| 4525.0 | [m] | DC | FUGRO |
| 4528.0 | [m] | DC | FUGRO |
| 4579.0 | [m] | DC | FUGRO |
| 4639.0 | [m] | DC | FUGRO |
| 4642.0 | [m] | DC | FUGRO |
| 4648.0 | [m] | DC | FUGRO |

| | | | |
|---|---|---|---|
| 4651.0 | [m] | DC | FUGRO |
| 4654.0 | [m] | DC | FUGRO |
| 4657.0 | [m] | DC | FUGRO |
| 4660.0 | [m] | DC | FUGRO |
| 4663.0 | [m] | DC | FUGRO |
| 4666.0 | [m] | DC | FUGRO |
| 4669.0 | [m] | DC | FUGRO |
| 4672.0 | [m] | DC | FUGRO |
| 4675.0 | [m] | DC | FUGRO |

## Lithostratigraphy

| Top depth [mMD RKB] | Lithostrat. unit |
|---|---|
| 110 | NORDLAND GP |
| 1784 | HORDALAND GP |
| 3084 | ROGALAND GP |
| 3084 | BALDER FM |
| 3093 | SELE FM |
| 3102 | LISTA FM |
| 3198 | VÅLE FM |
| 3222 | SHETLAND GP |
| 3222 | EKOFISK FM |
| 3337 | TOR FM |
| 3790 | HOD FM |
| 4258 | BLODØKS FM |
| 4276 | HIDRA FM |
| 4320 | TYNE GP |
| 4320 | FARSUND FM |
| 4456 | HAUGESUND FM |
| 4525 | VESTLAND GP |
| 4525 | BRYNE FM |
| 4576 | NO GROUP DEFINED |
| 4576 | SKAGERRAK FM |

## Geochemical information

| Document name | Document format | Document size [MB] |
|---|---|---|
| 5948_01_2_5_13_gch_transfer_1 | txt | 0.00 |

| | | |
|---|---|---|
| 5948_02_2_5_13_gch_results_1 | txt | 0.06 |

### Logs

| Log type | Log top depth [m] | Log bottom depth [m] |
|---|---|---|
| HLDS HAPS GR | 4211 | 4676 |
| LA ZOVSP | 700 | 4145 |
| MSIP GR | 4211 | 4676 |
| MWD - GR RES PWD | 224 | 4208 |
| MWD - GR RES PWD STETHOSCOPE | 4211 | 4675 |
| ZOVSP | 4211 | 4659 |

### 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 | 219.0 | 36 | 224.0 | 1.10 | LOT |
| SURF.COND. | 20 | 940.0 | 26 | 953.0 | 1.82 | LOT |
| INTERM. | 14 | 2989.0 | 17 1/2 | 3000.0 | 1.89 | LOT |
| INTERM. | 9 7/8 | 4210.0 | 12 1/4 | 4211.0 | 2.15 | LOT |
| OPEN HOLE | | 4675.0 | 8 1/2 | 4675.0 | 0.00 | LOT |

### Drilling mud

| Depth MD [m] | Mud weight [g/cm3] | Visc. [mPa.s] | Yield point [Pa] | Mud type | Date measured |
|---|---|---|---|---|---|
| 224 | 1.45 | 24.0 | | Spud Mud | |
| 460 | 1.64 | 30.0 | | Spud Mud | |
| 905 | 1.64 | 33.0 | | Spud Mud | |
| 953 | 1.45 | 32.0 | | XP-07 - #14 | |
| 1385 | 1.55 | 26.0 | | XP-07 - #14 | |
| 1531 | 1.60 | 30.0 | | XP-07 - #14 | |
| 2287 | 1.64 | 29.0 | | XP-07 - #14 | |
| 3000 | 1.64 | 29.0 | | XP-07 - #14 | |
| 3040 | 1.67 | 30.0 | | XP-07 - #14 | |
| 3425 | 1.67 | 28.0 | | XP-07 - #14 | |
| 3833 | 1.69 | 30.0 | | XP-07 - #14 | |

| | | | | | |
|---|---|---|---|---|---|
| 4060 | 2.07 | 40.0 | | OBM-Low ECD-HTHP | |
| 4105 | 1.70 | 22.0 | | XP-07 - #14 | |
| 4124 | 1.70 | 24.0 | | XP-07 - #14 | |
| 4211 | 1.70 | 23.0 | | XP-07 - #14 | |
| 4269 | 2.06 | 36.0 | | OBM-Low ECD-HTHP | |
| 4300 | 2.06 | 38.0 | | OBM-Low ECD-HTHP | |
| 4400 | 2.07 | 37.0 | | OBM-Low ECD-HTHP | |
| 4675 | 2.07 | 38.0 | | OBM-Low ECD-HTHP | |