

**General information**

|                                    |                               |
|------------------------------------|-------------------------------|
| Wellbore name                      | 6508/5-1                      |
| Type                               | EXPLORATION                   |
| Purpose                            | WILDCAT                       |
| Status                             | P&A                           |
| Factmaps in new window             | <a href="#">link to map</a>   |
| Main area                          | NORWEGIAN SEA                 |
| Well name                          | 6508/5-1                      |
| Seismic location                   | 86 - 122 SP. 595              |
| Production licence                 | <a href="#">125</a>           |
| Drilling operator                  | A/S Norske Shell              |
| Drill permit                       | 542-L                         |
| Drilling facility                  | <a href="#">WEST VANGUARD</a> |
| Drilling days                      | 33                            |
| Entered date                       | 22.04.1987                    |
| Completed date                     | 24.05.1987                    |
| Release date                       | 24.05.1989                    |
| Publication date                   | 30.06.2005                    |
| Purpose - planned                  | WILDCAT                       |
| Reentry                            | NO                            |
| Content                            | DRY                           |
| Discovery wellbore                 | NO                            |
| Kelly bushing elevation [m]        | 22.0                          |
| Water depth [m]                    | 411.0                         |
| Total depth (MD) [m RKB]           | 2586.0                        |
| Final vertical depth (TVD) [m RKB] | 2586.0                        |
| Maximum inclination [°]            | 1.8                           |
| Bottom hole temperature [°C]       | 66                            |
| Oldest penetrated age              | LATE TRIASSIC                 |
| Oldest penetrated formation        | RED BEDS (INFORMAL)           |
| Geodetic datum                     | ED50                          |
| NS degrees                         | 65° 42' 51.22" N              |
| EW degrees                         | 8° 28' 35.37" E               |
| NS UTM [m]                         | 7288341.64                    |
| EW UTM [m]                         | 475973.17                     |
| UTM zone                           | 32                            |
| NPDID wellbore                     | 1044                          |



## Wellbore history

### General

Well 6508/5-1 was drilled on a structure located in the western part of the Helgeland Basin off shore Mid Norway. The primary target was sandstone of the Early/Middle Jurassic Ile Formation. The Tilje Formation was a secondary target in the case of a shaled out Early/Middle Jurassic sequence acting as a seal.

### Operations and results

Wildcat well 6508/5-1 was spudded with the semi-submersible installation West Vanguard on 22 April 1987 and drilled to TD at 2589 m in the Triassic Red Beds. The hole was drilled without significant problems and without any signs of shallow gas. It was drilled with seawater and gel down to 961 m, and with KCl/polymer mud from 961 m to TD.

The top prospect was encountered at 1778 m and cored. The cored section exhibited excellent porosities with an average of 32% and permeabilities of generally several hundreds of mD to tens of Darcies. From petrophysical log evaluation the whole of Ile Formation had a net to gross of 64% and the same porosity average as in the cored section using a 15% porosity cut off. The Tilje Formation also possessed excellent reservoir characteristics. Reservoir characteristics remained good in the Åre Formation and Red Beds with an average of 25% porosity at around 2500 m. Unfortunately there were no signs of hydrocarbons on the logs and no shows were recorded in any part of the well, except for cut fluorescence in sidewall cores in claystones from the Spekk and upper Melke Formations. The RFT tool was run from 1786 m in the Ile Formation to 2542m in the Red Beds with 13 pressure points acquired. A clear water gradient of 1.013 g/cm<sup>3</sup> was established. Post-well organic geochemical analyses included in the well completion reports only partly considered migrated hydrocarbons/shows, but from rock-eval PI data the lack of shows were confirmed. These analyses also proved excellent source rock potential in the Spekk Formation, although more gas-prone than further to the west and south on Mid Norway. Coals of the Åre Formation were present with potential for gas. The well section was however immature for any petroleum generation all through. One conventional core was cut in the Ile Formation from 1786 m to 1804 m. No attempts were made to take fluid samples.

The well was permanently abandoned on 24 may 1987 as a dry hole.

### Testing

No drill stem test was performed.

## Cuttings at the Norwegian Offshore Directorate

| Cutting sample, top depth [m] | Cutting samples, bottom depth [m] |
|-------------------------------|-----------------------------------|
| 980.00                        | 2586.00                           |

|                                  |     |
|----------------------------------|-----|
| 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                  | 1786.0                  | 1798.2                     | [m ]                    |

|                               |      |
|-------------------------------|------|
| Total core sample length [m]  | 12.2 |
| Cores available for sampling? | YES  |

**Core photos**

1786-1791m



1791-1795m



1791-1796m



1796-1798m

**Palynological slides at the Norwegian Offshore Directorate**

| Sample depth | Depth unit | Sample type | Laboratory |
|--------------|------------|-------------|------------|
| 1120.0       | [m]        | DC          | OD         |
| 1130.0       | [m]        | DC          | OD         |
| 1140.0       | [m]        | DC          | OD         |
| 1150.0       | [m]        | DC          | OD         |
| 1160.0       | [m]        | DC          | OD         |
| 1170.0       | [m]        | DC          | OD         |
| 1180.0       | [m]        | DC          | OD         |
| 1190.0       | [m]        | DC          | OD         |
| 1200.0       | [m]        | DC          | OD         |
| 1210.0       | [m]        | DC          | OD         |
| 1220.0       | [m]        | DC          | OD         |
| 1230.0       | [m]        | DC          | OD         |
| 1240.0       | [m]        | DC          | OD         |
| 1250.0       | [m]        | DC          | OD         |
| 1260.0       | [m]        | DC          | OD         |
| 1270.0       | [m]        | DC          | OD         |
| 1280.0       | [m]        | DC          | OD         |
| 1290.0       | [m]        | DC          | OD         |



|        |     |    |    |
|--------|-----|----|----|
| 1300.0 | [m] | DC | OD |
| 1310.0 | [m] | DC | OD |
| 1320.0 | [m] | DC | OD |
| 1330.0 | [m] | DC | OD |
| 1340.0 | [m] | DC | OD |
| 1350.0 | [m] | DC | OD |
| 1360.0 | [m] | DC | OD |
| 1370.0 | [m] | DC | OD |
| 1380.0 | [m] | DC | OD |
| 1390.0 | [m] | DC | OD |
| 1400.0 | [m] | DC | OD |

**Lithostratigraphy**

| Top depth<br>[mMD RKB] | Lithostrat. unit                    |
|------------------------|-------------------------------------|
| 433                    | <a href="#">NORDLAND GP</a>         |
| 1163                   | <a href="#">HORDALAND GP</a>        |
| 1163                   | <a href="#">BRYGGE FM</a>           |
| 1427                   | <a href="#">ROGALAND GP</a>         |
| 1427                   | <a href="#">TARE FM</a>             |
| 1476                   | <a href="#">TANG FM</a>             |
| 1527                   | <a href="#">CROMER KNOLL GP</a>     |
| 1527                   | <a href="#">LANGE FM</a>            |
| 1562                   | <a href="#">LYR FM</a>              |
| 1580                   | <a href="#">VIKING GP</a>           |
| 1580                   | <a href="#">SPEKK FM</a>            |
| 1650                   | <a href="#">MELKE FM</a>            |
| 1710                   | <a href="#">FANGST GP</a>           |
| 1710                   | <a href="#">NOT FM</a>              |
| 1778                   | <a href="#">ILE FM</a>              |
| 1824                   | <a href="#">BÅT GP</a>              |
| 1824                   | <a href="#">TILJE FM</a>            |
| 1981                   | <a href="#">ÅRE FM</a>              |
| 2229                   | <a href="#">RED BEDS (INFORMAL)</a> |

**Composite logs**





| Document name        | Document format | Document size [MB] |
|----------------------|-----------------|--------------------|
| <a href="#">1044</a> | pdf             | 0.38               |

### Geochemical information

| Document name          | Document format | Document size [MB] |
|------------------------|-----------------|--------------------|
| <a href="#">1044_1</a> | pdf             | 1.83               |
| <a href="#">1044_2</a> | pdf             | 2.58               |

### Documents - older Norwegian Offshore Directorate WDSS reports and other related documents

| Document name                                    | Document format | Document size [MB] |
|--------------------------------------------------|-----------------|--------------------|
| <a href="#">1044_01_WDSS_General_Information</a> | pdf             | 0.35               |
| <a href="#">1044_02_WDSS_completion_log</a>      | pdf             | 0.23               |

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

| Document name                             | Document format | Document size [MB] |
|-------------------------------------------|-----------------|--------------------|
| <a href="#">1044_01_Completion_report</a> | pdf             | 4.14               |
| <a href="#">1044_02_Completion_log</a>    | pdf             | 6.15               |
| <a href="#">1044_01_Encl_1</a>            | pdf             | 0.83               |
| <a href="#">1044_01_Encl_2</a>            | pdf             | 0.75               |
| <a href="#">1044_01_Encl_3</a>            | pdf             | 2.63               |

### Logs

| Log type        | Log top depth [m] | Log bottom depth [m] |
|-----------------|-------------------|----------------------|
| CBL VDL         | 700               | 15185                |
| ISF LSS GR      | 519               | 972                  |
| ISF LSS GR      | 961               | 1603                 |
| ISF LSS GR MSFL | 1590              | 2580                 |
| LDL CNL GR      | 519               | 975                  |
| LDL CNL GR NGT  | 1590              | 2580                 |
| LDL CNL NGL     | 961               | 1605                 |
| RFT             | 1786              | 2542                 |





|      |      |      |
|------|------|------|
| SAT  | 450  | 2575 |
| SHDT | 1590 | 2581 |
| SWS  | 0    | 0    |

**Casing and leak-off tests**

| Casing type | Casing diam.<br>[inch] | Casing depth<br>[m] | Hole diam.<br>[inch] | Hole depth<br>[m] | LOT/FIT mud<br>eqv.<br>[g/cm3] | Formation test<br>type |
|-------------|------------------------|---------------------|----------------------|-------------------|--------------------------------|------------------------|
| CONDUCTOR   | 30                     | 519.0               | 36                   | 677.0             | 0.00                           | LOT                    |
| SURF.COND.  | 20                     | 960.0               | 26                   | 975.0             | 1.50                           | LOT                    |
| INTERM.     | 13 3/8                 | 1589.0              | 17 1/2               | 1603.0            | 1.62                           | LOT                    |
| OPEN HOLE   |                        | 2586.0              | 12 1/4               | 2586.0            | 0.00                           | LOT                    |

**Drilling mud**

| Depth<br>MD [m] | Mud<br>weight<br>[g/cm3] | Visc.<br>[mPa.s] | Yield point<br>[Pa] | Mud type    | Date<br>measured |
|-----------------|--------------------------|------------------|---------------------|-------------|------------------|
| 457             | 1.03                     |                  |                     | WATER BASED | 25.05.1987       |
| 1855            | 1.28                     | 17.0             | 14.0                | WATER BASED | 25.05.1987       |
| 2586            | 1.28                     | 16.0             | 14.0                | WATER BASED | 21.05.1987       |
| 2586            | 1.28                     | 16.0             | 14.0                | WATER BASED | 21.05.1987       |

**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<br>format | Document size<br>[MB] |
|-----------------------------------------------------------|--------------------|-----------------------|
| <a href="#">1044 Formation pressure (Formasjonstrykk)</a> | pdf                | 0.28                  |

