



## Generell informasjon

|                                          |                                |
|------------------------------------------|--------------------------------|
| Brønnbane navn                           | 10/5-1                         |
| Type                                     | EXPLORATION                    |
| Formål                                   | WILDCAT                        |
| Status                                   | P&A                            |
| Faktakart i nytt vindu                   | <a href="#">lenke til kart</a> |
| Hovedområde                              | NORTH SEA                      |
| Brønn navn                               | 10/5-1                         |
| Seismisk lokalisering                    |                                |
| Utvinningstillatelse                     | <a href="#">015</a>            |
| Boreoperatør                             | Conoco Norway Inc.             |
| Boretillatelse                           | 156-L                          |
| Boreinnretning                           | <a href="#">NORJARL</a>        |
| Boredager                                | 27                             |
| Borestart                                | 31.05.1976                     |
| Boreslutt                                | 26.06.1976                     |
| Frigitt dato                             | 26.06.1978                     |
| Publiseringsdato                         | 22.04.2005                     |
| Opprinnelig formål                       | WILDCAT                        |
| Gjenåpnet                                | NO                             |
| Innhold                                  | DRY                            |
| Funnbrønnbane                            | NO                             |
| Avstand, boredekk - midlere havflate [m] | 24.0                           |
| Vanndybde ved midlere havflate [m]       | 98.0                           |
| Totalt målt dybde (MD) [m RKB]           | 1843.0                         |
| Maks inklinasjon [°]                     | 0.75                           |
| Temperatur ved bunn av brønnbanen [°C]   | 52                             |
| Eldste penetrerte alder                  | PRE-DEVONIAN                   |
| Eldste penetrerte formasjon              | BASEMENT                       |
| Geodetisk datum                          | ED50                           |
| NS grader                                | 57° 34' 51.9" N                |
| ØV grader                                | 5° 35' 25" E                   |
| NS UTM [m]                               | 6385172.72                     |
| ØV UTM [m]                               | 654878.47                      |
| UTM sone                                 | 31                             |
| NPDID for brønnbanen                     | 306                            |



## Brønnhistorie

### General

Well 10/5-1 was designed to test a tilted fault block with an overlying pinch out trap in the eastern part of the Norwegian-Danish basin. The primary objective was Rotliegendes sands. A probable 460 m gross thickness was anticipated. A secondary objective was Middle Jurassic sandstones with an estimated gross thickness of 61 metres. Other possible objectives were the Early Cretaceous sandstones and Basal Zechstein carbonates.

The well is Illustration Well for the Børglum Unit of the BoknFjord Group.

### Operations and results

Exploration well 10/5-1 was spudded with the semi-submersible installation Norjarl on 31 May 1976 and drilled to TD at 1843 m in crystalline granite dated by the potassium-argon method to apparently  $689 \pm 21$  My (Late Precambrian). After drilling the 36" section to 189 m the hole had washed out under the temporary guide base. The guide base sank 26 feet below the mud line and the 30" casing could not be stabbed through the guide base. The rig was moved 38 m and the hole was respudded. The well was drilled with seawater / gel down to 501 m, with Inpac polymer mud from 501 m to 1768.2 m, and with lignosulphonate mud from 1768.2 m to TD.

The well penetrated a gross thickness of 67 metres of Middle Jurassic (Sandnes Formation) sandstones from 1472 m to 1539 m. Porosity was good, but there were no hydrocarbon indications while drilling, and subsequent log analysis confirmed that the objective horizons were water wet. Triassic sandstones were also encountered, but these were extremely shaley, and had no clean sandstone sections. Rotliegendes sandstones were not present at the 10/5-1 location. The base of the Zechstein interval was represented by a clear, white, light brown, hard, very angular sandstone, cemented with siliceous cement and extremely tight. Organic geochemical analyses found fair to rich TOC (1 - 5%) in the Early Cretaceous and Late Jurassic and possibly in some Permian shales. The Permian TOC could be caved Late Jurassic material. Rock-Eval pyrolysis of the high-TOC samples gave low S<sub>2</sub> yields, so the kerogen has low hydrocarbon potential and is most likely gas prone. The entire well was found to be immature. Minor amounts of migrant hydrocarbons were detected by the geochemical analyses in the late Jurassic and the Cretaceous.

A junk basket core was recovered from 533.4 m to 534.3 m. No conventional core was cut. Thirty sidewall cores were attempted over the interval 1250 m to 1812 m. Eighteen of these were recovered. No fluid samples were taken.

The well was permanently abandoned on 26 June 1976 as a dry hole.

### Testing

No drill stem test was performed.

## Borekaks i Sokkeldirektoratet

| Borekaksprøve, topp dybde [m] | Borekaksprøve, bunn dybde [m] |
|-------------------------------|-------------------------------|
| 192.00                        | 1842.00                       |



|                                        |    |
|----------------------------------------|----|
| Borekaks tilgjengelig for prøvetaking? | NO |
|----------------------------------------|----|

### Litostratigrafi

| Topp Dyb<br>[mMD RKB] | Litostrat. enhet                 |
|-----------------------|----------------------------------|
| 122                   | <a href="#">NORDLAND GP</a>      |
| 190                   | <a href="#">HORDALAND GP</a>     |
| 270                   | <a href="#">ROGALAND GP</a>      |
| 270                   | <a href="#">BALDER FM</a>        |
| 290                   | <a href="#">LISTA FM</a>         |
| 327                   | <a href="#">VÅLE FM</a>          |
| 335                   | <a href="#">SHETLAND GP</a>      |
| 335                   | <a href="#">EKOFISK FM</a>       |
| 428                   | <a href="#">TOR FM</a>           |
| 535                   | <a href="#">HOD FM</a>           |
| 1025                  | <a href="#">BLODØKS FM</a>       |
| 1040                  | <a href="#">HIDRA FM</a>         |
| 1046                  | <a href="#">CROMER KNOLL GP</a>  |
| 1046                  | <a href="#">RØDBY FM</a>         |
| 1093                  | <a href="#">SOLA FM</a>          |
| 1139                  | <a href="#">ÅSGARD FM</a>        |
| 1275                  | <a href="#">BOKNEFJORD GP</a>    |
| 1275                  | <a href="#">FLEKKEFJORD FM</a>   |
| 1335                  | <a href="#">SAUDA FM</a>         |
| 1396                  | <a href="#">BØRGLUM UNIT</a>     |
| 1472                  | <a href="#">VESTLAND GP</a>      |
| 1472                  | <a href="#">SANDNES FM</a>       |
| 1490                  | <a href="#">BRYNE FM</a>         |
| 1524                  | <a href="#">NO GROUP DEFINED</a> |
| 1524                  | <a href="#">GASSUM FM</a>        |
| 1539                  | <a href="#">NO GROUP DEFINED</a> |
| 1539                  | <a href="#">SKAGERRAK FM</a>     |
| 1561                  | <a href="#">SMITH BANK FM</a>    |
| 1597                  | <a href="#">ZECHSTEIN GP</a>     |
| 1818                  | <a href="#">BASEMENT</a>         |

### Spleisede logger





| Dokument navn       | Dokument format | Dokument størrelse [KB] |
|---------------------|-----------------|-------------------------|
| <a href="#">306</a> | pdf             | 0.19                    |

### Geokjemisk informasjon

| Dokument navn         | Dokument format | Dokument størrelse [KB] |
|-----------------------|-----------------|-------------------------|
| <a href="#">306_1</a> | pdf             | 1.57                    |
| <a href="#">306_2</a> | pdf             | 1.80                    |

### Dokumenter - eldre Søkeldirektoratets WDSS rapporter og andre relaterte dokumenter

| Dokument navn                                   | Dokument format | Dokument størrelse [KB] |
|-------------------------------------------------|-----------------|-------------------------|
| <a href="#">306_01_WDSS_General_Information</a> | pdf             | 0.28                    |

### Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

| Dokument navn                                                        | Dokument format | Dokument størrelse [KB] |
|----------------------------------------------------------------------|-----------------|-------------------------|
| <a href="#">306_01_Final_well_report</a>                             | pdf             | 5.40                    |
| <a href="#">306_02_Composite_well_log</a>                            | pdf             | 1.62                    |
| <a href="#">306_03_Results_of_Potassium_Argon_Dating_1976</a>        | pdf             | 2.10                    |
| <a href="#">306_04_The_Biostratigraphy_of_the_Interval_186-1842m</a> | pdf             | 2.95                    |

### Logger

| Type logg       | Topp dyp for logg [m] | Bunn dyp for logg [m] |
|-----------------|-----------------------|-----------------------|
| BHCS GR         | 184                   | 497                   |
| CST             | 533                   | 534                   |
| FDC CNL CAL     | 1222                  | 1838                  |
| HDT             | 1222                  | 1842                  |
| ISF SONIC GR SP | 450                   | 1234                  |
| ISF SONIC GR SP | 1222                  | 1844                  |
| VELOCITY        | 350                   | 1817                  |





### Foringsrør og formasjonsstyrketester

| Type utforing | Utforing<br>diam.<br>[tommer] | Utforing<br>dybde<br>[m] | Brønnbane<br>diam.<br>[tommer] | Brønnbane<br>dyp<br>[m] | LOT/FIT slam<br>eqv.<br>[g/cm3] | Type<br>formasjonstest |
|---------------|-------------------------------|--------------------------|--------------------------------|-------------------------|---------------------------------|------------------------|
| CONDUCTOR     | 30                            | 183.0                    | 36                             | 185.0                   | 0.00                            | LOT                    |
| SURF.COND.    | 20                            | 488.0                    | 26                             | 490.0                   | 0.00                            | LOT                    |
| INTERM.       | 13 3/8                        | 1221.0                   | 17 1/2                         | 1222.0                  | 0.00                            | LOT                    |
| OPEN HOLE     |                               | 1843.0                   | 12 1/4                         | 1843.0                  | 0.00                            | LOT                    |

### Boreslam

| Dybde<br>MD [m] | Egenvekt,<br>slam<br>[g/cm3] | Viskositet,<br>slam<br>[mPa.s] | flytegrense<br>[Pa] | Type slam   | Dato, måling |
|-----------------|------------------------------|--------------------------------|---------------------|-------------|--------------|
| 189             | 1.07                         |                                |                     | spud mud    |              |
| 500             | 1.15                         | 40.0                           |                     | water based |              |
| 1136            | 1.24                         | 40.0                           |                     | water based |              |
| 1768            | 1.37                         | 45.0                           |                     | water based |              |