



## Generell informasjon

|                                          |                                         |
|------------------------------------------|-----------------------------------------|
| Brønnbane navn                           | 6506/6-1                                |
| Type                                     | EXPLORATION                             |
| Formål                                   | WILDCAT                                 |
| Status                                   | P&A                                     |
| Faktakart i nytt vindu                   | <a href="#">lenke til kart</a>          |
| Hovedområde                              | NORWEGIAN SEA                           |
| Funn                                     | <a href="#">6506/6-1 (Victoria)</a>     |
| Brønn navn                               | 6506/6-1                                |
| Seismisk lokalisering                    | Innline 1330 trase 1940 Strikeline 1330 |
| Utvinningstillatelse                     | <a href="#">211</a>                     |
| Boreoperatør                             | Mobil Exploration Norway INC            |
| Boretillatelse                           | 977-L                                   |
| Boreinnretning                           | <a href="#">WEST ALPHA</a>              |
| Boredager                                | 150                                     |
| Borestart                                | 10.07.2000                              |
| Boreslutt                                | 07.12.2000                              |
| Frigitt dato                             | 07.12.2002                              |
| Publiseringsdato                         | 18.12.2002                              |
| Opprinnelig formål                       | WILDCAT                                 |
| Gjenåpnet                                | NO                                      |
| Innhold                                  | GAS                                     |
| Funnbrønnbane                            | YES                                     |
| 1. nivå med hydrokarboner, alder         | MIDDLE JURASSIC                         |
| 1. nivå med hydrokarboner, formasjon.    | FANGST GP                               |
| 2. nivå med hydrokarboner, alder         | EARLY JURASSIC                          |
| 2. nivå med hydrokarboner, formasjon     | BÅT GP                                  |
| Avstand, boredekk - midlere havflate [m] | 18.0                                    |
| Vanndybde ved midlere havflate [m]       | 434.0                                   |
| Totalt målt dybde (MD) [m RKB]           | 5491.0                                  |
| Totalt vertikalt dybde (TVD) [m RKB]     | 5474.2                                  |
| Maks inklinasjon [°]                     | 11.84                                   |
| Temperatur ved bunn av brønnbanen [°C]   | 200                                     |
| Eldste penetrerte alder                  | EARLY JURASSIC                          |
| Eldste penetrerte formasjon              | ÅRE FM                                  |



|                      |                  |
|----------------------|------------------|
| Geodetisk datum      | ED50             |
| NS grader            | 65° 31' 54.88" N |
| ØV grader            | 6° 57' 47.3" E   |
| NS UTM [m]           | 7269443.22       |
| ØV UTM [m]           | 405870.78        |
| UTM sone             | 32               |
| NPDID for brønnbanen | 4122             |

## Brønnhistorie

**General**

PL 211 covers blocks 6506/6 and 6507/4 off-shore Norway, approximately 300 km northwest of Trondheim. Well 6506/6-1, designated as High Temperature High Pressure well, was drilled by Mobil as the first commitment well for the licence. Well 6506/6-1 was drilled in the southeastern part of Block 6506/6. The primary objective of the well was to test the hydrocarbon potential of the Bella-Donna prospect, which straddles the southern parts of blocks 6506/6 and 6507/4. A faulted, 4-way dip closed dome, with prognosed 500m of vertical closure in the Jurassic Fangst and Båt Group Sandstones was the primary objective of the well. The secondary objective was to assess the Cretaceous prospectivity.

**Operations and results**

Wildcat well 6506/6-1 was drilled with the semi-submersible installation "West Alpha". A 9 7/8" pilot hole was spudded on 7 July 2000 and drilled to 1425 m to check for the presence of shallow gas. No shallow gas was found.

The final well was spudded on 9 July 2000 and reached TD at 5491.0 m in the Early Jurassic Åre Formation. The well was drilled with seawater and bentonite down to 1437 m, with water based KCl/Glycol mud from 1437 m to 2794 m, and with mineral oil based mud (Versapro) from 2794 m to TD. The sandstones of the Middle Jurassic Fangst Group were found to be extremely hard and abrasive and diamond impregnated bits were required to complete the section.

The geology of the well was very much as prognosed, although the tops generally came in higher than expected. No shows were observed in the sandstones of the Cretaceous Lysing, Lange and Lyr Formations.

The well penetrated a significant thickness of porous and permeable sandstone in the Middle Jurassic Ile and Lower Jurassic Tilje Formations. Hydrocarbons recovered from both indicate a dry gas containing 10% CO<sub>2</sub>. Petrophysical analysis indicates that lower reservoir quality Middle Jurassic Garn Formation and Lower Jurassic Upper Åre Formation sandstones are also gas charged. No water sand in the Jurassic section could be identified. Very minor oil shows were observed in the sandstones of the Middle and Lower Jurassic Fangst and Båt Groups. However, some of these could be attributed to contamination by the oil-based mud. Petrophysical and FMT sample analyses indicated that the formation fluid was dry gas, which would not have yielded either good fluorescence or cut. Gas levels, because of the overbalance, were generally very low. One core was cut in sandstones of the Garn Formation and two further cores were cut in the Tilje Formation. Three FMT hydrocarbon samples were collected from 5035.5 m in the Ile Formation and 5169 m and 5267.5 m in the Tilje Formation.

The well was plugged and abandoned as a gas discovery on 6 December 2000.

**Testing**

Preparations were made to perform a DST in the 8 1/2" hole. However, after setting and cementing liner, gas detected during circulations indicated leak from somewhere behind the liner. It proved impossible to find the leak or seal the liner and a decision was made to abandon the test.

**Borekaks i Sokkeldirektoratet**

| Borekaksprøve, topp dybde [m] | Borekaksprøve, bunn dybde [m] |
|-------------------------------|-------------------------------|
| 1440.00                       | 5491.00                       |



|                                        |     |
|----------------------------------------|-----|
| Borekaks tilgjengelig for prøvetaking? | YES |
|----------------------------------------|-----|

### Borekjerner i Sokkeldirektoratet

| Kjerneprøve nummer | Kjerneprøve - topp dybde | Kjerneprøve - bunn dybde | Kjerneprøve dybde - enhet |
|--------------------|--------------------------|--------------------------|---------------------------|
| 1                  | 5001.0                   | 5004.4                   | [m ]                      |
| 2                  | 5212.0                   | 5220.4                   | [m ]                      |
| 3                  | 5221.5                   | 5275.9                   | [m ]                      |

|                                       |      |
|---------------------------------------|------|
| Total kjerneprøve lengde [m]          | 66.1 |
| Kjerner tilgjengelig for prøvetaking? | YES  |

### Palynologiske preparater i Sokkeldirektoratet

| Prøve dybde | Dybde enhet | Prøve type | Laboratorie |
|-------------|-------------|------------|-------------|
| 4125.0      | [m]         | SWC        |             |
| 4132.5      | [m]         | SWC        |             |
| 4150.5      | [m]         | SWC        |             |
| 4207.0      | [m]         | SWC        |             |
| 4254.5      | [m]         | SWC        |             |
| 5025.0      | [m]         | DC         |             |
| 5061.0      | [m]         | DC         |             |
| 5070.0      | [m]         | DC         |             |
| 5106.0      | [m]         | DC         |             |
| 5133.0      | [m]         | DC         |             |
| 5142.0      | [m]         | DC         |             |
| 5151.0      | [m]         | DC         |             |

### Litostratigrafi

| Topp Dyb [mMD RKB] | Litostrat. enhet             |
|--------------------|------------------------------|
| 452                | <a href="#">NORDLAND GP</a>  |
| 452                | <a href="#">NAUST FM</a>     |
| 1872               | <a href="#">HORDALAND GP</a> |
| 1872               | <a href="#">BRYGGE FM</a>    |
| 1935               | <a href="#">ROGALAND GP</a>  |
| 1935               | <a href="#">TARE FM</a>      |



|      |                                 |
|------|---------------------------------|
| 2015 | <a href="#">TANG FM</a>         |
| 2071 | <a href="#">SHETLAND GP</a>     |
| 2071 | <a href="#">SPRINGAR FM</a>     |
| 2221 | <a href="#">NISE FM</a>         |
| 2477 | <a href="#">KVITNOS FM</a>      |
| 3015 | <a href="#">CROMER KNOLL GP</a> |
| 3015 | <a href="#">LYSING FM</a>       |
| 3086 | <a href="#">LANGE FM</a>        |
| 4328 | <a href="#">LYR FM</a>          |
| 4353 | <a href="#">VIKING GP</a>       |
| 4353 | <a href="#">SPEKK FM</a>        |
| 4458 | <a href="#">MELKE FM</a>        |
| 4961 | <a href="#">FANGST GP</a>       |
| 4961 | <a href="#">GARN FM</a>         |
| 5015 | <a href="#">NOT FM</a>          |
| 5033 | <a href="#">ILE FM</a>          |
| 5095 | <a href="#">BÅT GP</a>          |
| 5095 | <a href="#">ROR FM</a>          |
| 5165 | <a href="#">TILJE FM</a>        |
| 5302 | <a href="#">ÅRE FM</a>          |

### Spleisede logger

| Dokument navn        | Dokument format | Dokument størrelse [KB] |
|----------------------|-----------------|-------------------------|
| <a href="#">4122</a> | pdf             | 0.69                    |

### Geokjemisk informasjon

| Dokument navn          | Dokument format | Dokument størrelse [KB] |
|------------------------|-----------------|-------------------------|
| <a href="#">4122_1</a> | pdf             | 1.91                    |
| <a href="#">4122_2</a> | pdf             | 1.99                    |
| <a href="#">4122_3</a> | pdf             | 1.87                    |
| <a href="#">4122_4</a> | pdf             | 1.50                    |
| <a href="#">4122_5</a> | pdf             | 0.72                    |

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





| Dokument navn                                   | Dokument format | Dokument størrelse [KB] |
|-------------------------------------------------|-----------------|-------------------------|
| <a href="#">4122 6506 6 1 COMPLETION LOG</a>    | .pdf            | 5.14                    |
| <a href="#">4122 6506 6 1 COMPLETION REPORT</a> | .pdf            | 118.44                  |

**Logger**

| Type logg                 | Topp dyp for logg [m] | Bunn dyp for logg [m] |
|---------------------------|-----------------------|-----------------------|
| FMT CHT 20L-4L GR         | 4966                  | 5346                  |
| FMT CHT 20L-4L GR         | 5267                  | 5268                  |
| FMT GR 20L-4L             | 5033                  | 5479                  |
| HDIL XMAC ZDL CN TTRM GR  | 2794                  | 4273                  |
| HDIL ZDL CN ORIT TTRM GR  | 4940                  | 5489                  |
| HDIL ZDL CN TTRM GR       | 4920                  | 5369                  |
| MWD - CDR                 | 450                   | 2805                  |
| MWD - CDR PDM             | 2805                  | 4276                  |
| MWD - V675 RES ADN        | 5370                  | 5415                  |
| MWD - V675 RES ISONIC ADN | 4276                  | 5370                  |
| PMFC                      | 1508                  | 4179                  |
| PMFC                      | 1509                  | 4152                  |
| RCI GR                    | 5035                  | 5169                  |
| RCOR CHT GR               | 3042                  | 4254                  |
| SBT CCL GR                | 0                     | 0                     |
| TEMP PRESS                | 2524                  | 2524                  |
| VSP                       | 2050                  | 5365                  |

**Foringsrør og formasjonsstyrketester**

| Type utforing | Utforing diam. [tommer] | Utforing dybde [m] | Brønnbane diam. [tommer] | Brønnbane dyp [m] | LOT/FIT slam eqv. [g/cm3] | Type formasjonstest |
|---------------|-------------------------|--------------------|--------------------------|-------------------|---------------------------|---------------------|
| CONDUCTOR     | 30                      | 551.0              | 36                       | 551.0             | 0.00                      | LOT                 |
| SURF.COND.    | 20                      | 1424.0             | 26                       | 1437.0            | 1.67                      | LOT                 |
| INTERM.       | 13 3/8                  | 2784.0             | 17 1/2                   | 2805.0            | 1.88                      | LOT                 |
| INTERM.       | 9 5/8                   | 4267.0             | 12 1/4                   | 4276.0            | 2.16                      | LOT                 |
| LINER         | 7                       | 5491.0             | 8 1/2                    | 5491.0            | 0.00                      | LOT                 |

**Boreslam**







| Dybde MD [m] | Egenvekt, slam [g/cm3] | Viskositet, slam [mPa.s] | Flytegrense [Pa] | Type slam | Dato, måling |
|--------------|------------------------|--------------------------|------------------|-----------|--------------|
| 498          | 1.03                   | 10.0                     |                  | DUMMY     |              |
| 501          | 1.03                   | 10.0                     |                  | DUMMY     |              |
| 551          | 1.03                   | 10.0                     |                  | DUMMY     |              |
| 1101         | 1.07                   | 10.0                     |                  | DUMMY     |              |
| 1437         | 1.07                   | 10.0                     |                  | DUMMY     |              |
| 1437         | 1.07                   | 10.0                     |                  | DUMMY     |              |
| 2805         | 0.00                   |                          |                  | DUMMY     |              |
| 2805         | 0.00                   |                          |                  | DUMMY     |              |
| 2805         | 1.60                   | 29.0                     |                  | DUMMY     |              |
| 3237         | 1.60                   | 26.0                     |                  | DUMMY     |              |
| 4253         | 1.64                   | 32.0                     |                  | DUMMY     |              |
| 4276         | 1.64                   | 33.0                     |                  | N/A       |              |
| 4276         | 1.64                   | 31.0                     |                  | DUMMY     |              |
| 4390         | 1.75                   | 36.0                     |                  | OBM       |              |
| 4972         | 1.89                   | 41.0                     |                  | OBM       |              |
| 4972         | 1.89                   | 40.0                     |                  | OBM       |              |
| 4986         | 1.87                   | 39.0                     |                  | OBM       |              |
| 5005         | 1.87                   | 40.0                     |                  | OBM       |              |
| 5015         | 1.87                   | 40.0                     |                  | OBM       |              |
| 5071         | 1.87                   | 44.0                     |                  | OBM       |              |
| 5179         | 1.87                   | 41.0                     |                  | OBM       |              |
| 5222         | 1.87                   | 40.0                     |                  | OBM       |              |
| 5315         | 1.87                   | 46.0                     |                  | OBM       |              |
| 5370         | 0.00                   | 46.0                     |                  | OBM       |              |
| 5415         | 1.87                   | 47.0                     |                  | OBM       |              |
| 5491         | 1.87                   | 45.0                     |                  | OBM       |              |
| 5491         | 1.87                   | 45.0                     |                  | OBM       |              |

**Trykkplott**

Porertrykksdataene kommer fra logging i brønnen hvis ingen annen kilde er oppgitt. I noen brønner der trykk ikke er logget, er det brukt informasjon fra formasjonstester eller brønnspark. Trykkdataene er rapportert inn til Oljedirektoratet og videre prosessert og kvalitetssikret av IHS Markit.

| Dokument navn                                             | Dokument format | Dokument størrelse [KB] |
|-----------------------------------------------------------|-----------------|-------------------------|
| <a href="#">4122 Formation pressure (Formasjonstrykk)</a> | PDF             | 0.28                    |

