## Generell informasjon

| | |
|---|---|
| Brønnbane navn | 30/6-1 |
| Type | EXPLORATION |
| Formål | WILDCAT |
| Status | P&A |
| Faktakart i nytt vindu | lenke til kart |
| Hovedområde | NORTH SEA |
| Felt | OSEBERG |
| Funn | 30/6-1 Oseberg |
| Brønn navn | 30/6-1 |
| Seismisk lokalisering | 703 127 SP 390 |
| Utvinningstillatelse | 053 |
| Boreoperatør | Den norske stats oljeselskap a.s |
| Boretillatelse | 216-L |
| Boreinnretning | DEEPSEA SAGA |
| Boredager | 96 |
| Borestart | 18.06.1979 |
| Boreslutt | 22.09.1979 |
| Frigitt dato | 22.09.1981 |
| Publiseringsdato | 21.05.2015 |
| Opprinnelig formål | WILDCAT |
| Gjenåpnet | NO |
| Innhold | GAS |
| Funnbrønnbane | YES |
| 1. nivå med hydrokarboner, alder | MIDDLE JURASSIC |
| 1. nivå med hydrokarboner, formasjon. | BRENT GP |
| Avstand, boredekk - midlere havflate [m] | 25.0 |
| Vanndybde ved midlere havflate [m] | 106.0 |
| Totalt målt dybde (MD) [m RKB] | 3175.0 |
| Temperatur ved bunn av brønnbanen [°C] | 91 |
| Eldste penetrerte alder | TRIASSIC |
| Eldste penetrerte formasjon | LUNDE FM |
| Geodetisk datum | ED50 |
| NS grader | 60° 33' 15.1'' N |
| ØV grader | 2° 46' 38.36'' E |
| NS UTM [m] | 6713312.00 |
| ØV UTM [m] | 487787.27 |

| | |
|---|---|
| UTM sone | 31 |
| NPDID for brønnbanen | 380 |

**Brønnhistorie**

**General**

Well 30/6-1 was drilled on the Oseberg Fault block in the North Sea. The primary objective was to penetrate sandstones of Middle Jurassic age and to evaluate their possible content of hydrocarbons. Secondary objectives were sandstones of Lower Jurassic and Paleocene age. The well is Reference well for the Statfjord Group.

**Operations and results**

Wildcat well 30/6-1 was spudded with the semi-submersible installation Deepsea Saga on 18 June 1979 and drilled to TD at 3175 m in the Triassic Lunde Formation. Problems with setting the 9 5/8” casing at 2443 m caused an 8 days delay in the drilling phase. Also gumbo problems were encountered in the interval 1000 – 1600 m and 4 days rig time as lost due to this. Otherwise operation proceeded without significant problems. The well was drilled with spud mud down to 895 m and with a lignosulphonate/bentonite mud from 895 m to 2456 m and with chromium-lignosulphonate/bentonite mud from 2456 m to TD. Diesel was added at 1720 m to reduce problems with sloughing shales. A 6% to trace levels of oil was recorded in the mud from this depth to TD.

The Cretaceous Jorsalfare Formation had 6.75 m of net pay gas in thin sandstones with average porosity of 29% and water saturation of 39.3%. The Brent Group was encountered at 2285 m and was gas/condensate filled in 38.75 m of net pay sandstones with average porosity of 22.5% and water saturation of 29.2%. The hydrocarbon/water contact was not encountered in the well. The Dunlin Group was water bearing with 45 m of net sand with an average porosity of 24.6%. The Statfjord Group was water bearing with 235 m of net sand with an average porosity of 21.4%. Weak shows were described on conventional and sidewall cores in sandstones from below the hydrocarbon bearing Brent Group down to 2547 m in the Cook Formation.

Six cores were cut. Cores 1 to 5 were cut from 2333.5 m to 2381.2 m in the lower Etive and upper Drake formations. Recovery was generally good, from 89.2 to 100%, but only 52.9 % recovery was obtained in core 5. Core 6 was cut from 2722 to 2733 m in the Nansen Formation with 88.2% recovery. The RFT tool was run for pressure points, but no fluid sampling was done.

The well was permanently abandoned on 22 September as a gas/condensate discovery.

**Testing**

Two drill stem tests were conducted in the Brent Group.

DST1 tested the interval 2320 to 2330 m in the Etive Formation. It produced 153 Sm3 oil and 487000 Sm3 gas /day through a 32/64” choke. The GOR was 3063 Sm3/Sm3, the oil gravity was 58.9 °API, and the gas gravity was 0.657 (air = 1). The maximum DST temperature was 91.7 °C.

DST1 tested the interval 2301 to 2305 m in the Ness Formation. It produced 166 Sm3 oil and 659800 Sm3 gas /day. Due to a technical problem the effective choke size is unknown. The GOR was 4150 Sm3/Sm3, the oil gravity was 53.5 °API, and the gas gravity was 0.663 (air = 1). The maximum DST temperature was 91.1 °C.

## Borekaks i Sokkeldirektoratet

| Borekaksprøve, topp dybde [m] | Borekaksprøve, bunn dybde [m] |
|---|---|
| 220.00 | 3175.00 |

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

### Borekjerner i Sokkeldirektoratet

| Kjerneprøve nummer | Kjerneprøve - topp dybde | Kjerneprøve - bunn dybde | Kjerneprøve dybde - enhet |
|---|---|---|---|
| 1 | 2333.0 | 2338.8 | [m ] |
| 2 | 2339.5 | 2345.2 | [m ] |
| 3 | 2345.5 | 2356.4 | [m ] |
| 4 | 2356.7 | 2365.6 | [m ] |
| 5 | 2365.6 | 2373.9 | [m ] |
| 6 | 2722.0 | 2731.7 | [m ] |

| | |
|---|---|
| Total kjerneprøve lengde [m] | 49.3 |
| Kjerner tilgjengelig for prøvetaking? | YES |

### Kjernebilder


2333-2335m


2335-2338m


2338-2339m


2339-2342m


2342-2344m


2344-2345m


2345-2348m


2348-2350m


2350-2353m


2353-2356m


2356-2359m


2359-2362m


2362-2364m


2364-2365m


2365-2368m


2368-2371m


2371-2373m


2373-2374m


2722-2724m


2724-2727m


2727-2730m


2730-2731m

**Palynologiske preparater i Sokkeldirektoratet**

| Prøve dybde | Dybde enhet | Prøve type | Laboratorie |
|---|---|---|---|
| 2262.0 | [m] | DC | IKU |

**Oljeprøver i Sokkeldirektoratet**

| Test type | Flaske nummer | Topp dyp MD [m] | Bunn dyp MD [m] | Væske type | Test tidspunkt | Prøver tilgjengelig |
|---|---|---|---|---|---|---|
| DST | DST1 | 2320.00 | 2330.00 | | 09.09.1979 - 21:00 | YES |
| DST | DST2 | 2301.00 | 2305.00 | CONDENSATE | 15.09.1980 - 00:00 | YES |

**Litostratigrafi**

| Topp Dyb [mMD RKB] | Litostrat. enhet |
|---|---|
| 131 | NORDLAND GP |
| 660 | UTSIRA FM |
| 865 | HORDALAND GP |
| 883 | SKADE FM |
| 1062 | UNDIFFERENTIATED |
| 1435 | SKADE FM |
| 1471 | UNDIFFERENTIATED |

| | |
|---|---|
| 1949 | ROGALAND GP |
| 1949 | BALDER FM |
| 2021 | SELE FM |
| 2053 | LISTA FM |
| 2136 | VÅLE FM |
| 2194 | SHETLAND GP |
| 2194 | JORSALFARE FM |
| 2252 | VIKING GP |
| 2252 | HEATHER FM |
| 2285 | BRENT GP |
| 2285 | NESS FM |
| 2320 | ETIVE FM |
| 2345 | DUNLIN GP |
| 2345 | DRAKE FM |
| 2537 | COOK FM |
| 2589 | AMUNDSEN FM |
| 2712 | STATFJORD GP |
| 2712 | NANSEN FM |
| 2786 | EIRIKSSON FM |
| 2959 | RAUDE FM |
| 3003 | HEGRE GP |
| 3003 | LUNDE FM |

### Geokjemisk informasjon

| Dokument navn | Dokument format | Dokument størrelse [KB] |
|---|---|---|
| 380_GCH_1 | pdf | 0.83 |
| 380_GCH_2 | pdf | 0.43 |
| 380_GCH_3 | pdf | 1.47 |
| 380_GCH_4 | pdf | 0.51 |

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

| Dokument navn | Dokument format | Dokument størrelse [KB] |
|---|---|---|
| 380_01_WDSS_General_Information | pdf | 0.11 |
| 380_02_WDSS_completion_log | pdf | 0.20 |

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

| Dokument navn | Dokument format | Dokument størrelse [KB] |
|---|---|---|
| 380_30_6_1_COMPLETION_LOG | pdf | 1.29 |
| 380_30_6_1_COMPLETION_REPORT | pdf | 26.41 |

## Borestrengtester (DST)

| Test nummer | Fra dybde MD [m] | Til dybde MD [m] | Reduksjonsventil størrelse [mm] |
|---|---|---|---|
| 1.0 | 2320 | 2330 | 0.0 |
| 2.0 | 2301 | 2305 | 0.0 |

| Test nummer | Endelig avstengningstrykk [MPa] | Endelig strømningstrykk [MPa] | Bunnhullstrykk [MPa] | Borehullstemperatur [°C] |
|---|---|---|---|---|
| 1.0 | | | | 90 |
| 2.0 | | | | 90 |

| Test nummer | Olje produksjon [Sm3/dag] | Gass produksjon [Sm3/dag] | Oljetetthet [g/cm3] | Gasstyngde rel. luft | GOR [m3/m3] |
|---|---|---|---|---|---|
| 1.0 | 152 | 487000 | 0.730 | 0.657 | 3066 |
| 2.0 | 166 | 660000 | 0.765 | 0.663 | 4150 |

## Logger

| Type logg | Topp dyp for logg [m] | Bunn dyp for logg [m] |
|---|---|---|
| CALI | 787 | 1721 |
| CBL GR | 121 | 2411 |
| CBL GR | 1500 | 2345 |
| CBL GR | 1620 | 1913 |
| CCL GR | 100 | 150 |
| CCL GR | 2220 | 2250 |
| CCL GR | 2250 | 2350 |
| DLL MSFL GR | 2275 | 2380 |
| FDC CNL GR CAL | 2150 | 3166 |
| FDC GR CAL | 1721 | 2150 |

| | | |
|---|---|---|
| HDT | 1918 | 3158 |
| ISF SON GR SP | 188 | 3167 |
| VELOCITY | 608 | 3170 |

**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 | 189.5 | 36 | 189.5 | 0.00 | LOT |
| SURF.COND. | 20 | 887.0 | 26 | 895.0 | 1.34 | LOT |
| LINER | 16 | 1724.0 | 19 1/2 | 1724.0 | 1.71 | LOT |
| INTERM. | 13 3/8 | 1922.0 | 17 1/2 | 1934.0 | 1.92 | LOT |
| INTERM. | 9 5/8 | 2443.0 | 12 1/4 | 2456.0 | 1.95 | LOT |
| OPEN HOLE | | 3175.0 | 8 1/2 | 3175.0 | 0.00 | LOT |

**Boreslam**

| Dybde MD [m] | Egenvekt, slam [g/cm3] | Viskositet, slam [mPa.s] | Flytegrense [Pa] | Type slam | Dato, måling |
|---|---|---|---|---|---|
| 189 | 1.04 | | | waterbased | |
| 895 | 1.08 | 48.0 | | waterbased | |
| 1490 | 1.14 | | | waterbased | |
| 1723 | 1.25 | 62.0 | | waterbased | |
| 2178 | 1.51 | 52.0 | | waterbased | |
| 2392 | 1.35 | 58.0 | | waterbased | |
| 2456 | 1.42 | 57.0 | | waterbased | |
| 2800 | 1.51 | 54.0 | | waterbased | |
| 3021 | 1.30 | | | waterbased | |

**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] |
|---|---|---|
| 380_Formation_pressure_(Formasjonstrykk) | pdf | 0.22 |