## Generell informasjon

| | |
|---|---|
| Brønnbane navn | 6507/11-5 S |
| Type | EXPLORATION |
| Formål | APPRAISAL |
| Status | RE-CLASS TO DEV |
| Faktakart i nytt vindu | lenke til kart |
| Hovedområde | NORWEGIAN SEA |
| Felt | ÅSGARD |
| Funn | 6507/11-1 Midgard |
| Brønn navn | 6507/11-5 |
| Seismisk lokalisering | SG 8758-inline 530 & crossline 434 |
| Utvinningstillatelse | 062 |
| Boreoperatør | Den norske stats oljeselskap a.s |
| Boretillatelse | 904-L |
| Boreinnretning | DEEPSEA TRYM |
| Boredager | 54 |
| Borestart | 05.09.1997 |
| Boreslutt | 28.10.1997 |
| Frigitt dato | 28.10.1999 |
| Publiseringsdato | 07.11.2005 |
| Opprinnelig formål | APPRAISAL |
| Reklassifisert til brønnbane | 6507/11-Y-3 H |
| Gjenåpnet | NO |
| Innhold | OIL/GAS |
| Funnbrønnbane | NO |
| 1. nivå med hydrokarboner, alder | MIDDLE JURASSIC |
| 1. nivå med hydrokarboner, formasjon. | GARN FM |
| 2. nivå med hydrokarboner, alder | MIDDLE JURASSIC |
| 2. nivå med hydrokarboner, formasjon | ILE FM |
| Avstand, boredekk - midlere havflate [m] | 25.0 |
| Vanndybde ved midlere havflate [m] | 256.0 |
| Totalt målt dybde (MD) [m RKB] | 2695.0 |
| Totalt vertikalt dybde (TVD) [m RKB] | 2599.5 |
| Maks inklinasjon [°] | 21 |
| Temperatur ved bunn av brønnbanen [°C] | 93 |

| | |
|---|---|
| Eldste penetrerte alder | EARLY JURASSIC |
| Eldste penetrerte formasjon | ROR FM |
| Geodetisk datum | ED50 |
| NS grader | 65° 0' 18.57'' N |
| ØV grader | 7° 33' 25.23'' E |
| NS UTM [m] | 7209986.27 |
| ØV UTM [m] | 431967.60 |
| UTM sone | 32 |
| NPDID for brønnbanen | 3193 |

## Brønnhistorie

**General**

The Midgard field is situated in the northeastern part of the Halten Terrace on a north south trending horst system, which is separated into 4 major segments. Four wells have been drilled on the Midgard Field, one in each of the segments Alfa, Beta, Gamma and Delta. Well 6507/11-5S was drilled as an appraisal well in the Gamma segment. The main objective of the well was to confirm the oil zone in the Ile Formation and to become a future gas producer on the Midgard field. The well should collect data on reservoir quality and fluid distribution related to both the oil and gas zones in the Midgard field.

**Operations and results**

Wildcat well 6507/11-5 S was spudded with the semi-submersible installation Deepsea Trym on 5 September 1997 and drilled to TD at 2695 m in the Middle Jurassic Ror Formation. Major operational problems were encountered leading to significant downtime. Firstly, one day was lost when the well drilled into shallow gas class II at 582 m. The well was killed and a cement plug was set. The 20" casing had to be set above the shallow gas zone. Second, fourteen days were lost due to heave compensator failures. Third, three days were lost when logging tools got stuck and failures on logging equipment appeared. The well was vertical down to 700 m where it built angle to 19.5 deg at 1350 m. This angle was kept down to TD. The well was drilled with seawater and hi-vis pills down to 547 m and with KCl/PAC mud from 547 m to TD.

The 6507 /11-5 S well proved 114 m TVD of gas and 11.5 m TVD of oil in the Fangst Group. This was deduced from FMT sampling and petrophysical evaluation of wire line logs. The GOC was found at 2605 m (2515 m TVD RKB) and the OWC at 2617.4 m (2526.5 m TVD RKB). Three wire line fluid samples were taken in Ile (FMT gas sample at 2592.9 m, RCI oil sample at 2608.3 m, and FMT water sample at 2622.1 m), and one in Garn (FMT gas sample at 2500 m).

The well was suspended on 28 October as an oil and gas appraisal well. It was re-entered in January 2000 and taken in use as a gas producer.

**Testing**

No drill stem test was performed.

## Borekaks i Sokkeldirektoratet

| Borekaksprøve, topp dybde [m] | Borekaksprøve, bunn dybde [m] |
|---|---|
| 560.00 | 2484.00 |

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

### Borekjerner i Sokkeldirektoratet

| Kjerneprøve nummer | Kjerneprøve - topp dybde | Kjerneprøve - bunn dybde | Kjerneprøve dybde - enhet |
|---|---|---|---|
| 1 | 2488.0 | 2508.0 | [m ] |
| 2 | 2508.0 | 2534.7 | [m ] |
| 3 | 2535.0 | 2539.6 | [m ] |
| 4 | 2541.0 | 2554.0 | [m ] |
| 5 | 2554.0 | 2582.0 | [m ] |
| 6 | 2582.0 | 2608.5 | [m ] |
| 7 | 2609.0 | 2645.3 | [m ] |

| | |
|---|---|
| Total kjerneprøve lengde [m] | 155.0 |
| Kjerner tilgjengelig for prøvetaking? | YES |

### Kjernebilder


2488-2493m


2493-2498m


2498-2503m


2503-2508m


2508-2513m


2513-2518m


2518-2523m


2523-2528m


2528-2533m


2533-2534m

2535-2539m 2541-2546m 2546-2551m 2551-2554m 2554-2559m





2559-2564m 2564-2569m 2569-2574m 2574-2579m 2579-2582m





2582-2587m 2587-2592m 2592-2597m 2597-2602m 2602-2607m





2607-2608m 2609-2514m 2614-2619m 2619-2624m 2624-2629m

**Palynologiske preparater i Sokkeldirektoratet**

| Prøve dybde | Dybde enhet | Prøve type | Laboratorie |
|---|---|---|---|
| 1710.0 | [m] | DC | RRI |
| 1720.0 | [m] | DC | RRI |
| 1740.0 | [m] | DC | RRI |
| 1750.0 | [m] | DC | RRI |
| 1770.0 | [m] | DC | RRI |
| 1780.0 | [m] | DC | RRI |
| 1800.0 | [m] | DC | RRI |
| 1810.0 | [m] | DC | RRI |
| 1830.0 | [m] | DC | RRI |
| 1840.0 | [m] | DC | RRI |
| 1860.0 | [m] | DC | RRI |
| 1870.0 | [m] | DC | RRI |
| 1890.0 | [m] | DC | RRI |
| 1900.0 | [m] | DC | RRI |

| | | | |
|---|---|---|---|
| 1920.0 | [m] | DC | RRI |
| 1930.0 | [m] | DC | RRI |
| 1950.0 | [m] | DC | RRI |
| 1960.0 | [m] | DC | RRI |
| 1980.0 | [m] | DC | RRI |
| 1990.0 | [m] | DC | RRI |
| 2000.0 | [m] | DC | RRI |
| 2020.0 | [m] | DC | RRI |
| 2040.0 | [m] | DC | RRI |
| 2050.0 | [m] | DC | RRI |
| 2070.0 | [m] | DC | RRI |
| 2090.0 | [m] | DC | RRI |
| 2100.0 | [m] | DC | RRI |
| 2110.0 | [m] | DC | RRI |
| 2130.0 | [m] | DC | RRI |
| 2140.0 | [m] | DC | RRI |
| 2160.0 | [m] | DC | RRI |
| 2170.0 | [m] | DC | RRI |
| 2190.0 | [m] | DC | RRI |
| 2200.0 | [m] | DC | RRI |
| 2230.0 | [m] | DC | RRI |
| 2250.0 | [m] | DC | RRI |
| 2260.0 | [m] | DC | RRI |
| 2270.0 | [m] | DC | RRI |
| 2290.0 | [m] | DC | RRI |
| 2313.0 | [m] | DC | RRI |
| 2325.0 | [m] | DC | RRI |
| 2340.0 | [m] | DC | RRI |
| 2355.0 | [m] | DC | RRI |
| 2370.0 | [m] | DC | RRI |
| 2373.0 | [m] | DC | RRI |
| 2382.0 | [m] | DC | RRI |
| 2391.0 | [m] | DC | RRI |
| 2400.0 | [m] | DC | RRI |
| 2403.0 | [m] | DC | RRI |
| 2412.0 | [m] | DC | RRI |
| 2418.0 | [m] | DC | RRI |
| 2424.0 | [m] | DC | RRI |
| 2430.0 | [m] | DC | RRI |
| 2439.0 | [m] | DC | RRI |

| | | | |
|---|---|---|---|
| 2442.0 | [m] | DC | RRI |
| 2448.0 | [m] | DC | RRI |
| 2457.0 | [m] | DC | RRI |
| 2460.0 | [m] | DC | RRI |
| 2463.0 | [m] | DC | RRI |
| 2472.0 | [m] | DC | RRI |
| 2478.0 | [m] | DC | RRI |
| 2484.0 | [m] | DC | RRI |
| 2488.1 | [m] | C | RRI |
| 2495.0 | [m] | C | RRI |
| 2499.8 | [m] | C | RRI |
| 2528.0 | [m] | C | RRI |
| 2535.4 | [m] | C | RRI |
| 2541.1 | [m] | C | RRI |
| 2546.8 | [m] | C | RRI |
| 2550.9 | [m] | C | RRI |
| 2554.5 | [m] | C | RRI |
| 2559.8 | [m] | C | RRI |
| 2572.0 | [m] | C | RRI |
| 2576.9 | [m] | C | RRI |
| 2582.1 | [m] | C | RRI |
| 2588.6 | [m] | C | RRI |
| 2594.8 | [m] | C | RRI |
| 2600.3 | [m] | C | RRI |
| 2612.5 | [m] | C | RRI |
| 2618.8 | [m] | C | RRI |
| 2623.6 | [m] | C | RRI |
| 2629.7 | [m] | C | RRI |
| 2636.7 | [m] | C | RRI |
| 2640.3 | [m] | C | RRI |
| 2644.3 | [m] | C | RRI |

**Litostratigrafi**

| Topp Dyb [mMD RKB] | Litostrat. enhet |
|---|---|
| 281 | NORDLAND GP |
| 281 | NAUST FM |
| 1401 | KAI FM |
| 1550 | HORDALAND GP |

| | |
|---|---|
| 1550 | BRYGGE FM |
| 2018 | ROGALAND GP |
| 2018 | TARE FM |
| 2062 | TANG FM |
| 2151 | SHETLAND GP |
| 2151 | SPRINGAR FM |
| 2226 | NISE FM |
| 2310 | KVITNOS FM |
| 2393 | CROMER KNOLL GP |
| 2393 | LANGE FM |
| 2420 | LYR FM |
| 2434 | VIKING GP |
| 2434 | SPEKK FM |
| 2445 | MELKE FM |
| 2484 | FANGST GP |
| 2484 | GARN FM |
| 2539 | NOT FM |
| 2554 | ILE FM |
| 2624 | BÅT GP |
| 2624 | ROR FM |

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

| Dokument navn | Dokument format | Dokument størrelse [KB] |
|---|---|---|
| 3193_6507_11_5_S_COMPLETION_LOG | pdf | 2.70 |
| 3193_6507_11_5_S_COMPLETION_REPORT | pdf | 22.19 |

**Logger**

| Type logg | Topp dyp for logg [m] | Bunn dyp for logg [m] |
|---|---|---|
| DLL MLL MAC DSL CHT | 2478 | 2693 |
| FMT QD GR CHT | 2500 | 2500 |
| FMT QD GR CHT | 2592 | 2592 |
| FMT QD GR CHT | 2622 | 2622 |
| MWD | 281 | 2695 |
| RCI GR TTRM | 2485 | 2523 |
| VSP GR CHT | 1378 | 2690 |
| ZDL CND GR CHT | 2478 | 2692 |

### 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 | 340.0 | 36 | 342.0 | 0.00 | LOT |
| SURF.COND. | 20 | 542.0 | 26 | 544.0 | 1.30 | LOT |
| INTERM. | 13 3/8 | 1533.0 | 17 1/2 | 1534.0 | 1.90 | LOT |
| INTERM. | 9 5/8 | 2479.0 | 12 1/4 | 2480.0 | 0.00 | LOT |
| OPEN HOLE | | 2695.0 | 8 1/2 | 2695.0 | 0.00 | LOT |

### Boreslam

| Dybde MD [m] | Egenvekt, slam [g/cm3] | Viskositet, slam [mPa.s] | Flytegrense [Pa] | Type slam | Dato, måling |
|---|---|---|---|---|---|
| 1536 | 1.18 | 21.0 | | QUADRILL | |
| 1598 | 1.39 | | | DUMMY | |
| 2100 | 1.55 | 32.0 | | QUADRILL | |
| 2484 | 1.20 | 24.0 | | QUADRILL | |
| 2508 | 1.20 | 20.0 | | QUADRILL | |
| 2541 | 1.20 | 24.0 | | QUADRILL | |
| 2554 | 1.20 | 18.0 | | QUADRILL | |
| 2696 | 1.20 | 17.0 | | QUADRILL | |

### 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] |
|---|---|---|
| 3193_Formation_pressure_(Formasjonstrykk) | pdf | 0.27 |