## Generell informasjon

| | |
|---|---|
| Brønnbane navn | 6/3-1 |
| Type | EXPLORATION |
| Formål | WILDCAT |
| Status | P&A |
| Faktakart i nytt vindu | lenke til kart |
| Hovedområde | NORTH SEA |
| Felt | GAUPE |
| Funn | 6/3-1 PI |
| Brønn navn | 6/3-1 |
| Seismisk lokalisering | 511-115 SP. 160 |
| Utvinningstillatelse | 086 |
| Boreoperatør | Den norske stats oljeselskap a.s |
| Boretillatelse | 441-L |
| Boreinnretning | DEEPSEA BERGEN |
| Boredager | 92 |
| Borestart | 02.11.1984 |
| Boreslutt | 01.02.1985 |
| Frigitt dato | 01.02.1987 |
| Publiseringsdato | 11.02.2005 |
| Opprinnelig formål | WILDCAT |
| Gjenåpnet | NO |
| Innhold | OIL/GAS |
| Funnbrønnbane | YES |
| 1. nivå med hydrokarboner, alder | LATE JURASSIC |
| 1. nivå med hydrokarboner, formasjon. | INTRA DRAUPNE FM SS |
| 2. nivå med hydrokarboner, alder | LATE CRETACEOUS |
| 2. nivå med hydrokarboner, formasjon | HOD FM |
| 3. nivå med hydrokarboner, alder | LATE TRIASSIC |
| 3. nivå med hydrokarboner, formasjon | SKAGERRAK FM |
| Avstand, boredekk - midlere havflate [m] | 23.0 |
| Vanndybde ved midlere havflate [m] | 86.0 |
| Totalt målt dybde (MD) [m RKB] | 3560.0 |
| Totalt vertikalt dybde (TVD) [m RKB] | 3560.0 |
| Maks inklinasjon [°] | 2 |

| | |
|---|---|
| Temperatur ved bunn av brønnbanen [°C] | 148 |
| Eldste penetrerte alder | LATE TRIASSIC |
| Eldste penetrerte formasjon | SKAGERRAK FM |
| Geodetisk datum | ED50 |
| NS grader | 57° 58' 10.2'' N |
| ØV grader | 1° 55' 30.38'' E |
| NS UTM [m] | 6425966.20 |
| ØV UTM [m] | 436408.30 |
| UTM sone | 31 |
| NPDID for brønnbanen | 450 |

**Brønnhistorie**

**General**

Wildcat well 6/3-1 was drilled on the Pi-structure in the northwestern part of the block. The well is situated less than 1 km from the UK-Norwegian median line, where the UK Drake Field, an oil/gas field in UK block 2215was discovered close to the median line. Well 6/3-1 was designed to test possible hydrocarbon accumulations at different levels. The main target was Jurassic and Triassic sandstones. Secondary targets were Paleocene sandstones (Heimdal Formation), and Late Cretaceous porous/fractured chalk.

**Operations and results**

The well was spudded with the semi-submersible installation Deepsea Bergen 2 November 1984 and drilled to TD at 3560 m in the Triassic Skagerrak Formation. Drilling of the well proceeded without significant problems, but five and a half rig days were spent waiting on weather. The well was drilled with gel/seawater to 520 m, with gypsum/polymer from 520 m to 2926 m, and with lignite/lignosulphonate from 2926 m to TD.

Target reservoir sandstones of Jurassic/Triassic age came in at 2965 m with oil and gas/condensate. A hydrocarbon column of 72 m was proven with oil/water contact at 3037 m. FMT gradients and oil stain on cores indicated a GOC at 3013 m. Secondary target sand (Heimdal Formation) was not found. Logs and shows indicated hydrocarbons in Late Cretaceous chalk/limestone, most strongly from 2900 m to 2925 m, but test of this interval was negative. FMT pressure measurements in the larger interval from 2804 m to 2918.5 m in the chalk were all unsuccessful and showed a tight formation. Eight cores were cut in the well from 2968 m to 3116.5 m. Segregated FMT samples were taken at 3021.5 m (0.87 g/cm3-oil and gas), at 3007.5 m (0.780 g/cm3-condensate, gas, and mud filtrate), at 3016 m (oil, mud filtrate, and gas), at 2992 m (0.77 g/cm3-condensate, mud filtrate, and gas), at 2998.5 m (condensate and gas), and at 2966 m (0.77 g/cm3-condensate, mud filtrate, and gas).

The well was permanently abandoned as an oil and gas discovery on 2 January 1985.

**Testing**

Three Drill Stem Tests were performed. DST 1 at 3015 m to 3023 m produced 907.5 m3 oil/day and 140 700 Sm3 gas/day on a 64/64" choke and wellhead pressure equal to 51.7 bar. CO2 content in the gas was 2.2 % and H2S content was 1.1 ppm. DST 2 at 2978 m to 2993 m produced 409.4 m3 oil/day and 889 900 Sm3 gas/day on a 72/64" choke and wellhead pressure equal to 95.8 bar. CO2 content in the gas was 2.0 % and H2S content was 2.0 ppm. DST 3 at 2902-2921 m was opened up on a 12/64" choke. It gave no response from the well. Acid was pumped to stimulate flow, but only 2.6 m3 diesel cushion was produced before the well died. Mud with traces of oil was recovered when reversing out the string volume above the circulating valve.

## Borekaks i Sokkeldirektoratet

| Borekaksprøve, topp dybde [m] | Borekaksprøve, bunn dybde [m] |
|---|---|
| 180.00 | 3560.00 |

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

## Borekjerner i Sokkeldirektoratet

| Kjerneprøve nummer | Kjerneprøve - topp dybde | Kjerneprøve - bunn dybde | Kjerneprøve dybde - enhet |
|---|---|---|---|
| 1 | 2967.0 | 2985.3 | [m ] |
| 2 | 2986.0 | 2987.7 | [m ] |
| 3 | 2988.0 | 3006.7 | [m ] |
| 4 | 3007.0 | 3024.9 | [m ] |
| 5 | 3025.0 | 3043.0 | [m ] |
| 6 | 3043.0 | 3061.6 | [m ] |
| 7 | 3061.6 | 3089.0 | [m ] |
| 8 | 3089.0 | 3116.5 | [m ] |

| | |
|---|---|
| Total kjerneprøve lengde [m] | 148.1 |
| Kjerner tilgjengelig for prøvetaking? | YES |

## Kjernebilder


2967-2985m


2967-2985m

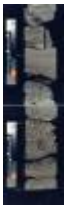

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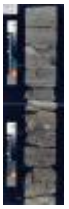

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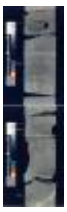

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3043-3061m


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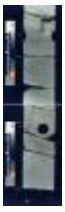

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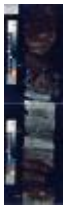

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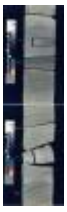
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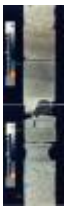

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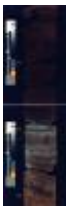

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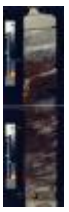

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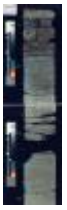

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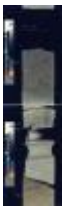

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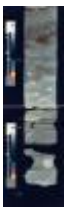

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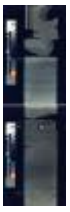

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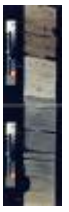
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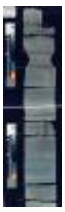
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**Palynologiske preparater i Sokkeldirektoratet**

| Prøve dybde | Dybde enhet | Prøve type | Laboratorie |
|---|---|---|---|
| 2410.0 | [m] | DC | |
| 2445.0 | [m] | DC | |
| 2475.0 | [m] | DC | |

| | | | |
|---|---|---|---|
| 2507.5 | [m] | SWC | |
| 2537.5 | [m] | SWC | |
| 2567.5 | [m] | SWC | |
| 2602.5 | [m] | SWC | |
| 2640.0 | [m] | DC | |
| 2960.0 | [m] | DC | STATOIL |
| 2965.0 | [m] | DC | STATOI |
| 2969.5 | [m] | C | |
| 2970.0 | [m] | DC | STATOIL |
| 2975.0 | [m] | DC | STATOI |
| 2980.0 | [m] | DC | STATOI |
| 2980.7 | [m] | C | |
| 2985.0 | [m] | DC | STATOIL |
| 2986.8 | [m] | C | |
| 2987.5 | [m] | C | |
| 2988.3 | [m] | C | |
| 2990.0 | [m] | DC | STATOIL |
| 2995.0 | [m] | DC | STATOI |
| 2996.4 | [m] | C | |
| 3000.0 | [m] | DC | STATOIL |
| 3004.4 | [m] | C | |
| 3007.0 | [m] | DC | STATOIL |
| 3011.5 | [m] | SWC | |
| 3012.5 | [m] | SWC | STATOIL |
| 3020.0 | [m] | DC | STATOI |
| 3022.7 | [m] | C | |
| 3027.5 | [m] | SWC | STATOIL |
| 3028.5 | [m] | SWC | |
| 3032.5 | [m] | SWC | STATOIL |
| 3037.0 | [m] | DC | STATOI |
| 3043.5 | [m] | SWC | |
| 3045.0 | [m] | DC | STATOIL |
| 3057.5 | [m] | SWC | STATOI |
| 3065.0 | [m] | DC | STATOI |
| 3400.0 | [m] | DC | STATOI |
| 3410.0 | [m] | DC | STATOI |
| 3420.0 | [m] | DC | STATOI |
| 3430.0 | [m] | DC | STATOI |
| 3450.0 | [m] | DC | STATOI |
| 3460.0 | [m] | DC | STATOI |

| | | | |
|---|---|---|---|
| 3470.0 | [m] | DC | STATOI |
| 3480.0 | [m] | DC | STATOI |
| 3490.0 | [m] | DC | STATOI |
| 3500.0 | [m] | DC | STATOI |
| 3510.0 | [m] | DC | STATOI |
| 3520.0 | [m] | DC | STATOI |
| 3530.0 | [m] | DC | STATOI |
| 3540.0 | [m] | DC | STATOI |
| 3550.0 | [m] | DC | STATOI |
| 3560.0 | [m] | DC | STATOI |

**Oljeprøver i Sokkeldirektoratet**

| Test type | Flaske nummer | Topp dyp MD [m] | Bunn dyp MD [m] | Væske type | Test tidspunkt | Prøver tilgjengelig |
|---|---|---|---|---|---|---|
| DST | TEST1 | 3023.00 | 3015.00 | | 08.01.1985 - 00:00 | YES |
| DST | TEST2 | 2993.00 | 2978.00 | | 15.01.1985 - 22:30 | YES |
| DST | TEST3 | 2921.00 | 2902.00 | | 21.01.1985 - 00:00 | YES |

**Litostratigrafi**

| Top depth [mMD RKB] | Lithostrat. unit |
|---|---|
| 109 | NORDLAND GP |
| 1183 | HORDALAND GP |
| 2435 | ROGALAND GP |
| 2435 | BALDER FM |
| 2449 | SELE FM |
| 2536 | LISTA FM |
| 2637 | VÅLE FM |
| 2673 | SHETLAND GP |
| 2673 | EKOFISK FM |
| 2679 | TOR FM |
| 2744 | HOD FM |
| 2922 | CROMER KNOLL GP |
| 2922 | SOLA FM |
| 2950 | ÅSGARD FM |

| | |
|---|---|
| 2963 | VIKING GP |
| 2963 | DRAUPNE FM |
| 2965 | INTRA DRAUPNE FM SS |
| 2978 | NO GROUP DEFINED |
| 2978 | SKAGERRAK FM |

### Spleisede logger

| Dokument navn | Dokument format | Dokument størrelse [KB] |
|---|---|---|
| 450 | pdf | 0.54 |

### Geokjemisk informasjon

| Dokument navn | Dokument format | Dokument størrelse [KB] |
|---|---|---|
| 450_1 | pdf | 6.74 |

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

| Dokument navn | Dokument format | Dokument størrelse [KB] |
|---|---|---|
| 450_01_WDSS_General_Information | pdf | 0.26 |
| 450_02_WDSS_completion_log | pdf | 0.26 |

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

| Dokument navn | Dokument format | Dokument størrelse [KB] |
|---|---|---|
| 450_01_Completion_Report | pdf | 13.18 |
| 450_02_Completion_log | pdf | 1.98 |

### Borestrengtester (DST)

| Test nummer | Fra dybde MD [m] | Til dybde MD [m] | Reduksjonsven til størrelse [mm] |
|---|---|---|---|
| 1.0 | 3015 | 3023 | 19.5 |
| 1.1 | 3015 | 3023 | 25.4 |

| | | | |
|---|---|---|---|
| 2.0 | 2978 | 2993 | 25.4 |
| 3.0 | 2902 | 2921 | 0.0 |

| Test nummer | Endelig avstengningstrykk [MPa] | Endelig strømningstrykk [MPa] | Bunnhullstrykk [MPa] | Borehullstemperatur [°C] |
|---|---|---|---|---|
| 1.0 | | | | |
| 1.1 | | | | |
| 2.0 | 36.000 | 12.000 | 35.000 | |
| 3.0 | | | 39.000 | |

| Test nummer | Olje produksjon [Sm3/dag] | Gass produksjon [Sm3/dag] | Oljetetthet [g/cm3] | Gasstyngde rel. luft | GOR [m3/m3] |
|---|---|---|---|---|---|
| 1.0 | 765 | 121000 | 0.860 | | 158 |
| 1.1 | 907 | 141000 | 0.860 | | 155 |
| 2.0 | 409 | 889900 | 0.768 | | 2176 |
| 3.0 | | | | | |

## Logger

| Type logg | Topp dyp for logg [m] | Bunn dyp for logg [m] |
|---|---|---|
| ACBL VDL GR | 110 | 1600 |
| ACBL VDL GR | 1001 | 2885 |
| ACBL VDL GR | 2700 | 3052 |
| CDL CNL GR CAL | 1599 | 2925 |
| CDL CNL GR CAL | 2884 | 3558 |
| CDL CNL GR CAL SP | 2885 | 3114 |
| CDL GR CAL | 501 | 1627 |
| DIFL BHC AC GR SP CAL | 110 | 3559 |
| DIPLOG | 2440 | 3559 |
| DLL ML | 2600 | 3115 |
| DLWD | 1632 | 3560 |
| FMT | 2804 | 2902 |
| FMT | 2966 | 3106 |
| VELOCITY | 830 | 3560 |

## 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 | 170.0 | 36 | 175.0 | 0.00 | LOT |
| SURF.COND. | 20 | 502.0 | 26 | 520.0 | 1.37 | LOT |
| INTERM. | 13 3/8 | 1600.0 | 17 1/2 | 1630.0 | 1.79 | LOT |
| INTERM. | 9 5/8 | 2889.0 | 12 1/4 | 2926.0 | 1.70 | LOT |
| LINER | 7 | 3560.0 | 8 1/2 | 3560.0 | 0.00 | LOT |

**Boreslam**

| Dybde MD [m] | Egenvekt, slam [g/cm3] | Viskositet, slam [mPa.s] | Flytegrense [Pa] | Type slam | Dato, måling |
|---|---|---|---|---|---|
| 137 | 1.04 | 130.0 | 24.0 | WATER BASED | 05.11.1984 |
| 172 | 1.04 | 44.0 | 16.0 | WATER BASED | 05.11.1984 |
| 175 | 1.06 | 48.0 | 16.0 | WATER BASED | 05.11.1984 |
| 520 | 1.09 | 42.0 | 13.0 | WATER BASED | 06.11.1984 |
| 520 | 1.10 | 41.0 | 13.0 | WATER BASED | 07.11.1984 |
| 520 | 1.10 | 41.0 | 13.0 | WATER BASED | 07.11.1984 |
| 686 | 1.12 | 49.0 | 11.5 | WATER BASED | 12.11.1984 |
| 928 | 1.14 | 51.0 | 11.5 | WATER BASED | 12.11.1984 |
| 1050 | 1.14 | 51.0 | 11.5 | WATER BASED | 12.11.1984 |
| 1225 | 1.15 | 51.0 | 11.5 | WATER BASED | 12.11.1984 |
| 1456 | 1.14 | 61.0 | 12.4 | WATER BASED | 13.11.1984 |
| 1630 | 1.15 | 62.0 | 12.4 | WATER BASED | 14.11.1984 |
| 1630 | 1.21 | 57.0 | 9.0 | WATER BASED | 19.11.1984 |
| 1630 | 1.21 | 57.0 | 9.0 | WATER BASED | 19.11.1984 |
| 1700 | 1.20 | 61.0 | 7.0 | WATER BASED | 22.11.1984 |
| 1848 | 1.20 | 64.0 | 9.0 | WATER BASED | 22.11.1984 |
| 2156 | 1.18 | 46.0 | 7.0 | WATER BASED | 23.11.1984 |
| 2555 | 1.20 | 48.0 | 9.0 | WATER BASED | 26.11.1984 |
| 2630 | 1.21 | 52.0 | 11.0 | WATER BASED | 26.11.1984 |
| 2656 | 1.21 | 47.0 | 11.0 | WATER BASED | 27.11.1984 |
| 2757 | 1.20 | 46.0 | 9.6 | WATER BASED | 29.11.1984 |
| 2870 | 1.20 | 44.0 | 9.0 | WATER BASED | 30.11.1984 |
| 2926 | 1.35 | 45.0 | 7.7 | WATER BASED | 03.12.1984 |
| 2968 | 1.45 | | | WATER BASED | 11.12.1984 |
| 3021 | 1.45 | 54.0 | 6.0 | WATER BASED | 25.01.1985 |
| 3066 | 1.35 | 60.0 | 6.0 | WATER BASED | 02.01.1985 |
| 3117 | 1.40 | 57.0 | 6.0 | WATER BASED | 17.12.1984 |

| | | | | | |
|---|---|---|---|---|---|
| 3454 | 1.40 | 54.0 | 7.2 | WATER BASED | 27.12.1984 |
| 3560 | 1.38 | 53.0 | 6.2 | WATER BASED | 27.12.1984 |

## 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] |
|---|---|---|
| 450_Formation_pressure_(Formasjonstrykk) | pdf | 0.22 |