



## Generell informasjon

|                                          |                                  |
|------------------------------------------|----------------------------------|
| Brønnbane navn                           | 34/10-31                         |
| Type                                     | EXPLORATION                      |
| Formål                                   | APPRAISAL                        |
| Status                                   | P&A                              |
| Faktakart i nytt vindu                   | <a href="#">lenke til kart</a>   |
| Hovedområde                              | NORTH SEA                        |
| Felt                                     | <a href="#">GULLFAKS</a>         |
| Funn                                     | <a href="#">34/10-1 Gullfaks</a> |
| Brønn navn                               | 34/10-31                         |
| Seismisk lokalisering                    | ST 8488 - 2111 SP. 516           |
| Utvinningstillatelse                     | <a href="#">050</a>              |
| Boreoperatør                             | Den norske stats oljeselskap a.s |
| Boretillatelse                           | 502-L                            |
| Boreinnretning                           | <a href="#">WEST VENTURE OLD</a> |
| Boredager                                | 67                               |
| Borestart                                | 01.02.1986                       |
| Boreslutt                                | 08.04.1986                       |
| Frigitt dato                             | 08.04.1988                       |
| Publiseringsdato                         | 21.12.2012                       |
| Opprinnelig formål                       | APPRAISAL                        |
| Gjenåpnet                                | NO                               |
| Innhold                                  | GAS                              |
| Funnbrønnbane                            | NO                               |
| 1. nivå med hydrokarboner, alder         | PLIOCENE                         |
| 1. nivå med hydrokarboner, formasjon.    | NORDLAND GP                      |
| Avstand, boredekk - midlere havflate [m] | 32.0                             |
| Vanndybde ved midlere havflate [m]       | 132.0                            |
| Totalt målt dybde (MD) [m RKB]           | 420.0                            |
| Totalt vertikalt dybde (TVD) [m RKB]     | 420.0                            |
| Maks inklinasjon [°]                     | 1.6                              |
| Eldste penetrerte alder                  | PLIOCENE                         |
| Eldste penetrerte formasjon              | NORDLAND GP                      |
| Geodetisk datum                          | ED50                             |
| NS grader                                | 61° 10' 32.4" N                  |
| ØV grader                                | 2° 11' 15.46" E                  |
| NS UTM [m]                               | 6782786.74                       |



|                      |           |
|----------------------|-----------|
| ØV UTM [m]           | 456303.61 |
| UTM sone             | 31        |
| NPDID for brønnbanen | 887       |

## Brønnhistorie

### General

Well 34/10-31 was drilled on the Gullfaks Field to drain possible shallow gas sands at the platform A location on the Gullfaks Field.

### Operations and results

Appraisal well 34/10-31 was spudded with the semi-submersible installation West Venture on 8 April 1986 and drilled to TD at 420 m in Pliocene sediments in the Nordland Group. No significant problem was encountered in the operations. The well was drilled with water based mud.

Top Pliocene was encountered at 295 m. Electric logs through the 12 1/4" section proved three shallow gas sand layers at 344 - 346 m, 350 - 352 m, and 384.5 and 385.5 m. Average gas saturation in the three sands were estimated to 60%, 15%, and 40%, respectively.

No cores were cut and no fluid samples were taken. Cuttings samples were taken every 5 m from 270 m to TD.

The well was permanently abandoned on 14 December 1985.

### Testing

A production test was conducted from the interval 344 to 346.5 m. Shallow gas was produced from 17 February up to 4 April when it was terminated due to an upcoming strike. A total of 2453203 Sm<sup>3</sup> gas was produced at an average rate of ca 65000 Sm<sup>3</sup> gas/day during the main draining flow. The gas gravity was 0.552 - 0.560 (air = 1). The reservoir temperature was reported to be 14 deg C.

## Borekaks i Sokkeldirektoratet

|                               |                               |
|-------------------------------|-------------------------------|
| Borekaksprøve, topp dybde [m] | Borekaksprøve, bunn dybde [m] |
| 275.00                        | 420.00                        |

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

## Litostratigrafi

|                       |                             |
|-----------------------|-----------------------------|
| Topp Dyb<br>[mMD RKB] | Litostrat. enhet            |
| 164                   | <a href="#">NORDLAND GP</a> |



Dokumenter - rapportert av utvinningstillatelsen (frigitt ihht til regelverk)

| Dokument navn                                  | Dokument format | Dokument størrelse [KB] |
|------------------------------------------------|-----------------|-------------------------|
| <a href="#">887_34_10_31_Completion_log</a>    | pdf             | 0.43                    |
| <a href="#">887_34_10_31_Completion_report</a> | pdf             | 7.97                    |

Borestrengtester (DST)

| Test nummer | Fra dybde MD [m] | Til dybde MD [m] | Reduksjonsven til størrelse [mm] |
|-------------|------------------|------------------|----------------------------------|
| 1.0         | 342              | 345              | 4.0                              |
| 2.0         | 344              | 347              | 9.5                              |
| 2.1         | 344              | 347              | 34.9                             |
| 2.2         | 344              | 347              | 34.9                             |
| 2.3         | 344              | 347              | 50.6                             |
| 2.4         | 344              | 347              | 50.8                             |
| 2.5         | 344              | 347              | 50.8                             |
| 2.6         | 344              | 347              | 50.8                             |
| 2.7         | 344              | 347              | 50.8                             |
| 2.8         | 344              | 347              | 50.8                             |
| 2.9         | 344              | 347              | 50.8                             |
| 3.0         | 344              | 347              | 50.8                             |
| 3.1         | 344              | 347              | 50.8                             |
| 3.2         | 344              | 347              | 50.8                             |
| 3.3         | 344              | 347              | 50.8                             |
| 3.4         | 344              | 347              | 50.8                             |
| 3.5         | 344              | 347              | 50.8                             |
| 3.6         | 344              | 347              | 50.8                             |
| 3.7         | 344              | 347              | 50.8                             |
| 3.8         | 344              | 347              | 50.8                             |

| Test nummer | Endelig avstengningstrykk [MPa] | Endelig strømningstrykk [MPa] | Bunnhullstrykk [MPa] | Borehullstemperatur [°C] |
|-------------|---------------------------------|-------------------------------|----------------------|--------------------------|
| 1.0         | 2.000                           | 2.000                         |                      |                          |
| 2.0         | 3.000                           | 3.000                         |                      |                          |
| 2.1         |                                 |                               | 3.000                |                          |





|     |       |  |       |  |
|-----|-------|--|-------|--|
| 2.2 |       |  | 3.000 |  |
| 2.3 |       |  | 3.000 |  |
| 2.4 |       |  | 8.000 |  |
| 2.5 |       |  | 8.000 |  |
| 2.6 |       |  | 8.000 |  |
| 2.7 |       |  | 8.000 |  |
| 2.8 |       |  | 1.000 |  |
| 2.9 |       |  | 1.000 |  |
| 3.0 |       |  |       |  |
| 3.1 |       |  |       |  |
| 3.2 |       |  |       |  |
| 3.3 |       |  | 1.000 |  |
| 3.4 |       |  | 1.000 |  |
| 3.5 |       |  | 1.000 |  |
| 3.6 |       |  | 1.000 |  |
| 3.7 |       |  | 1.000 |  |
| 3.8 | 2.000 |  | 2.000 |  |

| Test nummer | Olje produksjon [Sm3/dag] | Gass produksjon [Sm3/dag] | Oljetetthet [g/cm3] | Gasstygde rel. luft | GOR [m3/m3] |
|-------------|---------------------------|---------------------------|---------------------|---------------------|-------------|
| 1.0         |                           |                           |                     |                     |             |
| 2.0         |                           | 37000                     |                     |                     |             |
| 2.1         |                           | 57000                     |                     |                     |             |
| 2.2         |                           | 57000                     |                     |                     |             |
| 2.3         |                           | 76000                     |                     |                     |             |
| 2.4         |                           | 70000                     |                     |                     |             |
| 2.5         |                           | 68000                     |                     |                     |             |
| 2.6         |                           | 67000                     |                     |                     |             |
| 2.7         |                           | 67000                     |                     |                     |             |
| 2.8         |                           | 62000                     |                     |                     |             |
| 2.9         |                           | 61000                     |                     |                     |             |
| 3.0         |                           | 64000                     |                     |                     |             |
| 3.1         |                           | 64000                     |                     |                     |             |
| 3.2         |                           | 67000                     |                     |                     |             |
| 3.3         |                           | 66000                     |                     |                     |             |
| 3.4         |                           | 65000                     |                     |                     |             |
| 3.5         |                           | 64000                     |                     |                     |             |
| 3.6         |                           | 64000                     |                     |                     |             |
| 3.7         |                           | 63000                     |                     |                     |             |



|     |  |       |  |  |  |
|-----|--|-------|--|--|--|
| 3.8 |  | 63000 |  |  |  |
|-----|--|-------|--|--|--|

Logger

| Type logg       | Topp dyp<br>for logg [m] | Bunn dyp for<br>logg [m] |
|-----------------|--------------------------|--------------------------|
| CBL VDL GR      | 167                      | 389                      |
| ISF BHC MSFL GR | 419                      | 310                      |
| LDL CNL CAL GR  | 310                      | 419                      |
| MWD             | 240                      | 420                      |

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                            | 240.5                    | 36                             | 270.0                   | 0.00                            | LOT                    |
| INTERM.       | 13 3/8                        | 310.0                    | 17 1/2                         | 315.0                   | 1.23                            | LOT                    |
| INTERM.       | 9 5/8                         | 412.0                    | 12 1/4                         | 420.0                   | 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 |
|-----------------|------------------------------|--------------------------------|---------------------|-------------|--------------|
| 181             | 1.03                         | 1.0                            |                     | WATER BASED | 10.04.1986   |
| 315             | 1.10                         | 8.0                            | 14.0                | WATER BASED | 05.02.1986   |
| 315             | 1.10                         | 8.0                            | 14.0                | WATER BASED | 17.02.1986   |
| 315             | 1.12                         | 1.0                            |                     | WATER BASED | 17.02.1986   |
| 315             | 1.12                         | 1.0                            |                     | WATER BASED | 18.02.1986   |