



## Generell informasjon

|                                          |                                |
|------------------------------------------|--------------------------------|
| Brønnbane navn                           | 33/9-16                        |
| Type                                     | EXPLORATION                    |
| Formål                                   | WILDCAT                        |
| Status                                   | P&A                            |
| Faktakart i nytt vindu                   | <a href="#">lenke til kart</a> |
| Hovedområde                              | NORTH SEA                      |
| Brønn navn                               | 33/9-16                        |
| Seismisk lokalisering                    | E86R91-line715 & xline1025     |
| Utvinningstillatelse                     | <a href="#">172</a>            |
| Boreoperatør                             | Mobil Exploration Norway INC   |
| Boretillatelse                           | 750-L                          |
| Boreinnretning                           | <a href="#">ROSS ISLE</a>      |
| Boredager                                | 53                             |
| Borestart                                | 28.11.1992                     |
| Boreslutt                                | 20.01.1993                     |
| Frigitt dato                             | 20.01.1995                     |
| Publiseringsdato                         | 24.09.2003                     |
| Opprinnelig formål                       | APPRAISAL                      |
| Gjenåpnet                                | NO                             |
| Innhold                                  | SHOWS                          |
| Funnbrønnbane                            | NO                             |
| Avstand, boredekk - midlere havflate [m] | 22.0                           |
| Vanndybde ved midlere havflate [m]       | 227.0                          |
| Totalt målt dybde (MD) [m RKB]           | 2870.0                         |
| Totalt vertikalt dybde (TVD) [m RKB]     | 2870.0                         |
| Maks inklinasjon [°]                     | 1.66                           |
| Temperatur ved bunn av brønnbanen [°C]   | 101                            |
| Eldste penetrerte alder                  | MIDDLE JURASSIC                |
| Eldste penetrerte formasjon              | NESS FM                        |
| Geodetisk datum                          | ED50                           |
| NS grader                                | 61° 23' 28.81" N               |
| ØV grader                                | 1° 57' 1.93" E                 |
| NS UTM [m]                               | 6806990.41                     |
| ØV UTM [m]                               | 443937.38                      |
| UTM sone                                 | 31                             |
| NPDID for brønnbanen                     | 1801                           |



## Brønnhistorie

### General

Exploration well 33/9-16 well is located 1.8 km south of the recently drilled 33/9-15 well. It is located just north of Statfjord East and south of Statfjord North in the southern part of License PL 172 updip from the 33/9-15 well and within the same seismically defined Intra Draupne deposits of Volgian age. The primary objective was to evaluate the hydrocarbon potential of the Late Jurassic (Volgian) Intra-Draupne Formation sandstone ("Munin sandstone unit") above the oil/water contact (2719 m subsea), found in the 33/9-15 well. The secondary objective was to evaluate the Middle Jurassic sands of the Brent Group.

### Operations and results

Well 33/9-16 was spudded with the semi-submersible installation "Ross Isle" on 28 November 1992 and drilled to TD at 2870 m in the Middle Jurassic Ness Formation. The well was drilled water based with sea water and hi-vis pills down to 407 m, sea water and PHB/PAC from 407 m to 1106 m, and with KCl/PHPA/PHB/PAC mud from 1106 m to TD.

In the Upper Jurassic, the Intra Draupne Formation Sandstone was found as sandstones interbedded with thin siltstones. A 4.3 m zone with oil shows was encountered in the uppermost part of this unit based on shows while drilling and MWD. Three cores were cut in the Draupne Formation. Except for the top meter, the entire Intra Draupne sandstone unit was cored. The top 4 m of the core consisted of a sandstone with good porosity and oil shows.

In the Middle Jurassic Brent Group, no oil shows were observed in sandstones of the Tarbert and Ness Formations and as a result no cores were cut. An RFT and an MDT sample were taken at 2685 and 2684.5 m respectively and contained water and some gas but only traces of oil. A second MDT sample from 2713 m in the Intra Draupne Formation Sandstone contained water, slight traces of oil, and negligible gas. No wire line samples were taken in the Brent Group.

The well was permanently abandoned as a dry hole with oil shows on 20 January 1993.

### Testing

No drill stem test was performed.

## Borekaks i Sokkeldirektoratet

| Borekaksprøve, topp dybde [m] | Borekaksprøve, bunn dybde [m] |
|-------------------------------|-------------------------------|
| 410.00                        | 2870.00                       |

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

## Borekjerter i Sokkeldirektoratet



| Kjerneprøve nummer | Kjerneprøve - topp dybde | Kjerneprøve - bunn dybde | Kjerneprøve dybde - enhet |
|--------------------|--------------------------|--------------------------|---------------------------|
| 1                  | 2681.0                   | 2707.0                   | [m ]                      |
| 2                  | 2707.0                   | 2734.2                   | [m ]                      |
| 3                  | 2734.2                   | 2748.0                   | [m ]                      |

|                                       |      |
|---------------------------------------|------|
| Total kjerneprøve lengde [m]          | 67.0 |
| Kjerner tilgjengelig for prøvetaking? | YES  |

### Kjernebilder



2681-2686m



2686-2691m



2691-2696m



2696-2701m



2701-2706m



2706-2707m



2707-2712m



2712-2717m



2717-2722m



2722-2727m



2727-2732m



2732-2734m



2734-2739m



2739-2744m



2744-2748m

### Palynologiske preparater i Sokkeldirektoratet

| Prøve dybde | Dybde enhet | Prøve type | Laboratorie |
|-------------|-------------|------------|-------------|
| 410.0       | [m]         | DC         | MOBIL       |
| 430.0       | [m]         | DC         | MOBIL       |
| 450.0       | [m]         | DC         | MOBIL       |
| 470.0       | [m]         | DC         | MOBIL       |



# Faktasider

## Brønnbane / Leting

Utskriftstidspunkt: 15.5.2024 - 00:22

|        |     |    |       |
|--------|-----|----|-------|
| 490.0  | [m] | DC | MOBIL |
| 510.0  | [m] | DC | MOBIL |
| 530.0  | [m] | DC | MOBIL |
| 550.0  | [m] | DC | MOBIL |
| 570.0  | [m] | DC | MOBIL |
| 590.0  | [m] | DC | MOBIL |
| 610.0  | [m] | DC | MOBIL |
| 630.0  | [m] | DC | MOBIL |
| 650.0  | [m] | DC | MOBIL |
| 670.0  | [m] | DC | MOBIL |
| 690.0  | [m] | DC | MOBIL |
| 710.0  | [m] | DC | MOBIL |
| 730.0  | [m] | DC | MOBIL |
| 750.0  | [m] | DC | MOBIL |
| 770.0  | [m] | DC | MOBIL |
| 790.0  | [m] | DC | MOBIL |
| 810.0  | [m] | DC | MOBIL |
| 830.0  | [m] | DC | MOBIL |
| 850.0  | [m] | DC | MOBIL |
| 870.0  | [m] | DC | MOBIL |
| 890.0  | [m] | DC | MOBIL |
| 910.0  | [m] | DC | MOBIL |
| 930.0  | [m] | DC | MOBIL |
| 950.0  | [m] | DC | MOBIL |
| 970.0  | [m] | DC | MOBIL |
| 990.0  | [m] | DC | MOBIL |
| 1010.0 | [m] | DC | MOBIL |
| 1025.0 | [m] | DC | MOBIL |
| 1040.0 | [m] | DC | MOBIL |
| 1050.0 | [m] | DC | MOBIL |
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| 1160.0 | [m] | DC | MOBIL |
| 1180.0 | [m] | DC | MOBIL |
| 1200.0 | [m] | DC | MOBIL |



# Faktasider

## Brønnbane / Leting

Utskriftstidspunkt: 15.5.2024 - 00:22

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|--------|-----|----|-------|
| 1220.0 | [m] | DC | MOBIL |
| 1240.0 | [m] | DC | MOBIL |
| 1260.0 | [m] | DC | MOBIL |
| 1280.0 | [m] | DC | MOBIL |
| 1300.0 | [m] | DC | MOBIL |
| 1320.0 | [m] | DC | MOBIL |
| 1330.0 | [m] | DC | MOBIL |
| 1340.0 | [m] | DC | MOBIL |
| 1350.0 | [m] | DC | MOBIL |
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| 1440.0 | [m] | DC | MOBIL |
| 1460.0 | [m] | DC | MOBIL |
| 1480.0 | [m] | DC | MOBIL |
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| 1580.0 | [m] | DC | MOBIL |
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| 1670.0 | [m] | DC | MOBIL |
| 1680.0 | [m] | DC | MOBIL |
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| 1740.0 | [m] | DC | MOBIL |
| 1760.0 | [m] | DC | MOBIL |
| 1770.0 | [m] | DC | MOBIL |
| 1790.0 | [m] | DC | MOBIL |
| 1810.0 | [m] | DC | MOBIL |
| 1830.0 | [m] | DC | MOBIL |
| 1850.0 | [m] | DC | MOBIL |
| 1870.0 | [m] | DC | MOBIL |
| 1890.0 | [m] | DC | MOBIL |
| 1900.0 | [m] | DC | MOBIL |



## Faktasider

### Brønnbane / Leting

Utskriftstidspunkt: 15.5.2024 - 00:22

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| 1920.0 | [m] | DC  | MOBIL |
| 1940.0 | [m] | DC  | MOBIL |
| 1960.0 | [m] | DC  | MOBIL |
| 1980.0 | [m] | DC  | MOBIL |
| 2000.0 | [m] | DC  | MOBIL |
| 2020.0 | [m] | DC  | MOBIL |
| 2040.0 | [m] | DC  | MOBIL |
| 2060.0 | [m] | DC  | MOBIL |
| 2080.0 | [m] | DC  | MOBIL |
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| 2120.0 | [m] | DC  | MOBIL |
| 2140.0 | [m] | DC  | MOBIL |
| 2160.0 | [m] | DC  | MOBIL |
| 2180.0 | [m] | DC  | MOBIL |
| 2200.0 | [m] | DC  | MOBIL |
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| 2240.0 | [m] | SWC | MOBIL |
| 2270.0 | [m] | DC  | MOBIL |
| 2280.0 | [m] | DC  | MOBIL |
| 2300.0 | [m] | DC  | MOBIL |
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| 2340.0 | [m] | DC  | MOBIL |
| 2350.0 | [m] | DC  | MOBIL |
| 2380.0 | [m] | SWC | MOBIL |
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| 2418.0 | [m] | DC  | MOBIL |
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| 2433.0 | [m] | DC  | MOBIL |
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| 2487.0 | [m] | DC  | MOBIL |
| 2496.0 | [m] | DC  | MOBIL |
| 2505.0 | [m] | DC  | MOBIL |
| 2514.0 | [m] | DC  | MOBIL |
| 2520.0 | [m] | SWC | MOBIL |



# Faktasider

## Brønnbane / Leting

Utskriftstidspunkt: 15.5.2024 - 00:22

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| 2538.0 | [m] | DC  | MOBIL |
| 2544.0 | [m] | DC  | MOBIL |
| 2550.0 | [m] | DC  | MOBIL |
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| 2568.0 | [m] | DC  | MOBIL |
| 2577.0 | [m] | DC  | MOBIL |
| 2583.0 | [m] | DC  | MOBIL |
| 2590.0 | [m] | DC  | MOBIL |
| 2598.0 | [m] | DC  | MOBIL |
| 2605.0 | [m] | SWC | MOBIL |
| 2613.0 | [m] | DC  | MOBIL |
| 2622.0 | [m] | DC  | MOBIL |
| 2628.0 | [m] | DC  | MOBIL |
| 2635.0 | [m] | SWC | MOBIL |
| 2643.0 | [m] | DC  | MOBIL |
| 2649.0 | [m] | DC  | MOBIL |
| 2655.0 | [m] | DC  | MOBIL |
| 2664.0 | [m] | SWC | MOBIL |
| 2668.0 | [m] | SWC | MOBIL |
| 2676.0 | [m] | DC  | MOBIL |
| 2681.0 | [m] | C   | MOBIL |
| 2682.0 | [m] | C   | MOBIL |
| 2683.0 | [m] | SWC | MOBIL |
| 2684.0 | [m] | C   | MOBIL |
| 2685.0 | [m] | DC  | MOBIL |
| 2686.0 | [m] | C   | MOBIL |
| 2687.0 | [m] | C   | MOBIL |
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| 2693.0 | [m] | C   | MOBIL |
| 2695.0 | [m] | C   | MOBIL |
| 2698.0 | [m] | C   | MOBIL |
| 2700.0 | [m] | C   | MOBIL |
| 2703.0 | [m] | C   | MOBIL |
| 2705.0 | [m] | C   | MOBIL |
| 2707.2 | [m] | C   | MOBIL |
| 2709.0 | [m] | C   | MOBIL |
| 2711.0 | [m] | C   | MOBIL |
| 2714.0 | [m] | C   | MOBIL |
| 2717.0 | [m] | C   | MOBIL |



|        |     |     |       |
|--------|-----|-----|-------|
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| 2723.0 | [m] | C   | MOBIL |
| 2725.0 | [m] | C   | MOBIL |
| 2727.0 | [m] | C   | MOBIL |
| 2727.0 | [m] | DC  | MOBIL |
| 2729.0 | [m] | C   | MOBIL |
| 2732.0 | [m] | C   | MOBIL |
| 2734.0 | [m] | C   | MOBIL |
| 2735.0 | [m] | C   | MOBIL |
| 2737.0 | [m] | C   | MOBIL |
| 2739.0 | [m] | C   | MOBIL |
| 2741.0 | [m] | C   | MOBIL |
| 2742.0 | [m] | C   | MOBIL |
| 2745.0 | [m] | C   | MOBIL |
| 2747.0 | [m] | C   | MOBIL |
| 2748.5 | [m] | C   | MOBIL |
| 2757.5 | [m] | SWC | MOBIL |
| 2765.0 | [m] | SWC | MOBIL |
| 2775.0 | [m] | DC  | MOBIL |
| 2784.0 | [m] | DC  | MOBIL |
| 2793.0 | [m] | DC  | MOBIL |
| 2802.0 | [m] | DC  | MOBIL |
| 2811.0 | [m] | DC  | MOBIL |
| 2817.0 | [m] | DC  | MOBIL |
| 2826.0 | [m] | DC  | MOBIL |
| 2829.0 | [m] | DC  | MOBIL |
| 2832.0 | [m] | DC  | MOBIL |
| 2835.0 | [m] | SWC | MOBIL |
| 2838.0 | [m] | DC  | MOBIL |
| 2841.0 | [m] | DC  | MOBIL |
| 2844.0 | [m] | DC  | MOBIL |
| 2847.0 | [m] | DC  | MOBIL |
| 2850.0 | [m] | SWC | MOBIL |
| 2859.0 | [m] | DC  | MOBIL |
| 2865.0 | [m] | SWC | MOBIL |
| 2865.0 | [m] | DC  | MOBIL |
| 2870.0 | [m] | DC  | MOBIL |

## Litostratigrafi





| Topp Dyb<br>[mMD RKB] | Litostrat. enhet                    |
|-----------------------|-------------------------------------|
| 249                   | <a href="#">NORDLAND GP</a>         |
| 1040                  | <a href="#">UTSIRA FM</a>           |
| 1073                  | <a href="#">HORDALAND GP</a>        |
| 1213                  | <a href="#">NO FORMAL NAME</a>      |
| 1251                  | <a href="#">NO FORMAL NAME</a>      |
| 1304                  | <a href="#">NO FORMAL NAME</a>      |
| 1322                  | <a href="#">NO FORMAL NAME</a>      |
| 1663                  | <a href="#">ROGALAND GP</a>         |
| 1663                  | <a href="#">BALDER FM</a>           |
| 1737                  | <a href="#">LISTA FM</a>            |
| 1849                  | <a href="#">HEIMDAL FM</a>          |
| 1878                  | <a href="#">LISTA FM</a>            |
| 1901                  | <a href="#">VÅLE FM</a>             |
| 1912                  | <a href="#">SHETLAND GP</a>         |
| 1912                  | <a href="#">JORSALFARE FM</a>       |
| 2187                  | <a href="#">KYRRE FM</a>            |
| 2625                  | <a href="#">TRYGGVASON FM</a>       |
| 2649                  | <a href="#">SVARTE FM</a>           |
| 2654                  | <a href="#">CROMER KNOLL GP</a>     |
| 2654                  | <a href="#">RØDBY FM</a>            |
| 2662                  | <a href="#">SVARTE FM</a>           |
| 2665                  | <a href="#">ÅSGARD FM</a>           |
| 2680                  | <a href="#">MIME FM</a>             |
| 2683                  | <a href="#">VIKING GP</a>           |
| 2683                  | <a href="#">DRAUPNE FM</a>          |
| 2684                  | <a href="#">INTRA DRAUPNE FM SS</a> |
| 2748                  | <a href="#">DRAUPNE FM</a>          |
| 2753                  | <a href="#">HEATHER FM</a>          |
| 2815                  | <a href="#">BRENT GP</a>            |
| 2815                  | <a href="#">TARBERT FM</a>          |
| 2826                  | <a href="#">NESS FM</a>             |

### Spleisede logger

| Dokument navn        | Dokument format | Dokument størrelse [KB] |
|----------------------|-----------------|-------------------------|
| <a href="#">1801</a> | pdf             | 0.34                    |





## Geokjemisk informasjon

| Dokument navn          | Dokument format | Dokument størrelse [KB] |
|------------------------|-----------------|-------------------------|
| <a href="#">1801_1</a> | pdf             | 1.86                    |
| <a href="#">1801_2</a> | pdf             | 1.97                    |
| <a href="#">1801_3</a> | pdf             | 1.77                    |
| <a href="#">1801_4</a> | pdf             | 1.05                    |

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

| Dokument navn                                          | Dokument format | Dokument størrelse [KB] |
|--------------------------------------------------------|-----------------|-------------------------|
| <a href="#">1801_33_9_16_COMPLETION_REPORT_AND_LOG</a> | pdf             | 71.56                   |

## Logger

| Type logg                  | Topp dyp for logg [m] | Bunn dyp for logg [m] |
|----------------------------|-----------------------|-----------------------|
| CST GR                     | 2180                  | 2865                  |
| CST GR                     | 2210                  | 2860                  |
| DIT BHC GR AMS LSS         | 1100                  | 2020                  |
| DIT BHC LDT CNT NGT GR BHT | 2174                  | 2873                  |
| DIT BHC LDT GR AMS         | 1100                  | 2186                  |
| DLL MSFL GR                | 2174                  | 2870                  |
| MDT GR                     | 2684                  | 2713                  |
| MWD - GR RES DIR           | 249                   | 2870                  |
| RFT GR                     | 2684                  | 2863                  |
| SHDT GR                    | 2174                  | 2874                  |
| VSP                        | 400                   | 2860                  |

## 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                      | 296.0              | 36                       | 296.0             | 0.00                      | LOT                 |
| INTERM.       | 20                      | 402.0              | 26                       | 407.0             | 0.00                      | LOT                 |





|           |        |        |        |        |      |     |
|-----------|--------|--------|--------|--------|------|-----|
| INTERM.   | 13 3/8 | 1100.0 | 17 1/2 | 1106.0 | 0.00 | LOT |
| INTERM.   | 9 5/8  | 2172.0 | 12 1/4 | 2185.0 | 0.00 | LOT |
| OPEN HOLE |        | 2870.0 | 8 1/2  | 2870.0 | 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 |
|-----------------|------------------------------|--------------------------------|---------------------|-------------|--------------|
| 302             | 1.07                         |                                |                     | WATER BASED |              |
| 382             | 1.07                         |                                |                     | WATER BASED |              |
| 407             | 1.10                         |                                |                     | WATER BASED |              |
| 681             | 1.12                         | 4.0                            |                     | WATER BASED |              |
| 1106            | 1.12                         | 8.0                            |                     | WATER BASED |              |
| 1214            | 1.37                         | 8.0                            |                     | WATER BASED |              |
| 1549            | 1.37                         | 8.0                            |                     | WATER BASED |              |
| 1891            | 1.49                         | 49.0                           |                     | WATER BASED |              |
| 2185            | 1.50                         | 39.0                           |                     | WATER BASED |              |
| 2234            | 1.50                         | 24.0                           |                     | WATER BASED |              |
| 2345            | 1.50                         | 34.0                           |                     | WATER BASED |              |
| 2546            | 1.50                         | 34.0                           |                     | WATER BASED |              |
| 2681            | 1.52                         | 34.0                           |                     | WATER BASED |              |
| 2707            | 1.52                         | 34.0                           |                     | WATER BASED |              |
| 2775            | 1.52                         | 27.0                           |                     | WATER BASED |              |
| 2870            | 1.52                         | 31.0                           |                     | WATER BASED |              |

Tynnslip i Sökkeldirektoratet

| Dybde   | Enhet |
|---------|-------|
| 2681.50 | [m ]  |
| 2687.77 | [m ]  |
| 2701.52 | [m ]  |
| 2713.60 | [m ]  |
| 2719.50 | [m ]  |
| 2721.78 | [m ]  |
| 2733.20 | [m ]  |
| 2741.45 | [m ]  |
| 2743.58 | [m ]  |



## 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="#">1801 Formation pressure (Formasjonstrykk)</a> | pdf             | 0.22                    |

