



## Generell informasjon

|                                          |                                         |
|------------------------------------------|-----------------------------------------|
| Brønnbane navn                           | 2/5-14 S                                |
| Type                                     | EXPLORATION                             |
| Formål                                   | WILDCAT                                 |
| Status                                   | P&A                                     |
| Pressemelding                            | <a href="#">lenke til pressemelding</a> |
| Faktakart i nytt vindu                   | <a href="#">lenke til kart</a>          |
| Hovedområde                              | NORTH SEA                               |
| Brønn navn                               | 2/5-14                                  |
| Seismisk lokalisering                    | inline 6409 & crossline 17202 (3DNQ8)   |
| Utvinningstillatelse                     | <a href="#">006 C</a>                   |
| Boreoperatør                             | Lundin Norway AS                        |
| Boretillatelse                           | 1206-L                                  |
| Boreinnretning                           | <a href="#">MÆRSK GALLANT</a>           |
| Boredager                                | 104                                     |
| Borestart                                | 30.12.2008                              |
| Boreslutt                                | 12.04.2009                              |
| Frigitt dato                             | 12.04.2011                              |
| Publiseringsdato                         | 12.04.2011                              |
| Opprinnelig formål                       | WILDCAT                                 |
| Gjenåpnet                                | NO                                      |
| Innhold                                  | SHOWS                                   |
| Funnbrønnbane                            | NO                                      |
| Avstand, boredekk - midlere havflate [m] | 43.0                                    |
| Vanndybde ved midlere havflate [m]       | 67.0                                    |
| Totalt målt dybde (MD) [m RKB]           | 3845.0                                  |
| Totalt vertikalt dybde (TVD) [m RKB]     | 3507.0                                  |
| Eldste penetrerte alder                  | LATE CRETACEOUS                         |
| Eldste penetrerte formasjon              | TOR FM                                  |
| Geodetisk datum                          | ED50                                    |
| NS grader                                | 56° 36' 25.78" N                        |
| ØV grader                                | 3° 26' 2.53" E                          |
| NS UTM [m]                               | 6273882.33                              |
| ØV UTM [m]                               | 526645.18                               |
| UTM sone                                 | 31                                      |
| NPDID for brønnbanen                     | 5958                                    |



## **Brønnhistorie**

**General**

Well 2/5-14 S was drilled on the Hyme prospect on the west flank of the South-East Tor oil discovery in the southern North Sea. The objectives were to prove commercial amounts of oil in a stratigraphic trap in the Tor and Ekofisk Formations, and to improve the understanding of chalk porosity and fluid properties related to seismic signature. If a discovery was made an appraisal sidetrack well, 2/5-14 A, was planned to kick off from below the 13 3/8" casing shoe. Following the results of the 2/5-14 S well, the sidetrack was not drilled.

**Operations and results**

Wildcat well 2/5-14 S was spudded with the jack-up installation Mærsk Gallant on 30 December 2008 and drilled to TD at 3845 m (3507.4 m TVD) in the Late Cretaceous Tor Formation. The well was drilled deviated, kicking off from approximately 1200 m. No shallow gas or shallow water flow zones were prognosed and no shallow gas or water flow zones were encountered. Very low penetration rates were experienced in mudstones of the Hordaland and Rogaland Formations. While running the 9 5/8" casing, returns were lost after working the casing through a tight interval from 3025 m to 3042 m. It is believed that the lost mud was forced into a fracture in the formation that remained open and in communication with the well throughout the 8 1/2" section. The well was drilled with seawater and hi-vis pills down to 579 m, with GEM KCl/polymer mud from 579 m to 1560 m, and with Performadril/KCl mud enhanced with 3 - 6% glycol from 1560 m to TD.

The Hordaland Group was encountered at 1739 m (1736.2 m TVD), 53 m TVD deeper than prognosed. The Rogaland Group was encountered at 3338 m (3069.9 m TVD), 5 m TVD shallow to prognosis. Above the main Shetland Group target, three thin Paleocene sandstones were encountered; two Heimdal equivalent sandstones (intra Lista Formation) at 3438 to 3439 m and at 3485 to 3488 m and the Borr Sandstone (intra Våle Formation) at 3540 to 3546 m. The two uppermost sandstones were hydrocarbon bearing, based on the LWD log data and gas readings. The fluid was probably oil although no oil shows were observed in the samples. The lowermost sandstone (Borr Member) was clearly water wet although with oil shows in the cuttings and gas readings.

The Shetland Group was encountered at 3551 m (3251.2 m TVD), 18 m TVD deeper than prognosed. The main reservoir within the Hyme Prospect, the Tor Formation, was penetrated at 3681 m (3364.8 m TVD), 18 m TVD deep to prognosis. The reservoir quality, however, was poorer than prognosed and no movable oil was found to exist within the chalk matrix. Some potential oil shows were found in fractures at 3775 m (3446.6 m TVD) and were interpreted to be related to either migrating oil in the open fractures or to asphaltic fracture fill. No conventional or sidewall cores were cut in the well. No wire line logs were run and thus no wire line samples were taken in the well due to unstable well conditions (mud gains and losses).

The well was permanently abandoned on 12 April 2009 as a well with shows.

**Testing**

No drill stem test was performed.



### Borekaks i Sokkeldirektoratet

| Borekaksprøve, topp dybde [m] | Borekaksprøve, bunn dybde [m] |
|-------------------------------|-------------------------------|
| 190.00                        | 3845.00                       |

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

### Litostratigrafi

| Topp Dyb<br>[mMD RKB] | Litostrat. enhet             |
|-----------------------|------------------------------|
| 110                   | <a href="#">NORDLAND GP</a>  |
| 1739                  | <a href="#">HORDALAND GP</a> |
| 3338                  | <a href="#">ROGALAND GP</a>  |
| 3338                  | <a href="#">BALDER FM</a>    |
| 3359                  | <a href="#">SELE FM</a>      |
| 3415                  | <a href="#">LISTA FM</a>     |
| 3528                  | <a href="#">VÅLE FM</a>      |
| 3551                  | <a href="#">SHETLAND GP</a>  |
| 3551                  | <a href="#">EKOFISK FM</a>   |
| 3681                  | <a href="#">TOR FM</a>       |

### Geokjemisk informasjon

| Dokument navn                                 | Dokument format | Dokument størrelse [KB] |
|-----------------------------------------------|-----------------|-------------------------|
| <a href="#">5958_01_2_5_14_gch_transfer_1</a> | txt             | 0.00                    |
| <a href="#">5958_01_2_5_14_gch_transfer_2</a> | txt             | 0.00                    |
| <a href="#">5958_02_2_5_14_gch_results_1</a>  | txt             | 0.13                    |
| <a href="#">5958_02_2_5_14_gch_results_2</a>  | txt             | 0.04                    |

### Logger

| Type logg                        | Topp dyp for logg [m] | Bunn dyp for logg [m] |
|----------------------------------|-----------------------|-----------------------|
| LWD - DIR                        | 110                   | 579                   |
| LWD - GR RES DEN NEU SON PWD DIR | 1560                  | 2706                  |
| LWD - GR RES DEN NEU SON PWD DIR | 3398                  | 3845                  |
| LWD - GR RES PWD DIR             | 189                   | 1560                  |
| LWD - GR RES SON PWD DIR         | 2706                  | 3398                  |





### Foringsrør og formasjonsstyrketester

| Type utforing | Utforing diam.<br>[tommer] | Utforing dybde<br>[m] | Brønnbane diam.<br>[tommer] | Brønnbane dyp<br>[m] | LOT/FIT slam<br>eqv.<br>[g/cm3] | Type formasjonstest |
|---------------|----------------------------|-----------------------|-----------------------------|----------------------|---------------------------------|---------------------|
| CONDUCTOR     | 30                         | 184.0                 | 36                          | 189.0                | 0.00                            | LOT                 |
| SURF.COND.    | 20                         | 571.0                 | 26                          | 579.0                | 1.45                            | LOT                 |
| INTERM.       | 13 3/8                     | 1551.0                | 17 1/2                      | 1560.0               | 2.00                            | LOT                 |
| INTERM.       | 9 5/8                      | 3391.0                | 12 1/4                      | 3398.0               | 1.65                            | FIT                 |
| OPEN HOLE     |                            | 3845.0                | 8 1/2                       | 3845.0               | 0.00                            | LOT                 |

### Boreslam

| Dybde MD [m] | Egenvekt, slam<br>[g/cm3] | Viskositet, slam<br>[mPa.s] | flytegrense [Pa] | Type slam | Dato, måling |
|--------------|---------------------------|-----------------------------|------------------|-----------|--------------|
| 147          | 1.03                      |                             |                  | Water     |              |
| 189          | 1.05                      |                             |                  | Water     |              |
| 189          | 1.25                      |                             |                  | Water     |              |
| 189          | 1.04                      |                             |                  | Water     |              |
| 191          | 1.25                      |                             |                  | Water     |              |
| 414          | 1.35                      |                             |                  | Water     |              |
| 579          | 1.13                      |                             |                  | Water     |              |
| 1560         | 1.35                      |                             |                  | Water     |              |
| 1560         | 1.35                      |                             |                  | Water     |              |
| 2706         | 1.70                      |                             |                  | Water     |              |
| 2898         | 1.70                      |                             |                  | Water     |              |
| 3243         | 1.70                      |                             |                  | Water     |              |
| 3398         | 1.70                      |                             |                  | Water     |              |
| 3401         | 1.57                      |                             |                  | Water     |              |
| 3657         | 1.57                      |                             |                  | Water     |              |
| 3845         | 1.62                      |                             |                  | Water     |              |