



## Generell informasjon

|                                          |                                         |
|------------------------------------------|-----------------------------------------|
| Brønnbane navn                           | 15/12-14                                |
| Type                                     | EXPLORATION                             |
| Formål                                   | APPRAISAL                               |
| Status                                   | RE-CLASS TO DEV                         |
| Pressemelding                            | <a href="#">lenke til pressemelding</a> |
| Faktakart i nytt vindu                   | <a href="#">lenke til kart</a>          |
| Hovedområde                              | NORTH SEA                               |
| Felt                                     | <a href="#">VARG</a>                    |
| Funn                                     | <a href="#">15/12-4 Varg</a>            |
| Brønn navn                               | 15/12-14                                |
| Seismisk lokalisering                    |                                         |
| Utvinningstillatelse                     | <a href="#">038</a>                     |
| Boreoperatør                             | Pertra AS (OLD)                         |
| Boretillatelse                           | 1069-L                                  |
| Boreinnretning                           | <a href="#">MÆRSK GIANT</a>             |
| Boredager                                | 18                                      |
| Borestart                                | 14.12.2003                              |
| Boreslutt                                | 31.12.2003                              |
| Frigitt dato                             | 31.12.2005                              |
| Publiseringsdato                         | 31.12.2005                              |
| Opprinnelig formål                       | APPRAISAL                               |
| Reklassifisert til brønnbane             | <a href="#">15/12-A-12 A</a>            |
| Gjenåpnet                                | NO                                      |
| Innhold                                  | OIL                                     |
| Funnbrønnbane                            | NO                                      |
| 1. nivå med hydrokarboner, alder         | LATE JURASSIC                           |
| 1. nivå med hydrokarboner, formasjon.    | INTRA HEATHER FM SS                     |
| Avstand, boredekk - midlere havflate [m] | 51.0                                    |
| Vanndybde ved midlere havflate [m]       | 87.0                                    |
| Totalt målt dybde (MD) [m RKB]           | 3305.0                                  |
| Totalt vertikalt dybde (TVD) [m RKB]     | 3081.0                                  |
| Temperatur ved bunn av brønnbanen [°C]   | 130                                     |
| Eldste penetrerte alder                  | MIDDLE JURASSIC                         |
| Eldste penetrerte formasjon              | SLEIPNER FM                             |
| Geodetisk datum                          | ED50                                    |



|                      |                 |
|----------------------|-----------------|
| NS grader            | 58° 4' 40.47" N |
| ØV grader            | 1° 53' 25.84" E |
| NS UTM [m]           | 6438068.27      |
| ØV UTM [m]           | 434560.05       |
| UTM sone             | 31              |
| NPDID for brønnbanen | 4845            |

## Brønnhistorie

### General

Well 15/12-14 was drilled as an appraisal well in the Varg West segment. The well was sidetracked from the existing well 15/12-A-12. The objectives were to prove hydrocarbons in the Varg West segment, complete as an oil producer, and maximize the Varg oil production.

### Operations and results

Appraisal well 15/12-14 was drilled as a sidetrack from 15/12-A-12 on the Varg field below the 13 3/8" casing shoe. The operations started on 8 December 2003 with re-entry of well 15/12-A-12. All operations were performed with the jack-up 3 legs installation Mærsk Giant. The well bore was kicked off on 14 December at 1348 m and was drilled to TD at 3305 m in the Middle Jurassic Hugin Formation. Maximum deviation in the well is 36.95 degrees towards the base of the reservoir, decreasing to 34.4 degrees at TD. Apart from a VSP\_GR run and a CST-GR run all log data in the well originate from LWD. The well was drilled using oil-based mud (ENVIRON) from kick-off to TD.

Well 15/12-14 penetrated oil filled Late Oxfordian sandstone, Hugin Formation, at 3104.9 m (2867.6 m TVD MSL). A total of 105 m MD (3105 ? 3210 m), 84 m TVD (2868 ? 2952 m TVD MSL), was penetrated in the well. No oil/water contact was found in the well, the oil-down-to is placed at 2956 m TVD MSL (3214.5 m MD). Shows were recorded down to 3236 m. The reservoir consisted of fine to medium grained sandstone with some coarser grained beds in between. The average estimated porosity in the reservoir section was 21 % with a N/G of 0.7. The reservoir was found to be pressure depleted compared to the initial pressure observed in the Varg Field. Varg W is interpreted to be in communication with Varg N3 (15/12-A-5 T2). The results from the well thus confirmed the presence of hydrocarbon bearing reservoir in the Varg W segment, and increased the reserves in the field.

No conventional core was cut in the well. Formation pressure sampling was performed while drilling, utilizing the GeoTap tool from Halliburton. No fluid sample was taken.

The well was completed with a perforated liner and set in production with an initial production rate of 2000 Sm<sup>3</sup>/d. The well was classified as appraisal and was renamed to 15/12-A-12 A after completion.

### Testing

No drill stem test was performed.

## Litostratigrafi



| Topp Dyb<br>[mMD RKB] | Litostrat. enhet                    |
|-----------------------|-------------------------------------|
| 136                   | <a href="#">NORDLAND GP</a>         |
| 1325                  | <a href="#">HORDALAND GP</a>        |
| 2391                  | <a href="#">ROGALAND GP</a>         |
| 2391                  | <a href="#">BALDER FM</a>           |
| 2396                  | <a href="#">SELE FM</a>             |
| 2420                  | <a href="#">LISTA FM</a>            |
| 2571                  | <a href="#">SHETLAND GP</a>         |
| 2984                  | <a href="#">CROMER KNOLL GP</a>     |
| 2992                  | <a href="#">VIKING GP</a>           |
| 2992                  | <a href="#">DRAUPNE FM</a>          |
| 3015                  | <a href="#">HEATHER FM</a>          |
| 3100                  | <a href="#">INTRA HEATHER FM SS</a> |
| 3220                  | <a href="#">HEATHER FM</a>          |
| 3255                  | <a href="#">VESTLAND GP</a>         |
| 3255                  | <a href="#">SLEIPNER FM</a>         |

### Spleisede logger

| Dokument navn        | Dokument format | Dokument størrelse [KB] |
|----------------------|-----------------|-------------------------|
| <a href="#">4845</a> | pdf             | 0.27                    |

### Logger

| Type logg                          | Topp dyp for logg [m] | Bunn dyp for logg [m] |
|------------------------------------|-----------------------|-----------------------|
| CST GR                             | 3113                  | 3300                  |
| LWD - GR RES ALD BAT               | 1320                  | 3110                  |
| LWD - GR RES NEU ALD BAT<br>GEOTAP | 3110                  | 3305                  |
| VSP GR                             | 1725                  | 3245                  |

### Foringsrør og formasjonsstyrketester

| Type utforing | Utforing diam.<br>[tommer] | Utforing dybde<br>[m] | Brønnbane diam.<br>[tommer] | Brønnbane dyp<br>[m] | LOT/FIT slam eqv.<br>[g/cm3] | Type formasjonstest |
|---------------|----------------------------|-----------------------|-----------------------------|----------------------|------------------------------|---------------------|
| INTERM.       | 9 5/8                      | 3099.0                | 12 1/4                      | 3110.0               | 1.35                         | LOT                 |
| INTERM.       | 5 1/2                      | 3254.0                | 8 1/2                       | 3254.0               | 0.00                         | LOT                 |





### Boreslam

| Dybde MD [m] | Egenvekt, slam [g/cm3] | Viskositet, slam [mPa.s] | Flytegrense [Pa] | Type slam     | Dato, måling |
|--------------|------------------------|--------------------------|------------------|---------------|--------------|
| 1376         | 1.52                   | 42.0                     |                  | OIL (ENVIRON) |              |
| 1847         | 1.52                   | 37.0                     |                  | OIL (ENVIRON) |              |
| 2700         | 1.52                   | 34.0                     |                  | OIL (ENVIRON) |              |
| 3110         | 1.55                   | 41.0                     |                  | OIL (ENVIRON) |              |
| 3254         | 1.25                   | 26.0                     |                  | OIL (ENVIRO   |              |

### 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="#">4845 Formation pressure (Formasjonstrykk)</a> | pdf             | 0.22                    |

