## Generell informasjon

| | |
|---|---|
| Brønnbane navn | 6506/11-9 S |
| Type | EXPLORATION |
| Formål | WILDCAT |
| Status | P&A |
| Pressemelding | lenke til pressemelding |
| Faktakart i nytt vindu | lenke til kart |
| Hovedområde | NORWEGIAN SEA |
| Brønn navn | 6506/11-9 |
| Seismisk lokalisering | inline2273 & crossline 2342 -Site survey ST0808 |
| Utvinningstillatelse | 477 |
| Boreoperatør | Centrica Resources (Norge) AS |
| Boretillatelse | 1402-L |
| Boreinnretning | WEST ALPHA |
| Boredager | 118 |
| Borestart | 09.05.2012 |
| Boreslutt | 03.09.2012 |
| Frigitt dato | 03.09.2014 |
| Publiseringsdato | 13.01.2015 |
| Opprinnelig formål | WILDCAT |
| Gjenåpnet | NO |
| Innhold | SHOWS |
| Funnbrønnbane | NO |
| Avstand, boredekk - midlere havflate [m] | 18.0 |
| Vanndybde ved midlere havflate [m] | 249.0 |
| Totalt målt dybde (MD) [m RKB] | 5330.0 |
| Totalt vertikalt dybde (TVD) [m RKB] | 4972.0 |
| Maks inklinasjon [°] | 31.6 |
| Temperatur ved bunn av brønnbanen [°C] | 167 |
| Eldste penetrerte alder | EARLY JURASSIC |
| Eldste penetrerte formasjon | ÅRE FM |
| Geodetisk datum | ED50 |
| NS grader | 65° 10' 18.54'' N |
| ØV grader | 6° 37' 21.26'' E |
| NS UTM [m] | 7229882.11 |
| ØV UTM [m] | 388624.07 |
| UTM sone | 32 |
| NPDID for brønnbanen | 6852 |

## Brønnhistorie

**General**

Well 6506/11-9 S tested the Cooper Prospect on the Halten Terrace in the Norwegian Sea between the Morvin and Smørbukk Fields. The primary objective of the well was to test the hydrocarbon potential of the Middle and Early

Jurassic Fangst and Båt Groups, specifically the Garn and Ile Formations. The Early Cretaceous Lysing and Intra Lange Formations were regarded as secondary targets.

**Operations and results**

Wildcat well 6506/11-9 S was spudded with the semi-submersible installation West Alpha on 9 May 2012 and drilled to TD at 5330 m (4972 m TVD) in the Early Jurassic Åre Formation. The well path assumes an 'S' shape and the surface location was purposely offset from the target to avoid locating the rig in an area of cold-water corals. The well was drilled with KCl water based mud down to 1170 m, with Versatec oil based mud from 1170 m to 2130 m, and with Versatherm oil based mud from 2130 m to TD.

Hydrocarbon recognition was partly masked by oil based mud but significant heavy hydrocarbon gases and moderate to strong shows were observed in the relatively thin, interbedded sandstones of the Lysing Formation between 3516 and 3594 m. Hydrocarbon shows were observed also in Intra-Lange sands. The reservoirs in both Lysing and Lange was fragmented, with a low reservoir nett to gross ratio. The Garn Formation was encountered at 4716 m. Good hydrocarbon shows were encountered in the Garn Formation and on the cores in the Upper Ile Formation down to 4828 m, but pervasive secondary silica cementation resulted in extensive permeability destruction in the Garn Formation. The Tofte and Tilje Formations were interpreted as being water wet.

Two conventional cores were cut sequentially in the Garn and underlying Not Formations. A further three cores were taken in the Ile Formation, based on indeterminate shows. One core was cut in the Tilje Formation, based on hydrocarbon shows that were subsequently interpreted as being due to recirculated hydrocarbons from the overlying oil bearing horizon. MDT fluid samples were taken at 4765 m (contaminated oil), 4767 m (oil, water and filtrate), 4831 m (water), and 5246.7 m (water).

The well was permanently abandoned on 3 September 2012 on as a dry well with shows.

**Testing**

The 7" liner was perforated over the entire Garn Formation from 4718 m to 4780 m and an attempt was made to perform a DST. The well failed to flow during the DST and the decision was made to abandon further testing, due to tight reservoir.

## Borekaks i Sokkeldirektoratet

| Borekaksprøve, topp dybde [m] | Borekaksprøve, bunn dybde [m] |
|---|---|
| 1220.00 | 5330.00 |

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

### Borekjerner i Sokkeldirektoratet

| Kjerneprøve nummer | Kjerneprøve - topp dybde | Kjerneprøve - bunn dybde | Kjerneprøve dybde - enhet |
|---|---|---|---|
| 1 | 4731.0 | 4754.6 | [m ] |
| 2 | 4755.5 | 4800.6 | [m ] |
| 3 | 4815.0 | 4841.3 | [m ] |
| 4 | 4852.5 | 4878.9 | [m ] |
| 5 | 4880.5 | 4903.7 | [m ] |
| 6 | 5110.0 | 5138.3 | [m ] |

| | |
|---|---|
| Total kjerneprøve lengde [m] | 172.9 |
| Kjerner tilgjengelig for prøvetaking? | YES |

### Litostratigrafi

| Topp Dyb [mMD RKB] | Litostrat. enhet |
|---|---|
| 267 | NORDLAND GP |
| 701 | NAUST FM |
| 1457 | KAI FM |
| 1905 | HORDALAND GP |
| 1905 | BRYGGE FM |
| 2126 | ROGALAND GP |
| 2126 | TARE FM |
| 2221 | TANG FM |
| 2275 | SHETLAND GP |
| 2275 | SPRINGAR FM |
| 2671 | NISE FM |
| 2945 | KVITNOS FM |
| 3494 | CROMER KNOLL GP |
| 3494 | LYSING FM |
| 3597 | LANGE FM |
| 4513 | LYR FM |
| 4549 | VIKING GP |
| 4549 | SPEKK FM |
| 4560 | MELKE FM |
| 4716 | FANGST GP |

| | |
|---|---|
| 4716 | GARN FM |
| 4778 | NOT FM |
| 4821 | ILE FM |
| 4970 | BÅT GP |
| 4970 | ROR FM |
| 4994 | TOFTE FM |
| 5085 | ROR FM |
| 5104 | TILJE FM |
| 5282 | ÅRE FM |

## Logger

| Type logg | Topp dyp for logg [m] | Bunn dyp for logg [m] |
|---|---|---|
| AIT PPC DSI GPIT PPC GR | 4612 | 5032 |
| CMR HXPT GR | 4625 | 5320 |
| LDS APS HNGS | 4612 | 5032 |
| LWD - GR PWD DEN RES NEU DI | 4801 | 5330 |
| LWD - GVR GR RES NEU DEN SON | 4700 | 4815 |
| LWD - GVR STET RES GR NEU DEN SO | 4615 | 4731 |
| LWD - PDGR DI PWD RES GR SON | 1211 | 2536 |
| LWD - PDGR FPWD PWD RES GR NEU D | 2536 | 4615 |
| LWD - PWD RES GR DI | 357 | 1211 |
| LWD - PWD RES GR DI SON | 357 | 1200 |
| LWD-DI | 267 | 357 |
| PMIT GR CCL | 280 | 4605 |
| PS HY PO PQ HY PO IFA MS1-2 GR | 4744 | 4922 |
| PS XLD HY PO LFA MS GR | 5021 | 5246 |
| SC PO PALE PS HY PO IFA AMS GR | 4763 | 4830 |
| USIT VBL | 4520 | 4787 |
| VSI2 GR | 604 | 5020 |

## 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 | 350.0 | 36 | 352.0 | 0.00 | |
| PILOT HOLE | | 1200.0 | 9 7/8 | 1200.0 | 0.00 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| SURF.COND. | 29 | 1206.0 | 26 | 1211.0 | 1.72 | FIT |
| INTERM. | 13 3/8 | 2530.0 | 17 1/2 | 2536.0 | 1.90 | FIT |
| SURF.COND. | 9 5/9 | 4609.0 | 12 1/4 | 4615.0 | 2.08 | FIT |
| LINER | 7 | 4864.0 | 8 1/2 | 5330.0 | 0.00 | |

**Boreslam**

| Dybde MD [m] | Egenvekt, slam [g/cm3] | Viskositet, slam [mPa.s] | Flytegrense [Pa] | Type slam | Dato, måling |
|---|---|---|---|---|---|
| 375 | 1.15 | 16.0 | | KCl mud | |
| 544 | 1.21 | 15.0 | | KCl mud | |
| 1150 | 1.21 | 16.0 | | KCl mud | |
| 1200 | 1.19 | 17.0 | | KCl mud | |
| 1211 | 1.02 | | | SEAWATER | |
| 2530 | 1.74 | 56.0 | | Versatherm OBM | |
| 2536 | 1.59 | 58.0 | | Versatec OBM | |
| 3596 | 1.76 | 64.0 | | Versatherm OBM | |
| 4616 | 1.83 | 60.0 | | Versatherm OBM | |
| 4616 | 1.93 | 1.0 | | OBM | |
| 4616 | 1.76 | 58.0 | | Versatherm OBM | |
| 4661 | 1.93 | 74.0 | | Versatherm OBM | |
| 4783 | 1.91 | 68.0 | | Versatherm OBM | |
| 4852 | 1.91 | 66.0 | | Versatherm OBM | |
| 4903 | 1.91 | 58.0 | | Versatherm OBM | |
| 5137 | 1.91 | 59.0 | | Versatherm OBM | |
| 5225 | 1.91 | 58.0 | | Versatherm OBM | |
| 5330 | 1.02 | 1.0 | | Inhibited seawater | |
| 5330 | 1.91 | 71.0 | | Versatherm OBM | |