



General information





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|------------------------------------|-----------------------------------|
| Wellbore name | 2/7-19 |
| Type | EXPLORATION |
| Purpose | WILDCAT |
| Status | SUSPENDED |
| Factmaps in new window | link to map |
| Main area | NORTH SEA |
| Discovery | 2/7-19 (Ebba) |
| Well name | 2/7-19 |
| Seismic location | PG 030615 SP.12 |
| Production licence | 018 |
| Drilling operator | Phillips Petroleum Company Norway |
| Drill permit | 262-L |
| Drilling facility | BORGSTEN DOLPHIN |
| Drilling days | 154 |
| Entered date | 02.09.1980 |
| Completed date | 02.02.1981 |
| Release date | 02.02.1983 |
| Publication date | 17.06.2009 |
| Purpose - planned | WILDCAT |
| Reentry | NO |
| Content | OIL |
| Discovery wellbore | YES |
| 1st level with HC, age | LATE JURASSIC |
| 1st level with HC, formation | ULA FM |
| Kelly bushing elevation [m] | 25.0 |
| Water depth [m] | 73.0 |
| Total depth (MD) [m RKB] | 4876.0 |
| Final vertical depth (TVD) [m RKB] | 4876.0 |
| Maximum inclination [°] | 3.4 |
| Bottom hole temperature [°C] | 154 |
| Oldest penetrated age | LATE PERMIAN |
| Oldest penetrated formation | ZECHSTEIN GP |
| Geodetic datum | ED50 |
| NS degrees | 56° 20' 19.1" N |
| EW degrees | 3° 6' 12.2" E |
| NS UTM [m] | 6243913.56 |
| EW UTM [m] | 506391.96 |
| UTM zone | 31 |
| NPDID wellbore | 1367 |



Wellbore history

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General

Well 2/7-19 is located ca 10 km west of the Embla and Eldfisk fields in the southern Norwegian North Sea. The objective was to test the Danian - Late cretaceous limestone, and sandstones of the Early Cretaceous and Jurassic on a low relief structure. Well 2/7-19 was the third attempt to drill this prospect. The first two attempts, 2/7-17 and 2/7-18, were junked because of mechanical problems.

Operations and results

Well 2/7-19 was spudded with the semi-submersible installation Borgny Dolphin on 2 September 1980 and drilled to TD at 4877 m in the Late Permian Zechstein Group. A total of 154 days on the location were used to drill and abandon the well. The well was drilled to a depth of 4785 m with 16.0 ppg mud. This was on 17 November. An estimated 12 m of Early Cretaceous sandstone had been penetrated and the drilling gas had increased after entering this zone, with some indications of hydrocarbons. The well was static with 16.0 ppg density mud, however the weight was raised to come out of the hole and commence coring. Upon raising the mud weight to 16.3 ppg a pack-off occurred which broke down a formation and circulation was lost. Circulation was re-established with 16.0 ppg mud. The mud weight was then raised in stages from 16.2 ppg to give an adequate trip margin to log. Logs were run, after which lost circulation problems again occurred. It took up to January 8 1981 before problems were cured and drilling could commence. The well was drilled with seawater and pre-hydrated bentonite down to 593 m, with seawater/bentonite/native solids from 593 m to 1600 m, and with seawater/Drispac/lignosulphonate from 1600 m to TD.

No hydrocarbons were encountered in the Danian - Late Cretaceous limestone. Some fluorescence was observed on limestones in the Tor Formation and in the Hidra Formation. Gas-bearing sands of the Ula Formation were encountered. Oil shows were recorded in these sands, generally described as dull yellow fluorescence and slow yellow cut.

One conventional core was cut from 3143.7 - 3162.0 m in the top of the Ekofisk Formation. One RFT fluid sample was recovered from 4772.2 m in an Ula Formation sandstone unit. The sample consisted of 50% gas-cut mud, where the gas gravity was 0.78 (air = 1). The RFT results indicated pressures too high to be safely tested with the rig equipment and BOP's on the rig at that time.

The well was suspended on 19 June 1989 pending further evaluation and possible testing.

Testing

No drill stem test was performed.

Cuttings at the Norwegian Offshore Directorate

| Cutting sample, top depth [m] | Cutting samples, bottom depth [m] |
|-------------------------------|-----------------------------------|
| 586.00 | 4876.00 |

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|----------------------------------|-----|
| Cuttings available for sampling? | YES |
|----------------------------------|-----|



Cores at the Norwegian Offshore Directorate

| Core sample number | Core sample - top depth | Core sample - bottom depth | Core sample depth - uom |
|--------------------|-------------------------|----------------------------|-------------------------|
| 1 | 10314.0 | 10370.3 | [ft] |

| | |
|-------------------------------|------|
| Total core sample length [m] | 17.2 |
| Cores available for sampling? | YES |

Palynological slides at the Norwegian Offshore Directorate

| Sample depth | Depth unit | Sample type | Laboratory |
|--------------|------------|-------------|------------|
| 4547.0 | [m] | DC | OD |
| 4580.0 | [m] | DC | OD |
| 4583.0 | [m] | DC | HRS |
| 4593.0 | [m] | DC | OD |
| 4596.0 | [m] | DC | HRS |
| 4596.0 | [m] | DC | OD |
| 4608.0 | [m] | DC | HRS |
| 4617.0 | [m] | DC | OD |
| 4620.0 | [m] | DC | OD |
| 4623.0 | [m] | DC | HRS |
| 4626.0 | [m] | DC | OD |
| 4635.0 | [m] | DC | HRS |
| 4647.0 | [m] | DC | HRS |
| 4647.0 | [m] | DC | OD |
| 4666.0 | [m] | DC | OD |
| 4684.0 | [m] | DC | OD |
| 4705.0 | [m] | DC | OD |
| 4721.0 | [m] | DC | OD |
| 4736.0 | [m] | DC | OD |
| 4754.0 | [m] | DC | OD |
| 4760.0 | [m] | DC | HRS |
| 4766.0 | [m] | DC | HRS |
| 4766.0 | [m] | DC | OD |
| 4781.0 | [m] | DC | OD |
| 4785.0 | [m] | DC | HRS |
| 4800.0 | [m] | DC | OD |



| | | |
|------------|----|----|
| 4803.0 [m] | DC | OD |
| 4821.0 [m] | DC | OD |
| 4839.0 [m] | DC | OD |
| 4852.0 [m] | DC | OD |
| 4858.0 [m] | DC | OD |
| 4867.0 [m] | DC | OD |
| 4873.0 [m] | DC | OD |

Oil samples at the Norwegian Offshore Directorate

| Test type | Bottle number | Top depth MD [m] | Bottom depth MD [m] | Fluid type | Test time | Samples available |
|-----------|---------------|------------------|---------------------|------------|--------------------|-------------------|
| DST | | 0.00 | 0.00 | | 30.10.2000 - 00:00 | YES |

Lithostratigraphy

| Top depth [mMD RKB] | Lithostrat. unit |
|---------------------|---------------------------------|
| 98 | NORDLAND GP |
| 1530 | HORDALAND GP |
| 2987 | ROGALAND GP |
| 2987 | BALDER FM |
| 3004 | SELE FM |
| 3027 | LISTA FM |
| 3069 | VÅLE FM |
| 3130 | SHETLAND GP |
| 3130 | EKOFISK FM |
| 3188 | TOR FM |
| 3444 | HOD FM |
| 4055 | BLODØKS FM |
| 4081 | HIDRA FM |
| 4212 | CROMER KNOLL GP |
| 4212 | RØDBY FM |
| 4328 | SOLA FM |
| 4468 | ÅSGARD FM |
| 4586 | TYNE GP |
| 4586 | MANDAL FM |
| 4590 | FARSUND FM |



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|------|------------------------------|
| 4693 | VESTLAND GP |
| 4693 | ULA FM |
| 4810 | BRYNE FM |
| 4840 | ZECHSTEIN GP |

Geochemical information

| Document name | Document format | Document size [MB] |
|------------------------|-----------------|--------------------|
| 1367_1 | pdf | 0.26 |
| 1367_2 | pdf | 0.96 |

Documents - older Norwegian Offshore Directorate WDSS reports and other related documents

| Document name | Document format | Document size [MB] |
|--|-----------------|--------------------|
| 1367_01_WDSS_General_Information | pdf | 0.10 |
| 1367_02_WDSS_completion_log | pdf | 0.31 |

Documents - reported by the production licence (period for duty of secrecy expired)

| Document name | Document format | Document size [MB] |
|--|-----------------|--------------------|
| 1367_01_2_7_19_Completion_Report_and_Co_mpletion_log | pdf | 14.71 |
| 1367_01_2_7_19_Final_Well_Report_Exploratory | pdf | 7.45 |
| 1367_04_2_7_19_Ebba_Palynology_and_Source_Rock_Potential | pdf | 4.03 |

Logs

| Log type | Log top depth [m] | Log bottom depth [m] |
|-----------|-------------------|----------------------|
| CBL VDL | 1448 | 4836 |
| CDM | 3781 | 4849 |
| CDM AP | 3784 | 4877 |
| DIL SONIC | 3781 | 4784 |
| FDC CNL | 2896 | 4877 |
| GR | 91 | 586 |





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|--------------|------|------|
| ISF BHC | 1586 | 3794 |
| ISF BHC MSFL | 4267 | 4877 |
| ISF SONIC GR | 586 | 1595 |
| MPT ML MLL | 3784 | 4877 |
| RFT | 0 | 0 |
| VELOCITY | 586 | 4877 |

Casing and leak-off tests

| Casing type | Casing diam. [inch] | Casing depth [m] | Hole diam. [inch] | Hole depth [m] | LOT/FIT mud eqv. [g/cm3] | Formation test type |
|-------------|------------------------|---------------------|----------------------|-------------------|--------------------------------|------------------------|
| CONDUCTOR | 30 | 153.9 | 36 | 154.5 | 0.00 | LOT |
| SURF.COND. | 20 | 585.5 | 26 | 593.4 | 1.40 | LOT |
| INTERM. | 13 3/8 | 1585.9 | 17 1/2 | 1600.2 | 1.87 | LOT |
| INTERM. | 9 5/8 | 3780.4 | 12 1/4 | 3799.9 | 2.02 | LOT |
| LINER | 7 | 4872.2 | 8 1/2 | 4876.8 | 0.00 | LOT |

Drilling mud

| Depth MD [m] | Mud weight [g/cm3] | Visc. [mPa.s] | Yield point [Pa] | Mud type | Date measured |
|-----------------|--------------------------|------------------|---------------------|-------------|------------------|
| 134 | 2.12 | 71.0 | 27.3 | OIL BASED | 22.01.1990 |
| 134 | 2.04 | 20.0 | 19.2 | WATER BASED | 22.01.1990 |
| 149 | 2.04 | 20.0 | 16.8 | WATER BASED | 22.01.1990 |
| 291 | 2.04 | 20.0 | 8.1 | WATER BASED | 22.01.1990 |
| 1006 | 1.14 | 35.0 | | WATER BASED | 02.02.1981 |
| 1356 | 2.04 | 20.0 | 13.9 | WATER BASED | 22.01.1990 |
| 1443 | 1.62 | 55.0 | | WATER BASED | 02.02.1981 |
| 1544 | 2.04 | 19.0 | 9.6 | WATER BASED | 22.01.1990 |
| 1582 | 2.04 | 19.0 | 14.4 | WATER BASED | 22.01.1990 |
| 1600 | 1.19 | 42.0 | | WATER BASED | 02.02.1981 |
| 2065 | 1.62 | 54.0 | | WATER BASED | 02.02.1981 |
| 3001 | 2.04 | 21.0 | 6.7 | WATER BASED | 22.01.1990 |
| 3120 | 1.71 | 55.0 | | WATER BASED | 02.02.1981 |
| 3437 | 1.71 | 52.0 | | WATER BASED | 02.02.1981 |
| 3463 | 2.04 | 22.0 | 9.6 | WATER BASED | 22.01.1990 |
| 3800 | 1.73 | 45.0 | | WATER BASED | 02.02.1981 |
| 4065 | 1.92 | 52.0 | | WATER BASED | 02.02.1981 |
| 4163 | 1.92 | 47.0 | | WATER BASED | 02.02.1981 |



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|------|------|------|------|-------------|------------|
| 4459 | 1.92 | 56.0 | | WATER BASED | 02.02.1981 |
| 4604 | 1.92 | 50.0 | | WATER BASED | 02.02.1981 |
| 4785 | 1.96 | 62.0 | | WATER BASED | 02.02.1981 |
| 4862 | 2.05 | 18.0 | 9.1 | WATER BASED | 22.01.1990 |
| 4863 | 2.04 | 19.0 | 9.6 | WATER BASED | 23.01.1990 |
| 4863 | 2.04 | 55.0 | 14.4 | OIL BASED | 25.01.1990 |
| 4863 | 2.04 | 55.0 | 8.1 | OIL BASED | 26.01.1990 |
| 4863 | 2.04 | 39.0 | 14.4 | OIL BASED | 29.01.1990 |
| 4863 | 2.04 | 34.0 | 9.6 | OIL BASED | 29.01.1990 |
| 4863 | 2.04 | 34.0 | 9.6 | OIL BASED | 30.01.1990 |
| 4863 | 2.05 | 33.0 | 10.1 | OIL BASED | 31.01.1990 |
| 4863 | 2.05 | 33.0 | 10.1 | OIL BASED | 01.02.1990 |
| 4863 | 2.05 | 22.0 | 5.3 | WATER BASED | 24.01.1990 |
| 4863 | 2.04 | 55.0 | 8.1 | OIL BASED | 29.01.1990 |
| 4863 | 2.04 | 34.0 | 9.6 | OIL BASED | 29.01.1990 |
| 4985 | 2.01 | 47.0 | | WATER BASED | 02.02.1981 |

Pressure plots

The pore pressure data is sourced from well logs if no other source is specified. In some wells where pore pressure logs do not exist, information from Drill stem tests and kicks have been used. The data has been reported to the NPD, and further processed and quality controlled by IHS Markit.

| Document name | Document format | Document size [MB] |
|---|-----------------|--------------------|
| 1367_Formation_pressure_(Formasjonstrykk) | PDF | 0.22 |

