## General information

| | |
|---|---|
| Wellbore name | 7121/7-1 |
| Type | EXPLORATION |
| Purpose | APPRAISAL |
| Status | P&A |
| Factmaps in new window | link to map |
| Main area | BARENTS SEA |
| Field | SNØHVIT |
| Discovery | 7120/9-1 (Albatross) |
| Well name | 7121/7-1 |
| Seismic location | 8205 - 374  SP. 377 |
| Production licence | 100 |
| Drilling operator | Den norske stats oljeselskap a.s |
| Drill permit | 419-L |
| Drilling facility | WEST VANGUARD |
| Drilling days | 56 |
| Entered date | 11.06.1984 |
| Completed date | 05.08.1984 |
| Release date | 05.08.1986 |
| Publication date | 11.02.2005 |
| Purpose - planned | WILDCAT |
| Reentry | NO |
| Content | GAS/CONDENSATE |
| Discovery wellbore | NO |
| 1st level with HC, age | MIDDLE JURASSIC |
| 1st level with HC, formation | STØ FM |
| Kelly bushing elevation [m] | 22.0 |
| Water depth [m] | 329.0 |
| Total depth (MD) [m RKB] | 2160.0 |
| Final vertical depth (TVD) [m RKB] | 2160.0 |
| Maximum inclination [°] | 1.3 |
| Bottom hole temperature [°C] | 72 |
| Oldest penetrated age | LATE TRIASSIC |
| Oldest penetrated formation | FRUHOLMEN FM |
| Geodetic datum | ED50 |
| NS degrees | 71° 28' 20.78'' N |
| EW degrees | 21° 5' 15.18'' E |
| NS UTM [m] | 7930306.01 |
| EW UTM [m] | 503105.18 |

| | |
|---|---|
| UTM zone | 34 |
| NPDID wellbore | 130 |

## Wellbore history

### General

Well 7121/7-1 was drilled in order to test the Lower/Middle Jurassic sandstone on the eastern part of the Albatross structure on Tromsøflaket. The primary target was defined as sandstone intervals in Early-Middle Jurassic and Late Triassic.

### Operations and results

Wildcat well 7121/7-1 was spudded with the semi-submersible installation West Vanguard on 11 June 1984 and drilled to TD at 2160 m in the Late Triassic Fruholmen Formation. No significant problems were encountered during drilling. The well was drilled with spud mud down to 764 m and with a gypsum/polymer mud from 764 m to TD.

Logs, RFT pressure gradients, and cores indicated gas in the Lower/Middle Jurassic sandstone (Stø Formation) encountered at a depth of 1849 m. Gas/water contact was evaluated to 1902.5 m RKB, the same as found in well 7120/9-1, also drilled on the Albatross structure. From the GWC down to TD in the well shows were observed in sandstones on cores and cuttings. Four cores were cut in the interval 1851 m to 1935 m in the Stø Formation. Two segregated samples were taken, at 1900.2 m and at 1851.0 m. The 2-3/4 gallon chamber from 1900.2 m was bled off offshore and gave an opening pressure at 2220 psig. The sample contained 58.25 cuft of gas and 1 litre of liquid consisting of 800 cc water/mud filtrate and 200 cc condensate. The 2 3/4 gallon chamber from 1850.5 m contained 2200 psig with 4500 cc water based liquid, a small volume condensate, and 41 cuft of gas.

The well was permanently abandoned on 5 August 1984 as a gas appraisal well.

### Testing

Two DST were performed, one water test over the interval 1947.2 m to 1960.18 m and one gas test over the interval 1867 m to 1872 m. The recorded temperatures were in agreement with those observed in well 7120/9-1. The reservoir fluids had the same composition in well 7121/7-1 as in well 7120/9-1. The sandstone in the tested water zone had good reservoir properties. The gas test flowed on average 501000 Sm3 gas/day during the main flow, with a separator gas/oil ratio of 18000 Sm3/Sm3.

## Cuttings at the Norwegian Offshore Directorate

| Cutting sample, top depth [m] | Cutting samples, bottom depth [m] |
|---|---|
| 420.00 | 2157.00 |

| | |
|---|---|
| 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 | 1851.0 | 1867.1 | [m ] |
| 2 | 1868.0 | 1894.4 | [m ] |
| 3 | 1895.0 | 1922.8 | [m ] |
| 4 | 1922.8 | 1935.0 | [m ] |

| | |
|---|---|
| Total core sample length [m] | 82.5 |
| Cores available for sampling? | YES |

## Core photos


1851-1856m


1856-1861m


1861-1866m


1866-1867m


1868-1873m


1873-1878m


1878-1883m


1883-1888m


1888-1893m


1893-1894m


1895-1900m


1900-1905m


1905-1910m


1910-1915m


1915-1920m


1920-1922m


1922-1927m


1927-1932m


1932-1935m

**Palynological slides at the Norwegian Offshore Directorate**

| Sample depth | Depth unit | Sample type | Laboratory |
|---|---|---|---|
| 1401.0 | [m] | DC | OD |
| 1410.0 | [m] | DC | OD |
| 1419.0 | [m] | DC | OD |
| 1428.0 | [m] | DC | OD |
| 1440.0 | [m] | DC | OD |
| 1452.0 | [m] | DC | OD |
| 1461.0 | [m] | DC | OD |
| 1473.0 | [m] | DC | OD |
| 1479.0 | [m] | DC | OD |
| 1491.0 | [m] | DC | OD |
| 1500.0 | [m] | DC | OD |
| 1509.0 | [m] | DC | OD |
| 1521.0 | [m] | DC | OD |
| 1530.0 | [m] | DC | OD |
| 1542.0 | [m] | DC | OD |
| 1551.0 | [m] | DC | OD |
| 1824.0 | [m] | DC | RRI |
| 1833.0 | [m] | DC | RRI |
| 1839.0 | [m] | DC | RRI |
| 1845.0 | [m] | DC | RRI |
| 1851.2 | [m] | C | RRI |
| 1853.9 | [m] | C | RRI |
| 1855.6 | [m] | C | RRI |
| 1858.6 | [m] | C | RRI |
| 1861.3 | [m] | C | RRI |
| 1864.8 | [m] | C | RRI |
| 1867.0 | [m] | C | RRI |
| 1870.0 | [m] | C | RRI |
| 1872.8 | [m] | C | RRI |
| 1876.9 | [m] | C | RRI |
| 1880.2 | [m] | C | RRI |
| 1883.8 | [m] | C | RRI |
| 1886.3 | [m] | C | RRI |
| 1890.7 | [m] | C | RRI |
| 1894.4 | [m] | C | RRI |
| 1896.6 | [m] | C | RRI |
| 1898.5 | [m] | C | RRI |

| | | | |
|---|---|---|---|
| 1899.8 | [m] | C | RRI |
| 1902.9 | [m] | C | RRI |
| 1905.6 | [m] | C | RRI |
| 1907.7 | [m] | C | RRI |
| 1910.7 | [m] | C | RRI |
| 1914.6 | [m] | C | RRI |
| 1915.7 | [m] | C | RRI |
| 1918.5 | [m] | C | RRI |
| 1921.3 | [m] | C | RRI |
| 1924.4 | [m] | C | RRI |
| 1926.5 | [m] | C | RRI |
| 1929.2 | [m] | C | RRI |
| 1932.6 | [m] | C | RRI |
| 1935.0 | [m] | C | RRI |
| 1938.0 | [m] | DC | RRI |
| 1944.0 | [m] | DC | RRI |
| 1950.0 | [m] | DC | RRI |
| 1956.0 | [m] | DC | RRI |
| 1962.0 | [m] | DC | RRI |
| 1968.0 | [m] | DC | RRI |
| 1974.0 | [m] | DC | RRI |
| 1980.0 | [m] | DC | RRI |

## 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 | DST2 | 1866.00 | 1871.00 | | 23.07.1984 - 00:00 | YES |

## Lithostratigraphy

| Top depth [mMD RKB] | Lithostrat. unit |
|---|---|
| 351 | NORDLAND GP |
| 442 | SOTBAKKEN GP |
| 442 | TORSK FM |
| 894 | NYGRUNNEN GP |
| 894 | KVEITE FM |

| | |
|---|---|
| 931 | ADVENTDALEN GP |
| 931 | KOLMULE FM |
| 1588 | KOLJE FM |
| 1732 | KNURR FM |
| 1793 | HEKKINGEN FM |
| 1848 | FUGLEN FM |
| 1849 | KAPP TOSCANA GP |
| 1849 | STØ FM |
| 1908 | NORDMELA FM |
| 2001 | TUBÅEN FM |
| 2045 | FRUHOLMEN FM |

### Composite logs

| Document name | Document format | Document size [MB] |
|---|---|---|
| 130 | pdf | 0.33 |

### Geochemical information

| Document name | Document format | Document size [MB] |
|---|---|---|
| 130_1 | pdf | 3.53 |
| 130_2 | pdf | 1.22 |

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

| Document name | Document format | Document size [MB] |
|---|---|---|
| 130_01_WDSS_General_Information | pdf | 0.22 |
| 130_02_WDSS_completion_log | pdf | 0.21 |

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

| Document name | Document format | Document size [MB] |
|---|---|---|
| 130_01_Completion_Report | pdf | 13.65 |
| 130_02_Completion_log | pdf | 1.15 |

## Drill stem tests (DST)

| Test number | From depth MD [m] | To depth MD [m] | Choke size [mm] |
|---|---|---|---|
| 1.0 | 1950 | 1960 | 67.5 |
| 2.0 | 1866 | 1871 | 24.4 |

| Test number | Final shut-in pressure [MPa] | Final flow pressure [MPa] | Bottom hole pressure [MPa] | Downhole temperature [°C] |
|---|---|---|---|---|
| 1.0 | 21.000 | | 20.000 | 36 |
| 2.0 | 21.000 | 10.000 | 18.000 | 61 |

| Test number | Oil [Sm3/day] | Gas [Sm3/day] | Oil density [g/cm3] | Gas grav. rel.air | GOR [m3/m3] |
|---|---|---|---|---|---|
| 1.0 | | | | | |
| 2.0 | 28 | 501000 | | | 18000 |

## Logs

| Log type | Log top depth [m] | Log bottom depth [m] |
|---|---|---|
| CBL VDL | 520 | 1495 |
| CBL VDL CCL | 1300 | 1975 |
| CET GR CCL | 1300 | 1975 |
| CST | 800 | 1498 |
| CST | 1540 | 2142 |
| DLL MSFL GR | 1825 | 2154 |
| ISF BHC GR SP CAL | 351 | 1507 |
| ISF BHC GR SP CAL | 1854 | 2157 |
| ISF BHC MSFL GR SP CAL | 1500 | 1941 |
| LDL CNL NGT | 1500 | 2158 |
| LDL GR | 415 | 1505 |
| RFT | 1850 | 1922 |
| RFT | 1851 | 2059 |
| SHDT GR | 752 | 2158 |
| VELOCITY | 540 | 2150 |

## 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 | 415.0 | 36 | 419.0 | 0.00 | LOT |
| SURF.COND. | 20 | 752.0 | 26 | 770.0 | 1.52 | LOT |
| INTERM. | 13 5/8 | 1500.0 | 17 1/2 | 1517.0 | 1.53 | LOT |
| INTERM. | 9 5/8 | 2160.0 | 12 1/4 | 2160.0 | 0.00 | LOT |

## Drilling mud

| Depth MD [m] | Mud weight [g/cm3] | Visc. [mPa.s] | Yield point [Pa] | Mud type | Date measured |
|---|---|---|---|---|---|
| 706 | 1.07 | | | WATER BASED | |
| 770 | 1.20 | | | WATER BASED | |
| 1222 | 1.16 | 6200.0 | | WATER BASED | |
| 1517 | 1.16 | 1800.0 | | WATER BASED | |
| 1517 | 1.16 | 2000.0 | | WATER BASED | |
| 1558 | 1.14 | 1200.0 | | WATER BASED | |
| 1922 | 1.25 | 1600.0 | | WATER BASED | |
| 2160 | 1.24 | 1100.0 | | WATER BASED | |

## 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] |
|---|---|---|
| 130_Formation_pressure_(Formasjonstrykk) | pdf | 0.28 |