

| Well no:        | Operator:  |
|-----------------|------------|
| <b>25/05-04</b> | <b>ELF</b> |

## Well

|                   |                                      |               |                             |
|-------------------|--------------------------------------|---------------|-----------------------------|
| Coordinates :     | 59° 36' 33.22" N<br>02° 28' 32.07" E | UTM coord. :  | 6608163.57 N<br>470403.24 E |
| License no :      | 102                                  | Permit no :   | 661                         |
| Rig :             | DYVI STENA                           | Rig type :    | SEMI-SUB.                   |
| Contractor :      | STENA DRILLING AS                    | Elev. KB :    | 25 M                        |
| Bottom hole temp: | 102 °C                               | Water depth : | 120 M                       |
| Spud. date :      | 90.12.22                             | Total depth : | 3185 M                      |
| Compl. date :     | 91.03.07                             | Form. at TD : | E.JURASSIC                  |
| Spud. class :     | WILDCAT                              | Prod.form. :  |                             |
| Compl. class :    | SUSPENDED. GAS/COND                  |               |                             |
| Seisloca :        | EL 8902 - 308, SP. 660               |               |                             |

## Licensees

20.000000 A/S NORSKE SHELL  
 50.000000 DEN NORSKE STATS OLJESELSKAP A.S  
 30.000000 ELF AQUITAINE NORGE A/S

## Casing and Leak-off Tests

| Type      | Casing diam | Depth below KB | Hole diam. | Hole depth below KB | Lot mud eqv. g/cm3 |
|-----------|-------------|----------------|------------|---------------------|--------------------|
| CONDUCTOR | 30          | 206.0          | 36         | 207.0               |                    |
| INTERM.   | 13 3/8      | 1198.0         | 17 1/2     | 1200.0              | 1.98               |
| INTERM.   | 9 5/8       | 2794.0         | 12 1/4     | 2796.0              | 1.80               |
| LINER     | 7           | 3173.0         | 8 1/2      | 3185.0              |                    |

|                 |                  |
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### Conventional Cores

| Core no. | Intervals cored meters | Recovery m | %     |
|----------|------------------------|------------|-------|
| 1        | 2904.0 - 2922.0        | 18.0       | 100.0 |
| 2        | 2922.0 - 2947.4        | 25.4       | 100.0 |
| 3        | 3059.0 - 3075.6        | 16.6       | 100.0 |

### Mud

| Depth  | Mud weight | Visc. | Mud type    |
|--------|------------|-------|-------------|
| 1291.0 | 1.24       | 22.0  | WATER BASED |
| 1463.0 | 1.25       | 25.0  | WATER BASED |
| 2620.0 | 1.33       | 33.0  | WATER BASED |
| 2898.0 | 1.20       | 38.0  | WATER BASED |
| 2900.0 | 1.20       | 34.0  | WATER BASED |
| 2985.0 | 1.20       | 40.0  | WATER BASED |
| 3015.0 | 1.25       | 37.0  | WATER BASED |
| 3057.0 | 1.25       | 42.0  | WATER BASED |

### Drill Stem Test (intervals and pressures)

| Test no. | Test interval meter | Choke size | Pressure (psi) WIIP | BTHP | FFP |
|----------|---------------------|------------|---------------------|------|-----|
| 1.0      | 2933.0 - 2923.0     | 20.3       |                     |      |     |

### Drill Stem Test (recovery)

| Test no. | Oil Sm3/d | Gas Sm3/d | Oil grav. g/cm3 | Gas grav. rel. air | GOR m3/m3 |
|----------|-----------|-----------|-----------------|--------------------|-----------|
| 1.0      | 240       | 740.000   | 0.760           | 0.720              | 3100      |

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### Drill Bit Cuttings and Wet Samples

| Sample type | Interval below KB | Number of samples |
|-------------|-------------------|-------------------|
| WET SAMPLES | 510 - 3185        | 390               |

### Shallow Gas

| Interval below KB | Remarks |
|-------------------|---------|
|                   |         |

### Available Logs

| Log type            | Intervals logged | 1/200 | 1/500 |
|---------------------|------------------|-------|-------|
| ACBL                | 680.0 - 1199.0   |       |       |
| ACBL VDL GR         | 1050.0 - 2792.0  |       |       |
| CBL VDL CCL GR      | 2619.0 - 3117.0  |       |       |
| CDL CN GR           | 2792.0 - 2987.0  |       |       |
| CDL CN SL GR        | 2876.0 - 3181.0  |       |       |
| CDM AP              | 2792.0 - 3180.0  |       |       |
| DIFL BHC AC GR      | 1199.0 - 2790.0  |       |       |
| DIFL LS BHC AC GR   | 2792.0 - 3181.0  |       |       |
| DLL MLL GR          | 2792.0 - 2987.0  |       |       |
| FMT                 | 2896.0 - 3159.0  |       |       |
| MUD                 | 146.0 - 3185.0   |       |       |
| PRESSURE EVALUATION | 145.0 - 3185.0   |       |       |
| RWD                 | 207.0 - 3185.0   |       |       |
| SHDT                | 1200.0 - 2791.0  |       |       |
| SPECTRALOG          | 1199.0 - 3184.0  |       |       |

WDSS Report

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|                 |                  |
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|                      |                 |  |  |  |
|----------------------|-----------------|--|--|--|
| SYNTHETIC SEISMOGRAM |                 |  |  |  |
| TEMPERATURE DATA     | 145.0 - 3185.0  |  |  |  |
| TOMEX SURVEY         |                 |  |  |  |
| TWO-WAY TRAVEL TIME  |                 |  |  |  |
| VSP                  |                 |  |  |  |
| ZCDL CNL SP GR       | 3181.0 - 3182.0 |  |  |  |

**Main operations for well: 25/5-4****Main operation: DRILLING**

| Sub operation:  | Minutes:     | Hours:        | % of total:   |
|-----------------|--------------|---------------|---------------|
| BOP ACTIVITIES  | 1380         | 23,0          | 2,24          |
| BOP/WELLHEAD EQ | 3600         | 60,0          | 5,84          |
| CASING          | 20970        | 349,5         | 34,01         |
| CIRC/COND       | 1500         | 25,0          | 2,43          |
| DRILL           | 23970        | 399,5         | 38,88         |
| HOLE OPEN       | 1530         | 25,5          | 2,48          |
| OTHER           | 150          | 2,5           | 0,24          |
| REAM            | 810          | 13,5          | 1,31          |
| SURVEY          | 60           | 1,0           | 0,10          |
| TRIP            | 7680         | 128,0         | 12,46         |
| <b>Total</b>    | <b>61650</b> | <b>1027,5</b> | <b>100,00</b> |

**Main operation: FORMATION EVAL**

| Sub operation: | Minutes:     | Hours:       | % of total:   |
|----------------|--------------|--------------|---------------|
| CIRC SAMPLES   | 90           | 1,5          | 0,37          |
| CIRC/COND      | 690          | 11,5         | 2,82          |
| CORE           | 1500         | 25,0         | 6,12          |
| DST            | 8895         | 148,3        | 36,31         |
| LOG            | 6330         | 105,5        | 25,84         |
| RFT/FIT        | 330          | 5,5          | 1,35          |
| TRIP           | 6180         | 103,0        | 25,23         |
| WAIT           | 480          | 8,0          | 1,96          |
| <b>Total</b>   | <b>24495</b> | <b>408,3</b> | <b>100,00</b> |

**Main operation: INTERRUPTION**

| Sub operation: | Minutes:     | Hours:       | % of total:   |
|----------------|--------------|--------------|---------------|
| MAINTAIN/REP   | 4800         | 80,0         | 44,76         |
| WAIT           | 5925         | 98,8         | 55,24         |
| <b>Total</b>   | <b>10725</b> | <b>178,8</b> | <b>100,00</b> |

**Main operation: MOVING**

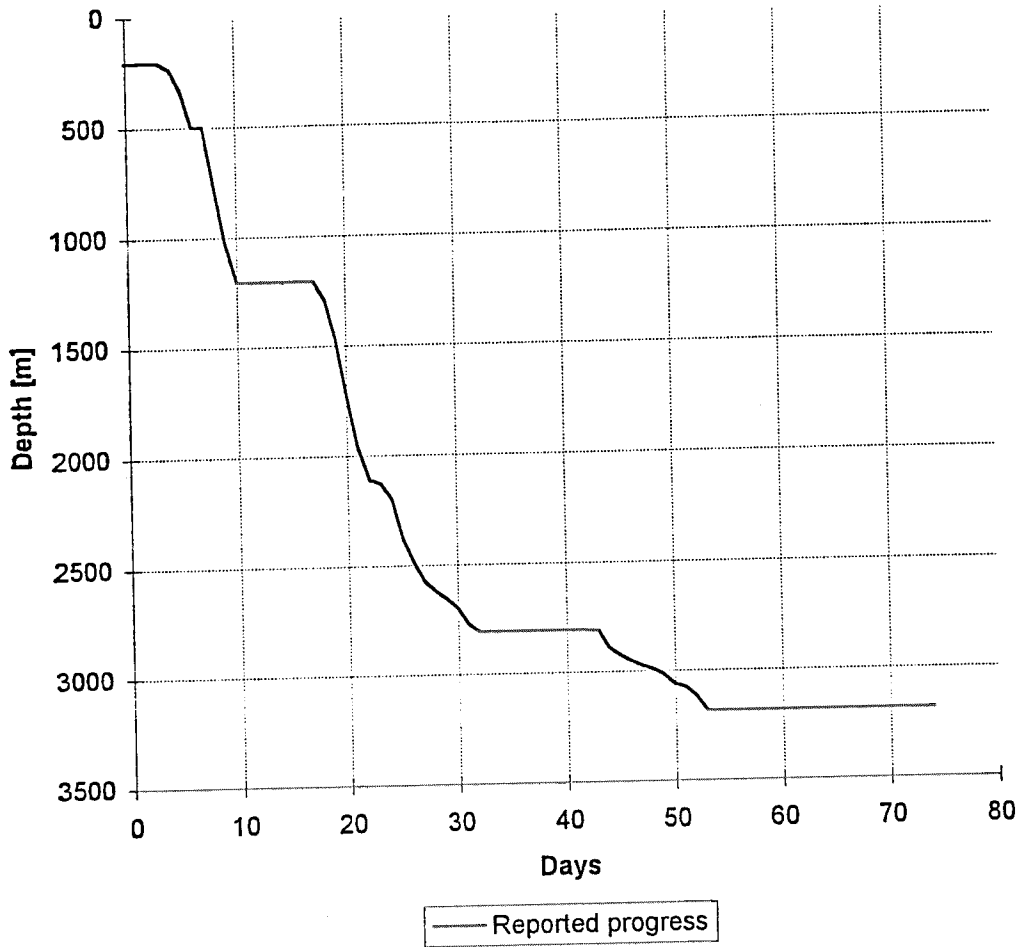
| Sub operation: | Minutes:   | Hours:      | % of total:   |
|----------------|------------|-------------|---------------|
| ANCHOR         | 780        | 13,0        | 100,00        |
| <b>Total</b>   | <b>780</b> | <b>13,0</b> | <b>100,00</b> |

**Main operation: PLUG & ABANDON**

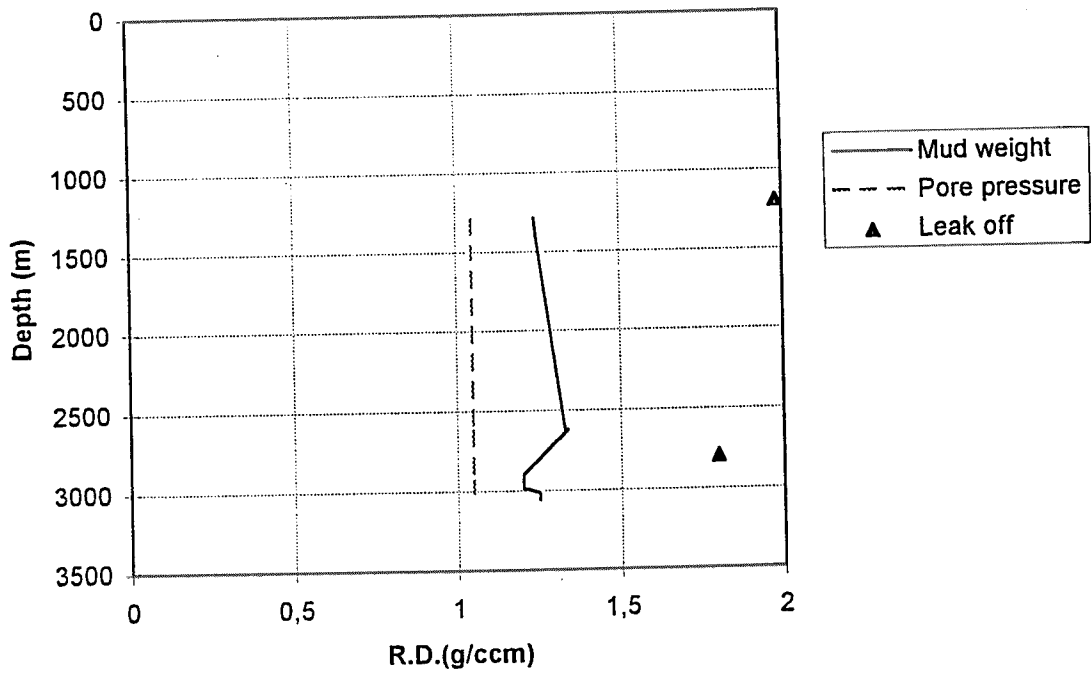
| Sub operation:  | Minutes:    | Hours:       | % of total:   |
|-----------------|-------------|--------------|---------------|
| CEMENT PLUG     | 150         | 2,5          | 1,83          |
| CIRC/COND       | 90          | 1,5          | 1,10          |
| EQUIP RECOVERY  | 1620        | 27,0         | 19,78         |
| MECHANICAL PLUG | 270         | 4,5          | 3,30          |
| TRIP            | 4740        | 79,0         | 57,88         |
| WAIT            | 1320        | 22,0         | 16,12         |
| <b>Total</b>    | <b>8190</b> | <b>136,5</b> | <b>100,00</b> |

Total time used:  Hours

Depth vs time for well: 25/5-4



Composite plot for well: 25/5-4



# Well History 25/5-4

## General:

Well 25/5-4 was designed to investigate the petroleum potential of the C-prospect located in the centre of block 25/5 fairly close to the Froy, Heimdal and Skirne Fields, and the oil-filled 25/2-5 structure. The prospect was defined at Intra-Statfjord level where it appeared as a narrow horst trending N10°, tilted to NW. It consists of two compartments offset by an E-W fault. No significant closure was expected at Base Cretaceous, only a nose.

The objectives of the well were:

- 1) to explore the Middle Jurassic Brent sandstones (main target)
- 2) to explore the Lower Jurassic Statfjord sandstones (secondary target)

For these objectives the expected fluid was most likely oil, but gas could be found instead. No shallow gas was expected.

## Operations:

Wildcat well 25/5-4 was spudded 22 December 1990 by the semi-submersible rig Dyvi Stena and completed 7 March 1991 at a total depth of 3185 m RKB within the Statfjord Formation. Only minor problems were encountered during drilling the Hordaland Group. Three conventional cores were cut 2 at Brent level and 1 at top Statfjord Formation. A total of 100 sidewall cores were attempted, and 72 were recovered. The actual results for the main seismic markers were rather closed to prognoses (17-36 m higher). Sandy waterbearing reservoirs were encountered in the basal Tertiary Heimdal and Ty (Maureen ) Formations. The Brent reservoir was 46.5 m and about 50% off prognoses, and completely gas bearing. The Statfjord Formation proved good reservoir quality but was waterbearing. The well was temporary plugged and abandoned with a gas discovery in Brent sandstones.

## Testing:

One DST tests was performed in the interval 2923-2933 m RKB and flowed at a rate of 759600 Sm<sup>3</sup>/d gas and 223 Sm<sup>3</sup>/d condensate through a 20.3 mm choke.

# Geological Tops.

## Well:25/5-4.

|                 | Depth m (RKB). |
|-----------------|----------------|
| Nordland Group  | 145.0          |
| Hordaland Group | 1057.0         |
| Grid Fm         | 1057.0         |
| Frigg Fm        | 1380.0         |
| Rogaland Group  | 2111.0         |
| Balder Fm       | 2111.0         |
| Sele Fm         | 2142.0         |
| Lista Fm        | 2177.0         |
| Våle Fm         | 2377.0         |
| Shetland Group  | 2559.0         |
| Hardråde Fm     | 2559.0         |
| Åsgard Fm       | 2760.0         |
| Viking Group    | 2783.0         |
| Draupne Fm      | 2783.0         |
| Brent Group     | 2894.5         |
| Dunlin Group    | 2941.0         |
| Statfjord Fm    | 3052.0         |
| T.D.            | 3185.0         |