

Well no : 15/ 9-12 AND 15/9-12 R Operator : STATOIL

Coordinates : 58 27 22.71 N UTM coord. : 6480376 N
01 43 4.84 E 425188 E

Licence no : 046 Permit no : 0309

Rig : NORDRAUG
Re-entry : DEEPSEA SAGA

Contractor : GOLAR-NOR OFFSHORE A/S

Bottom hole temperature : 112 deg.C Elev. KB : 25 M

Spud. date : 81.11.26 Water depth : 107 M
Re-entry : 82.03.26

Compl. date : 82.02.23 Total depth : 3740 M
Re-entry : 82.04.27

Spud. class : APPRAISAL Form. at TD : TRIASSIC

Compl. class : SUSPENDED Prod. form :
Re-entry : P&A GAS/COND. DISC.

Seisloca : 8010 - 023 SP 270

Remarks : The borehole was drilled to TD with Nordraug.
Re-entered, tested, and plugged by Deepsea Saga.

LICENSEES

40,000 ESSO NORGE A/S LETING OG PRODUKSJON
10,000 NORSK HYDRO A/S
50,000 DEN NORSKE STATS OLJESELSKAP A/S

CASING AND LEAK-OFF TESTS

| Type | Casing diam. | Depth below KB | Hole diam. | Hole depth below KB | Lot mud eqv. g/cm |
|------------|-----------------|-------------------|---------------|------------------------|----------------------|
| ----- | ----- | ----- | ----- | ----- | ----- |
| CONDUCTOR | 30 | 195,0 | 36 | 195,0 | |
| SURF.COND. | 20 | 501,0 | 26 | 515,0 | 01,77 |
| INTERM. | 13 3/8 | 1120,0 | 17 1/2 | 1135,0 | 01,79 |
| INTERM. | 9 5/8 | 2755,0 | 12 1/4 | 2771,0 | 01,73 |
| LINER | 7 | 3740,0 | 8 1/2 | 3740,0 | |

CONVENTIONAL CORES

| Core no. | Intervals cored meters | Recovery | | Series |
|----------|---------------------------|----------|-------|-------------|
| | | M | % | |
| 1 | 3511.0 - 3528.6 | 17.6 | 100.0 | M. JURASSIC |
| 2 | 3528.6 - 3546.8 | 18.2 | 100.0 | M. JURASSIC |
| 3 | 3546.8 - 3560.4 | 13.3 | 97.8 | M. JURASSIC |
| 4 | 3560.4 - 3578.6 | 18.2 | 100.0 | M. JURASSIC |
| 5 | 3578.6 - 3596.3 | 17.5 | 98.9 | M. JURASSIC |
| 6 | 3596.3 - 3614.4 | 17.7 | 97.8 | M. JURASSIC |
| 7 | 3614.4 - 3633.0 | 18.2 | 97.8 | M. JURASSIC |
| 8 | 3633.0 - 3651.6 | 17.2 | 92.5 | M. JURASSIC |
| 9 | 3651.6 - 3670.5 | 18.5 | 97.9 | M. JURASSIC |
| 10 | 3670.5 - 3690.0 | 3.0 | 15.4 | M. JURASSIC |
| 11 | 3690.0 - 3701.4 | 10.4 | 91.2 | M. JURASSIC |

| DRILL STEM TEST | | | | | | | | | |
|-----------------|----------------|---------------|------------------------|--------------------------|-----------------------------|--------------------|------------------------------------|--------------|-----|
| TEST NO | DEPTH BELOW KB | CHOKE SIZE mm | RECOVERY | | | | | PRESS. (psi) | |
| | | | OIL Sm ³ /d | GAS M Sm ³ /d | OIL GRAV. g/cm ³ | GAS GRAV. rel. air | GOR m ³ /m ³ | BHFP | WHP |
| | | | 1 | 3585 - 3595 | 25.4 | 253 * | 762 | | |
| 2 | 3512 - 3522 | 25.4 | 234 * | 807 | 0.79 * | 0.76 | 3448 | 5612 | |

* = CONDENSAT

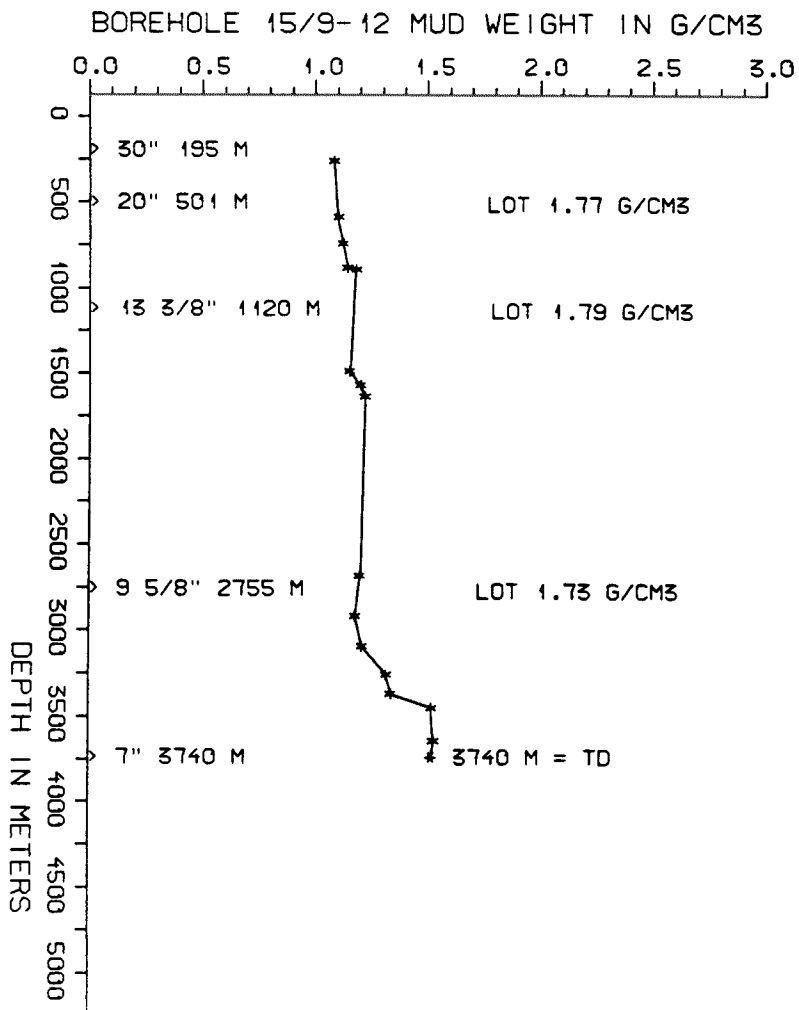
| AVAILABLE LOGS | | | |
|-----------------|-------------|--------|-------|
| LOG TYPE | INTERVALS | 1/200 | 1/500 |
| GR | 135 - 195 | x | x |
| ISF BHC GR | 195 - 512 | x | x |
| ISF SONIC | 501 - 1133 | x | x |
| ISF BHC | 1120 - 2773 | x | x |
| ISF BHC | 2756 - 3745 | x | x |
| FDC | 501 - 1133 | x | x |
| FDC CNL | 1120 - 2774 | x | x |
| FDC CNL | 2756 - 3747 | x | x |
| DLL MSFL | 3360 - 3746 | x | x |
| CDM | 2756 - 3747 | x | |
| CDM AP | 2755 - 3753 | x | x |
| GEODIP | 3512 - 3702 | 1:40 | |
| RFT (Test:1-79) | | 1:100 | |
| RFT | 2380 - 2706 | x | |
| CBL VDL | 130 - 1115 | x | |
| CBL VDL | 800 - 2756 | x | |
| CBL VDL | 2614 - 3704 | x | |
| MUD | 196 - 3740 | | x |
| VELOCITY | 195 - 3745 | 1:1000 | x |

(Air Gun Well Velocity Survey & C.L.D. 1stk)
(Synthetic Seismogram Marine, 10 cm/s, 1stk)
(Synthetic Seismogram, b/p-w/t, 10 cm/s, 2stk)
(Two Way Travel Time, 10 cm/s, 1stk)

| MUD PROPERTIES | | | |
|---------------------|-----------------|---------------------|----------------------|
| DEPTH BELOW KB m | WEIGHT g/cm3 | FUNNEL VISC. sec | FILTRATE LOSS cm3 |
| 195 | 1.05 | | |
| 520 | 1.07 | | |
| 675 | 1.09 | | |
| 815 | 1.11 | | |
| 825 | 1.15 | | |
| 1000 | 1.14 | | |
| 1420 | 1.12 | | |
| 1500 | 1.17 | | |
| 1570 | 1.19 | | |
| 2575 | 1.18 | | |
| 2615 | 1.17 | | |
| 2850 | 1.15 | | |
| 3025 | 1.18 | | |
| 3190 | 1.29 | | |
| 3300 | 1.31 | | |
| 3380 | 1.49 | | |
| 3575 | 1.50 | | |
| 3740 | 1.50 | | |

| DRILL BIT CUTTINGS AND WET SAMPLES | | |
|------------------------------------|-------------------|-------------------|
| SAMPLE TYPE | INTERVAL BELOW KB | NUMBER OF SAMPLES |
| CUTTINGS | 220 - 2771 | 583 |
| WET SAMPLES | 220 - 3735 | 703 |

| SHALLOW GAS | |
|------------------------|---------|
| DEPTH INTERVAL m KB | REMARKS |
| | NONE |



WELL HISTORY - 15-9-12

GENERAL :

15/9-12 was drilled as an appraisal well and designed to test possible hydrocarbons in the saddle area between the Alpha and Beta structures in block 15/9. The primary objective was to test sandstones of Middle Jurassic age. The well tested gas and condensate from this sandstone.

OPERATIONS :

The well was spudded by "Nordraug" 22.11.81. The 36" hole was drilled to 195 m but due to bad weather the rig was moved. Were unable to find the hole and the well was respudded 26.11.81. Drilling of the 26" and 17 1/2" holes went forth without any special problems other than tight spots in the lower part of the 17 1/2" hole. During displacement of the cement (9 5/8" casing) 64 m³ was lost to the formation. The 8 1/2" section included the cutting of 11 cores. Due to technical problems the rig was taken to repair. "Nordraug" left location 24.02.82. after attempting to test the interval 3600 - 3610 m. "Deepsea Saga" respudded the well 26.03.82 and tested two zones successfully.

TESTING :

The well produced gas and condensate in both tests. The first test was aborted after flowing the well for 150 min. due to bad weather. The zone was retested a few days later. Eight gas samples and six condensate samples were taken at the separator during DST no. 1. Eight gas- and eight condensate samples were taken at the separator during DST no. 2. Neither test experienced sand production nor was H₂S detected. The CO₂ content was measured to approx. 8 % in² both tests. 4 segregated samples were taken during the RFT runs.

GEOLOGICAL TOPS

WELL: 15/9-12 + 15/9-12 R

| | Depth m (RKB) |
|--------------------|---------------|
| Nordland Group | 132 m |
| Utsira Fm | 822 m |
| Hordaland Group | 1160 m |
| Marstein Fm | 1395 m |
| Frigg Fm | 1823 m |
| Rogaland Group | 2220 m |
| Balder Fm | 2220 m |
| Sele Fm | 2269 m |
| Lista Fm | 2328 m |
| Montrose Group | 2374 m |
| Heimdal Fm | 2374 m |
| Maureen Fm | 2625 m |
| Chalk Group | 2723 m |
| Ekofisk Fm | 2723 m |
| Tor Fm | 2674 m |
| Hod Fm | 2979 m |
| Plenus Marl Fm | 3233 m |
| Hidra Fm | 3264 m |
| Cromer Knoll Group | 3295 m |
| Rødby Fm | 3295 m |
| Sola Fm | 3348 m |
| Valhall Fm | 3360 m |
| Viking Group | 3400 m |
| Draupne Fm | 3400 m |
| Heather Fm | 3498 m |
| Vestland Group | 3510 m |
| Hugin Fm | 3510 m |
| Sleipner Fm | 3694 m |

TD = 3740 m