

## 2.5 SHOWS AND FLUIDS

### 2.5.1 Shows

Down to 3302 m there is no significant show except on limestone intercalations (trace to 0,1 % CL) in the Cretaceous section.

JURASSIC SANDSTONES

1) "Brent sands"

The slight values of gas, found while drilling through the reservoir is certainly due to the very high density of the mud (1,85), whilst the equivalent density is only 1.07.

Gas chromatograph:

3336 - 3370 m	C1: 0.7, C2 = 0.1, C3 = 0.05
3370 - 3472 m	C1: 0.06 to 0.8
3472 - 3489 m	C1: 0.34, C2 = 0.12, C3 = 0.04, C4 Tr.

Direct Fluorescence: (observed in cores no. 1 - 4)

3343 - 3369 m	yellow-green, fair
Cut	light, milkish yellow
Colour	light brown → 3358 m
3372 - 3341 m	(observed on CWS)
3476 - 3481 m	(observed on core no. 5)
	Yellow + Cut

(See following table)

2) "Statfjord sands"

Gas chromatograph:

C1 : tr to 1.53  
C2 : tr to 0.28  
C3 : tr to 0.07

Direct Fluorescence

3652 - 3695 m (observed on CWS)  
Yellow-white pale to medium  
3708 m Yellow-white pale

Some Fluorescence at

3739 - 3741 m Yellow-white pale  
3757 - 3760 m " " "  
3785 p 3790 m " " "

3) TRIASSIC

Gas chromatograph:

3894 - 3910 m C1: 0.2, C2: 0.05, C3: 0.01

2.5.2 FLUIDS

JURASSIC SANDSTONES

"Brent Sands" 3336 - 3489 m

5 FITS have been carried out while drilling from 3354 to 3384 m in order to confirm the oil/water contact and to get a static pressure.

Oil was recovered in two FITs at 3357,2; 3382,5 m (density = 0.804 at 22°C : 44,5 ° API - GOR ≈ 200 m<sup>3</sup>/m<sup>3</sup>, pressure : 365,5 kg/cm<sup>2</sup> near stabilization at 3382,5 m. Equivalent density = 1.08)

The other FITs were unsuccessful.

5 FITs have been carried out during the production test. Oil was discovered in FIT no. 15 at 3383,8 m and GAS in 4 FITs.

DST no. 3 at 3337 - 3362 m after perforation, has given an estimated oil flow of 470,5 m<sup>3</sup>/per day on choke 32/64" (density : 0.813 at 16<sup>o</sup>: C) with 95.399 m<sup>3</sup>/day GAS : GOR : 202.8 m<sup>3</sup>/m<sup>3</sup>. Formation pressure at 3328,4 m = 360,6 kg/cm<sup>3</sup>. Equivalent density: 1.08.

"Statfjord sands" 3652 - 3847 m

9 FITS have been carried out during drilling from 3662,8 to 3783 m in order to confirm the oil/water contact. All fo them were unsuccessful and no formation water was recovered. Only mud and filtrate (salinity descreasing from 14 to 7 g/l).

Static pressure: 403 kg/cm<sup>2</sup>. Equivalent density: 1.09.

DST no.1 at 3692 - 3695 m after perforations has given 200 l of filtrate (salinity 7,4 g/l).

DST no.2 at 3652 - 3695 m has given an estimated oil flow of 229 m<sup>3</sup>/day on choke 1/2" with 47.700 m<sup>3</sup>/day GAS.

GOR : 208 m<sup>3</sup>/m<sup>3</sup>.

Formation pressure not significant.

(For details about tests see "Final report" of Reservoir Department no. 311E 76/418.)

DEPTH	C1	C2	C3	C4	C1/C2	C1/C3	C1/C4	REMARKS
3344	68.96	22.41	8.62		3.07	8		Oil BU on drilling
3369	55.55	38.33	6.11		1.44	9.09		BU on coring
3382	49.18	30.25	16.15	4.40	1.62	3.04	11.16	Oil FIT
3428.5	70.51	19.52	5.88	4.06	3.61	11.98	17.33	Water FIT
3405	72.68	20.10	4.11	3.09	3.61	17.66	23.5	Water FIT
3476	59.09	22.72	6.81	11.36	2.6	8.66	5.2	Oil BU on drilling

Chromatograph analysis has been stopped after C4.