

Well no : 25/ 1-07 Operator : ELF

Coordinates : 59 55 08.28 N UTM coord. : 6642898  
 02 04 52.33 E 448624

Licence no : 24 Permit no : 455

Rig : BYFORD DOLPHIN Rig type : SEMI-SUB.

Contractor : DOLPHIN SERVICES A/S

Bottom hole temperature : 58.3 deg.C Elev. KB : 25 M

Spud. date : 85.03.09 Water depth : 101 M

Compl. date : 85.05.27 Total depth : 2720 M

Spud. class : APPRAISAL Form. at TD : CRETACEOU

Compl. class : SUSP.GAS DISCOVERY Prod. form :

Seisloca : 73/0205 SP. 660 AND 73/FAA SP. 57.5

## LICENSEES

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41.420000 ELF AQUITAINE NORGE A/S  
 32.870000 NORSK HYDRO PRODUKSJON A.S  
 5.000000 DEN NORSKE STATS OLJESELSKAP A.S  
 20.710000 TOTAL MARINE NORSK A.S

## CASING AND LEAK-OFF TESTS

Type	Casing diam.	Depth below KB	Hole diam.	Hole depth below KB	Lot mud eqv. g/cm <sup>3</sup>
CONDUCTOR	30	187.0	36	188.0	
SURF.COND.	20	846.0	26	863.0	1.41
INTERM.	13 3/8	1856.0	17 1/2	1876.0	1.56
INTERM.	9 5/8	2187.0	12 1/4	2719.0	
OPEN HOLE			8 1/2	2720.0	

## CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	1876.0 - 1879.0	3.0	97.5	EOCENE
2	1880.0 - 1880.8	1.8	90.0	EOCENE
3	1882.0 - 1890.0	8.0	100.0	EOCENE
4	1891.0 - 1897.7	6.7	100.0	EOCENE
5	1900.0 - 1917.9	17.9	99.0	EOCENE
6	1918.0 - 1933.5	15.5	100.0	EOCENE

## CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
7	1936.0 - 1938.0	0.0	000.0	EOCENE
8	1938.0 - 1939.0	0.0	000.0	EOCENE
9	1939.0 - 1948.0	9.0	100.0	EOCENE
10	1948.0 - 1949.0	0.0	000.0	EOCENE
11	1959.0 - 1985.0	26.0	100.0	EOCENE
12	1987.0 - 2007.0	20.0	100.0	EOCENE
13	2007.0 - 2033.0	26.0	100.0	EOCENE
14	2033.4 - 2045.7	12.3	96.0	EOCENE
15	2046.5 - 2063.3	16.8	99.0	EOCENE
16	2064.0 - 2065.8	2.8	96.0	EOCENE
17	2066.5 - 2079.5	13.0	100.0	EOCENE
18	2090.0 - 2101.9	11.9	100.0	EOCENE
19	2103.0 - 2116.0	13.0	99.5	EOCENE
20	2127.0 - 2132.5	5.5	92.0	EOCENE
21	2134.0 - 2146.0	12.0	100.0	EOCENE
22	2150.0 - 2165.3	15.3	100.0	EOCENE
23	2168.5 - 2177.3	8.8	98.0	EOCENE
24	2179.5 - 2195.0	15.5	98.0	PALEOCENE
25	2195.5 - 2202.8	7.3	100.0	PALEOCENE
26	2213.0 - 2220.8	7.8	97.0	PALEOCENE
27	2222.0 - 2240.2	18.2	98.0	PALEOCENE
28	2241.0 - 2246.6	5.6	100.0	PALEOCENE
29	2252.0 - 2270.5	18.5	100.0	PALEOCENE
30	2412.0 - 2419.0	7.0	100.0	PALEOCENE
31	2530.0 - 2530.5	0.0	000.0	PALEOCENE
32	2609.0 - 2616.0	0.0	000.0	PALEOCENE
33	2710.0 - 2719.9	8.7	97.0	UPPER CRETACEOUS

## MUD PROPERTIES

Depth below KB meter	Mud weight g/cm <sup>3</sup>	Plastic viscosity mPa.s	Mud type
144.000	1.04		WATER BASED
348.000	1.08	31.0	WATER BASED
749.000	1.09	28.0	WATER BASED
940.000	1.11	30.0	WATER BASED
1130.000	1.15	30.0	WATER BASED
1259.000	1.16	29.0	WATER BASED
1359.000	1.20	32.0	WATER BASED
1520.000	1.22	31.0	WATER BASED
1601.000	1.24	33.0	WATER BASED
1876.000	1.07	19.0	WATER BASED
1880.000	1.08	25.0	WATER BASED
1918.000	1.09	24.0	WATER BASED
1938.000	1.10	24.0	WATER BASED
2064.000	1.11	26.0	WATER BASED
2066.500	1.12	29.0	WATER BASED
2096.000	1.11	27.0	WATER BASED
2147.500	1.10	27.0	WATER BASED
2150.000	1.11	30.0	WATER BASED
2202.000	1.13	32.0	WATER BASED
2213.000	1.12	30.0	WATER BASED

## DRILL STEM TEST

NO DST'S WERE PERFORMED IN THIS WELL

## DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
Cutting		
Wet Samples	200 - 2710	450

## SHALLOW GAS

Interval  
below KB

REMARKS

NONE

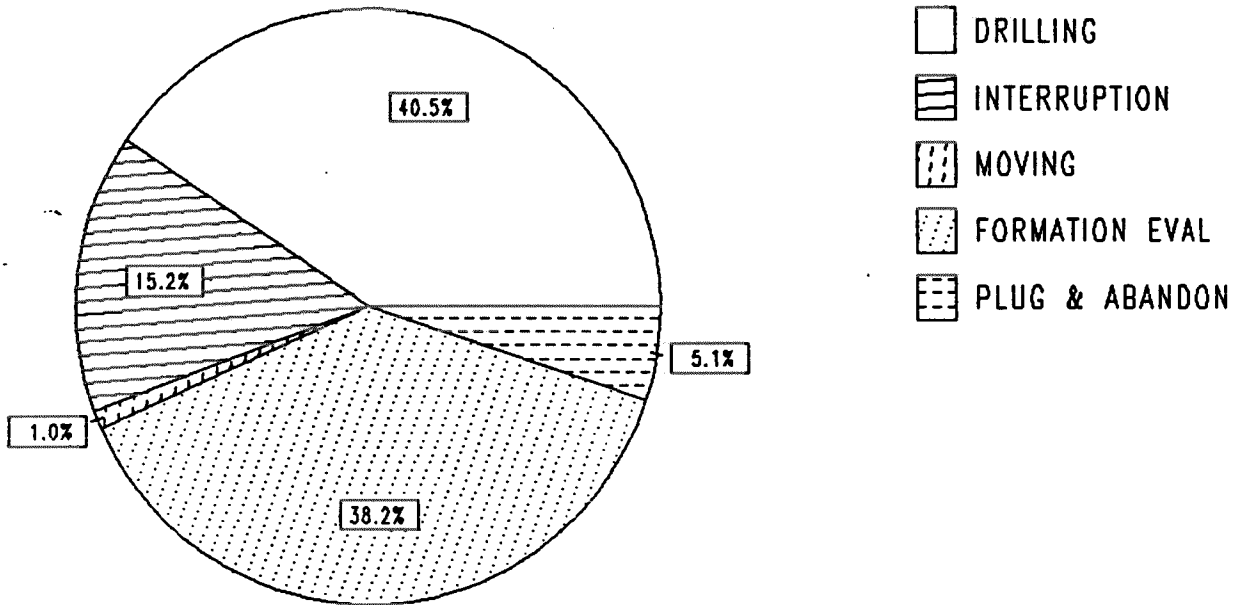
## AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500
ISF LSS GR	188 - 863	X	X
ISF LSS	847 - 1870	X	X
DIL LSS	1856 - 2063	X	X
ISF LSS	1856 - 2719	X	X
ISF LSS	188 - 863	1:1000	
ISF LSS	847 - 1870	1:1000	
ISF LSS	1856 - 2719	1:1000	
LDL	188 - 864	X	X
LDL	847 - 1871	X	X
LDL CNL	1856 - 2063	X	X
LDL CNL	1856 - 2719	X	X
DLL MSFL	1856 - 2060	X	X
CDM	1856 - 2714	X	
SHDT	1856 - 2721	X	
CDM AP/SHDT	1876 - 2040	1:50	
CDM AP/SHDT	2035 - 2192	1:50	
CDM AP/SHDT	2190 - 2349	1:50	
NGL	1856 - 2053	X	X
NGL	1856 - 2710	X	X
TEMPERATURE	1340 - 2120	X	X
RFT(HP HAUGE)	1920 - 2050		
RFT(HP HAUGE)	1920 - 2050		
CBL VDL	435 - 1856	X	X
CBL VDL	1335 - 2125	X	X
CBL VDL	1335 - 2125	X	X
CBL VDL	1335 - 2125	X	X
MUD	187 - 2719		X
VELOCITY	188 - 2719	1:1000	X

(+ Airgun Well Velocity Survey and Calibr. data, 1 stk)  
 (+ Synthetic Seismogram, Marine, 10 + 40 cm/s, 2 stk)  
 (+ Synthetic Seismogram, 10 + 40 cm/s, 12 stk)  
 (+ V.S.P., display 1-7, 10 + 40 cm/s, 11 stk)  
 (+ Walkaway V.S.P., 10 + 40 cm/s, 23 stk)

# DAILY DRILLING REPORT SYSTEM

Main operation : 25/01-07



Total : 1896 HRS

Main operation	Minutes	Hours	% of total
DRILLING	46073	767.88	40.50
INTERRUPTION	17280	288.00	15.19
MOVING	1170	19.50	1.03
FORMATION EVAL	43417	723.62	38.17
PLUG & ABANDON	5820	97.00	5.12

MAIN OPERATIONS WELL : 25/01-07

MAIN OPERATION: DRILLING

Sub operations	Min	Hrs	% of total
TRIP	8690	144.83	18.86
DRILL	12510	208.50	27.15
REAM	570	9.50	1.24
CIRC/COND	2370	39.50	5.14
SURVEY	2280	38.00	4.95
CASING	10170	169.50	22.07
BOP/WELLHEAD EQ	3990	66.50	8.66
UNDERREAM	1230	20.50	2.67
BOP ACTIVITIES	4263	71.05	9.25
<b>TOTAL</b>	<b>46073</b>	<b>767.88</b>	

MAIN OPERATION: MOVING

Sub operations	Min	Hrs	% of total
POSITION	90	1.50	7.69
ANCHOR	1080	18.00	92.31
<b>TOTAL</b>	<b>1170</b>	<b>19.50</b>	

MAIN OPERATION: FORMATION EVAL

Sub operations	Min	Hrs	% of total
CIRC SAMPLES	60	1.00	0.14
CIRC/COND	3510	58.50	8.08
TRIP	14407	240.12	33.18
LOG	8610	143.50	19.83
CORE	15060	251.00	34.69
RFT/FIT	1770	29.50	4.08
<b>TOTAL</b>	<b>43417</b>	<b>723.62</b>	

MAIN OPERATION: INTERRUPTION

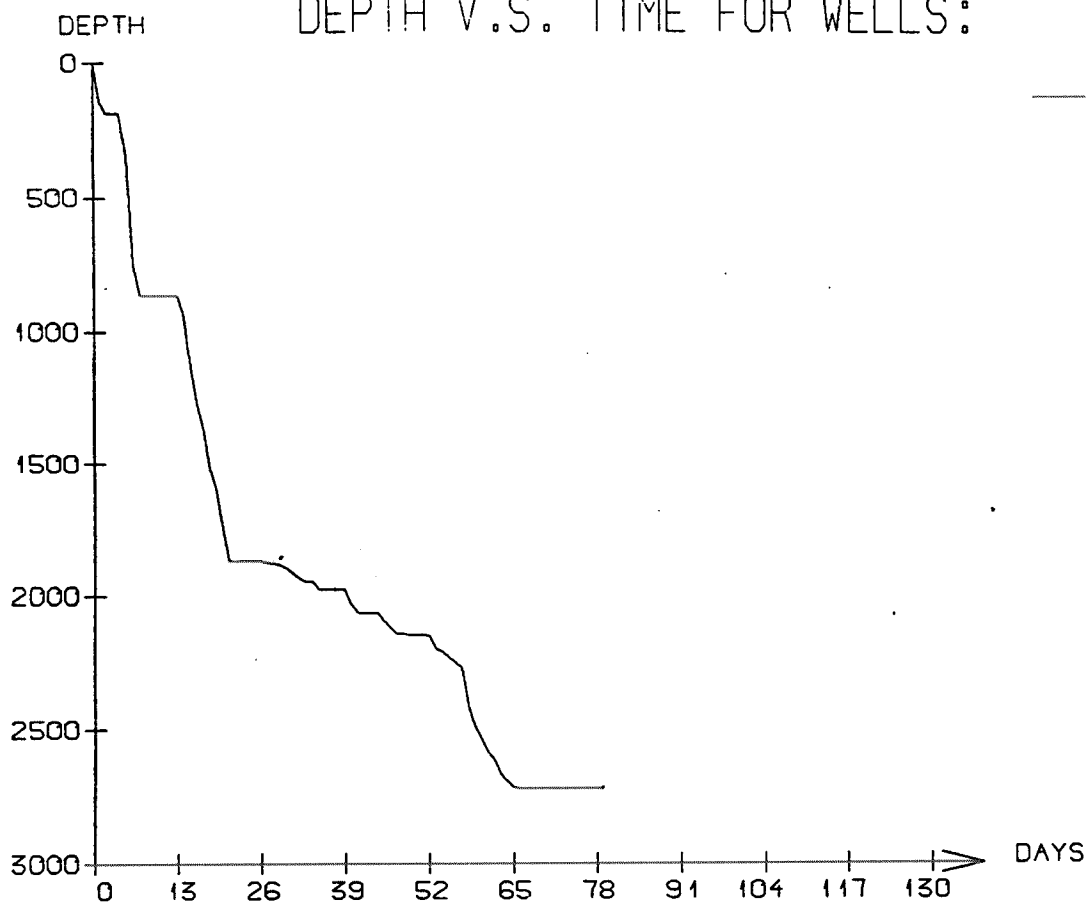
Sub operations	Min	Hrs	% of total
WAIT	5430	90.50	31.42
OTHER	60	1.00	0.35
LOST CIRC	150	2.50	0.87
MAINTAIN/REP	8730	145.50	50.52
WELL CONTROL	120	2.00	0.69
FISH	2790	46.50	16.15
<b>TOTAL</b>	<b>17280</b>	<b>288.00</b>	

MAIN OPERATION: PLUG & ABANDON

Sub operations	Min	Hrs	% of total
TRIP	570	9.50	9.79
CEMENT PLUG	780	13.00	13.40
MECHANICAL PLUG	300	5.00	5.15
WAIT	2400	40.00	41.24
CIRC/COND	120	2.00	2.06
EQUIP RECOVERY	840	14.00	14.43
OTHER	810	13.50	13.92
<b>TOTAL</b>	<b>5820</b>	<b>97.00</b>	

# DEPTH V.S. TIME FOR WELLS:

— 0025/01- 07



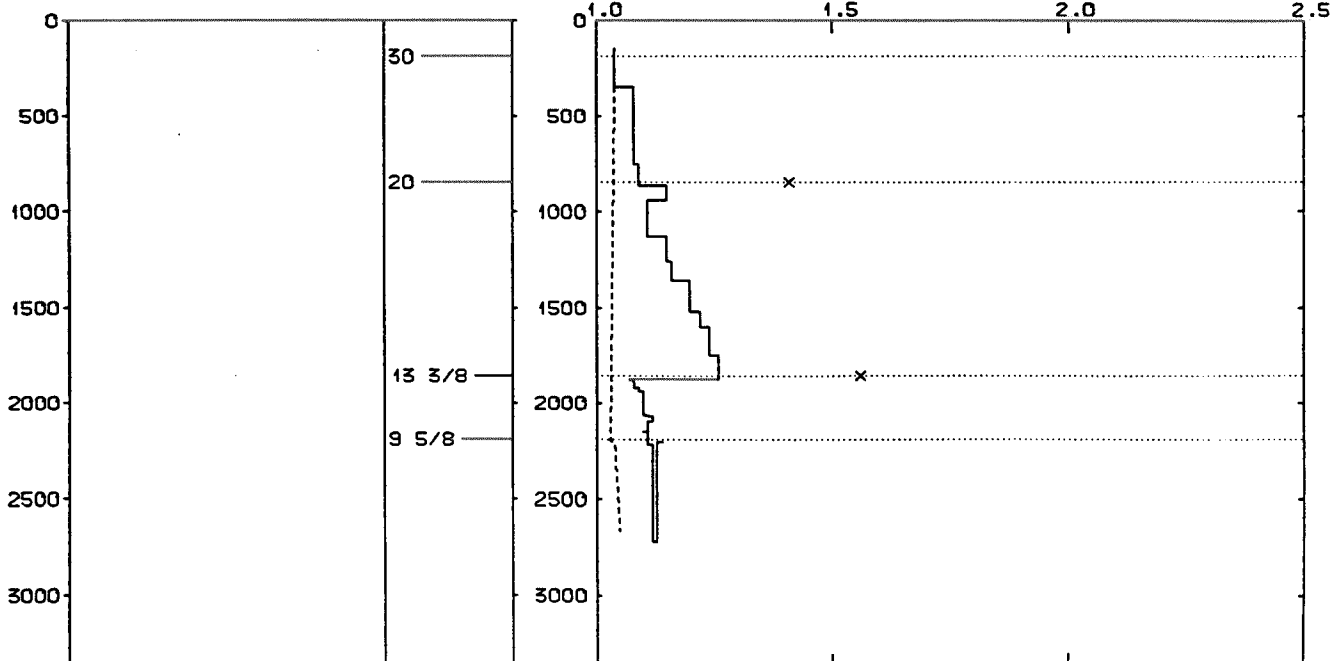
## WELL: 002501 07 PRESSURE COMPOSITE PLOT

DEPTH  
(RKB)  
(METERS)

CASING

PRESSURE GRADIENTS  
(g/ccm)

— MUDWEIGHT (REPORT)  
 - - - PORE PRESSURE (REPORT)  
 x LEAK-OFF (REPORT)



## Well History 25/1-7

### General:

Well 25/1-7 was drilled on the main Frigg structure close to the UK border, and was designed to localize and prove the distribution of the remaining producible gas accumulation, and to determine the Frigg Formation heterogeneity north of the producing platforms. The main objective were to check gas/oil contact and oil/water contact and to core the whole Frigg- and Balder Formations. In addition, the well was expected to provide information on the integrity and nature of the barrier between the Frigg sands and the Cod aquifer.

The prognosed depth was 2700 m.

### Operations:

Appraisal well 25/1-7 was spudded 9 March 1985 by Dolphin Services A/S semi-submersible rig Byford Dolphin and completed 27 May 1985 at a depth of 2720,5 m in Cretaceous rocks. Drilling proceeded without significant problems.

29 cores was cut in the interval 1876- to 2271 m RKB, and 4 cores were cut in Tertiary rocks further down in the hole. The Frigg Formation came in at 1916 m RKB, 31 m deeper than prognosed. The oil/water contact and gas/oil contact are difficult to define from the logs due to very fine grained shale.

RFT-data indicates an oil/water contact at 1975/1976 m RKB, and a gas/water contact at 1964/1965 m RKB, which is approximately 7 m above the original gas/water contact (1972) in the area.

The well is temporary abandoned as a gas discovery, and will be re-entered several times in order to check the fluid levels.

### Testing:

No DST tests were performed in this well.



# GEOLOGICAL TOPS

WELL: 25/01-07

	Depth m (RKB)
<i>Nordland Group</i>	125,0
<i>Utsira Fm</i>	469,0
<i>Hordaland Group</i>	1919,0
<i>Skade Fm</i>	747,0
<i>Grid Fm</i>	1356,0
<i>Frigg Fm</i>	1919,0
<i>Rogaland Group</i>	2179,0
<i>Balder Fm</i>	2179,0
<i>Sele Fm</i>	2290,0
<i>Lista Fm</i>	2439,0
<i>Shetland Group</i>	2710,0
TD=	2720,0