

Well no : 34/10-30

Operator : STATOIL

Coordinates : 61 06 31.07 N
02 15 23.92 EUTM coord. : 6775275 N
459930 E

Licence no : 50

Permit no : 501

Rig : DYVI STENA

Rig type : SEMI-SUB.

Contractor : DYVI OFFSHORE A/S

Bottom hole temperature : deg.C

Elev. KB : 25 M

Spud. date : 86.01.16

Water depth : 133 M

Compl. date : 86.05.10

Total depth : 3785 M

Spud. class : APPRAISAL

Form. at TD : TRIASSIC

Compl. class : P&A. OIL/GAS DISC.

Prod. form : JURA/TRIAS

Seisloca : LINJE 170 CDP 405 (3D-SURVEY)

LICENSEES

9.000000 NORSK HYDRO PRODUKSJON A.S
6.000000 SAGA PETROLEUM A.S.
85.000000 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 ³
CONDUCTOR	30	231.0	36	235.0	.
SURF. COND.	20	320.0	26	329.0	1.33
INTERM.	13 3/8	1886.0	17 1/2	1898.0	1.80
INTERM.	9 5/8	2831.0	12 1/2	2845.0	.
LINER	7	3499.0	8 1/2	3500.0	1.99

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	2942.0 - 2946.0	3.4	85.0	U
2	3125.0 - 3146.0	21.0	100.0	SINEMURIAN
3	3146.0 - 3173.0	27.0	100.0	SINEMURIAN
4	3173.0 - 3179.5	6.5	100.0	SINEMURIAN
5	3179.5 - 3186.5	7.0	100.0	SINEMURIAN
6	3186.5 - 3199.5	13.0	100.0	SINEMURIAN
7	3199.5 - 3217.5	18.0	100.0	SINEMURIAN
8	3217.5 - 3235.5	18.0	100.0	HETTANGIAN
9	3235.5 - 3252.5	17.0	100.0	HETTANGIAN
10	3252.5 - 3269.5	17.0	100.0	HETTANGIAN
11	3270.5 - 3288.0	17.5	100.0	HETTANGIAN
12	3288.0 - 3305.2	17.2	100.0	RHAETIAN
13	3306.0 - 3323.0	17.0	100.0	RHAETIAN
14	3411.0 - 3429.4	18.4	100.0	RHAETIAN

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	

15	3429.0 - 3446.5	17.0	100.0	RHAETIAN
16	3447.0 - 3465.0	18.0	100.0	NORIAN
17	3465.0 - 3478.5	13.5	100.0	NORIAN
18	3543.0 - 3561.5	18.5	100.0	TRIASSIC
19	3561.5 - 3579.5	18.0	100.0	TRIASSIC
20	3579.5 - 3597.5	18.0	100.0	TRIASSIC
21	3597.5 - 3615.5	18.0	100.0	TRIASSIC
22	3615.5 - 3633.5	18.0	100.0	TRIASSIC

MUD PROPERTIES

Depth below KB meter	Mud weight g/cm ³	Viscosity	Mud type
634.000	1.12	17.0	WATER BASED
898.000	1.15	20.0	WATER BASED
1718.000	1.17	56.0	WATER BASED
1776.000	1.20	58.0	WATER BASED
1887.000	1.27	62.0	WATER BASED
1898.000	1.30	61.0	WATER BASED
1905.000	1.35	52.0	WATER BASED
1928.000	1.40	52.0	WATER BASED
2043.000	1.45	52.0	WATER BASED
2100.000	1.56	56.0	WATER BASED
2151.000	1.55	56.0	WATER BASED
2204.000	1.60	56.0	WATER BASED
2750.000	1.62	57.0	WATER BASED
2777.000	1.67	55.0	WATER BASED
3146.000	1.65	21.0	WATER BASED
3365.000	1.60	20.0	WATER BASED
3693.000	1.50	24.0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no	interval meter	Choke size	Pressure (PSI)		
			WHP	BTHP	FFP
1.0	3460.000 - 3473.000 Test temperature: 129 °C	12.7	1108.0	7596.0	3758.0
2.0	3297.000 - 3318.000 Test temperature: 126 °C	12.7	2014.0	7418.0	5012.0
3.0	3125.000 - 3155.000 Test temperature: 118 °C	14.3	4628.0	7139.0	6741.0

RECOVERY

Test no.	Oil Sm ³ /d	Gas Sm ³ /d	Oil grav. g/cm ³	Gas grav. rel. air	GOR m ³ /m ³
1.0	418	60950	0.863	0.694	146
2.0	710	117050	0.857	0.676	160
3.0	272	928900	0.791	0.664	3415

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
Cutting	240-3786	700
Wet Samples	230-3782	390

SHALLOW GAS

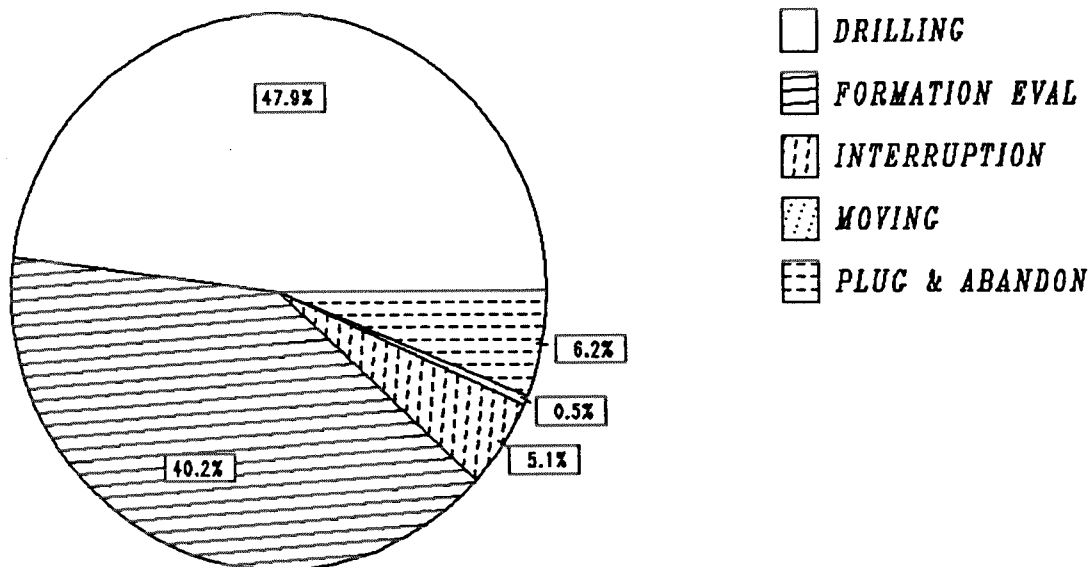
Interval below KB	REMARKS

AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500	Div.
ISF LSS MSFL	319.000 - 1405.000	X	X	
ISF LSS MSFL GR	3500.000 - 3787.000	X	X	
DLL MSFL GR	2832.000 - 3497.000	X		
DLL MSFL GR	3500.000 - 3783.500	X		
LDL CNL NGS	319.000 - 3787.000	X	X	
DLL MSFL	2832.000 - 3787.000	X	X	
SHDT	2833.000 - 3791.000	X		
RFT STRAIN GAUGE	2919.000 - 3766.000	X		
NGS	2832.000 - 3500.000	X		
CBL VDL GR	300.000 - 1885.000	X		
CBL VDL GR	155.000 - 2832.000	X		
CBL VDL GR	2671.000 - 3500.000	X		
CBL VDL GR	3046.000 - 3163.000	X		
MUD	160.000 - 3786.000			X
VELOCITY LOG	319.000 - 3787.000		1:1000	X
(Synthetic seismogram marine, 10cm/s				1 stk.)
(VSP. + Synthetic seismogram, 10cm/s				5 stk.)
(VSP. 10 cm/s, 1275-3763m				8 stk.)
(Display of well velocity survey records				1 stk.)
(Airgun well velocity				1 stk.)
(Two-way travel time, 10cm/s, 350-3700m				1 stk.)

DAILY DRILLING REPORT SYSTEM

Main operations for well : 0034/10 -30



Total : 2808.00 hours

Main operation	Minutes	Hours	% of total
DRILLING	80730	1345.50	47.92
FORMATION EVAL	67709	1128.48	40.19
INTERRUPTION	8671	144.52	5.15
MOVING	930	15.50	0.55
PLUG & ABANDON	10440	174.00	6.20

MAIN OPERATIONS FOR WELL : 0034 / 10 - 30

MAIN OPERATION : DRILLING

Sub operations	Minutes	Hrs	% of total
BOP ACTIVITIES	2969	49.48	3.68
BOP/WELLHEAD EQ	3510	58.50	4.35
CASING	16081	268.02	19.92
CIRC/COND	4560	76.00	5.65
DRILL	29220	487.00	36.19
OTHER	900	15.00	1.11
PRESS DETECTION	570	9.50	0.71
REAM	3090	51.50	3.83
SURVEY	900	15.00	1.11
TRIP	18930	315.50	23.45
Total	80730	1345.50	100.00

MAIN OPERATION : FORMATION EVAL

Sub operations	Minutes	Hrs	% of total
CIRC SAMPLES	510	8.50	0.75
CIRC/COND	450	7.50	0.66
CORE	11880	198.00	17.55
DST	30479	507.98	45.01
LOG	8820	147.00	13.03
OTHER	60	1.00	0.09
TRIP	15510	258.50	22.91
Total	67709	1128.48	100.00

MAIN OPERATION : INTERRUPTION

Sub operations	Minutes	Hrs	% of total
FISH	690	11.50	7.96
MAINTAIN/REP	5221	87.02	60.21
OTHER	1200	20.00	13.84
WAIT	1560	26.00	17.99
Total	8671	144.52	100.00

MAIN OPERATION : MOVING

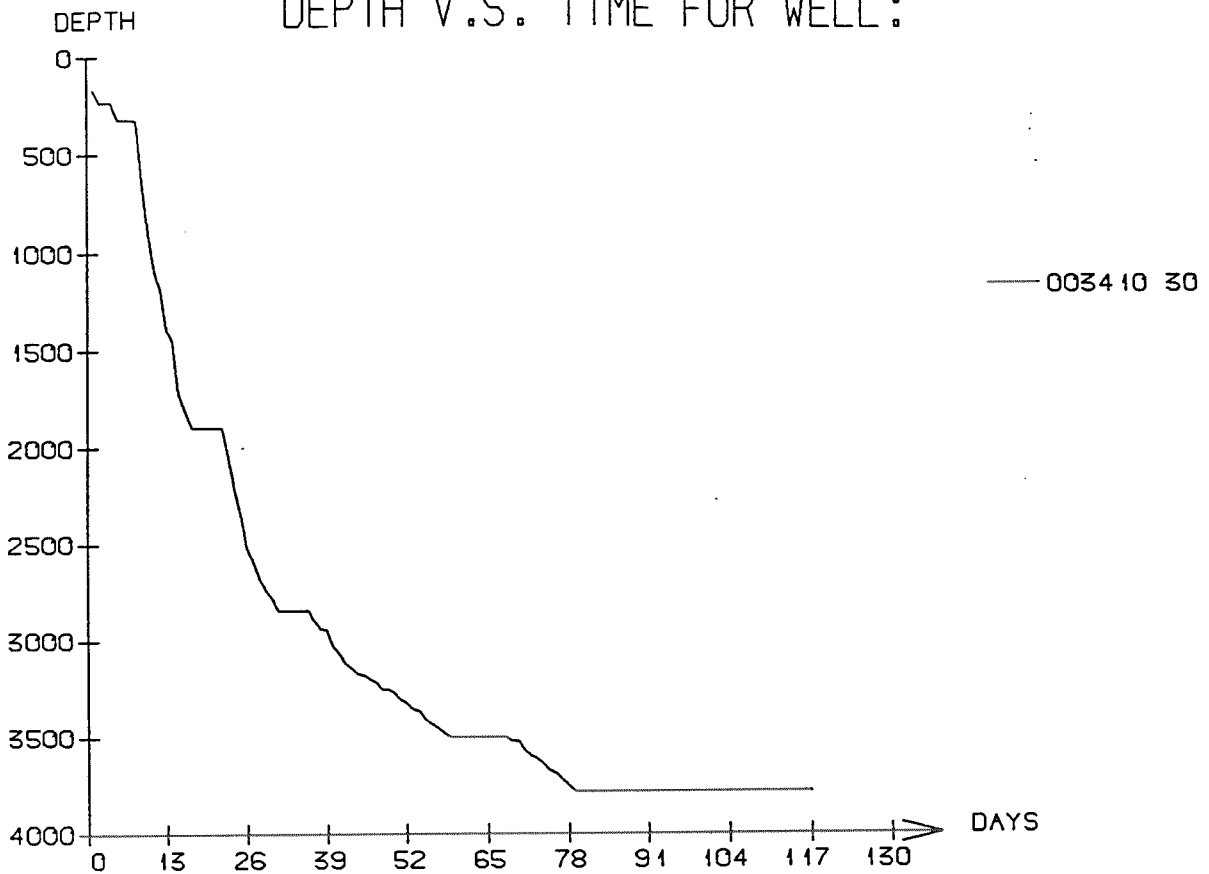
Sub operations	Minutes	Hrs	% of total
ANCHOR	930	15.50	100.00
Total	930	15.50	100.00

MAIN OPERATION : PLUG & ABANDON

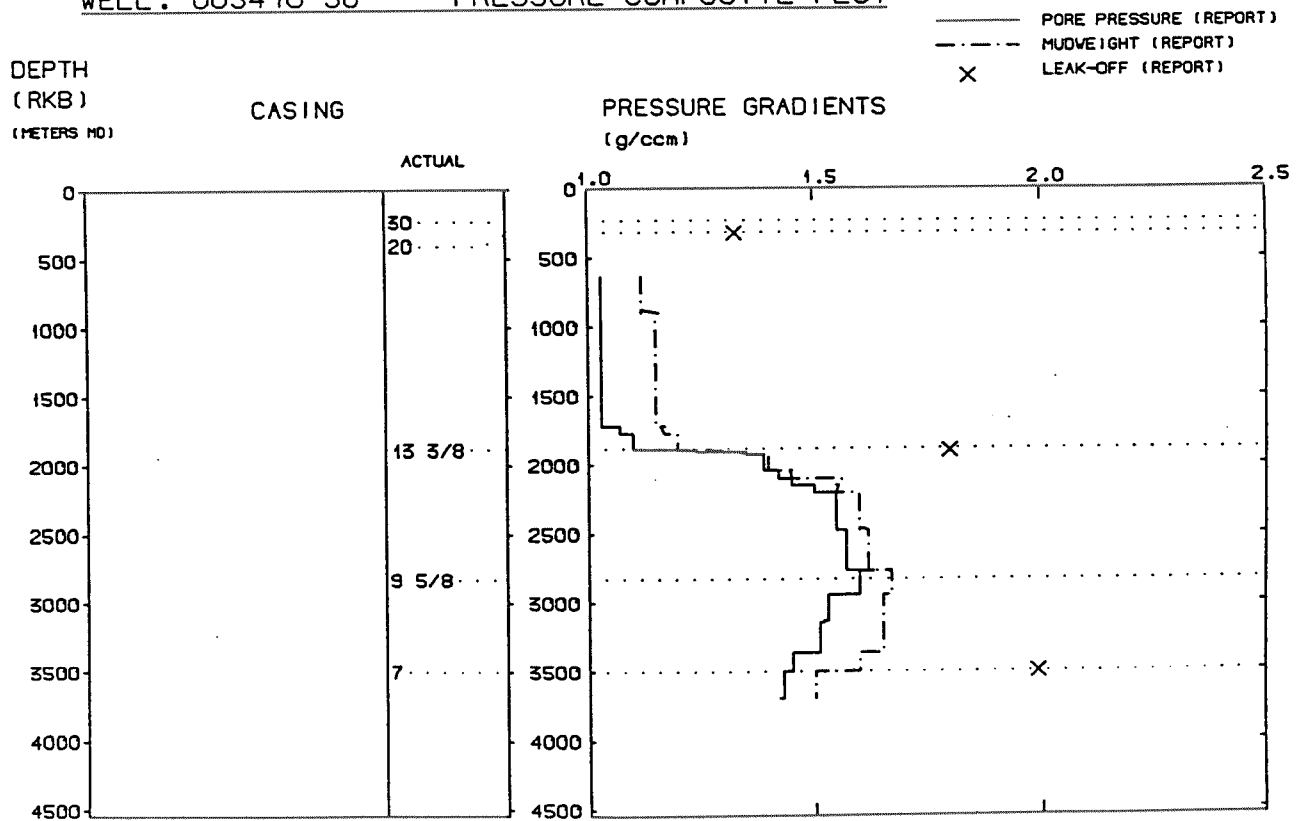
Sub operations	Minutes	Hrs	% of total
CEMENT PLUG	630	10.50	6.03
CIRC/COND	600	10.00	5.75
CUT	810	13.50	7.76
EQUIP RECOVERY	1560	26.00	14.94
MECHANICAL PLUG	750	12.50	7.18
OTHER	930	15.50	8.91
PERFORATE	1170	19.50	11.21
SQUEEZE	600	10.00	5.75
TRIP	2430	40.50	23.28
WAIT	960	16.00	9.20
Total	10440	174.00	100.00

Total time used 2808.00 hrs

DEPTH V.S. TIME FOR WELL :



WELL : 003410 30 PRESSURE COMPOSITE PLOT



Well History 34/10-30

GENERAL:

Well 34/10-30 was drilled on the Alpha structure, and designed to test for hydrocarbon accumulations in the North East part of the structure. The main objectives were the Brent and Statfjord sandstones. The Lower Jurassic Cook sandstone, which had been water bearing in the other Gullfaks South wells was considered a secondary objective, as was the penetration of the oil/water contact.

Prognosed depth was 3435 m.

OPERATIONS:

Appraisal well 34/10-30 was spudded 16 January 1986 by Dyvi Offshore A/S semi-submersible rig Dyvi Stena and completed 10 May 1986 at a depth of 3785 m in Triassic rocks. Drilling proceeded without any significant problems, but 20" casing was set early due to anticipation of shallow gas.

22 cores were cut in the well, 9 in the Hegre Group 12 in the Statfjord Fm. and one in the Dunlin Group. The top of the reservoir came in at 3116 m, approx. 100 m higher than prognosed. The gas/oil contact came in as NPD prognosed at 3250 m RKB. The oil/water contact was expected at 3385 m, but this was not the case. The oil water contact was difficult to define, but there is reason to believe it to be at approximately 3712 m.

The bottom part of the well was plugged back into the 7" liner without permission from NPD. After testing the well was plugged and abandoned.

TESTING:

3 DST tests were performed in this well. DST 1 was performed in the Hegre Group, DST 2 and DST 3 in the Statfjord Fm.

GEOLOGICAL TOPS

WELL: 34/10-30

Depth m (RKB)

<i>Nordland Group</i>	158.0
<i>Utsira Fm.</i>	871.0
<i>Hordaland Group</i>	951.0
<i>Skade Fm.</i>	1012.0
<i>Grid Fm.</i>	1406.0
<i>Rogaland Group</i>	1785.0
<i>Balder Fm.</i>	1785.0
<i>Sele Fm.</i>	1856.0
<i>Lista Fm.</i>	1890.0
<i>Shetland Group</i>	2006.0
<i>Hardråde Fm.</i>	2006.0
<i>Kyrre Fm.</i>	2427.0
<i>Cromer Knoll Group</i>	2918.0
<i>Mime Fm.</i>	2918.0
<i>Brent Group</i>	2941.0
<i>Tarbert Fm.</i>	2941.0
<i>Dunlin Group</i>	2945.0
<i>Drake Fm.</i>	2945.0
<i>Cook Fm.</i>	2950.0
<i>Amundsen Fm.</i>	2983.0
<i>Statfjord Fm.</i>	3120.0
<i>Nansen Member</i>	3120.0
<i>Eiriksson Member</i>	3156.0
<i>Raude Member</i>	3251.0
<i>Hegre Group</i>	3375.0
<i>T.D.</i>	3785.0