

Well no :	30/6-23	Operator :	HYDRO
Coordinates :	60° 40' 58.01" N 02° 55' 58.97" E	UTM coord.	672761550 N 49634256 E
Licence no :	53	Permit no :	634
Rig :	TRANSOCEAN 8	Rig type :	SEMI-SUB.
Contractor :	TRANSOCEAN A/S		
Bottom hole temp:	107 °C	Elev. KB :	23 M
Spud. date :	90.04.29	Water depth	151 M
Compl. date :	90.07.01	Total depth :	3209,5 M
Spud. class :	APPRAISAL	Form. at TD	E.JURASSIC
Compl. class :	SUSP. OIL/GAS	Prod.form. :	
Seisloca :	NH 8606, ROW 548, CDP NO 729		

LICENSEES

12,250000	NORSK HYDRO PRODUKSJON A.S
7,000000	MOBIL DEVELOPMENT NORWAY A.S.
7,350000	SAGA PETROLEUM A.S.
59,400000	DEN NORSKE STATS OLJESELSKAP A.S
4,667000	TOTAL NORGE A.S
9,333000	ELF PETROLEUM NORGE 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	261,0	36	262,0	
INTERM.	20	372,0	26	601,0	
INTERM.	13 3/8	950,0	17 1/2	965,0	1,65
INTERM.	9 5/8	2689,0	12 1/4	2704,0	1,75
LINER	7	3208,0	8 1/2	3210,0	

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery	
		M	%
1	2787,0 - 2814,0	26,5	98,1
2	2814,0 - 2823,0	7,5	83,3
3	2823,0 - 2850,0	27,0	100,0
4	2850,0 - 2869,0	18,5	97,4
5	2869,0 - 2902,0	33,0	100,0
6	3018,0 - 3045,0	27,0	100,0

MUD

Depth	Mud weight	Visc.	Mud type
378,000	1,15		WATER BASED
378,000	1,20		WATER BASED

Depth	Mud weight	Visc.	Mud type
380,000	1,22	17,0	WATER BASED
607,000	1,17	13,0	WATER BASED
1012,000	1,18	19,0	WATER BASED
2704,000	1,40	26,0	WATER BASED
2900,000	1,22	21,0	WATER BASED
3018,000	1,23	23,0	WATER BASED
3210,000	1,22	21,0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no.	Interval meter		Choke size	Pressure (PSI) WHP	BTHP	FFP
1,0	2860,000	-	2881,000	25,4	776	3886
2,0	2827,000	-	2853,000	20,4	754	3553
3,0	2803,000	-	2812,000	20,4	899	3843

Test temperature: N/A

RECOVERY

Test no.	Oil Sm3/d	Gas Sm3/d	Oil grav. g/cm3	Gas grav. rel. air	GOR m3/m3
1,0	1375	14500	,840	,000	54 *
2,0	849	56500	,840	,000	66
3,0	1040	64200	,840	,000	62

* GOR is separator GOR measured at variable conditions.

DRILL BIT CUTTINGS AND WET SAMPLES

Sample type	Interval below KB	Number of samples
WET SAMPLES	430 - 3210	270
CUTTINGS	420 - 3210	330

SHALLOW GAS

Interval below KB	Remarks

AVAILABLE LOGS

Log type	Intervals	1/200	1/500
CDM AP/SHDT	2690,0 - 2969,0	X	X

Log type	Intervals		1/200	1/500	
CBL VDL	2770,0	- 2967,0	X		
DITE BHC CALI GR	951,5	- 2690,2		X	
DITE LSS GR	117,6	- 858,7	X	X	
DITE GR	951,0	- 2690,0	X		
DITE SDT GR	2690,2	- 3211,2	X	X	
DLL MSFL GR SP	2690,2	- 3085,0	X	X	
DRILLING DATA	176,0	- 3210,0			1:2500
LDL CALI GR	951,5	- 2672,2	X	X	
LDL CNL	371,5	- 840,7	X	X	
LDL CNL GR	2690,2	- 3190,8	X	X	
GR CCL	2425,0	- 2675,0	X		
MUD	176,0	- 3210,0		X	
MWD	174,0	- 3210,0	X	X	
RFT HP	2803,5	- 3177,5			
RFT HP	2827,0	- 3177,5			
VELOCITY LOG	2670,0	- 3200,0			1:1000
SYNTHETIC SEISMOGRAM	10 cm/s	20 cm/s			4
TWO WAY TRAVEL TIME	10 cm/s	20 cm/s			2
V.S.P.	10 cm/s	20 cm/s			7

Main operations for well: 30/6-23

Main operation: DRILLING

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	2610	43,5	9,60
BOP/WELLHEAD EQ	570	9,5	2,10
CASING	5640	94,0	20,75
CIRC/COND	1140	19,0	4,19
DRILL	11040	184,0	40,62
REAM	150	2,5	0,55
TRIP	5760	96,0	21,19
WAIT	270	4,5	0,99
Total	27180	453,0	100,00

Main operation: FORMATION EVAL

Sub operation:	Minutes:	Hours:	% of total:
CIRC SAMPLES	210	3,5	0,44
CIRC/COND	600	10,0	1,25
CORE	3270	54,5	6,81
DST	36030	600,5	75,06
LOG	5250	87,5	10,94
TRIP	2640	44,0	5,50
Total	48000	800,0	100,00

Main operation: INTERRUPTION

Sub operation:	Minutes:	Hours:	% of total:
FISH	2970	49,5	21,34
MAINTAIN/REP	5520	92,0	39,66
OTHER	90	1,5	0,65
WELL CONTROL	5340	89,0	38,36
Total	13920	232,0	100,00

Main operation: MOVING

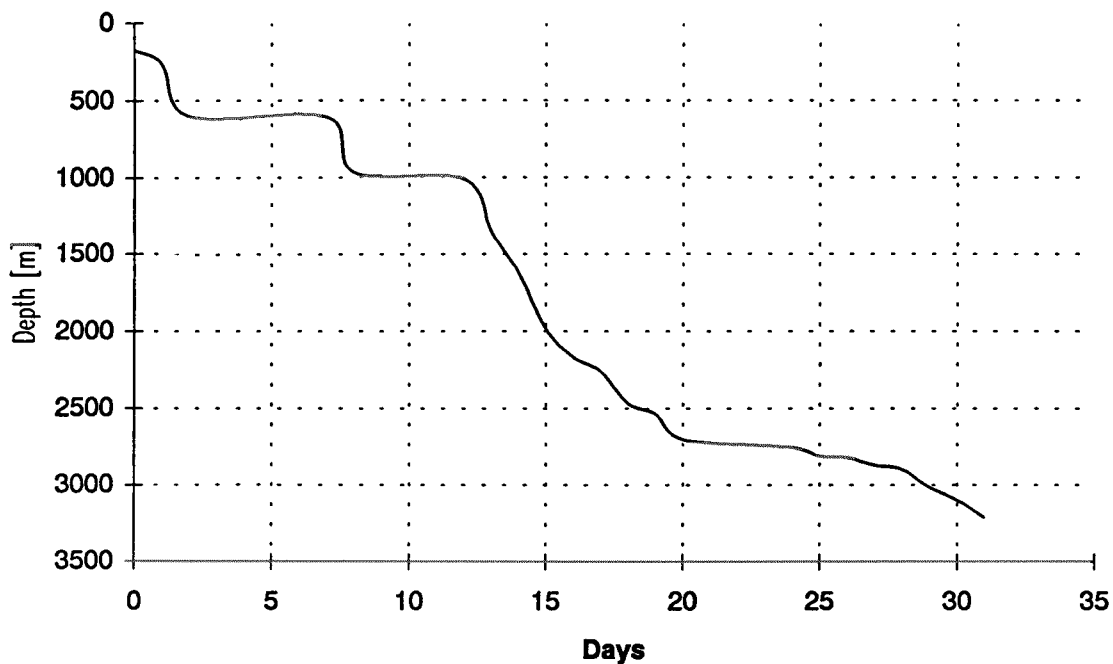
Sub operation:	Minutes:	Hours:	% of total:
ANCHOR	2220	37,0	58,73
TRANSIT	1560	26,0	41,27
Total	3780	63,0	100,00

Main operation: PLUG & ABANDON

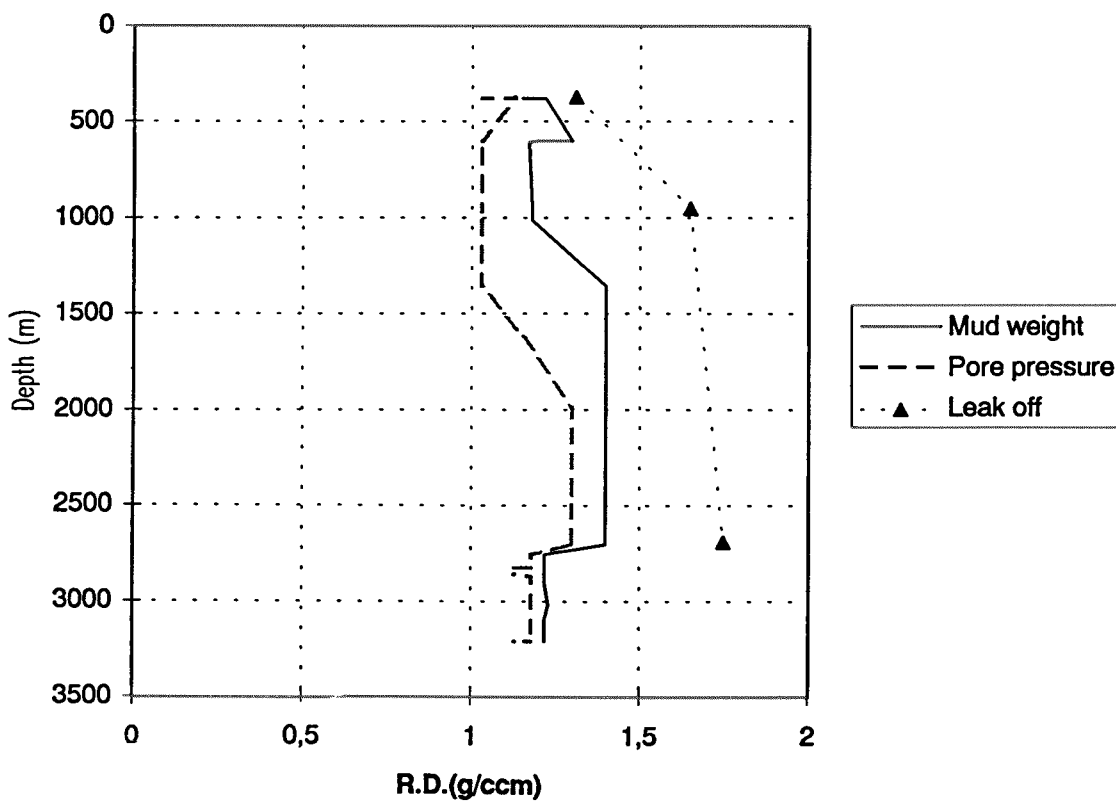
Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	270	4,5	12,50
EQUIP RECOVERY	720	12,0	33,33
MECHANICAL PLUG	390	6,5	18,06
OTHER	270	4,5	12,50
TRIP	510	8,5	23,61
Total	2160	36,0	100,00

Total time used: Hours

Depth vs time for well: 30/6-23



Composite plot for well: 30/6-23



Well History 30/6-23.

General:

Well 30/6-23 was designed to drill on the main (western) sub-compartment on the Beta South structure, which is located in the NE corner of block 30/6. The Beta structure is surrounded by producing oil fields or commercial discoveries. On Beta, oil has been discovered in the Middle Jurassic Brent Group reservoirs in fault-block traps. The oil is contained in two main sub-structures, i.e. the Beta Saddle and Beta South, comprising several smaller sub-compartments. The discovery well on Beta was the 30/6-5 well, but this well was not tested due to the detection of H₂S in the RFT samples. Later wells proved oil in the Beta Saddle without encountering H₂S. The Beta Saddle is characterized by a multicontact reservoir having prominent shale barriers. There are also slight differences in fluid composition between the two compartments, which suggests that the saddle through is acting as a structural spillpoint at the top Etive level. Primary target for the well was Base Brent Group prognosed to come in at 2891 m RKB. Secondary objective was top Statfjord prognosed at 3141 m RKB. OWC was expected at 2880 m RKB.

Operations:

Appraisal well 30/6-23 was spudded 29 April 1990 by the semi-submersible rig Transocean 8, and completed 1 July 1990 at a depth of 3209 m RKB in rocks of Early Jurassic age. Shallow gas was encountered at approximately 600 m RKB. Drilling proceeded to TD without any significant problems. The whole reservoir sequence was cored, and a total of 6 cores were cut in the interval 2787 to 3045 m RKB. Formation tops came in approximately as prognosed. Good shows in cores 1 to 5, but core 6 (Cook formation) displayed weak shows on single sand grains. No clear OWC was encountered, but is anticipated to be at approximately 2900 m RKB. The well is temporarily plugged and abandoned with oil shows.

Testing:

Three DST tests were performed in this well:

No 1 at 2860-2881 m (Middle Oseberg formation) choke 25,4 mm, GOR 47 m³/m³ oilrate 1425 Sm³/d.

No 2 at 2827-2836 m (Late Oseberg/Etive fm) choke 19,8 mm, GOR 56 m³/m³ oilrate 879 Sm³/d.

No 3 at 2803-2812 m (Ness formation) choke 20,6 mm GOR 57-54 m³/m³ oilrate 1034-1047Sm³/d

Geological Tops.

Well:30/6-23

	Depth m (RKB).
Nordland Group	176,0
Utsira Fm	730,0
Hordaland Group	887,0
Rogaland Group	1939,0
Balder Fm	1939,0
Sele Fm	2022,0
Lista Fm	2096,0
Maureen Fm Eq.	2207,0
Shetland Group	2232,0
Cromer Knoll Group	2453,5
Viking Group	2534,0
Draupne Fm	2534,0
Heather Fm "A"	2616,0
Heather Fm "B"	2629,0
Brent Group	2793,0
Ness Fm	2793,0
Etive Fm	2827,5
Rannoch Fm	2835,5
Oseberg Fm	2838,5
Dunlin Group	2902,0
Drake Fm	2902,0
Cook Fm	3016,0
Amundsen/Burton Fm	3065,0
Statfjord Fm	3163,0
T.D.	3213,0