

## WDSS Report

Date: 27/04/98

PB/SKR

Page: 1 / 1

Well no:	Operator:
<b>30/10-06</b>	<b>ELF</b>

### Well

Coordinates :	60° 09' 13.65" N 02° 12' 37.38" E	UTM coord. :	6668957.09 N 456160.1 E
License no :	142	Permit no :	712
Rig :	WEST ALPHA	Rig type :	SEMI-SUB.
Contractor :	A/S SMEDVIG DRILLING CO.		
Bottom hole temp:	154 °C	Elev. KB :	18 M
Spud. date :	92.01.13	Water depth :	91 M
Compl. date :	92.11.09	Total depth :	5250 M
Spud. class :	WILDCAT	Form. at TD :	M.JURASSIC
Compl. class :	P&A. GAS DISCOVERY	Prod.form. :	M.JURASSIC
Seisloca :	EL 8807, REKKE 129, KOLONNE 810		

### Licensees

10.000000 SAGA PETROLEUM ASA  
50.000000 DEN NORSKE STATS OLJESELSKAP A.S  
40.000000 ELF PETROLEUM NORGE AS

### Casing and Leak-off Tests

Type	Casing diam	Depth below KB	Hole diam.	Hole depth below KB	Lot mud eqv. g/cm3
CONDUCTOR	30	205.0	36	206.0	
INTERM.	20	1410.0	26	1411.0	1.83
INTERM.	13 3/8	3064.0	17 1/2	3065.0	1.88
INTERM.	9 5/8	4353.0	12 1/4	4354.0	2.20
LINER	7	5073.0	8 1/2	5250.0	2.29

## WDSS Report

Date: 27/04/98

PB/SKR

Page: 2 / 2

<b>Well no:</b>	<b>Operator:</b>
<b>30/10-06</b>	<b>ELF</b>

### Conventional Cores

Core no.	Intervals cored meters	Recovery m	%
1	4663.0 - 4672.0	9.0	100.0
2	4672.0 - 4691.0	19.0	100.0
3	4691.0 - 4693.0	2.0	100.0
4	4697.0 - 4716.0	19.0	100.0
5	4946.0 - 4964.0	18.0	100.0
6	4964.0 - 4982.0	18.0	100.0

### Mud

Depth	Mud weight	Visc.	Mud type
100.0	1.90	23.0	WATER BASED
130.0	1.05		WATER BASED
133.0	1.05		WATER BASED
150.0	1.70	20.0	WATER BASED
205.0	1.05	1.0	WATER BASED
300.0	1.50		WATER BASED
305.0	1.06	25.0	WATER BASED
335.0	1.09	15.0	WATER BASED
500.0	1.05	10.0	WATER BASED
643.0	1.05		WATER BASED
850.0	1.08	25.0	WATER BASED
870.0	1.09	16.0	WATER BASED
1165.0	1.11	23.0	WATER BASED
1300.0	1.10	18.0	WATER BASED
1350.0	1.50	15.0	WATER BASED
1370.0	1.13	17.0	WATER BASED
1385.0	1.11	15.0	WATER BASED
1420.0	1.10	10.0	WATER BASED
1500.0	1.90	30.0	WATER BASED
1544.0	1.16	24.0	WATER BASED
1778.0	1.25	22.0	WATER BASED
1846.0	1.30	27.0	WATER BASED
1986.0	1.35	26.0	WATER BASED
2107.0	1.36	44.0	WATER BASED
2193.0	1.38	35.0	WATER BASED
2246.0	1.37	32.0	WATER BASED
2273.0	1.38	39.0	WATER BASED
2364.0	1.37	39.0	WATER BASED

## WDSS Report

Date: 27/04/98

PB/SKR

Page: 3 / 3

<b>Well no:</b>	<b>Operator:</b>
<b>30/10-06</b>	<b>ELF</b>

2471.0	1.37	37.0	WATER BASED
2525.0	1.36	37.0	WATER BASED
2550.0	1.90	25.0	WATER BASED
2563.0	1.36	37.0	WATER BASED
2584.0	1.36	29.0	WATER BASED
2642.0	1.36	26.0	WATER BASED
2692.0	1.36	27.0	WATER BASED
2750.0	1.36	24.0	WATER BASED
2891.0	1.59	19.0	WATER BASED
2947.0	1.36	25.0	WATER BASED
2970.0	1.36	23.0	WATER BASED
3055.0	1.36	24.0	WATER BASED
3076.0	1.36	23.0	WATER BASED
3083.0	1.39	23.0	WATER BASED
3200.0	1.38	23.0	WATER BASED
3221.0	1.38	23.0	WATER BASED
3230.0	1.38	24.0	WATER BASED
3288.0	1.38	22.0	WATER BASED
3520.0	1.38	22.0	WATER BASED
3636.0	1.38	21.0	WATER BASED
3644.0	1.41	25.0	WATER BASED
3692.0	1.44	20.0	WATER BASED
3710.0	1.44	24.0	WATER BASED
3755.0	1.44	23.0	WATER BASED
3795.0	1.47	24.0	WATER BASED
3816.0	1.48	26.0	WATER BASED
3962.0	1.71	29.0	WATER BASED
4006.0	1.72	24.0	WATER BASED
4060.0	1.72	25.0	WATER BASED
4075.0	2.11	37.0	WATER BASED
4124.0	1.74	26.0	WATER BASED
4150.0	2.11	39.0	WATER BASED
4151.0	2.11	32.0	WATER BASED
4167.0	1.75	25.0	WATER BASED
4183.0	2.15	37.0	WATER BASED
4210.0	1.75	26.0	WATER BASED
4290.0	1.85	22.0	WATER BASED
4307.0	1.78	23.0	WATER BASED
4321.0	1.78	20.0	WATER BASED
4336.0	1.80	20.0	WATER BASED
4353.0	1.85	22.0	WATER BASED
4362.0	1.82	22.0	WATER BASED
4368.0	1.85	21.0	WATER BASED
4373.0	1.96	23.0	WATER BASED
4388.0	1.95	23.0	WATER BASED

## WDSS Report

Date: 27/04/98

PB/SKR

Page: 4 / 4

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<b>30/10-06</b>	<b>ELF</b>

4433.0	1.96	28.0	WATER BASED
4458.0	1.95	25.0	WATER BASED
4493.0	1.95	25.0	WATER BASED
4500.0	1.95	26.0	WATER BASED
4524.0	1.95	25.0	WATER BASED
4553.0	2.15	36.0	WATER BASED
4574.0	1.95	26.0	WATER BASED
4619.0	1.95	26.0	WATER BASED
4663.0	2.05	28.0	WATER BASED
4672.0	2.11	27.0	WATER BASED
4693.0	2.11	25.0	WATER BASED
4697.0	2.11	26.0	WATER BASED
4716.0	2.11	27.0	WATER BASED
4727.0	2.11	44.0	WATER BASED
4730.0	2.11	44.0	WATER BASED
4759.0	2.11	25.0	WATER BASED
4794.0	1.95	24.0	WATER BASED
4825.0	2.11	27.0	WATER BASED
4845.0	2.11	25.0	WATER BASED
4860.0	2.11	38.0	WATER BASED
4865.0	2.11	47.0	WATER BASED

### Drill Stem Test (intervals and pressures)

Test no.	Test interval meter	Choke size	Pressure (psi) WHP	BTHP	FFP
1.0	5008.0 - 5045.0				
2.0	4899.0 - 4965.2				
3.0	4768.0 - 4803.0				
4.0	4666.0 - 4714.0	3.17			

### Drill Stem Test (recovery)

Test no.	Oil Sm <sup>3</sup> /d	Gas Sm <sup>3</sup> /d	Oil grav. g/cm <sup>3</sup>	Gas grav. rel. air	GOR m <sup>3</sup> /m <sup>3</sup>
1.0	Tight				
2.0	Tight				
3.0	Tight				
4.0		90 000		0.62	Dry gas

## WDSS Report

Date: 27/04/98

PB/SKR

Page: 5 / 5

<b>Well no:</b>	<b>Operator:</b>
<b>30/10-06</b>	<b>ELF</b>

### Drill Bit Cuttings and Wet Samples

Sample type	Interval below KB	Number of samples
WET SAMPLES	230 - 5250	690

### Shallow Gas

Interval below KB	Remarks

### Available Logs

Log type	Intervals logged	1/200	1/500	
BGT DLL BHC GR AMS	4740.0 - 4948.0			
CALIBRATED SONIC	1418.0 - 5260.0			
CBL VDL GR	1500.0 - 4352.0			
CBL VDL GR CCL AMS	4270.0 - 5050.0			
CORE LOG				
CST GR	5080.0 - 5238.0			
DIL BHC GR AMS	1407.0 - 3063.0			
DIL BHC GR AMS	2943.0 - 4357.0			
DIPTREND	4358.0 - 4829.0			
DIPTREND	4600.0 - 5075.0			
DITE GR AMS	4358.0 - 5051.0			
DLL BGT GR AMS	4630.0 - 4909.0			
DLL GR AMS	5074.0 - 5250.0			
DLL MSFL BHC GR AMS	4358.0 - 4844.0			
DLL MSFL GR AMS	4650.0 - 5042.0			
DSI NDE & STFRAC	4585.0 - 5073.0			

## WDSS Report

Date: 27/04/98

PB/SKR

Page: 6 / 6

<b>Well no:</b>	<b>Operator:</b>
<b>30/10-06</b>	<b>ELF</b>

DSI SLOWNESS TIME	4575.0 - 5075.0		
DSI STFRAC FRACTURE	4585.0 - 5073.0		
DUAL CALIPER LOG	4358.0 - 4830.0		
ENVIRONMENTAL	2950.0 - 4350.0		
FMI IMAGES	4358.0 - 5077.0		
FMI MS DIP	4358.0 - 5077.0		
FMS GR AMS	5074.0 - 5253.0		
FORMATION EVALUATION	5074.0 - 5253.0		
HOLE PROFILE	4630.0 - 4909.0		
LDL CNL NGL AMS	4358.0 - 4832.0		
LDL CNL NGL AMS	4650.0 - 5052.0		
LDL CNL NGL AMS	5074.0 - 5253.0		
LDL CNL NGL BHC AMS	4915.0 - 5077.0		
LDL GR AMS	1407.0 - 4944.0		
LOC	2200.0 - 3063.0		
MFCT			
MFCT GR	110.0 - 4830.0		
MFCT GR AMS	150.0 - 4996.0		
MS DIP	4358.0 - 4830.0		
MSD	1416.0 - 4285.0		
MWD	205.0 - 5050.0		
NGL RATIOS	4358.0 - 5077.0		
NGS LOG	4750.0 - 4944.0		
PACKER CORRELATION	4500.0 - 4715.0		
PI BHC MSFL GR AMS	5074.0 - 5250.0		
PIL MSFL GR AMS	4910.0 - 5077.0		
PRESSURE LOG	115.0 - 5250.0		

# WDSS Report

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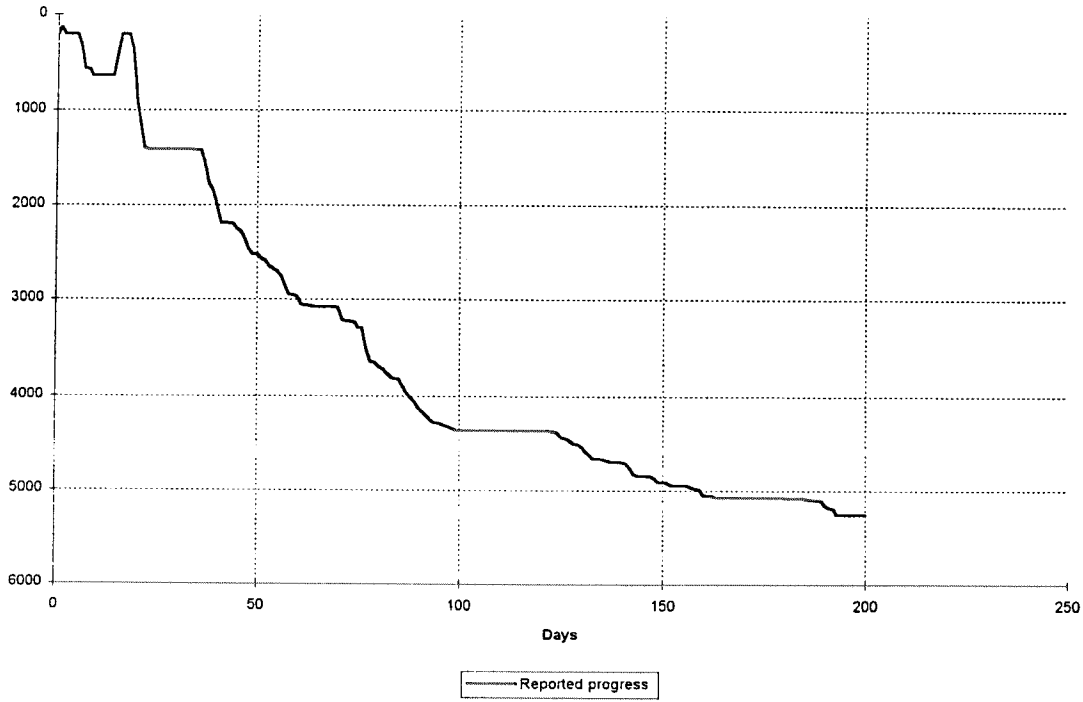
PB/SKR

Page: 7 / 7

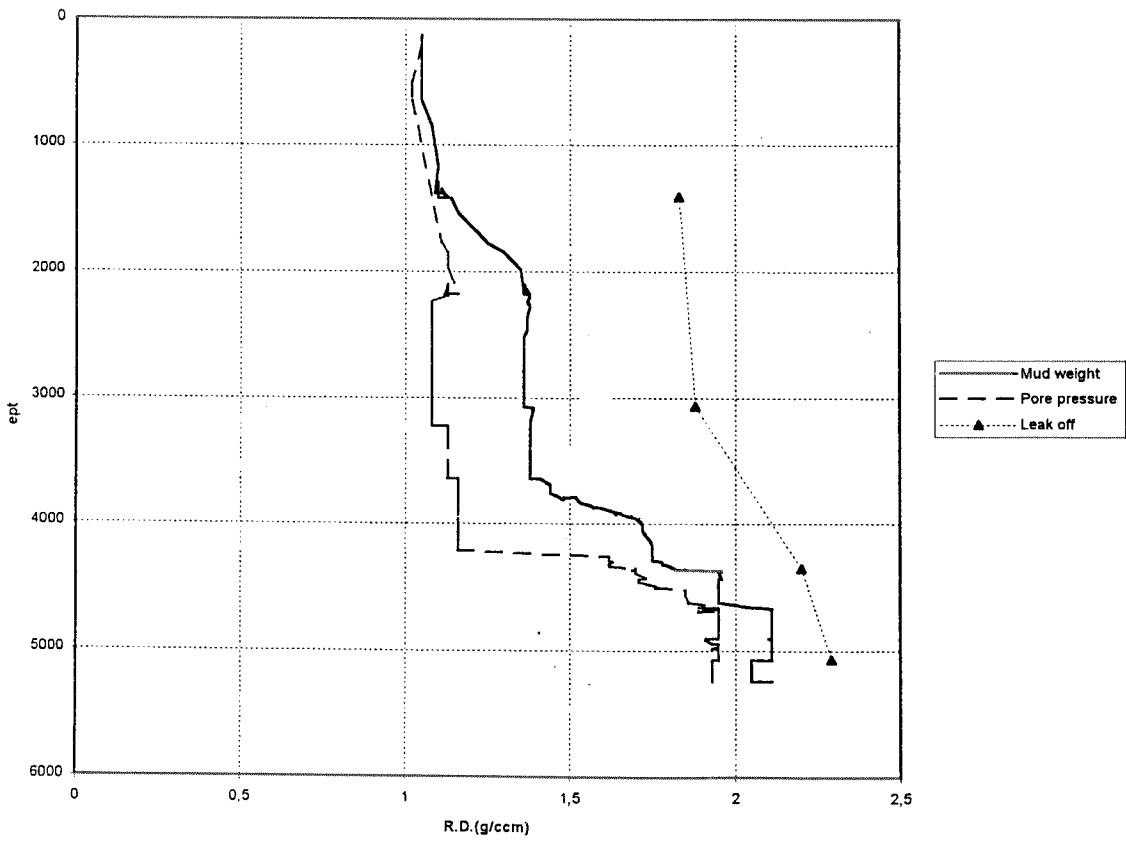
<b>Well no:</b>	<b>Operator:</b>
<b>30/10-06</b>	<b>ELF</b>

RESERV.COMPOSITE LOG	4650.0 - 5250.0			
RFT GR AMS	4666.0 - 4810.0			
RFT RPQS GR	.0 - 4909.0			
SHDT GR AMS	3020.0 - 4286.0			
SHDT GR AMS	4358.0 - 4830.0			
SHOW LOG	205.0 - 5250.0			
SYNTHETIC SEISMOGRAM				
TCP CORRELATION	4525.0 - 4880.0			
TEMPERATURE LOG	2500.0 - 4240.0			
TEMPERATURE LOG	4270.0 - 5048.0			
TEMPERATURE PROFILE	4270.0 - 4934.0			
TWO WAY TRAVEL TIME				
VSP				

Depth v.s. time plot for well: 30/10-6



Composite plot for well: 30/10-6





## Main operations for well: 30/10-6

### Main operation: COMPLETION

Sub operation:	Minutes:	Hours:	% of total:
BOP/WELLHEAD EQ	3660	61,0	65,95
CIRC/COND	750	12,5	13,51
COMPL STRING	600	10,0	10,81
PERFORATE	540	9,0	9,73
<b>Total</b>	<b>5550</b>	<b>92,5</b>	<b>100,00</b>

### Main operation: DRILLING

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	9540	159,0	5,31
BOP/WELLHEAD EQ	4590	76,5	2,56
CASING	38100	635,0	21,21
CIRC/COND	11640	194,0	6,48
DRILL	73740	1229,0	41,06
HOLE OPEN	4500	75,0	2,51
OTHER	930	15,5	0,52
PRESS DETECTION	630	10,5	0,35
REAM	2070	34,5	1,15
SURVEY	630	10,5	0,35
TRIP	31590	526,5	17,59
UNDERREAM	1380	23,0	0,77
WAIT	270	4,5	0,15
<b>Total</b>	<b>179610</b>	<b>2993,5</b>	<b>100,00</b>

### Main operation: FORMATION EVAL

Sub operation:	Minutes:	Hours:	% of total:
CIRC SAMPLES	30	0,5	0,02
CIRC/COND	17010	283,5	12,69
CORE	930	15,5	0,69
DST	58080	968,0	43,32
LOG	20070	334,5	14,97
OTHER	420	7,0	0,31
RFT/FIT	1320	22,0	0,98
TRIP	35280	588,0	26,31
WAIT	930	15,5	0,69
<b>Total</b>	<b>134070</b>	<b>2234,5</b>	<b>100,00</b>

### Main operation: INTERRUPTION

Sub operation:	Minutes:	Hours:	% of total:
FISH	16740	279,0	27,29
MAINTAIN/REP	30000	500,0	48,90
OTHER	900	15,0	1,47
WAIT	12750	212,5	20,78
WELL CONTROL	960	16,0	1,56
<b>Total</b>	<b>61350</b>	<b>1022,5</b>	<b>100,00</b>

### Main operation: MOVING

Sub operation:	Minutes:	Hours:	% of total:
ANCHOR	5370	89,5	70,47
POSITION	210	3,5	2,76
TRANSIT	2040	34,0	26,77
<b>Total</b>	<b>7620</b>	<b>127,0</b>	<b>100,00</b>

### Main operation: PLUG & ABANDON

Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	3240	54,0	6,26
CIRC/COND	6240	104,0	12,06
CUT	420	7,0	0,81
EQUIP RECOVERY	8340	139,0	16,12
MECHANICAL PLUG	2700	45,0	5,22
OTHER	1890	31,5	3,65
PERFORATE	720	12,0	1,39
SQUEEZE	660	11,0	1,28
TRIP	23940	399,0	46,26

## Main operations for well: 30/10-6

### Main operation: PLUG & ABANDON

Sub operation:	Minutes:	Hours:	% of total:
WAIT	3600	60,0	6,96
Total	51750	862,5	100,00

Total time used:  Hours

# WELL HISTORY 30/10-6

## **GENERAL:**

The exploration well 30/10-6 is situated in the central part of block 30/10, approximately 10km north of the Ódin Field. The structure is part of the Jurassic fault block system forming at NE-SW trending complex from the Frigg area to the South eastern part of block 30/7. The objective of well 30/10-6 was to explore the hydrocarbon potential of the Middle Jurassic Brent Group.

## **OPERATION:**

The well 30/10-6 was spudded 13 January by the semi submersible rig "West Alpha" and was completed the 11 November 1992.

Top Brent was encountered at 4666m RKB. The Brent Group was divided into two reservoir units, informally called "Upper Sand Unit" and "Lower Sand Unit". The two Units are separated by a 70m thick shale unit.

Four tests were performed, two in the "Lower Sand Unit" and two in the "Upper Sand Unit". Although some hydrocarbons (gas) were encountered, the reservoir characteristics were so poor that no commercially production was possible.

The well was permanently plugged and abandoned as a gas discovery.

## **TESTING:**

Four DST tests were performed in the well.

# Geological Tops.

## Well: 30/10-6.

	Depth m (RKB).
Nordland Group	109.0
Utsira Fm	273.0
Hordaland Group	1158.0
Rogaland Group	2166.0
Balder Fm	2166.0
Hermod/Sele Fm	2220.0
Lista/Heimdal Fm	2318.0
Våle Fm	2427.0
Shetland Group	2589.0
Hardråde Fm	2589.0
Kyrre Fm	2832.0
Tryggvason Fm	3608.0
Blodøks Fm	3780.0
Svarte Fm	3803.0
Cromer Knoll Group	3931.0
Rødby Fm	3931.0
Sola Fm	4026.0
Åsgard Fm	4095.0
Viking Group	4344.0
Draupne Fm	4344.0
Heather Fm	4368.0
Brent Group	4666.0
Sand Unit	4666.0
Shale Unit	4815.0
Lower Sand Unit	4884.5
Basal Shaly Unit	5207.0
T.D.	5250.0