

## WDSS Report

Date: 26/09/96

PB/SKR

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Well no:	Operator:
<b>34/07-18</b>	<b>SAGA</b>

### Well

Coordinates :	61° 19' 10.75" N 02° 06' 40.26" E	UTM coord. :	6798878.3 N 452410.07 E
License no :	89	Permit no :	690
Rig :	WEST ALPHA	Rig type :	SEMI-SUB.
Contractor :	A/S SMEDVIG DRILLING		
Bottom hole temp:	77 °C	Elev. KB :	18 M
Spud. date :	91.07.20	Water depth :	243 M
Compl. date :	91.09.17	Total depth :	2443 M
Spud. class :	WILDCAT	Form. at TD :	E.JURASSIC
Compl. class :	P&A. OIL DISCOVERY	Prod.form. :	
Seisloca :	GE - 8431R, ROW 95, COLUMN 1095		

### Licensees

.700000 DNO OLJE A/S  
 5.600000 ELF PETROLEUM NORGE AS  
 10.500000 ESSO EXPL. & PROD. NORWAY A/S  
 8.400000 NORSK HYDRO PRODUKSJON AS  
 9.600000 IDEMITSU PETROLEUM NORGE AS  
 7.000000 SAGA PETROLEUM A.S.  
 55.400000 DEN NORSKE STATS OLJESELSKAP A.S  
 2.800000 DEMINEX NORGE AS

### 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	361.0	36	361.0	
INTERM.	20	1099.0	26	1115.0	1.62
INTERM.	13 3/8	1709.0	17 1/2	1770.0	1.75
INTERM.	9 5/8	1889.0	12 1/4	2443.0	

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### Conventional Cores

Core no.	Intervals cored meters	Recovery m	%
1	1774.0 - 1775.0	0.0	0.0
2	1775.0 - 1780.3	5.3	100.0
3	2285.0 - 2285.7	0.7	100.0
4	2286.0 - 2289.8	3.8	100.0
5	2290.0 - 2306.0	16.0	100.0

### Mud

Depth	Mud weight	Visc.	Mud type
361.0	1.05		WATER BASED
1115.0	1.05		WATER BASED
1121.0	1.30	23.0	WATER BASED
1359.0	1.36	28.0	WATER BASED
1404.0	1.47	24.0	WATER BASED
1409.0	1.45	28.0	WATER BASED
1423.0	1.30	28.0	WATER BASED
1611.0	1.30	28.0	WATER BASED
1681.0	1.35	30.0	WATER BASED
1730.0	1.44	21.0	WATER BASED
1770.0	1.44	29.0	WATER BASED
1775.0	1.50	29.0	WATER BASED
1782.0	1.51	23.0	WATER BASED
1879.0	1.56	24.0	WATER BASED
2110.0	1.62	29.0	WATER BASED
2179.0	1.65	31.0	WATER BASED
2233.0	1.65	31.0	WATER BASED
2237.0	1.55	26.0	WATER BASED
2285.0	1.65	29.0	WATER BASED
2286.0	1.65	37.0	WATER BASED

### Drill Stem Test (intervals and pressures)

Test no.	Test interval meter	Choke size	Pressure (psi) WHP	BTHP	FFP
1.0	1770.0 - 1784.0	8.0			

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### 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	44		0.890		

### Drill Bit Cuttings and Wet Samples

Sample type	Interval below KB	Number of samples
WET SAMPLES	1120 - 2441	180
CUTTINGS	1120 - 2441	180

### Shallow Gas

Interval below KB	Remarks

### Available Logs

Log type	Intervals logged	1/200	1/500	
CDM AP/SHDT MSD	1101.0 - 1680.0			
CDM AP/SHDT MSD	1706.0 - 2426.0			
CST	1120.0 - 1680.0			
DLL MSFL SLS SP GR	1100.0 - 1712.0			
DLL MSFL SLS SP GR	1706.0 - 2430.0			
DRILLING DATA PLOT	261.0 - 2443.0			
DRILLING DATA PRESS.	261.0 - 2443.0			
FMS IMAGE DISPLAY	2275.0 - 2425.0			
FMS IMAGES	1706.0 - 2426.0			
LDL CNL GR	1706.0 - 2400.0			

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LDL GR	1100.0 - 1684.0			
MSD DIPS	1820.0 - 2425.0			
MSD DIPS	2400.0 - 2670.0			
MUD	1115.0 - 2443.0			
PRESSURE SUMMARY	1115.0 - 2443.0			
RFT	1776.0 - 2355.0			
SHDT GR	1100.0 - 1690.0			
SYNTHETIC SEISMOGRAM				
TWO-WAY TRAVEL TIME	250.0 - 2400.0			
WELLSITE LITHOLOGY	260.0 - 2443.0			
VSP				

**Main operations for well: 34/7-18****Main operation: DRILLING**

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	1980	33,0	5,69
BOP/WELLHEAD EQ	3180	53,0	9,14
CASING	6930	115,5	19,91
CIRC/COND	2400	40,0	6,90
DRILL	9420	157,0	27,07
HOLE OPEN	1440	24,0	4,14
OTHER	60	1,0	0,17
PRESS DETECTION	630	10,5	1,81
REAM	780	13,0	2,24
TRIP	7980	133,0	22,93
<b>Total</b>	<b>34800</b>	<b>580,0</b>	<b>100,00</b>

**Main operation: FORMATION EVAL**

Sub operation:	Minutes:	Hours:	% of total:
CIRC SAMPLES	150	2,5	0,70
CIRC/COND	960	16,0	4,48
CORE	780	13,0	3,64
DST	9480	158,0	44,20
LOG	5190	86,5	24,20
RFT/FIT	270	4,5	1,26
TRIP	4620	77,0	21,54
<b>Total</b>	<b>21450</b>	<b>357,5</b>	<b>100,00</b>

**Main operation: INTERRUPTION**

Sub operation:	Minutes:	Hours:	% of total:
FISH	6240	104,0	37,01
LOST CIRC	2700	45,0	16,01
MAINTAIN/REP	5430	90,5	32,21
OTHER	2040	34,0	12,10
WELL CONTROL	450	7,5	2,67
<b>Total</b>	<b>16860</b>	<b>281,0</b>	<b>100,00</b>

**Main operation: MOVING**

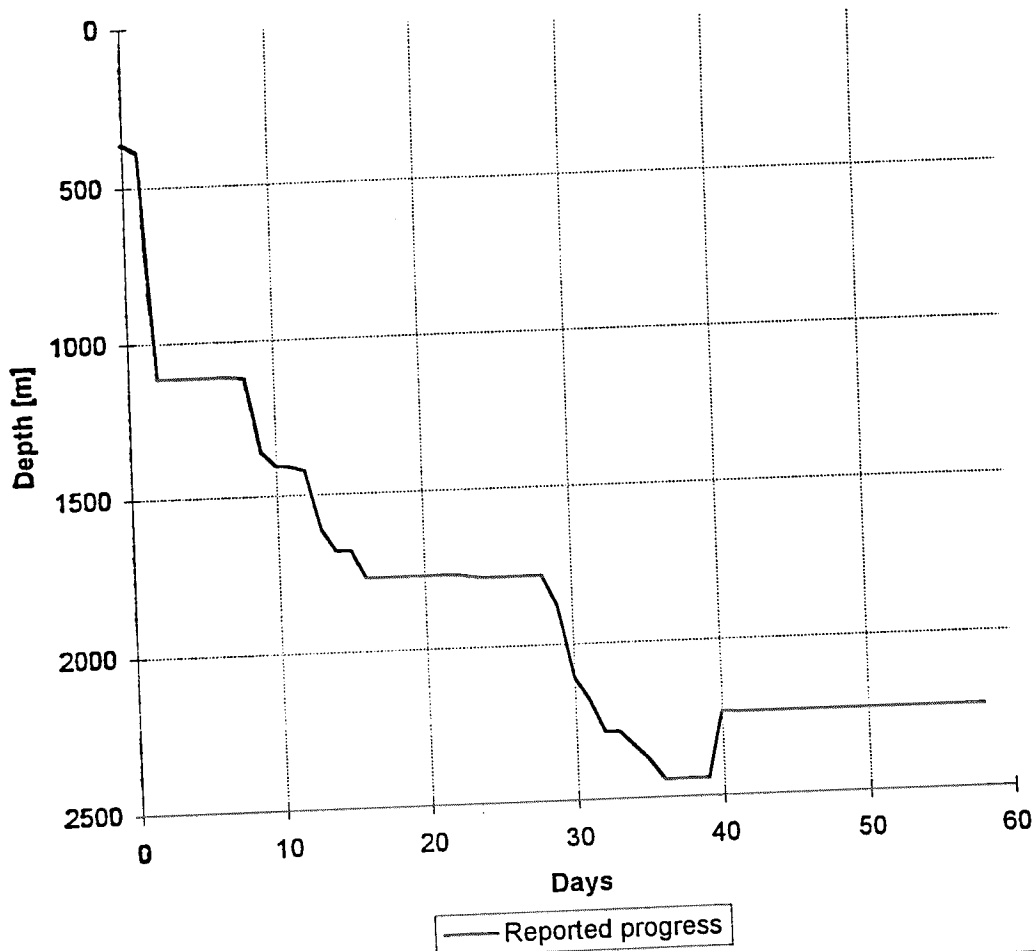
Sub operation:	Minutes:	Hours:	% of total:
ANCHOR	2160	36,0	29,27
TRANSIT	5220	87,0	70,73
<b>Total</b>	<b>7380</b>	<b>123,0</b>	<b>100,00</b>

**Main operation: PLUG & ABANDON**

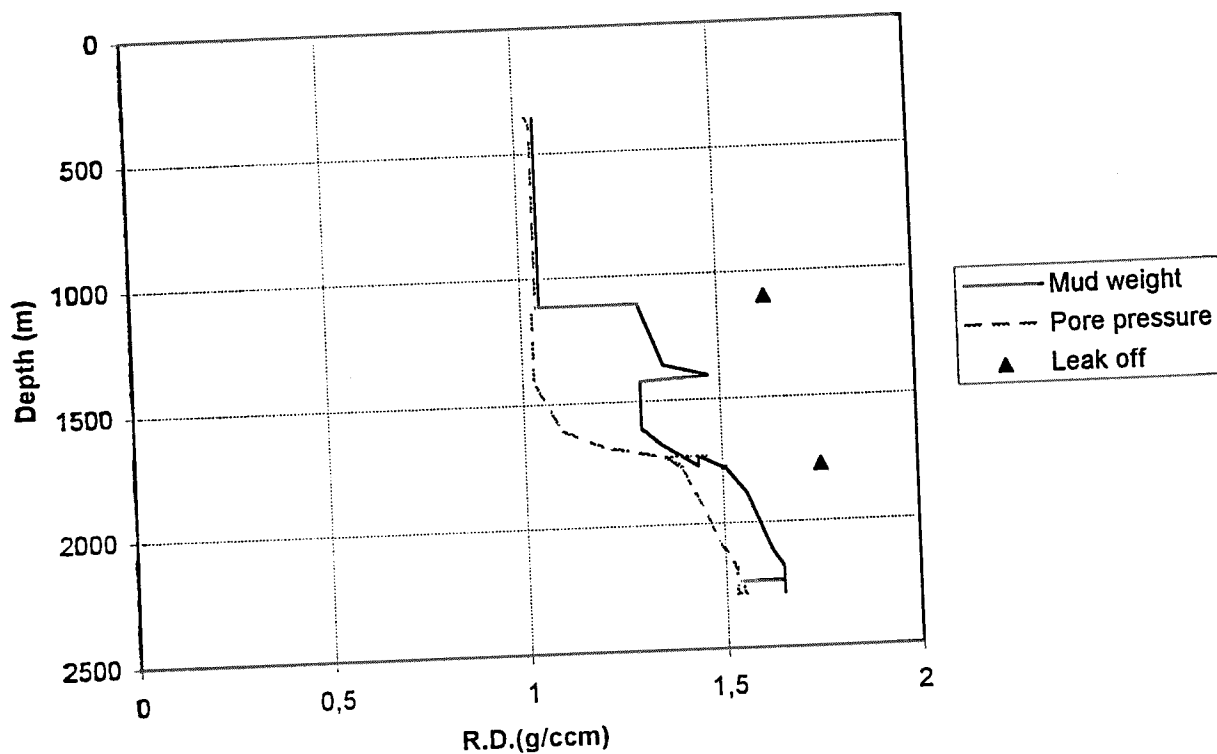
Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	450	7,5	8,47
CIRC/COND	240	4,0	4,52
CUT	210	3,5	3,95
EQUIP RECOVERY	690	11,5	12,99
MECHANICAL PLUG	600	10,0	11,30
OTHER	30	0,5	0,56
PERFORATE	240	4,0	4,52
SQUEEZE	120	2,0	2,26
TRIP	2610	43,5	49,15
WAIT	120	2,0	2,26
<b>Total</b>	<b>5310</b>	<b>88,5</b>	<b>100,00</b>

Total time used:  Hours

Depth vs time for well: 34/7-18



Composite plot for well: 34/7-18



# Well History 34/7-18.

## General:

Well 34/7-18 was designed to drill and test the presence, quality and fluid contacts of the Jurassic reservoir in Segment IV of the C-Plus structure, between the 34/7-16 discovery and the Tordis Field. The well is located in a high position on a gently dipping structure where the top of the Brent Group, the primary target, is somewhat eroded. A boulder bed was expected at 303 m RKB, and shallow gas might come in at 394 m RKB and 546 m RKB. The main objectives were:

- test possible oil in Segment IV in a structurally high position.
- establish the oil/water contact.
- test the pressure regime in Early Brent.
- test the Brent reservoir quality.
- tie to seismic Top Statfjord marker.
- test the Statfjord reservoir quality.

There was some uncertainty concerning the OWC due to the possibility on leaking faults. The well may be used as a future producer. An option to sidetrack the well to the west has been considered. The reservoir quality of both the Brent Group and the Statfjord Formation was to be tested by the well.

## Operations:

Wildcat well 34/7-18 was spudded by Smedvig sub-submersible rig West Alpha 20 July 1991, and completed 17 September 1991 at a depth of 2443 m RKB in rocks of Jurassic age. Shallow gas was encountered in the pilot hole. During drilling, an unexpected Paleocene oil discovery was made, and two cores were cut in the Lista Formation, with 78.8 % recovery. One DST test was performed, together with RFT pressure measurements and fluid sampling. The Brent Group reservoir came in 20 m shallower than prognosed. A total of three cores were cut in the Brent Group with 97.6 % recovery. The Brent Group was evaluated to be mostly water bearing, with only traces of oil in RFT samples. The final depth was reached in silty claystones of the Jurassic Dunlin Group (Drake Formation). The well was plugged back for testing the Paleocene sand. 34/7-18 was plugged and abandoned as an oil discovery.

## Testing:

One DST test was performed in the Lista Formation.

# Geological Tops.

## Well:34/7-18.

	Depth m (RKB).
Nordland Group	260.5
Utsira Fm	915.0
Undefined	946.0
Hordaland Group	1028.0
Skade Fm	1284.0
Undefined	1338.0
Grid Fm	1375.0
Undefined	1504.0
Rogaland Group	1652.0
Balder Fm	1652.0
Sele Fm	1682.5
Shetland Group	1806.5
Undefined	1806.5
Cromer Knoll Group	2282.5
Brent Group	2284.0
Ness Fm	2284.0
Etive Fm	2297.5
Rannoch Fm	2327.5
Dunlin Group	2399.0
T.D.	2443.8