

Well no :	34/7-16	Operator :	SAGA
Coordinates :	61° 23' 13.06" N 02° 06' 58.84" E	UTM coord. :	680637190 N 45278788 E
Licence no :	89	Permit no :	640
Rig :	SCARABEO 5	Rig type :	SEMI-SUB.
Contractor :	SAIPEM		
Bottom hole temp:	80°C	Elev. KB :	25 M
Spud. date :	90.06.27	Water depth :	287 M
Compl. date :	90.08.13	Total depth :	2700 M
Spud. class :	WILDCAT	Form. at TD	
Compl. class :	SUSP. OIL	Prod.form. :	
Seisloca :	G/E 83 (RP, RAD 253, KOL. 933)		

## LICENSEES

,980000	DNO OLJE A/S
7,840000	ELF PETROLEUM NORGE A/S.
14,700000	ESSO EXPL. & PROD. NORWAY A/S
11,760000	NORSK HYDRO PRODUKSJON A.S
9,600000	IDEMITSU PETROLEUM NORGE A.S.
9,800000	SAGA PETROLEUM A.S.
41,400000	DEN NORSKE STATS OLJESELSKAP A.S
3,920000	DEMINEX 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	383,0	36	389,0	
INTERM.	20	907,0	26	922,0	1,43
INTERM.	13 3/8	1913,0	17 1/2	1928,0	1,73
INTERM.	9 5/8	2685,0	12 1/4	2700,0	1,83

## CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery	
		M	%
1	1935,0 - 1953,0	0,0	,0
2	2389,0 - 2408,0	19,0	100,0
3	2408,0 - 2432,0	24,0	100,0
4	2436,0 - 2460,0	23,3	100,0
5	2460,0 - 2487,5	27,5	100,0
6	2487,5 - 2504,5	17,0	100,0
7	2504,5 - 2513,5	9,5	100,0

## MUD

Depth	Mud weight	Visc.	Mud type
922,000	1,03		WATER BASED

Depth	Mud weight	Visc.	Mud type
1056,000	1,09	13,0	WATER BASED
1464,000	1,12	16,0	WATER BASED
1649,000	1,30	21,0	WATER BASED
1815,000	1,48	26,0	WATER BASED
1928,000	1,53	25,0	WATER BASED
1928,000	1,55	27,0	WATER BASED
1951,000	1,53	23,0	WATER BASED
2030,000	1,55	24,0	WATER BASED
2199,000	1,62	25,0	WATER BASED
2351,000	1,70	31,0	WATER BASED
2389,000	1,71		WATER BASED

## DRILL STEM TEST

### INTERVALS AND PRESSURES

Test no.	Interval meter		Choke size	Pressure (PSI) WHP	BTHP	FFP
1,0	2454,000	-	2458,000	11,1	1914,0	5308,0
2,0	2401,000	-	2414,000	12,7	2305,0	5206,0

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	950	0	,860	,710	
2,0	1315		,860	,710	47

## DRILL BIT CUTTINGS AND WET SAMPLES

Sample type	Interval below KB	Number of samples
WET SAMPLES	930 - 2980	210
CUTTINGS	930 -2980	210

## SHALLOW GAS

Interval below KB	Remarks

## AVAILABLE LOGS

Log type	Intervals	1/200	1/500	Div.
AC CBL VDL	482,0 - 1914,0	X		
AC CBL VDL	1900,0 - 2684,0	X		
CDL	907,0 - 1898,0	X	X	*

Log type	Intervals		1/200	1/500	Div.
CDL CNL	1915,0	- 2698,0	X	X	
DIFL BHC AC GR	907,0	- 1918,0	X	X	*
DIFL BHC AC GR	1914,0	- 2700,0	X	X	
DLL MLL GR	2373,0	- 2698,0	X	X	
CDM	910,0	- 1918,0	X		
CDM	1915,0	- 2538,0	X		
CDM AP	910,0	- 1918,0	X	X	*
CDM AP	1915,0	- 2538,0	X	X	*
FMT	2392,0	- 2621,0	X	X	*
MWD	311,0	- 2700,0		X	
* BOTH 1:200 AND 1:500 ON THE SAME LOG.					
SYNTHETIC SEISMOGRAM, 10 cm/s, 20 cm/s				4	
V.S.P., 10 cm/s				4	
TWO WAY TRAVEL TIME , 10 cm/s, 20 cm/s				2	
VELOCITY	850,0	- 3000,0			

**Main operations for well: 34/7-16****Main operation: DRILLING**

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	1440	24,0	3,72
BOP/WELLHEAD EQ	4320	72,0	11,15
CASING	6300	105,0	16,25
CIRC/COND	2490	41,5	6,42
DRILL	11310	188,5	29,18
HOLE OPEN	2550	42,5	6,58
OTHER	150	2,5	0,39
PRESS DETECTION	300	5,0	0,77
REAM	2250	37,5	5,80
SURVEY	120	2,0	0,31
TRIP	7350	122,5	18,96
WAIT	180	3,0	0,46
<b>Total</b>	<b>38760</b>	<b>646,0</b>	<b>100,00</b>

**Main operation: FORMATION EVAL**

Sub operation:	Minutes:	Hours:	% of total:
CIRC SAMPLES	240	4,0	1,85
CIRC/COND	240	4,0	1,85
CORE	3240	54,0	24,94
LOG	4170	69,5	32,10
OTHER	300	5,0	2,31
TRIP	4800	80,0	36,95
<b>Total</b>	<b>12990</b>	<b>216,5</b>	<b>100,00</b>

**Main operation: INTERRUPTION**

Sub operation:	Minutes:	Hours:	% of total:
FISH	60	1,0	1,77
LOST CIRC	960	16,0	28,32
MAINTAIN/REP	2280	38,0	67,26
OTHER	90	1,5	2,65
<b>Total</b>	<b>3390</b>	<b>56,5</b>	<b>100,00</b>

**Main operation: MOVING**

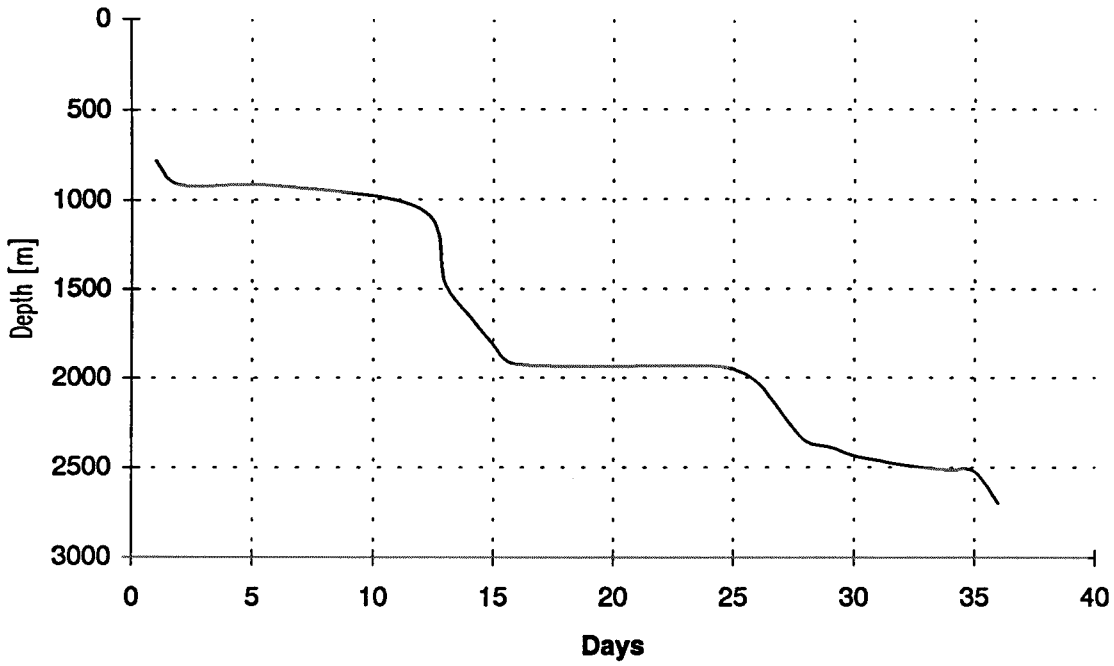
Sub operation:	Minutes:	Hours:	% of total:
ANCHOR	1920	32,0	74,42
POSITION	660	11,0	25,58
<b>Total</b>	<b>2580</b>	<b>43,0</b>	<b>100,00</b>

**Main operation: PLUG & ABANDON**

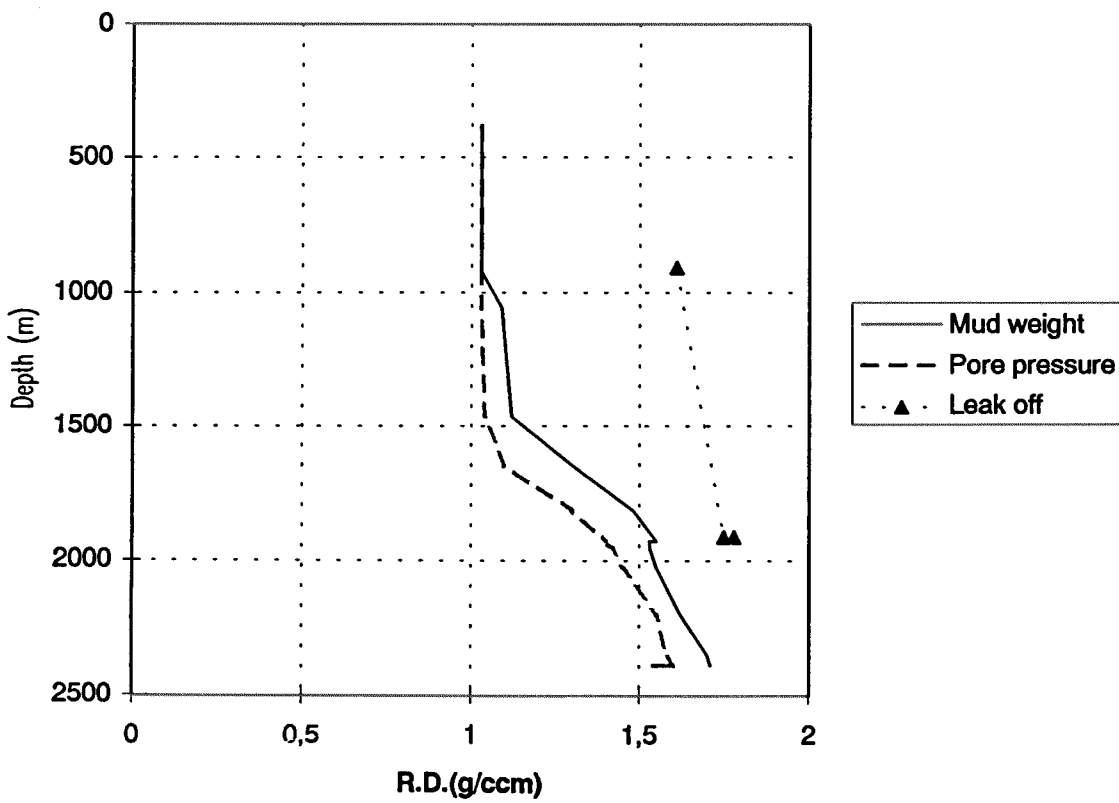
Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	180	3,0	5,26
CIRC/COND	90	1,5	2,63
EQUIP RECOVERY	1650	27,5	48,25
MECHANICAL PLUG	510	8,5	14,91
TRIP	990	16,5	28,95
<b>Total</b>	<b>3420</b>	<b>57,0</b>	<b>100,00</b>

Total time used:  Hours

**Depth vs time for well: 34/7-16**



**Composite plot for well: 34/7-16**



# Well History 34/7-16. 34/7-16 R.

## General:

Well 34/7-16 was designed to drill the C-Plus prospect (segment I) which is located west of the C-Field, and extends from the Snorre Field and "Snorre West" Fields in the northern part down to the Tordis Field in the southern part. The prospect was dependent upon a sealing fault to the south and was therefore a high risk prospect. The risk was decreased by locating the well on an independent structure within the C-Plus prospect called the I-middle prospect which have a smaller hydrocarbon potential but a lower risk. The main objectives of well 34/7-16 were:

- test alternative oil-water contacts.
- leave only subcommercial volumes updip.
- test the presence of Late Jurassic sandstones.
- test the quality of the Cook formation.
- test the seismic marker at top Statfjord formation.
- test the pressure regime within the Statfjord formation.
- test reservoir quality of the Statfjord formation.

The well was to be drilled on a high position of the structure and was estimated to reach the reservoir at 2349 m MSL. The reserves left updip are therefore subcommercial. Shallow gas might occur at 448, - 500 - and 557 m RKB.

## Operations:

Wildcat well 34/7-16 was spudded 27 June 1990 by the semi-submersible rig Scarabeo 5, and completed 13 August 1990 at a depth of 2700 m RKB in rocks of Early Jurassic age, the Amundsen formation. A total of eight cores were cut in this well, core 1 from 1935 to 1953 m RKB and cores 2 to 8 from 2389 to 2522 m RKB. A total of 150 sidewall cores were attempted and 80 cores were recovered. No indications of shallow gas was observed except for in a sandlayer at 447 m RKB where resistivity log indicated small amounts of gas. The well was temporary abandoned due to time schedule for the rig. The well was re-entered 4 September 1990 by the semi-submersible rig Treasure Saga who drilled through the Statfjord formation and into T.D. in the Hegre Group at 2980 m RKB. Both the Statfjord formation and the Hegre Group proved to be water bearing. After reaching T.D., three DST tests were performed, whereafter the well was temporary plugged and abandoned as an oil discovery 15 October 1990.

## Testing:

Three DST tests were performed in well 34/7-16 R:

- No 1 from 2821 to 2837 m RKB in the Statfjord formation.
- No 2 from 2454 to 2458 m RKB in the Rannoch formation.
- No 3 from 2401 to 2414 m RKB in the Etive formation.

# Geological Tops.

## Well:34/7-16 / 34/7-16 R

	Depth m (RKB).
Nordland Group	311,0
Utsira Fm	976,0
Hordaland Group	
Rogaland Group	1678,0
Balder Fm	1678,0
Sele Fm	1734,0
Lista Fm	1786,0
Shetland Group	
Jorsalfare Fm	1861,0
Kyrre Fm	2100,0
Cromer Knoll Group	2386,0
Brent Group	2390,0
Etive Fm	2390,0
Rannoch Fm	2434,0
Dunlin Group	2514,0
Drake Fm	2514,0
Cook Fm	2600,0
Burton FM	2661,0
Amundsen Fm	2685,0
Staffjord Fm	2821,0
Hegre Group	2945,0
Lunde Fm	2945,0
T.D.	2980,0