Date: 26/03/98 PB/SKR Page: 1/1

34/10-36	STATOIL
Well no:	Operator:

### Well

Coordinates: 61° 06' 48.49" N

UTM coord.: 6775866.39 N

02° 10' 35.15" E 455614.12 E

License no: 50 Permit no: 723

Rig: **DEEPSEA BERGEN** Rig type: SEMI-SUB.

Contractor: ODFJELL DRILLING AND

CONSULTING **COMPANY** 

A/S

120°C Bottom hole temp: Elev. KB: 23 M Spud. date: 92.04.28 Water depth: 136 M

Compl. date: 92.07.13 Total depth: 3640 M Spud. class: WILDCAT

Form. at TD: **E.JURASSIC** 

Compl. class: P&A. OIL/GAS Prod.form.:

Seisloca: ST 8720-695, KOLONNE 555

## Licensees

6.000000 SAGA PETROLEUM ASA

85.000000 DEN NORSKE STATS OLJESELSKAP A.S

9.000000 NORSK HYDRO PRODUKSJON AS

## Casing and Leak-off Tests

Туре	Casing diam	Depth below KB	Hole diam.	Hole depth below KB	Lot mud eqv. g/cm3
CONDUCTOR	30	220.0	36	222.0	
INTERM.	20	1056.0	26	1058.0	1.60
INTERM.	13 3/8	2100.0	17 1/2	2103.0	1.76
LINER	7	2838.0	8 1/2	3625.0	
INTERM.	9 5/8	2994.0	12 1/4	2997.0	1.97

Date: 26/03/98

PB/SKR

Page: 2/2

Well no:	Operator:
34/10-36	STATOIL

# **Conventional Cores**

Core no.	Intervals cored	Recovery	%
	meters	m	
1	3029.0 - 3053.0	24.0	100.0
2	3363.0 - 3390.0	27.1	100.0
3	3390.0 - 3417.0	26.5	100.0

# Mud

Depth	Mud	Visc.	Mud type
Dept	weight	7 250.	Muu type
826.0	1.03	10.0	WATER BASED
947.0	1.03	16.0	WATER BASED
1171.0	1.30	20.0	WATER BASED
1445.0	1.30	23.0	WATER BASED
1737.0	1.30	25.0	WATER BASED
1918.0	1.30	27.0	WATER BASED
2015.0	1.30	26.0	WATER BASED
2095.0	1.30	27.0	WATER BASED
2115.0	1.30	27.0	WATER BASED
2241.0	1.35	27.0	WATER BASED
2350.0	1.35	25.0	WATER BASED
2396.0	1.40	27.0	WATER BASED
2451.0	1.40	27.0	WATER BASED
2612.0	1.40	28.0	WATER BASED
2661.0	1.40	28.0	WATER BASED
2774.0	1.40	29.0	WATER BASED
2825.0	1.45	31.0	WATER BASED
2880.0	1.50	32.0	WATER BASED
2977.0	1.50	31.0	WATER BASED
3010.0	1.54	24.0	WATER BASED
3013.0	1.47	24.0	WATER BASED
3050.0	1.47	26.0	WATER BASED
3359.0	1.47	22.0	WATER BASED
3361.0	1.56	23.0	WATER BASED
3363.0	1.47	22.0	WATER BASED
3371.0	1.45	25.0	WATER BASED
3390.0	1.47	23.0	WATER BASED
3426.0	1.47	21.0	WATER BASED
3586.0	1.47	21.0	WATER BASED
3640.0	1.47	22.0	WATER BASED

Date: 26/03/98

PB/SKR

Page: 3/3

Well no:	Operator:
34/10-36	STATOIL

# **Drill Stem Test (intervals and pressures)**

Test Test interval		Choke	Pressure (psi)	BTHP	FFP
no.	meter	size	WHP		1
1.0	3371 - 3376	14.3	2392	·	14.0

# **Drill Stem Test (recovery)**

	Test	Oil	Gas	Oil grav.	Gas grav.	GOR
	no.	Sm3/d	Sm3/d	g/cm3	rel. air	m3/m3
1	1.0	836	161490	0.869	0.695	194

# **Drill Bit Cuttings and Wet Samples**

Sample type	Interval	Number of
	below KB	samples
WET SAMPLES	1080 - 3640	360

## **Shallow Gas**

Interval	Remarks
below KB	

# **Available Logs**

Log type	Intervals logged	1/200	1/500	THE STATE OF THE S
ACOUSTIC CBL/GR	1900.0 - 2994.0	***************************************	***************************************	
ACOUSTIC CEMENT BOND	825.0 - 2097.0			***************************************
CALIBRATED VELOCITY	1100.0 - 3638.0			
DIPLOG	3215.0 - 3637.0			
DUAL INDUCTION	1056.0 - 3637.0			***************************************
DUAL LATEROLOG	2993.0 - 3637.0			
FMT LOG	3131.0 - 3533.0			
			!	

Date: 26/03/98

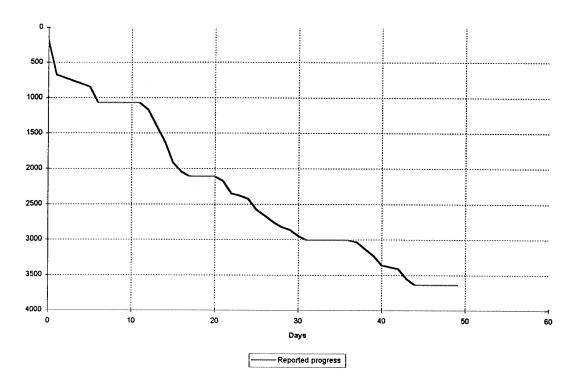
PB/SKR

Page: 4/4

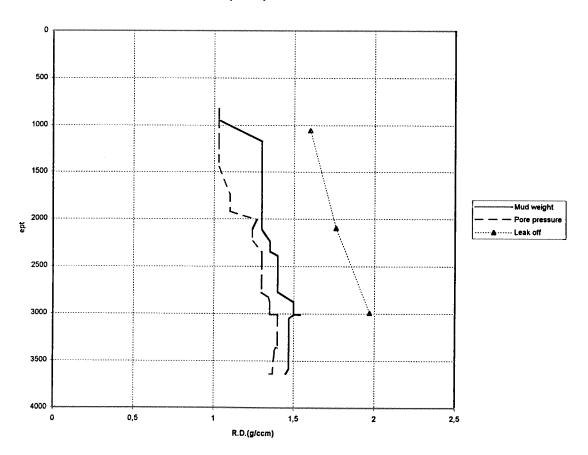
Well no:	Operator:
34/10-36	STATOIL

FORMATION EVALUATION	1000.0 - 3640.0		
MWD	159.0 - 3640.0		
PETROFYSISK	3355.0 - 3560.0		
SYNTHETIC SEISMOGRAM		e di santa d	
TWO WAY TRAVEL TIME			
VSP, VERTICAL SEISMIC		***************************************	
Z-DENSILOG	2993.0 - 3636.0		•

Depth v.s. time plot for well: 34/10-36



Composite plot for well: 34/10-36



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Main operation: DRILLING

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	1920	32,0	3,11
BOP/WELLHEAD EQ	1980	33,0	3,20
CASING	18900	315,0	30,57
CIRC/COND	1470	24,5	2,38
DRILL	22560	376,0	36,49
HOLE OPEN	1440	24,0	2,33
REAM	780	13,0	1,26
SURVEY	60	1,0	0,10
TRIP	12720	212,0	20,57
Total	61830	1030,5	100,00

Main operation: FORMATION EVAL

Sub operation:	Minutes:	Hours:	% of total:
CIRC SAMPLES	240	4,0	1,25
CIRC/COND	990	16,5	5,16
CORE	930	15,5	4,84
DST	9180	153,0	47,81
LOG	3030	50,5	15,78
OTHER	1410	23,5	7,34
RFT/FIT	360	6,0	1,88
TRIP	3060	51,0	15,94
Total	19200	320,0	100,00

Main operation: INTERRUPTION

Sub operation:	Minutes:	Hours:	% of total:
FISH	870	14,5	12,34
MAINTAIN/REP	5910	98,5	83,83
OTHER	270	4,5	3,83
Total	7050	117,5	100,00

Main operation: MOVING

Sub operation:	Minutes:	Hours:	% of total:
ANCHOR	720	12,0	18,18
TRANSIT	3240	54,0	81,82
Total	3960	66,0	100,00

Main operation: PLUG & ABANDON

Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	420	7,0	4,12
CIRC/COND	510	8,5	5,00
CUT	1530	25,5	15,00
EQUIP RECOVERY	180	3,0	1,76
MECHANICAL PLUG	360	6,0	3,53
OTHER	30	0,5	0,29
SQUEEZE	150	2,5	1,47
TRIP	3270	54,5	32,06
WAIT	3750	62,5	36,76
Total	10200	170,0	100,00

Total time used: 1704,0 Hours

# WELL HISTORY 34/10-36

#### **GENERAL:**

The Exploration well 34/10-36 was the 36<sup>th</sup> well within the licence and the 6<sup>th</sup> on the Gullfaks sør structure and was designed to test the structural/stratigraphic potential of the Draupne sandstone, interpreted as an Upper Jurassic "turbidite sandstone". It was also designated to confirm the GOC, OWC, and pressure regime in the Brent Group. The main objective of the well can be summarised as:

- Test the hydrocarbon potential within the prognosed Upper Jurassic Draupne sandstone reservoir.
- Verify the hydrocarbon type present in the Gullfaks Sør structure.
- Verify the potential resources of the Gullfaks Sør structure.
- Finish the well as a future producer/pressure monitor well.

#### **OPERATION:**

Well 34/10-36 was spudded on the 28<sup>th</sup> April 1992 by the semi submersible rig "Deepsea Bergen" and was completed 13<sup>th</sup> July 1992 in rocks of Jurassic age. No part of the primary prospect, the Upper Jurassic sandstone, was encountered. An attempt to core possible Draupne sandstone was carried out in connection with a drilling break at top Draupne Formation. The core consisted entirely of claystone. The Brent Group was encountered at 3361m MD RKB, 55m deeper than prognosed. A segregated FMT sample was taken at 3368m MD RKB with 3.5L of oil, 0.2m<sup>3</sup> gas, and 3.2L of mudfiltrate. No CO<sub>2</sub> or H<sub>2</sub>S was detected from the 2 ¾ gallon chamber. The well proved oil in the Tarbert Formation down to 3377.5m MD RKB (OWC). The GOC was not penetrated at well location, but is estimated to be further up than the 19m of expected oil zone due to FMT measurements. The well was drilled to a total depth of 3640 m MD RKB alike the prognosed TD, corresponding to 86m into Dunlin Group sediments and 76 metres into Cook Formation sand. The well was permanently plugged and abandoned as an oil discovery.

#### **TESTING:**

One DST tests were performed in this well.

# Geological Tops.

# Well: 34/10-36.

T.D.

	Depth m (RKB).
Nordland Group	159.0
Utsira Fm	853.0
Hordaland Group	953.0
Pagalant Crown	1842.0
Rogaland Group  Balder Fm	1842.0
Sele Fm	1921.0
Lista Fm	1951.0
Lista Fm Våle Fm	2049.0
vale rm	2015.0
Shetland Group	2061.0
Jorsalfare Fm	2061.0
Kyrre Fm	2349.0
Blodøks Fm	2881.5
Cromer Knoll Group	2999.0
Viking Group	3026.0
Draupne Fm	3026.0
Heather Fm	3125.0
Treasmer 1 III	
Brent Group	3361.0
Tarbert Fm	3361.0
Ness Fm	3448.0
Etive Fm	3511.0
Rannoch Fm	3523.5
Dunlin Group	3555.0
Drake Fm	3555.0
Cook Fm	3565.5
COOK THE	203030

3640.0