

Well no : 33/09-12

Operator : STATOIL

Coordinates : 61 19 12.04 N
01 59 36.42 EUTM coord. : 6799009 N
446107 E

Licence no : 37

Permit no : 551

Rig : ROSS ISLE

Rig type : SEMI-SUB.

Contractor : ROSS DRILLING CO. A/S

Bottom hole temperature : deg.C

Elev. KB : 22 M

Spud. date : 87.06.19

Water depth : 148 M

Compl. date : 87.08.03

Total depth : 2959 M

Spud. class : APPRAISAL

Form. at TD : E.JURASSIC

Compl. class : P&A. OIL DISCOVERY

Prod. form : M.JURASSIC

Seisloca : E86 - 171 SP. 1381

LICENSEES

1.042000 AMERADA HESS NORGE A/S
 1.042000 AMOCO NORWAY OIL COMPANY
 10.000000 CONOCO NORWAY INC.
 10.000000 ESSO NORGE A.S
 15.000000 MOBIL EXPLORATION NORWAY INC.
 1.875000 SAGA PETROLEUM A.S.
 10.000000 A/S NORSKE SHELL
 50.000000 DEN NORSKE STATS OLJESELSKAP A.S
 1.042000 TEXAS EASTERN NORWEGIAN INC.

CASING AND LEAK-OFF TESTS

Type	Casing diam.	Depth below KB	Hole diam.	Hole depth below KB	Lot mud eqv. g/cm3
CONDUCTOR	30	232.0	36	232.0	.
SURF.COND.	20	345.0	26	360.0	1.32
INTERM.	13 3/8	1202.0	17 1/2	1217.0	1.73
INTERM.	9 5/8	2105.0	12 1/4	2120.0	1.89
LINER	7	2957.0	8 1/2	2959.0	.

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	2467.0 - 2499.0	31.5	98.4	
2	2499.0 - 2528.8	29.8	100.0	MIDDLE JURASSIC
3	2531.0 - 2566.0	34.9	99.7	MIDDLE JURASSIC

MUD PROPERTIES

Depth below KB meter	Mud weigth g/cm3	Viscosity	Mud type
1519.000	1.20	21.0	WATER BASED
1656.000	1.30	23.0	WATER BASED
1780.000	1.40	25.0	WATER BASED

2072.000	1.45	27.0	WATER BASED
2393.000	1.60	34.0	WATER BASED
2753.000	1.63	39.0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no	interval meter	Choke size	Pressure (PSI)		
			WHP	BTHP	FFP
1.0	2526.000 - 2538.000 Test temperature: 91.6 °C	12.7	826.7	0.0	0.0
2.0	2505.000 - 2508.000 Test temperature: 91.5 °C	12.7	2294.4	0.0	4740.5
3.0	2463.000 - 2489.000 Test temperature: 90.0 °C	19.1	1839.0	0.0	0.0

RECOVERY

Test no.	Oil Sm3/d	Gas Sm3/d	Oil grav. g/cm3	Gas grav. rel. air	GOR m3/m3
1.0	0	0	0.000	0.000	0
2.0	950	0	0.846	0.735	111
3.0	1470	153880	0.827	0.712	174

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
Cutting		
Wet Samples	370-2957	300

SHALLOW GAS

Interval below KB	REMARKS

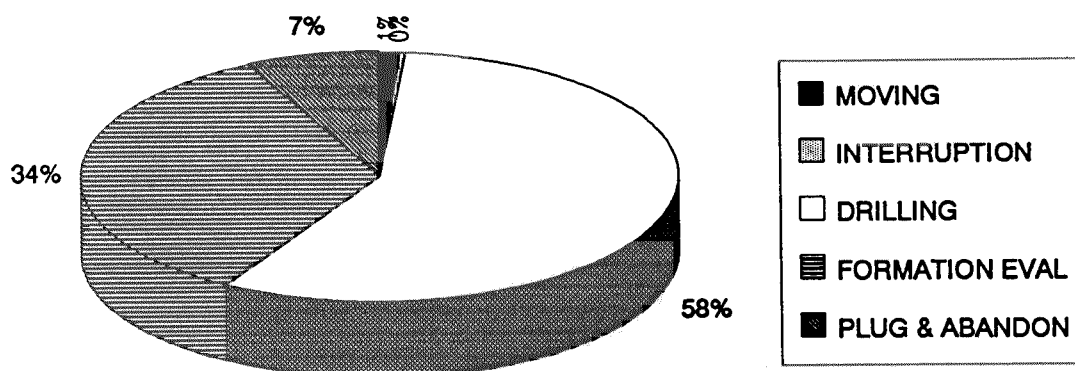
AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500	Div.
DIFL LS BHC AC GR	2102.000 - 2954.000	X	X	
CDL CNL GR	2101.000 - 2954.000	X	X	
DLL MLL GR	2400.000 - 2700.000	X	X	
CDM DIPLOG	2102.000 - 2953.000	X	X	
SHDT	2102.000 - 2953.000	X	X	
FMT HP CRYSTAL GAUGE	2464.000 - 2914.000	X	X	
ACBL VDL	170.000 - 2101.000	X		

ACBL VDL	420.000 - 2102.000	X
ACBL VDL	1945.000 - 2914.000	X
MUD	170.000 - 2959.000	X
VELOCITY	2102.000 - 2954.000	1:1000 X
(Display of well velocity records, part 1-4		4 stk.)
(VSP, Interpreters comp. 10cm/s		5 stk.)
(Synthetic seismogram, marine		5 stk.)

DAILY DRILLING REPORT SYSTEM

MAIN OPERATIONS FOR WELL: 33/09-12



Main operation	Minutes	Hrs	% of total
MOVING	780	13,0	1,18
INTERRUPTION	150	2,5	0,23
DRILLING	37920	632,0	57,25
FORMATION EVAL	22770	379,5	34,38
PLUG & ABANDON	4620	77,0	6,97
<i>Total</i>	66240	1104,0	100,00

SUB OPERATIONS FOR WELL: 33/09-12

MAIN OPERATION: MOVING

Sub operation	Minutes	Hrs	% of total
ANCHOR	780	13,0	100,00
Total	780	13,0	100,00

MAIN OPERATION: INTERRUPTION

Sub operation	Minutes	Hrs	% of total
MAINTAIN/REP	150	2,5	100,00
Total	150	2,5	100,00

MAIN OPERATION: DRILLING

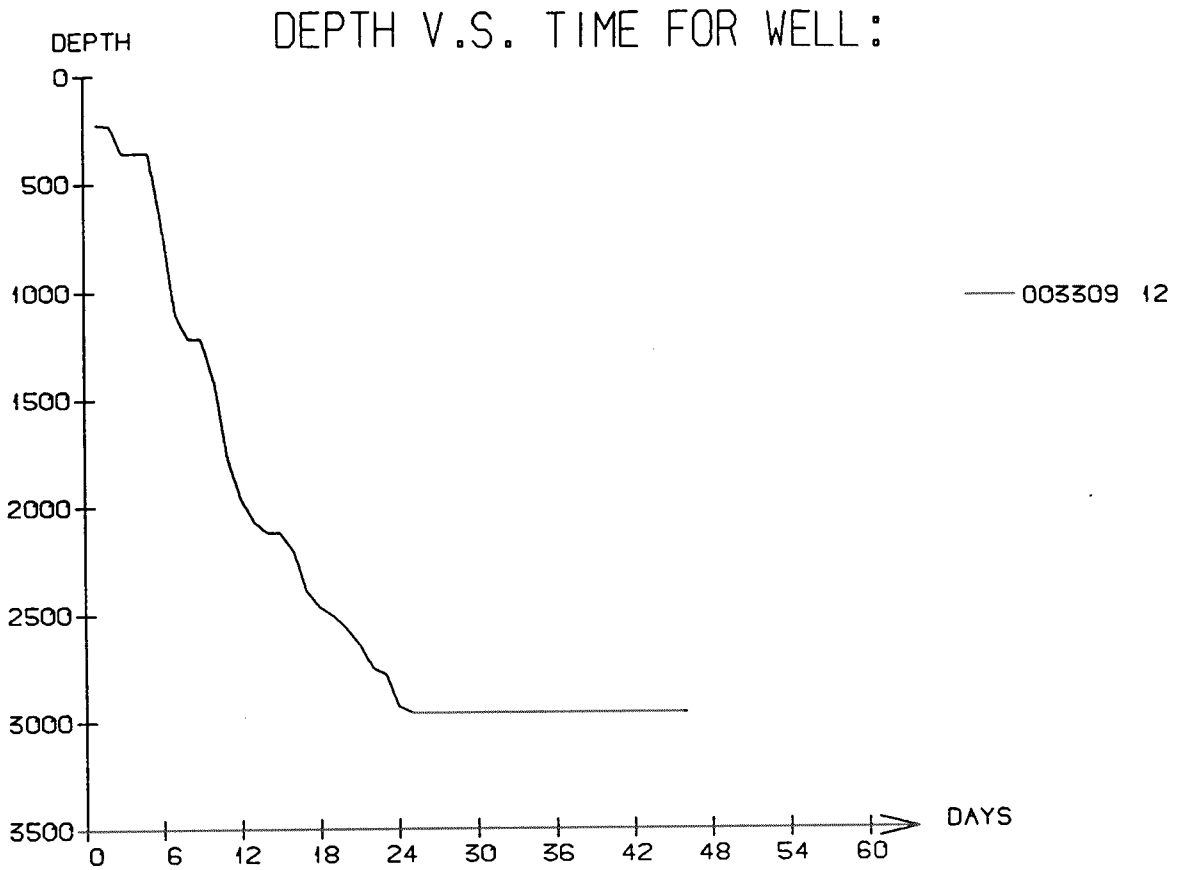
Sub operation	Minutes	Hrs	% of total
DRILL	15870	264,5	41,85
CIRC/COND	1170	19,5	3,09
OTHER	30	0,5	0,08
TRIP	5760	96,0	15,19
CASING	9841	164,0	25,95
SURVEY	180	3,0	0,47
BOP/WELLHEAD EQ	3119	52,0	8,23
BOP ACTIVITIES	1380	23,0	3,64
PRESS DETECTION	120	2,0	0,32
REAM	450	7,5	1,19
Total	37920	632,0	100,00

MAIN OPERATION: FORMATION EVAL

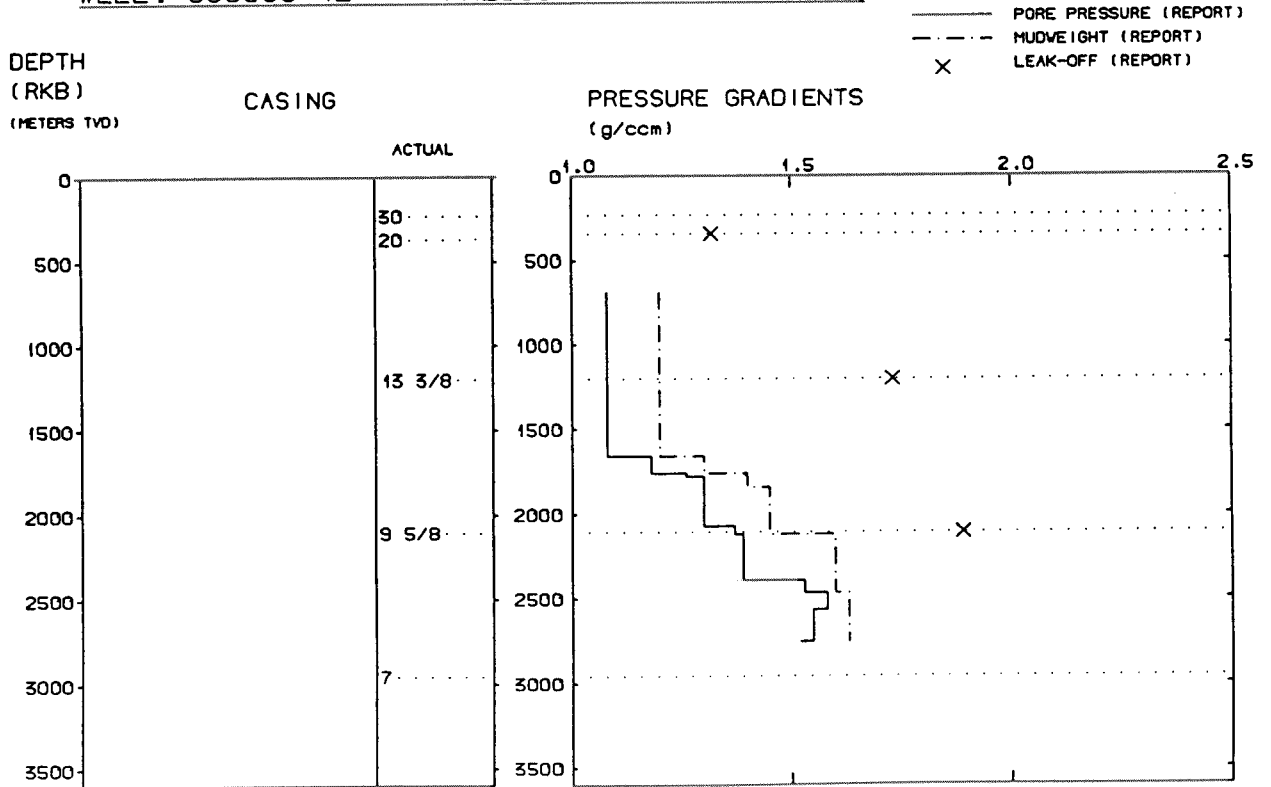
Sub operation	Minutes	Hrs	% of total
TRIP	4950	82,5	21,74
CIRC/COND	360	6,0	1,58
CORE	1740	29,0	7,64
LOG	3960	66,0	17,39
DST	11250	187,5	49,41
OTHER	510	8,5	2,24
Total	22770	379,5	100,00

MAIN OPERATION: PLUG & ABANDON

Sub operation	Minutes	Hrs	% of total
MECHANICAL PLUG	570	9,5	12,34
CIRC/COND	300	5,0	6,49
CEMENT PLUG	540	9,0	11,69
TRIP	1410	23,5	30,52
PERFORATE	390	6,5	8,44
CUT	420	7,0	9,09
WAIT	390	6,5	8,44
EQUIP RECOVERY	600	10,0	12,99
Total	4620	77,0	100,00



WELL : 003309 12 PRESSURE COMPOSITE PLOT



Well History 33/9-12.

GENERAL:

Appraisal well 33/9-12 was designed to drill on the structural crest of the field, near the southern tip of the structure. The primary objectives were:

- i) to prove sufficient reserves in the Brent Group within the Statfjord East Field to justify development by demonstrating oil in the Lower Brent group.
- ii) define the oil/water contact.
- iii) to gather additional structural and reservoir data on the structure.

Anticipated TD was 3002 m RKB. Brent Group was prognosed to come in at 2452 m RKB, and Statfjord Formation at 2857 m RKB. Seismic anomalies indicated shallow gas. An oil column of 44-45 m was expected in the Brent Group.

OPERATIONS:

Appraisal well 33/9-12 was spudded by Ross Drilling semi-submersible rig Ross Isle 19 June 1987, and completed 3 August 1987 at a depth of 2952 m RKB in Triassic Rocks. Drilling proceeded without any significant problems.

The well has penetrated several significant faults, and the entire Upper Brent is missing (Tarbert-Ness). The oil/water contact was encountered as prognosed, and the Statfjord Formation was found water-bearing. Three conventional cores were cut in Middle Jurassic rocks.

Plugged and abandoned as an oil/gas discovery.

TESTING:

Three DST-tests were performed in this well, test one producing water, tests two and three producing oil and gas.

GEOLOGICAL TOPS

WELL: 33/9-12

	Depth m (RKB)
<i>Nordland Group</i>	170,0
<i>Utsira Fm</i>	886,0
<i>Hordaland Group</i>	1075,0
<i>Skade Fm</i>	1185,0
<i>Undefined.</i>	1317,0
<i>Grid Fm</i>	1392,0
<i>Undefined.</i>	1452,0
<i>Rogaland Group</i>	1683,0
<i>Balder Fm</i>	1683,0
<i>Sele Fm</i>	1715,0
<i>Lista Fm</i>	1801,0
<i>Shetland Group</i>	1865,0
<i>Jordsalfare Fm</i>	1865,0
<i>Kyrre Fm</i>	1899,0
<i>Tryggvason Fm</i>	2073,0
<i>Blodøks Fm</i>	2103,0
<i>Svarte Fm</i>	2116,0
<i>Cromer Knoll Group</i>	2446,0
<i>Viking Group</i>	2452,0
<i>Draupne Fm</i>	2452,0
<i>Brent Group</i>	2461,0
<i>Tarbert Fm</i>	2461,0
<i>Ness Fm</i>	2489,0
<i>Etive Fm</i>	2504,5
<i>Rannoch Fm</i>	2517,0
<i>Dunlin Group</i>	2561,5
<i>Drake Fm</i>	2561,5
<i>Cook Fm</i>	2609,5
<i>Burton Fm</i>	2667,5
<i>Amundsen Fm</i>	2692,5
<i>Statfjord Fm</i>	2814,0
<i>Hegre Group</i>	2936
<i>Lunde Fm</i>	2936,0
<i>TD.</i>	2952,0