

Well no : 33/09-14 Operator : STATOIL

Coordinates : 61 26 00.26 N UTM coord. : 6811719 N
 01 54 4.48 E 441383 E

Licence no : 37 Permit no : 571

Rig : DEEPSEA BERGEN Rig type : SEMI-SUB.

Contractor : ODFJELL DRILLING AND CONSULTING COMPANY A/S

Bottom hole temperature : 89 deg.C Elev. KB : 23 M

Spud. date : 88.02.17 Water depth : 248 M

Compl. date : 88.04.09 Total depth : 2982 M

Spud. class : APPRAISAL Form. at TD : E.JURASSIC

Compl. class : P&A. OIL DISCOVERY Prod. form :

Seisloca : E 86 - 457 SP. 716

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	330.0	36	331.0	.
INTERM.	20	404.0	26	414.0	1.29
INTERM.	13 3/8	1279.0	17 1/2	1292.0	1.76
INTERM.	9 5/8	2654.0	12 1/4	2670.0	1.90
LINER	7	2978.0	8 1/2	2982.0	.

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	2680.0 - 2707.5	4.5	100.0	
2	2707.5 - 2744.0	36.5	100.0	
3	2744.0 - 2744.1	0.1	100.0	
4	2782.0 - 2810.5	28.5	100.0	
5	2810.5 - 2838.5	28.0	100.0	
6	2842.0 - 2879.0	37.0	100.0	

MUD PROPERTIES

Depth below KB meter	Mud weigh g/cm3	Viscosity	Mud type
1295.000	1.23	5.0	WATER BASED
1617.000	1.35	58.0	WATER BASED
1710.000	1.45	27.0	WATER BASED
2670.000	1.55	25.0	WATER BASED
2680.000	1.58	13.0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no	interval meter	Choke size	Pressure (PSI)		
			WHP	BTHP	FFP
1.0	2746.800 - 2759.800 Test temperature: 96 °C	15.9	971.7	5834.7	5138.5
2.1	2718.000 - 2732.000 Test temperature: 95 °C	14.3	2103.0	5789.0	5318.4
2.2	2718.000 - 2732.000 Test temperature: 95 °C	12.7	2570.0	5789.0	5703.7

RECOVERY

Test no.	Oil Sm3/d	Gas Sm3/d	Oil grav. g/cm3	Gas grav. rel. air	GOR m3/m3
1.0	0	8500	0.000	0.780	0
2.1	1310	74670	0.836	0.744	57
2.2	1164	42900	0.836	0.703	37

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
Cutting		
Wet Samples	420-2981	210

SHALLOW GAS

Interval below KB	REMARKS

AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500	Div.
DIFL GR	1278.000 - 2252.000	X	X	
DIFL LS BHC AC GR C	2650.000 - 2976.000	X	X	

CDL CNL GR	2650.000 - 2976.000	X	X
DLL MLL GR	2665.000 - 2800.000	X	X
CDM - DIPLOG	2650.000 - 2976.000	X	
SPECTRALOG	2650.000 - 2976.000	X	X
CBL VDL GR AC	268.000 - 1278.000	X	
CBL VDL GR AC	1175.000 - 2650.000	X	
FMT	2675.000 - 2865.000	X	X
MUD	277.000 - 2982.000		X
VELOCITY	2640.000 - 2983.000	1:1000	X
(Two Way Travel Time, 10 cm/s			1 stk.)
(Synthetic Seismogram, 10 cm/s			1 stk.)
(V.S.P., Zero Offset, 10cm/s			3 stk.)
(V.S.P., Interpreters Composite, 10 cm/s			1 stk.)
(V.S.P., Final Upgoing Wavefield, 10 cm/s			4 stk.)

MAIN OPERATIONS FOR WELL: 003309 14

Main operation: DRILLING

Sub operations	Minutes	Hrs	% of total
BOP ACTIVITIES	1800	30,0	4,92
BOP/WELLHEAD EQ	2100	35,0	5,74
CASING	9990	166,5	27,30
CIRC/COND	1530	25,5	4,18
DRILL	12570	209,5	34,34
OTHER	120	2,0	0,33
PRESS DETECTION	90	1,5	0,25
REAM	180	3,0	0,49
TRIP	4290	71,5	11,72
UNDERREAM	330	5,5	0,90
WAIT	3600	60,0	9,84
Total	36600	610,0	100,00

Main operation: FORMATION EVAL

Sub operations	Minutes	Hrs	% of total
CIRC/COND	330	5,5	1,23
CORE	2610	43,5	9,70
DST	14730	245,5	54,74
LOG	3630	60,5	13,49
OTHER	30	0,5	0,11
RFT/FIT	60	1,0	0,22
TRIP	5520	92,0	20,51
Total	26910	448,5	100,00

Main operation: INTERRUPTION

Sub operations	Minutes	Hrs	% of total
FISH	60	1,0	1,26
MAINTAIN/REP	570	9,5	11,95
WAIT	4140	69,0	86,79
Total	4770	79,5	100,00

Main operation: MOVING

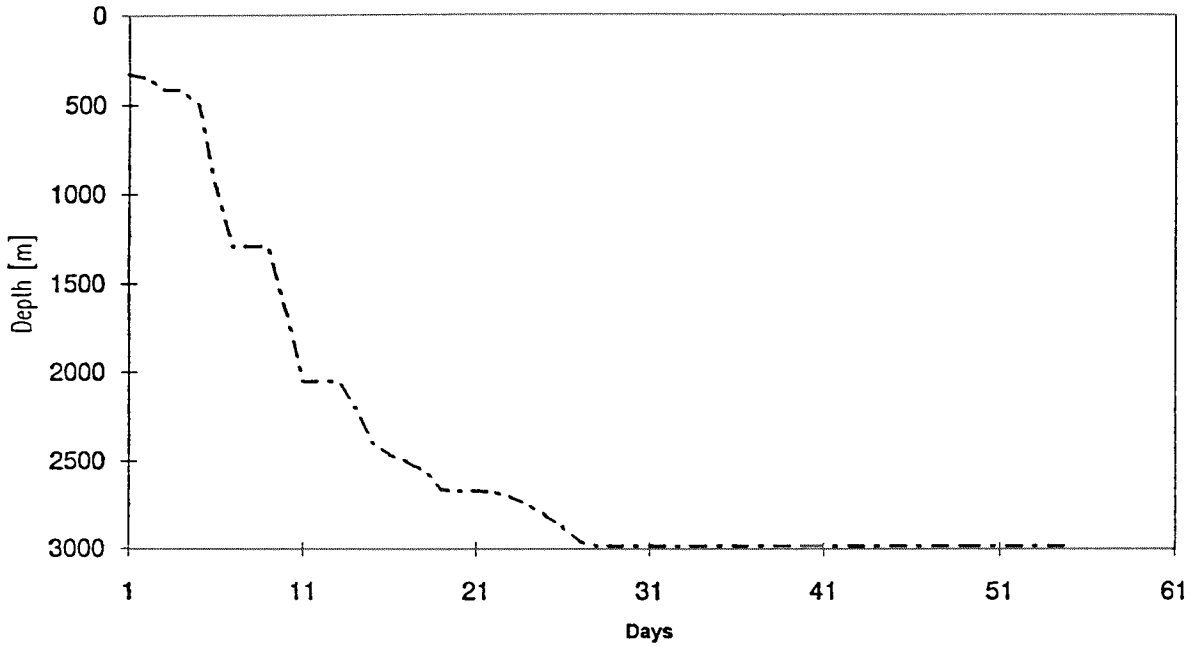
Sub operations	Minutes	Hrs	% of total
ANCHOR	1710	28,5	35,63
TRANSIT	3090	51,5	64,38
Total	4800	80,0	100,00

Main operation: PLUG & ABANDON

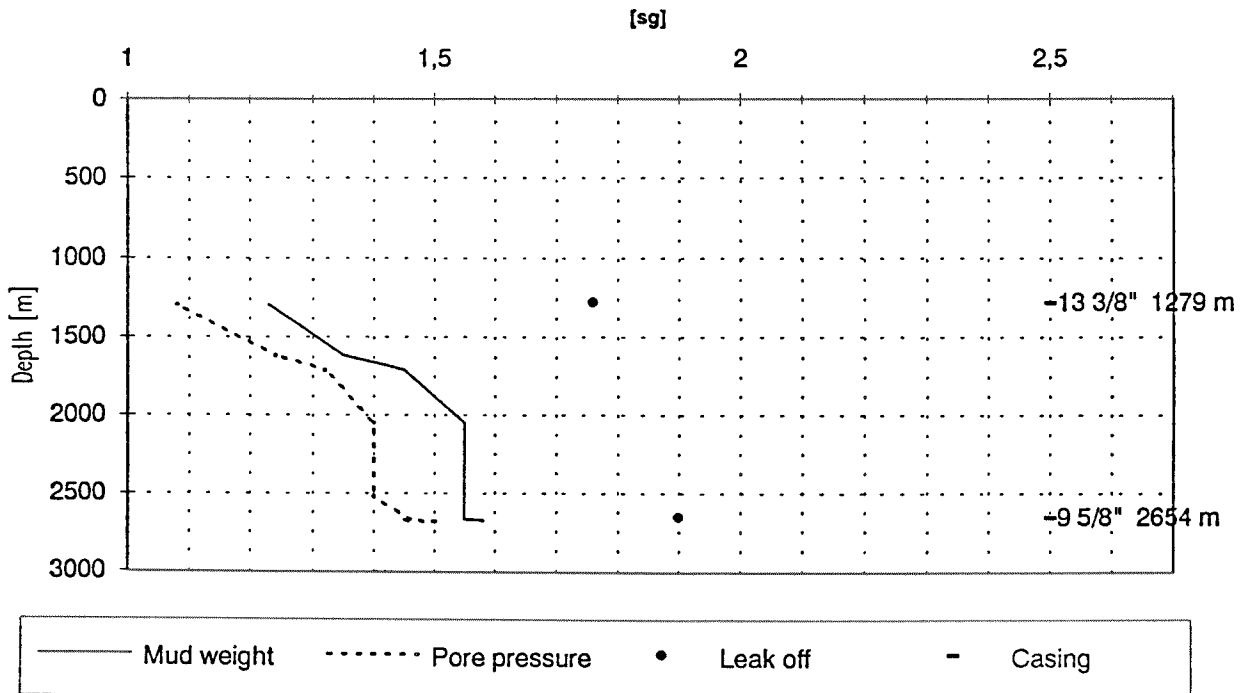
Sub operations	Minutes	Hrs	% of total
CEMENT PLUG	660	11,0	7,33
CIRC/COND	450	7,5	5,00
CUT	840	14,0	9,33
EQUIP RECOVERY	1980	33,0	22,00
MECHANICAL PLUG	690	11,5	7,67
PERFORATE	600	10,0	6,67
SQUEEZE	180	3,0	2,00
TRIP	3600	60,0	40,00
Total	9000	150,0	100,00

Total time used 1368 hrs (57 days)

Depth v.s. time plot for well: 003309 14



Composite plot for well: 003309 14



Well History 33/9-14

GENERAL:

- Well 33/9-14 was drilled in the Statfjord North Field. The primary objectives of the well were:
- To verify the lateral and vertical distribution of sand within a thick Volgian sequence.
 - To prove oil below 2690 m MSL (deepest oil in Volgian, well 33/9-8).
 - To obtain maximum reservoir information.
 - To test reservoir and production properties.
 - To improve velocity database for depth conversion.

OPERATIONS:

Appraisal well 33/9-14 was spudded 17 February 1988 by Odfjell Drilling semi-submersible rig Deepsea Bergen and completed 9 April 1988 at a depth of 2982 m in Early Jurassic rocks. Drilling proceeded without any significant problems. There were signs of shallow gas from 408-409 m, but the gas-bearing sands created no problems.

The reservoir came in as prognosed. 6 cores were cut in the Volgian reservoir unit and the Brent Group within the interval 2680 - 2897 m. The oil/water contact were taken from the logs to be at 2747 m. The reservoir properties were very good with porosities up to 30 %.

The well was plugged and abandoned as an oil discovery.

TESTING:

Two DST tests were performed in the well. DST 1 was in the interval 2745 - 2758 m and DST 2 was between 2718 - 2732 m.

GEOLOGICAL TOPS

WELL: 33/9-14

	Depth m (RKB)
<i>Nordland Group</i>	271.0
<i>Utsira Fm.</i>	947.0
<i>Hordaland Group</i>	1105.0
<i>Rogaland Group</i>	1659.0
<i>Balder Fm.</i>	1659.0
<i>Sele Fm.</i>	1735.0
<i>Lista Fm.</i>	1808.0
<i>Shetland Group</i>	1890.0
<i>Cromer Knoll Group</i>	2669.0
<i>Viking Group</i>	2674.0
<i>Draupne Fm.</i>	2674.0
<i>Heather Fm.</i>	2760.0
<i>Brent Group</i>	2777.5
<i>Ness Fm.</i>	2777.5
<i>Etive Fm.</i>	2792.0
<i>Rannoch Fm.</i>	2836.0
<i>Broom Fm.</i>	2946.5
<i>Dunlin Group</i>	2949.0
<i>Drake Fm.</i>	2949.0
<i>T.D.</i>	2982.0