

Well no : 34/07-07 Operator : SAGA

Coordinates : 61 26 54.53 N UTM coord. : 6813237
 02 05 55.69 E 451945

Licence no : 89 Permit no : 483

Rig : TREASURE SAGA Rig type : SEMI-SUB.

Contractor : WILHELMSSEN OFFSHORE SERVICES

Bottom hole temperature : deg.C Elev. KB : 26 M

Spud. date : 85.09.17 Water depth : 303 M

Compl. date : 85.12.16 Total depth : 3526 M

Spud. class : WILDCAT Form. at TD : TRIASSIC

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

Seisloca : G/E - 116 SP. 505

LICENSEES

3.920000 DEMINEX (NORGE) A/S
 0.980000 DET NORSKE OLJESELSKAP AS
 7.840000 ELF AQUITAINE NORGE A/S
 14.700000 ESSO NORGE A.S
 11.760000 NORSK HYDRO PRODUKSJON A.S
 9.800000 SAGA PETROLEUM A.S.
 51.000000 DEN NORSKE STATS OLJESELSKAP A.S

CASING AND LEAK-OFF TESTS

Type	Casing diam.	Depth below KB	Hole diam.	Hole depth below KB	Lot mud eqv. g/cm ³
CONDUCTOR	30	450.0	36	455.0	
SURF.COND.	20	969.0	26	995.0	1.50
INTERM.	13 3/8	1862.0	17 1/2	1878.0	1.90
INTERM.	9 5/8	2750.0	12 1/4	2765.0	1.85
OPEN HOLE			8 1/2	3526.0	

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	2562.0 - 2568.0	6.0	100.0	LOWER JURASSIC
2	2569.0 - 2574.8	5.8	100.0	LOWER JURASSIC
3	2585.0 - 2593.5	8.5	100.0	LOWER JURASSIC
4	2593.5 - 2613.7	20.2	98.5	LOWER JURASSIC
5	2614.0 - 2623.3	9.3	100.0	LOWER JURASSIC
6	2624.0 - 2635.5	11.3	98.3	LOWER JURASSIC
7	2635.5 - 2655.5	20.0	98.0	JURASSIC/TRIASSIC
8	2656.0 - 2667.7	11.7	100.0	UPPER TRIASSIC
9	2877.0 - 2886.4	9.4	100.0	UPPER TRIASSIC
10	2886.4 - 2895.8	9.3	98.9	UPPER TRIASSIC
11	2895.8 - 2905.0	9.2	100.0	UPPER TRIASSIC
12	2905.0 - 2913.8	8.5	96.6	UPPER TRIASSIC
13	2913.8 - 2923.1	9.3	100.0	UPPER TRIASSIC
14	2923.1 - 2932.4	9.2	98.9	UPPER TRIASSIC
15	2932.4 - 2941.7	9.2	98.9	UPPER TRIASSIC
16	2941.7 - 2951.1	9.1	96.8	UPPER TRIASSIC
17	2951.1 - 2963.8	12.7	100.0	UPPER TRIASSIC
18	3320.0 - 3328.5	8.5	100.0	UPPER TRIASSIC
19	3329.0 - 3337.5	8.5	100.0	UPPER TRIASSIC

MUD PROPERTIES

Depth below KB meter	Mud weigh g/cm ³	Plastic viscosity mPa.s	Mud type
455.000	1.03		WATER BASED
896.000	1.11	8.0	WATER BASED
1000.000	1.10	14.0	WATER BASED
1448.000	1.25	15.0	WATER BASED
1858.000	1.42	17.0	WATER BASED
1878.000	1.45	15.0	WATER BASED
2022.000	1.53	22.0	WATER BASED
2345.000	1.68	26.0	WATER BASED
2564.000	1.60	20.0	WATER BASED
2611.000	1.68	24.0	WATER BASED
2750.000	1.60	18.0	WATER BASED
2765.000	1.68	24.0	WATER BASED
2905.000	1.60	19.0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no	interval meter	Choke size	Pressure (PSI)		
			WHP	BTHP	FFP
1.0	2561.500 - 2569.500	14.3	2001.5	4974.8	
2.0	2611.800 - 2614.800	71.8	203.0	2567.2	

RECOVERY

Test no.	Oil Sm ³ /d	Gas Sm ³ /d	Oil grav. g/cm ³	Gas grav. rel. air	GOR m ³ /m ³
1.0	1720				26
2.0	980		0.840	0.875	

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
Cutting	460 - 3525	720
Wet Samples		

SHALLOW GAS

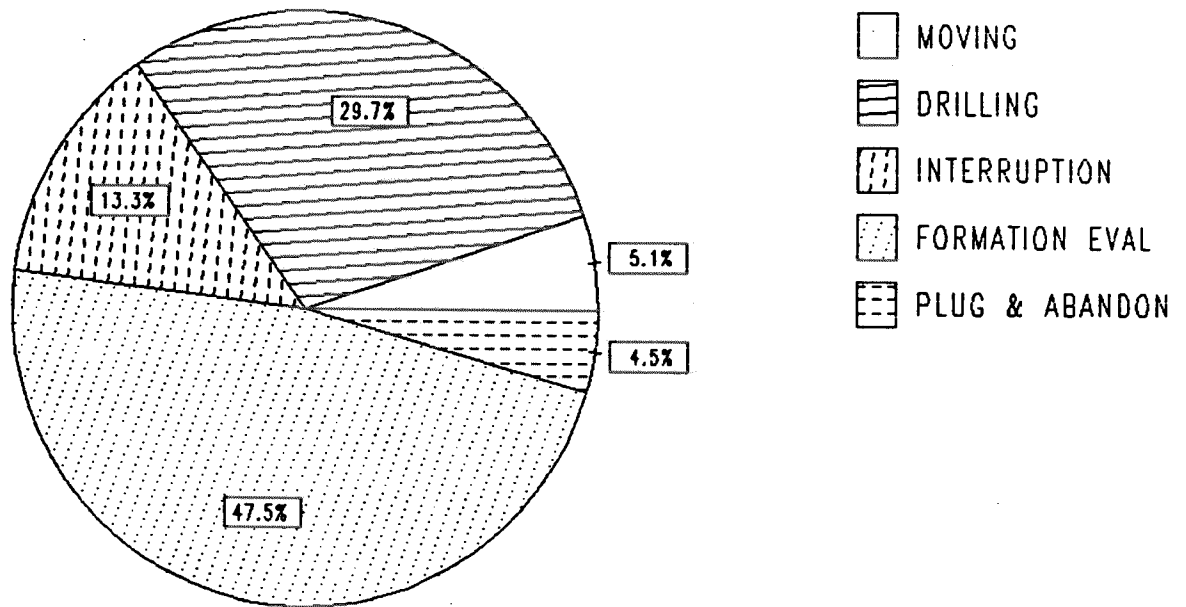
Interval below KB	REMARKS
	NONE

AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500
DIFL LS BHC AC CAL	450.000 - 991.000	X	X
DIFL LS BHC AC CAL	968.000 - 3525.000	X	X
CDL	450.000 - 1856.000	X	X
CDL CNL	1859.000 - 3521.000	X	X
CDM	1859.000 - 3525.000	X	
CDM AP	1859.000 - 3525.000	X	
FMT	2562.000 - 3426.000	X	X
CBL VDL	930.000 - 2749.000	X	X
SPECTRAOLG	2450.000 - 2765.000	X	X
ROP DXC NXB NXMW	325.000 - 3525.000	1:1000	
TEMPERATURE DATA	329.000 - 3526.000	1:5000	
WIRELIN DATA	329.000 - 3526.000	1:5000	
DRILLING DATA	329.000 - 3526.000	1:5000	
PRESSURE EVALUATION	329.000 - 3526.000	1:5000	
MUD	455.000 - 3526.000		X
VELOCITY	313.000 - 3526.000	1:1000	
(Geogram, synthetic seismogram, 10 cm/s		12 stk.)	
(VSP.Zero offset, watergun, plot 1-17		17 stk.)	
(VSP.Walkway, waterguns, 10 cm/s. plot 1-30,		30 stk.)	

DAILY DRILLING REPORT SYSTEM

Main operation : 34/07-07



Total : 2256 HRS

Main operation	Minutes	Hours	% of total
MOVING	6930	115.50	5.12
DRILLING	40170	669.50	29.68
INTERRUPTION	17940	299.00	13.25
FORMATION EVAL	64290	1071.50	47.50
PLUG & ABANDON	6030	100.50	4.45

MAIN OPERATIONS WELL : 34/07-07

MAIN OPERATION: DRILLING

Sub operations	Min	Hrs	% of total
TRIP	7260	121.00	18.07
SURVEY	240	4.00	0.60
DRILL	15870	264.50	39.51
CIRC/COND	1770	29.50	4.41
OTHER	1380	23.00	3.44
CASING	8580	143.00	21.36
BOP/WELLHEAD EQ	2640	44.00	6.57
PRESS DETECTION	90	1.50	0.22
HOLE OPEN	1260	21.00	3.14
REAM	300	5.00	0.75
BOP ACTIVITIES	780	13.00	1.94
TOTAL	40170	669.50	

MAIN OPERATION: MOVING

Sub operations	Min	Hrs	% of total
TRANSIT	5040	84.00	72.73
ANCHOR	1890	31.50	27.27
TOTAL	6930	115.50	

MAIN OPERATION: FORMATION EVAL

Sub operations	Min	Hrs	% of total
LOG	7680	128.00	11.95
TRIP	16950	282.50	26.36
CIRC/COND	3720	62.00	5.79
CORE	9300	155.00	14.47
OTHER	300	5.00	0.47
DST	24780	413.00	38.54
WAIT	1560	26.00	2.43
TOTAL	64290	1071.50	

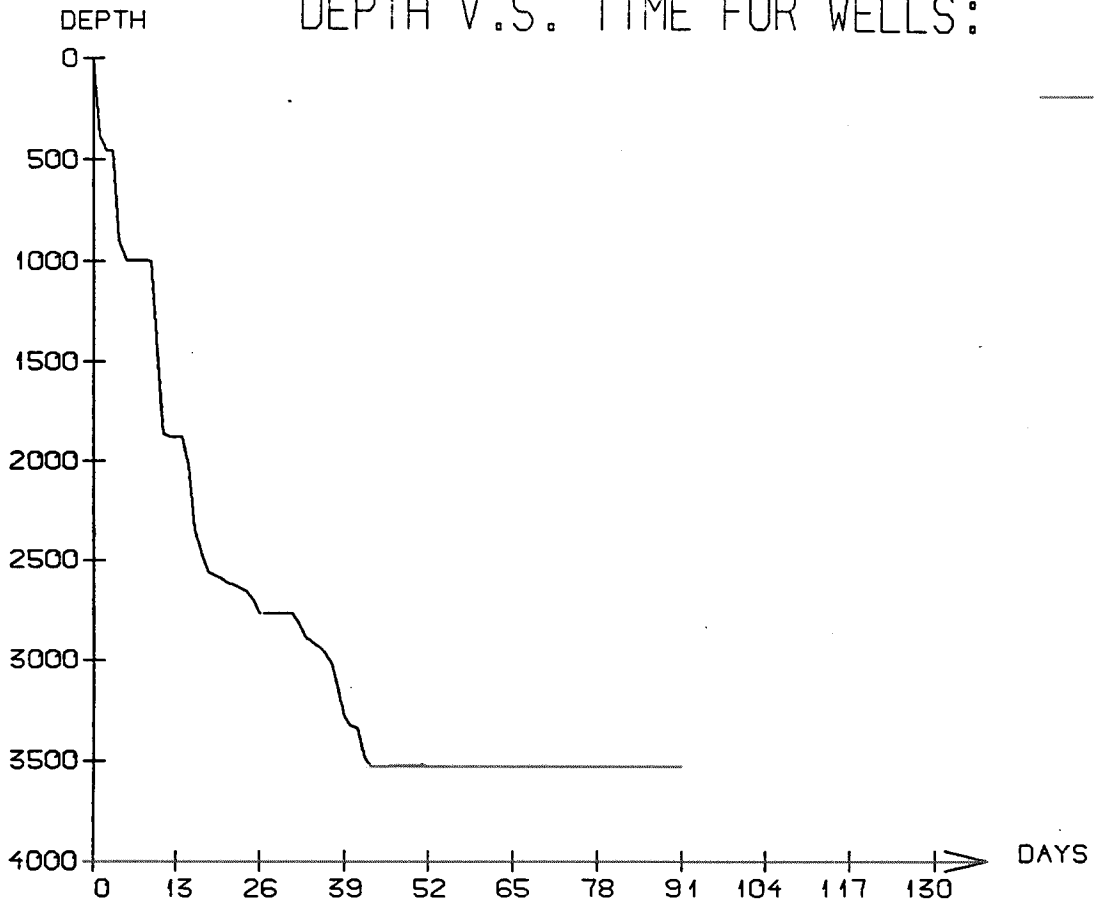
MAIN OPERATION: INTERRUPTION

Sub operations	Min	Hrs	% of total
MAINTAIN/REP	3690	61.50	20.57
FISH	6300	105.00	35.12
WAIT	7650	127.50	42.64
OTHER	300	5.00	1.67
TOTAL	17940	299.00	

MAIN OPERATION: PLUG & ABANDON

Sub operations	Min	Hrs	% of total
SQUEEZE	1080	18.00	17.91
TRIP	1800	30.00	29.85
PERFORATE	630	10.50	10.45
CUT	540	9.00	8.96
EQUIP RECOVERY	1410	23.50	23.38
OTHER	270	4.50	4.48
CIRC/COND	60	1.00	1.00
MECHANICAL PLUG	240	4.00	3.98
TOTAL	6030	100.50	

DEPTH V.S. TIME FOR WELLS:



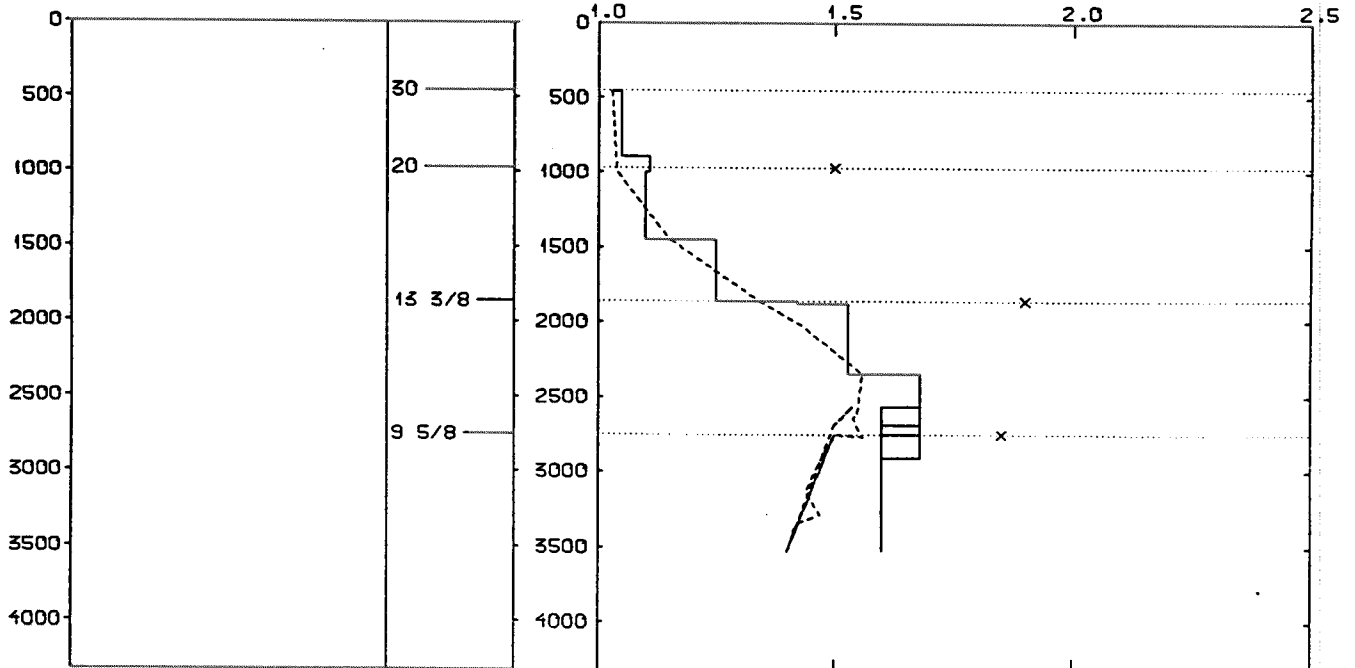
WELL: 003407 07 PRESSURE COMPOSITE PLOT

DEPTH
(RKB)
(METERS)

CASING

PRESSURE GRADIENTS
(g/ccm)

— MUDWEIGHT (REPORT)
 - - - PORE PRESSURE (REPORT)
 x LEAK-OFF (REPORT)



Well History 34/7-7

General:

Well 34/7-7 was designed to drill the Snorre structure located in the northern part of block 34/7. The well is located at the western fault block, west of the Inner Main Fault. Amplitude anomalies at 484 m RKB and 706 m RKB indicated shallow gas.

The main target for the well was to test reservoir quality in the Statfjord Formation and the oil/water contact in this formation. A secondary object was to penetrate the Upper Lunde Formation in order to obtain information on the reservoir subdivisions, sand distribution and continuity of this section.

Oil/water contact was assumed at 2611 m RKB, and the prognosed depth was 3600 m.

Operations:

Appraisal well 34/7-7 was spudded 17 September 1985 by Wilh. Wilhelmsen's Offshore Services semi submersibel rig Treasure Saga, and completed 16 Desember 1985 at a depth of 3526 m in Upper Triassic shales in the Middle Lunde Formation.

Shallow gas was not encountered during drilling. Top reservoir came in 18 m above the prognosis, and the oil/water contact came in at 2615 m RKB. A total of 19 cores were cut in the interval 2563- 3336.7 m RKB with an average recovery of 94.1%

A few oriented cores were cut in the Lunde Formation in order to check the transport direction of the sediments.

Testing:

Two DST tests were performed in the interval between 2561.5-to 2569.5 m RKB and 2611.8- to 2614.8 m RKB respectively.

GEOLOGICAL TOPS

WELL: 34/07-07

	Depth m (RKB)
<i>Nordland Group</i>	328,0
<i>Utsira Fm</i>	1014,0
<i>Hordaland Group</i>	1147,0
<i>Rogaland Group</i>	1678,0
<i>Sele/Lista Fm</i>	1693,0
<i>Shetland Group</i>	1837,0
<i>Cromer Knoll Group</i>	2445,0
<i>Dunlin Group</i>	2455,0
<i>Amundsen Fm</i>	2455,0
<i>Statfjord Fm</i>	2561,0
<i>Hegre Group</i>	2644,0
<i>Lunde Fm</i>	2644,0
<i>M-Lunde Fm</i>	3469,0
<i>TD=</i>	3526,0