

Well no : 34/04-07 Operator : SAGA

Coordinates : 61 31 09.83 N UTM coord. : 6821032 N
 02 15 15.45 E 460326 E

Licence no : 57 Permit no : 535

Rig : TREASURE SAGA Rig type : SEMI-SUB.

Contractor : WILHELMSSEN OFFSHORE SERVICES

Bottom hole temperature : 0 deg.C Elev. KB : 26 M

Spud. date : 87.02.17 Water depth : 354 M

Compl. date : 87.05.12 Total depth : 2950 M

Spud. class : APPRAISAL Form. at TD : TRIASSIC

Compl. class : SUSPENDED. OIL DISC. Prod. form : TRIASSIC

Seisloca : SG 8420 - 084 SP. 595

LICENSEES

5.000000 AMERADA HESS NORGE A/S
 10.000000 AMOCO NORWAY OIL COMPANY
 15.000000 DEMINEX (NORGE) A/S
 15.000000 SAGA PETROLEUM A.S.
 50.000000 DEN NORSKE STATS OLJESELSKAP A.S
 5.000000 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	465.0	36	470.0	1.16
SURF.COND.	20	902.0	26	915.0	1.59
INTERM.	13 3/8	1872.0	17 1/2	2145.0	1.83
INTERM.	9 5/8	2921.0	12 1/4	2950.0	.

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	2506.0 - 2511.0	5.0	100.0	
2	2512.0 - 2531.2	19.2	100.0	
3	2536.0 - 2563.5	27.5	100.0	
4	2563.5 - 2591.3	27.8	100.0	
5	2591.3 - 2603.0	11.7	100.0	
6	2619.3 - 2647.0	27.7	100.0	
7	2647.0 - 2656.5	9.5	100.0	
8	2656.5 - 2675.0	18.5	100.0	
9	2675.0 - 2693.0	18.0	100.0	
10	2693.0 - 2711.5	18.5	100.0	

MUD PROPERTIES

Depth below KB meter	Mud weight g/cm3	Viscosity	Mud type
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470.000	1.06	0.0	WATER BASED
680.000	1.12	4.0	WATER BASED
915.000	1.14	7.0	WATER BASED
915.000	1.16	6.0	WATER BASED
915.000	1.03	0.0	WATER BASED
1113.000	1.16	20.0	WATER BASED
1480.000	1.20	20.0	WATER BASED
1644.000	1.30	25.0	WATER BASED
1887.000	1.47	24.0	WATER BASED
2145.000	1.58	23.0	WATER BASED
2298.000	1.68	26.0	WATER BASED
2869.000	1.70	12.0	WATER BASED
2869.000	1.03	0.0	WATER BASED
2950.000	1.70	22.0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no	interval meter	Choke size	Pressure (PSI)		
			WHP	BTHP	FFP
1.0	2579.000 - 2596.000	7.9	1827.4	5642.9	4899.1
	Test temperature: 98.8 °C				
2.0	2506.000 - 2566.000	14.3	2335.0	5583.3	4920.9
	Test temperature: 96.5 °C				

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	190	19130	0.833	0.810	105
2.0	1378	0	0.835	0.835	85

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
Cutting	480-2950	240
Wet Samples	480-2950	360

SHALLOW GAS

Interval below KB	REMARKS
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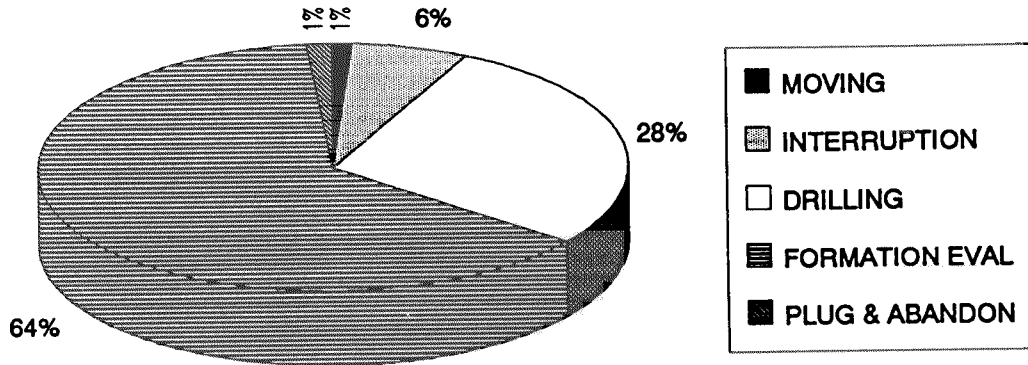
AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500	Div.
DIFL LS BHC AC GR	903.000 - 1882.000	X	X	
DIFL LS BHC AC GR	1872.200 - 2939.300	X	X	
CDL GR	903.000 - 1863.000	X	X	
CDL CNL GR	1872.000 - 2647.000	X	X	
CDL CNL GR	2472.000 - 2940.300	X	X	

DLL MLL GR	2450.000 - 2647.000	X	X
SHDT	1872.000 - 2941.000	X	
CDM AP/PRODIP	1872.200 - 2941.000	X	
CDM AP/SHDT 4-ARM	1872.200 - 2941.000	X	X
FMT	2509.000 - 2632.000		
FMT HP CRYSTAL GAUGE	2509.000 - 2632.000		
FMT	2509.000 - 2874.000		
AC CBL VDL GR	640.000 - 1872.200	X	
AC CBL VDL GR	2500.000 - 2600.000	X	
AC CBL VDL GR	2080.000 - 2854.000	X	
TEMPERATURE	380.000 - 2950.000		1:5000
WIRE LINE DATA	380.000 - 2950.000		1:5000
DRILLING DATA	380.000 - 2950.000		1:5000
MUD	380.000 - 2950.000		X
VELOCITY	903.000 - 2939.000		1:1000
(Airgun velocity survey and calibratet log			1 stk.)
(Display of velocity survey record, part 1-3			3 stk.)
(VSP,10cm/s.			8 stk.)
(Two-way travel time,10cm/s			1 stk.)
(Synthetic seismogram, marine, 10cm/s			5 stk.)

DAILY DRILLING REPORT SYSTEM

MAIN OPERATIONS FOR WELL: 34/04-07



Main operation	Minutes	Hrs	% of total
MOVING	1590	26,5	1,30
INTERRUPTION	7830	130,5	6,40
DRILLING	34410	573,5	28,11
FORMATION EVAL	77190	1286,5	63,06
PLUG & ABANDON	1380	23,0	1,13
Total	122400	2040,0	100,00

SUB OPERATIONS FOR WELL: 34/04-07

MAIN OPERATION: MOVING

Sub operation	Minutes	Hrs	% of total
ANCHOR	1590	26,5	100,00
Total	1590	26,5	100,00

MAIN OPERATION: INTERRUPTION

Sub operation	Minutes	Hrs	% of total
MAINTAIN/REP	3990	66,5	50,96
WAIT	2430	40,5	31,03
LOST CIRC	390	6,5	4,98
FISH	960	16,0	12,26
OTHER	60	1,0	0,77
Total	7830	130,5	100,00

MAIN OPERATION: DRILLING

Sub operation	Minutes	Hrs	% of total
BOP/WELLHEAD EQ	2370	39,5	6,89
TRIP	5400	90,0	15,69
DRILL	11910	198,5	34,61
SURVEY	150	2,5	0,44
CIRC/COND	2310	38,5	6,71
CASING	6930	115,5	20,14
BOP ACTIVITIES	2910	48,5	8,46
PRESS DETECTION	210	3,5	0,61
REAM	570	9,5	1,66
UNDERREAM	1500	25,0	4,36
OTHER	150	2,5	0,44
Total	34410	573,5	100,00

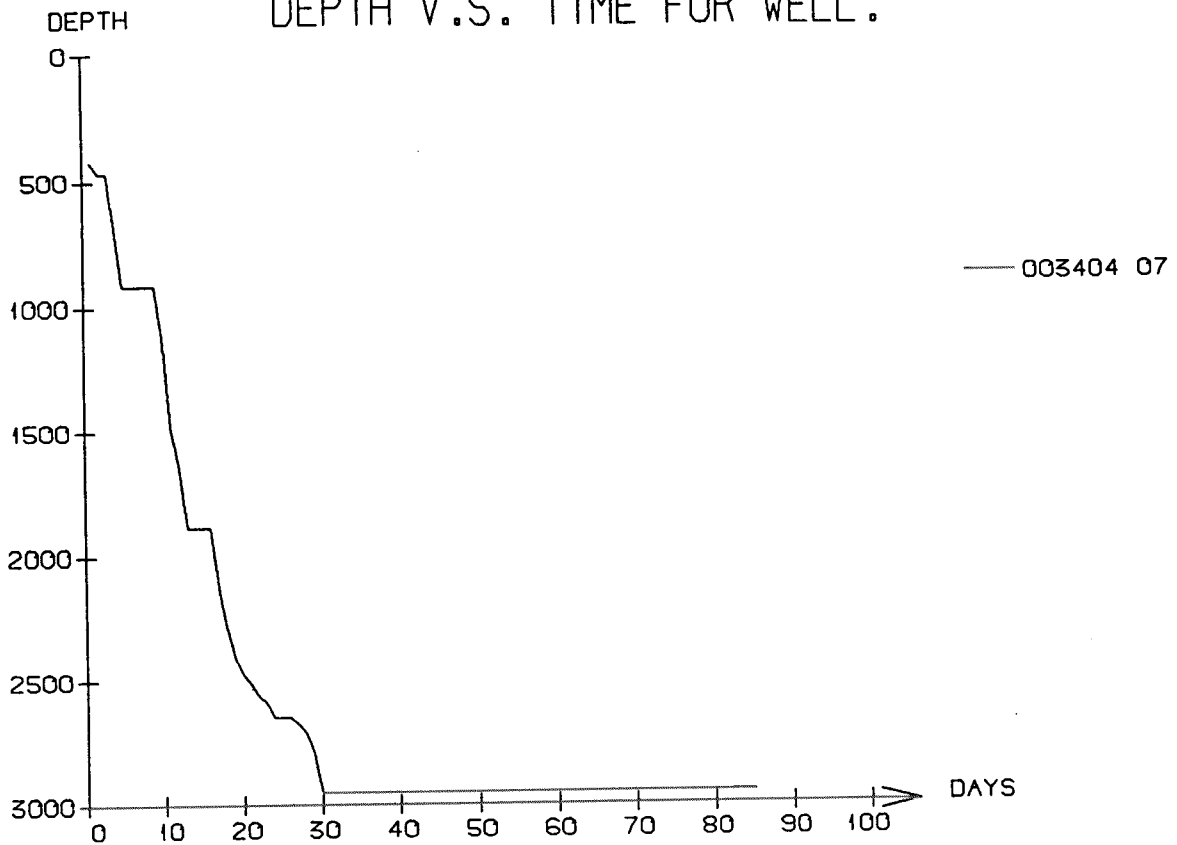
MAIN OPERATION: FORMATION EVAL

Sub operation	Minutes	Hrs	% of total
LOG	4080	68,0	5,2856588
CIRC SAMPLES	150	2,5	0,1943257
TRIP	15930	265,5	20,637388
CORE	3300	55,0	4,2751652
CIRC/COND	4290	71,5	5,5577147
RFT/FIT	1860	31,0	2,4096386
OTHER	390	6,5	0,5052468
DST	14490	241,5	18,771862
PROD TEST	32700	545,0	42,363
Total	77190	1286,5	100

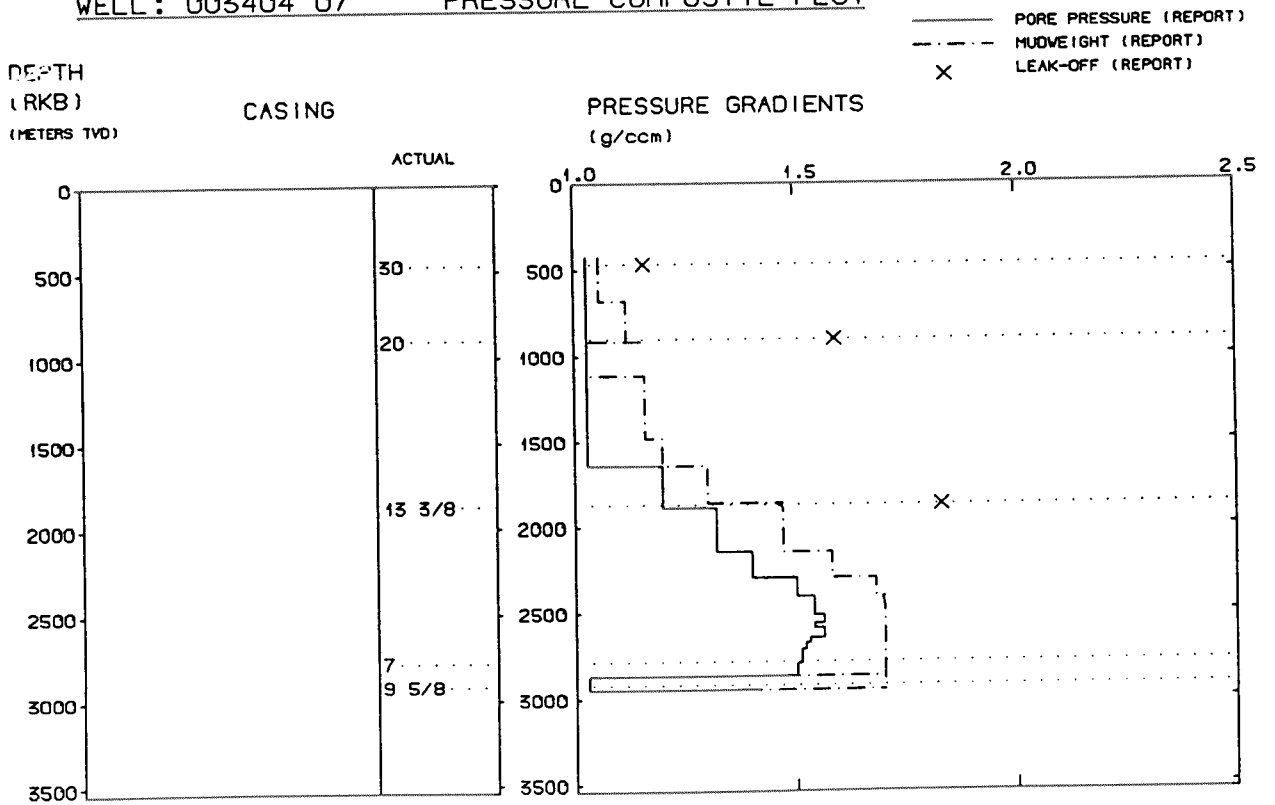
MAIN OPERATION: PLUG & ABANDON

Sub operation	Minutes	Hrs	% of total
TRIP	630	10,5	45,65
MECHANICAL PLUG	300	5,0	21,74
CIRC/COND	150	2,5	10,87
OTHER	300	5,0	21,74
Total	1380	23,0	100,00

DEPTH V.S. TIME FOR WELL :



WELL: 003404 07 PRESSURE COMPOSITE PLOT



Well History 34/4-7

GENERAL:

Well 34/4-7 was drilled in the south-eastern part of the block towards the north-eastern margin of the Snorre Field. The Late Triassic - Early Jurassic reservoirs of the Snorre Field are made up of a complete series of rotated fault blocks dipping between 5 and 12 degrees in generally to the west and northwest. The structure is divided into elongated fault blocks by major NNE-SSW trending faults.

The primary purpose of the well was to assess the upper part of the Lunde Formation. The well was located to provide data on the reservoir quality of both oil and water bearing parts of upper Lunde, and to investigate potential changes in porosity and permeability across the oil/water contact. Further objectives were to verify a revised velocity model for the 34/4 part of the Snorre Field and reduce structural uncertainty.

OPERATIONS:

Appraisal well 34/4-7 was spudded 17 February 1987 by Wilh. Wilhelmsen semi-submersible rig Treasure Saga and completed 12 May 1987 at a depth of 2950 m in Triassic rocks. Drilling proceeded without significant problems.

The top of the reservoir came in 35 m deeper than expected. The reservoir was as expected. 10 cores were cut in the interval 2506 - 2711.5 m. The oil/water contact is at 2586 m.

The well was suspended as an oil discovery.

TESTING:

2 DST tests were performed in this well. DST 1 was in the interval 2579 - 2596 m and DST 2 was between 2506 - 2566 m.

GEOLOGICAL TOPS

WELL: 34/4-7

	Depth m (RKB)
<i>Nordland Group</i>	380.0
<i>Utsira Fm.</i>	1062.0
<i>Hordaland Group</i>	1193.0
<i>Rogaland Group</i>	1700.0
<i>Balder Fm.</i>	1700.0
<i>Sele Fm.</i>	1733.0
<i>Lista Fm.</i>	1792.0
<i>Shetland Group</i>	1824.0
<i>Jorsalfare Fm.</i>	1824.0
<i>Kyrre Fm.</i>	2041.0
<i>Tryggvason Fm.</i>	2207.0
<i>Svarte Fm.</i>	2394.0
<i>Cromer Knoll Group</i>	2492.0
<i>Mime Fm.</i>	2492.0
<i>Hegre Group</i>	2502.0
<i>Lunde Fm.</i>	2502.0
<i>T.D.</i>	2950.0