

Well no : 34/ 4-05

Operator : SAGA

Coordinates	: 61 41 09.49 N 02 17 52.00 E	UTM coord.	: 6839561 N
		UTM zone 31	: 462840 E
Licence no	: 057	Permit no	: 395
Rig	: TREASURE SAGA	Rig type	: SEMI-SUB.
Contractor	: WILHELMSSEN OFFSHORE SERVICES		
Bottom hole temperature	: 122 deg.C	Elev. KB	: 26 M
Spud date	: 83.11.13	Water depth	: 378 M
Compl. date	: 84.04.06	Total depth	: 3917 M
Spud class.	: WILDCAT	Age at TD	: TRIASSIC
Compl. class.	: P&A. OIL DISCOVERY		
Seis. loc.	: SG 8320 - 442 SP 188		

LICENSEES

5.000	AMERADA HESS NORGE A/S
10.000	AMOCO NORWAY OIL COMPANY
15.000	DEMINEX (NORGE) A/S
15.000	SAGA PETROLEUM A.S.
50.000	DEN NORSKE STATS OLJESELSKAP A.S
5.000	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/cm ³
CONDUCTOR	30	504.0	36	514.0	
SURF.COND.	20	1102.0	26	1103.0	1.55
INTERM.	13 3/8	2011.0	17 1/2	2020.0	1.89
INTERM.	9 5/8	3187.0	12 1/4	3200.0	2.15
LINER	7	3757.0	8 1/2	3916.0	

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
CUTTINGS	520 - 3913	720
WET SAMPLES	510 - 3868	1040

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	3423.0 - 3438.5	14.7	94.8	LOWER JURASSIC
2	3473.0 - 3483.0	8.6	86.0	LOWER JURASSIC
3	3483.0 - 3496.0	12.9	99.2	LOWER JURASSIC
4	3496.0 - 3508.0	11.5	95.8	LOWER JURASSIC
5	3508.0 - 3518.0	10.0	100.0	LOWER JURASSIC
6	3518.0 - 3527.0	8.7	96.7	LOWER JURASSIC
7	3527.0 - 3538.0	9.7	88.2	LOWER JURASSIC
8	3564.0 - 3571.0	5.5	78.6	LOWER JURASSIC
9	3571.0 - 3580.0	9.0	100.0	LOWER JURASSIC
10	3580.0 - 3589.0	8.5	94.4	LOWER JURASSIC
11	3589.0 - 3595.0	5.8	96.7	LOWER JURASSIC
12	3595.0 - 3606.0	9.2	83.6	LOWER JURASSIC
13	3606.0 - 3610.0	4.0	100.0	LOWER JURASSIC
14	3610.0 - 3617.0	7.0	100.0	LOWER JURASSIC
15	3617.0 - 3621.0	4.0	100.0	LOWER JURASSIC
16	3621.0 - 3630.0	9.0	100.0	TRIASSIC
17	3630.0 - 3648.5	18.5	100.0	TRIASSIC

MUD PROPERTIES

Depth below KB meter	Mud weigh g/cm3	Plastic viscosity mPa.s	Mud type
525.0	1.04	6.0	WATER BASED
600.0	1.07	7.0	WATER BASED
700.0	1.08	10.0	WATER BASED
900.0	1.13	10.0	WATER BASED
1355.0	1.20	16.0	WATER BASED
1610.0	1.26	16.0	WATER BASED
1830.0	1.38	22.0	WATER BASED
2030.0	1.47	26.0	WATER BASED
2190.0	1.62	21.0	WATER BASED
2350.0	1.71	28.0	WATER BASED
2985.0	1.68	17.0	WATER BASED
3260.0	1.74	19.0	WATER BASED
3650.0	1.87	21.0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no.	Interval meter	Choke size	Pressure (PSI)		
			FSIP	BTHP	WHFP
1.0	3598.5 - 3589.0	3.2	9583.0	300.0	
2.0	3480.7 - 3462.7	4.0	9073.0	1985.0	

RECOVERY

Test no.	Oil Sm3/d	Gas M Sm3/d	Oil grav. g/cm3	Gas grav. rel. air	GOR m3/m3
1.0					
2.0	48		0.834		

SHALLOW GAS

INTERVAL
BELOW KB

REMARKS

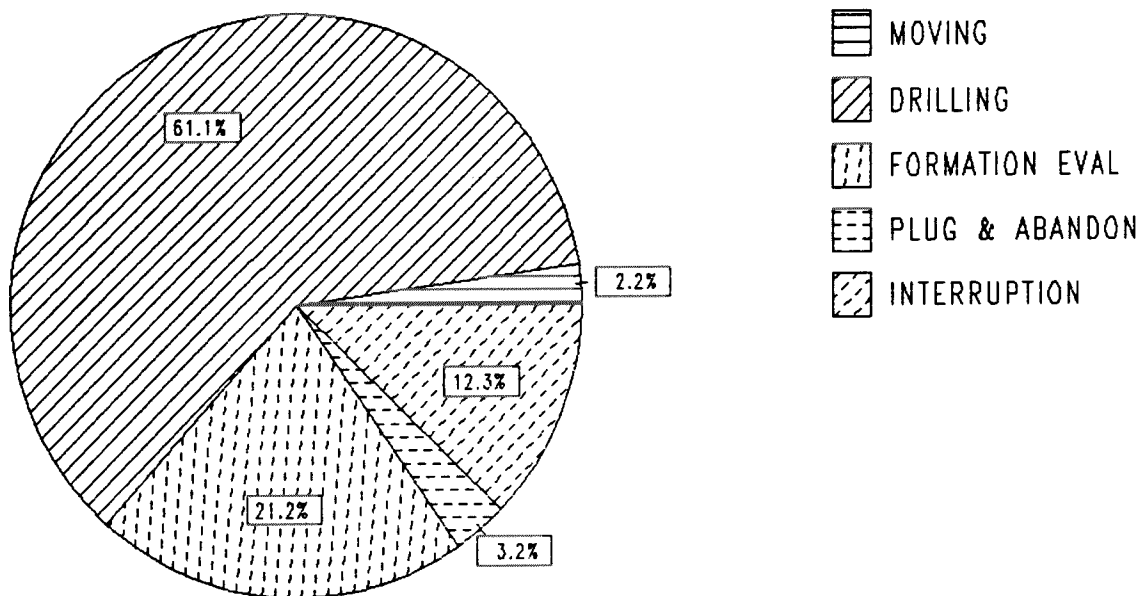
NONE

AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500
DIFL BHC GR AC	503 - 1113	X	X
DIFL BHC AC	1067 - 2023	X	X
DIFL BHC AC	2010 - 3198	X	X
DIFL BHC AC	3192 - 3770	X	X
DIFL BHC AC	3595 - 3916	X	X
CDL	1067 - 2022	X	X
CDL	2009 - 3197	X	X
CDL CNL	3192 - 3760	X	X
CDL CNL	3600 - 3915	X	X
DLL MLL	3247 - 3769	X	X
GR CCL	3410 - 3545	X	
CALIPER	503 - 762	X	
CDM	3405 - 3916	X	
CDM AP	3405 - 3916	X	
SHDT GR	3192 - 3768	X	
SHDT	3192 - 3767	X	X
STRATADIP	3405 - 3916	X	X
SPECTRALOG	3500 - 3762	X	X
RFT	3464 - 3597	1:100	
FMT	3240 - 3627		X
FMT	3470 - 3905		X
CBL VDL AC	1900 - 3192	X	
CBL VDL AC	3039 - 3672	X	
TEMPERATURE	550 - 1260		X
DRILL. DATA PRESSURE LOG	514 - 3916	1:5000	
PRESSURE EVALUATION LOG	514 - 3916	1:5000	
WIRELINE DATA PRESS. LOG	514 - 3916	1:5000	
TEMPERATURE DATA LOG	514 - 3916	1:5000	
MUD	514 - 3916		X
VELOCITY	505 - 3916	1:1000	X
(+ Wst Vsp, 510-3900 m,		1 stk)	
(+ Synthetic Seismogram, Geogram, 10 cm/s,		7 stk)	
(+ VSP, plot 1-14,		14 stk)	

DAILY DRILLING REPORT SYSTEM

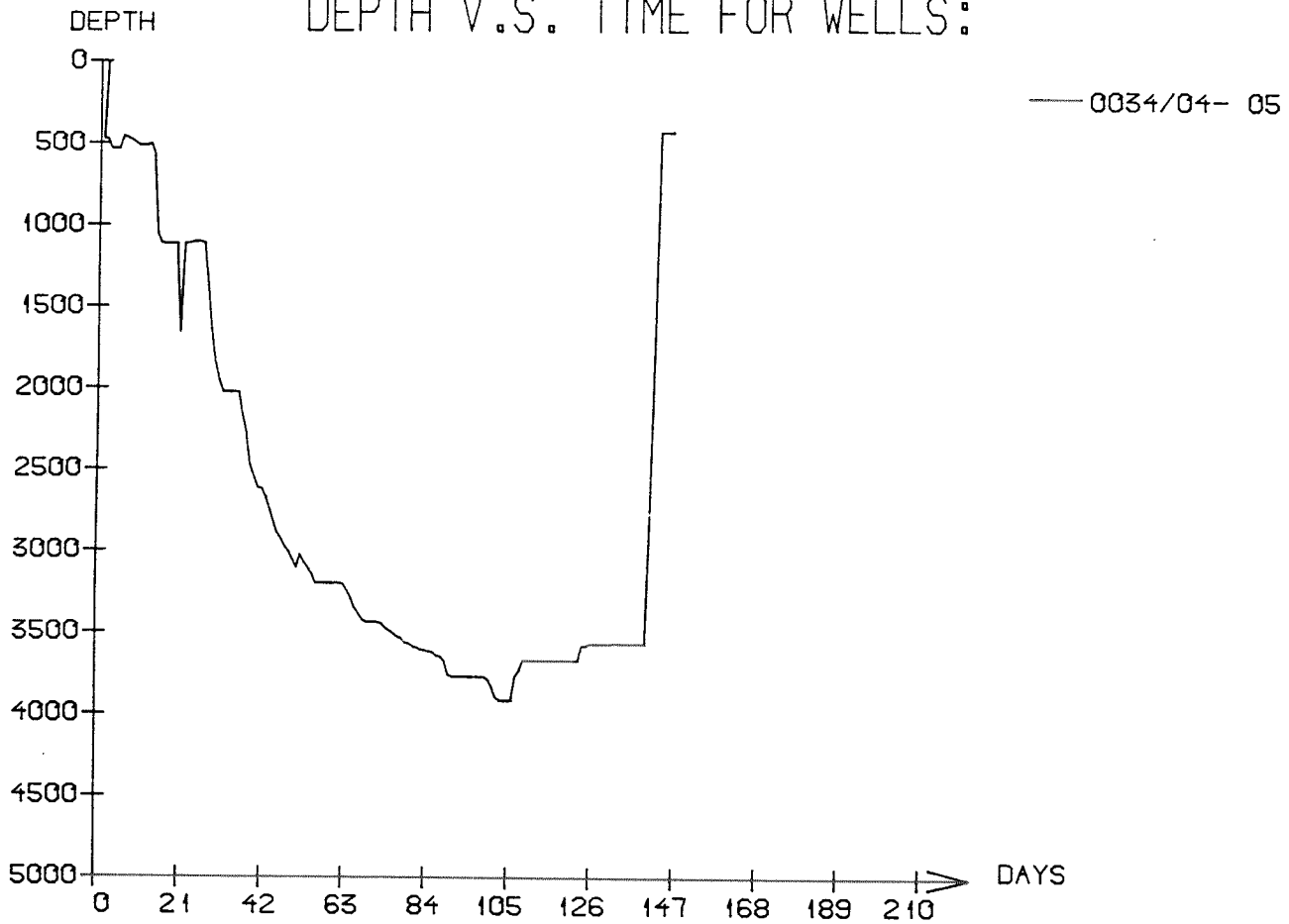
Main operation : 34/04-05



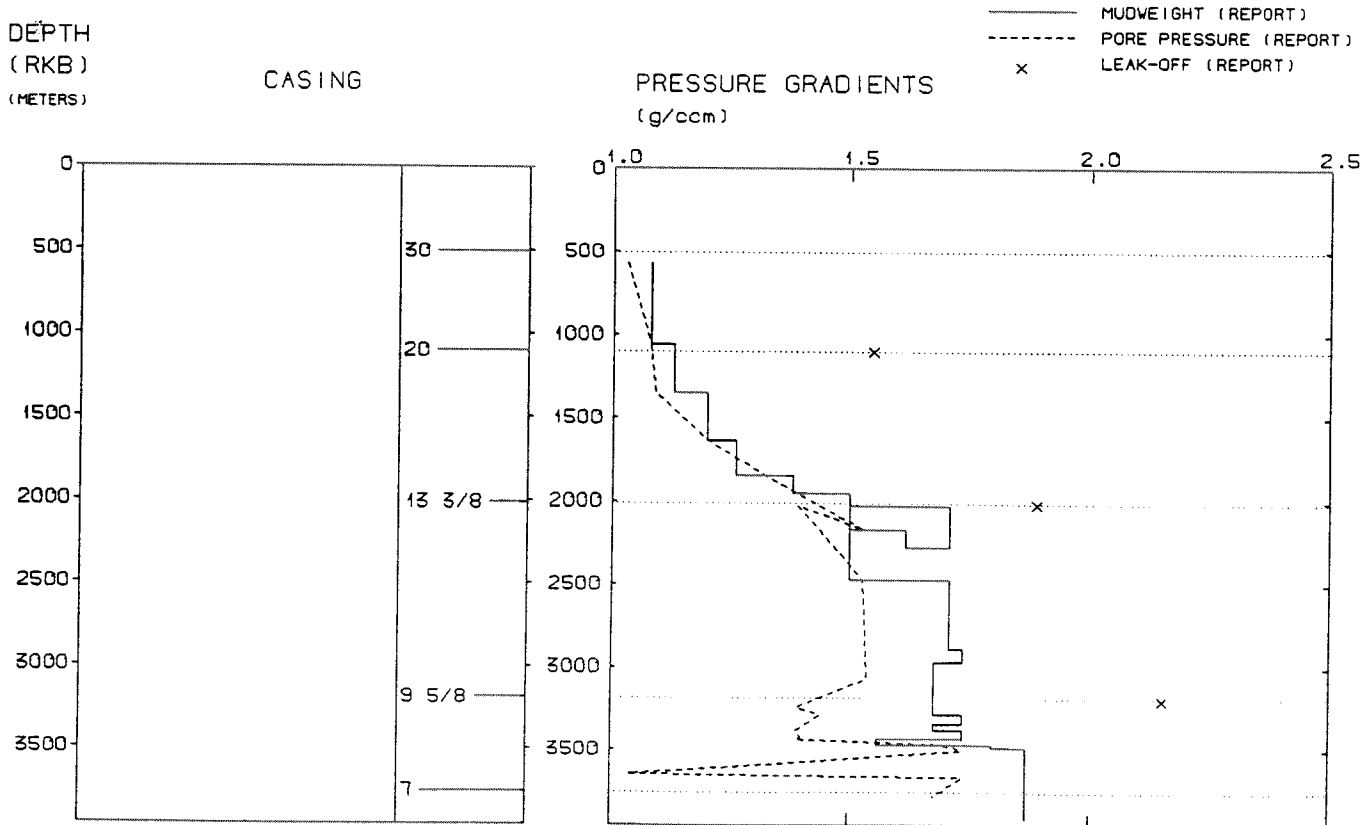
Total : 3505,50 HRS

Main operation	Hours	% of total
MOVING	78,00	2,23
DRILLING	2141,50	61,09
FORMATION EVAL	744,00	21,22
PLUG & ABANDON	111,00	3,17
INTERRUPTION	431,00	12,29

DEPTH V.S. TIME FOR WELLS:



WELL: 003404 05 PRESSURE COMPOSITE PLOT



WELL HISTORY - 34/4-5

GENERAL:

The main objective of the wildcat 34/4-5 was to test for hydrocarbons in a structure northeast in block 34/4 and to test the stratigraphy below the Base Cretaceous unconformity. The well encountered hydrocarbons in the Cook Formation and in the Statfjord Formation.

OPERATIONS:

The well was spudded 13.11.83 by the semi-submersible rig Treasure Saga. Fourteen cores were cut in the Lower Jurassic sequence. The well had to be re-spudded three times, first due to high deviation after drilling 447 m, second due to boulder sections around 467 m, third due to fish in the 469 m deep hole. At the fourth attempt tight hole problems were encountered between 470 - 480 m. When running the 17 1/2" bit in the 20" casing an obstruction was hit at 1080 m. A pressure test indicated a bad cement job or a fractured casing. A cement plug was set and a milling job was performed. Tight hole was experienced in the entire 17 1/2" hole section. Circulation was lost at 2020 m and it was decided to set casing. The well was flowing after displacing the cement, 140 bbls came in return, a packer was set and the flow stopped. A cement plug was set and squeezed around the 13 3/8" casing shoe due to a low leak off test. In the 12 1/4" hole section the deviation increased, at 3108 m it was 8 3/4°. The hole was plugged back to 3005 m before further drilling. Due to bad cement mixing when setting the 9 5/8" casing, the well flowed and a packer had to be set. At the third attempt a seal assembly was successfully set. A drilling break occurred at 3473 m, and a pitgain was observed. The mud was weighted up before further drilling. Another drill break occurred at 3564 m. At 3772 m it was decided to do a log run through the hydrocarbon bearing hole section. When running in hole to clean the well an accident caused the elevator to hit the rotary table and open. Nine joints of drill pipe and the bottom hole assembly was lost in the hole, and recovered. The well was drilled using water based mud.

TESTING:

Two tests were performed in the Jurassic sandstones. The test in the Statfjord Formation produced water with traces of oil. The test in the Cook Formation produced oil.

GEOLOGICAL TOPS

WELL: 34/ 4-05

Depth m (RKB)

<i>Nordland Group</i>	405.000
<i>Utsira Fm</i>	1240.000
<i>Hordaland Group</i>	1332.000
<i>Rogaland Group</i>	1805.000
<i>Balder Fm</i>	1805.000
<i>Lista/Sele Fm</i>	1837.500
<i>Shetland Group</i>	1925.000
<i>Cromer Knoll Group</i>	3234.500
<i>Viking Group</i>	3245.000
<i>Heather Fm</i>	3245.000
<i>Brent Group</i>	3266.000
<i>Dunlin Group</i>	3319.500
<i>Drake Fm</i>	3319.500
<i>Cook Fm</i>	3416.000
<i>Amundsen Fm</i>	3520.000
 <i>Statfjord Fm</i>	3558.500
<i>Hegre Group</i>	3599.000
<i>Lunde Fm</i>	3599.000
 TD =	3917.000