

Well no : 31/ 4-07

Operator : HYDRO

Coordinates	: 60 34 08.21 N 03 01 5.82 E	UTM coord.	: 6714934 N
		UTM zone 31	: 501002 E
Licence no	: 055	Permit no	: 425
Rig	: VILDKAT	Rig type	: SEMI-SUB.
Contractor	: DITLEV-SIMONSEN (SDS DRILLING)		
Bottom hole temperature	: 73 deg.C	Elev. KB	: 24 M
Spud date	: 84.07.26	Water depth	: 139 M
Compl. date	: 84.09.11	Total depth	: 2505 M
Spud class.	: WILDCAT	Age at TD	: JURASSIC
Compl. class.	: P&A. OIL/GAS DISC.		
Seis. loc.	: 954 - 447 SP. 600		

LICENSEES

10.000	ARCO NORGE A/S
5.000	BP PETR. DEV. OF NORWAY A/S
20.000	ESSO NORGE A/S
15.000	NORSK HYDRO PRODUKSJON A.S
50.000	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	247.0	36	248.0	
SURF.COND.	20	984.0	26	1000.0	1.80
INTERM.	13 3/8	1801.0	17 1/2	1816.0	1.82
INTERM.	9 5/8	2499.0	12 1/4	2505.0	

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	2045.0 - 2064.0	19.0	99.0	MIDDLE JURASSIC
2	2064.0 - 2083.0	19.0	99.0	MIDDLE JURASSIC
3	2083.0 - 2111.0	28.0	99.0	MIDDLE JURASSIC
4	2111.0 - 2139.0	28.0	99.0	LOWER JURASSIC
5	2139.0 - 2150.5	11.5	99.0	LOWER JURASSIC

MUD PROPERTIES

Depth below KB meter	Mud weight g/cm ³	Plastic viscosity mPa.s	Mud type
205.0	1.18		WATER BASED
247.0	1.20	28.0	WATER BASED
1000.0	1.04	40.0	WATER BASED
1124.0	1.15	15.0	WATER BASED
1367.0	1.24	16.0	WATER BASED
1671.0	1.36	18.0	WATER BASED
1816.0	1.40	18.0	WATER BASED
2045.0	1.30	11.0	WATER BASED
2096.0	1.29	12.0	WATER BASED
2139.0	1.30		WATER BASED
2241.0	1.31	24.0	WATER BASED
2490.0	1.32	26.0	WATER BASED
2505.0	1.33	24.0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no.	Interval meter	Choke size	Pressure (PSI)		
			WHP	BTHP	FFP
1.0	2398.0 - 2390.0	15.9	725.0		
2.0	2039.5 - 2028.5	12.7	175.0		

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	684	25000	0.830	0.775	37
2.0		26900		0.770	

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
CUTTINGS	250 - 2502	320
WET SAMPLES	250 - 2502	360

SHALLOW GAS

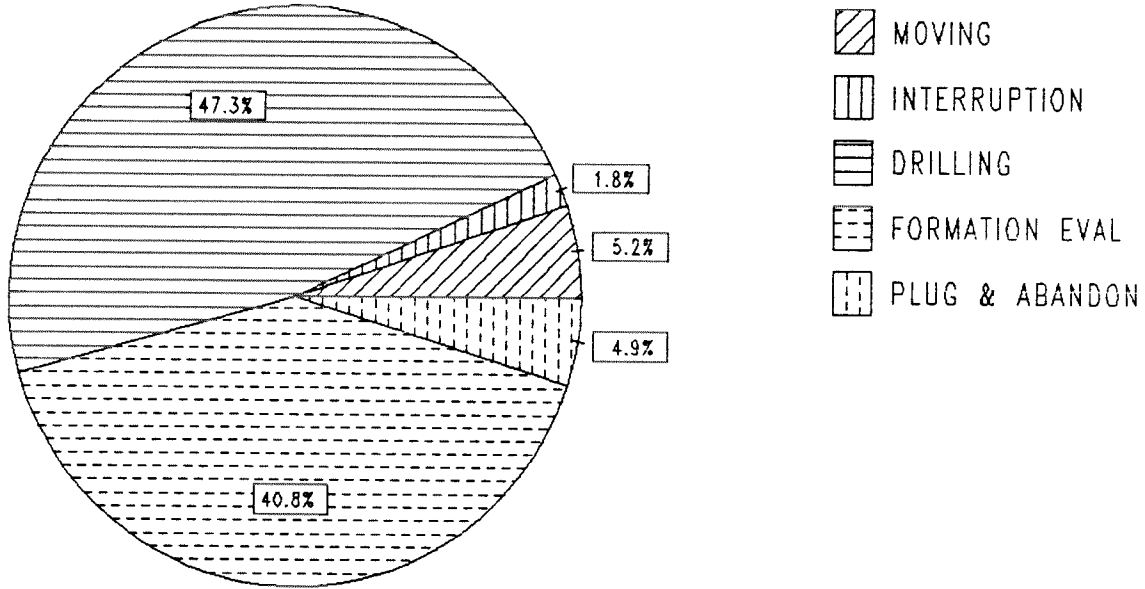
INTERVAL BELOW KB	REMARKS
330 M	POSSIBLE SHALLOW GAS
696 M	POSSIBLE SHALLOW GAS

AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500
ISF DDBHC GR	247 - 995	X	
ISF LSS	983 - 1793	X	
ISF LSS MSFL	1799 - 2147	X	
ISF LSS	2147 - 2504	X	
ISF LSS	247 - 2504		X
LDL	983 - 1794	X	
LDL CNL NGT	1799 - 2148	X	
LDL CNL	2120 - 2505	X	
LDL CNL	247 - 2504	1:1000	X
DLL MSFL	1799 - 2143	X	X
DLL MSFL	2300 - 2501	X	X
DT BHC WAVEFORM	2000 - 2080	X	
CDM AP	1925 - 2498	X	X
SHDT	1925 - 2505	X	
NGL RATIOS	1799 - 2148	X	X
NGL SPECTRUM	1799 - 2148	X	X
RFT PRESSURE DATA	2030 - 2120		1:100
RFT PRESSURE DATA	2030 - 2491		1:100
CBL VDL	500 - 1800	X	
MUD	248 - 2505		X
VELOCITY	247 - 2504		X
(+ V.S.P.,	600 - 2505		1 stk)
(+ Synthetic Seismogram, Geogram, 10 cm/s,			6 stk)
(+ V.S.P., vertical incidence vsp, plot 1-14,			15 stk)

DAILY DRILLING REPORT SYSTEM

Main operation : 31/04-07



Total : 1199.00 HRS

Main operation	Minutes	Hours	% of total
MOVING	3750	62.50	5.2
INTERRUPTION	1320	22.00	1.8
DRILLING	34050	567.50	47.2
FORMATION EVAL	29369	489.48	40.7
PLUG & ABANDON	3510	58.50	4.8

MAIN OPERATION: MOVING

Sub operations	Min	% of total
TRANSIT	1245	33.20
ANCHOR	2475	66.00
POSITION	30	0.80
TOTAL	3750	100.00

MAIN OPERATION: INTERRUPTION

Sub operations	Min	% of total
MAINTAIN/REP	1200	90.91
OTHER	120	9.09
TOTAL	1320	100.00

MAIN OPERATION: DRILLING

Sub operations	Min	% of total
CASING	6990	20.53
DRILL	8760	25.73
TRIP	5550	16.30
CIRC/COND	3255	9.56
BOP/WELLHEAD EQ	4560	13.39
REAM	2100	6.17
UNDERREAM	360	1.06
PRESS DETECTION	60	0.18
BOP ACTIVITIES	1020	3.00
SURVEY	1395	4.10
TOTAL	34050	100.00

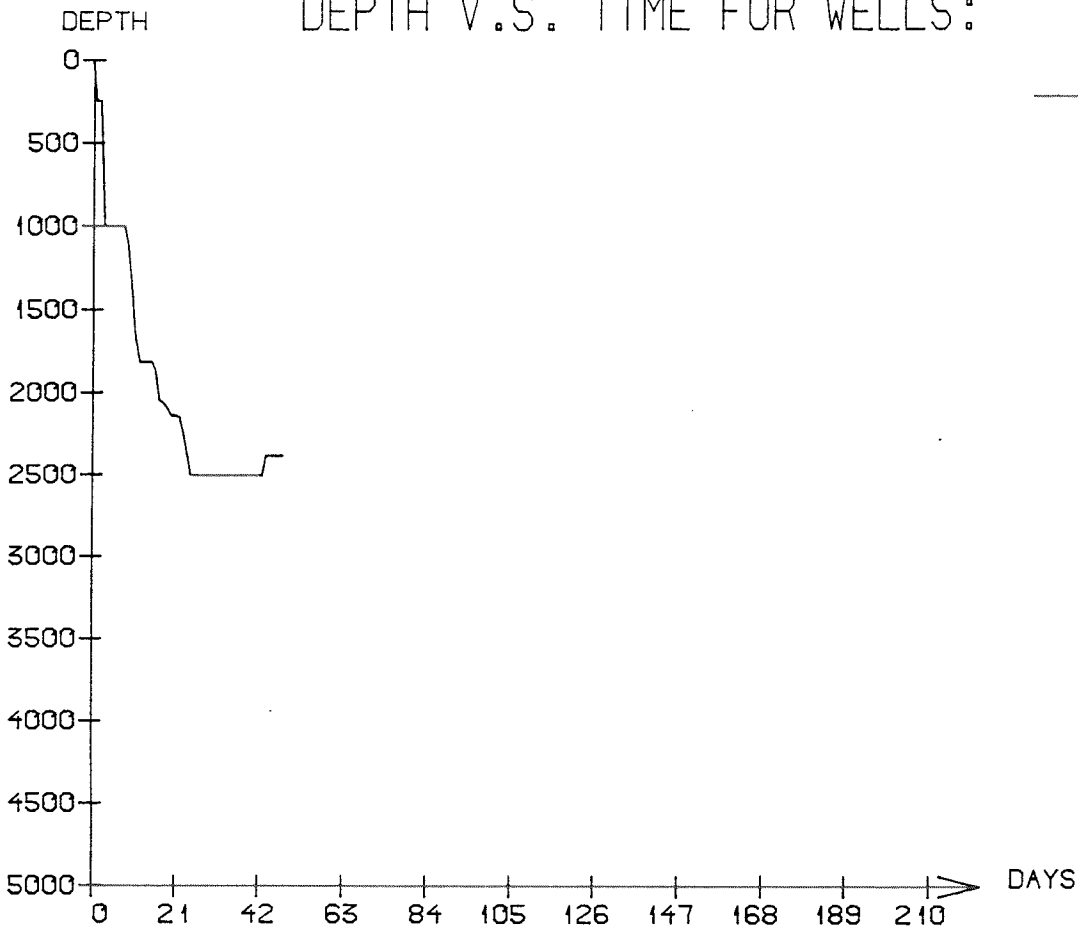
MAIN OPERATION: FORMATION EVAL

Sub operations	Min	% of total
LOG	5699	19.40
CORE	3240	11.03
TRIP	4050	13.79
CIRC/COND	390	1.33
CIRC SAMPLES	90	0.31
DST	11010	37.49
PROD TEST	4020	13.69
OTHER	870	2.96
TOTAL	29369	100.00

MAIN OPERATION: PLUG & ABANDON

Sub operations	Min	% of total
PERFORATE	240	6.84
CUT	630	17.95
EQUIP RECOVERY	1470	41.88
TRIP	540	15.38
CIRC/COND	30	0.85
OTHER	30	0.85
SQUEEZE	300	8.55
CEMENT PLUG	270	7.69
TOTAL	3510	100.00

DEPTH V.S. TIME FOR WELLS:



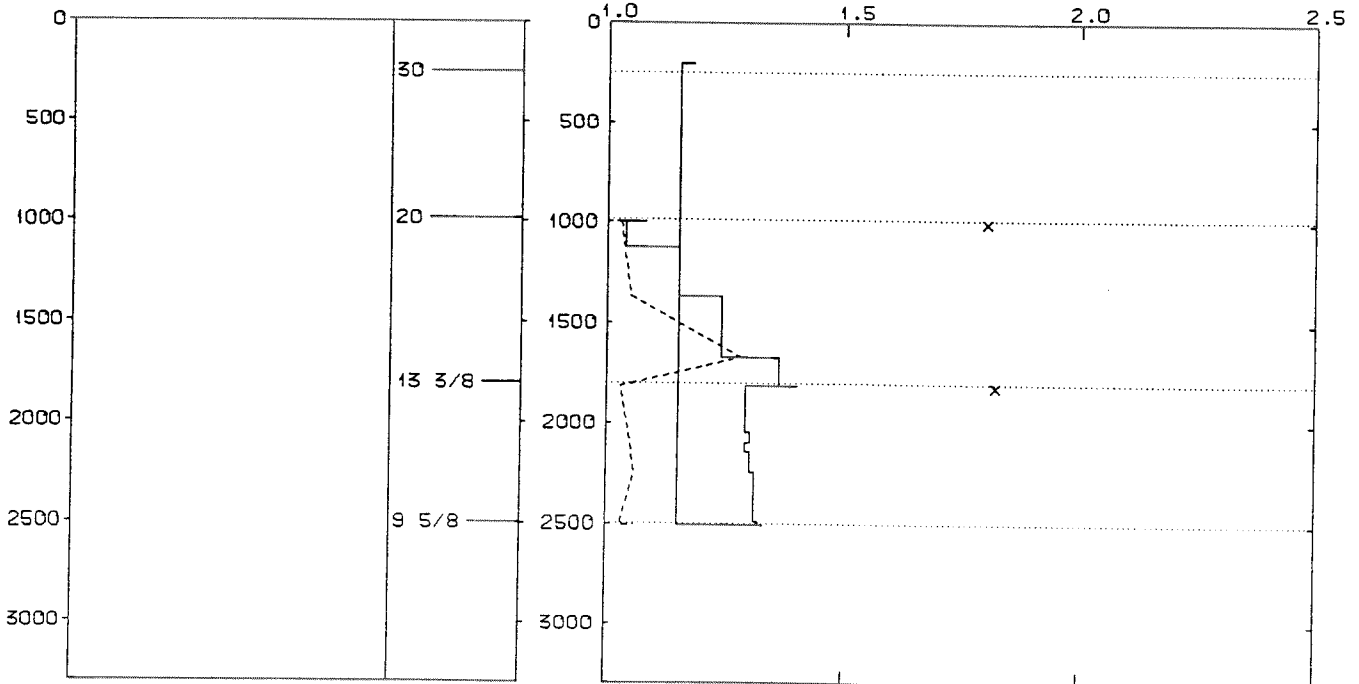
WELL: 003104 07 PRESSURE COMPOSITE PLOT

DEPTH
(RKB)
(METERS)

CASING

PRESSURE GRADIENTS
(g/ccm)

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



WELL HISTORY - 31/4-7

GENERAL:

The main objective of the wildcat 31/4-7 was to test the hydrocarbon potential and the internal stratigraphy of the horst on the western flank of the Brage field. The well encountered hydrocarbon bearing sandstones in the Heather and Statfjord Formations.

OPERATIONS:

The well was spudded 26.07.84 by the semi-submersible rig Vildkat. Five cores were cut in the Middle and Lower Jurassic sequence. No major problems occurred during drilling of this well. The well was drilled using water based mud.

TESTING:

Two tests were performed, one in the Heather Formation which produced small amounts of gas, and one in the Statfjord Formation which produced oil and small amounts of gas.

GEOLOGICAL TOPS

WELL: 31/ 4-07

	Depth m (RKB)
<i>Nordland Group</i>	163.000
<i>Utsira Fm</i>	725.500
<i>Hordaland Group</i>	965.000
<i>Rogaland Group</i>	1769.000
<i>Balder Fm</i>	1769.000
<i>Sele Fm</i>	1830.000
<i>Lista Fm</i>	1869.000
<i>Shetland Group</i>	1987.000
<i>Viking Group</i>	2026.000
<i>Heather Fm</i>	2026.000
<i>Dunlin Group</i>	2102.000
<i>Drake Fm</i>	2102.000
<i>Cook Fm</i>	2236.000
<i>Amundsen Fm</i>	2283.000
 <i>Statfjord Fm</i>	2384.000
 <i>TD =</i>	2505.000