

WELL NO :	35/9-1	Operator :	HYDRO
Coordinates :	61° 23' 07.95" N 03° 59' 03.72" E	UTM coord. :	680629080 N 55259504 E
Licence no :	153	Permit no :	603
Rig :	POLAR PIONEER	Rig type :	SEMI-SUB.
Contractor :	POLAR FRONTIER DRILLING A/S		
Bottom hole temp:	60°C	Elev. KB :	23 M
Spud. date :	89.03.31	Water depth :	361 M
Compl. date :	89.05.08	Total depth :	2350 M
Spud. class :	WILDCAT	Form. at TD	BASEMENT
Compl. class :	SUSP. SHOWS	Prod.form. :	
Seisloca :	DGM 1-86-0473 3D CDP 1850		

LICENSEES

10,000000	IDEMITSU PETROLEUM NORGE A.S.
10,000000	SAGA PETROLEUM A.S.
50,000000	DEN NORSKE STATS OLJESELSKAP A.S
30,000000	BP PETROLEUM DEV. OF NORWAY AS

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	436,0	36	456,0	
INTERM.	20	799,0	26	815,0	1,33
INTERM.	9 5/8	1917,0	12 1/4	1942,0	1,79
INTERM.	13 3/8	1924,0	17 1/2	1942,0	
LINER	7	2348,0	8 1/2	2350,0	

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery	
		M	%
1	2040,0 - 2065,6	25,6	100,0
2	2094,0 - 2102,0	8,0	100,0
3	2107,0 - 2137,7	30,7	100,0
4	2138,0 - 2150,0	12,0	100,0
5	2225,0 - 2238,0	13,0	100,0
6	2242,0 - 2270,4	28,4	100,0
7	2270,4 - 2305,8	35,5	100,3
8	2305,8 - 2316,5	10,7	100,0

MUD

Depth	Mud weight	Visc.	Mud type
437,000	1,25	18,0	WATER BASED
693,000	1,05		WATER BASED
815,000	1,08	21,0	WATER BASED

Depth	Mud weight	Visc.	Mud type
815,000	1,05		WATER BASED
815,000	1,08	21,0	WATER BASED
886,000	1,10	13,0	WATER BASED
1605,000	1,20	17,0	WATER BASED
1715,000	1,25	18,0	WATER BASED
1739,000	1,20	16,0	WATER BASED
1767,000	1,25	10,0	WATER BASED
1850,000	1,22	17,0	WATER BASED
2081,000	1,25	22,0	WATER BASED
2218,000	1,28	23,0	WATER BASED
2224,000	1,25	18,0	WATER BASED
2269,000	1,28	24,0	WATER BASED
2280,000	1,25	19,0	WATER BASED
2306,000	1,28	24,0	WATER BASED
2308,000	1,25	16,0	WATER BASED
2308,000	1,26		WATER BASED
2350,000	1,28	24,0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no.	Interval meter		Choke size	Pressure (PSI) WHP	BTHP	FFP	TEMP
1,0	2285,800	-	2291,800	25,4	1066		80 °C
2,0	2225,400	-	2249,400	17,6	2184		78 °C
3,0	2100,300	-	2138,300	35,4	1689		74 °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	903		0,815	0,705	284
2,0		598000	0,728	0,681	3014
3,0		912500	0,749	0,705	5098

DRILL BIT CUTTINGS AND WET SAMPLES

Sample type	Interval below KB	Number of samples
WET SAMPLES	815 - 2350	210
CUTTING	815 - 2350	240

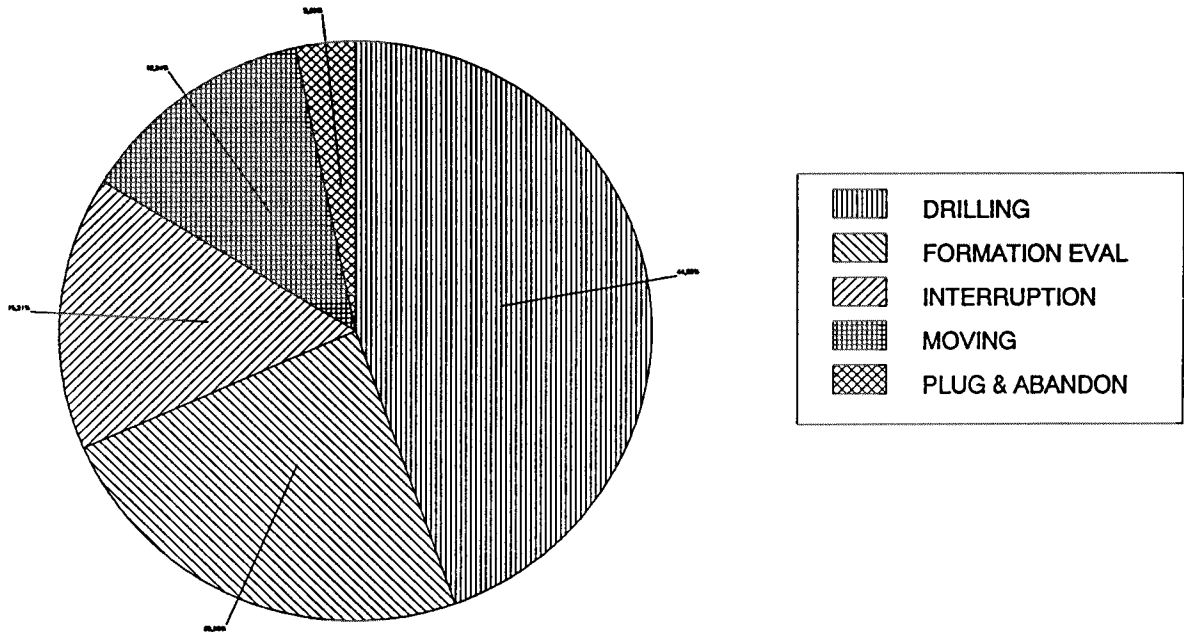
SHALLOW GAS

Interval below KB	Remarks

AVAILABLE LOGS

Log type	Intervals		1/200	1/500	Div.
AMS	1940,0	- 2339,5		X	
CBL VDL GR	700,0	- 2312,5	X		
CBL VDL GR	1750,0	- 2300,0	X		
DIL GR BHC	800,0	- 1924,0	X	X	
DIL LSS GR	1940,0	- 2349,0	X	X	
DLL MSFL GR	1940,0	- 2348,0	X	X	
DRILL.DATA PRESS.LOG	400,0	- 2350,0			1:5000
WIRELINE DATA PRESS.	820,0	- 2340,0			1:5000
LDL CNL NGL	1940,0	- 2351,0	X	X	
LSS GR CAL	800,0	- 1703,0	X	X	
MUD	813,0	- 2350,0			
MWD	411,0	- 2350,0		X	
NGS RATIOS PLAYBACK	1940,0	- 2342,5		X	
NGT	1940,0	- 2347,0	X		
RFT HP GR PRESS.TEST	2038,5	- 2300,0	X		
RFT HP GR SAMPLE	2038,5	- 2300,4			
RFT SEGREGATED	2038,5	- 2300,4	X		
RFTB GR	2038,5	- 2300,4			
CDM AP / SHDT	1940,0	- 2352,0	X	X	
SHDT GR	1940,0	- 2352,0	X		
VELOCITY LOG	860,0	- 2340,0		X	1:1000
SYNTH.SEISMOGRAM.	10 cm/s				2
TWO WAY TRAVEL TIME	10 cm/s				1
V.S.P,	10 cm/s	20 cm/s			13

Daily Drilling Report System (DDRS)
Operations for well: 35/9-1



Main operations	Minutes	Hours	% of total
DRILLING	27570	459,50	44,53
FORMATION EVAL	14820	247,00	23,93
INTERRUPTION	9480	158,00	15,31
MOVING	8010	133,50	12,94
PLUG & ABANDON	2040	34,00	3,29
Total	61920	1032,00	100,00

Operations for well: 35/9-1**Main operation: DRILLING**

Sub operations	Minutes	Hours	% of total
BOP ACTIVITIES	1200	20,00	4,35
BOP/WELLHEAD EQ	1440	24,00	5,22
CASING	8850	147,50	32,10
CIRC/COND	1170	19,50	4,24
DRILL	9360	156,00	33,95
HOLE OPEN	870	14,50	3,16
REAM	810	13,50	2,94
TRIP	3870	64,50	14,04
Total	27570	459,50	100,00

Main operation: FORMATION EVAL

Sub operations	Minutes	Hours	% of total
CIRC SAMPLES	390	6,50	2,63
CIRC/COND	510	8,50	3,44
CORE	5460	91,00	36,84
DST	960	16,00	6,48
LOG	3900	65,00	26,32
TRIP	3600	60,00	24,29
Total	14820	247,00	100,00

Main operation: INTERRUPTION

Sub operations	Minutes	Hours	% of total
FISH	930	15,50	9,81
MAINTAIN/REP	8550	142,50	90,19
Total	9480	158,00	100,00

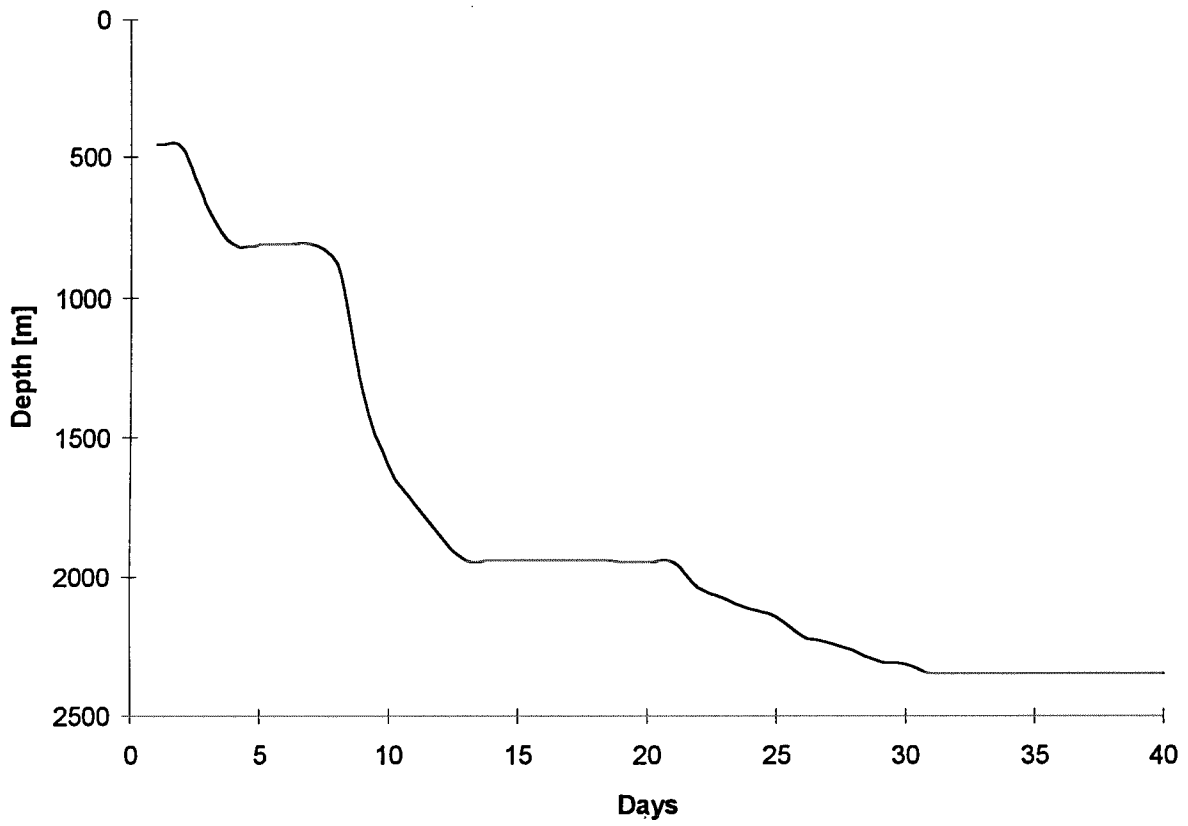
Main operation: MOVING

Sub operations	Minutes	Hours	% of total
ANCHOR	2340	39,00	29,21
TRANSIT	5670	94,50	70,79
Total	8010	133,50	100,00

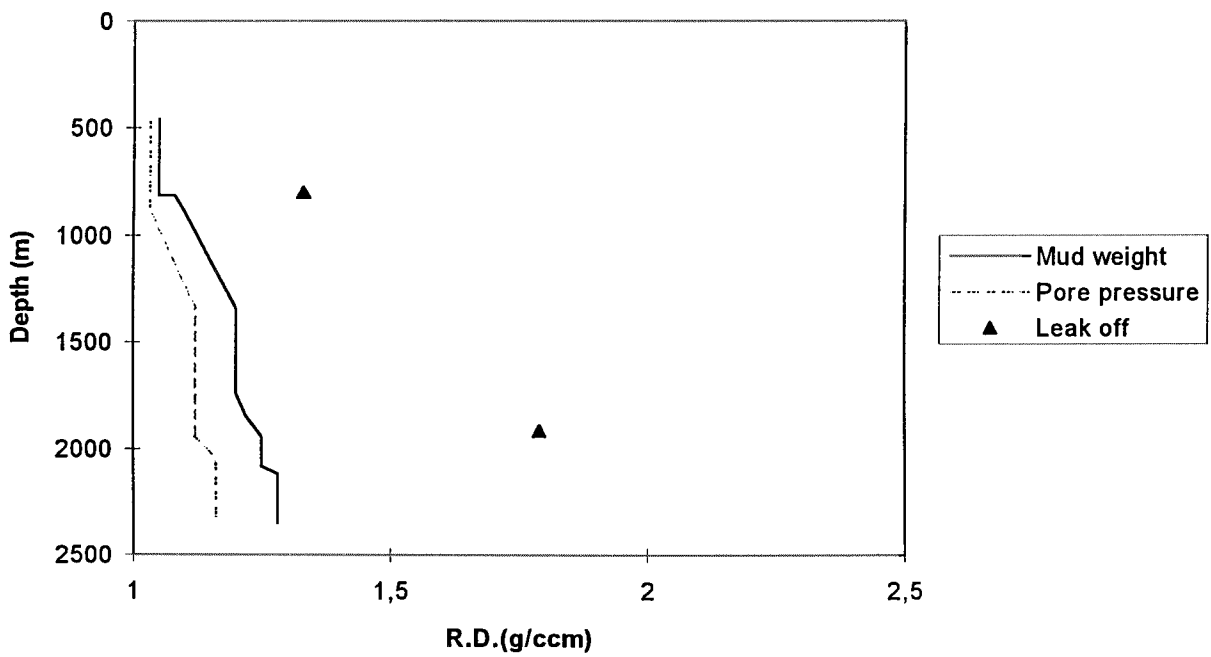
Main operation: PLUG & ABANDON

Sub operations	Minutes	Hours	% of total
CEMENT PLUG	30	0,50	1,47
CIRC/COND	90	1,50	4,41
EQUIP RECOVERY	750	12,50	36,76
MECHANICAL PLUG	120	2,00	5,88
TRIP	1050	17,50	51,47
Total	2040	34,00	100,00

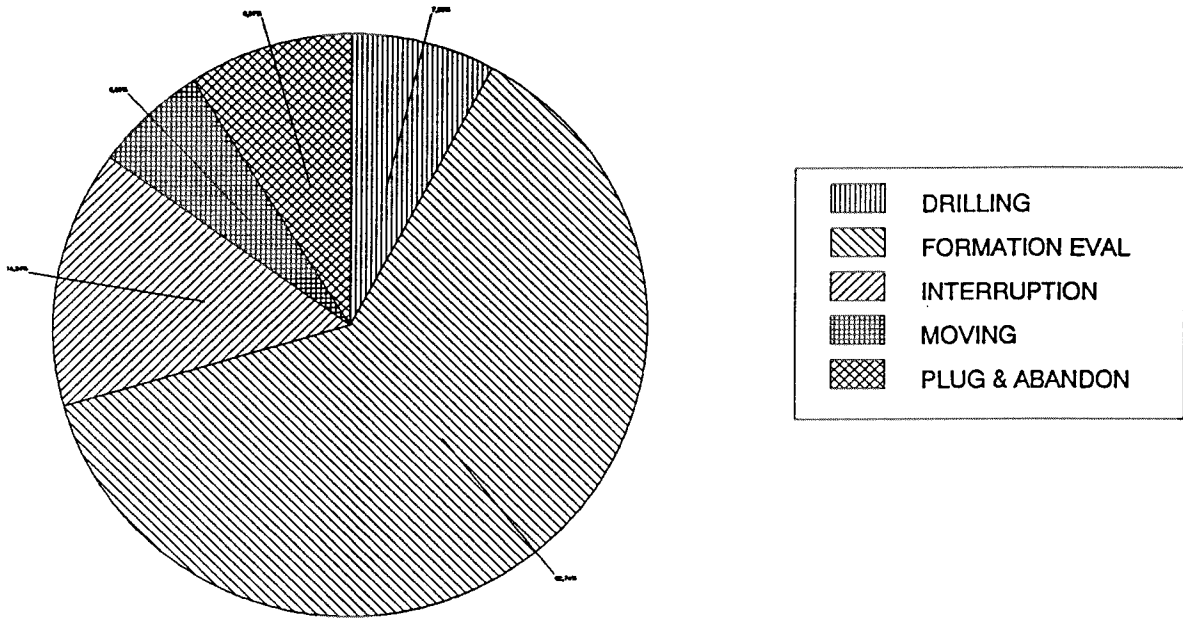
Depth vs time for well: 35/9-1



Composite plot for well: 35/9-1



Daily Drilling Report System (DDRS)
 Operations for well: 35/9-1 R



Main operations	Minutes	Hours	% of total
DRILLING	2940	49,00	7,85
FORMATION EVAL	23490	391,50	62,74
INTERRUPTION	5370	89,50	14,34
MOVING	2280	38,00	6,09
PLUG & ABANDON	3360	56,00	8,97
Total	37440	624,00	100,00

Operations for well: 35/9-1 R**Main operation: DRILLING**

Sub operations	Minutes	Hours	% of total
BOP ACTIVITIES	330	5,50	11,22
BOP/WELLHEAD EQ	930	15,50	31,63
CASING	1680	28,00	57,14
Total	2940	49,00	100,00

Main operation: FORMATION EVAL

Sub operations	Minutes	Hours	% of total
DST	23490	391,50	100,00
Total	23490	391,50	100,00

Main operation: INTERRUPTION

Sub operations	Minutes	Hours	% of total
MAINTAIN/REP	3570	59,50	66,48
OTHER	1800	30,00	33,52
Total	5370	89,50	100,00

Main operation: MOVING

Sub operations	Minutes	Hours	% of total
ANCHOR	1200	20,00	52,63
TRANSIT	1080	18,00	47,37
Total	2280	38,00	100,00

Main operation: PLUG & ABANDON

Sub operations	Minutes	Hours	% of total
CEMENT PLUG	270	4,50	8,04
CUT	330	5,50	9,82
EQUIP RECOVERY	1560	26,00	46,43
OTHER	90	1,50	2,68
TRIP	1050	17,50	31,25
WAIT	60	1,00	1,79
Total	3360	56,00	100,00

Well History 35/9-1.

General:

Well 35/9-1 was designed to drill the Alpha Structure in block 35/9 which is situated north of the Horda Platform. The Alpha Structure is an asymmetric horst with the larger fault to the east, antithetic to the Øygarden fault zone. The primary targets of well 35/9-1 were the Middle Jurassic sandstones of the Brent- and Dunlin Groups on the A-structure. A secondary target was to test the prospectivity of Cretaceous fans, building out from the south-east. A possibility of encountering reservoir rocks in the Upper Jurassic interval was also considered. The objectives of the well are:

- test the hydrocarbon potential and reservoir quality in Middle Jurassic sandstones in the Brent Group.

- test the caprock properties of the Upper Jurassic sequences.

- verify the interpretation regarding seismic interpretation, stratigraphy and structural evolution, especially establish a good control for the horizons Base Cretaceous and "Callovia unconformity"

Secondary objectives were:

- test the hydrocarbon potential and reservoir quality of the Dunlin Group and Statfjord Formation.

- test the reservoir quality in any possible Lower Cretaceous fans.

No indications of shallow gas was predicted in the last revised well site report.

Operations:

Wildcat well 35/9-1 was spudded 1 April 1989 by Polar Pioneer and completed 27 July 1989 at a depth of 2350 m Rkb 35 meters into the Crystalline Basement. The well was temporarily abandoned 7 May 1989 and the rig headed for Stavanger for TOGI Fjordtest. Re-entry of the well 2 July 1989 in order to fulfil the completion procedure. The main results are as follows :

- no sands were encountered within the Lower Cretaceous sequence.

- the Upper Jurassic Viking Group and the Middle Jurassic Brent Group were found to be hydrocarbon bearing from 2036.5 m RKB.

A total of 4 cores were cut in the Viking Group and 4 in the Brent Group. The somewhat uncertain gas/oil contact is set at 2282 m RKB. The oil/water contact was not encountered by the well due to an oil-down-to situation. Oil was proven down to 2301 m RKB. The RFT test showed that there is no pressure communication between the Brent Group and the Viking Group. The well was plugged and abandoned as an oil and gas discovery.

Testing:

Three DST tests were performed in this well.

DST test no 1 was performed in the interval 2285.8m - 2291.8m RKB. GOR 284 (Sm^3/Sm^3)

DST test no 2 was performed in the interval 2225.5m - 2249.4m RKB. GOR 3014 (Sm^3/Sm^3)

DST test no 3 was performed in the interval 2138.4m - 2100.4m RKB. GOR 5098 (Sm^3/Sm^3)

Geological Tops.

Well: 35/9-1

	Depth m (RKB).
Nordland Group	384.0
Rogaland Group	589.0
Balder	589.0
Sele Fm	612.0
Lista Fm	801.0
Våle Fm	1211.0
Shetland Group	1229.0
Jordsalfare Fm	1229.0
Kyrre Fm	1280.0
Tryggvason Fm	1845.0
Blodøks Fm	1943.0
Svarte Fm	1948.0
Cromer Knoll Group	1967.0
Rødby Fm	1967.0
Valhall Fm	2013.0
Viking Group	2036.5
Fensfjord Fm	2036.5
Heather Fm	2058.3
Fensfjord Fm "A" eqv.	2099.3
Heather Fm Eqv	2139.6
Brent Group	2225.0
Dunlin Group	2249.5
Drake Fm	2249.5
Basement	2314.0
T.D (DD)	2350.0