

WDSS Report

Date: 26/03/98

PB/ABS

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Well no:	Operator:
6507/02-02	HYDRO

Well

Coordinates :	65° 55' 01.69" N 07° 30' 54.56" E	UTM coord. :	7311658.69 N 432391.0 E
License no :	122	Permit no :	702
Rig :	POLAR PIONEER	Rig type :	SEMI-SUB.
Contractor :	POLAR FRONTIER DRILLING A/S		
Bottom hole temp:	80 °C	Elev. KB :	23 M
Spud. date :	91.10.21	Water depth :	384 M
Compl. date :	92.03.16	Total depth :	3958 M
Spud. class :	WILDCAT	Form. at TD :	E.JURASSIC
Compl. class :	P&A. OIL/GAS DISC.	Prod.form. :	
Seisloca :	NH 9010 - 102, SP 565		

Licenseses

10.000000 ESSO EXPL. & PROD. NORWAY A/S
20.000000 NORSK HYDRO PRODUKSJON AS
10.000000 MOBIL DEVELOPMENT NORWAY AS
50.000000 DEN NORSKE STATS OLJESELSKAP A.S
10.000000 AMERADA HESS NORGE AS

Casing and Leak-off Tests

Type	Casing diam	Depth below KB	Hole diam.	Hole depth below KB	Lot mud eqv. g/cm3
CONDUCTOR	30	491.0	36	491.0	
INTERM.	18 5/8	671.0	24	685.0	1.48
INTERM.	13 3/8	1399.0	17 1/2	1414.0	1.72
INTERM.	9 5/8	2761.0	12 1/4	2777.0	2.31
INTERM.	7	3324.0	8 1/2	3958.0	2.00

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Conventional Cores

Core no.	Intervals cored meters	Recovery m	%
1	2822.0 - 2849.5	27.5	100.0
2	3273.0 - 3295.8	22.8	100.0
3	3330.0 - 3339.0	9.3	100.0
4	3685.0 - 3700.4	14.9	100.0
5	3770.0 - 3779.0	8.5	100.0
6	3921.0 - 3929.3	8.3	100.0

Mud

Depth	Mud weight	Visc.	Mud type
407.0	1.00	.0	WATER BASED
430.0	1.61	16.0	WATER BASED
491.0	1.05	18.0	WATER BASED
505.0	1.05	18.0	WATER BASED
685.0	1.05	18.0	WATER BASED
685.0	1.05	18.0	WATER BASED
1238.0	1.60	12.0	WATER BASED
1414.0	1.26	14.0	WATER BASED
1600.0	1.30	14.0	WATER BASED
1959.0	1.51	20.0	WATER BASED
2100.0	1.55	18.0	WATER BASED
2355.0	1.55	25.0	WATER BASED
2449.0	1.55	24.0	WATER BASED
2517.0	1.57	25.0	WATER BASED
2568.0	1.70	13.0	WATER BASED
2568.0	1.70	15.0	WATER BASED
2727.0	1.57	23.0	WATER BASED
2777.0	1.58	18.0	WATER BASED
2821.0	1.50	19.0	WATER BASED
2843.0	1.50	20.0	WATER BASED
2863.0	1.50	20.0	WATER BASED
2900.0	1.70	22.0	WATER BASED
2924.0	1.50	19.0	WATER BASED
2989.0	1.70	23.0	WATER BASED
3018.0	1.70	23.0	WATER BASED
3045.0	1.50	17.0	WATER BASED
3084.0	1.70	25.0	WATER BASED
3112.0	1.70	26.0	WATER BASED
3154.0	1.70	24.0	WATER BASED
3156.0	1.50	15.0	WATER BASED

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3161.0	1.70	24.0	WATER BASED
3175.0	1.70	22.0	WATER BASED
3188.0	1.70	25.0	WATER BASED
3212.0	1.86	26.0	WATER BASED
3257.0	1.70	25.0	WATER BASED
3265.0	1.50	16.0	WATER BASED
3274.0	1.86	27.0	WATER BASED
3283.0	1.62	13.0	WATER BASED
3283.0	1.70	22.0	WATER BASED
3283.0	1.62	13.0	WATER BASED
3283.0	1.62	13.0	WATER BASED
3283.0	1.70	23.0	WATER BASED
3287.0	1.70	22.0	WATER BASED
3296.0	1.50	16.0	WATER BASED
3307.0	1.86	25.0	WATER BASED
3326.0	1.70	23.0	WATER BASED
3336.0	1.70	24.0	WATER BASED
3339.0	1.75	25.0	WATER BASED
3344.0	1.75	18.0	WATER BASED
3356.0	1.75	16.0	WATER BASED
3448.0	1.75	20.0	WATER BASED
3570.0	1.75	23.0	WATER BASED
3626.0	1.86	31.0	WATER BASED
3638.0	1.75	24.0	WATER BASED
3670.0	1.86	28.0	WATER BASED
3678.0	1.75	23.0	WATER BASED
3684.0	1.86	30.0	WATER BASED
3685.0	1.86	23.0	WATER BASED
3696.0	1.86	27.0	WATER BASED
3700.0	1.86	28.0	WATER BASED
3705.0	1.86	31.0	WATER BASED
3712.0	1.86	29.0	WATER BASED
3721.0	1.86	30.0	WATER BASED
3737.0	1.86	27.0	WATER BASED
3751.0	1.86	30.0	WATER BASED
3770.0	1.86	31.0	WATER BASED
3796.0	1.86	31.0	WATER BASED
3910.0	1.86	31.0	WATER BASED
3922.0	1.86	32.0	WATER BASED
3958.0	1.86	33.0	WATER BASED

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Well no:	Operator:
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Drill Stem Test (intervals and pressures)

Test no.	Test interval meter	Choke size	Pressure (psi) WHP	BTHP	FFP
1.0	3285.0 - 3294.0	25.4			
2.0	2820.0 - 2831.0	25.4			

Drill Stem Test (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	107	676	0.790	0.630	4
2.0	80	865	0.780	0.640	10

Drill Bit Cuttings and Wet Samples

Sample type	Interval below KB	Number of samples
WET SAMPLES	690 - 3957	420
CUTTINGS	3515 - 3957	210

Shallow Gas

Interval below KB	Remarks

Available Logs

Log type	Intervals logged	1/200	1/500
AMS	1368.0 - 3324.0		
AMS GR	3323.0 - 3922.0		
CBL VDL CCL GR	2598.0 - 3322.0		
CCL GR	1925.0 - 3259.0		
CCL GR	3025.0 - 3303.0		
CDM AP/SHDT MSD	2761.0 - 3315.0		
CDM AP/SHDT MSD	3325.0 - 3929.0		

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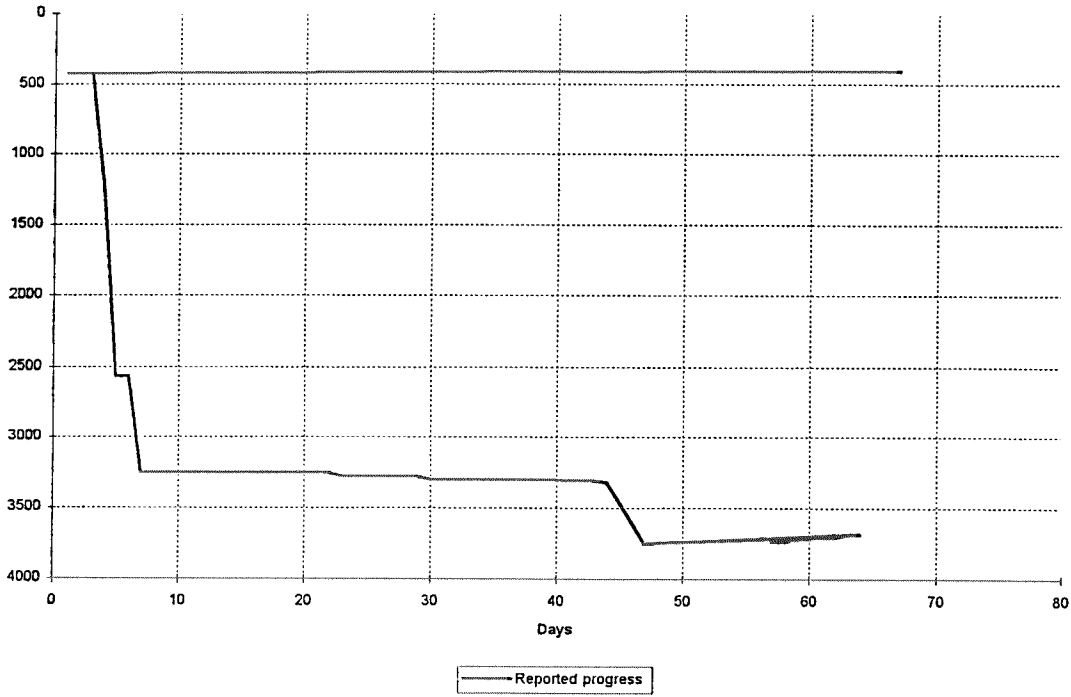
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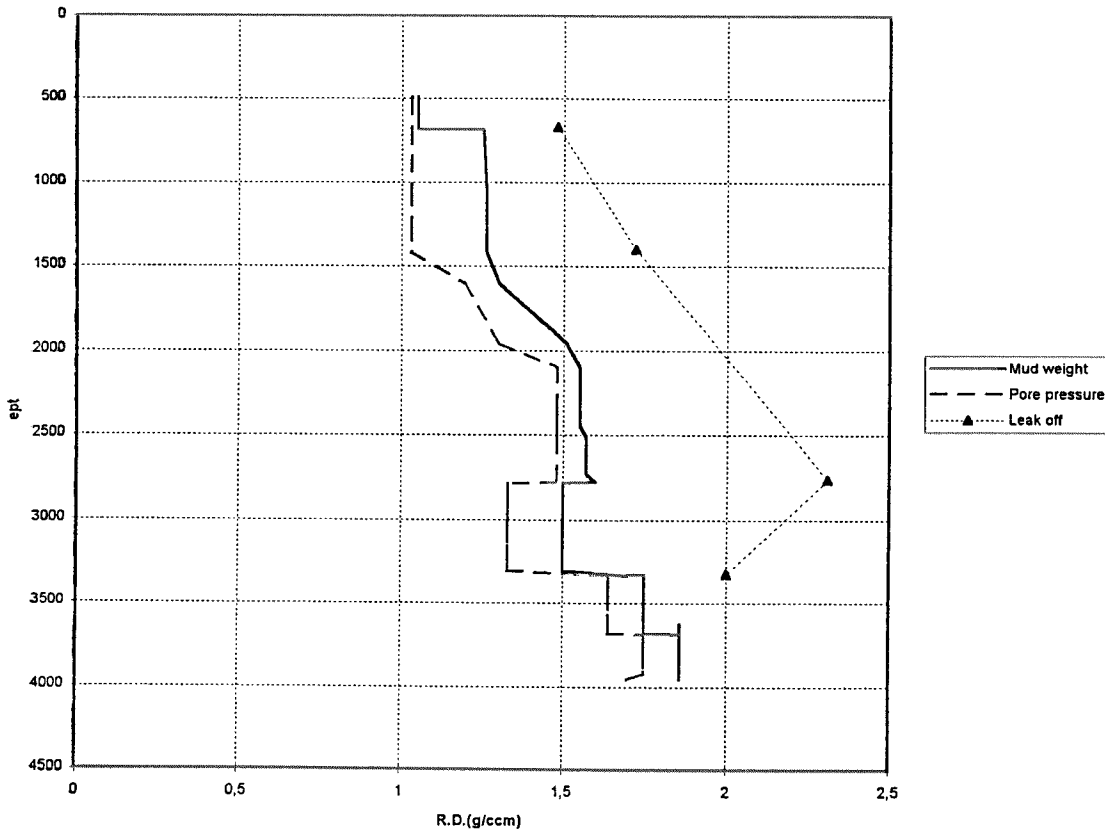
Well no:	Operator:
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CST	1456.0 - 3932.0			
DIL LSS AMS GR	3323.0 - 3950.0			
DIL LSS DLL MSFL SP	1368.0 - 3936.0			
DIL LSS GR	3264.0 - 3936.0			
DIL LSS SP GR	1368.0 - 2051.0			
DIL LSS SP GR	1986.0 - 2757.0			
DLL MSFL LSS AMS GR	2757.0 - 3320.0			
FMS GR	2746.0 - 3323.0			
FMS GR	3323.0 - 3930.0			
LDL CNL AMS GR	2757.0 - 3313.0			
LDL CNL GR	1368.0 - 3932.0			
MUD/LITHO LOG	407.0 - 3336.0			
MWD	410.0 - 3325.0			
PLT	2809.0 - 2834.0			
RFT HP GR	3331.0 - 3748.0			
RFTB AMS GR	2818.0 - 3292.0			
SITE SURVEY INTER- SYNTHETIC SEISMOGRAM				
VDL GR	523.0 - 1406.0			
VDL GR 9 5/8" CSG.	2276.0 - 2757.0			
VELOCITY LOG	1400.0 - 3850.0			
WSC	1400.0 - 3900.0			
VSP				

Depth v.s. time plot for well: 6507/2-2



Composite plot for well: 6507/2-2



Main operations for well: 6507/2-2**Main operation: DRILLING**

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	4350	72,5	6,31
BOP/WELLHEAD EQ	3150	52,5	4,57
CASING	9810	163,5	14,23
CIRC/COND	2520	42,0	3,66
DRILL	28710	478,5	41,64
OTHER	240	4,0	0,35
PRESS DETECTION	180	3,0	0,26
REAM	2280	38,0	3,31
SURVEY	360	6,0	0,52
TRIP	17340	289,0	25,15
Total	68940	1149,0	100,00

Main operation: FORMATION EVAL

Sub operation:	Minutes:	Hours:	% of total:
CIRC SAMPLES	930	15,5	1,78
CIRC/COND	690	11,5	1,32
CORE	4140	69,0	7,94
DST	28170	469,5	54,00
LOG	10590	176,5	20,30
TRIP	7650	127,5	14,66
Total	52170	869,5	100,00

Main operation: INTERRUPTION

Sub operation:	Minutes:	Hours:	% of total:
FISH	11490	191,5	14,43
MAINTAIN/REP	11310	188,5	14,20
OTHER	11280	188,0	14,16
SIDETRACK	28200	470,0	35,40
WAIT	13260	221,0	16,65
WELL CONTROL	4110	68,5	5,16
Total	79650	1327,5	100,00

Main operation: MOVING

Sub operation:	Minutes:	Hours:	% of total:
ANCHOR	1890	31,5	17,95
TRANSIT	8640	144,0	82,05
Total	10530	175,5	100,00

Main operation: PLUG & ABANDON

Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	1320	22,0	14,62
CIRC/COND	720	12,0	7,97
CUT	720	12,0	7,97
EQUIP RECOVERY	1470	24,5	16,28
OTHER	60	1,0	0,66
SQUEEZE	30	0,5	0,33
TRIP	4710	78,5	52,16
Total	9030	150,5	100,00

Total time used: Hours

WELL HISTORY 6507/2-2

GENERAL:

The majority of Licence 122 (block 6507/2) is situated on the Dønna Terrace, except for the north western corner, where a major fault separates the Terrace to the east from Vøring basin to the west. The Dønna Terrace forms a large downfaulted block on the western margin of the Trøndelag Platform, situated between the Nordland Ridge and the Vøring Basin. The structure to be tested by 6507/2-2 is situated in the northern part of the licence area, at the western edge of the Dønna Terrace. This structure was earlier tested by well 6507/2-1, which however left a considerable untested column updip from the well position. The main target of the well was the Jurassic reservoirs of Garn, Ile, and Tilje Formation. The secondary objectives were to test the prospectivity of the Cretaceous sands in the Lysing and Lange Formations or at least to obtain stratigraphic information from these formations.

OPERATION:

Well 6507/2-2 was spudded on the 21st October 1991 by the semi submersible rig "Polar Pioneer" and was completed 16th March 1992, in the early Jurassic Åre Formation.

The Cretaceous Lysing Formation was encountered at 2817.5m, and the Lange Formation at 2831m. A total of 23m. net sand is interpreted in the Cretaceous interval. The Jurassic interval was encountered between 3670-3930m RKB. A total of 65.8m are net sand with an average porosity of 14.8%.

Both Lysing and Lange Formation proved to be gas filled and the reservoirs was tested and exhibited fair to good production rates. The Jurassic Garn Formation was water filled.

The well was temporarily plugged and abandoned as a gas condensate discovery.

TESTING:

Two DST tests were performed in this well. The first test over the interval 3285.4m to 3294.4m. flowed 676,000 Sm³/D gas and 107 Sm³/D of oil/condensate. Test 2 from 2820m to 2831m. flowed 865,000 Sm³/D gas and 80 Sm³/D oil/condensate.

Geological Tops.

Well: 6507/2-2.

	Depth m (RKB).
Nordland Group	407.0
Naust Fm	685.0
Kai Fm	1397.0
Hordaland Group	1680.0
Brygge Fm	1680.0
Rogaland Group	1850.0
Tare Fm	1850.0
Tang Fm	1941.0
Shetland Group	1987.0
Cromer Knoll Group	2817.5
Lysing Fm	2817.5
Lange Fm	2831.0
Viking Group	3380.0
Melk Fm	3380.0
Fangst Group	3672.5
Garn Fm	3672.5
Ile Fm	3697.5
Båt Group	3720.0
Ror Fm	3720.0
Tofte Fm	3746.0
Tilje Fm	3770.0
T.D.	3958.0