

Well no : 7219/09-01

Operator : HYDRO

Coordinates : 72 24 00.78 N
19 57 11.68 E UTM coord. : 8040679 N
667003 E

Licence no : 136 Permit no : 568

Rig : POLAR PIONEER Rig type : SEMI-SUB.

Contractor : POLAR FRONTIER DRILLING A/S

Bottom hole temperature : 61 deg.C Elev. KB : 23 M

Spud. date : 87.11.17 Water depth : 356 M

Compl. date : 88.02.25 Total depth : 4300 M

Spud. class : WILDCAT Form. at TD : TRIASSIC

Compl. class : P&A. DRY HOLE Prod. form :

Seisloca : MN 85 105 SP. 1125

LICENSEES

10.000000 BP PETROLEUM DEV. OF NORWAY A.S
 10.000000 NORSKE FINA A/S
 20.000000 NORSK HYDRO PRODUKSJON A.S
 10.000000 MOBIL DEVELOPMENT NORWAY A.S.
 50.000000 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/cm3
CONDUCTOR	30	441.0	36	443.0	.
SURF.COND.	20	701.0	26	718.0	1.44
INTERM.	13 3/8	1586.0	17 1/2	1625.0	1.60
INTERM.	9 5/8	2701.0	12 1/4	2751.0	1.75
OPEN HOLE		4300.0	8 1/2	4300.0	.

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	1923.0 - 1930.0	7.0	100.0	
2	1930.0 - 1958.0	28.0	100.0	MIDDLE JURASSIC
3	1958.0 - 1985.0	27.0	100.0	MIDDLE JURASSIC
4	1985.0 - 1988.0	3.3	110.0	MIDDLE JURASSIC
5	1988.0 - 2015.8	27.9	100.4	MIDDLE JURASSIC
6	2015.8 - 2044.0	28.2	100.0	MIDDLE JURASSIC
7	2044.0 - 2072.0	27.7	98.9	MIDDLE JURASSIC
8	2072.0 - 2099.0	26.9	99.6	LOWER JURASSIC
9	2099.0 - 2114.0	14.7	98.0	LOWER JURASSIC
10	2742.0 - 2767.6	25.6	100.0	UPPER TRIASSIC

MUD PROPERTIES

Depth below KB meter	Mud weigh g/cm3	Viscosity	Mud type

429.000	1.03	0.0	WATER BASED
434.000	1.05	0.0	WATER BASED
443.000	1.06	0.0	WATER BASED
594.000	1.05	0.0	WATER BASED
718.000	1.06	0.0	WATER BASED
718.000	1.08	20.0	WATER BASED
755.000	1.10	17.0	WATER BASED
1109.000	1.11	18.0	WATER BASED
1392.000	1.15	21.0	WATER BASED
1420.000	1.26	19.0	WATER BASED
1625.000	1.22	19.0	WATER BASED
1625.000	1.13	13.0	WATER BASED
1625.000	1.15	20.0	WATER BASED
1625.000	1.17	14.0	WATER BASED
1791.000	1.18	18.0	WATER BASED
1907.000	1.20	18.0	WATER BASED
1985.000	1.27	18.0	WATER BASED
2004.000	1.31	21.0	WATER BASED
2042.000	1.27	18.0	WATER BASED
2064.000	1.31	22.0	WATER BASED
2072.000	1.27	19.0	WATER BASED
2098.000	1.31	23.0	WATER BASED
2114.000	1.27	19.0	WATER BASED
2139.000	1.31	23.0	WATER BASED
2210.000	1.27	15.0	WATER BASED
2227.000	1.30	24.0	WATER BASED
2345.000	1.27	15.0	WATER BASED
2398.000	1.31	28.0	WATER BASED
2444.000	1.27	14.0	WATER BASED
2453.000	1.26	14.0	WATER BASED
2503.000	1.31	25.0	WATER BASED
2557.000	1.23	14.0	WATER BASED
2595.000	1.26	19.0	WATER BASED
2604.000	1.31	25.0	WATER BASED
2657.000	1.23	14.0	WATER BASED
2723.000	1.31	26.0	WATER BASED
2723.000	1.30	26.0	WATER BASED
2723.000	1.15	16.0	WATER BASED
2751.000	1.23	14.0	WATER BASED
2751.000	1.27	18.0	WATER BASED
2751.000	1.28	20.0	WATER BASED
2751.000	1.30	21.0	WATER BASED
2810.000	1.16	14.0	WATER BASED
2996.000	1.15	15.0	WATER BASED
3168.000	1.16	15.0	WATER BASED
3585.000	1.15	16.0	WATER BASED
3786.000	1.17	14.0	WATER BASED
3943.000	1.19	14.0	WATER BASED
4224.000	1.20	13.0	WATER BASED
4300.000	1.25	19.0	WATER BASED

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
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Cutting	720-4267	1050
Wet Samples	720-4300	960

SHALLOW GAS

Interval below KB	REMARKS
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AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500	Div.
MWD RES./GAMMA/DIRECT.	379.000 - 3756.000	X	X	
DIS BHC	2701.000 - 4151.000	X	X	
MSFL	2701.000 - 4145.000	X	X	
DIL BHC GR	441.000 - 705.000	X	X	
DIL BHC MSFL GR	701.000 - 1596.000	X	X	
DIL LSS GR.	1590.000 - 2179.000	X	X	
DIL LSS MSFL GR	1900.000 - 2710.000	X	X	
DIL BHC	4100.000 - 4301.000	X	X	
LDL CNL	441.000 - 689.000	X	X	
LDL CNL	701.000 - 1580.000	X	X	
LDL CNL NGS	1590.000 - 2180.000	X	X	
LDL CNL NGS	1900.000 - 2710.000	X	X	
LDL CNL NGS	2701.000 - 4145.000	X	X	
LDL CNL	4100.000 - 4301.000	X	X	
SHDT GR	701.000 - 1596.000	X		
SHDT AMS	1590.000 - 2706.000	X		
SHDT AMS	2701.000 - 4150.000	X		
CDM AP/SDIP	1590.000 - 2706.000	X	X	
CDM AP/SDIP	2701.000 - 4150.000	X	X	
AMS	1590.000 - 2179.000		1:1000	
AMS	1900.000 - 2710.000			X
AMS	2701.000 - 4145.000			X
AMS	2701.000 - 4150.000			X
AMS	4100.000 - 4301.000			X
NGS	1590.000 - 2180.000	X	X	
NGS	1900.000 - 2707.000	X	X	
NGS	2701.000 - 4145.000	X	X	
NGT ENV.CORR	1575.000 - 2175.000			
RFT HP/HP.	1856.000 - 2154.000			
RFT HP/SGP	1856.000 - 2154.000			
RFT HP	2749.000 - 4149.000			
CBL VDL GR	600.000 - 1580.000	X		

CBL VDL	1400.000 - 2680.000	X
MUD	720.000 - 2751.000	X
DRILL. DATA PRESS.	379.000 - 4300.000	1:5000
WIRELINE DATA PRESS.	379.000 - 4300.000	1:5000
MUD	2050.000 - 4300.000	X
VELOCITY	443.000 - 4304.000	X

(VSP,run 4A, 700-2705 m.	1 stk.)
(VSP,run 5B, 1600-3940 m.	1 stk.)
(VSP,plot 1-6	6 stk.)
(Geogram, synthetic seismogram, 10 cm/s	4 stk.)
(Frequency test, 10 cm/s	4 stk.)

MAIN OPERATIONS FOR WELL: 721909 01

Main operation: DRILLING

Sub operations	Minutes	Hrs	% of total
BOP ACTIVITIES	3540	59,0	4,41
BOP/WELLHEAD EQ	2340	39,0	2,92
CASING	6090	101,5	7,59
CIRC/COND	1275	21,3	1,59
DRILL	43800	730,0	54,58
HOLE OPEN	900	15,0	1,12
OTHER	30	0,5	0,04
REAM	4890	81,5	6,09
SURVEY	195	3,3	0,24
TRIP	17190	286,5	21,42
Total	80250	1337,5	100,00

Main operation: FORMATION EVAL

Sub operations	Minutes	Hrs	% of total
CIRC SAMPLES	240	4,0	1,10
CIRC/COND	630	10,5	2,88
CORE	6210	103,5	28,36
LOG	9450	157,5	43,15
RFT/FIT	480	8,0	2,19
TRIP	4890	81,5	22,33
Total	21900	365,0	100,00

Main operation: INTERRUPTION

Sub operations	Minutes	Hrs	% of total
FISH	7800	130,0	23,03
LOST CIRC	1230	20,5	3,63
MAINTAIN/REP	6720	112,0	19,84
OTHER	480	8,0	1,42
SIDETRACK	17640	294,0	52,08
Total	33870	564,5	100,00

Main operation: MOVING

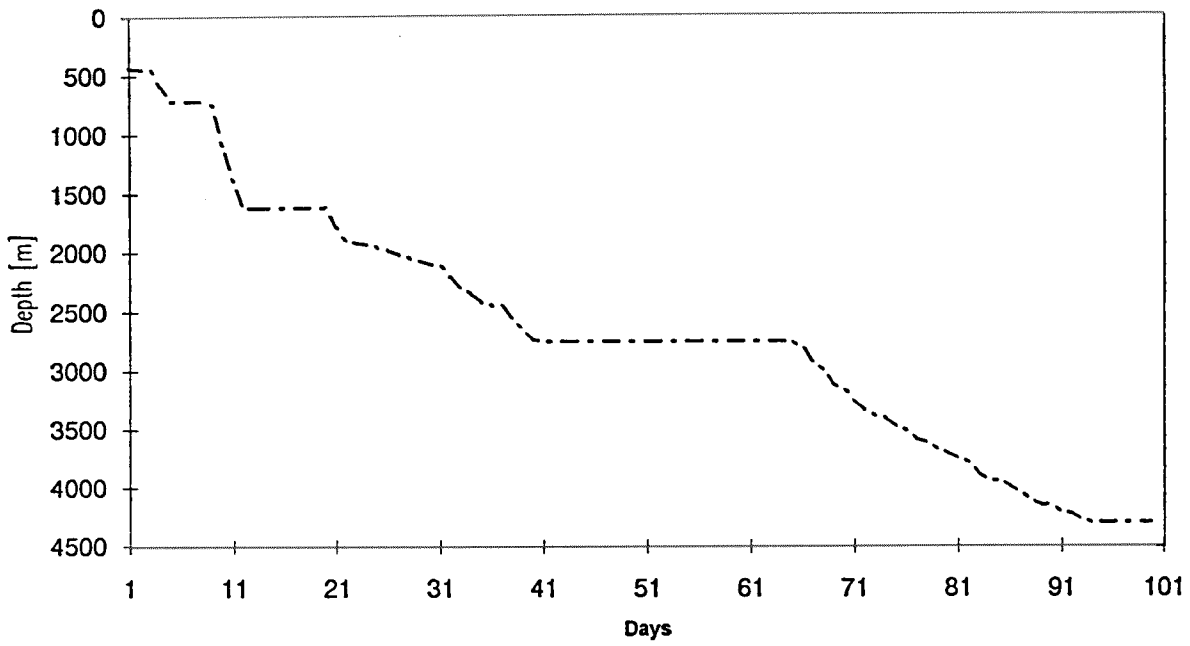
Sub operations	Minutes	Hrs	% of total
ANCHOR	2070	34,5	55,65
TRANSIT	1650	27,5	44,35
Total	3720	62,0	100,00

Main operation: PLUG & ABANDON

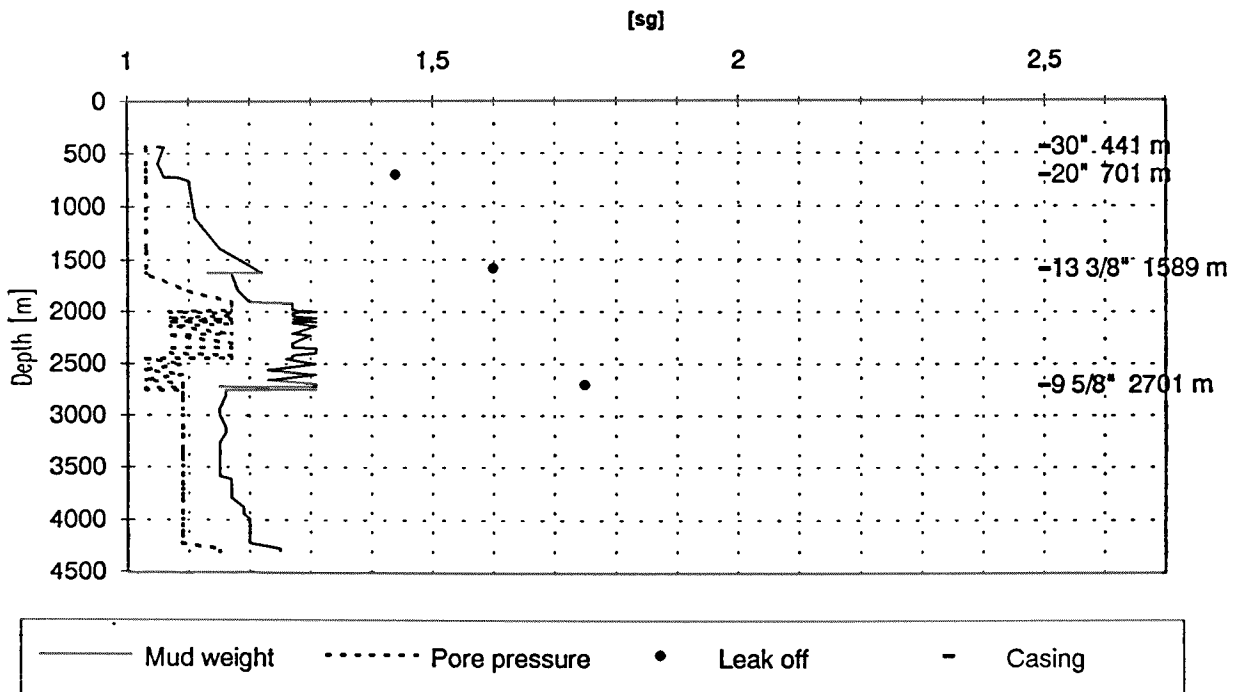
Sub operations	Minutes	Hrs	% of total
CEMENT PLUG	1560	26,0	27,37
CIRC/COND	90	1,5	1,58
CUT	450	7,5	7,89
EQUIP RECOVERY	1140	19,0	20,00
MECHANICAL PLUG	180	3,0	3,16
PERFORATE	210	3,5	3,68
TRIP	2070	34,5	36,32
Total	5700	95,0	100,00

Total time used 2424 hrs (101 days)

Depth v.s. time plot for well: 721909 01



Composite plot for well: 721909 01



Well History 7219/9-1

GENERAL:

Well 7219/9-1 was drilled in the Bjørnøya Basin in the Barents Sea. The main objectives of the well were:

- To test the reservoir and hydrocarbon bearing potential of Early-Middle Jurassic sandstones in a position which would leave a minimum of untested reserves updip.
- To test the reservoir and hydrocarbon bearing potential of Late Jurassic sandstone - Snadd Formation as a possible secondary target.
- To establish a good seismic tie and gain velocity information to enable more detailed mapping.
- To test the geological model.
- To gather the maximum amount of geological information on source, seal and reservoir intervals
- To have the well approved as the first commitment well on the licence.

OPERATIONS:

Wildcat well 7219/9-1 was spudded 17 November 1987 by Polar Frontier Drilling semi-submersible rig Polar Pioneer and completed 25 February 1988 at a depth of 4300 m in Triassic rocks.

The hole was drilled to the setting depth of 20" casing without a riser. It was drilled to 1625 m without problems when loss of drilling mud was experienced. The hole was stabilised, logged, sidewall cores were cut, and it was cemented. During cementing there were problems in the top hole with the BOP and permanent guide base. Upper part of the 30" section was cemented.

Top reservoir was encountered at 1949.6 m. Logs and RFT data indicated the reservoir to be water-bearing with possible residual oil. Nine cores were cut in the interval 1922.5 - 2114.4 m. Drilling commenced to 2751 m. Coring equipment did not get past dog leg at 2208 m. Attempts to open the hole were made but the equipment got stuck. Fishing was unsuccessful.

A cement plugg was set at 1996 - 2185 m, and the hole was sidetracked at 2078 m. It was drilled down to 2701 m without significant problems. Here, the 9 5/8" casing shoe was set, and it was logged.

Top Snadd Fm. was indicated at 2876 m, approx. 372 m higher than prognosed. Further drilling down to T.D. went without problems. Logs and RFT tests indicated the sandstone zones to be water-bearing.

The well was plugged and abandoned as dry with residual hydrocarbons in Jurassic and Late Triassic sandstones.

TESTING:

No DST tests were performed in this well.

GEOLOGICAL TOPS

WELL: 7219/9-1

Depth m (RKB)

<i>Nordland Group</i>	379.0
<i>Sotbakken Group</i>	483.0
<i>Torsk Fm.</i>	483.0
<i>Nordvestbanken Group</i>	1467.5
<i>Kolmule Fm.</i>	1467.5
<i>Knurr Fm.</i>	1835.5
<i>Teistengrunnen Group</i>	1893.0
<i>Hekkingen Fm.</i>	1893.0
<i>Fuglen Fm.</i>	1918.5
<i>Realgrunnen Group</i>	1950.5
<i>Stø Fm.</i>	1950.5
<i>Nordmela Fm.</i>	2062.0
<i>Tubåen Fm.</i>	2205.5
<i>Fruholmen Fm.</i>	2305.0
<i>Krabbe Mb.</i>	2305.0
<i>Reke Mb.</i>	2428.5
<i>Akkar Mb.</i>	2763.0
<i>Ingøydjupet Group</i>	2876.5
<i>Snadd Fm.</i>	2876.5
<i>T.D.</i>	4300.0