

Well no :	2/7-22	Operator :	BP
Coordinates :	56° 17' 46.25" N 03° 09' 32.01" E	UTM coord. :	623919417 N 50983428 E
Licence no :	145	Permit no :	637
Rig :	ROSS ISLE	Rig type :	SEMI-SUB.
Contractor :	TRANSNOR RIG AS		
Bottom hole temp:	163 °C	Elev. KB :	23.5 M
Spud. date :	90.05.17	Water depth :	69.5 M
Compl. date :	90.10.15	Total depth :	4750 M
Spud. class :	WILDCAT	Form. at TD	PRE-CRET.
Compl. class :	P&A. GAS/COND. DISC.	Prod.form. :	
Seisloca :	BPN 88 208 (SP 410)		

LICENSEES

25.000000	NORSKE CONOCO A/S
50.000000	DEN NORSKE STATS OLJESELSKAP A.S
25.000000	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/cm3
CONDUCTOR	30	224.0	36	227.0	
INTERM.	20	1092.0	26	1100.0	1.95
INTERM.	13 3/8	2970.0	17 1/2	2978.0	2.09
INTERM.	9 5/8	4192.0	12 1/4	4200.0	2.14
LINER	7	4292.0	8 1/2	4293.0	2.15
LINER	4 1/2	4566.0	5 7/8	4750.0	

MUD

Depth	Mud weight	Visc.	Mud type
968.000	1.06		WATER BASED
1100.000	1.20	90.0	WATER BASED
1100.000	1.52	74.0	WATER BASED
1286.000	1.50	56.0	WATER BASED
2360.000	1.68	89.0	WATER BASED
2710.000	1.99	99.0	WATER BASED
2750.000	1.98	92.0	WATER BASED
2907.000	1.70	94.0	WATER BASED
2978.000	1.71	83.0	WATER BASED
3312.000	1.70	58.0	WATER BASED
3438.000	1.69	73.0	WATER BASED
3809.000	1.68	56.0	OIL BASED
3825.000	1.70	51.0	WATER BASED
3826.000	1.72		WATER BASED
3846.000	1.70	84.0	WATER BASED
3887.000	1.71		WATER BASED
3891.000	1.97	95.0	WATER BASED

Depth	Mud weight	Visc.	Mud type
3895.000	1.98	91.0	WATER BASED
3922.000	1.70	83.0	WATER BASED
3922.000	1.71	70.0	WATER BASED
3981.000	1.98	91.0	WATER BASED
4035.000	1.71	88.0	WATER BASED
4136.000	1.72	89.0	WATER BASED
4200.000	1.75	108.0	WATER BASED
4200.000	1.72	80.0	WATER BASED
4200.000	1.75	108.0	WATER BASED
4200.000	1.72	80.0	WATER BASED
4200.000	1.78	37.0	WATER BASED
4200.000	1.72	70.0	WATER BASED
4200.000	1.75	108.0	WATER BASED
4202.000	1.77	40.0	OIL BASED
4202.500	1.76	43.0	WATER BASED
4203.000	1.77	82.0	OIL BASED
4203.000	1.76	92.0	OIL BASED
4203.000	2.11	65.0	OIL BASED
4243.000	1.76	57.0	OIL BASED
4272.000	1.85	55.0	OIL BASED
4290.000	1.93	60.0	WATER BASED
4293.000	1.98	80.0	OIL BASED
4293.000	1.97	58.0	WATER BASED
4293.000	1.98	96.0	WATER BASED
4293.000	1.97	94.0	WATER BASED
4295.000	1.96	83.0	OIL BASED
4296.000	1.95	82.0	OIL BASED
4296.000	1.96	79.0	OIL BASED
4296.000	1.95	87.0	WATER BASED
4298.000	1.96	80.0	WATER BASED
4299.000	1.97	79.0	WATER BASED
4299.000	1.96	71.0	WATER BASED
4321.000	1.97	74.0	WATER BASED
4334.000	1.98	72.0	WATER BASED
4359.000	1.97	70.0	WATER BASED
4381.000	1.98	82.0	WATER BASED
4452.000	1.97	80.0	WATER BASED
4475.000	1.98	83.0	WATER BASED
4489.000	1.97	84.0	WATER BASED
4545.000	1.98	93.0	WATER BASED
4566.000	1.97	91.0	WATER BASED
4566.000	1.96	87.0	WATER BASED
4566.000	1.97	89.0	WATER BASED
4566.000	1.96	88.0	WATER BASED
4611.000	1.97	87.0	WATER BASED
4636.000	1.98	90.0	WATER BASED
4750.000	1.96	82.0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no.	Interval meter		Choke size	Pressure (PSI) WHP	BTHP	FFP
1.0	4489,0	- 4496,0	12.7			

Test temperature: N/A

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	207	226000	.790	.800	1091

DRILL BIT CUTTINGS AND WET SAMPLES

Sample type	Interval below KB	Number of samples
WET SAMPLES	1110 - 4750	270
CUTTINGS	1110 - 4750	420

SHALLOW GAS

Interval below KB	Remarks
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AVAILABLE LOGS

Log type	Intervals		1/200	1/500	Div.
CBL VDL	450,0	- 675,0	X		
CBL VDL	2730,0	- 4185,0	X		
CBL VDL CCL	4035,0	- 4295,0	X		
CBL VDL CCL	4187,0	- 4295,0	X		
CBL VDL	4177,0	- 4292,0	X		
CBL VDL CCL	4212,0	- 4515,0	X		
DIL LSS GR	95,0	- 2977,0	X	X	
DIL LSS GR	2971,0	- 4201,0	X	X	
DIL BHC GR	4192,0	- 4294,0	X	X	
DIL BHC GR	4297,0	- 4651,0	X	X	
DIL PHC GR	4574,0	- 4752,0	X	X	
DRILLING DATA PRESS.	0	- 4750,0			1:2000
DRILLING DATA PRESS.	0	- 4750,0			1:2000
TEMP & PORE PRESS	0	- 4750,0			1:2000
LDL CNL	2971,0	- 4203,0	X	X	

Log type	Intervals		1/200	1/500	Div.
LDL CNL	4192,0	- 4296,0	X	X	
LDL CNL NGS	4297,0	- 4653,0	X	X	
LDL CNL NGS	4590,0	- 4754,0	X	X	
MUD	0	- 4750,0		X	
NGS RATIOS	4297,0	- 4653,0	X		
NGS RATIOS	4590,0	- 4754,0	X		
OBDDIP	4303,0	- 4754,0	X	X	
GEODIP	4380,0	- 4754,0			1:50
RFT GR	4479,0	- 4727,0	X		
RFT GR	4490,0	- 4640,0	X		
VELOCITY	95,0	- 4752,0		X	
SYNTHETIC SEISMOGRAM	10 cm/s	- 20 cm/s			8
V.S.P,	10 cm/s	- 20 cm/s			21

Main operations for well: 2/7-22

Main operation: COMPLETION

Sub operation:	Minutes:	Hours:	% of total:
BOP/WELLHEAD EQ	300	5,0	22,47
PERFORATE	435	7,3	32,58
WIRE LINE	600	10,0	44,94
Total	1335	22,3	100,00

Main operation: DRILLING

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	3450	57,5	2,24
BOP/WELLHEAD EQ	15465	257,8	10,05
CASING	19185	319,8	12,47
CIRC/COND	15665	261,1	10,18
DRILL	51765	862,8	33,64
HOLE OPEN	2670	44,5	1,73
OTHER	3465	57,8	2,25
PRESS DETECTION	1065	17,8	0,69
REAM	2715	45,3	1,76
SURVEY	2535	42,3	1,65
TRIP	35110	585,2	22,81
WAIT	810	13,5	0,53
Total	153900	2565,0	100,00

Main operation: FORMATION EVAL

Sub operation:	Minutes:	Hours:	% of total:
CIRC SAMPLES	555	9,3	2,75
CIRC/COND	1215	20,3	6,01
DST	4230	70,5	20,94
LOG	9330	155,5	46,18
OTHER	615	10,3	3,04
TRIP	4260	71,0	21,08
Total	20205	336,8	100,00

Main operation: INTERRUPTION

Sub operation:	Minutes:	Hours:	% of total:
FISH	5640	94,0	26,59
MAINTAIN/REP	10125	168,8	47,74
OTHER	120	2,0	0,57
WAIT	3315	55,3	15,63
WELL CONTROL	2010	33,5	9,48
Total	21210	353,5	100,00

Main operation: MOVING

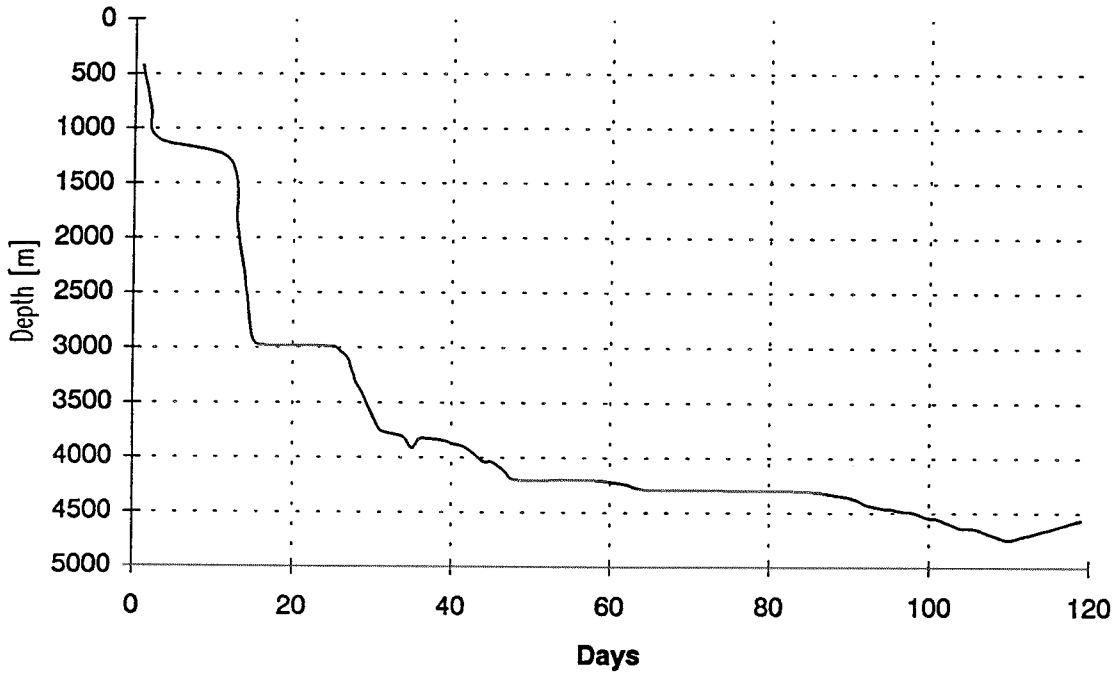
Sub operation:	Minutes:	Hours:	% of total:
ANCHOR	3390	56,5	40,36
POSITION	690	11,5	8,21
TRANSIT	4320	72,0	51,43
Total	8400	140,0	100,00

Main operation: PLUG & ABANDON

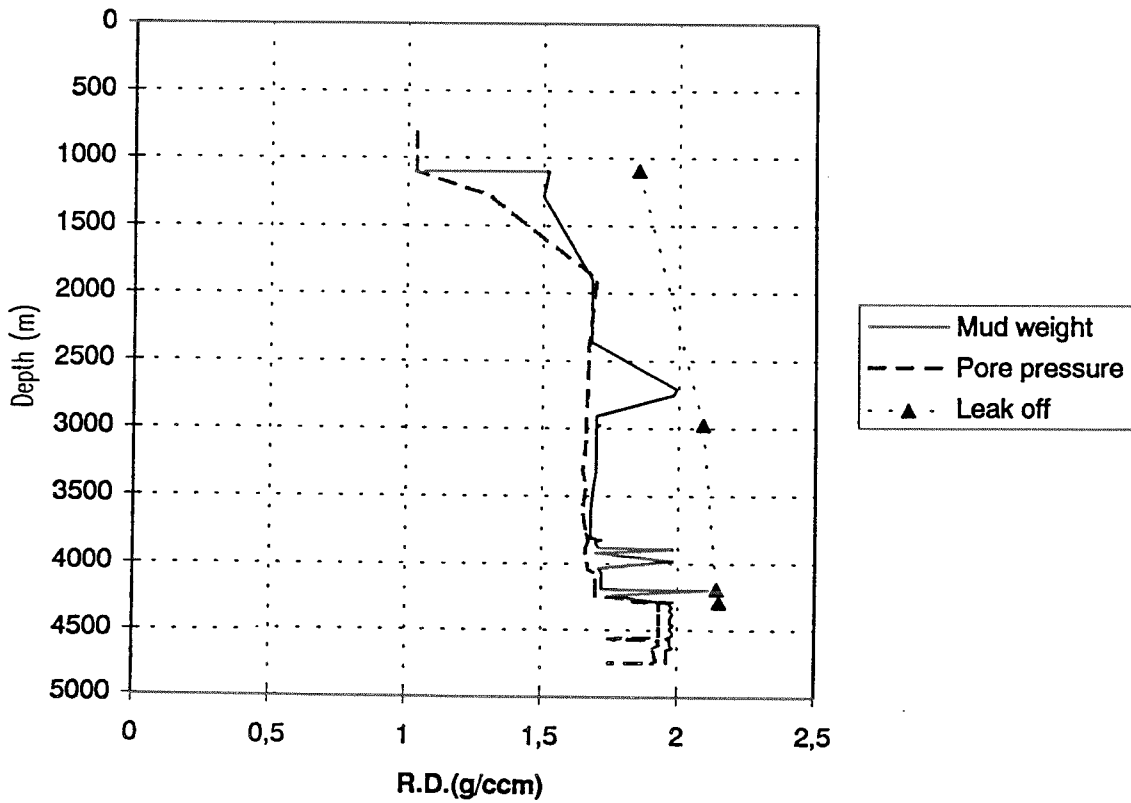
Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	630	10,5	3,77
CIRC/COND	795	13,3	4,76
CUT	3165	52,8	18,94
EQUIP RECOVERY	675	11,3	4,04
MECHANICAL PLUG	915	15,3	5,48
OTHER	1410	23,5	8,44
SQUEEZE	900	15,0	5,39
TRIP	7920	132,0	47,40
WAIT	300	5,0	1,80
Total	16710	278,5	100,00

Total time used: Hours

Depth vs time for well: 2/7-22



Composite plot for well: 2/7-22



Well History 2/7-22.

General:

Well 2/7-22 was designed to drill an Late Jurassic prospect as the first commitment well in license 145. The prospect was a structural play defined at an intra-Jurassic level, located to the south-west of the Eldfisk South oil field in the Central Graben. A number of alternative outcomes were modelled to describe the uncertainty in the geological model. The most likely outcome predicted, was for a Jurassic non-marine reservoir section. The large vertical relief of the structure (550 m) also permitted the possibility of an additional lower (Permian) reservoir section. An extensive side-wall coring program was designed.

Operations:

Wildcat well 2/7-22 was spudded 17 May 1990 by the semi-submersible rig Ross Isle and completed 15 October 1990 at a depth of 4750 m RKB in interbedded sandstones and mudstones of indeterminate pre-Cretaceous age. The well thus fulfilled the geological commitment. No shallow gas was encountered in the well. No conventional cores were cut. Due to hard formation side-wall core recovery was poor, and for recovered side-wall cores the depths are uncertain due to technical problems. The well is a gas discovery having encountered a 14 m pay zone in clean sands of indeterminate age with a hydrocarbon column being smaller than prognosed. A gas/water contact was encountered at 4502 m RKB. The total reservoir thickness is 66.5 m. The Late Jurassic Mandal formation came in 218 m deeper than prognosed. One was tentatively trying to date the rocks beneath the base Cretaceous, but these rocks are classified as indeterminate. The reservoir rocks are probably an analog to the Embla alluvial fan complex. The well is permanently plugged and abandoned as an gas/condensate discovery.

Testing:

One DST test was performed in the interval 4489 to 4496 m RKB and flowed at a rate of 207 Sm³/d condensate and 347 Sm³/d water through a 12.7 mm choke.

Geological Tops.

Well:2/7-22

	Depth m (RKB).
Nordland Group	93,0
Hordaland Group	
Rogaland Group	2968,0
Balder Fm	2968,0
Sele Fm	2981,0
Lista Fm	3031,0
Våle Fm	3076,0
Shetland Group	3091,5
Ekofisk Fm	3091,5
Tor Fm	3140,0
Hod Fm	3597,0
Blodøks Fm	3976,0
Hidra Fm	3991,5
Cromer Knoll Group	4086,0
Rødby Fm	4086,0
Sola Fm	4225,0
Åsgard Fm	4327,0
Tyne Group	4451,5
Mandal Fm	4451,5
Basal Transgressive Member	4473,0
Undefined Group	4488,0
T.D.	4750,0