

WDSS Report

Date: 04/03/98

PB/SKR

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Well no:	Operator:
31/02-17 S	HYDRO

Well

Coordinates :	60° 52' 57.08" N 03° 27' 05.79" E	UTM coord. :	6749946.42 N 524516.87 E
License no :	54	Permit no :	709
Rig :	TRANSOCEAN 8	Rig type :	SEMI-SUB.
Contractor :	TRANSOCEAN ASA		
Bottom hole temp:	80 °C	Elev. KB :	24 M
Spud. date :	91.12.28	Water depth :	340 M
Compl. date :	92.01.20	Total depth :	2220 M
Spud. class :	APPRAISAL	Form. at TD :	L.JURASSIC
Compl. class :	P&A. OIL/GAS	Prod.form. :	
Seisloca :	NH-8901, LINJE 794, SP. 1404		

Licensees

3.105000 ELF PETROLEUM NORGE AS
4.900000 NORSK HYDRO PRODUKSJON AS
25.900000 A/S NORSKE SHELL
58.800000 DEN NORSKE STATS OLJESELSKAP A.S
1.000000 TOTAL NORGE AS
6.295000 NORSKE CONOCO 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	451.5	36	452.0	
INTERM.	18 5/8	906.0	24	921.0	1.54
INTERM.	9 5/8	1827.0	12 1/4	1830.0	1.41

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Conventional Cores

Core no.	Intervals cored meters	Recovery m	%
1	1877.0 - 1912.0	35.2	100.0
2	1912.0 - 1947.0	34.8	100.0
3	1947.0 - 1978.0	30.7	100.0
4	1978.0 - 1993.0	15.0	100.0
5	1993.0 - 2012.0	9.0	100.0
6	2016.0 - 2023.0	7.0	100.0

Mud

Depth	Mud weight	Visc.	Mud type
365.0	1.20	19.0	WATER BASED
453.0	1.20	19.0	WATER BASED
454.0	1.20	19.0	WATER BASED
850.0	1.34	25.0	WATER BASED
921.0	1.30	19.0	WATER BASED
1070.0	1.30	24.0	WATER BASED
1514.0	1.36	23.0	WATER BASED
1775.0	1.34	25.0	WATER BASED
1841.0	1.36	23.0	WATER BASED
1912.0	1.25	22.0	WATER BASED
1978.0	1.25	20.0	WATER BASED
2016.0	1.25	21.0	WATER BASED
2117.0	1.25	22.0	WATER BASED
2220.0	1.26	24.0	WATER BASED

Drill Stem Test (intervals and pressures)

Test no.	Test interval meter	Choke size	Pressure (psi) WHP	BTHP	FFP
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Drill Stem Test (recovery)

Test no.	Oil Sm3/d	Gas Sm3/d	Oil grav. g/cm3	Gas grav. rel. air	GOR m3/m3
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Drill Bit Cuttings and Wet Samples

Sample type	Interval below KB	Number of samples
WET SAMPLES	930 - 2220	270
CUTTINGS	940 - 2220	300

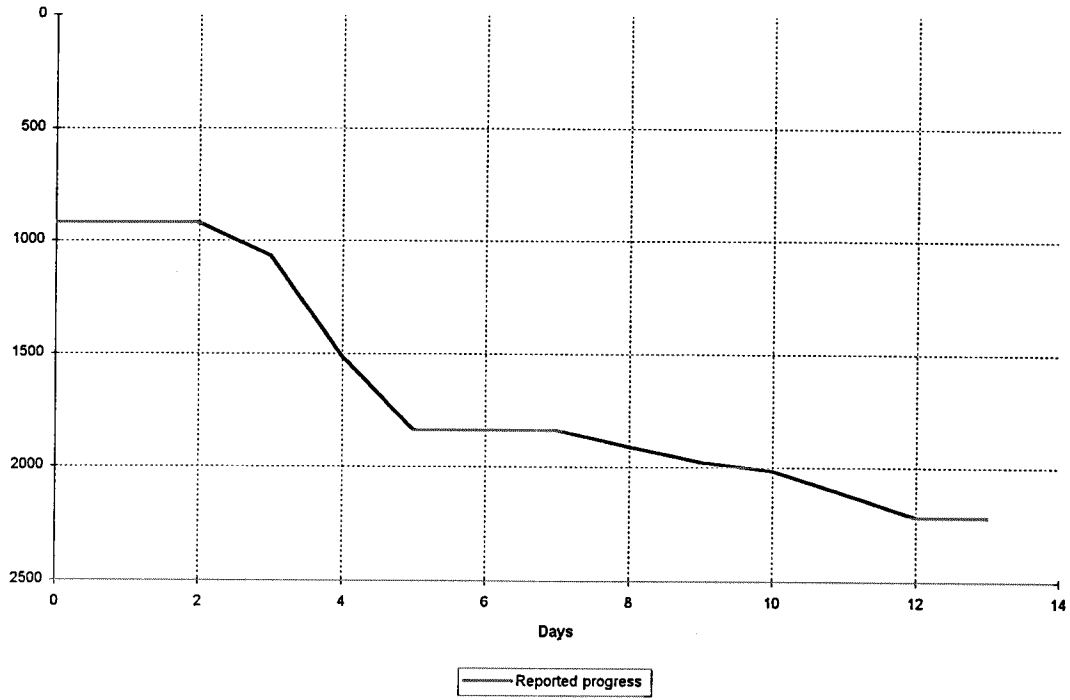
Shallow Gas

Interval below KB	Remarks

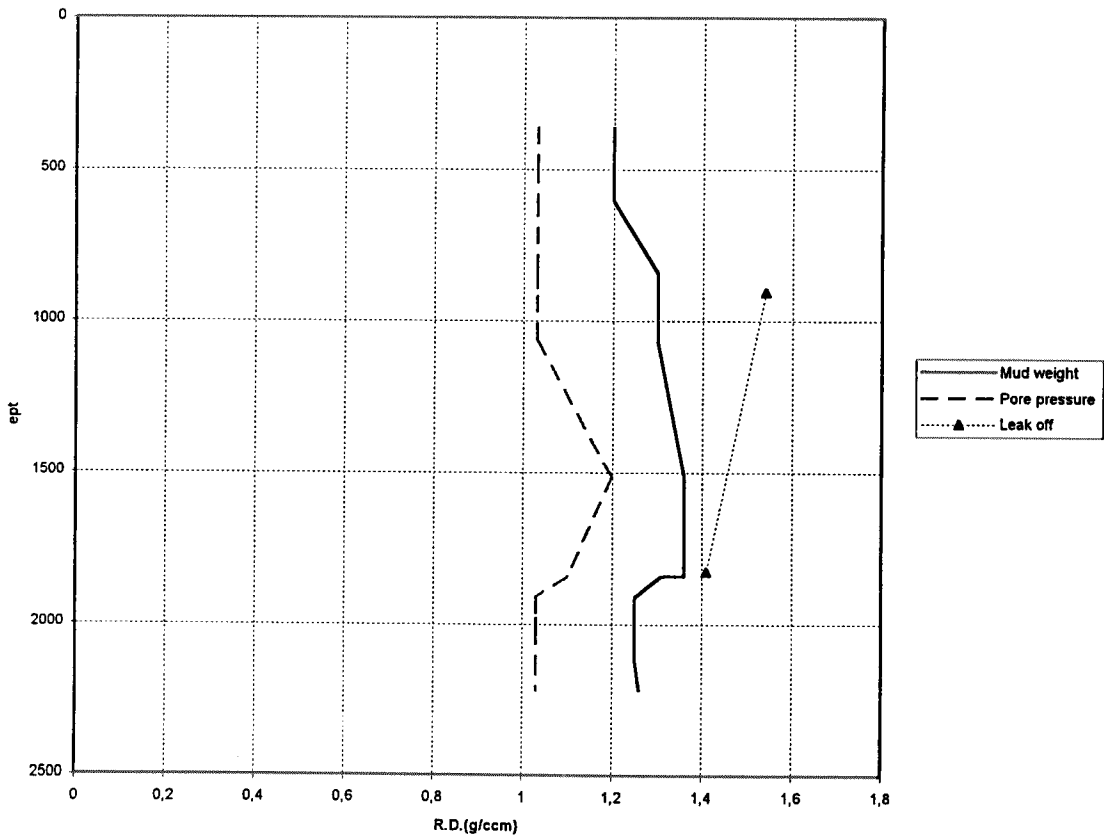
Available Logs

Log type	Intervals logged	1/200	1/500
DLL MSFL DSI GR SP	1829.0 - 2218.0		
DLL MSFL SP GR	1828.0 - 2218.0		
DRLG.DATA PRESSURE	364.0 - 2220.0		
DSI SLOWNESS TIME	1825.0 - 2218.0		
DSI SLOWNESS TIME	1980.0 - 2205.0		
FMI IMAGING	1838.0 - 2190.0		
LDL CNL GR	326.0 - 2222.0		
LDL CNL GR AMS	326.0 - 2223.0		
MDT GR AMS	1901.0 - 2040.0		
MEAN SQUARE DIP	1838.0 - 2190.0		
MUDLOG	264.0 - 2220.0		
MWD LOG	364.0 - 2220.0		
SYNTHETIC SEISMORGAM			
TWO WAY TRAVEL TIME			
WELLSITE GEOLOGIST	364.0 - 2220.0		
WELLSITE LITHOLOGY	364.0 - 2220.0		
VERTICAL SEISMIC			

Depth v.s. time plot for well: 31/2-17 S



Composite plot for well: 31/2-17 S



Main operations for well: 31/2-17 S

Main operation: DRILLING

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	1320	22,0	6,88
BOP/WELLHEAD EQ	1830	30,5	9,53
CASING	4980	83,0	25,94
CIRC/COND	1110	18,5	5,78
DRILL	5460	91,0	28,44
HOLE OPEN	180	3,0	0,94
SURVEY	330	5,5	1,72
TRIP	3990	66,5	20,78
Total	19200	320,0	100,00

Main operation: FORMATION EVAL

Sub operation:	Minutes:	Hours:	% of total:
CIRC SAMPLES	120	2,0	1,41
CIRC/COND	330	5,5	3,87
CORE	1590	26,5	18,66
LOG	3930	65,5	46,13
OTHER	30	0,5	0,35
TRIP	2520	42,0	29,58
Total	8520	142,0	100,00

Main operation: INTERRUPTION

Sub operation:	Minutes:	Hours:	% of total:
LOST CIRC	570	9,5	12,93
MAINTAIN/REP	1140	19,0	25,85
WAIT	2700	45,0	61,22
Total	4410	73,5	100,00

Main operation: MOVING

Sub operation:	Minutes:	Hours:	% of total:
ANCHOR	2010	33,5	54,92
TRANSIT	1650	27,5	45,08
Total	3660	61,0	100,00

Main operation: PLUG & ABANDON

Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	210	3,5	9,59
CIRC/COND	300	5,0	13,70
CUT	30	0,5	1,37
EQUIP RECOVERY	420	7,0	19,18
MECHANICAL PLUG	210	3,5	9,59
TRIP	1020	17,0	46,58
Total	2190	36,5	100,00

Total time used: Hours

WELL HISTORY 31/2-17 (S, A, B)

GENERAL:

The objective was to obtain the thickness of the oil zone and reservoir properties in the Intermediate Area. The drilling operation was divided into three phases, drilling of the wells 31/2-17 S, 31/2-17 A and 31/2-17 B, all being drilled from the same wellhead location. The well 31/2-17S and 31/2-17A is located on each side of a fault subdividing the intermediate area into two main compartments. Well 31/2-17 S is located on the eastern side of the fault. Well 31/2-17SA, which was side-tracked from well 31/2-17 S, was turned 180 degrees and landed on the western side of the fault. Well 31/2-17S B was side-tracked from well 31/2-17S A and drilled to a horizontally position about 5m above the oil water contact.

OPERATION:

Well 31/2-17 S: The Gas-Oil-Contact was penetrated at 1972m MD RKB in "Heather B" Formation. The Oil-Water-Contact was penetrated at 2011m MD RKB also in the "Heather B" Formation.

Well 31/2-17 SA: This well was kicked off from 31/2-17 S at 909m MD RKB. The Gas-Oil-Contact was penetrated at 1725.4m MD RKB in the Sognefjord Formation. The Oil-Water-Contact was penetrated at 1746.5m MD RKB also in the Sognefjord Formation.

Well 31/2-17 SB: This well was kicked off from 31/2-17SA at 1645m MD RKB, and the well angle was built up to approximately 90 degrees. One horizontal core (2.8 m) was taken at TD. The Gas-Oil-Contact was assumed the same as in well 31/2-17SA.

31/2-17S and 31/2-17A were plugged and abandoned, while well 31/2-17B was temporary plugged.

TESTING:

No DST tests were performed in these wells.

Geological Tops.

Well: 31/2-17 S.

Depth m (RKB).

Nordland Group	365.0
Hordaland Group	800.0
Rogaland Group	1540.0
Balder Fm	1540.0
Sele Fm	1600.0
Lista Fm	1676.0
Viking Group	1870.0
Draupne Fm	1870.0
Sognefjord Fm	1872.0
Heather Fm	1956.5
Fensfjord Fm	2180.0
T.D.	2220.0