

Well no : 31/6-02 and 31/6-02 R Operator : STATOIL

Coordinates	: 60 34 58.24 N 03 54 55.76 E	UTM coord.	: 6716831 N UTM 31 550164 E
Licence no	: 085	Permit no	: 393
Rig	: DEEPSEA BERGEN	Rig type	: SEMI-SUB.
Contractor	: ODFJELL DRILLING AND CONSULTING COMPANY A/S		
Bottom hole temperature	: 63 deg.C	Elev. KB	: 23 M
Re-entry	: 72 deg.C		
Spud date	: 83.10.18	Water depth	: 304 M
Re-entry	: 84.07.31		
Compl. date	: 83.12.11	Total depth	: 2020 M
Re-entry	: 84.09.08	Re-entry	: 2235 M
Spud class.	: APPRAISAL	Age at TD	: JURASSIC
		Re-entry	: TRIASSIC
Compl. class.	: SUSP. GAS DISCOVERY		
Re-entry	: P&A. GAS DISCOVERY		
Seis. loc.	: ST 8007 - 351 SP 1647		

LICENSEES

 9.000 NORSK HYDRO PRODUKSJON A.S
 6.000 SAGA PETROLEUM A.S.
 85.000 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/cm ³
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31/6-2:					
CONDUCTOR	30	412.0	36	412.0	
SURF. COND.	20	801.0	26	818.0	1.56
INTERM.	13 3/8	902.0	17 1/2	920.0	1.76
INTERM.	9 5/8	1391.0	12 1/4	1400.0	1.61
LINER	7	2004.0	8 1/2	2020.0	
31/6-2 R:					
OPEN HOLE			6	2235.0	

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery		Series
		M	%	
1	1435.0 - 1453.0	18.0	100.0	UPPER JURASSIC
2	1453.0 - 1471.0	18.0	100.0	UPPER JURASSIC
3	1471.0 - 1483.5	12.5	100.0	UPPER JURASSIC
4	1483.5 - 1497.5	14.0	100.0	UPPER JURASSIC
5	1497.5 - 1515.5	18.0	100.0	UPPER JURASSIC
6	1515.5 - 1543.5	28.0	100.0	UPPER JURASSIC
7	1543.5 - 1571.5	28.0	100.0	UPPER JURASSIC
8	1571.5 - 1591.0	19.5	100.0	UPPER JURASSIC
9	1591.0 - 1619.0	28.0	100.0	UPPER JURASSIC

MUD PROPERTIES

Depth below KB meter	Mud weighth g/cm3	Funnel viscosity s/qt	Mud type
410.0	1.04	45.0	WATER BASED
480.0	1.08	41.0	WATER BASED
900.0	1.30	47.0	WATER BASED
1010.0	1.20	44.0	WATER BASED
1470.0	1.25	46.0	WATER BASED
2005.0	1.10	52.0	WATER BASED
2235.0	1.11	56.0	WATER BASED

DRILL STEM TEST

INTERVALS AND PRESSURES

Test no.	Interval meter	Choke size	Pressure		
			WHP	BTHP	FFP
1.0	1510.0 - 1506.0	38.1	770.0		2290.0

RECOVERY

Test no.	Oil	Gas	Oil grav.	Gas grav.	GOR
	Sm3/d	M Sm3/d	g/cm3	rel. air	m3/m3
1.0		860			

DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
CUTTINGS	420 - 2235	500
WET SAMPLES	420 - 2235	360

SHALLOW GAS

INTERVAL BELOW KB	REMARKS
	NONE

AVAILABLE LOGS 31/6-2 R

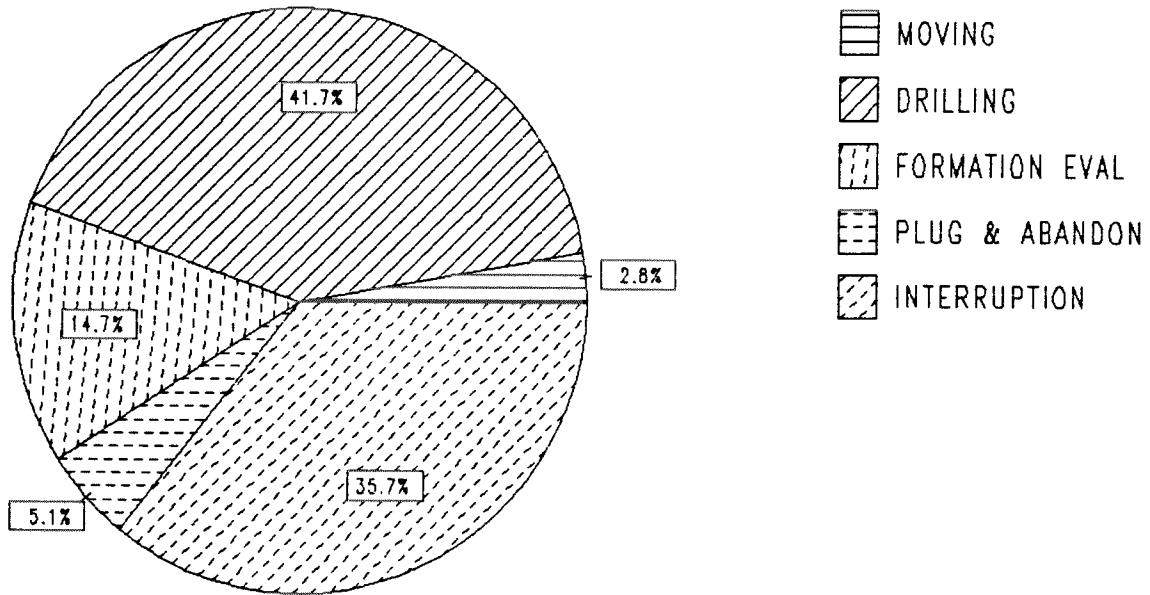
LOG TYPE	INTERVAL	1/200	1/500
DIFL BHC AC GR	2003 - 2231	X	X
CDL CNL	2003 - 2225	X	X
PRESSURE EVALUATION LOG	2020 - 2235	1:5000	
TEMPERATURE DATA LOG	2020 - 2235	1:5000	
MUD	2020 - 2235		X

AVAILABLE LOGS 31/6-2

LOG TYPE	INTERVAL	1/200	1/500
DIFL BHC AC GR	326 - 815	X	X
DIFL BHC AC	801 - 906	X	X
DIFL BHC AC	902 - 1399	X	X
DIFL BHC AC	1390 - 2019	X	X
CDL	412 - 813	X	X
CDL	801 - 906	X	X
CDL CNL	902 - 1399	X	X
CDL CNL	1390 - 2017	X	X
DLL MLL	1390 - 2016	X	X
CDM	903 - 1399	X	
CDM	1390 - 2016	X	
CDM AP	903 - 1399	X	X
CDM AP	1390 - 2016	X	X
STRATADIP	1390 - 2016	1:40	
FMT	1462 - 1973		X
SPECTRALOG	1390 - 2010	X	X
PHOTON	1453 - 1514	X	
COLLAR (BRIDGE PLUG SETTING)	1300 - 1563	X	
COLLAR (PACKER SETTING)	1475 - 1511	X	
COLLAR (2 1/8" LTD. ENTRY PERF.)	359 - 386	X	
COLLAR (BRIDGE PLUG)	1426 - 1457	X	
COLLAR	1264 - 1332	X	
COLLAR (BRIDGE PLUG)	1251 - 1271	X	
COLLAR (BRIDGE PLUG)	539 - 593	X	
CBL VDL AC GR NEUTRON	326 - 902	X	
CBL VDL AC GR	515 - 1390	X	
CBL VDL AC GR	1260 - 1963	X	
TEMPERATURE DATA	412 - 2020	1:5000	
PRESSURE EVALUATION	326 - 2020	1:5000	
MUD	326 - 2020		X
VELOCITY (L.T.S.)	326 - 2019	1:1000	X
(+ Airgun Well Velocity Survey & C.L.D, SSL,		1 stk)	
(+ Synthetic Seismogram Marine, 10 cm/s, SSL,		1 stk)	
(+ Synthetic Seismogram, 10 cm/s, b/p-w/t, SSL,		2 stk)	
(+ Synthetic Seismogram, filtered/raw stack,			
Normal polarity, Statoil,		2 stk)	
(+ Log Processing & Synthetic Seismogram, Statoil,		2 stk)	
(+ VSP, 10 cm/s, b/p-w/t, proc.jan-84, SSL,		9 stk)	

DAILY DRILLING REPORT SYSTEM

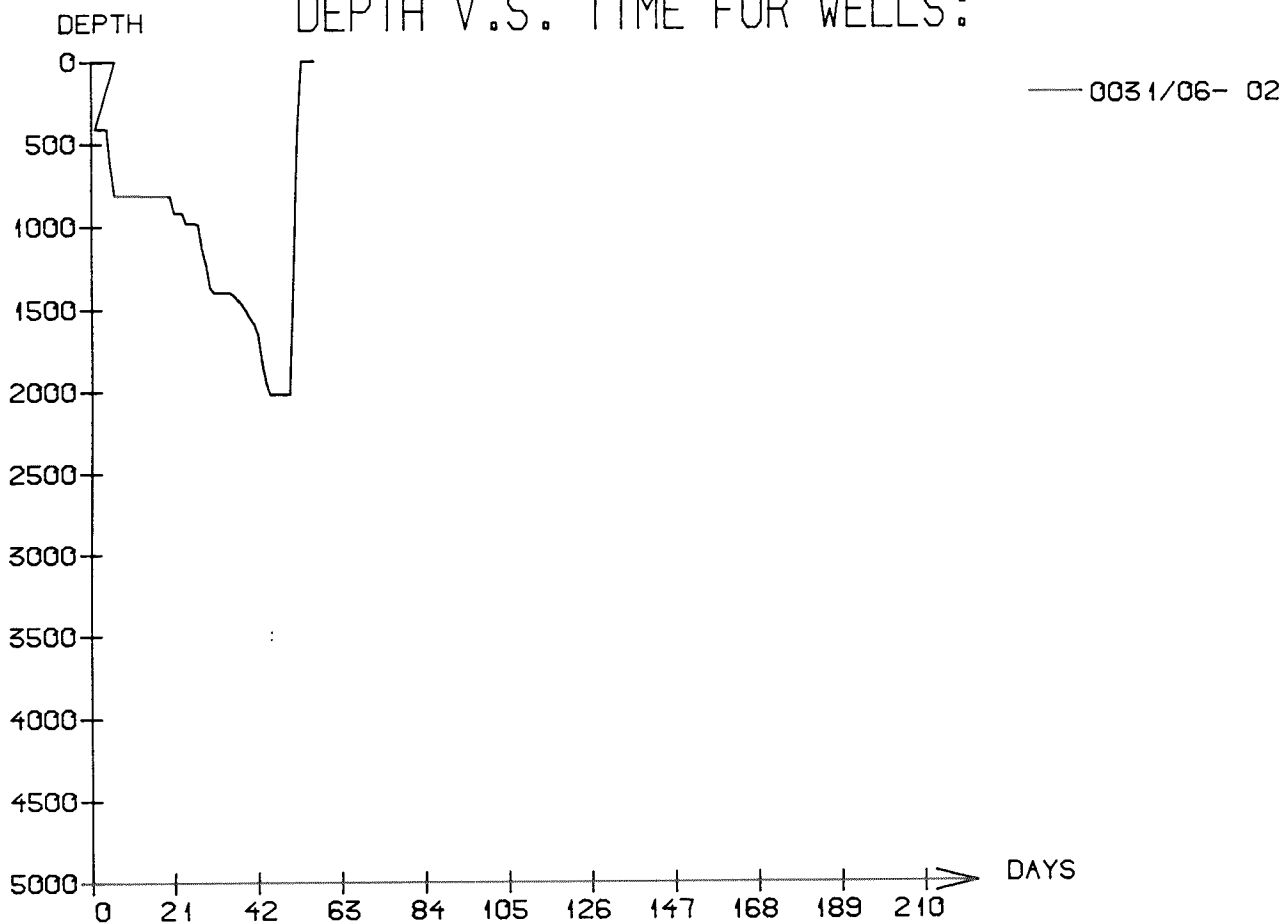
Main operation : 31/06-02



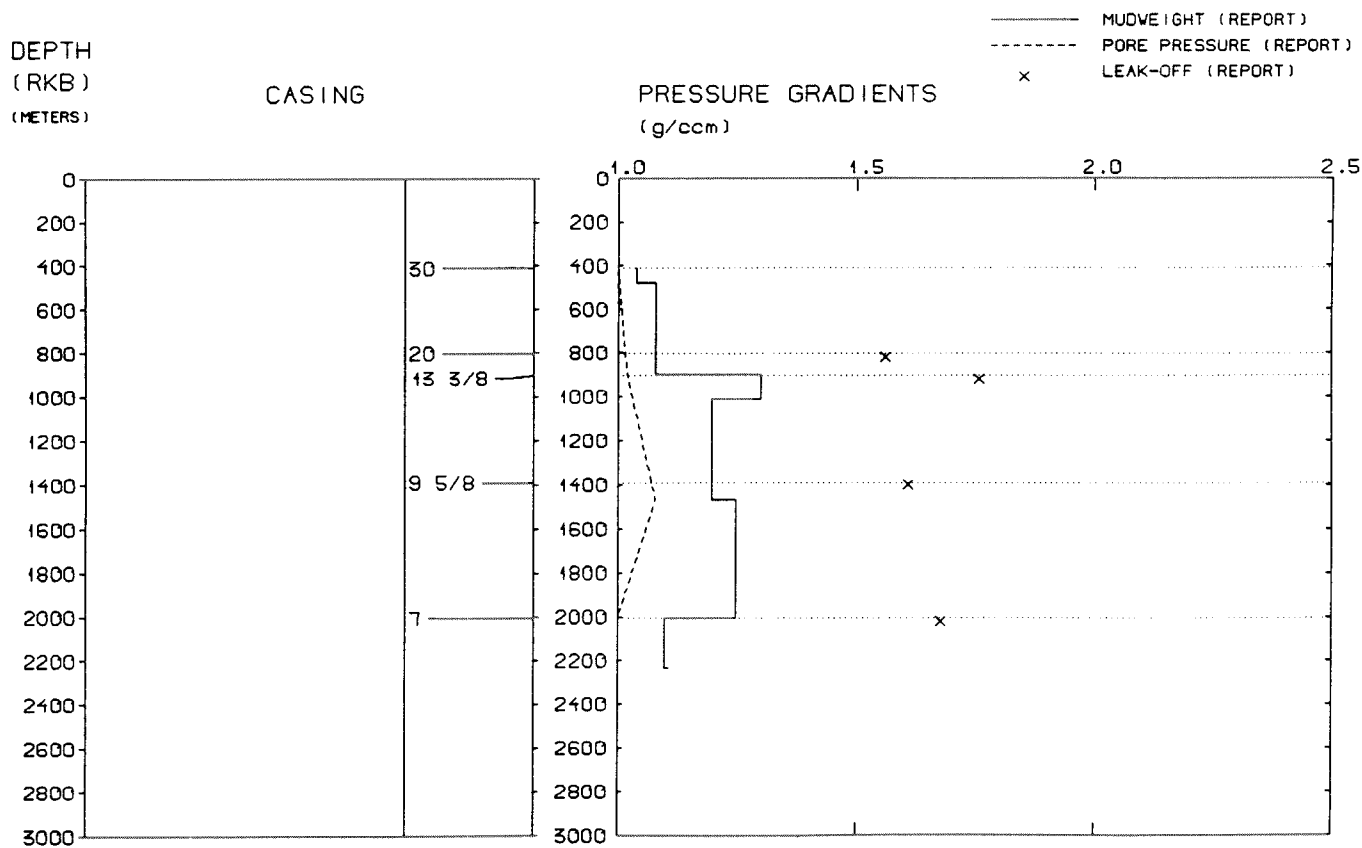
Total : 1454,50 HRS

Main operation	Hours	% of total
MOVING	41,00	2,82
DRILLING	606,50	41,70
FORMATION EVAL	213,00	14,64
PLUG & ABANDON	74,50	5,12
INTERRUPTION	519,50	35,72

DEPTH V.S. TIME FOR WELLS:

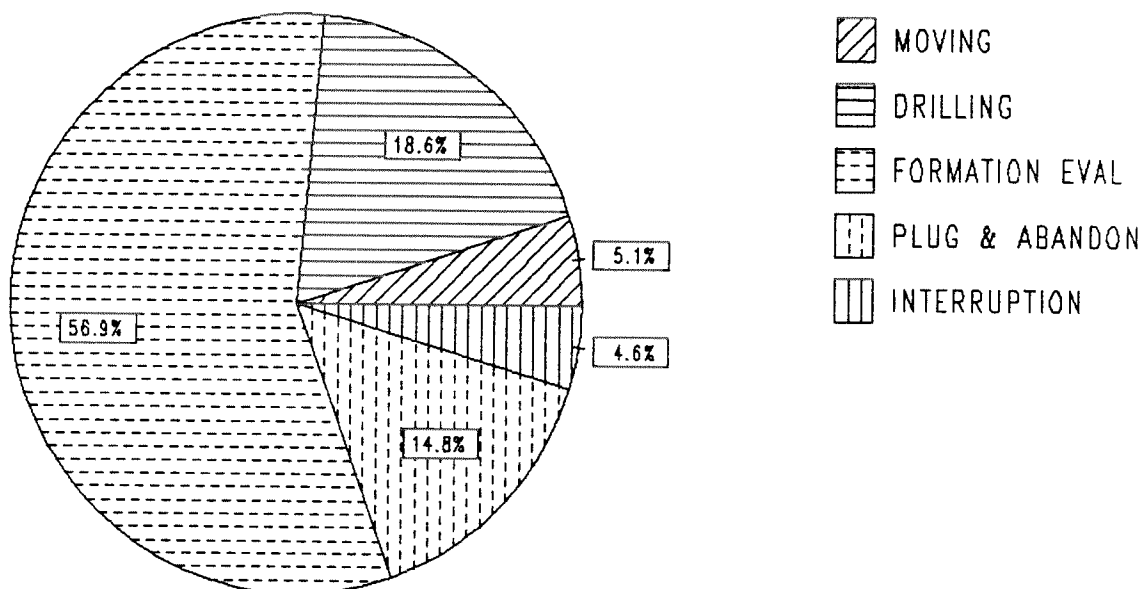


WELL: 003106 02 PRESSURE COMPOSITE PLOT



DAILY DRILLING REPORT SYSTEM

Main operation : 31/06-02 R



Total : 984.00 HRS

Main operation	Minutes	Hours	% of total
MOVING	3000	50.00	5.0
DRILLING	10980	183.00	18.5
FORMATION EVAL	33570	559.50	56.8
PLUG & ABANDON	8760	146.00	14.8
INTERRUPTION	2730	45.50	4.6

MAIN OPERATION: MOVING

Sub operations	Min	% of total
TRANSIT	900	30.00
ANCHOR	2100	70.00
TOTAL	3000	100.00

MAIN OPERATION: DRILLING

Sub operations	Min	% of total
BOP/WELLHEAD EQ	3300	30.05
CASING	420	3.83
OTHER	1560	14.21
TRIP	2070	18.85
DRILL	2460	22.40
BOP ACTIVITIES	630	5.74
SURVEY	300	2.73
CIRC/COND	240	2.19
TOTAL	10980	100.00

MAIN OPERATION: FORMATION EVAL

Sub operations	Min	% of total
CIRC/COND	6420	19.12
LOG	1110	3.31
OTHER	1470	4.38
TRIP	8310	24.75
PROD TEST	16260	48.44
TOTAL	33570	100.00

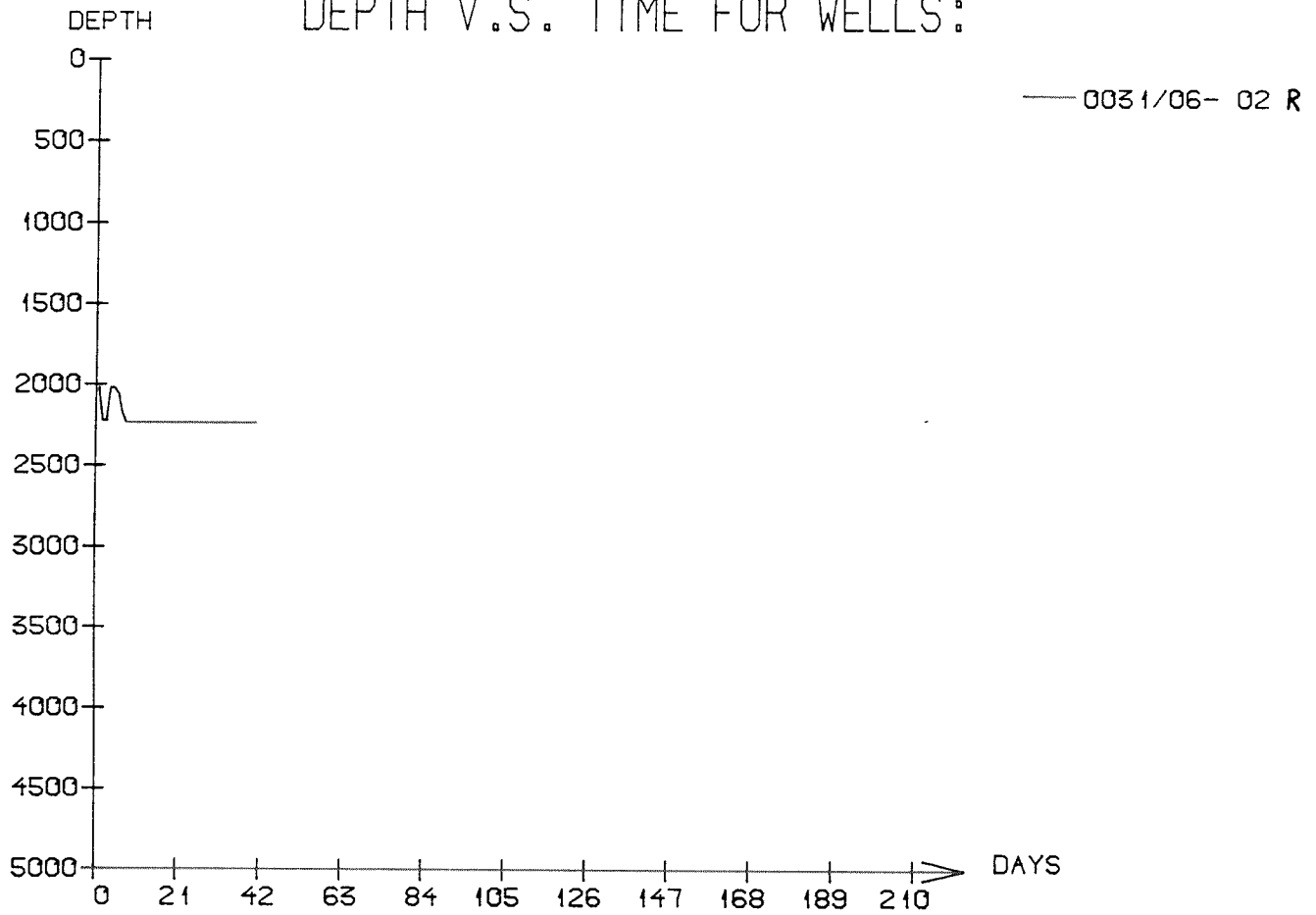
MAIN OPERATION: PLUG & ABANDON

Sub operations	Min	% of total
CEMENT PLUG	930	10.62
TRIP	3180	36.30
OTHER	1590	18.15
MECHANICAL PLUG	330	3.77
CIRC/COND	420	4.79
PERFORATE	510	5.82
CUT	420	4.79
EQUIP RECOVERY	1380	15.75
TOTAL	8760	100.00

MAIN OPERATION: INTERRUPTION

Sub operations	Min	% of total
MAINTAIN/REP	480	17.58
OTHER	2070	75.82
WAIT	180	6.59
TOTAL	2730	100.00

DEPTH V.S. TIME FOR WELLS:



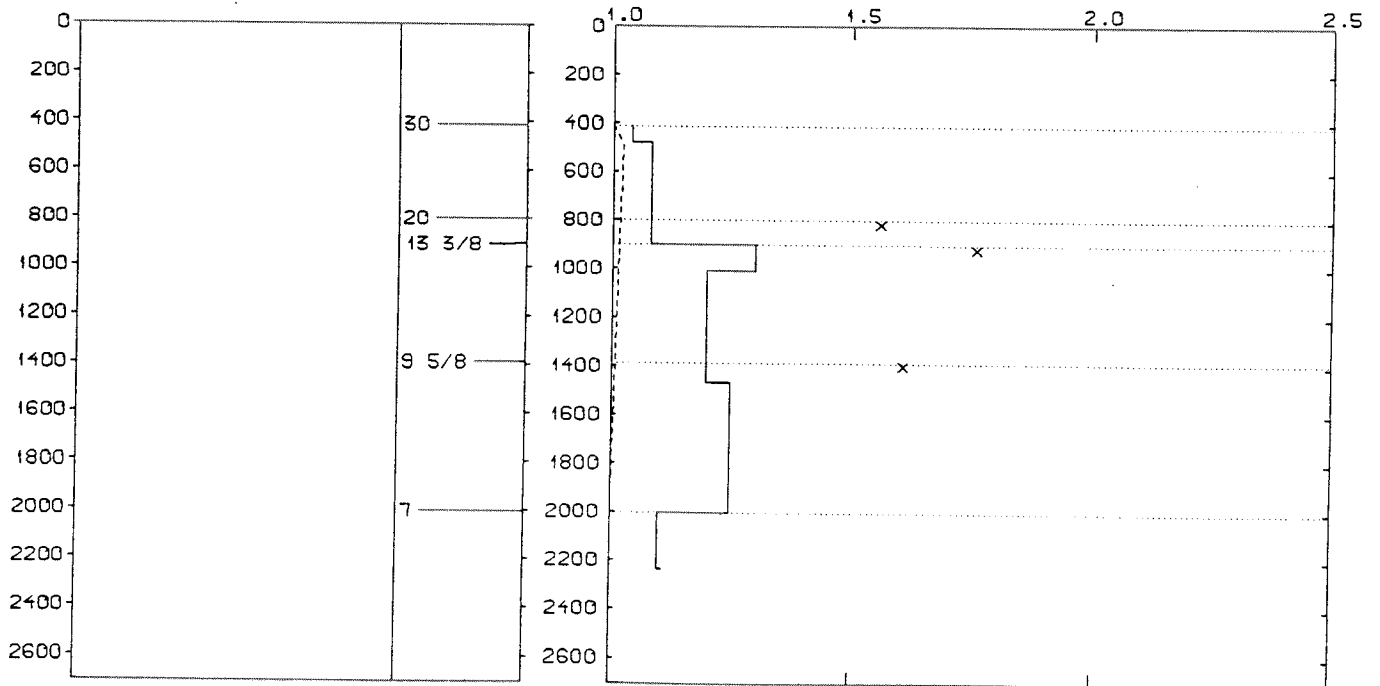
WELL: 003106 02R PRESSURE COMPOSITE PLOT

DEPTH
(RKB)
(METERS)

CASING

PRESSURE GRADIENTS
(g/ccm)

— MUDWEIGHT (REPORT)
- - - PORE PRESSURE (REPORT)
x LEAK-OFF (REPORT)



WELL HISTORY - 31/6-2 AND 31/6-2 R

GENERAL:

The main objective of the appraisal well 31/6-2 was to test gas and oil accumulations in sandstones of Upper to Middle Jurassic age. Hydrocarbons were encountered in the Upper to Middle Jurassic sequence. The well 31/6-2 was drilled to 2020 m rkb and was temporarily abandoned. The next summer the well was re-entered as 31/6-2 R, drilled to 2235 m rkb and tested.

OPERATIONS:

The well 31/6-2 was spudded 18.10.83 by the semi-submersible rig Deepsea Bergen and re-entered 31.07.84 by the same rig. Nine cores were cut in the Upper Jurassic sequence. Tight hole problems were experienced in the 26" hole section. Due to this the bottom hole assembly was lost in the hole, but recovered. Pressure testing of the 20" casing was not successful, due to this the 13 3/8" casing was set 100 m below the 20" casing. In the 12 1/4" hole section returns were lost. Two cement plugs had to be set to regain circulation. The well was drilled using water based mud.

TESTING:

A gravel pack test was performed in the Upper Jurassic Sognefjord Formation. Gas was produced.

NOTE:

The three licensees in licence 085 are equal, they do all three operate boreholes in the licence.

GEOLOGICAL TOPS

WELL: 31/6-02 & 31/6-02 R

	<i>Depth m (RKB)</i>
<i>Nordland Group</i>	<i>326.000</i>
<i>Hordaland Group</i>	<i>505.000</i>
<i>Rogaland Group</i>	<i>626.000</i>
<i>Balder Fm</i>	<i>626.000</i>
<i>Sele Fm</i>	<i>776.000</i>
<i>Lista Fm</i>	<i>885.000</i>
<i>Shetland Group</i>	<i>968.000</i>
<i>Cromer Knoll Group</i>	<i>1129.000</i>
<i>Viking Group</i>	<i>1322.000</i>
<i>Draupne Fm</i>	<i>1322.000</i>
<i>Upper Heather Fm</i>	<i>1435.000</i>
<i>Sognefjord Fm</i>	<i>1460.000</i>
<i>Middle Heather Fm</i>	<i>1625.000</i>
<i>Fensfjord Fm</i>	<i>1642.000</i>
<i>Lower Heather Fm</i>	<i>1910.000</i>
<i>Brent Group</i>	<i>1931.000</i>
<i>Ness Fm</i>	<i>1931.000</i>
<i>Dunlin Group</i>	<i>1975.000</i>
<i>Drake Fm</i>	<i>1975.000</i>
<i>Johansen Fm</i>	<i>2055.000</i>
<i>Amundsen Fm</i>	<i>2138.000</i>
 <i>Statfjord Fm</i>	<i>2164.000</i>
<i>Hegre Group</i>	<i>2198.000</i>
 <i>TD =</i>	 <i>2235.000</i>