

Well no : 29/03-01

Operator : TOTAL

Coordinates	: 60 57 50.24 N 01 56 13.25 E	UTM coord.	: 6759399 N 442441 E
Licence no	: 119	Permit no	: 514
Rig	: BYFORD DOLPHIN	Rig type	: SEMI-SUB.
Contractor	: DOLPHIN SERVICES A/S		
Bottom hole temperature	: deg.C	Elev. KB	: 25 M
Spud. date	: 86.05.20	Water depth	: 131 M
Compl. date	: 86.09.15	Total depth	: 4427 M
Spud. class	: WILDCAT	Form. at TD	: L.JURASSIC
Compl. class	: P&A. OIL/GAS DISC.	Prod. form	:
Seisloca	: SL: NOD5 - 85 - 04	SP. 245	

LICENSEES

5.000000 BRITOil NORGE A/S  
 15.000000 NORSKE CONOCO A/S  
 5.000000 DET NORSKE OLJESELSKAP AS  
 50.000000 DEN NORSKE STATS OLJESELSKAP A.S  
 25.000000 TOTAL NORGE 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	204.0	36	208.0	1.13
SURF.COND.	20	756.0	26	770.0	1.49
INTERM.	13 3/8	2252.0	17 1/2	2265.0	1.87
INTERM.	9 5/8	3468.0	12 1/4	3484.0	2.06
LINER	7	3916.0	8 1/2	4427.0	.

CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery M	%	Series
1	3525.0 - 3543.0	18.0	100.0	
2	3543.0 - 3561.0	16.5	91.7	

MUD PROPERTIES

Depth below KB meter	Mud weigth g/cm3	Viscosity	Mud type
208.000	1.05	10.0	WATER BASED
295.000	1.12	17.0	WATER BASED
770.000	1.13	17.0	WATER BASED
770.000	1.15	17.0	WATER BASED
770.000	1.05	10.0	WATER BASED
931.000	1.10	16.0	WATER BASED
1471.000	1.14	18.0	WATER BASED
1782.000	1.20	22.0	WATER BASED

2035.000	1.22	19.0	WATER BASED
2169.000	1.21	26.0	WATER BASED
2252.000	1.30	21.0	WATER BASED
2265.000	1.20	26.0	WATER BASED
2265.000	1.23	17.0	WATER BASED
2265.000	1.25	19.0	WATER BASED
2280.000	1.30	21.0	WATER BASED
2500.000	1.35	17.0	OIL BASED
3182.000	1.47	21.0	OIL BASED
3426.000	1.50	20.0	OIL BASED
3427.000	1.58	24.0	OIL BASED
3507.000	1.50	20.0	OIL BASED
3522.000	1.60	14.0	OIL BASED
3543.000	1.51	19.0	OIL BASED
3561.000	1.46	16.0	OIL BASED
3600.000	1.59	6.0	OIL BASED
3600.000	1.60	14.0	OIL BASED
3672.000	1.46	19.0	OIL BASED
3715.000	1.55	17.0	OIL BASED
3728.000	1.56	18.0	OIL BASED
3750.000	1.59	32.0	OIL BASED
3883.000	1.56	18.0	OIL BASED
3917.000	1.59	22.0	OIL BASED
3928.000	1.56	18.0	OIL BASED
4298.000	1.58	24.0	OIL BASED
4427.000	1.59	22.0	OIL BASED

### DRILL STEM TEST

#### INTERVALS AND PRESSURES

Test no	interval meter	Choke size	Pressure (PSI)		
			WHP	BTHP	FFP
1.0	3802.000 - 3822.000 Test temperature: 130 °C	7.9	0.0	7637.4	5288.5
2.0	3682.000 - 3725.000 Test temperature: 123.9 °C	12.7	4369.8	7924.8	7417.2
2.1	3682.000 - 3699.000 Test temperature: 129 °C	12.7	3080.1	7805.4	5376.6
3.0	3522.000 - 3530.000 Test temperature: 119 °C	12.7	109.5	6982.0	4957.1

#### RECOVERY

Test no.	Oil Sm <sup>3</sup> /d	Gas Sm <sup>3</sup> /d	Oil grav. g/cm <sup>3</sup>	Gas grav. rel. air	GOR m <sup>3</sup> /m <sup>3</sup>
1.0	2	0	0.878	0.690	0
2.0	433	535	0.868	0.680	1252
2.1	239	439	0.845	0.720	1801
3.0	0	0	0.000	0.000	0

### DRILL BIT CUTTINGS AND WET SAMPLES

SAMPLE TYPE	INTERVAL BELOW KB	NUMBER OF SAMPLES
Cutting	210-4426	1080
Wet Samples	210-4426	710

## SHALLOW GAS

Interval                      REMARKS  
below KB

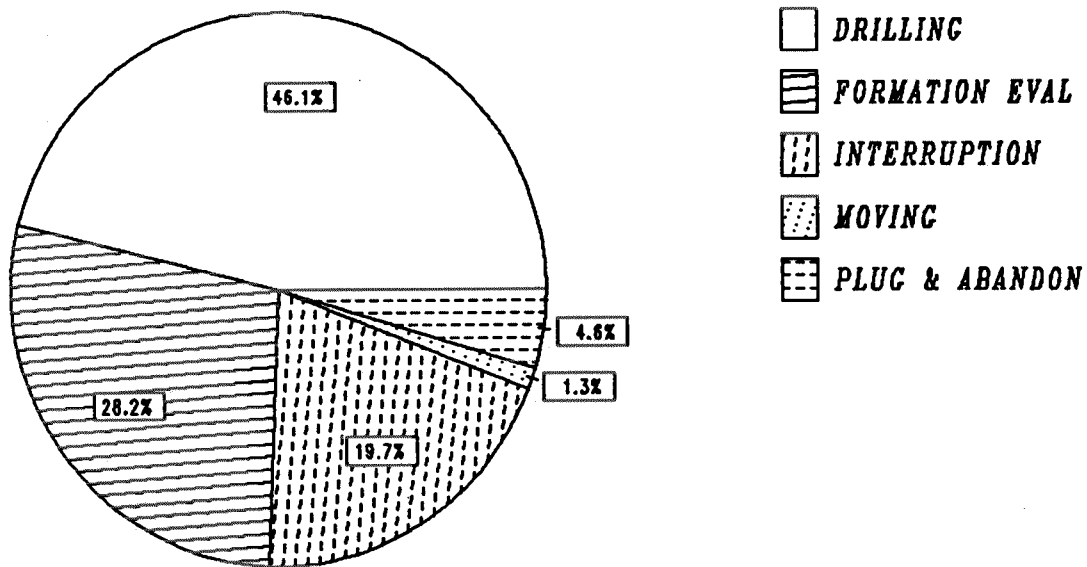
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### AVAILABLE LOGS

LOG TYPE	INTERVALS	1/200	1/500	Div.
DIS BHC GR	156.000 - 4432.000	X	X	
DIS GR	2251.500 - 3427.000	X	X	
DIS BHC GR	3468.500 - 3613.000	X	X	
LDL CNL	2251.500 - 4433.000	X		
CDM AP	3470.000 - 4428.000	X		
SHDT	3468.000 - 4429.000	X		
RFT	3526.000 - 3543.000	X		1:100
RFT SGR	3530.000 - 3861.000	X		1:100
HP SENSOR GAUGE	3530.000 - 3861.000	1:100		
RFT SGR	3535.000 - 3821.000	X		1:100
HP SENSOR GAUGE	3553.000 - 3821.000	1:100		
RFT SGR	3530.000 - 3697.000	1:100		
HP GAUGE PRESSURE	3530.000 - 3697.000	1:100		
RFT SGR	3556.000 - 3610.000	X	X	
HP SENSOR GAUGE	3556.000 - 3610.000	1:100		
RFT SGP GR	3719.000 - 4050.500	X	X	
RFT HP SENSOR	3719.000 - 4050.000	1:100		
CBL VDL GR	1246.000 - 2248.000	X		
CBL VDL GR	1900.000 - 3468.000	X		
MUD	156.000 - 4427.000	X		
VELOCITY "TVD"	156.000 - 2250.000	1:1000	X	
(VSP, run 2A, 800-2240m				1 stk.)
(VSP, using 3-axis sat. run 7B, 2100-4430m.				1 stk.)
(VSP, quick look, run 2A, 800-2240m.				1 stk.)
(VSP, zero offset & vert. comp. Plot 1-27				27 stk.)
(VSP, raw surface/downhole data & coherence				19 stk.)
(VSP, processing, plot 1-5				5 stk.)
(VSP, calibration				3 stk.)
(VSP, composite geogram display, plot 10				1 stk.)
(Geogram, synthetic seismogram, plot 2-9				8 stk.)

# DAILY DRILLING REPORT SYSTEM

Main operations for well : 0029/03 - 01



Total : 2880.00 hours

Main operation	Minutes	Hours	% of total
DRILLING	79720	1328.67	46.13
FORMATION EVAL	48775	812.92	28.23
INTERRUPTION	34060	567.67	19.71
MOVING	2220	37.00	1.28
PLUG & ABANDON	8025	133.75	4.64

MAIN OPERATIONS FOR WELL : 0029 / 03 - 01

MAIN OPERATION : DRILLING

Sub operations	Minutes	Hrs	% of total
BOP ACTIVITIES	1455	24.25	1.83
BOP/WELLHEAD EQ	6555	109.25	8.22
CASING	12195	203.25	15.30
CIRC/COND	4110	68.50	5.16
DRILL	28265	471.08	35.46
OTHER	805	13.42	1.01
PRESS DETECTION	665	11.08	0.83
REAM	2230	37.17	2.80
SURVEY	1215	20.25	1.52
TRIP	20575	342.92	25.81
UNDERREAM	1650	27.50	2.07
<b>Total</b>	<b>79720</b>	<b>1328.67</b>	<b>100.00</b>

MAIN OPERATION : FORMATION EVAL

Sub operations	Minutes	Hrs	% of total
CIRC SAMPLES	690	11.50	1.41
CIRC/COND	2220	37.00	4.55
CORE	315	5.25	0.65
DST	17085	284.75	35.03
LOG	6760	112.67	13.86
RFT/FIT	4815	80.25	9.87
TRIP	15600	260.00	31.98
WAIT	1290	21.50	2.64
<b>Total</b>	<b>48775</b>	<b>812.92</b>	<b>100.00</b>

MAIN OPERATION : INTERRUPTION

Sub operations	Minutes	Hrs	% of total
FISH	2505	41.75	7.35
MAINTAIN/REP	26560	442.67	77.98
OTHER	3225	53.75	9.47
WAIT	1290	21.50	3.79
WELL CONTROL	480	8.00	1.41
<b>Total</b>	<b>34060</b>	<b>567.67</b>	<b>100.00</b>

MAIN OPERATION : MOVING

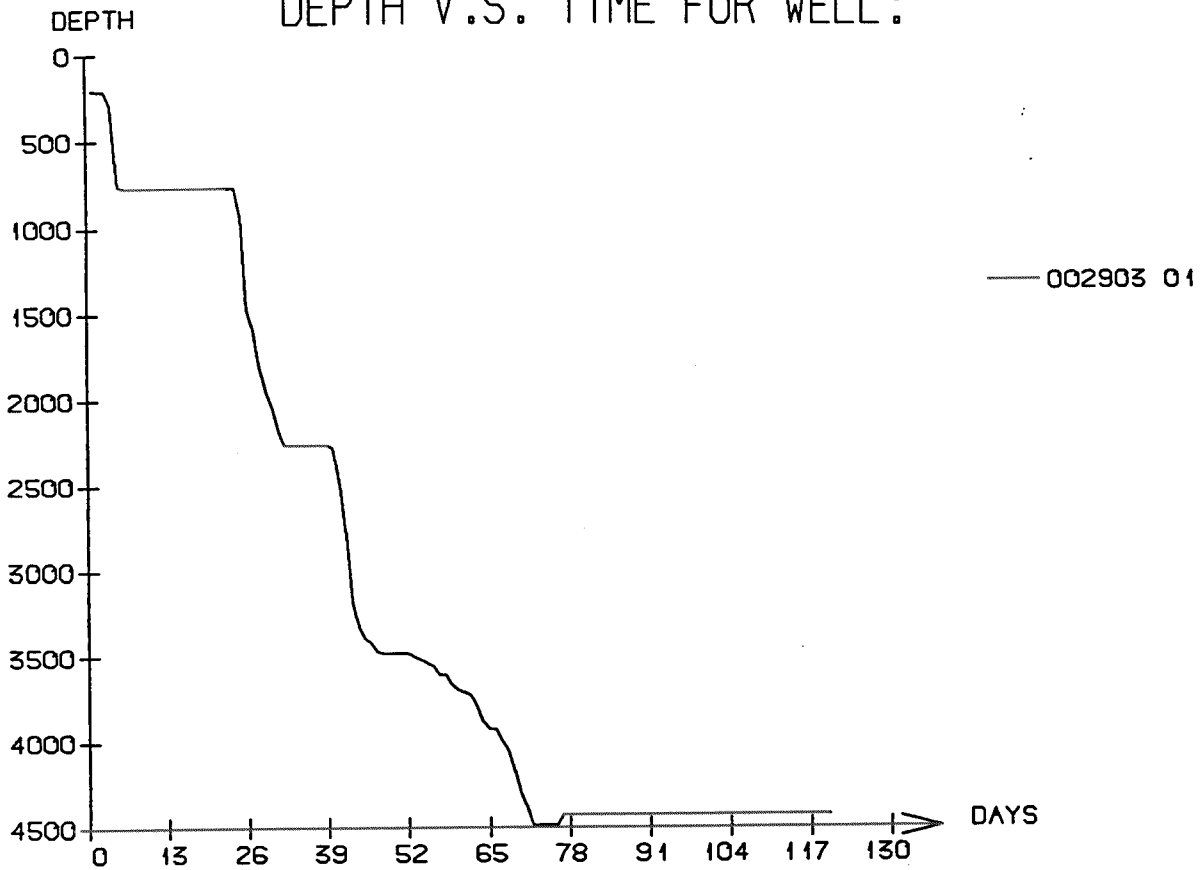
Sub operations	Minutes	Hrs	% of total
ANCHOR	1260	21.00	56.76
POSITION	30	0.50	1.35
TRANSIT	930	15.50	41.89
<b>Total</b>	<b>2220</b>	<b>37.00</b>	<b>100.00</b>

MAIN OPERATION : PLUG & ABANDON

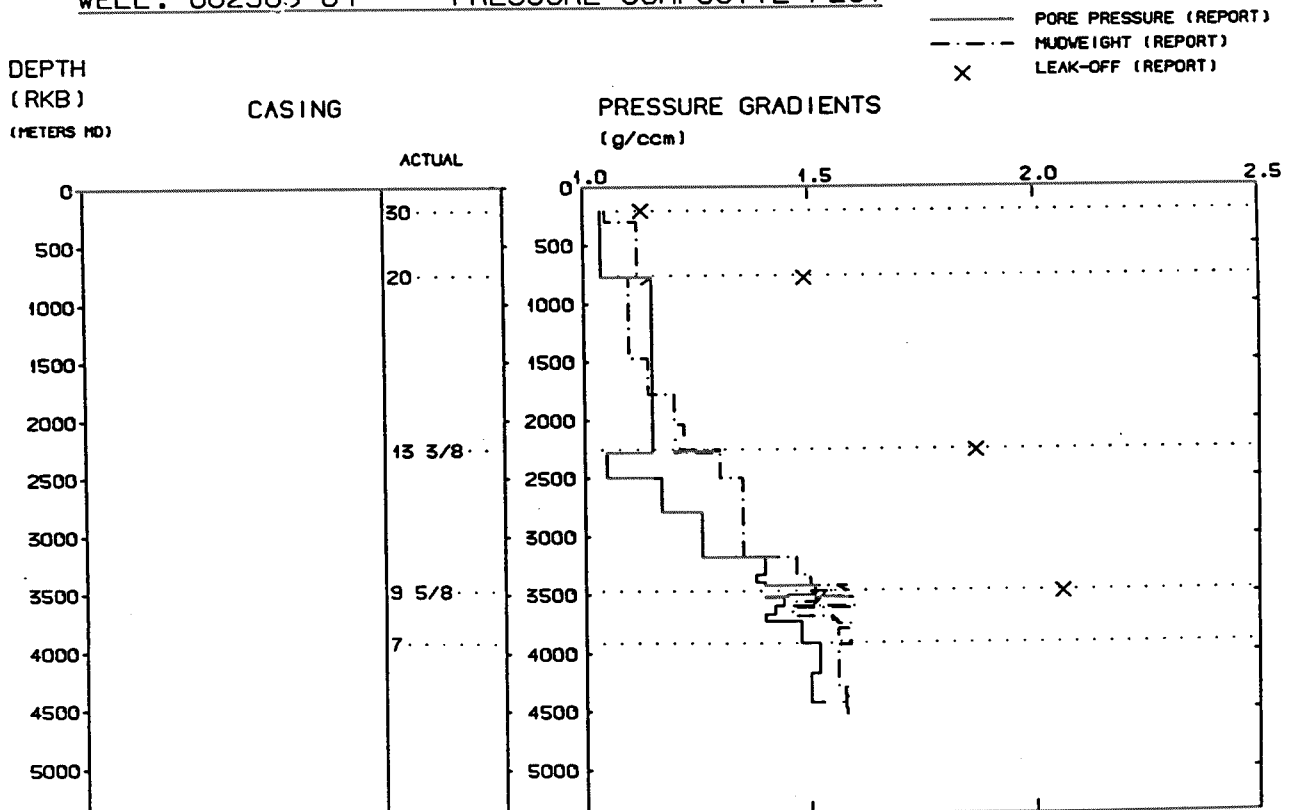
Sub operations	Minutes	Hrs	% of total
CEMENT PLUG	915	15.25	11.40
CIRC/COND	90	1.50	1.12
CUT	1410	23.50	17.57
EQUIP RECOVERY	885	14.75	11.03
MECHANICAL PLUG	975	16.25	12.15
PERFORATE	270	4.50	3.36
SQUEEZE	60	1.00	0.75
TRIP	3420	57.00	42.62
<b>Total</b>	<b>8025</b>	<b>133.75</b>	<b>100.00</b>

Total time used 2880.00 hrs

# DEPTH V.S. TIME FOR WELL:



## WELL: 002903 01      PRESSURE COMPOSITE PLOT



## Well History 29/3-1

### GENERAL:

Well 29/3-1 was drilled in an area adjacent to several major hydrocarbon discoveries close to the UK-Norway median line. The structure is located in the highest part of a westerly tilted fault panel and the closure is provided by fault to the North East and South and by structural dips westward.

The objectives of the well were to test hydrocarbon potential of the Middle Jurassic, Brent sandstones; and to test the reservoir potential of the Dunlin sands.

### OPERATIONS:

Wildcat well 29/3-1 was spudded 20 May 1986 by Dolphin Services A/S semi-submersible rig Byford Dolphin and completed 15 September 1986 at a depth of 4427 m in Jurassic rocks. Drilling was delayed due to a destroyed guide block. When drilling started again, it proceeded without significant problems.

2 cores were cut in the Brent sandstones in the interval 3525 - 3561 m.

The hydrocarbon column is 150 m in the Ness Formation.

The well is plugged and abandoned as a gas and oil discovery.

### TESTING:

4 DST tests were performed in this well. They showed that the Tarbert Fm. was waterbearing with residual hydrocarbons, the Ness Fm. was hydrocarbonbearing and the Dunlin Group and Statfjord Fm. were tight and hydrocarbons were not detected.

GEOLOGICAL TOPS  
WELL: 29/3-1

	Depth m (RKB)
<i>Nordland Group</i>	156.2
<i>Utsira Fm.</i>	534.0
<i>Hordaland Group</i>	1500.0
<i>Rogaland Group</i>	1726.0
<i>Balder Fm.</i>	1726.0
<i>Sele Fm.</i>	1771.0
<i>Lista Fm.</i>	1850.0
<i>Shetland Group</i>	2061.0
<i>Jorsalfare Fm.</i>	2061.0
<i>Kyrre Fm.</i>	2250.0
<i>Tryggvason Fm.</i>	3286.0
<i>Blodøks Fm.</i>	3435.0
<i>Svarte Fm.</i>	3440.0
<i>Cromer Knoll Group</i>	3462.0
<i>Viking Group</i>	3466.0
<i>Heather Fm.</i>	3466.0
<i>Brent Group</i>	3522.5
<i>Tarbert Fm.</i>	3522.5
<i>Ness Fm.</i>	3562.0
<i>Etive Fm.</i>	3850.0
<i>Rannoch Fm.</i>	3862.0
<i>Dunlin Group</i>	3912.0
<i>Drake Fm.</i>	3912.0
<i>Cook Fm.</i>	4046.0
<i>Burton Fm.</i>	4155.0
<i>Amundsen Fm.</i>	4215.0
<i>Statfjord Fm.</i>	4389.0
<i>T.D.</i>	4433.5