

Well no :	25/5-2	Operator :	ELF
Coordinates :	59° 42' 13.28" N 02° 32' 08.58" E	UTM coord. :	661865796 N 47387096 E
Licence no :	102	Permit no :	606
Rig :	WEST VANGUARD	Rig type :	SEMI-SUB.
Contractor :	A/S SMEDVIG DRILLING CO.	Elev. KB :	22 M
Bottom hole temp:	75 °C	Water depth :	117 M
Spud. date :	89.04.18	Total depth :	3304 M
Compl. date :	89.07.04	Form. at TD	JURASSIC
Spud. class :	WILDCAT	Prod.form. :	
Compl. class :	P&A. OIL/GAS		
Seisloca :	EL 8801-3D rad 204, rekke 1008		

## LICENSEES

20,000000	A/S NORSKE SHELL
50,000000	DEN NORSKE STATS OLJESELSKAP A.S
30,000000	ELF PETROLEUM 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	212,0	36	212,0	
INTERM.	13 3/8	1185,0	17 1/2	1200,0	1,85
INTERM.	9 5/8	3062,0	12 1/4	3077,0	1,81
LINER	7	3304,0	8 1/2	3304,0	

## CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery	
		M	%
1	3176,0 - 3194,0	18,0	100,0
2	3194,0 - 3197,0	3,0	100,0
3	3197,0 - 3215,0	18,0	100,0
4	3215,0 - 3226,3	11,3	100,0

## MUD

Depth	Mud weight	Visc.	Mud type
212,000	1,08		WATER BASED
1467,000	1,09	16,0	WATER BASED
1741,000	1,13	15,0	WATER BASED
2016,000	1,25	44,0	WATER BASED
2044,000	1,13	18,0	WATER BASED
2109,000	1,13	17,0	WATER BASED
2120,000	1,25	31,0	WATER BASED
2190,000	1,26	36,0	WATER BASED

Depth	Mud weight	Visc.	Mud type
2232,000	1,25	34,0	WATER BASED
2248,000	1,27	35,0	WATER BASED
2329,000	1,15	21,0	WATER BASED
2508,000	1,27	33,0	WATER BASED
2781,000	1,26	35,0	WATER BASED
2901,000	1,27	29,0	WATER BASED
3077,000	1,26	33,0	WATER BASED
3115,000	1,11	17,0	WATER BASED
3177,000	1,12	18,0	WATER BASED
3304,000	1,13	21,0	WATER BASED

## DRILL STEM TEST

### INTERVALS AND PRESSURES

Test no.	Interval meter		Choke size	Pressure (PSI) WHP	BTHP	FFP
2,0	3196,0	-	3201,0	6,3		
2,A	3196,0	-	3201,0	9,5		

Test temperature: N/A

### RECOVERY

Test no.	Oil Sm3/d	Gas Sm3/d	Oil grav. g/cm3	Gas grav. rel. air	GOR m3/m3
2,0	68		0,821		181
2,A	200	35000	0,821		170

## DRILL BIT CUTTINGS AND WET SAMPLES

Sample type	Interval below KB	Number of samples
WET SAMPLES	220 - 3304	330

## SHALLOW GAS

Interval below KB	Remarks
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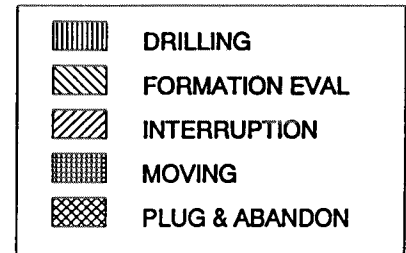
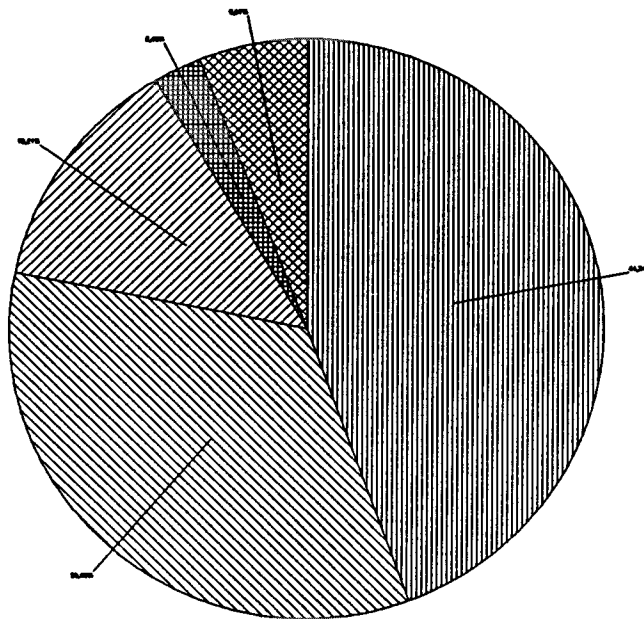
## AVAILABLE LOGS

Log type	Intervals	1/200	1/500	Div.
AMS	3066,0 - 3306,0	X		
CBL VDL GR	1690,0 - 3159,0		X	
CBL VDL GR	2920,0 - 3262,0		X	

Log type	Intervals		1/200	1/500	Div.
SHDT GR	1186,0	- 3058,0	X		
CDM AP / SHDT	1190,0	- 3055,0	X	X	
DIL GR SLS	1186,0	- 3057,0	X	X	
DIS GR SLS	3066,0	- 3306,0	X	X	
DLL MSFL GR SP	3066,0	- 3302,5	X	X	
FMS GR	3066,0	- 3306,0	X		
MWD	211,0	- 3301,0	X	X	
HP RFT GR	3188,6	- 3226,0			
LDL CNL NGS	3066,0	- 3306,0	X	X	
LDL GR	1186,0	- 3057,0	X	X	
MUD	139,0	- 3305,0		X	
NGS RATIOS	3066,0	- 3306,0	X		
VELOCITY LOG	1186,0	- 3305,0		X	
GEOGRAM.SYNTH.SEISMO	10 cm/s	- 20 cm/s			4
FREQUENCY TEST	10 cm/s	- 20 cm/s			8
V.S.P PLOT 1-15	10 cm/s	- 20 cm/s			15

# Daily Drilling Report System (DDRS)

Operations for well: 25/5-2



Main operations	Minutes	Hours	% of total
DRILLING	49590	826,50	44,34
FORMATION EVAL	37860	631,00	33,85
INTERRUPTION	14772	246,20	13,21
MOVING	2940	49,00	2,63
PLUG & ABANDON	6678	111,30	5,97
<b>Total</b>	<b>111840</b>	<b>1864,00</b>	<b>100,00</b>

**Operations for well: 25/5-2****Main operation: DRILLING**

Sub operations	Minutes	Hours	% of total
BOP ACTIVITIES	1620	27,00	3,27
BOP/WELLHEAD EQ	1620	27,00	3,27
CASING	10590	176,50	21,36
CIRC/COND	1770	29,50	3,57
DRILL	22800	380,00	45,98
OTHER	210	3,50	0,42
REAM	1650	27,50	3,33
SURVEY	30	0,50	0,06
TRIP	8970	149,50	18,09
UNDERREAM	150	2,50	0,30
WAIT	180	3,00	0,36
<b>Total</b>	<b>49590</b>	<b>826,50</b>	<b>100,00</b>

**Main operation: FORMATION EVAL**

Sub operations	Minutes	Hours	% of total
CIRC/COND	660	11,00	1,74
CORE	1590	26,50	4,20
DST	19860	331,00	52,46
LOG	5640	94,00	14,90
TRIP	10110	168,50	26,70
<b>Total</b>	<b>37860</b>	<b>631,00</b>	<b>100,00</b>

**Main operation: INTERRUPTION**

Sub operations	Minutes	Hours	% of total
FISH	3180	53,00	21,53
MAINTAIN/REP	2052	34,20	13,89
OTHER	120	2,00	0,81
SIDETRACK	9420	157,00	63,77
<b>Total</b>	<b>14772</b>	<b>246,20</b>	<b>100,00</b>

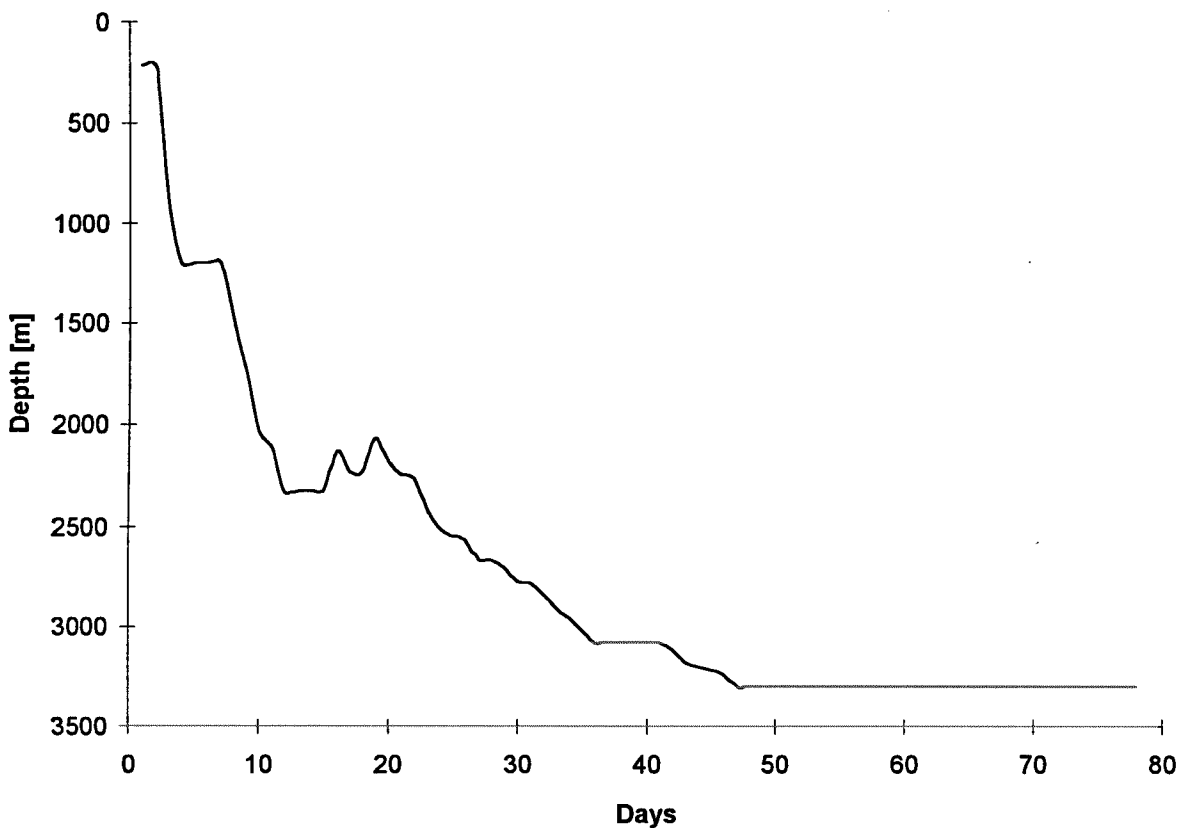
**Main operation: MOVING**

Sub operations	Minutes	Hours	% of total
ANCHOR	2160	36,00	73,47
POSITION	30	0,50	1,02
TRANSIT	750	12,50	25,51
<b>Total</b>	<b>2940</b>	<b>49,00</b>	<b>100,00</b>

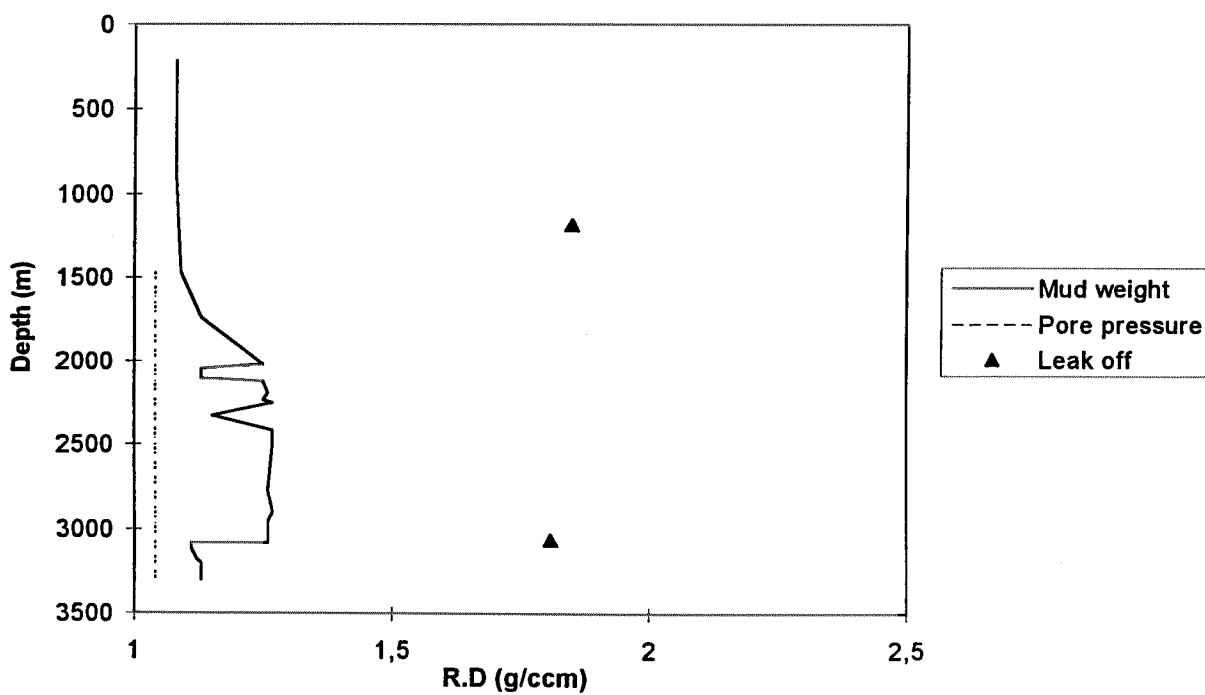
**Main operation: PLUG & ABANDON**

Sub operations	Minutes	Hours	% of total
CEMENT PLUG	738	12,30	11,05
CIRC/COND	60	1,00	0,90
CUT	480	8,00	7,19
EQUIP RECOVERY	78	1,30	1,17
MECHANICAL PLUG	540	9,00	8,09
OTHER	60	1,00	0,90
PERFORATE	618	10,30	9,25
SQUEEZE	540	9,00	8,09
TRIP	3564	59,40	53,37
<b>Total</b>	<b>6678</b>	<b>111,30</b>	<b>100,00</b>

**Depth vs time for well: 25/5-2**



**Composite plot for well: 25/5-2**



# Well History 25/5-2.

## General:

Well 25/5-2 was designed to drill the Frøy structure, which is a NNE-SSW tilted Jurassic fault block located in the north-eastern corner of block 25/5. The main objectives of the well was:

- to prove the continuity and extension of the Middle Jurassic reservoir.
- to determine the OWC in the Frøy Field.
- to test the productivity in the oil zone.
- to test the injectivity in the water zone.

The northern extension of the Frøy structure was drilled in 1977 by well 25/2-6 in a downdip position and proved limited oil shows in the Statfjord Formation. Wells 25/5-1 and 25/5-1 A was drilled in the central part of the structure, and found oil in the Brent Group sandstones.

## Operations:

Wildcat well 25/5-2 was spudded 18 April 1989 by the semi-submersible rig West Vanguard and completed 4 July 1989 at a depth of 3304 m RKB (DD) in the Drake Formation. The MWD measurements showed no indication of shallow gas. The Brent Group came in 67 m deeper than expected due to both reduced primary sedimentary thickness and erosion. Hydrocarbons were encountered at the top reservoir with the water contact at 3198 m RKB. Drilling went without problems to 2300 m RKB where the bit became stuck after a wiper trip, and the string was backed off at 2231 m RKB. A technical sidetrack was started from 2103 m RKB. The string entered into the old hole, and a second sidetrack was started from 2070 m RKB. A total of 4 cores were cut down to 3226 m RKB (DD). The well was plugged and abandoned with oil and gas shows.

## Testing:

- Two DST tests were performed.
- Test 1 was a production and injection test in the water zone.
- Test 2 was a production test at the oil/water contact.

# Geological Tops.

## Well: 25/5-2.

	Depth m (RKB).
Nordland Group	117.0
Utsira Fm	289.0
	918.0
Hordaland Group	
Rogaland Group	2116.0
Balder Fm	2116.0
Sele Fm	2292.0
Lista Fm	2327.0
Maureen Fm	2502.0
Shetland Group	2630.0
Hardråde Fm	2630.0
Kyrre Fm.	2855.0
Svarte Fm	2870.0
Cromer Knoll Group	2980.0
Rodby Fm	2980.0
Åsgard Fm	2990.0
Viking Group	3008.0
Draupne Fm	3008.0
Heather Fm	3131.0
Brent Group	3186.0
Dunlin Group	3231.0
Drake Fm	3231.0
T.D.	3304.0