

Well no :	2/6-4 S	Operator :	ELF
Coordinates :	56° 38' 59.29" N 03° 47' 23.27" E	UTM coord.	627882348 N 54843004 E
Licence no :	8	Permit no :	632
Rig :	WEST VANGUARD	Rig type :	SEMI-SUB.
Contractor :	A/S SMEDVIG DRILLING CO.		
Bottom hole temp:	121 °C	Elev. KB :	22 M
Spud. date :	90.04.08	Water depth	55 M
Compl. date :	90.06.02	Total depth :	3617 M
Spud. class :	WILDCAT	Form. at TD	PERMIAN
Compl. class :	P&A. DRY HOLE	Prod.form. :	
Seisloca :	G 2/6-88-207 SP 814		

## LICENSEES

1,216000	COFRANORD A/S (NORMINOL)
2,712000	COPAREX NORGE A/S
32,376000	ELF PETROLEUM NORGE A/S.
1,824000	EURAFREP NORGE A/S
23,684000	NORSK HYDRO PRODUKSJON A.S
14,780000	PHILLIPS PETROLEUM COMPANY NORWAY
2,000000	DEN NORSKE STATS OLJESELSKAP A.S
16,188000	TOTAL NORGE A.S
5,220000	NORSK AGIP A/S

## CONVENTIONAL CORES

Core no.	Intervals cored		Recovery	
	meters		M	%
1	3530,0	- 3536,0	3,9	65,0

## MUD

Depth	Mud weight	Visc.	Mud type
1204,000	1,29	22,0	DUMMY
2225,000	1,40	33,0	DUMMY
2283,000	1,45	31,0	DUMMY
2314,000	1,55	20,0	WATER BASED
2523,000	1,55	24,0	WATER BASED
3487,000	1,60	24,0	WATER BASED
3530,000	1,60	23,0	WATER BASED
3536,000	1,60	20,0	WATER BASED

## DRILL BIT CUTTINGS AND WET SAMPLES

Sample type	Interval below KB	Number of samples
WET SAMPLES	520 - 3617	390
CUTTINGS	520 - 3617	60

# SHALLOW GAS

Interval            Remarks  
below KB

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## AVAILABLE LOGS

Log type	Intervals		1/200	1/500	Div.
CBL VDL CCL	800,0	- 2267,0	X		
CBL VDL CCL	1975,0	- 3317,0	X		
DIL DDBHC AMS SP GR	1001,0	- 2274,0	X	X	
DIL DDBHC AMS SP GR	2270,0	- 3347,0	X	X	
DIL BHC GR AMS SP	334,0	- 3626,0	X	X	
FMS GR AMS	3334,0	- 3626,0	X		
LDL AMS	1001,0	- 2274,0	X	X	
LDL AMS	2270,0	- 3347,0	X	X	
LDL CNL AMS	3334,0	- 3627,0	X	X	
CDM AP /SHDT	3627,0	- 3330,0	X	X	
MWD	139,0	- 3617,0	X	X	
MUD	77,0	- 3617,0		X	
VELOCITY LOG	990,0	- 3645,0		X	1000
TWO WAY TRAVEL TIME.	10 cm/s			1	
SYNTHETIC SEISMOGRAM	10 cm/s			2	
VSP	10 cm/s			8	

## Main operations for well: 2/6-4 S

### Main operation: DRILLING

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	1080	18,0	2,04
BOP/WELLHEAD EQ	1980	33,0	3,74
CASING	9240	154,0	17,45
CIRC/COND	2550	42,5	4,82
DRILL	24990	416,5	47,20
HOLE OPEN	1440	24,0	2,72
OTHER	60	1,0	0,11
PRESS DETECTION	60	1,0	0,11
REAM	750	12,5	1,42
TRIP	9420	157,0	17,79
UNDERREAM	1380	23,0	2,61
Total	52950	882,5	100,00

### Main operation: FORMATION EVAL

Sub operation:	Minutes:	Hours:	% of total:
CIRC/COND	1560	26,0	16,88
CORE	690	11,5	7,47
LOG	4050	67,5	43,83
RFT/FIT	270	4,5	2,92
TRIP	2670	44,5	28,90
Total	9240	154,0	100,00

### Main operation: INTERRUPTION

Sub operation:	Minutes:	Hours:	% of total:
FISH	2370	39,5	27,15
MAINTAIN/REP	6090	101,5	69,76
WAIT	270	4,5	3,09
Total	8730	145,5	100,00

### Main operation: MOVING

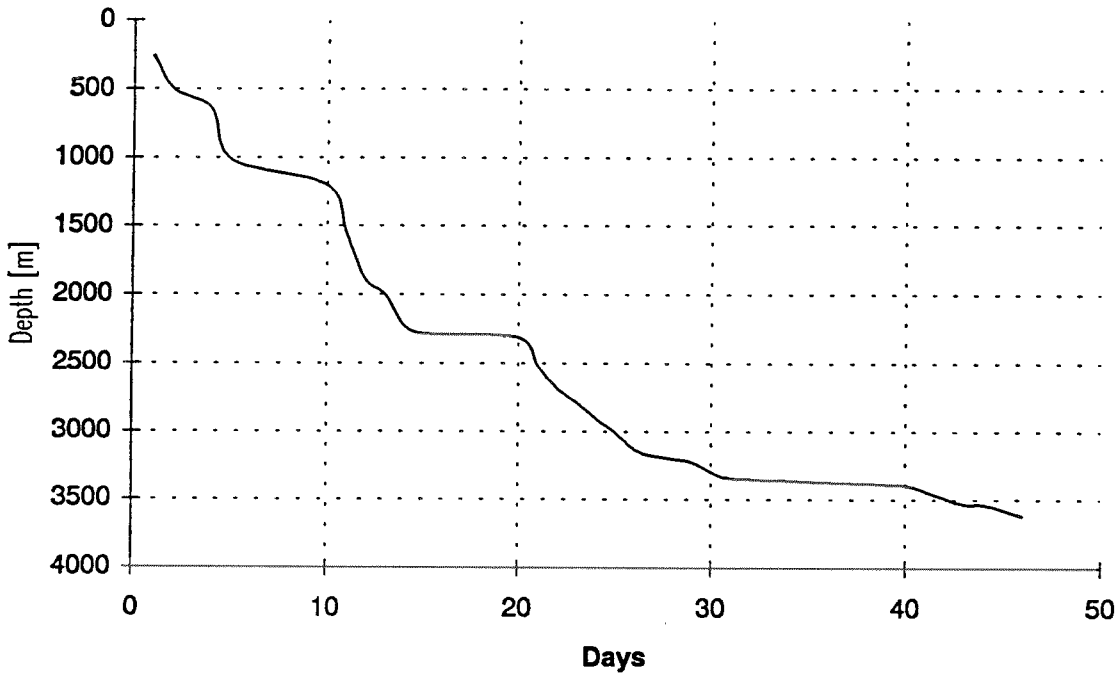
Sub operation:	Minutes:	Hours:	% of total:
ANCHOR	2100	35,0	37,23
POSITION	150	2,5	2,66
TRANSIT	3390	56,5	60,11
Total	5640	94,0	100,00

### Main operation: PLUG & ABANDON

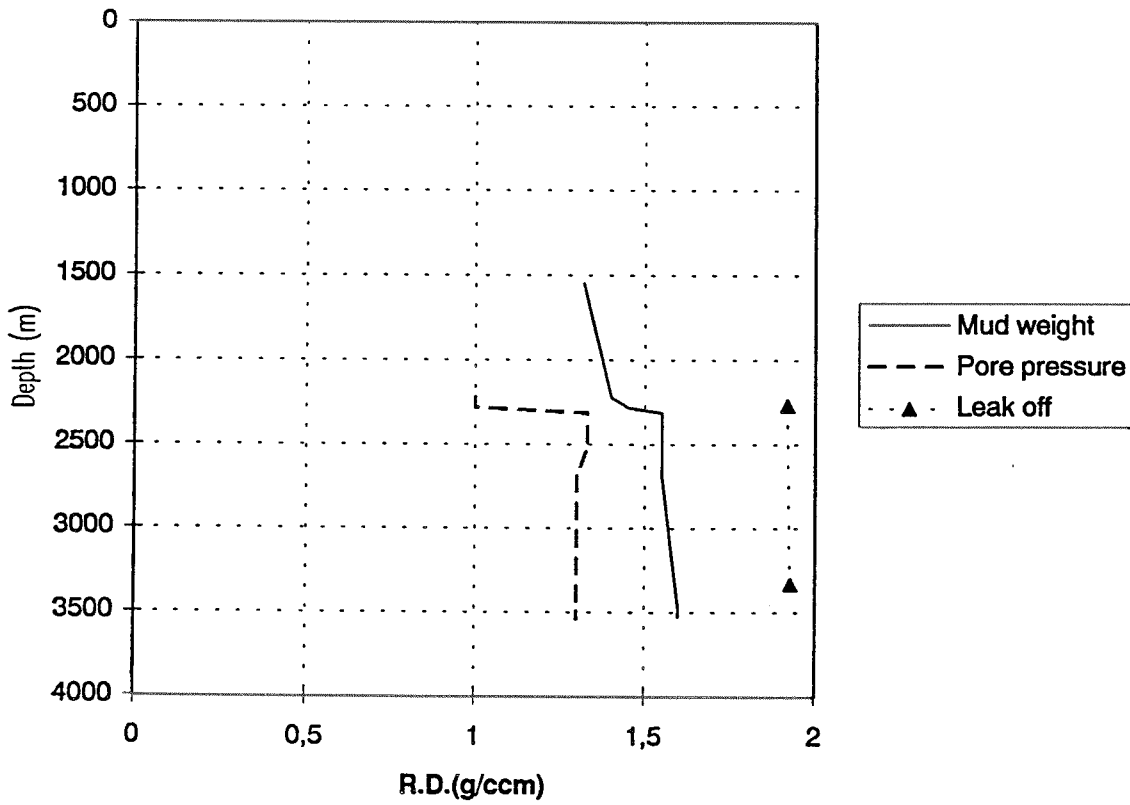
Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	960	16,0	11,43
CIRC/COND	390	6,5	4,64
CUT	300	5,0	3,57
MECHANICAL PLUG	270	4,5	3,21
OTHER	390	6,5	4,64
PERFORATE	810	13,5	9,64
TRIP	4980	83,0	59,29
WAIT	300	5,0	3,57
Total	8400	140,0	100,00

Total time used:  Hours

**Depth vs time for well: 2/6-4 S**



**Composite plot for well: 2/6-4 S**



# Well History 2/6-4 S.

## General:

Well 2/6-4 S was the fourth well in the license and fulfil the commitment in the license. The well was designed to drill on the flank of a salt dome. The objectives of the well were to evaluate the potential of the Late and Middle Jurassic series which were supposed to consist of three reservoirs and intermediate seals:

Turbiditic sands in the Mandal-Farsund formations.

Shallow marine Ula sands of Kimmeridgian to Volgian age.

Fluviatil sands of the Middle Jurassic.

Oil was expected in this reservoirs with only small amounts of associated gas.

## Operations:

Wildcat well 2/6-4 S was spudded 8 April 1990 by the semi-submersible rig West Vanguard and completed 2 June 1990 at a depth of 3617 m RKB in rocks of Permian age. The rig was moved 250 m to the SW from the original location at the vertical of the target, and drilled deviated to avoid penetrating possible shallow gas anomalies. The well was kicked off at 2330 m RKB, and drilled to the target with an average of 15° dip. No significant drilling problems occurred during drilling operations. No shallow gas was encountered. One 6 m core was cut at 3530 m RKB, recovery 67%, 4 m. Two runs of SWC were run, recovery 50 SWC. A third SWC run was cancelled due to hole problems. The results of the well are disappointing since the Ula formation was missing, and only two meters of Kimmeridgian sands were encountered. The Bryne formation was thicker than expected, but holds poor reservoir quality. Small shows were encountered in the chalk section. The well was plugged and abandoned as a dry well.

## Testing:

No DST tests were performed.

# Geological Tops.

## Well:2/6-4 S.

	Depth m (RKB).
Nordland Group	77.0
Hordaland Group	1442.0
Rogaland Group	2755.0
Balder Fm	2755.0
Sele Fm	2767.0
Lista Fm	2799.0
Våle Fm	2826.0
Shetland Group	2858.0
Ekofisk Fm	2858.0
Tor Fm.	2923.0
Hod Fm	3171.0
BCU/Haugesund Fm.	3402.0
Undefined Fm.(Heno) eqv.	3537.0
Vestland Group	3542.0
Bryne	3542.0
Triassic Group	3606.0
Permian Group	3615.0
Zechstein Fm	3615.0
T.D.(LD).	3627.0