

Well no :	2/7-23 S	Operator :	PHILLIPS
Coordinates :	56° 19' 59.79" N 03° 14' 53.64" E	UTM coord. :	624333939 N 51534901 E
Licence no :	18	Permit no :	636
Rig :	WEST DELTA	Rig type :	SEMI-SUB.
Contractor :	A/S SMEDVIG DRILLING&CO	Elev. KB :	29 M
Bottom hole temp:	147 °C	Water depth :	71 M
Spud. date :	90.05.15	Total depth :	4763 M
Compl. date :	90.11.21	Form. at TD	
Spud. class :	APPRAISAL	Prod.form. :	
Compl. class :	SUSPENDED		
Scisloca :	X-OVER LINES 295 OG 1146		

## LICENSEES

,304000	COFRANORD A/S (NORMINOL)
,399000	COPAREX NORGE A/S
7,594000	ELF PETROLEUM NORGE A/S.
, 456000	EURAFREP NORGE A/S
30,000000	NORSKE FINA A/S
6,700000	NORSK HYDRO PRODUKSJON A.S
36,960000	PHILLIPS PETROLEUM COMPANY NORWAY
1,000000	DEN NORSKE STATS OLJESELSKAP A.S
3,547000	TOTAL NORGE A.S
13,040000	NORSK AGIP A/S

## CONVENTIONAL CORES

Core no.	Intervals cored meters	Recovery	
		M	%
1	NO CORE		
2	4425,6 - 4445,8	20,2	100,0
3	4445,8 - 4464,4	18,6	100,0
4	4464,4 - 4467,7	3,3	100,0
5	4472,5 - 4476,0	3,5	100,0
6	4478,1 - 4495,8	17,7	100,0
7	4495,8 - 4503,1	7,3	100,0
8	4504,0 - 4509,5	5,5	100,0
9	4509,5 - 4515,0	5,5	100,0
10	4515,0 - 4528,4	13,4	100,0
11	4528,4 - 4545,0	16,6	100,0
12	4545,0 - 4564,4	19,4	100,0
13	4564,4 - 4578,0	13,6	100,0
14	4578,0 - 4605,8	27,8	100,0
15	4505,8 - 4625,0	19,2	100,0
16	4625,0 - 4636,0	11,0	100,0
17	4636,0 - 4650,3	14,3	100,0
18	4650,3 - 4662,2	11,9	100,0
19	4662,0 - 4671,9	9,9	100,0
20	4671,8 - 4690,8	19,0	100,0
21	4690,8 - 4718,3	27,5	100,0

# MUD

Depth	Mud weight	Visc.	Mud type
95,700	1,80	43,0	WATER BASED
114,900	1,03		WATER BASED
174,000	1,03		WATER BASED
1075,900	1,04		WATER BASED
1075,900	1,28	25,0	WATER BASED
1091,200	1,34	34,0	WATER BASED
1257,900	1,33	37,0	WATER BASED
1524,000	1,39	29,0	WATER BASED
1524,000	1,44	34,0	WATER BASED
1773,900	1,56	28,0	WATER BASED
2007,100	1,62	27,0	WATER BASED
2253,100	1,65	32,0	WATER BASED
2502,400	1,67	33,0	WATER BASED
2572,500	1,68	32,0	WATER BASED
3093,700	1,70	36,0	WATER BASED
3181,500	1,71	33,0	WATER BASED
3274,800	1,70	35,0	WATER BASED
3770,100	1,73	45,0	WATER BASED
3882,800	1,71	44,0	WATER BASED
4134,600	1,69	44,0	WATER BASED
4134,901	1,81	40,0	WATER BASED
4223,000	1,81	42,0	WATER BASED
4229,100	1,81	40,0	WATER BASED
4232,100	1,94	50,0	WATER BASED
4264,800	2,06	32,0	WATER BASED
4291,600	2,06	36,0	WATER BASED
4544,300	2,09	32,0	WATER BASED
4564,400	2,10	31,0	WATER BASED
4576,900	2,09	33,0	WATER BASED
4600,000	2,10	34,0	WATER BASED
4606,100	2,09	34,0	WATER BASED
4625,000	2,10	34,0	WATER BASED
4650,600	2,09	29,0	WATER BASED
4758,500	2,10	33,0	WATER BASED
4760,400	2,12	50,0	WATER BASED

# DRILL BIT CUTTINGS AND WET SAMPLES

Sample type	Interval below KB	Number of samples
WET SAMPLES	1085 - 5124	300

# SHALLOW GAS

Interval below KB	Remarks
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## AVAILABLE LOGS

Log type	Intervals			1/200	1/500	Div.
BHC NGS AMS	8391,0	- 13823,0	F	X	X	*
CBL VDL CCL	3150,0	- 8389,0	F	X		
CBL VDL CCL	8112,0	- 13484,0	F	X		
CBL VDL CCL	10850,0	- 13842,0	F	X		
CBL VDL CCL	13490,0	- 15508,0	F	X		
CDM AP SHDT	8417,0	- 10229,0	F	X	X	
CDM AP SHDT	10592,0	- 13868,0	F	X	X	
CDM / CDM AP /OBDDIP	13858,0	- 14890,0	F	X		
CDM / CDM AP/ OBDDIP	14850,0	- 15570,0	F	X		
DIL LSS GR MSFL AMS	1066,0	- 2204,0	M	X	X	
DIL SDT GR	13854,0	- 15616,0	F	X	X	*
DLL SLS MSFL GR AMS	8391,0	- 13848,0	F	X	X	*
EPD	4220,0	- 4750,0	M	X	X	*
LDL AMS	3500,0	- 7202,0	F	X	X	
LDL CNL NGS AMS	8391,0	- 13860,0	F	X	X	*
LDL CNL NGS	13846,0	- 15516,0	F	X	X	*
MUD	1076,0	- 4760,0	M		X	
NGS	2533,0	- 4226,0	M	X		
NGS RATIO PLAYBACK	13846,0	- 15616,0	F	X	X	*
RFT PRESSURE TEST	14491,0	- 15554,0	F			
VELOCITY	3500,0	- 15601,0	F			
SYNTHETIC SEISMOGRAM	10 cm/s	- 20 cm/s				8
V.S.P, walkaway		20 cm/s				7
V.S.P, composite	10 cm/s	- 20 cm/s				8
V.S.P,deconvolution		20 cm/s				1
WELL SEISMIC EDIT		10 cm/s				1

\*BOTH 1:200 AND 1:500  
ON THE SAME LOG.

## Main operations for well: 2/7-23 S

### Main operation: COMPLETION

Sub operation:	Minutes:	Hours:	% of total:
BOP/WELLHEAD EQ	4560	76,0	80,99
CIRC/COND	1020	17,0	18,12
TEST SCSSSV	50	0,8	0,89
<b>Total</b>	<b>5630</b>	<b>93,8</b>	<b>100,00</b>

### Main operation: DRILLING

Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	5980	99,7	4,74
BOP/WELLHEAD EQ	4970	82,8	3,94
CASING	16880	281,3	13,39
CIRC/COND	5455	90,9	4,33
DRILL	52295	871,6	41,49
OTHER	3730	62,2	2,96
PRESS DETECTION	190	3,2	0,15
REAM	5510	91,8	4,37
SURVEY	660	11,0	0,52
TRIP	30365	506,1	24,09
UNDERREAM	10	0,2	0,01
<b>Total</b>	<b>126045</b>	<b>2100,8</b>	<b>100,00</b>

### Main operation: FORMATION EVAL

Sub operation:	Minutes:	Hours:	% of total:
CIRC SAMPLES	1020	17,0	2,15
CIRC/COND	2750	45,8	5,80
CORE	13540	225,7	28,54
LOG	7455	124,3	15,71
TRIP	22680	378,0	47,80
<b>Total</b>	<b>47445</b>	<b>790,8</b>	<b>100,00</b>

### Main operation: INTERRUPTION

Sub operation:	Minutes:	Hours:	% of total:
FISH	5560	92,7	7,60
LOST CIRC	5110	85,2	6,99
MAINTAIN/REP	13070	217,8	17,87
OTHER	47640	794,0	65,15
WAIT	1090	18,2	1,49
WELL CONTROL	650	10,8	0,89
<b>Total</b>	<b>73120</b>	<b>1218,7</b>	<b>100,00</b>

### Main operation: PLUG & ABANDON

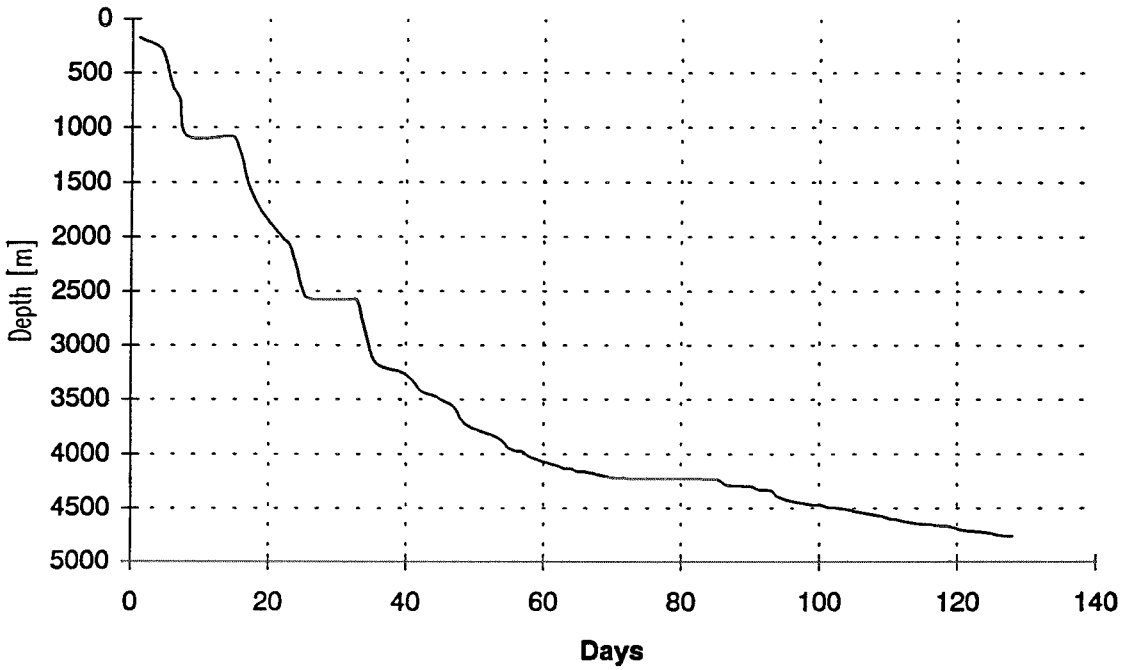
Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	3140	52,3	20,52
CUT	4150	69,2	27,12
EQUIP RECOVERY	6220	103,7	40,65
MECHANICAL PLUG	1260	21,0	8,24
WAIT	530	8,8	3,46
<b>Total</b>	<b>15300</b>	<b>255,0</b>	<b>100,00</b>

### Main operation: WORKOVER

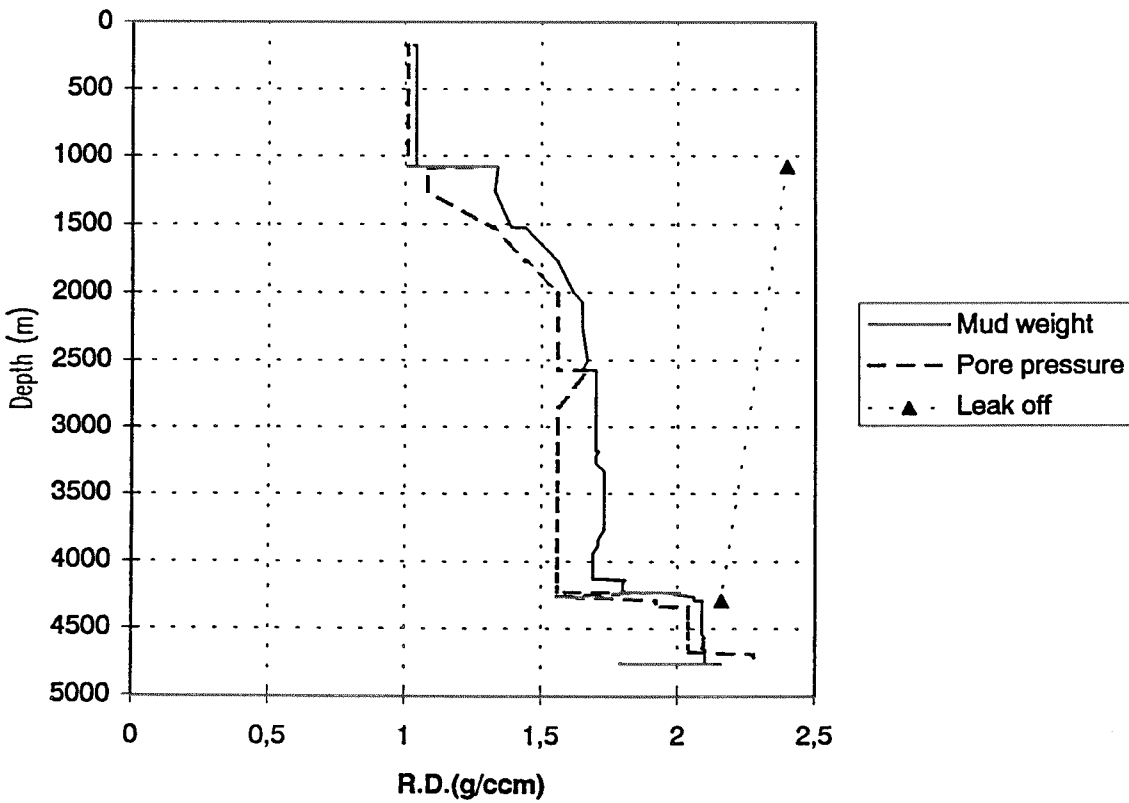
Sub operation:	Minutes:	Hours:	% of total:
OTHER	300	5,0	100,00
<b>Total</b>	<b>300</b>	<b>5,0</b>	<b>100,00</b>

Total time used:  Hours

**Depth vs time for well: 2/7-23 S**



**Composite plot for well: 2/7-23 S**



# Well History 2/7-23 S.

## General:

Well 2/7-23 S was the fourth well drilled on the South Eldfisk Field, which consists of a faulted structural high of assumed Paleozoic sediments and volcanics. The structure is located on the eastern boundary of the Grensen Nose, a prominent faulted terrace marking the western edge of the Central Trough. The well was drilled from the third slot in a three slot temporary template located over the 2/7-20 well. The 2/7-23 S well was deviated to a target location at the Base Cretaceous level 1227 m north of the wellhead. The well was designed to prove the northward extension of the hydrocarbon bearing sandstones originally discovered in the 2/7-9 well in 1974, and confirmed by tests in the 2/7-20 and 2/7-21 S wells. When the presence of the reservoir was proven, the intent was to complete the well in a manner suitable for a later tie-back to a production facility, where it would provide a third drainage point for future field development on the Embla structure.

## Operations:

Wildcat well 2/7-23 S was spudded 15 May 1990 by the semi-submersible rig West Delta, and completed 21 November 1990 at a depth of 4763m RKB in anticipated Pre-Jurassic rocks. Shallow gas was encountered at 593 m RKB, and caused some operational problems. The drilling went on without any significant problems, apart from a master bushing hinge bolt that fell into the hole during a trip and lodged in the BOP jamming the drillstring. This accident appeared during preparatory operations for well testing. A total of 21 cores were cut, whereof 20 in the reservoir with almost a 100% recovery. Core no 1 was cut at a depth of 4333.6 m RKB MD. The reservoir came in 74 m TVD deeper than prognosed, with an oil column of 172 m TVD. The well was temporarily plugged and abandoned without being tested.

## Testing:

Due to technical problems no DST tests were performed in this well.

# Geological Tops.

## Well:2/7-23 S

	Depth m (RKB).
Nordland Group	99,7
Hordaland Group	1609,0
Rogaland Group	3090,0
Balder Fm	3090,0
Sele Fm	3107,0
Lista Fm	3160,0
Våle Fm	3202,0
Shetland Group	3231,5
Ekofisk Fm	3231,5
Tor Fm	3315,0
Hod Fm	3576,0
Blodøks Fm	4143,0
Hidra Fm	4150,0
Cromer Knoll Group	4213,0
Rødby Fm	4213,0
Sola Fm	4301,0
Åsgard Fm	4322,0
Tyne Group	4408,0
Pre- Jurassic	
Top Upper Sand	4412,0
Top Mudstone	4429,3
Top Lower Sand	4474,0
T.D.	4763,0