Date: 27/02/98

PB/ABS

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Well no:	Operator:
2/07-28	PHILLIPS

#### Well

Coordinates:

License no:

56<sup>0</sup> 22'52.16" N

UTM coord.:

6248666.78 N

03<sup>0</sup> 14'19.29" E

18

Permit no:

514740.54 E 717

Rig:

MÆRSK GUARDIAN

Rig type:

JACK-UP

Contractor:

MÆRSK DRILLING

Elev. KB:

43 M

Bottom hole temp: Spud. date:

155 °C 92.03.08

Water depth:

71 M 3893 M

Compl. date:

92.08.07

Total depth: Form. at TD:

**PERMIAN** 

Spud. class: Compl. class:

P&A. SHOWS

Prod.form.:

Seisloca:

EMBLA 3D INLINJE 106 OG

**X-LINJE 1320** 

**APPRAISAL** 

#### Licensees

7.594000 ELF PETROLEUM NORGE AS

.456000 ELF REP NORGE A/S

.399000 ELF REX NORGE AS

30.000000 FINA PRODUCTION LICENSES AS

6.700000 NORSK HYDRO PRODUKSJON AS

.304000 NORMINOL AS

36.960000 PHILLIPS PETROLEUM COMPANY NORWAY

1.000000 DEN NORSKE STATS OLJESELSKAP A.S

3.547000 TOTAL NORGE AS

13.040000 NORSK AGIP AS

### **Casing and Leak-off Tests**

Туре	Casing diam	Depth below KB	Hole diam.	Hole depth below KB	Lot mud eqv. g/cm3
CONDUCTOR	30	218.8	36	220.0	
INTERM.	20	534.6	26	540.0	1.40
INTERM.	13 3/8	1494.8	17 1/2	1500.0	2.00

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Well no:	Operator:
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INTERM.	11 3/4	2810.3	17 1/2	2815.0	
INTERM.	9 7/8	2836.2	12 1/4	2840.0	
INTERM.	8 3/8	3019.2	12 1/4	3022.0	1.40
LINER	7	3331.5	8 1/2	3893.0	2.10

## **Conventional Cores**

Core no.	Intervals cored	Recovery	%
	meters	m	
1	3414.0 - 3432.0	18.0	100.0
2	3514.0 - 3519.0	5.0	100.0

## Mud

Depth	Mud	Visc.	Mud type
	weight		1000 11 HITTING 100 100 100 100 100 100 100 100 100 10
137.2	1.03	mangs: Adalah saksaksak nagampa dama manar manar matambah dam	WATER BASED
163.1	1.03	vycorokuszowwenterkowonowioonkowowowo	WATER BASED
201.8	1.03		WATER BASED
223.1	1.03		WATER BASED
224.9	1.14	14.0	WATER BASED
227.1	1.20		WATER BASED
475.8	1.16	23.0	WATER BASED
509.0	1.20	24.0	WATER BASED
542.5	1.20	25.0	WATER BASED
1002.8	1.87	27.0	WATER BASED
1371.6	2.04	20.0	WATER BASED
1463.0	1.80	26.0	WATER BASED
1501.1	1.56	41.0	WATER BASED
1504.5	1.74	27.0	WATER BASED
1682.2	1.73	24.0	WATER BASED
1816.6	1.74	39.0	WATER BASED
2125.4	1.74	43.0	WATER BASED
2349.1	1.74	45.0	WATER BASED
2396.6	1.74	18.0	WATER BASED
2407.9	1.87	35.0	WATER BASED
2420.4	1.74	36.0	WATER BASED
2468.9	1.73	25.0	WATER BASED
2533.8	1.74	36.0	WATER BASED
2590.8	1.80	23.0	WATER BASED
2721.3	1.74	35.0	WATER BASED
2743.2	1.73	23.0	WATER BASED
2779.2	1.87	27.0	WATER BASED
2781.0	1.74	33.0	WATER BASED

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PB/ABS

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Well no:	Operator:
2/07-28	PHILLIPS

2799.6	1.74	31.0	WATER BASED
2804.2	1.80	20.0	WATER BASED
2810.3	1.87	26.0	WATER BASED
2822.4	1.73	18.0	WATER BASED
2823.7	1.74	32.0	WATER BASED
2824.3	1.74	30.0	WATER BASED
2830.1	1.74	22.0	WATER BASED
2834.0	1.68	21.0	WATER BASED
2836.2	1.04	23.0	WATER BASED
2920.0	1.41	31.0	WATER BASED
3001.7	1.03	15.0	WATER BASED
3019.7	1.20	11.0	WATER BASED
3022.7	1.44	17.0	WATER BASED
3023.6	1.44	19.0	WATER BASED
3034.0	1.56	16.0	WATER BASED
3045.9	1.32	18.0	WATER BASED
3048.3	1.41	15.0	WATER BASED
3049.5	1.41	16.0	WATER BASED
3050.4	1.44	16.0	WATER BASED
3051.0	1.56	15.0	WATER BASED
3052.6	1.56	14.0	WATER BASED
3053.5	1.44	18.0	WATER BASED
3059.6	1.56	16.0	WATER BASED
3061.1	1.56	17.0	WATER BASED
3094.9	1.56	17.0	WATER BASED
3158.3	1.62	14.0	WATER BASED
3221.7	1.68	14.0	WATER BASED
3276.9	1.68	12.0	WATER BASED
3340.6	1.98	20.0	WATER BASED
3433.3	1.99	20.0	WATER BASED
3488.4	1.98	18.0	WATER BASED
3519.5	2.02	17.0	WATER BASED
3572.9	2.02	19.0	WATER BASED
3656.1	2.02	21.0	WATER BASED
3718.6	2.02	19.0	WATER BASED
3751.5	2.02	19.0	WATER BASED
3835.6	2.02	18.0	WATER BASED
3892.9	2.04	19.0	WATER BASED

## **Drill Stem Test (intervals and pressures)**

Test	Test interval	Choke	Pressure (psi)	BTHP	FFP
no.	meter	size	WHP		

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## **Drill Stem Test (recovery)**

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

## **Drill Bit Cuttings and Wet Samples**

	Sample type	Interval below KB	Number of samples
	WET SAMPLES	551.8 – 3879.9	405
-	CUTTINGS	970 - 2893	270

## **Shallow Gas**

Interval	Remarks
below KB	

## **Available Logs**

Log type	Intervals logged	1/200	1/500	
BGT AMS	4904.0 - 9283.0			
BHC GR AMS	8700.0 - 9285.0			
CBL VDL GR	9040.0 - 9915.0			
CDR	225.0 - 4900.0			
CORE DESCR.CHART	11202.0 - 11547.0			50
CST SP	10960.0 - 12586.0			
DLL MSFL GR AMS SP	4904.0 - 9281.0			
DLL MSFL GR AMS SP	10939.0 - 12632.0			
FMS GR AMS	9333.0 - 12596.0			
FORMATION EVALUATION	112.0 - 3892.0			
GR DLL SDT AMS	9915.0 - 10950.0			

Date: 27/02/98

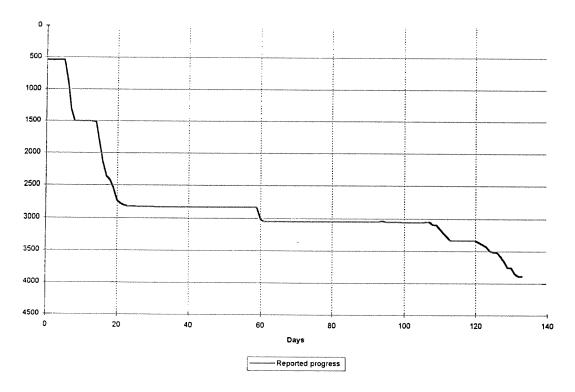
PB/ABS

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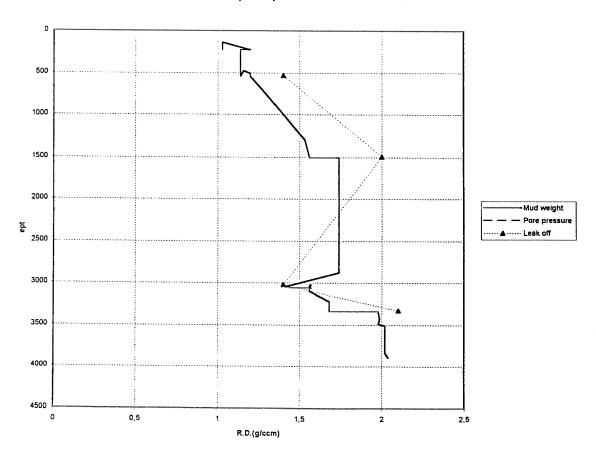
Well no:	Operator:
2/07-28	PHILLIPS

GR SDT(AS)WAVEFORMS	9040.0 - 9915.0		
INTERPRETED FMS	11460.0 - 44560.0		10
			***************************************
LDL CNL GR AMS	9914.0 - 10920.0	An expression to the second	
LDL CNL GR AMS	10939.0 - 12624.0		
MSD AND FRACTURES	10940.0 - 12605.0		
MWD	3336.0 - 3783.0		
NGL	11490.0 - 12595.0		
RWD	2414.0 - 10000.0		
SDT GR AMS	10971.0 - 12605.0		
SYNTHETIC SEISMOGRAM			
VSP	5000.0 - 12600.0		
WSC			
ZERO OFFSET VSP	And the control of th		

Depth v.s. time plot for well: 2/7-28



Composite plot for well: 2/7-28



Main operations for well: 2/7-28

Main operation: DRILLING

Main operation: DR	ILLING		
Sub operation:	Minutes:	Hours:	% of total:
BOP ACTIVITIES	2520	42,0	1,48
CASING	32640	544,0	19,17
CIRC/COND	17880	298,0	10,50
DRILL	32490	541,5	19,08
HOLE OPEN	19650	327,5	11,54
OTHER	13800	230,0	8,11
PRESS DETECTION	1800	30,0	1,06
SURVEY	1860	31,0	1,09
TRIP	46980	783,0	27,59
WAIT	630	10,5	0,37
Total	170250	2837,5	100,00
Main operation: FOR	RMATION EVAL		
Sub operation:	Minutes:	Hours:	% of total:
DST	60	1,0	1,33
LOG	4230	70,5	94,00
OTHER	150	2,5	3,33
WAIT	60	1,0	1,33
Total	4500	75,0	100,00
Main operation: INT	ERRUPTION	OP THE PROPERTY OF THE PROPERT	
Sub operation:	Minutes:	Hours:	% of total:
FISH	4950	82,5	39,01
MAINTAIN/REP	5640	94,0	44,44
OTHER	450	7,5	3,55
WAIT	1650	27,5	13,00
Total	12690	211,5	100,00
Main operation: MO	VING		
Sub operation:	Minutes:	Hours:	% of total:
JACK	1470	24,5	37,98
POSITION	810	13,5	20,93
SKID	390	6,5	10,08
TRANSIT	1200	20,0	31,01
Total	3870	64,5	100,00
Main operation: PLU	G & ABANDON		
Sub operation:	Minutes:	Hours:	% of total:
CEMENT PLUG	990	16,5	13,36
CIRC/COND	360	6,0	4,86
CUT	2310	38,5	31,17
OTHER	720	12,0	9,72
SQUEEZE	840	14,0	11,34
TRIP	1680	28,0	22,67
WAIT	510	8,5	6,88
Total	7410	123,5	100,00
Total time used: 3312,0 Hours			

## WELL HISTORY 2/7 -28

#### **GENERAL:**

Exploration well 2/7 –28 was drilled on the Eldfisk Jurassic Prospect, located in Production licence 018. The prospect is within the Central Through on the western side of the Feda Graben, Norwegian North Sea. With a targeted Upper Jurassic reservoir objective located below existing production at the Eldfisk Chalk Field, the well was positioned 1.8 kilometres west of the Eldfisk Alpha Platform.

The objective Upper Jurassic Eldfisk Formation is interpreted as a high density turbidite/debris flow deposits located on the eastern side of the major northwest-southeast trending Skrubbe Fault. The Skrubbe Fault was an eastward dipping normal fault during the Upper Jurassic extensional tectonics. Clastic sediments was interpreted to be sourced from a structural high area on the Grensen Nose to the south-west, transposed across the fault, and deposit in the Feda Graben to the east.

#### **OPERATION:**

Well 2/7 –28 was spudded on March 8, 1992 and drilled using the "Mærsk Guardian" jack-up, and was completed August 7, 1992 after reaching the Upper Permian Zechstein Group. Drilling to the Upper Palaeocene Section proceeded without major difficulty, but the 11 ¾" liner was set higher than prognosed because of a combination of lost circulation in the Lower Palaeocene Våle Formation and instability in the previously drilled uphole Tertiary section. A prognosed depleted chalk reservoir horizon necessitated setting 9 7/8" casing at top of the Ekofisk Formation. Drilling proceeded to 3050.4m RKB with god shows encountered in the Ekofisk and Tor Formation and traces shown in the Hod Formation.

The Lower part of the Hod Formation was the proposed setting for the 8 ¾". While under-reaming before running the linear, an under reamer arm was lost in the hole. A successfully sidetrack hole was made below the liner. After drilling continued the bottom hole assembly twisted-off at 3061.1m RKB. The hole was sidetracked again and drilling continued to base of the Lower Cretaceous where 7" liner was set. The Jurassic and Triassic section was drilled without difficulty and the Upper Permian Zechstein Group was encountered at 3838.7m. After penetrating 54.3m of Zechstein salt, the well reached a total depth of 3893m and was plugged and abandoned as a dry well.

### **TESTING:**

No DST tests were performed.

# Geological Tops.

# Well: 2/7-28.

Nordland Croun	<b>Depth m (RKB).</b> 112.5
Nordland Group	112.3
Hordaland Group	1616.7
Rogaland Group	2729.2
Balder Fm	2729.2
Sele Fm	2742.0
Lista Fm	2784.1
Våle Fm	2826.7
Shetland Group	2849.9
Ekofisk Fm	2849.2
Tor Fm.	2898.1
Hod Fm	2901.7
Blodøks Fm.	3091.0
Hidra Fm	3096.2
Cromer Knoll Group	3176.1
Rødby Fm	3176.1
Sola Fm	3190.1
Tuxen Fm	3262.6
Åsgard Fm	3280.9
Tyne Group	3338.8
Farsund Fm	3338.8
Eldfisk Fm	3497.9
Haugesund Fm	3517.7
Smith Bank	3796.6
Zechstein Group	3838.7
T.D.	3893.0