ELF NORGE A/S

25/2 - 1

FRIGG EAST

GEOLOGICAL REPORT

WELLFILE

Dec 1973

1. PERTINENT DATA

1.1. General data

Licence	:	026	
Association	:	Norsk Hydro	34,60%
		Elf Norge	29,07%
		Aquitaine Norge	14,53%
		Total Marine Norsk	21,80%
Operator	:	ELF NORGE A/S	
Rig	:	Pentagone 81 (Neptune 7)	
Contractors	:	NEPTUNE	
	:	Mud logging = GEOSERVICES	

Location

Seismic	:	Line 71223, SP 260
Geographic	:	x = 02° 23' 02". 0 E
		y = 59° 55' 30". 2 N

Water depth : 103,5 m

Air Gap : 23,5 m

1.2. Drilling and operations time table

04.08.73 = Spudded
09.08.73 = Start drilling
10.08.73 = 30" casing set at 162 m
12.08.73 = 13" 3/8 casing set at 448 m
22.08.73 = SPE Run 1 = IES - BR.BHC - SWC 1
22+23.08.73 = 9" 5/8 casing set at 1907 m
25.08.73 = SPE - Run 2 = IES - CNL.GR
= HO.DST 1 = 1926 - 1938 m
03.09.73 = Core No. 1 = 1950 - 1968m
04.09.73 = Core No. 2 = 1973 - 1991 m
TD = 2740 m
Logging SPE Run 3 =IES - GR.BHT-
CNL-FDC.GR - ML.MLL - DLL - HDT -
CBL - SWC 2.
FIT 1 - 2 - 3
Velocity survey
21.09.73 = Completed

./3

1.3. Status

Gas - bearing
Plugged and abandoned

G E O L O G I C A L D A T A A N D R E S U L T S

I OBJECTIVES

The 25/2-1 well is located on the top of the eastern structure on the WSW-ENE trend of the Frigg Field.

The objective of this well was the lower tertiary sands, especially those aged EOCENE, which are equivalent to the gas - bearing sand section in the western Frigg wells.

Their thickness range around 100 m according to the seismic.

Sandy interbeds in the upper part of the cretaceous chalk were considered as an other objective.

II STRATIGRAPHICAL AND STRUCTURAL RESULTS

2.1. Stratigraphy

See the correlation table next page.

./4

STRATIGRAPHICAL UNITS	TOP (below RkB)m	TOP (below m.s.l.)m	THICKNESS meter
PLEISTOCENE TO MIOCENE	127	- 103,5	894
OLIGOCENE	1021	- 997,5	403
UPPER MIDDLE EOCENE	1424	-1400,5	472
LOWER EOCENE	1896	-1872,5	250
Sands {1915 / 2003}			
PALEOCENE TO DANIAN	2146	-2122,5	392
DANIAN	2538	-2514,5	115
MAESTRICHTIAN	2653	-2629,5	> 87
TOTAL DEPTH	2740	-2716,5	

2.2. Structural results

The top of the Frigg sands was found at 1915 m (-1892) i.e. only 8 meters above the average seismical estimate. Therefore, the top of the chalk was anticipated at 2673 m (-2650) and encountered at 2670 m (-2647), the upper part of the Maestrichtian being sandy and toped at 2553 m.

2.3. Reservoir

As expected, the Frigg sand body was found underlaying the Eocene green and brown-red shales.
The net sands are 88 m thick and show excellent reservoir qualities (porosity: 30 to 24%) as shown by cores K1 and K2. The top of the reservoir stands 74 m deeper than in well 25/1-1x.

Other paleocene reservoirs below were of very good quality too.

2.4. Shows and Fluids

2.4.1 EOCENE SANDS - The entrance of reservoir was pointed out by increasing in C1 gas and occurence of C2 and C3. The net pay zone includes 56 m of gas - bearing and 7 m of oil - bearing sand.

The gas/oil interface at 1971 m (-1947) is exactly at the same depth as in Frigg - Field.

Two wire-line tests were located in the gas-zone at 1973 m and 1974 m. The first test was transfered under PVT conditions, but the second one was plugged, certainly by sand.

A Third W.L. test in the transition zone at 1985 m produced some oil with 70% of salt water (35 g/l).

An open hole test was carried out from 1926 to 1938 m just after setting the 9" 5/8 casing at 1907 m in order to check a new type of sandscreen to be used in further development wells.

The gas-flowing yielded 637975 m 3/d with a 3/4" choke.

2.4.2 Only very weak shows were encountered in the Paleocene sand (COD formation) and the Danian and Maestrichtian sands.

All these reservoirs are reputed to be water wet from the logs.

- - -

NOT TO SCALE

NOT TO SCALE

WELL NAME

25/2-1

FROG EAST

NORWAY

NORTH SEA

COMPOSITE - LOG

OPERATOR	ELF NORGE A/S
WELL NAME	25/2-1
LOCATION	FROG EAST
LATITUDE	58°26'19.5"N
LONGITUDE	02°28'19.5"E
ELEVATION	KB 25.0 m
WATER DEPTH	108.0 m
TOTAL DEPTH (DRILLER'S)	3124.0 m
TOTAL DEPTH (LOGGER'S)	3124.0 m
BOTTOM HOLE TEMPERATURE	110°C

MAIN LOGGING UNIT: FLOATER
LOGGED: 8 SEPTEMBER 1990 TO 19 SEPTEMBER 1990
RIG: 61

3124.0 m TVDSS

Logged MD/TVD

Logged MD/TVD

Drilling Rate

Gamma Ray

Resistivity

Porosity

Lithology

Geological Interpretation

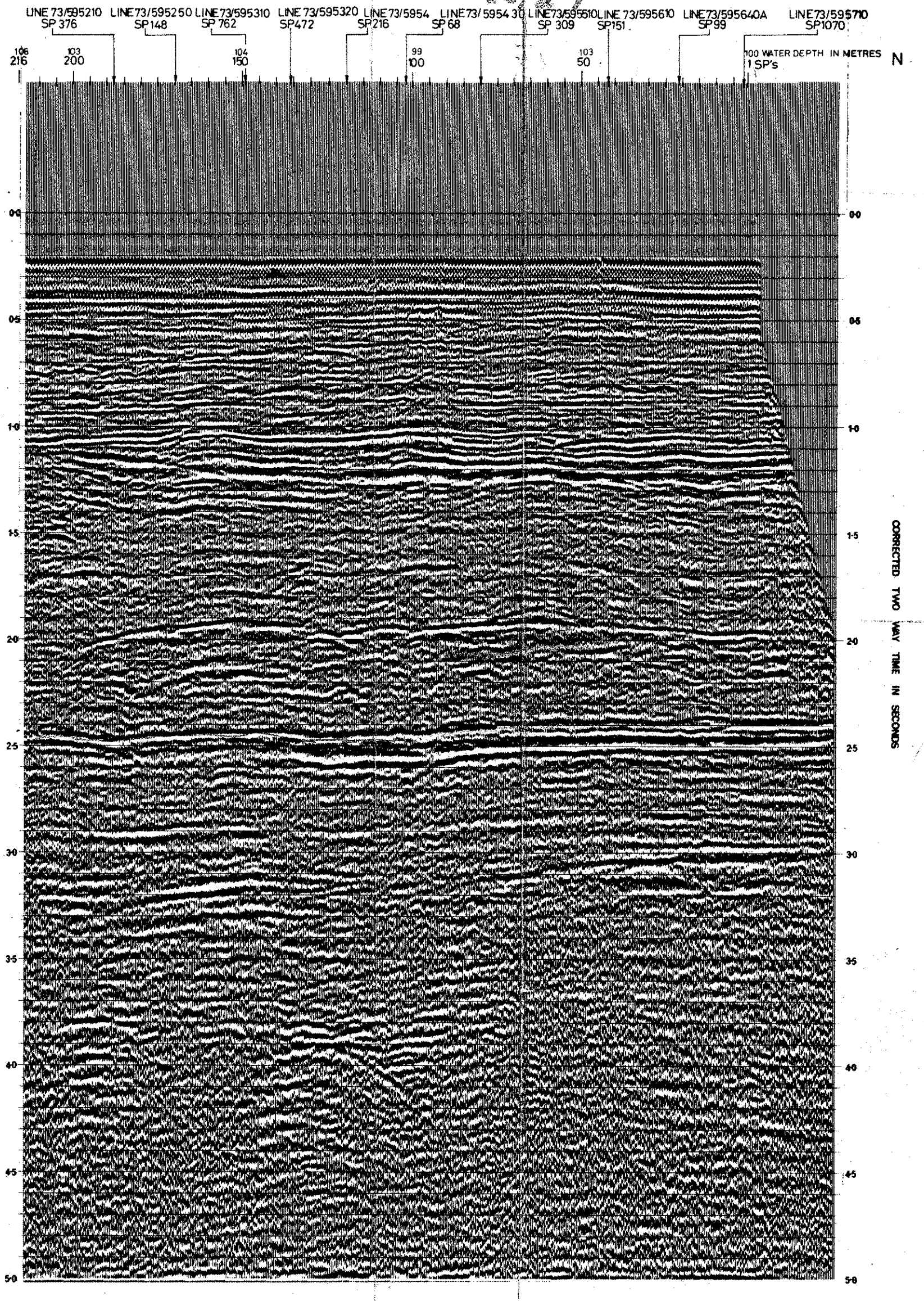
Geological Interpretation

Geological Interpretation

SHOT PT	192	SHOT PT	152	SHOT PT	122	SHOT PT	82	SHOT PT	42	SHOT PT	2
TIME (MS)	V(RMS) (M/S)	TIME (MS)	V(RMS) (M/S)	TIME (MS)	V(RMS) (M/S)	TIME (MS)	V(RMS) (M/S)	TIME (MS)	V(RMS) (M/S)	TIME (MS)	V(RMS) (M/S)
0	1478	0	1478	0	1478	0	1478	0	1478	0	1478
500	1608	500	1594	500	1591	500	1608	500	1615	500	1597
1000	1831	1000	1794	1000	1786	1000	1832	1000	1853	1000	1801
1500	1977	1500	1933	1500	1968	1500	1946	1500	1990	1500	2002
1700	2031	1700	1986	1700	2030	1700	2014	1700	2041	1700	2056
1900	2085	1900	2047	1900	2093	1900	2084	1900	2085	1900	2110
2100	2151	2100	2115	2100	2166	2100	2161	2100	2136	2100	2162
2300	2231	2300	2202	2300	2246	2300	2241	2300	2236	2300	2221
2500	2310	2500	2306	2500	2326	2500	2331	2500	2337	2500	2301
3000	2689	3000	2637	3000	2720	3000	2607	3000	2594	3000	2523
3500	2953	3500	2914	3500	2983	3500	2868	3500	2894	3500	2861
4000	3229	4000	3200	4000	3228	4000	3177	4000	3199	4000	3179
5000	3809	5000	3809	5000	3809	5000	3809	5000	3809	5000	3809

Hz	T.S Sonic	T.S Section	Cycle corr
C_0	0.501	0.521	0
C_{1a}	0.984	0.930	0.026
C_1	0.989	1.015	0.026
C_2	1.162	11.93	0.031

25/8-1



FRIGG GROUP

1973 SEISMIC SURVEY IN NORWEGIAN WATERS

LINE 73/0223

SP's 216-1

SECURITY No. 667016

PARTY SS(M)L 667

DATE RECORDED AUGUST 1973

DATE PROCESSED (FINAL) OCTOBER 1973

TV FILTERED SECTION

PROCESSED THROUGH SEISYSTEM 70

1195

RECORDING PARAMETERS	PROCESSING SEQUENCE
CABLE 0-220-2570m FILTER 8-62 Hz. SAMPLING INTERVAL 4ms BINARY GAIN DFS III GEOPHONE INTERVAL 50m ENERGY SOURCE AIRGUN SHOT INTERVAL 50 m	1 EDIT TRACE SELECTION 2 DECONVOLUTION 3 CORRECTION 4 TRACE EQUALISATION 5 STACK 24 FOLD 6 DECONVOLUTION 7 FILTER 8 TRACE EQUALISATION

PROCESSING PARAMETERS

SAMPLING INTERVAL 4ms

CORRECTION DATUM M.S.L.

CABLE AND GUNS CORRECTED TO DATUM

T.V. DECONVOLUTION (operator determined trace by trace)

	OPERATORS	OPERATOR LENGTHS (ms)	DERIVATION WINDOW (ms)	PREDICTIVE GAP (ms)
BEFORE STACK	2	212	TRACE 1 500-3500 TRACE 48 2400-4200	24
AFTER STACK	2	220	200-3000	40

BAND PASS FILTER		CUT-OFF Hz	PASS-BAND Hz		CUT-OFF Hz
APPLICATION TIMES (ms)	0	12	15	60	65
	500	12	15	60	65
	1000-2500	7	10	50	55
	3100	7	10	40	45
	3500-5000	7	10	30	35

SCALE

HORIZONTAL 1:31500

VERTICAL 10cm = 1.0s ☐ 1:63000 = 2.0s ☐

DISPLAY POLARITY

GEOPHONE : COMPRESSION

TAPE : POSITIVE NUMBER

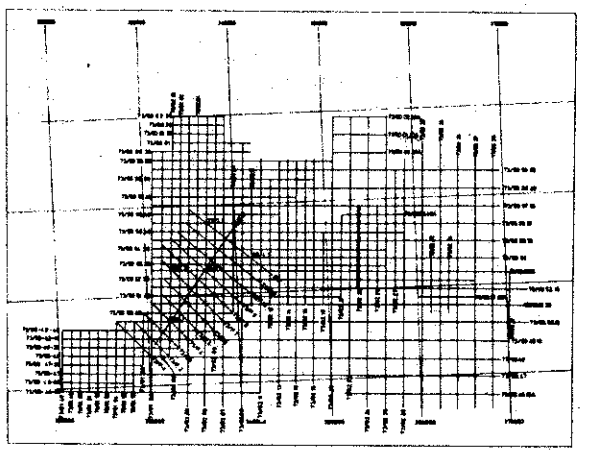
DISPLAY : WHITE

PREPARED: MARINE PROCESSING GROUP

APPROVED:

MILES 0 1 2

KILOMETRES 0 1 2 3 4



COMPAGNIE	SONDAGE:	PERMIS OU CONCESSION	REGION
ELF NORGE	FRIGG EST 1	BLOC 25/12	MER DU NORD NORVEGE

Sigle du puits: **25/2-1**

RESERVOIR: **PALEOCENE**

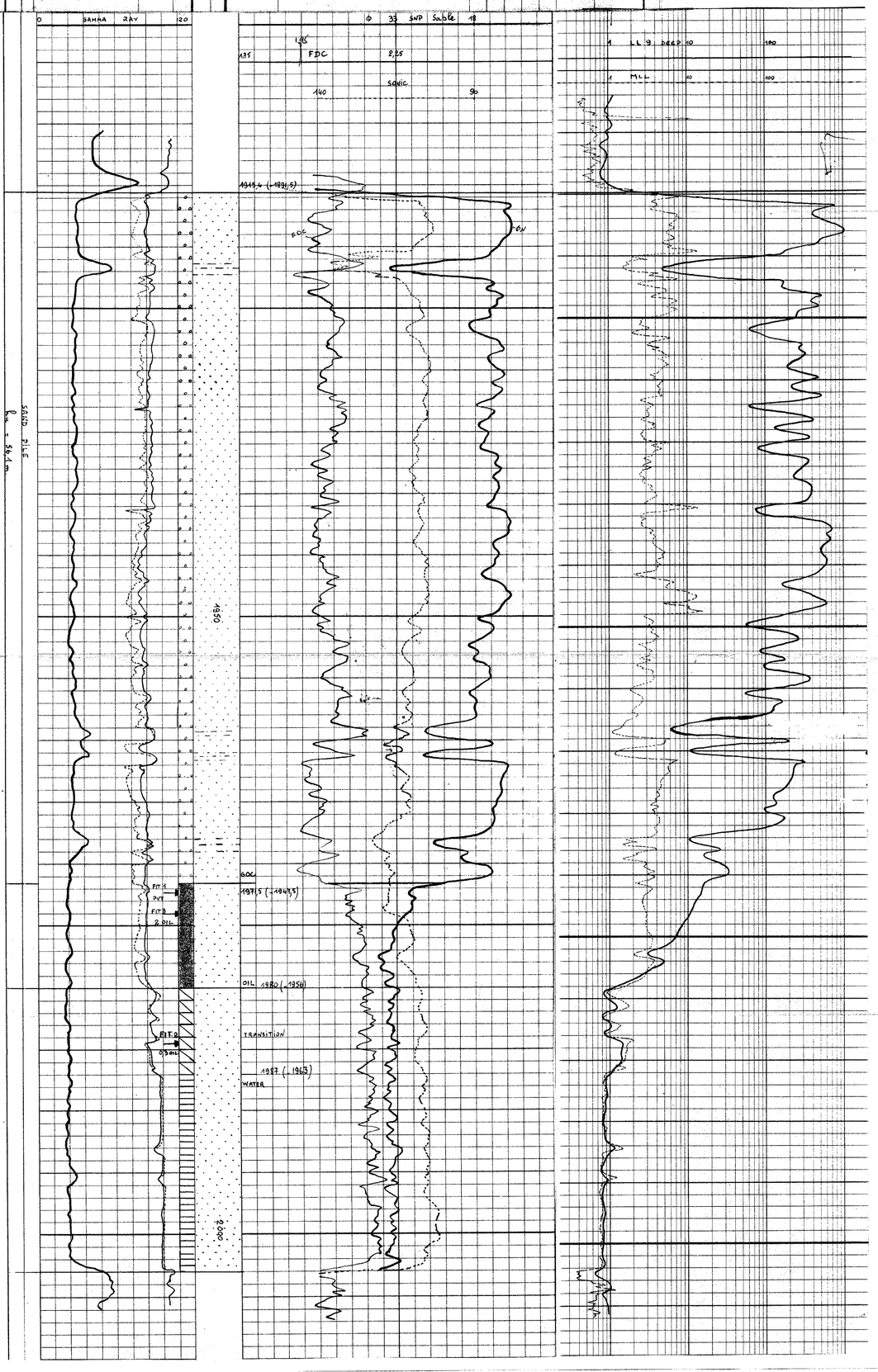
ECHELLE : 1:200

Coordonnées du sondage :	x = 02° 23' 02" N y = 59° 53' 30" E z_{sol} = -103,5 z_t = 23,5
Origine des profondeurs : sol ou table de rotation	
Appareil de forage :	NEPTUNE 7
Objectif du sondage :	
Société de logging :	SPE
Correction de déviation du trou :	0,5 m. à 1900 m.
Profondeur finale diagraphies :	

AMF Folio n°2 Date 9 Mai 74

ENAP - DEPARTEMENT GISEMENTS N° 2856

NIVEAUX FORMATION | TESTS | FLUIDES | PROFONDEURS LITHOLOGIE | COTES REMARQUABLES (toit, mur, niveaux fluides) | CAROTTES (N°_ Rdt) | EPAISSEUR UTILE EN HUILE | EN GAZ | TOTALE | PERFORATIONS | COUPE TECHNIQUE (tubage, plug, bouchon de ciment.....) | COTES ABSOLUES (après correction de Z référence et de déviation)



Cut : 18 m
Recovered: 16,3 m
Loss: 1,7 m

90,5 %

Company: Elf Norge
Well no : 25/2-1
Core no : 1.

Date: 03.08.73
Depths: 1950 - 1968 m

Depths	% CO_3 Ca	PERM	POROS	SHOWS	DIPS	Log	DESCRIPTION
1950							①
1951				+			Sand, greyish, clean, friable, fine to medium grained, subang. to subround.; very coarse grains disseminated through the whole core. Some scattered greenish and rose minerals. Muscovite. Rare clay inclusions, whitish to greenish.
1952				+			
1953				+			
1954		- excellent reservoir -					
1955				+ No fluo, very weak to no cut			
1956					None		
1957							
1958							
1959							

Cut 18 m
Recovered 16,3 m
Loss 1,7 m
90,5 %

Company Elf Norge
Well no 25/2-1
Core no 1.

Date 03.08.73
Depths: 1950 - 1968 m

Depths	% Co_3Co	PERM	POROS	SHOWS	DIPS	Log	DESCRIPTION
1959		excellent porosity and permeability		- HC smell - salty taste - no cut - no fluo -			②
1960							White kaolinite inclusion.
							Shale beige, thin streaks and laminae.
1961							Volcanic tuff, grey with white pigments.
1962							Sand A/A.
1963							While Coring : {average penetrating ratio 2 m/h {Few minor gas cut.
1964							
1965							
1966							
							1966,30
1967							
1968							

Cut : 18 m
Recovered: 6,8 m
Loss: 11,2 m
38 %

Company: Elf Norge
Well no : 25/2-1
Core no 2.

Date: 04.09.73
Depths: 1973-1991 m

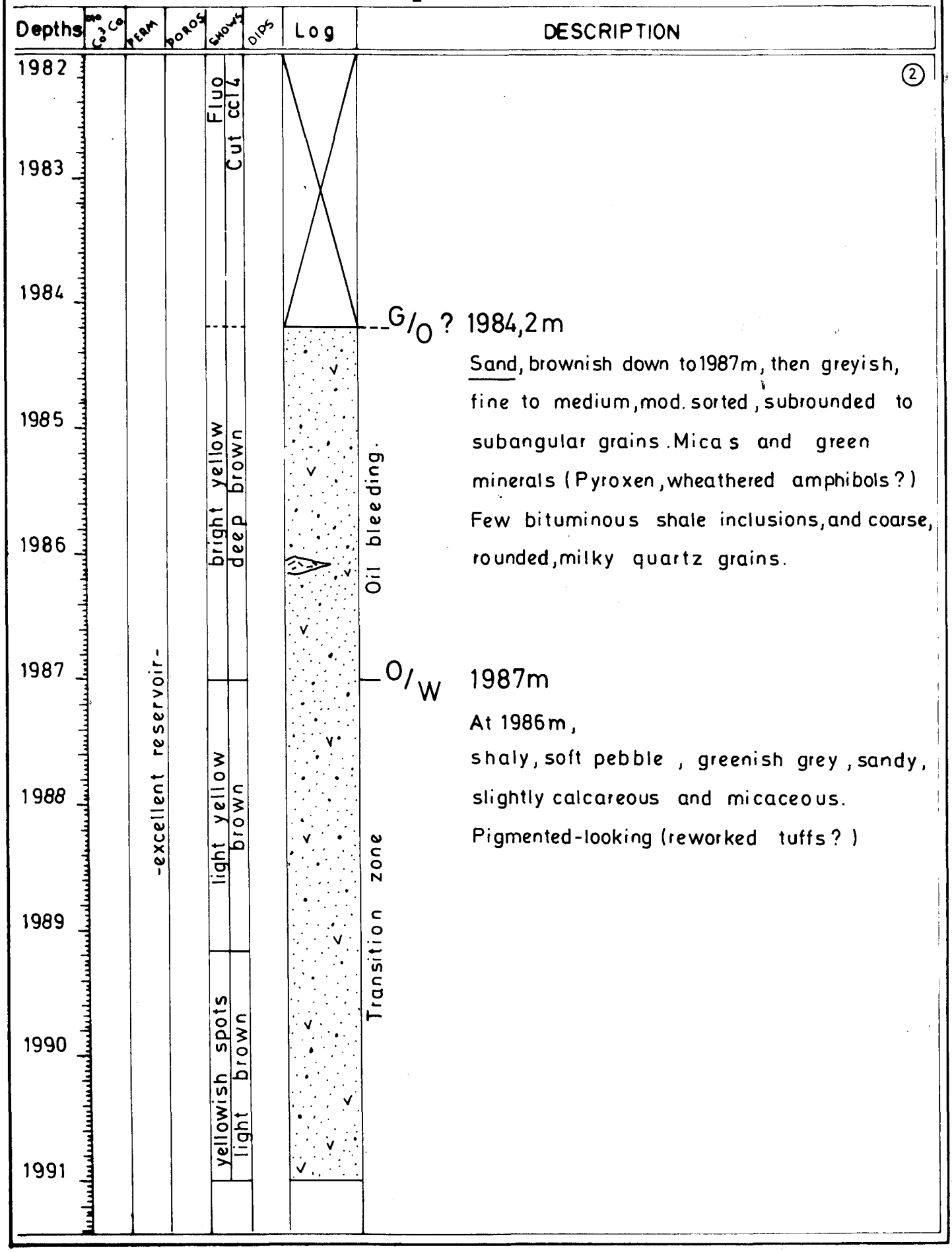
Depths	Lg Ca Co3 Ca	PERM	POROS	SHOWS	DIPS	Log	DESCRIPTION
1973							①
1974							
1975							
1976							
1977							
1978							
1979							
1980							
1981							
1982							

No shows while coring

Cut 18 m
Recovered 6,8 m 38 %
Loss: 11,2 m

Company: Elf Norge
Well no 25/2-1
Core no 2.

Date 04.09.73
Depths: 1973-1991 m



SERVICE COMPANY :	SPE
ASKED :	30
RECOVERED :	27
SHOT :	
LOST :	2
FULL BULLET :	

SIDE WALL CORES DESCRIPTION

WELL : 25/2-1	RUN N° 1
LICENCE : 026	PAGE N° 1
	DATE : 22-08-73

Elf NORGE A/S

tr : trace - M : medium - G : good CL

N°	DEPTHS Meters	REC	LITHOLOGY	Fluorescence	CUT
1	1905	0	Lost		
2	1903	1	Shale, soft, light grey, no silty, no calc		
3	1892	1	a/a		
4	1880	1	Shale, brown and green ("apple green")		
5	1865	1	Shale, soft, light grey	NONE	
6	1850	1	a/a		
7	1840	1	a/a		
8	1785	1	Shale, light grey, calcareous		
9	1750	1	Shale, grey, no silty, no calc		
10	1715	1	a/a		
11	1655	1	Shale, brownish grey		
12	1595	1	a/a		
13	1545	1	Shale, grey, micromicaceous, w/calcareous joints		
14	1485	1/4	Shale, grey to brownish-grey		
15	1450	1	Shale, grey, micromicaceous		
16	1405	E	Shale, dark bluish-grey, no calc		
17	1355	1	Shale, dark brownish-grey, slightly calcareous		
18	1300	1	Shale, soft, brown, very calcareous, granular texture		

SIDE WALL CORES DESCRIPTION

WELL : 25/2-1	RUN N° 1
LICENCE : 026	PAGE N° 2
	DATE : 22-08-73

SERVICE COMPANY :	SPE
ASKED :	30
RECOVERED :	27
SHOT :	
LOST :	2
FULL BULLET :	

Elf NORGE A/S

tr : trace - M : medium - G : good CL

N°	DEPTHS	REC	LITHOLOGY	Fluorescence			CUT
19	1202	1	Sand, very fine grained, well sorted, subang., w/glauconite				
20	1185	1	Shale, brown, calcareous				
21	1115	ε	Mud cake and shale, green grey, calcareous, granular texture				
22	1087	1	Sand, fine to coarse, subang., w/green grey to brown shaly cement				
23	1035	1	Sand, very fine, angul., green to brown calcareous and shaly cemented. Micas and pyrite.				
24	940	1	Sand, very fine, subrounded, abundant glauconite				
25	905	1	Sand, very fine, subang., with abundant dark brown calcareous, shaly and micromicaceous cement				
26	840	0	Lost				
27	755	1/2	Sand, medium to coarse grained, light brown, slightly calcareous, abundant glauconite				
28	645	1	Sand, fine to medium grained, w/tan shaly and calcareous cement, abundant glauconite				
29	550	1	Sand, fine to coarse, mainly coarse grained, tan shaly cemented				
30	488	1	Sand, badly sorted, mainly medium grained, subrounded to subangular, yellow-green				

SIDE WALL CORES DESCRIPTION

WELL : 25/2-1	RUN N° 2
LICENCE : 026	PAGE N° 1
	DATE : 16-09-73

SERVICE COMPANY :	SPE
ASKED :	30
RECOVERED :	26
SHOT :	30
LOST :	0
FULL BULLET :	26

ELF NORGE A/S

tr : trace - M : medium - G : good V.G.

N°	DEPTHS	REC	LITHOLOGY	Fluorescence
1	2730	0	Empty bullet	
2	2711	2/3	Shale, hard, grey, very calcareous	
3	2677	1/5	Limestone, mudstone, grey, chalky	
4	2669	1/3	Sandstone, slightly indurated, greyish, fine to coarse grained, w/ shaly and calcareous cement	
5	2662,5	0	Empty bullet	
6	2657	0	Mud cake	
7	2653	4/5	Calcareous shale, medium hard, greenish grey	
8	2639	1/10	Sand, friable, greyish, fine to medium grained, subangular, w/ muscovite and black shale inclusions	
9	2585	2/5	a/a	
10	2560	1/2	a/a	
11	2553	2/3	Shale, soft, dark grey, fissile, w/ subvertical sliken side	
12	2535	1	a/a	
13	2515	2/3	a/a	
14	2490	1/2	a/a	
15	2466	1	a/a w/ micas and bituminous joints	
16	2445	1	as per N° 14 above	
17	2425	1	Shale, dark grey to greenish, nodular texture, brownish shaly joints	
18	2407	1	a/a but doubtful depth	

SIDE WALL CORES DESCRIPTION

WELL :	25/2-1
LICENCE :	026
RUN N°	2
PAGE N°	2
DATE :	16-09-73

SERVICE COMPANY :	SPE
ASKED :	30
RECOVERED :	26
SHOT :	30
LOST :	0
FULL BULLET :	26

Elf NORGE A/S

tr : trace - M : medium - G : good V. G.

N°	DEPTHS	REC	LITHOLOGY	Fluorescence	CUT
19	2405	1	a/a		
20	2391,5	2/3	a/a		
21	2377	1	Shale, green-grey, slightly micaceous and fissile, with joints and nodules of sandstone fine grained and shaly.		
22	2362	1	Sandstone whitish , very fine, micaceous, w/green-grey shaly laminae.		
23	2353	4/5	Shale, very sandy, muscovite.		
24	2342	1/3	Shale, green-grey, micromicaceous.		
25	2315	0	Empty bullet.		
26	2290	1/3	Sand, white, fine to medium. Some coarse grains and greenish minerals (?)		
27	2257	1	Shale, grey, micromicaceous, rusty inclusions.		
28	2237	2/3	a/a		
29	2229	2/3	Shale grey w/thin green, sandy shale interbeds.		
30	2223	1/2	Sand, white, fine, well sorted.		

SIDE WALL CORES DESCRIPTION

WELL :	25/2-1
LICENCE :	026
RUN N°	3
PAGE N°	1
DATE :	16-09-73

SERVICE COMPANY :	SPE
ASKED :	30
RECOVERED :	27
SHOT :	30
LOST :	1
FULL BULLET :	27

Elf NORGE A/S

tr : trace - M : medium - G : good Y.G.

N°	DEPTHS	REC	LITHOLOGY	Fluorescence	CUT
1	2455	1	Shale, dark grey, micromicaceous		
2	2395	0	Empty bullet		
3	2359	1/6	Sand, white, fine to medium, rare micas		
4	2320	2/5	a/a		
5	2265	3/5	a/a		
6	2213	1	Shale, grey, slightly calcareous, fissile, rare light grey sandy interbeds		
7	2200	1/2	Sand, white, fine to medium, subangular, rare glauconite		
8	2187	1/10	Shale, dark grey		
9	2180,5	1/5	Shale, white and grey laminae		
10	2165	1/2	Shale, dark grey and slight-grey, pyritic shaly concretions (tuffitic facies). Sliken side		
11	2150	4/5	Shaly and tuffitic concretions. Many quartz and grey limy nodules		
12	2132	1	Sand, white, fine to medium grained, slightly micaceous and shale grey, "tuffitic facies", very sandy		
13	2119,5	1	Shale, hard, light grey with dark grey, fissile, shale interbeds		
14	2103,5	1	Sand, fine, well sorted, subangular w/grey shale inclusions and joints		
15	2090	1	Grey shale and sand, white, fine, well sorted		
16	2075	2/3	Sand white, fine, well sorted		
17	2063,5	1	a/a with abundant green and brown shale inclusions and interbeds		
18	2053	2/3	Sand, whitish, fine to medium		

SIDE WALL CORES DESCRIPTION

WELL :	25/2-1
LICENCE :	026
RUN N°	3
PAGE N°	2
DATE :	16-09-73

SERVICE COMPANY :	SPE
ASKED :	30
RECOVERED :	27
SHOT :	30
LOST :	1
FULL BULLET :	27

Elf NORGE A/S

tr : trace - M : medium - G : good V.G.

N°	DEPTHS	REC	LITHOLOGY	Fluorescence	CUT
19	2050	0	Empty bullet.		
20	2040	4/5	Sand, greyish, fine to medium grained.		
21	2025,5	4/5	Shale, green-grey, no calc with scattered brown calcareous shale nodules.		
22	2017	1	Shale, red-brown.		
23	2010	1	a/a		
24	2005	1	Shale, greenish, very calcareous. Red-brown shale and white, fine, calcareous sandstone inclusions.		
25	1990	1	Sand, whitish , fine to medium; some coarse quartz HC smell.		
26	1983	4/5	a/a HC smell		
27	1940	1/3	a/a		
28	1921	2/3	Sand, very fine and grey shale laminae.		
29	1913	-	Lost.		
30	1908,5	1	Shale, grey w/nodular texture.		

Coord X : 02° 23' 02.0" Z ground . 103,5 m
Y : 59° 55' 30.2" Z RKB. 23,5 m
Seismic line 71.223 shot 260
Depths datum : R.K.B.
Rig : NEPTUNE 7. (Pentagone 81)
Stopped in : Upper Cretaceous

Spudded : 04.08.73
Started drilling : 09.08.73
At TD : 14.09.73
Completed : 21.09.73
TD Driller : 2740 m TD Logger : 2738 m

Well : 25/2-1
Country : Norway OFF-SHORE

OPERATOR : ELF NORGE A/s
LICENCE : 026 OWNED BY : PETRONORD

TARGETS :
Eocene sands.
Sand levels in the Paleoc. and Upper Cretaceous.

RESULTS :
Frigg formation : Sand, gas bearing - Paleocene sands and Upper Cretaceous . water wet -

CASINGS

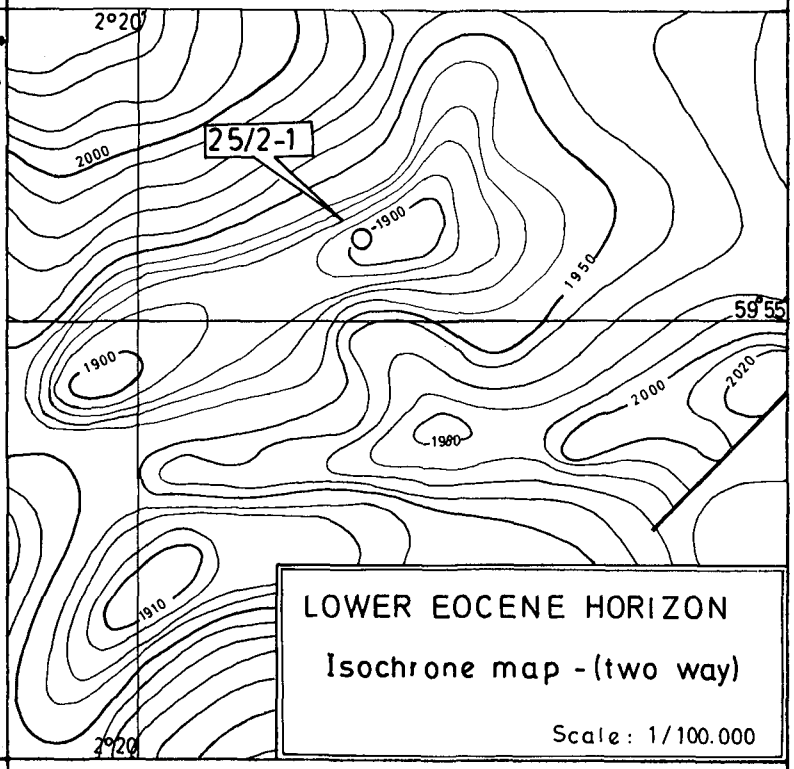
30"	◣	162 m
13 3/8"	◣	448 m
9 5/8"	◣	1907 m

CORES

1	1950 - 1968	90,5%
2	1973 - 1991	38%
SWC_1	2730 - 2223	26/30
SWC_2	2455 - 1908,5	27/30

SHOWS

Down to 1915 m average C_1 < 1.% max. 2,3 at 1990 m
☼ 1915 - 1971 m
● 1971 - 1978 m
⊕ 1978 - 1986 m
▲ at 2392 m
2406 - 2408 m
2423 - 2430 m



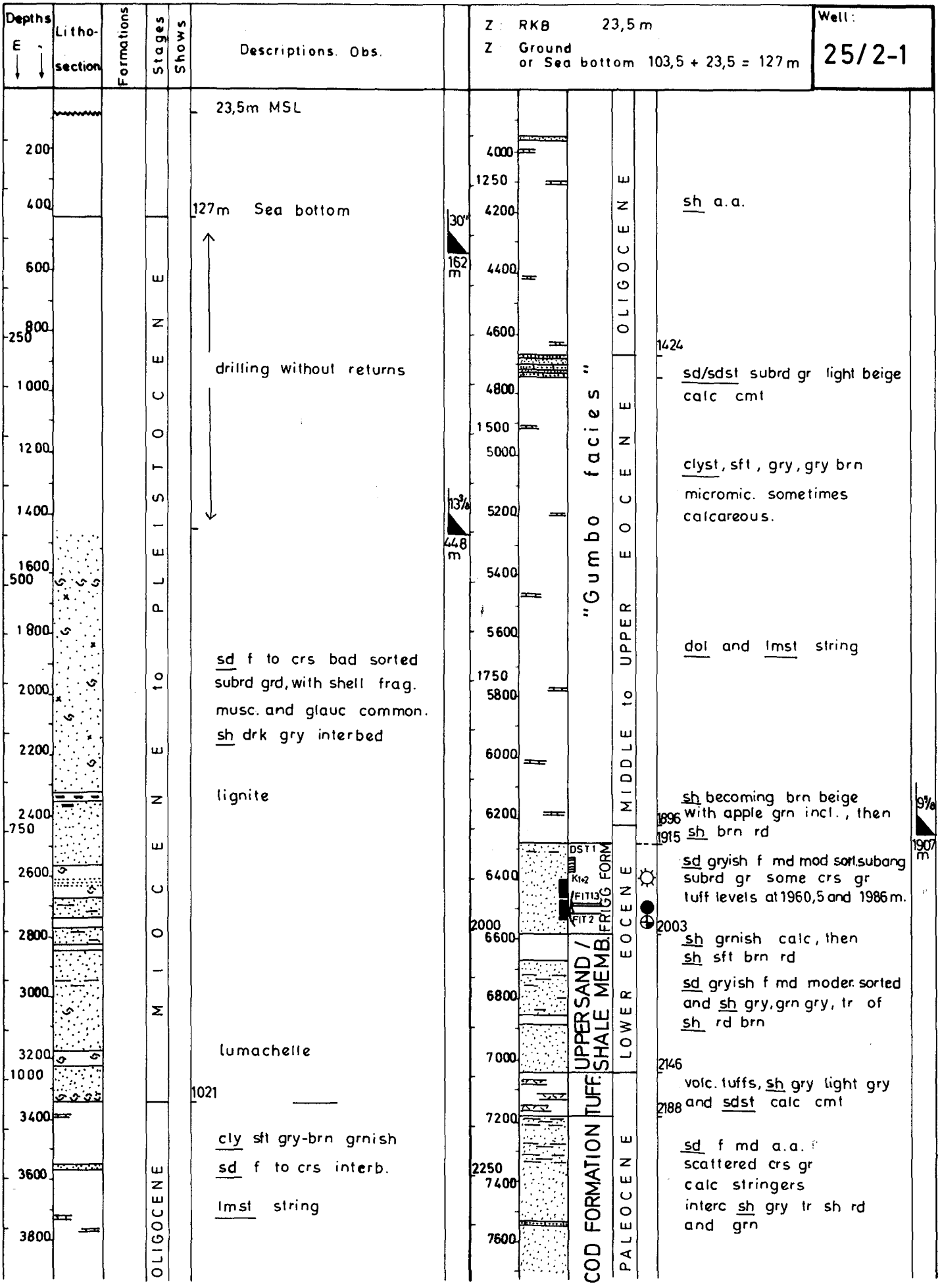
TESTS

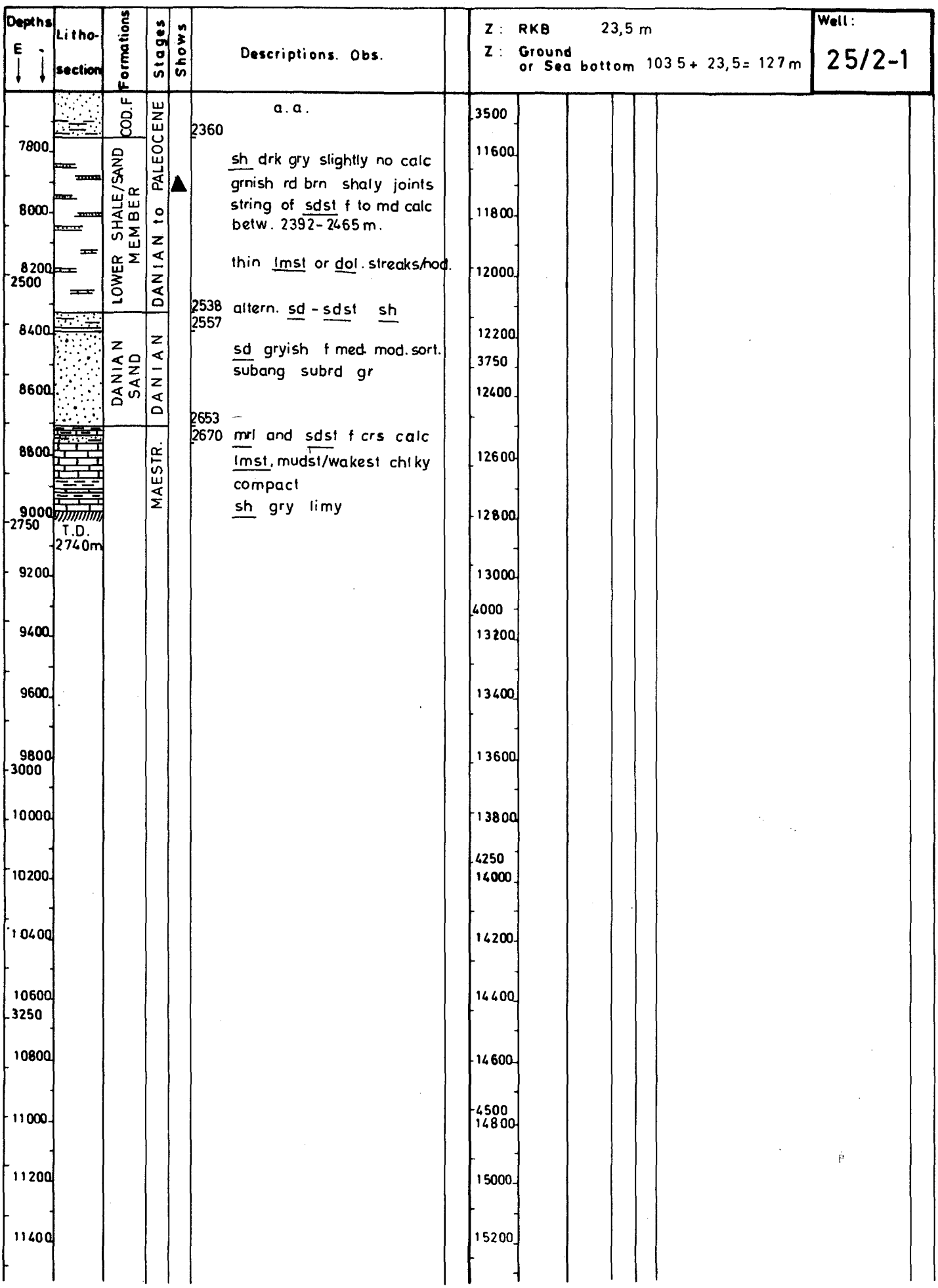
DST_1	1926 / 1938	PF = 196,7 bars at 1908 RKB
	1/4"	106.167 m³/j ☼
	1/2"	445.280 m³/j
	3/4"	637.975 m³/j
FIT 1	1973	⊕ PVT transfer
FIT 2	1984	10 l ⊕ 35% l (300 - 500 cc oil)
FIT 3	1974	10 l ⊕ 35% l (2000 cc oil)

LOGS

IES	1909,5 - 448	1
SLGR	1909 - 448	1
IES	1945,5 - 1904	2
CNL-GR.	1945 - 1904	2
IES	2737,5 - 1904	3
SLGR	2737 - 1904	3
CNL FDCGR	2737 - 1904	1
MLML	2737 - 1904	1
DLL	2737 - 1904	1
HDT	2737 - 1904	1
CBL	1904 - 400	1
Veloc. surv.	2720 - 500	

INTERPRETATION


Depths
Litho-section
Formations
Stages
Shows
Descriptions. Obs.
Z : RKB 23,5 m
Z Ground or Sea bottom 103,5 + 23,5 = 127 m
Well: 25/2-1
23,5m MSL
127m Sea bottom
drilling without returns
sd f to crs bad sorted subrd grd, with shell frag. musc. and glauc common.
sh drk gry interbed
lignite
lumachelle
1021
cly sft gry-brn grnish
sd f to crs interb.
lmst string
30"
162 m
13⅜
448 m
9⅝
1907 m
"Gumbo facies"
COD FORMATION
TUFF
UPPER SAND / SHALE MEMB.
FRIGG FORM
DST 1
K1+2
FIT 1+3
FIT 2
OLIGOCENE
MIDDLE to UPPER EOCENE
LOWER EOCENE
PALEOCENE
MIOCENE to PLEISTOCENE
OLIGOCENE
1424
sd/sdst subrd gr light beige calc cmt
clyst, sft, gry, gry brn micromic. sometimes calcareous.
dol and lmst string
1896
1915
sh becoming brn beige with apple grn incl., then sh brn rd
sd gryish f md mod sort subang subrd gr some crs gr tuff levels at 1960,5 and 1986 m.
2003
sh grnish calc, then sh sft brn rd
sd gryish f md moder. sorted and sh gry, grn gry, tr of sh rd brn
2146
volc. tuffs, sh gry light gry and sdst calc cmt
2188
sd f md a.a. scattered crs gr calc stringers interc sh gry tr sh rd and grn
sh a.a.


Depths
E
Litho-section
Formations
Stages
Shows
Descriptions. Obs.
Z : RKB 23,5 m
Z : Ground or Sea bottom 1035 + 23,5 = 1275 m
Well:
25/2-1
COD.F
LOWER SHALE/SAND MEMBER
DANIAN SAND
DANIAN to PALEOCENE
DANIAN
MAESTR.
T.D. 2740m
a.a.
2360
sh drk gry slightly no calc grnish rd brn shaly joints string of sdst f to md calc betw. 2392-2465 m.
thin lmst or dol. streaks/nod.
2538 altern. sd - sdst sh
2557
sd gryish f med. mod. sort. subang subrd gr
2653
2670 mrl and sdst f crs calc lmst, mudst/wakest chlky compact
sh gry limy
7800
8000
8200
2500
8400
8600
8800
9000
2750
9200
9400
9600
9800
3000
10000
10200
10400
10600
3250
10800
11000
11200
11400
3500
11600
11800
12000
12200
3750
12400
12600
12800
13000
4000
13200
13400
13600
13800
4250
14000
14200
14400
14600
4500
14800
15000
15200

Coord X : 02° 23' 02.0" Z ground . 103,5 m
Y : 59° 55' 30.2" Z RKB. 23,5 m
Seismic line 71.223 shot 260
Depths datum : R.K.B.
Rig : NEPTUNE 7. (Pentagone 81)
Stopped in : Upper Cretaceous

Spudded : 04.08.73
Started drilling : 09.08.73
At TD : 14.09.73
Completed : 21.09.73
TD Driller : 2740 m TD Logger : 2738 m

Well : **25/2-1**

Country : **Norway OFF-SHORE**

OPERATOR : ELF NORGE A/S

LICENCE : 026 OWNED BY : PETRONORD

TARGETS :

Eocene sands.
Sand levels in the Paleoc. and Upper Cretaceous.

RESULTS :

Frigg formation: Sand, gas bearing - Paleocene sands and Upper Cretaceous, water wet -

CASINGS

30"	◣	162 m
13 3/8"	◣	448 m
9 5/8"	◣	1907 m

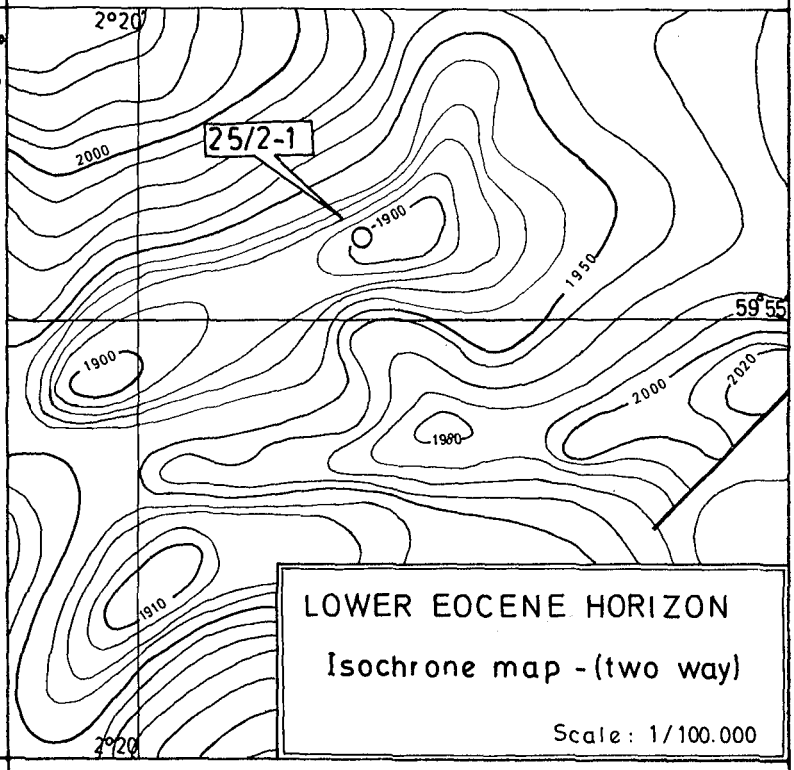
CORES

1	1950 - 1968	90,5%
2	1973 - 1991	38%
SWC_1	2730 - 2223	26/30
SWC_2	2455 - 1908,5	27/30

SHOWS

Down to 1915 m average C_1 < 1.% max. 2,3 at 1990m

- ☼ 1915 - 1971 m
- ● 1971 - 1978 m
- ⊕ 1978 - 1986 m
- ▲ at 2392 m
  2406 - 2408 m
  2423 - 2430 m



LOWER EOCENE HORIZON
Isochrone map - (two way)
Scale : 1/100.000

TESTS

DST_1	1926 / 1938	PF = 196,7 bars at 1908 RKB
	1/4"	106.167 m³/j ☼
	1/2"	445.280 m³/j
	3/4"	637.975 m³/j
FIT 1	1973	⊕ PVT transfer
FIT 2	1984	10l ⊕ 35% (300 - 500 cc oil)
FIT 3	1974	10l ⊕ 35% (2000 cc oil)

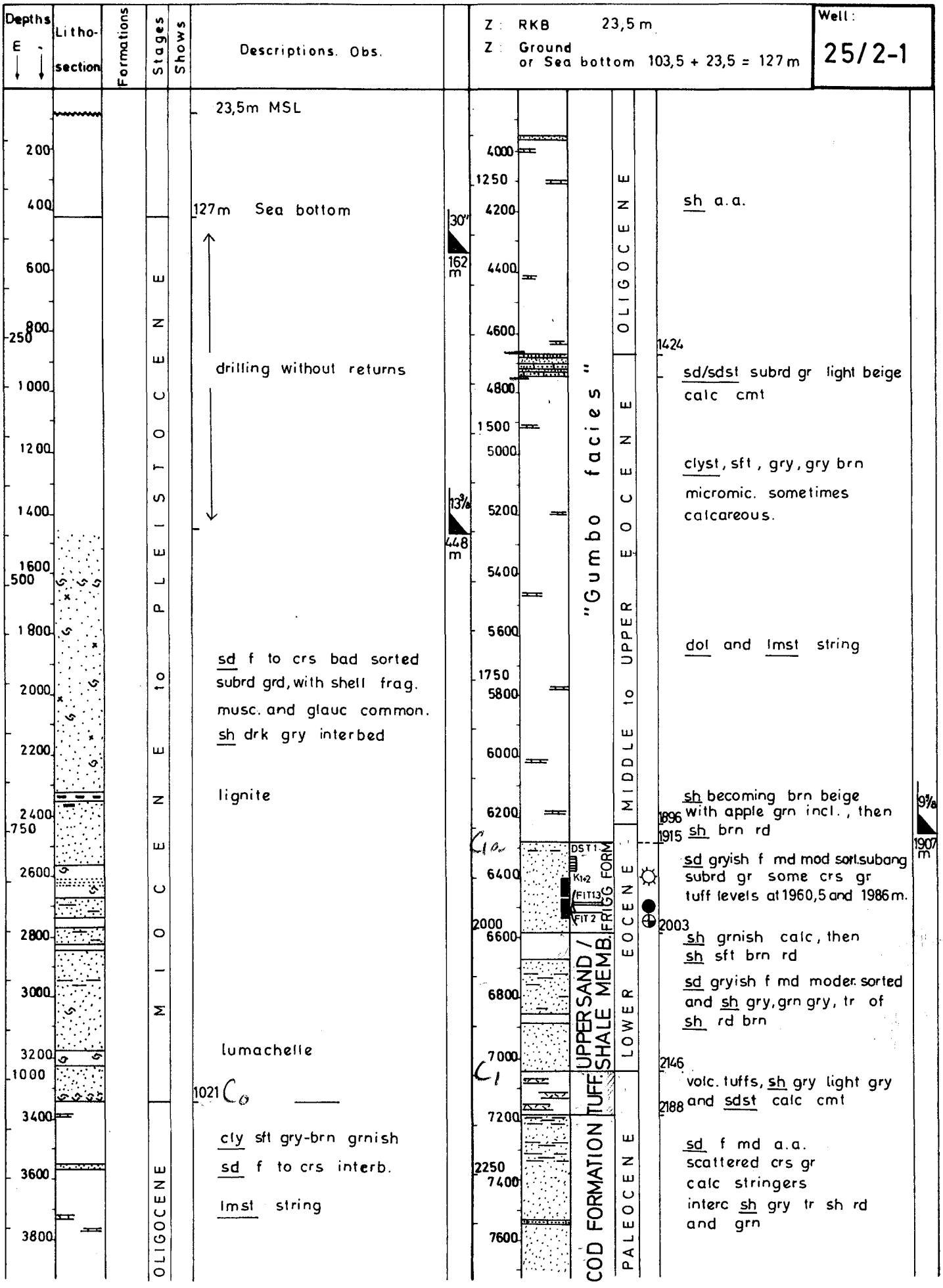
LOGS

IES	1909,5 - 448	1
SL.GR	1909 - 448	1
IES	1945,5 - 1904	2
CNL-GR.	1945 - 1904	2
IES	2737,5 - 1904	3
SLGR	2737 - 1904	3
CNL FDCGR	2737 - 1904	1
MLMLL	2737 - 1904	1
DLL	2737 - 1904	1
HDT	2737 - 1904	1
CBL	1904 - 400	1
Veloc. surv.	2720 - 500	

INTERPRETATION

Chief Area :

By :


Depths
Litho-section
Formations
Stages
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127m Sea bottom
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dol and lmst string
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1896
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2003
sh grnish calc, then sh sft brn rd
sd gryish f md moder. sorted and sh gry, grn gry, tr of sh rd brn
2146
volc. tuffs, sh gry light gry and sdst calc cmt
2188
sd f md a.a. scattered crs gr calc stringers interc sh gry tr sh rd and grn
DST 1
K1+2
FIT 3
FIT 2
"Gumbo facies"
UPPER SAND / SHALE MEMB.
COD FORMATION
FRIGG FORM
PLEISTOCENE to MIOCENE
OLIGOCENE
MIDDLE to UPPER EOCENE
LOWER EOCENE
PALEOCENE

Depths E	Litho-section	Formations	Stages	Shows	Descriptions. Obs.
		COD.F	DANIAN to PALEOCENE		a.a.
7800		LOWER SHALE/SAND MEMBER			2360 sh drk gry slightly no calc grnish rd brn shaly joints string of sdst f to md calc betw. 2392-2465 m. thin lmst or dol. streaks/nod.
8000					
8200 2500					2538 altern. sd - sdst sh
8400		DANIAN SAND	DANIAN		2557 sd gryish f med. mod. sort. subang subrd gr
8600					2653
8800			MAESTR.		2670 mrl and sdst f crs calc lmst, mudst/wakest chlky compact sh gry limy
9000 2750	T.D. 2740m				
9200					
9400					
9600					
9800 3000					
10000					
10200					
10400					
10600 3250					
10800					
11000					
11200					
11400					

Z : RKB 23,5 m
Z : Ground or Sea bottom 103 5 + 23,5 = 127 m

Well: 25/2-1

3500 11600 11800 12000 12200 3750 12400 12600 12800 13000 4000 13200 13400 13600 13800 4250 14000 14200 14400 14600 4500 14800 15000 15200

elf

POSITION MAP

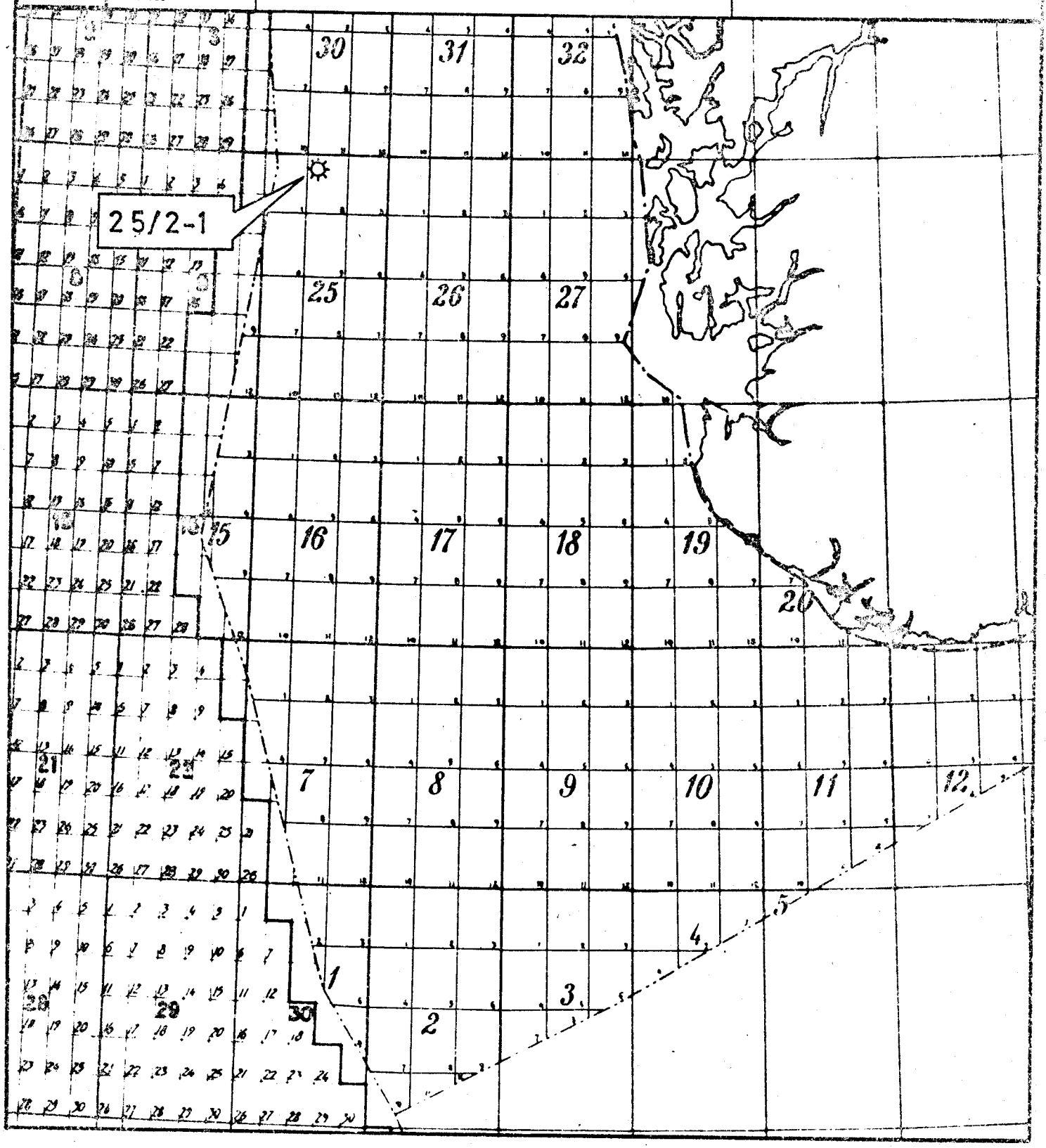
elf NORGE A/S

Echelle : 1/25000000

Date 7.12.73

Auteur

N°classt

25/2-1 - FRIGG EAST.

elf NORGE