NOS-9085

elf norge a/s

FINAL GEOLOGICAL REPORT

15/3-1

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15/3-1

ELF AQUITAINE NORGE A/
RESERVOIR DEPARTMENT
DATE RECEIVED: 1/10-75
REG. NO: 26703
REG. CO
FIELD/ WELL: 15/3-1
FILING CODE WDRL4
LISTINGS
AUTHORITIES
PARTNER

Elf Norge A/S
Exploration Department
July, 1975

1. PERTINENT DATA

1.1. General

Licence	025 owned by Petronord
Operator	Elf Norge A/S
Rig	Deep Sea Driller
Contractors	Deep Sea Drilling Company Mud logging: Geoservices
Location	Geographic X = 01° 43' 13" 249 E Y = 58° 50' 57" 004 N i.e. crossing of seismic lines: 69-58-51 and 1-43
Water depth	-109 m
RKB	25 m
Depth datum	RKB

1.2. Drilling and Operation Time Table

27.11.74	Spudded and started drilling
28.11.74	30" casing set at 198 m
03.12.74	20" casing set at 612 m
6.12.74.-12.1.75	Drilling in 17"1/2 down to 2856 m
14.-15.01.75	SPE Run 1 IES-BHC-GR-HDT SWC 1.2.
17.-18.01.75	13"3/8 casing set at 2842 m
22.1.-17.2.75.	Drilling in 11"15/16 down to 3947 m
19.02.75.	Cut Core 1 3947-3951 m
28.02.75.	Drilling in 12" down to 3957 m
28.2.-2.3.75.	SPE Run 2 IES-BHC-GR-HDT SWC 3.4.
3.-4.03.75.	9"5/8 casing set at 3950 m
6.-14.03.75.	Drilling in 8"11/32 down to 4083 m
16.03.75.	Cut Core 2 4083-4092 m
17.-18.03.75.	Drilling in 8"11/32 down to 4141 m
19.03.75.	Cut Core 3 4141-4150 m
20.-24.03.75.	Drilling in 8"11/32 down to 4400 m While circulating before logging run, pipes were stuck and the hole started to kick. After several attempts it was decided to plug and try to sidetrack the well.

21.4.-5.5.75.	Side-tracking from 3985 m down to 4375 m
5.-8.05.75	SPE Run 3 IES-BHC-GR-HDT Run 1 DLL-FDC SWC 5
9.05.75	Liner 7" set at 4374 m
14.-27.05.75.	Drilling in 5"27/32 down to 4652 m
28.05.75.	SPE Run 4 IES-BHC-GR
28.31.05.75.	Drilling in 5"27/32 down to 4762 m
4.-7.06.75.	SPE Run 5 BHC-GR Run 2 DLL-FDC Run 1 ML-MLL Run 4 HDT F.I.T. 1,2
7.-11.06.75.	Drilling in 5"27/32 down to 4963 m
11.06.75.	SPE Run 6 BHC-GR Run 5 IES
12.-13.06.75.	Drilling in 5"27/32 down to 4991 m
14.06.75.	Cut Core 4 4991-4994 m
14.-17.06.75.	Drilling in 5"27/32 down to 5129 m T.D.
21.-27.06.75.	SPE Run 6 IES Run 7 BHC-GR Run 3 FDC-DLL Run 2 ML-MLL Run 5 HDT SWC 6 FIT 3
28.6.-6.7.75.	FIT 4,5,6,7,5 bis,8 were performed and the well completed.

1.3.Status

Plugged and abandoned.

Oil and gas in Jurassic Sandstones.

2. GEOLOGICAL DATA AND RESULTS

2.1. Objectives

This well was located on the south west of the block 15/3.

It is situated on the East Flank of the North Sea Central Graben.

The main objectives were Dogger Sands, and secondary ones were: Lower tertiary, Danian, Lower Cretaceous sands, Triassic sandstones and Zechstein dolomites.

15/3-1 was due to explore all the series down to the economic basement according to commitments.

2.2. Stratigraphical and Structural Results

2.2.1. Stratigraphical Data

See following table and composite log.

STRATIGRAPHICAL UNITS	Top RKB (m)	Top MSL (m)	Thickness (m)
Pleistocene to Miocene	134	-109	712
Oligocene	846	821	614
Middle-Upper Eocene	1460	-1435	690
Paleocene to Danian	2150	-2125	561
Danian	2711	-2686	89
Maestrichtian - Campanian	2800	-2775	378
Campanian - Santonian	3178	-3153	326
Turonian	3504	-3479	308
Lower Cretaceous	3812	-3787	135
Kimmeridgian - Call.oxfordian	3947	-3922	768
Callovian to oxfordian	4715?	-4690	414
	TD 5129	-5104	

Remarks

- thickness of the cretaceous chalk: 378 m
- large development of limestone into the cretaceous section (Turonian: 308 m)
- down to the jurassic top, no abnormal pressure was observed.
- in jurassic section, pore pressure growed up shortly to 1.88.

2.2.2. Structural Results

Stratigraphical unit	Prognosis MSL	Top MSL	Z (m)
Brown clays	900	821	+79
Eocene	1600	1435	+165
Tuff	2150	2125	+25
Cretaceous Chalk	2825	2775	+50
Turonian (M1)	3800	3479	+21
Kimmeridgian (M2)	4000	3922	+78

2.3. Reservoirs

2.3.1. Paleocene Sands (2215-2599 m)

There is no main sand body, but there are intercalations of shale and sand, fine, medium, poor sorted.

Gross thickness: 384 m
Net thickness: 198 m

2.3.2. Danian Sands (2599-2711 m)

A main sand body with some shale and dolomite stringers; sand fine, medium, fair sorted, very clean

Gross thickness: 112 m
Net thickness: 95 m

2.3.3. Jurassic Sandstones

Three main reservoirs sections were encountered from Kimmeridgian unconformity down to TD.

2.3.3.1. First reservoir (3980-4317 m)

1. 3980-4032 m: Thin alternates of sandstone, very fine, mainly calcareous, cemented, and shale.

   Gross thickness: 52 m
   Net thickness: 1 m

2. 4083-4317 m: Alternates of shale and sandstone, fine, mainly medium grained, poor sorted, partly calcareous or argilaceous cemented.

Gross thickness: 234 m

Upper part	Net thickness:	14 m
	Porosity:	22%
Lower part	Net thickness:	3 m
	Porosity:	26%

2.3.3.2. Second Reservoir (4442.5-4610 m)

Sandstone, fine to coarse grained, poor sorted, with some beds that are calcareous or siliceous cemented. Some shale interbeds.

Gross thickness: 167.5 m
Net thickness: 128 m
Porosity: 22%

2.3.3.3. Third Reservoir (4986-5046 m)

Sandstone, fine to coarse locally slightly dolomitic or argilaceous, with a shale body interbed.

Gross thickness: 60 m
Net thickness: 15 m
Porosity: 11-15 %

2.4. Shows and Fluids

2.4.1. Shows

Down to 3947 m there is no significant show, only 0.5% methane at 2599 m in connection with the top of Danian sands.

Shows during drilling were encountered into the jurassic sandstones (C1, C2, C3 and C4, C5 on the top of hydrocarbons bearing reservoirs).

Core 1 (3947-3951) : Black shale, direct and cut fluorescence.
Core 2 (4083-4092) : Yellow direct and yellow to green cut fluorescence, strong hydrocarbon odor, and gas bubbles on sandstone.
Core 3 (4141-4150) : No direct fluorescence, yellow cut fluorescence and strong hydrocarbon odor and bubbles on the whole core.
Core 4 (4991-4993) :No show
There was no direct and cut fluorescence on cuttings during drilling.

2.4.2. Fluids

The first core (full shaly) is oil bleeding from tiny veins.

2.4.2.1. First Reservoir (3980-4317 m)

1. 3980-4032 m : Due to the very bad reservoir characteristics, only one stringer at 3965 m is hydrocarbon bearing.

2. 4083-4317 m : All the sandy layers having good reservoir characteristics are hydrocarbon bearing, from 4083 down to 4218 m.

   Net pay : 14 m
   Porosity : 22%
   W.O.C. : 4218 m

   Down to 4317 the reservoir is water bearing

   Net pay : 3 m
   Salinity : 90 gr/l

   6 F.I.T. have been carried out:

   F.I.T. 4 : 4217 m : oil + gas; FP ;
   under pressure for PVT study :

   F.I.T. 5 : 4184,5 m : Failure.

   F.I.T. 6 : 4148,8 m : oil + gas; FP :
   Transfered under pressure for PVT study

   F.I.T. 7 : 4089,3 m : oil + gas; FP :
   Transfered under pressure for PVT study

   F.I.T. 5 bis : 4168,5 : oil + gas; FP :
   Transfered under pressure for PVT study

   F.I.T. 8 : 4243,5 : water + trace of Filtrat
   Salinity : 80 gr/l

2.4.2.2. Second Reservoir (4442,5-4610 m)

Top reservoir is hydrocarbon bearing with a transitian zone

W.O.C. : 4486 m
Net pay : 18 m
Sw : 24,5%
Porosity: 19%

Two F.I.T. have been carried out :

F.I.T. 1 : 4443,5 : oil + gas : 3 l
filtrate : 7 l 100 %
FP : 11075 psi

This sample has been transfered under pressure for PVT study

F.I.T. 2 : 4479,5 : 10 litres of water + filtrate
Formation Pressure : 11898 psi
Salinity : 30 000 PPM

2.4.2.3. Third Reservoir

4986-5001 : Net pay : 10 m
Porosity: 12,5%
Sw : 15%

This reservoir is gas bearing

5029-5047 : water and residual hydrocarbon bearing

5087-5092,3: Net pay : 2,5 m
Porosity : 11%
Sw : 22%

Hydrocarbon bearing, but poor permeability

5096,5-5101 : Net pay : 2,5 m
Porosity: 11%
Sw : 31%

Hydrocarbon bearing, but poor permeability

F.I.T. 3 : Failure

2.5. Conclusion

Oil and gas discovery into jurassic sandstones.

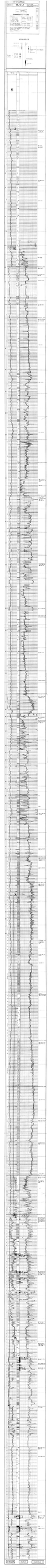
Chief Geologist

C.BASTIEN

Well Site Geologists

J.C.PORTALIS

M.VOSSOUGUI


中国石油天然气股份有限公司
PetroChina Company Limited
测井曲线图
Well Log Curve Chart
井名 Well No.
XB-1
测井日期 Date
2011-10-10
测井公司 Company
中国石油长庆油田分公司测井公司
测井仪器 Logging Equipment
CEMENTING 4 Well
测井项目 Logging Items
CBL-VDL-GR-CCL
测井方式 Logging Mode
Cased Hole
测井时间 Time
Start 2011-10-10 10:00
Finish 2011-10-10 14:00
测井深度 Depth
Start 0.00m
Finish 1000.00m
测井速度 Speed
Start 10.00m/min
Finish 10.00m/min
测井工程师 Engineer
Zhang Ming
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测井工程师 Engineer

POSITION MAP

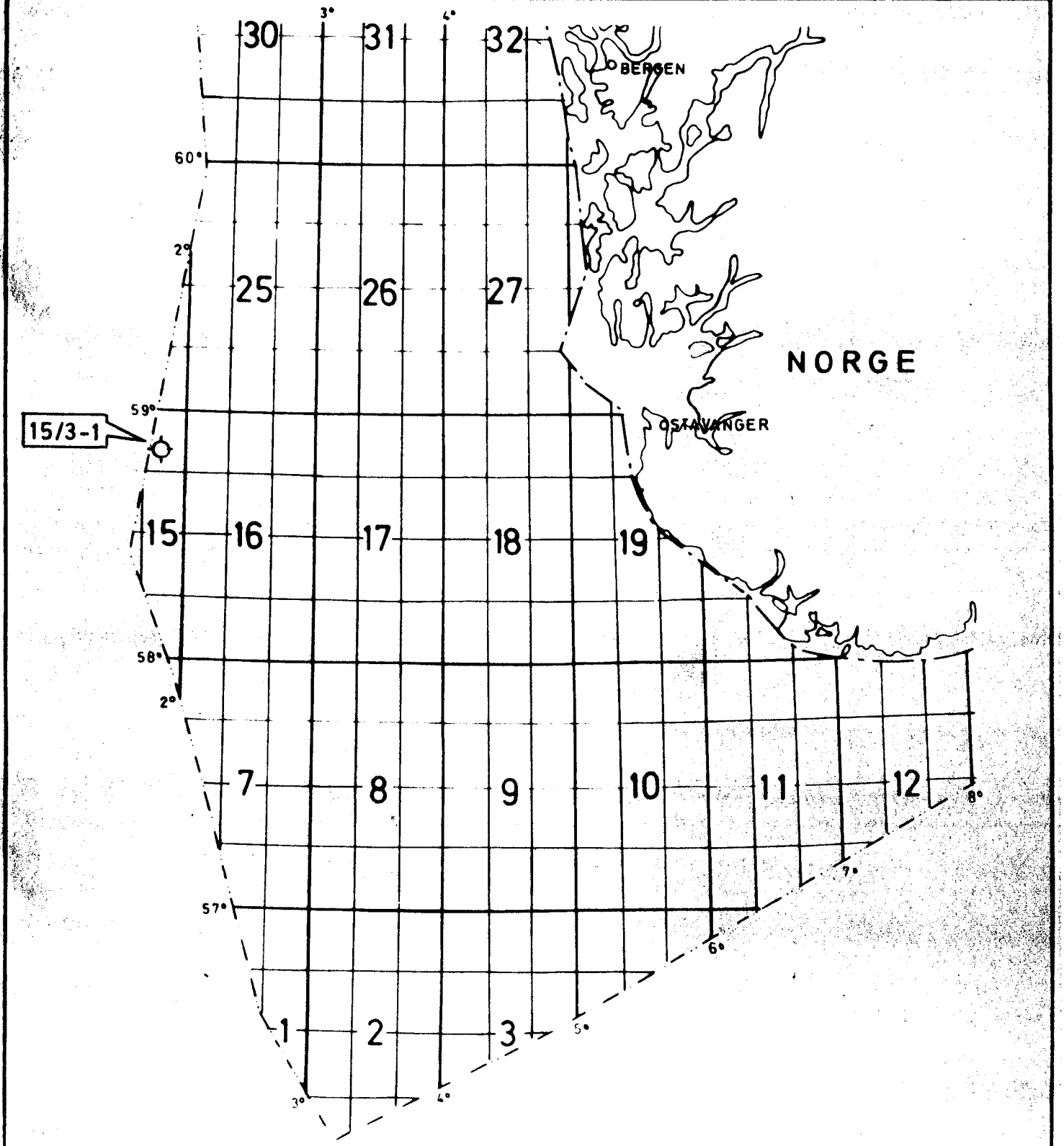
WELL : 15/3-1

COUNTRY : NORWAY OFFSHORE

COORDINATES: X: 01° 43' 13"249 E

Y: 58° 50' 57"004 N

Scale: 1/2500.000



FROM ELECTRICAL LOGS

Coord	X 01° 43' 13"249 E	Z ground	+ 25
	Y 58° 50' 57"004 N	Z RKB	- 109 m
			134 m
Depths datum	RKB		
Rig	D.S.D.		
Stopped in	Jurassic.		

Spudded	27.11.74
Started drilling	27.11.74
At TD	17.06.75
Completed	
TD Driller	5129 m
TD Logger	5132 m

Well: **15/3 - 1**

Country: **NORWAY offshore**

OPERATOR: ELF NORGE A/S

LISENCE: 025 — OWNED BY: PETRONORD A/S

TARGETS: Jurassic Sands

RESULTS: Oil and gas in Jurassic sandstone

CASINGS

30"	198 m
20"	612 m
13 3/8"	2842 m
9 5/8"	3950 m
7"	4374 m

SHOWS

εC_1 throughout tertiary section.

C_1 to C_5 = from 3946 during circulation tr. of oil and gas in core Nº 1.

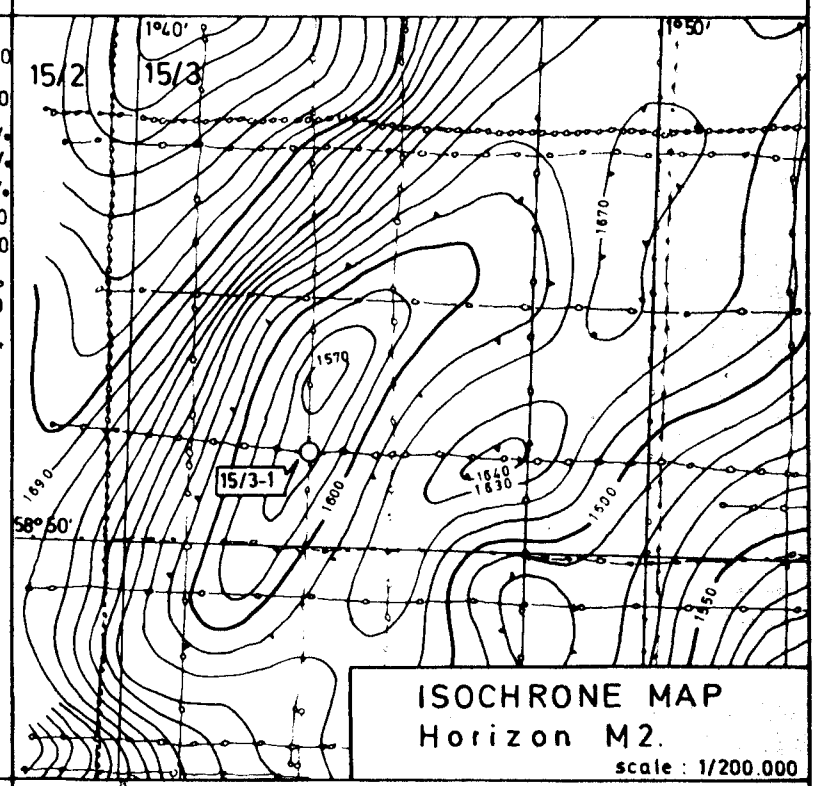
☼ 4010 - 4020
4080 - 4085

☼ 4144 - 4148
4268 - 4274

C_1 - C_2 Troughout Jurassic section.

CORES

SWC_1	2831 - 1105	20/30
SWC_2	2808 - 777	30/30
K 1	3947 - 3951	90%
K 2	4083 - 4092	83%
K 3	4141 - 4150	100%
SWC_3	3959 - 2868	12/30
SWC_4	3961 - 2925	26/30
K 4	4991 - 4993,3	76%
SWC_5	4360 - 3976	17/30
SWC_6	5125 - 4435	4/24



ISOCHRONE MAP
Horizon M2.
scale : 1/200.000

TESTS

FIT 1.	4443,5	31 [illegible] + 71 filtr. / PF 11080 psi P.V.T. transf.
FIT 2.	4479,5	101 filtrat. / PF 11898 psi
FIT 3.	5098	Failure
FIT 4.	4217	LIQ.HC + GAS / PF P.V.T. Transf.
FIT 5 bis	4168	LIQ.HC + GAS / PF P.V.T. Transf.
FIT 5.	4189	Failure
FIT 6.	4149	LIQ.HC + GAS / PF P.V.T. Transf.
FIT 7.	4089	LIQ.HC + GAS / PF P.V.T. Transf.
FIT 8	4243	Water + Filtrat

LOGS

IES	2855 - 611	1
BHC	2853,5 - 611	
GR	2855 - (134)	1
HDT	2845 - 2150	1
IES	3963 - 2844	2
BHC, GR	3959 - 2844	2
HDT	3963 - 2844	2
TL.	3925 - 2535	1
IES	4384 - 3955	3
BHC, GR	4381 - 3954	3
DLL	4384 - 3955	1
FDC	4309 - 3954	1
HDT	4378,5 - 3954	3
IES	4656 - 4380	4
BHC, GR	4652 - 4379	4
BHC, GR	4726 - 4650	5
DLL	4726 - 4380	2

INTERPRETATION

MLMLL	4729,5 - 4378,5	1
HDT	4615 - 4383	4
FDC	4730 - 4379	2
IES	4968,5 - 4650	5
BHC, GR	4966 - 4720	6
IES	5132 - 4910	6
BHC, GR	5129 - 4930	7
FDC	4130 - 4949	3
DLL	5127 - 4955	3
MLMLL	5131 - 4949	2
HDT	T.D. - 4600	5

NB. STRATI INFERRED FROM CORRELATIONS WITH NEAR-BY WELLS.

Checked 30.06.75

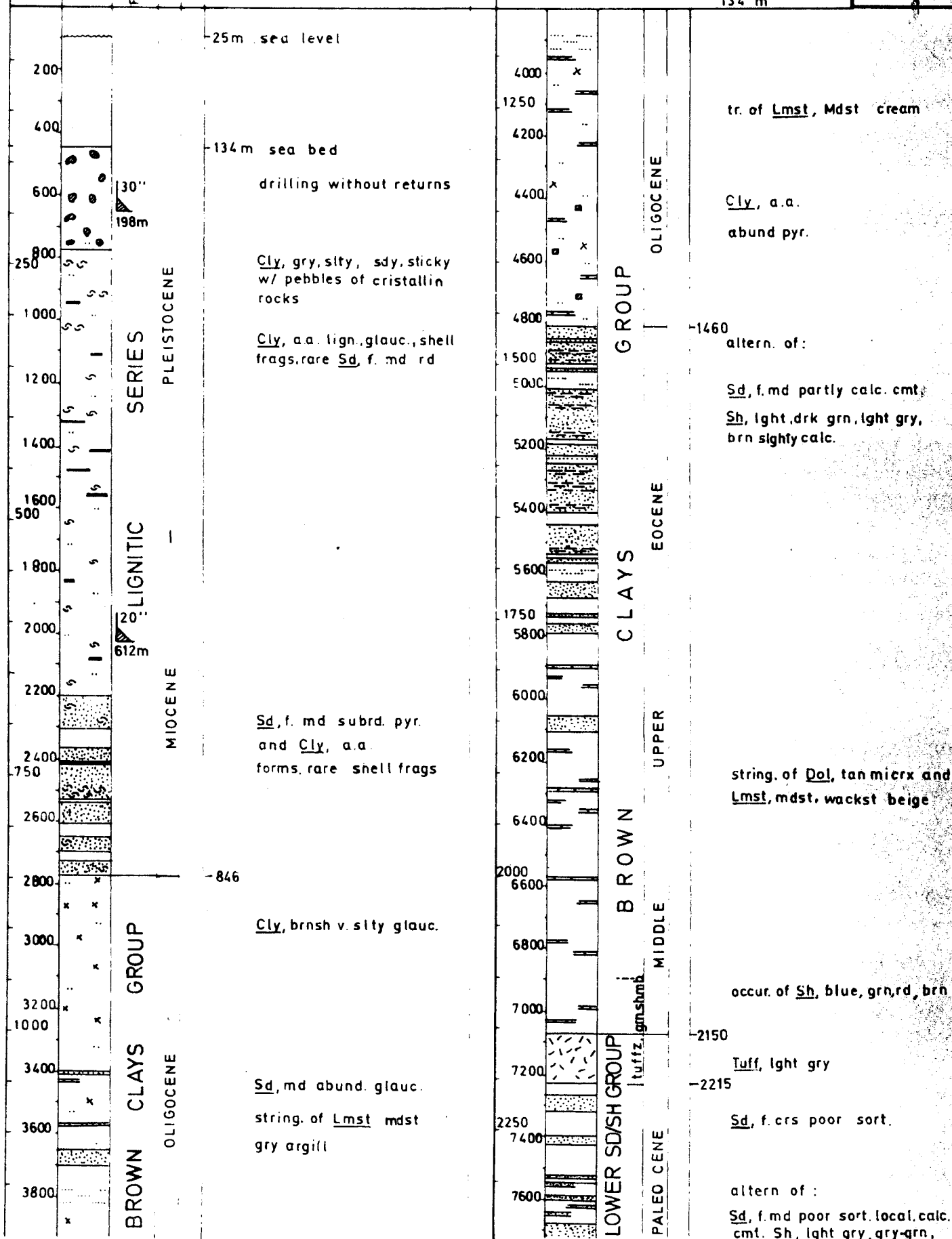
By CHB

FROM ELECTRICAL LOGS

Depths E - | Litho-section | Formations | Stages Shows | Descriptions Obs

Z RKB + 25 m
Z Ground or Sea bottom - 109 m
134 m

Well 15/3-1



FROM ELECTRICAL LOGS

Z RKB + 25 m
Z Ground or Sea bottom - 109 m

Well 15/3-1

Depths E	Litho-section	Formations	Stages	Shows	Descriptions Obs
7800		LOWER SAND/SHALE GROUP	PALEOCENE TO DANIAN		altern of: Sd, f. md poor sort. local calc. cmt. Sh, light gry, gry grn, brush gry Lmst, string.
8000					
8200 / 2500					
8400					
8600					2599 Sd, f md subrc. subang poor sort interbeds of Sh, gry, brn string of Lmst, ±dol beige white microx tr. Sdst, f calc.
8800		Danian sands?			
9000 / 2750		CHALK	DANIAN?		2711 Mrl, white, gry, sticky Chky Lmst, white, pink friable compact w/silex local sdy. tr Sh, gry grnsh slgty calc. a Sd, md crs subang.
9200					2800 Mrl, sft gry
9400	13 3/8" 2842		MAESTRICHTIAN		Lmst, white compact local gry argill
9600					
9800 / 3000					
10000			CAMPANIAN		Lmst, mdst beige to drk gry argill thin Sh, interbeds.
10200					3110 altern. Lmst, mdst light gry, light brn arg.
10400					3178 Mrl, gry v sft
10600 / 3250					Sh, light gry, pale grn calc w/ Mrl, a a Lmst, interc
10800			CAMPANIAN - SANTONIAN		
11000					Alt. Sh and Marl a.a.
11200					
11400					

Depth	Formations	Stages	Shows	Descriptions
3500 / 11600		TURONIAN?		3504 Lmst, beige crm, light gry slightly argill. loc. detr. interc. of Lmst, gy, drk gy, v.argill.
11800				3615 Sh, gry, drk gry, v. hrd v. calc. interc. of Lmst a.a. tr. Sdst, v. f. glauc.
12000				
12200 / 3750				
12400		LOW CRETACE		Marl, wh to gy w/ Sh, string.
12600				3812 Sh, dk-gy to brn indur. some Marl. and thn Sltst, string
12800				Sh, dk-gy to blk, v. comp. homog. w/lamin of Sh, slty v. thn lamin of Sltst, some org. mater.
13000 / 4000				3947 3947 K1 Sh, brn, blk, friable, bituminous
13200		KIMMER - PORTLANDIAN		tr. Sdst, wht, v. fine Sh, blk, hrd, fissile
13400				4083 4083 FIT K2 7 4092 Sdst, wht, crs, subrounded Sh, drk gy, w/ Sdst, a.a. tr. Coal, pyrite
13600				4141 K3 FIT 6 4150 FIT 5 bis Sdst, blk. stain, md coarse alt. Sdst and Sh a.a.
13800				FIT 5. FIT 4. FIT 8.
4250 / 14000				Sdst a.a., w/ Sh stringers
14200				Sh, drk brn, sl. calc., hrd, w/few alt. of Sdst. m.gr.
14400				
14600		CALLOVO - OXFORDIAN		FIT 1. 4442 Sdst, f. to crs, ang., calc. cmt.
4500 / 14800				FIT 2. 4525 Sdst/Sd, wht, med., subang. to subrnd, mod. sort.
15000				
15200				4610 Sh, blck, dk brn, indur. sl. dol., mic. mic. w/ stringers Sh, rd, hd

FROM ELECTRICAL LOGS.

Depths E -	Litho-section	Formations	Stages	Shows	Descriptions Obs
15400					4661 Sdst, wh., med., ang. to subang poor sort., silic. cmt, loc. Dol. 4687
15600					
4750 15800					Sh, dk-gy, dk-brn, indur. mainly no calc., loc. silty and calc.
16000					
16200					
16400					Sh, v. comp., loc. pyr.
5000 16600		4991 K4 4993	LOWER OXFORDIAN TO CALLOVIAN		4986 Sdst, f. to crs, ang., dol. 5029
					Sdst, a.a. 5047
					Sh, gy, v. hd, silicif?
		FIT 3.			5101 Sh, dk-gy, hd, pyr., loc. calc.
					T.D. = 5129 m

Z RKB + 25 m
Z Ground or Sea bottom -109 m

Well 15/3-1

SIDE WALL CORES DESCRIPTION

WELL :	1/3-1
LICENCE :	025
RUN N°	1
PAGE N°	1
DATE :	15.1.75

SERVICE COMPANY :	SPT
ASKED :	30
RECOVERED :	20
SHOT :	20
LOST :	0
FULL BULLET :	20

tr : trace - M : medium - G : good

N°	DEPTHS	REC	LITHOLOGY	Fluorescence	CU
1	2831	1/4	lmst: lt gry, sft, arg.		
2	2783	1/3	a.a., friable, v. arg.		
3	2713	1/3	marl: gry, dk.gry, mod.hd		
4	2685	3/4	marl a.a., hd		
5	2645	1	marl a.a., sft		
6	2550	1	sh: gry, dk gry, fiss., indur.		
7	2452	1	sh: gry.grn fiss. indur. w/nodules of sdst, v.f. glauc.		
8			misfire		
9	2258	1	sh: a.a.		
10	2212	1	sh: gry, gry.brnsh, mod. indur.		
11	2164	1	sh: a.a.		
12	2102	1	sh: a.a.		
13	2025	1	sh: a.a. sltly sdy.		
14	1938	1	sh: gry, fiss., mod. indur.		
15			misfire		
16	1748,5	1	sh: a.a.		
17	1691,5	1	sd: v.f., subang., well sort., glauc.		
18	1650	1	sh: gry, grnish, fiss., mod. indur., pyr. w/nodules of sd.		

SIDE WALL CORES DESCRIPTION

WELL :	15/3-1
LICENCE :	[illegible]
RUN N°	1
PAGE N°	2
DATE :	15.1.75

SERVICE COMPANY :	SDE
ASKED.	30
RECOVERED :	2
SHOT :	26
LOST :	[illegible]
FULL BULLET :	2[illegible]

tr trace - M medium - G good

N°	DEPTHS	REC	LITHOLOGY	Fluorescence	CUT
19	1550	1	sd: v.f., subang., well sort., and sh a.a.		
20			misfire		
21	1502	1	sh: gry.brnish, indur., fiss., pyr.		
22			misfire		
23	1237,5	1	sh: brn, v. slty, glauc., micromic. calc.		
24	1105,5	1	a.a.		
25					
26					
27					
28					
29					
30					

SIDE WALL CORES DESCRIPTION

WELL :	15/3-1
LICENCE :	025
RUN N°	2
PAGE N°	1
DATE :	15.1.75

SERVICE COMPANY :	SPT
ASKED :	30
RECOVERED :	30
SHOT :	30
LOST :	0
FULL BULLET :	30

tr : trace - M : medium - G : good

N°	DEPTHS	REC	LITHOLOGY	Fluorescence
1	2808	1/4	lsmt: wh, hd, fissurated, w/arg. lineations and lmst; lt gry. arg., hd, sltly sdy.	
2	2793	3/4	sh: gry, calc., indur.	
3	2749	1/4	lmst: wh.gry, more or less hd, sltly sdy chky, arg.	
4	2699,5	1/4	sd v.f. to f., well sort., subang.	
5	2648,5	1	sh: grnish gry, partly fiss., sltly calc.	
6	2597	1	sh a.a., pyrt.	
7	2504	1/3	sd: v.f. to f. well sort., subang.	
8	2397	2/3	sd: v.f. w/interc. of sh, grn gry, partly arg. w/microchannels	
9	2317	1/2	sd: v.f. well sort, w/glauc.	
10	2270	1	sh: gry.brn, indur., fiss.	
11	2235	1	sh: a.a.	
12	2209	1/4	sh: grnish.gry, gry.brn, sft.	
13	2180	1	sh: gry, sft, slty.	
14	2150	1	sh: gry, dk.gry, fiss. indur.	
15	2052	1	sh: a.a.	
16	1998	1	sh: a.a.	
17	1883	1	sh: a.a., pyr	
18	1810	1	sh: a.a., pyr	

SIDE WALL CORES DESCRIPTION

WELL :	15/3-1
LICENCE :	025
RUN N°	2
PAGE N°	2
DATE :	15.1.75

SERVICE COMPANY :	[illegible]
ASKED :	[illegible]
RECOVERED :	30
SHOT :	30
LOST :	0
FULL BULLET :	30

tr : trace - M : medium - G : good

N°	DEPTHS	REC	LITHOLOGY	Fluorescence	Cu
19	1707,5	1/8	sh/cly: grnish.gry, v.sft		
20	1689	1	sh: gry to grn, fiss., indur.		
21	1595	1	sh: a.a.		
22	1575	1	sd: v.f. well sort., subang., and sh: gry, gry.brn		
23	1510	1	sh: gry.brn indur., w/nodules of sd, v.f., pyr.		
24	1450	1	sd a.a.		
25	1323	1	sh: brn, sdy, slty, micromic., calc.		
26	1190	1/4	cly: brn, slty, sdy, calc.		
27	1060	1	sh: brn, v.slty, w/micromic. lineations, calc.		
28	975	1	sh. a.a.		
29	880	1	sd: v.f., arg, micromic., calc.		
30	777	1	sh: grnish gry, v.sdy, micromic., calc. w/lenses of sd.		

SIDE WALL CORES DESCRIPTION

SERVICE COMPANY	SFS
ASKED :	30
RECOVERED :	12
SHOT :	30
LOST :	18
FULL BULLET :	3

WELL : 15/3-1
LICENCE : 025

RUN N° 3
PAGE N° 1
DATE : 02.03.75

tr : trace - M : medium - G : good

N°	DEPTHS	REC %	LITHOLOGY	Fluorescence
1	3959,8		lost	
2	3956,2		lost	
3	3954		lost	
4	3950	30	sh: dk-gy, dk-brn, compact, mic., non calc., w/tiny incl. of siltst. lt-gy, odor hydroc.	
5	3943		lost	
6	3939	100	marl: lt-gy, lt-gn, compact	
7	3936	40	marl: a/a	
8	3924	10	lmst: lt-gy to wh., comp., arg., loc. pyr.	
9	3910		lost	
10	3866	50	lmst: wh, gy, arg., mudst, compact.	
11	3832	100	sh: dk-gy to brn, v. comp., loc., mic., calc.	
12	3825	100	sh: a/a	
13	3800		lost	
14	3705		lost	
15	3692	40	sltst: lt-gy, v.mic., glauc., cmt. arg.-calc.	
16	3670		lost	
17	3575		lost	
18	3500		lost	

SIDE WALL CORES DESCRIPTION

SERVICE COMPANY :	SPE
ASKED :	30
RECOVERED :	12
SHOT :	30
LOST :	18
FULL BULLET :	3

WELL : 15/3-1
LICENCE : 025

RUN N° 3
PAGE N° 2
DATE : 02.03.75

tr : trace - M : medium - G : good

N°	DEPTHS	REC %	LITHOLOGY	Fluorescence
19	3455		lost	
20	3375		lost	
21	3325		lost	
22	3235		lost	
23	3205		lost	
24	3150	40	marl: lt-gy to tan, loc. pyr.	
25	3100	20	lmst: wh to lt-gy mudst., arg., compact.	
26	3049		lost	
27	3000		lost	
28	2950		lost	
29	2882	10	lmst: lt-gy to beige, mudst., arg., compact.	
30	2868	30	lmst: a/a pyr.	

SIDE WALL CORES DESCRIPTION

SERVICE COMPANY :	SPE
ASKED :	30
RECOVERED :	26
SHOT :	30
LOST :	4
FULL BULLET :	

WELL :	15/3-1
LICENCE :	025
RUN N°	4
PAGE N°	1
DATE :	02.03.75

tr : trace - M : medium - G : good

N°	DEPTHS	REC %	LITHOLOGY	Fluorescence
1	3961	10	sh: dk-gy to black, compact, non calc., hydroc. odor.	
2	3959,8	10	sh: a/a, silty w/bubble of gas and tr. of oil, mod. odor of hydrocarbons	
3	3956,2		lost	
4	3954	15	sh: a/a w/laminae of sltst, oil stain, bubble of gas, moder. hydroc. odor.	
5	3945	10	marl: lt-gy, rare pyr.	
6	3932	20	marl: a/a	
7	3927		lost	
8	3923	10	lmst: wh. to beige, mudst., arg., compact.	
9	3910	10	lmst: a/a w/microscop. veins of pyr.	
10	3885	60	lmst: brn, mudst., med.compact.	
11	3838	5	marl: brn., sft.	
12	3800	10	lmst: wh., beige, mudst., compact.	
13	3775	10	marl: lt-gy, sft.	
14	3705	15	lmst: wh., beige, mudst., compact.	
15	3670	10	marl: lt-gy, med. compact.	
16	3645	15	interc. of: sh, gy, lt-gn, sft. v. slty, v. calc., w/sltst gy, glauc., mic., cmt. calc.	
17	3575	10	lmst: wh., beige, mudst., compact.	
18	3500	20	lmst: a/a, (loc. Pink)	

SERVICE COMPANY :	SPC
ASKED :	30
RECOVERED :	26
SHOT :	30
LOST :	4
FULL BULLET :	

SIDE WALL CORES DESCRIPTION

WELL :	15/3-2	RUN N°	4
LICENCE :	025	PAGE N°	2
		DATE :	02.03.75

tr : trace - M : medium - G : good

N°	DEPTHS	REC %	LITHOLOGY	Fluorescenc
19	3455		lost	
20	3375		lost	
21	3325	20	sh: dk-gy, compact, calc. w/inclus. of lmst a/a	
22	3260	60	sh: dk-gy, brownish, sft, mic., calc.	
23	3235	90	sh: a/a	
24	3205	30	sh: a/a	
25	3125	20	marl: lt-gy to gy a/a	
26	3075	40	marl: a/a	
27	3049	30	marl: a/a	
28	3000	40	lmst: wh., beige, mudst. compact.	
29	2950	30	lmst: a/a	
30	2925	40	lmst: a/a	

SIDE WALL CORES DESCRIPTION

SERVICE COMPANY:	SPE
ASKED:	30
RECOVERED:	13
SHOT :	30
LOST :	11
FULL BULLET :	17

WELL : 15/3-1

LICENCE :

RUN N° 5

PAGE N° 1

DATE : 8/5/1975

tr : trace - M : medium - G : good

N°	DEPTHS	REC	LITHOLOGY	Fluorescence
1	4360		Lost	
2	4350	1/4	Shale: grey, brownish grey, fissil, hard, slightly calcareous, micaceous	
3	4340		Lost	
4	4323,5		Lost	
5	4318,5		Lost	
6	4271,5		Lost	
7	4253		Lost	
8	4226,5		Lost	
9	4223	1/2	Sand/sandstone: fine, subangular, poor consolidated, slightly cemented, calcareous	
10	4219,5	1/2	Sand/sandstone: fine to medium, subangular, bad sorted, calcareous and argillaceous cement	
11	4217	1/4	Sand/sandstone a/a	
12	4207		Lost	
13	4185		Sandstone; a/a: very hard	
14	4172,8		Lost	
15	4162,2		Lost	
16	4148,5	1/4	Sandstone a/a	
17	4142,5	1/4	Sandstone a/a: very argilaceous	
18	4128	1/4	Shale: grey, grey brown, fissil, very hard, micaceous	

S.W.C.

SIDE WALL CORES DESCRIPTION

SERVICE COMPANY :	SPL
ASKED :	30
RECOVERED :	19
SHOT :	30
LOST :	11
FULL BULLET :	17

WELL : 15/3-1
LICENCE :

RUN N° 5
PAGE N° 2
DATE : 8/5/1975

tr : trace - M : medium - G : good

N°	DEPTHS	REC	LITHOLOGY	Fluorescence	CUT
19	4118,5		Empty		
20	4101	1/8	Shale: grey dk brown, fissile, very hard, slightly sandy		
21	4091,9		Lost		
22	4088,4	1/4	Sand/sandstone: fine to medium, subangular, fair sorted, poor consolidated		
23	4076,	1/8	Shale: grey dk brown, very hard, slightly sandy and calcareous, pyritaceous		
24	4076,4	1/8	Shale: grey dk brown, very hard, fissile, calcareous		
25	4066	1/8	Shale: a/a		
26	4050	1/8	Shale: a/a		
27	4034,8	1/8	Shale: a/a		
28	4001,1	1/8	Shale: a/a with sand nodules		
29	3984,5	1/8	Shale: a/a		
30	3976				

S.W.C.

SIDE WALL CORES DESCRIPTION

SERVICE COMPANY :	SPE
ASKED :	24
RECOVERED :	23
SHOT :	24
LOST :	1
FULL BULLET :	4

WELL : 15/3-1	RUN N° 6
LICENCE :	PAGE N° 1
	DATE : 27.06.1975

tr : trace - M : medium - G : good

N°	DEPTHS	REC	LITHOLOGY	Fluorescence	CU
11	5050	1/2	SH: dark grey, very hard, fissil, pyritaceous		
17	4960	1/8	SH: dark grey, very hard, fissil, pyritaceous, w/sd, very fine		
21	4800	1/8	SH: dark grey, very hard, fissil, w/asphalt?		
24	4435	1/8	SH: dark grey, very hard, fissil, pyritaceous, silty		

Cut 4 m
Recovered 3.60 m 90 %
Loss 0.4 m

Company ELF NORGE
Well no 15/3-1
Core no 1

Date 19.02.75
Depths 3947 - 3951 m

Depths	Gas Cp	Petrom	Porosity	Fluorescence	Dips	Log	DESCRIPTION
3947	0				10-15°		
	22%	T			30-60°		
	5						
3948	18	N					
	63						
		A					
3949	0				15°		
	0			WEAK ODOR IN BROKEN PLANES; WEAK AND MEDIUM (BOTTOM) DIR. FLUO; SLIGHT TO V. YELL. EXT. FLUO.	≥ 10		
		E					
3950	0						
		N					
3950.80	0						
3951							

sh dk-gy to black (in bottom) hd and compact., predominant. homogenous, loc. thn laminae of sh. lt-gy, silty, v.pyr. and mic.
some laminae (0.5 - 1 cm thick) of lt-gy sltst. v. hd. and dense, cmt-argil-calc.-bitumen, pyr. and mic.
sh. body contains: rare inclus. of marl lt-gy: rare tiny veins of calcite: bitumen coal residue and some org. mater.
gas bubble and tr. of oil observed on some parts of surface of core and some oil bleeding from tiny veins: the colour becomes darker to black in lower part.

Cut 9 m
Recovered 7,5m
Loss 1,5m

83 %

Company ELF NORGE A/S
Well no 15/3-1
Core no 2

Date 16.03.75
Depths 4083 - 4092 m

Depths	% Calc	Perm	Porosity	Shows	Dips	Log	DESCRIPTION
4083 – 4084	MEANT	GOOD	10 - 15 %	STR. HYDRO ODOR, YELL. DIR. AND YELL ORANGE TO GN CUT FL	INDERTERM.		sdst: dk (colour due to hydroc.), fine to med. grained, subang., poor sorted, partly mic., cem. siliceous - arg., some v. tiny laminae of black sh. in upper part. V. strong hydroc. odor from all parts., bubbles of gas from some parts of sdst. body.
4084 – 4088	48 TO 50 % (SDST), 0 % (SHALE)	POOR (SDST)	0 - 5 % (SDST)	WEAK ODOR AND LT. YELL. CUT. FLUO. FROM SOME PARTS. NO DIR. FLUO. RARE GAS BUBBLES	20 - 30° (SOME PARTS OF SDST) 10 - 12° (SH.),		alternation of: sh: black hd. and v. compact, homogen., partly micmic, non calc. some inclusions of sdst (2-6 cm), and some tiny fissures filled by calcite. with/ sdst lt-gy to wh., fine to med., poor sorted, dense and hd., partly mic. and glauc., strongly calc. numerous small inclusions of black sh. (4087.80) give conglomerate aspect. at 4086.30 observed a big marl or lmst. tube (7,5 cm long and 2 cm in diameter) filled by argilo-silicieous meterials. rare gas bubbles from fissures.
4088 – 4090.50	0 %	MEANT		BRIGHT - YELL. CUT. FLUO. NO DIR. FLUO. RARE BUBBLES OF GAS.	0 - 10° (SHALE)		thn. laminae (0,5-2 cm) of sdst lt-gy, whitish a/a sh. a/a
4090.50 – 4092							

Cut 9 m
Recovered 9 m
Loss —

100 %

Company ELF NORGE A/S
Well no 15/3-1
Core no 3

Date 19.03.75
Depths 4141-4150 m

Depths	Gas %	Perm	Porosity	Shows	Dips	Log	DESCRIPTION
	41 %	POOR	0 - 5 %	OIL SATUR W/ STRONG ODOR	INDETERM		
	0						sdst. PY to dk (dr colour due to hydroc.), fine grained rare med., ang. to subang., mod. sort; homogeneous, compact, partly mic., cmt. generally siliceous-arg. and loc. calc. some parts of sdst body (4141.60-4141.85; 4143-4143.60) med. grained less compact, vuggy, mic., oil satur.
4142	41,5						
	46,5						
	0						
4143	0						
	0						
4144							altern. of sh. dk-brn to black compact homogeneous non calc. w/sdst a/a
	42,5						
	0	GOOD	10 - 15 % (SDST DK VUG. GY)	GAS BUBBLES FROM ALL PARTS OF CORE, NO DIR. FLUO. BRIGHT YELL. TO YELL. CUT. FLUO.	INDETERM.		sdst. dk fn. to med. oil satur. a/a
4145	0						4145.10: thn. lam. of conglomerate• altern. of sdst lt-gy to wh. med. v. dense (non hydroc. stain) w/sh. a/a
	0						
	41						
4146	0						
	0						sh. a/a
4147	0						thn. sdst strgers. fn. to med.
	0						
4148							sdst lt-gy to wh. fn. v. dense and hd., cmt. siliceous-arg.
	35						
4149	0.	POOR	0 - 5 % (LT-GY., WH. SDST)		INDETERM. (SDST)		sh. dk brn. to black a/a
					0 - 10°		some coal inclusions
4150	0						

CUT: 3m
RECOVERED: 2.30 76 %
LOSS: 0.70

COMPANY: Elf Norge
WELL N°: 15/3-1
CORE N°: 4

DATE 14.06.75
DEPTHS 4991 - 4993.3

DEPTHS	% CO_3Ca	PERM	POROS	SHOWS	DIPS	LOG	DESCIPTION
4991							sandstone: v.fine to coarse, angular, bad sorted, slightly dolomitic
							32,75 and 92,90: shale: dk grey, v.compact, with quartz grains, with sandstone beds or nodules some coal microbeds
4992			Positive	No shows			4991,95: sandstone: medium to coarse, loc. fine, angular, sorted, loc. slightly dolo. (when fine)
4993							
4993,30							