

NO BOX 3
17

BP000083

NOCS 1/3-3 W41.14



1/3-3 DISCOVERY
ANNUAL REPORT
.01 06 84

elf aquitaine norge a/s

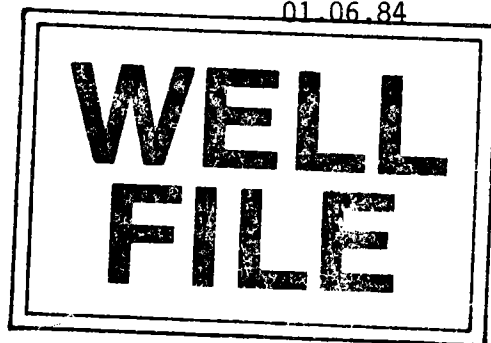
Elf Aquitaine Norge A/S
Reservoir Department
311E-R 84/139/JDL/gmr

14 JUNI 1984 /12

Stavanger, May 1984

BP NORGE FORUS RECORDS MANAGEMENT AND LIBRARY	
AC/SL	NOC3 1/3-3 W41.14
HOLIS ID	01012344-1

1/3-3 DISCOVERY
ANNUAL REPORT
01.06.84



Addressees:

NPD att.: Mr. Al Kasim 2 ex.

Copy to:

STATOIL att.: Mr. E. Berstad 2 ex.
NORSKE SHELL att.: Mr. P. Nelson 2 ex.
TEXACO NORWAY att.: Mr. R. Hatlehol 2 ex.
TOTAL MARINE NORSK att.: Mr. R. Quin 2 ex.

Int. cc:

SNEA(P)

Dig. Europe	att.: Mr. Suau	1 ex.
Dept. Gisement	att.: Mr. Guy	2 ex.

EAN

Management	att.: Mr. P. Charpentier	1 ex.
Prod. Div.	att.: MM. J. Moulinier/R. Barril	1 ex.
Explo. Div.	att.: Mr. J. Junca	2 ex.
Reservoir	att.: GS-JDL	4 ex.
Corporate Affairs		1 ex.
Cost and Planning	att.: Mr. J. Perrier	1 ex.

1/3 - 3 DISCOVERY

Field Description

The main target of well 1/3-3 was the Upper Jurassic Ula formation, oil bearing in the Ula field 17 km to the NW and in the well 2/1-3 10 km to the SE (fig. 1).

Water depth is 67 m.

Well 1/3-3 reached a T.D. of 4850 m MSL on 27.12.82 and discovered 40.5 m of Gross Oil Pay and a WOC at 4194.5 m MSL. The impregnated surface of the anticline would be then of approximately 10 km², part of it being in block 2/1 (fig. 2).

Mineralogy is sandstone fine to very fine on the top with diffuse clayiness increasing to the top.

The reservoir can be included in a positive megasequence from lower Ula formation (4300 m MSL) to Hot Shales formation (4100 m MSL) which explains the degradation of petrophysical properties upwards.

The Ula sandstones were deposited in shallow marine water in stable energy conditions. This would comfort the assumption of a good facies extension throughout the structure.

Main reservoir characteristics are as follows:

Oil zone: (4154.5 - 4194.5 m MSL)

Transition zone	:	4190 - 4194.5 m MSL	
Gross Oil Pay	:	40.5 m	
Net Oil Pay	:	4.8 m with	$S_w < 55 \%$
			$\emptyset > 15 \%$
			$V_{cl} < 50 \%$
Average porosity on net oil pay	:	17.5 %	
Average oil saturation on net oil pay	:	48.8 %	

Water zone: (4194.5 - 4306.5 m MSL)

Gross Sand	:	11.2 m	
Net Sand	:	55.9 m with	$\emptyset > 15 \%$
			$V_{c1} < 50 \%$
Average porosity on net sand:	:	18.4 %	

Test results

Three Drill Stem Tests were performed, they are summarized on table 1.

DST's and RFT's are in good agreement to show that the oil above 4186 m MSL is tight and that the permeability below is in the range 5 - 10 mD.

The pressure is largely over hydrostatic (605 Bars at 4186 m MSL) and temperature high (165°C at 4186 m MSL).

Reservoir fluid properties (From DST 3A)

Reservoir pressure	:	605 bars at 4186 m MSL
Reservoir temperature	:	165°C at 4186 m MSL
Saturation pressure	:	276 bars
Oil viscosity	:	0.27 cp (res. cond.)
GOR	:	260 m ³ /m ³
Oil F.V.F.	:	1.80
Oil spec. gravity	:	0.829 (39° API)
Gas spec. gravity	:	0.820 (Air = 1)

Accumulation

In the following estimation, the rock volume was split between four layers supposed to extend over the whole structure, parallel to the top. The mini and median calculations use following cut-offs:

\emptyset	<	15 %
S_w	>	55 %
V_{c1}	>	50 %

Mini : 0.75 x proved
 Median : Proved + Updip
 Maxi : Assume all rock volume to have properties of the best layer ($\phi = 0.19$, $S_w = 50\%$, $\gamma = 1$)

	1/3		2/1		TOTAL	
	Oil(10^6 Stm 3)	Ass. Gas(10^9 Stdm 3)	Oil(10^6 Stm 3)	Ass. Gas(10^9 Stdm 3)	Oil(10^6 Stm 3)	Ass. Gas(10^9 Stdm 3)
Mini	3.0	0.8	0.1	0.0	3.1	0.8
Median	4.1	1.1	0.1	0.0	4.2	1.1
Maxi	16.6	1.7	1.7	0.5	18.3	4.8

Recoverable reserves

Recoverable factors are lump ones.

	Recovery factor	Oil reserves (10^6 tons)	Gas reserves (10^9 std m 3)
Mini	20 %	0.50	0.16
Median	25 %	0.85	0.27
Maxi	30 %	4.11	1.29

Production Profile

Assuming 25 % of recoverable reserves the first year and an exponential decline on 7 years afterwards gives the following profile based on the Median recoverable reserves.

Year	1	2	3	4	5	6	7	Total
Oil (10^3 tons)	210	170	140	110	90	70	60	850
Gas (10^6 std m 3)	65	55	45	35	30	20	20	270

Considerations on possible development

Even the maxi case remains under the threshold of an economic development. Nevertheless, a better appreciation of the structure should occur within the next months after the reprocessing of the seismic lines in the area and the drilling in the neighbouring block 2/1 of an exploration well in the saddle between 1/3-3 structure and 2/1-3 - 2/1-4 structure.

Reference

A report "well 1/3-3 Reservoir Evaluation" has been completed and will be issued in June 84.



POSITION MAP



BLOCK : 1/3

WELL : 1/3-3

OWNER : Statoil, EAN, Shell, Texaco, Total.

Scale: 1/2500 000

Date: June '82

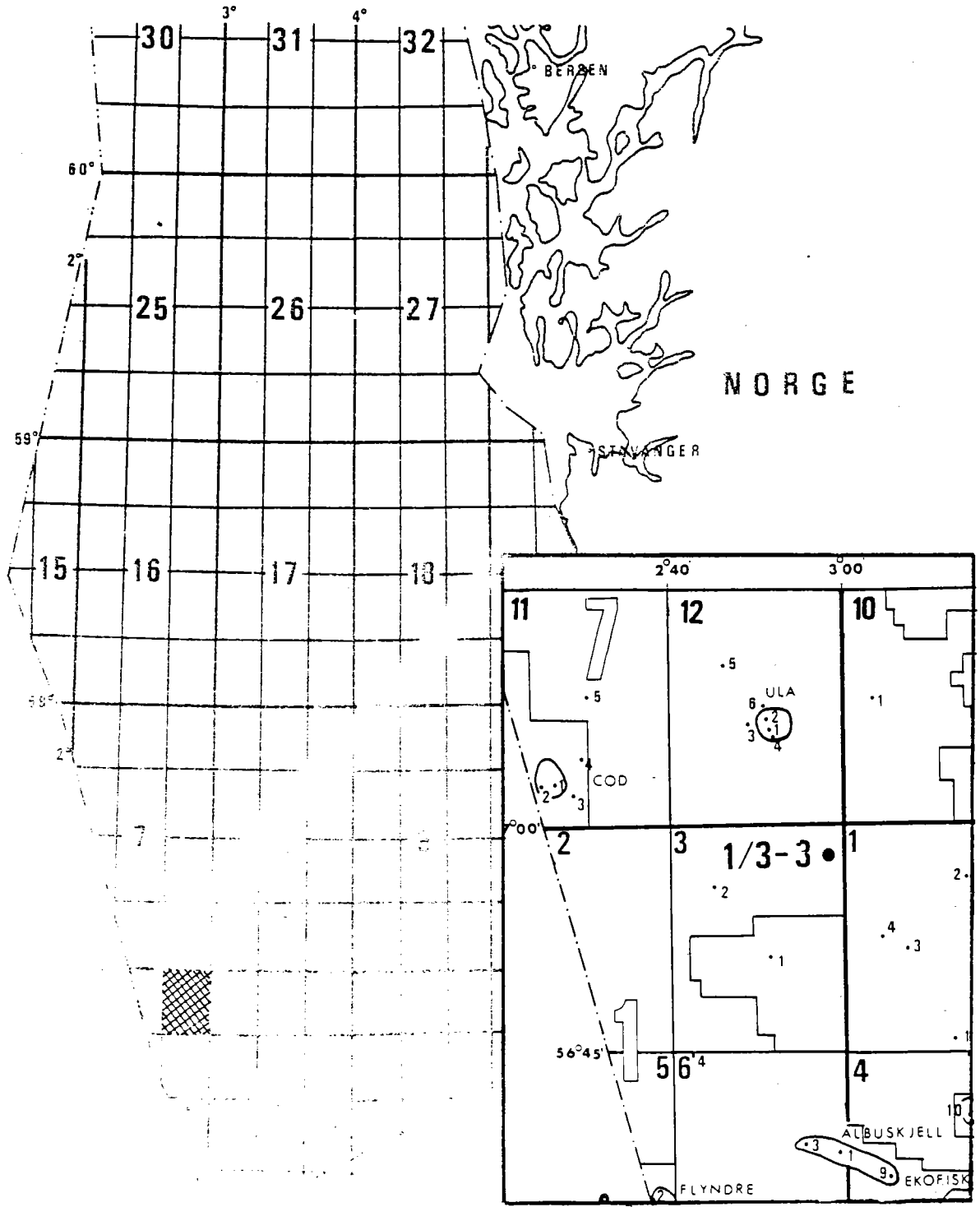


Fig. 1.

6317500


7/12

8/10

57°00

1/3

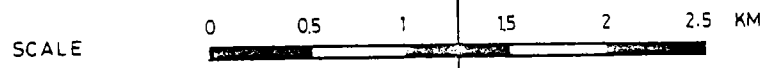
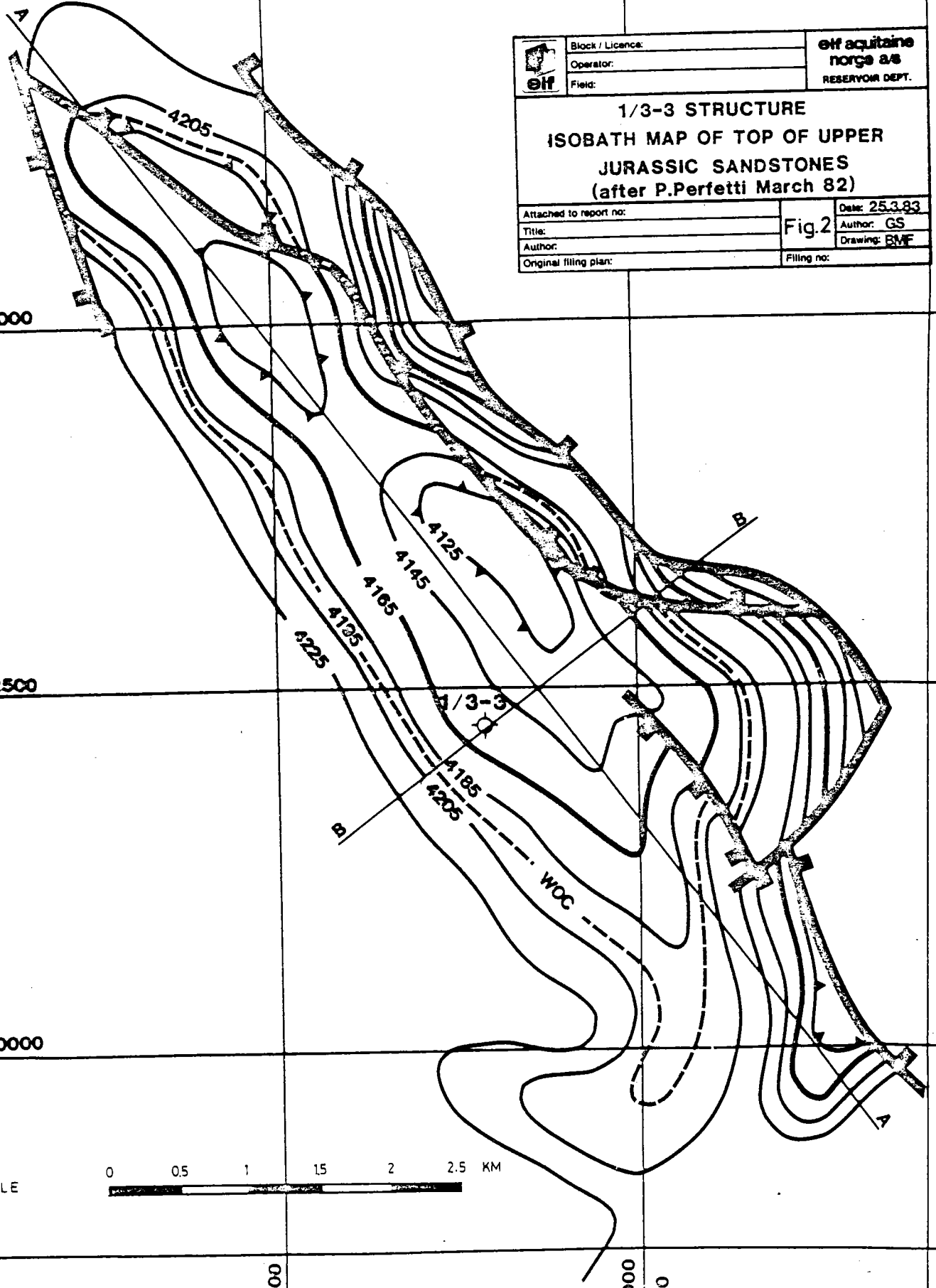
2/1

	Block / Licence:	Elf aquitaine norge a/s RESERVOIR DEPT.
	Operator:	
	Field:	
1/3-3 STRUCTURE ISOBATH MAP OF TOP OF UPPER JURASSIC SANDSTONES (after P.Perfetti March 82)		
Attached to report no:		Date: 25.3.83
Title:		Fig.2 Author: GS
Author:		Drawing: BMF
Original filing plan:		Filing no:

6315000

6312500

6310000



497500

500000

3°00

SKJEMA 1

PROGNOSE FOR PETROLEUMSVIRKSOMHETEN TIL HAVS
FORUTSETNINGER FOR BEREGNINGENE PÅ FELTNIVÅ

DATE .. May, 1984
FELT .. 1/3-3

1. RESSURSPOTENSIAL	FOREKOMSTER					SUM DENNE RAPPORT	SUM FORRIGE RAPPORT HVIS ENDRET
Opprinnelig HCPV ($10^6 m^3$)						7.6	
Opprinnelig salgbar olje ($10^6 m^3$)						1.05	
Opprinnelig salgbar gass ($10^9 Sm^3$)						0.28	
Opprinnelig salgbar NGL ($10^6 tonn$)							
Opprinnelig gass/oljeforh. (Sm^3/m^3)						260	
2. FØRSTE PRODUKSJONSÅR:						N/A	
3. SISTE PRODUKSJONSÅR :						N/A	
4. NORSK ANDEL :						100 %	
5. PLATTFORMER :							

NAVN	FUNKSJON

PROGNOSER FOR PETROLEUMSAKTIVITETEN TIL HAVS
FORUTSETNINGER FOR BEREGNINGENE

Dato... May. 1984.....

Felt... 1/3-3.....

Plattform.....

PLATTFORM VARIABLE	Denne rapport	Forrige rapport hvis endr
6 VANNDYP..... meter	67	
7 BÆRENDE STRUKTURER OG FUNDAMENT: TYPE..... stål/betong		
VEKT /VOLUM tonn/m ³		
8 DEKK: TØRRVEKT..... tonn		
DRIFTSVEKT..... tonn		
9 ANTALL BRØNNSLISSER.....		
10 ANTALL PLANLAGTE PRODUKSJONSBRØNNER.....	7-8	
11 ANTALL PLANLAGTE INJEKSJONSBRØNNER.....		
12 ANTALL PLANLAGTE SATELLITBRØNNER.....		
13 BRØNNRATE FOR NYE BRØNNER: OLJE.....i tusen standard kubikkmeter/dag	0.1 to 0.3	
GASS...i millioner standard kubikkmeter/dag	0.03 to 0.1	
14 BORETID PR. BRØNN.....dager		
15 PRODUKSJONSSTART.....dato		
16 BEHANDLINGSKAPASITET: OLJE.....i tusen standard kubikkmeter/dag		
GASS...i millioner standard kubikkmeter/dag		
17 INJEKSJONSKAPASITET: VANN.....i tusen standard kubikkmeter/dag		
GASS...i millioner standard kubikkmeter/dag		
18 INSTALLERT EFFEKT: VARME.....mega watt		
KRAFTFORSYNING.....mega watt		
19 BRENSSEL.....prosent av gassproduksjon		
20 LAGERKAPASITET: OLJE.....i tusen standard kubikkmeter		
21 BOLIGKVARTER.....antall personer		

PRODUKSJONSREGULARITET

22 REGULARITET FOR OLJETRANSPORT.....prosent		
23 REGULARITET FOR GASSTRANSPORT.....prosent		
24 PLATTFORMREGULARITET I BOREFASE....prosent		
25 PLATTFORMREGULARITET ETTER BORING..prosent		