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WELL 30/6-14 (NORWAY)  
(Zeta Structure)

GEOCHEMICAL STUDY OF AN OIL SAMPLE

U-398

EP/S/EXP/Lab.Pau n°87/102RP

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TITLE : WELL 30/6-14 (NORWAY)  
Zeta structure - GEOCHEMICAL STUDY OF AN OIL SAMPLE

REFERENCE : EP/S/EXP/Lab.Pau n° 87/102RP

SUMMARY

This report presents the results of a geochemical analysis carried out on an oil sample (stock tank oil) from well 30/6-14 (Zeta structure).

The main results are as follows :

- the oil from well 30/6-14, like the oil from well 30/6-5, is slightly less mature than the oil from the other wells in block 30/6;
- source rock : Upper Jurassic shales.

C O N T E N T S

	<u>Pages</u>
1 - Maturation .....	3
2 - Origin .....	3
3 - Conclusion .....	3

LIST OF TABLE AND FIGURES

TABLE

Table 1 - Oil from Well 30/6-14

FIGURES

Figures 1- 1a - Location maps

Figure 2 - Chromatograms of the oil

This report presents the results of a geochemical analysis carried out on an oil sample (stock tank oil) from well 30/6-14 (Zeta structure, location maps in figures 1 and 1a).

The gross composition of this oil plus some chromatographic indices are given in table 1 ; the chromatograms of the thermovaporized, saturated and aromatic fractions are given in figure 2.

Taking into account its location, (Zeta), the oil from well 30/6-14 will be compared to the oil from well 30/6-5\* (B).

### 1 - MATURATION

The catagenetic indices as well as the  $X_2$  ratio (nC7 dimethylcyclopentane), the Pristane nC17 and the Phytane/nC18 ratios show the degree of evolution of this oil to be lower than the degree of evolution of the Alpha oils and condensates, but to be very close to the degree of evolution of the oil from well 30/6-5( $\beta$ ).

### 2 - ORIGIN

Genetically, the Zeta oil exhibits the same characteristics as the Alpha and Beta oils and condensates ; In particular, it has the same relative proportion of isoprenoids and n-alkanes :

$$(\text{Pristane/nC17})/(\text{Phytane/nC18}) = 1.2$$

Like the others fluids from the block, the oil from well 30/6-14 is thought to have been sourced by a sapropelic Upper Jurassic source rock.

### 3 - CONCLUSION

The oil from well 30/6-14 has an Upper Jurassic source rock and is like the oil from well 30/6-5, slightly less mature than the other oils from block 30/6.

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\* well 30/6-5 (Beta structure) Geochemical study of an oil (RFT 1 : 2874.5 M)  
Comparison with alpha structure fluids GEO/LAB BSS n° 2/2318 RP -  
P. CAILLEAUX

The discrepancy in the degree of evolution between the Beta and Zeta oils compound to the  $\alpha$ ,  $\alpha$  North and  $\gamma$  leads us to prepose two hypothesis :

- 1° They came from the same area but the oils from wells 30/6-14 and 30/6-5 were sourced earlier.
- 2° They did not come from the same area and the source rock of the 30/6-14 and 30/6-5 is less mature than the source rock of the  $\alpha$  and  $\gamma$  oils and so come from a less mature area.

T A B L E

TABLE 1    30/6-14

GROSS COMPOSITION OF THE OIL SAMPLE

AND CHROMATOGRAPHICS INDICES

WELL Sample		30/6-14 Stock tank oil
Composition of the total product (%)	DISTILLATE = D	30.7
	ASPHALTENES	2.2
	RESINS	5.5
	SATURATED HC = S	42.8
	AROMATIC HC = A	18.7
	S/A	2.28
	S + D	73.5
C5 - C15	X <sub>1</sub> = n-C6/MCP	2.37
	X <sub>2</sub> = n-C7/DMCP	4.60
	Z <sub>1</sub> = n-C10/DMN	4.01
	TV % total product	32
	nalk % T.V.	34
C15 - C30	nalk % Sat.	13
	Pristane/nC17 = A	0.84
	Phytane/nC18 = B	0.71
	Pr/Ph	1.38
	A/B	1.19

MCP : methylcyclopentane  
DMCP : dimethylcyclopentane  
DMN : dimethylnonane

FIGURES



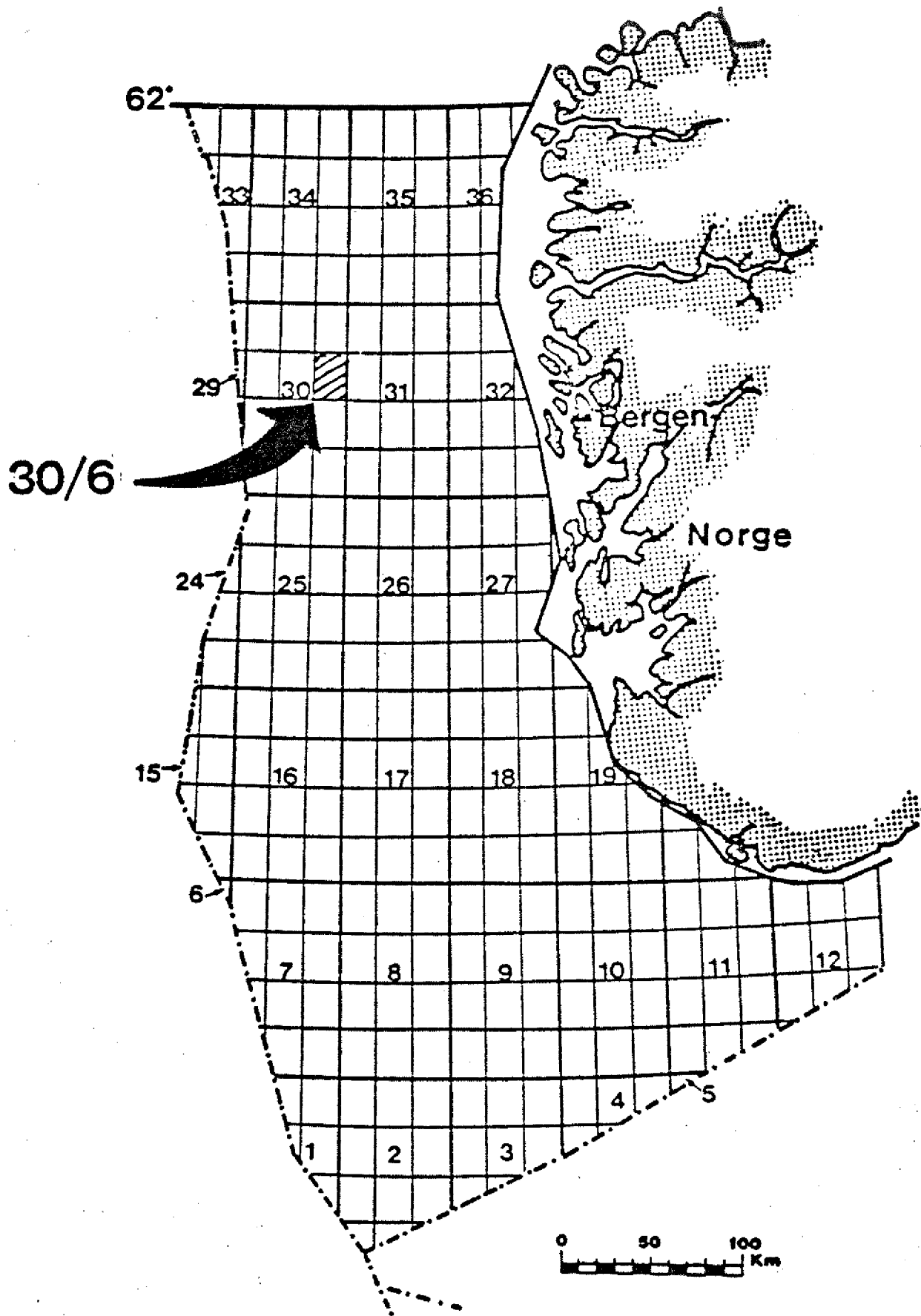


Fig. 1 - 30 / 6 - LOCATION MAP

2'40

3'00

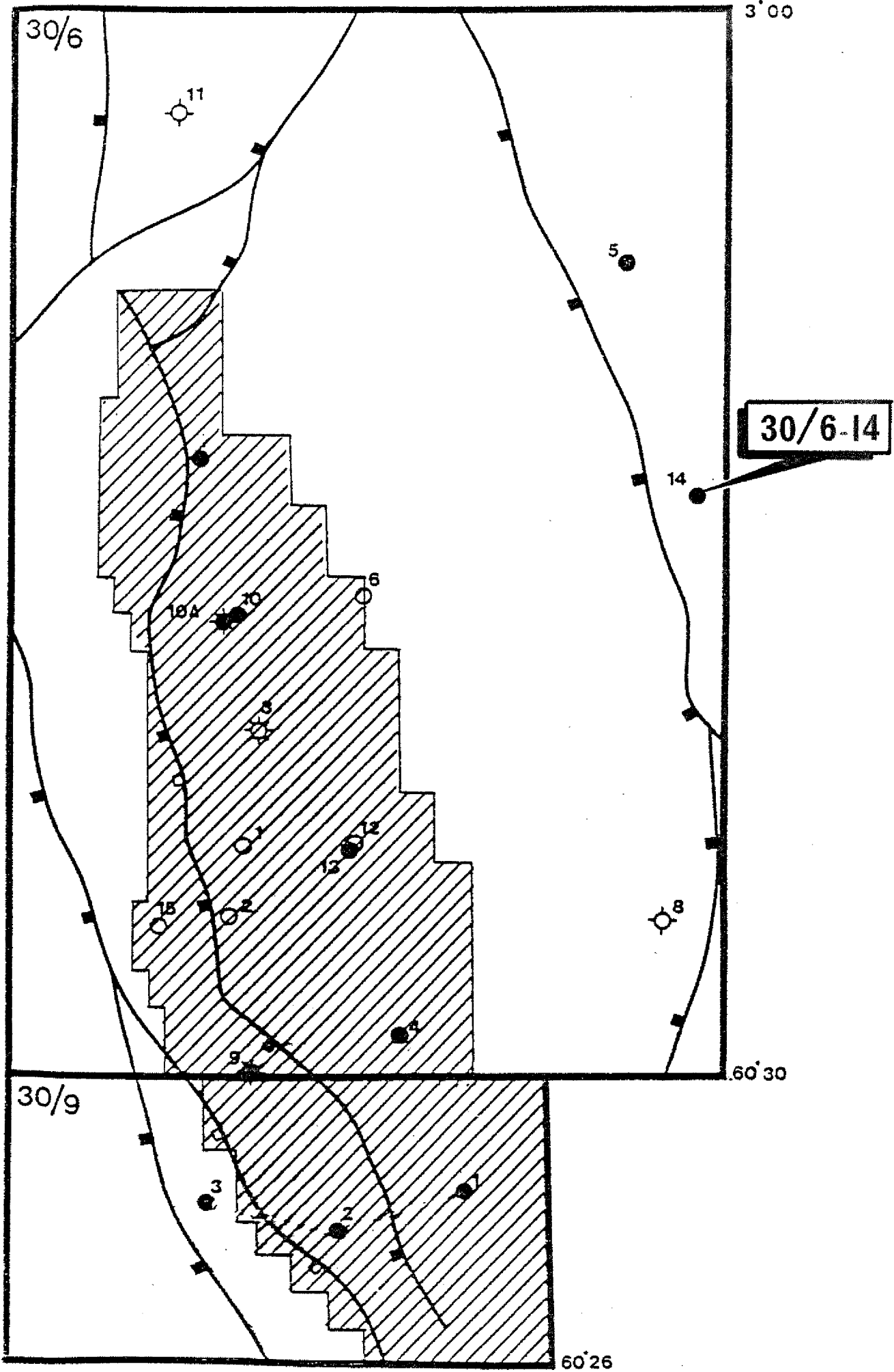
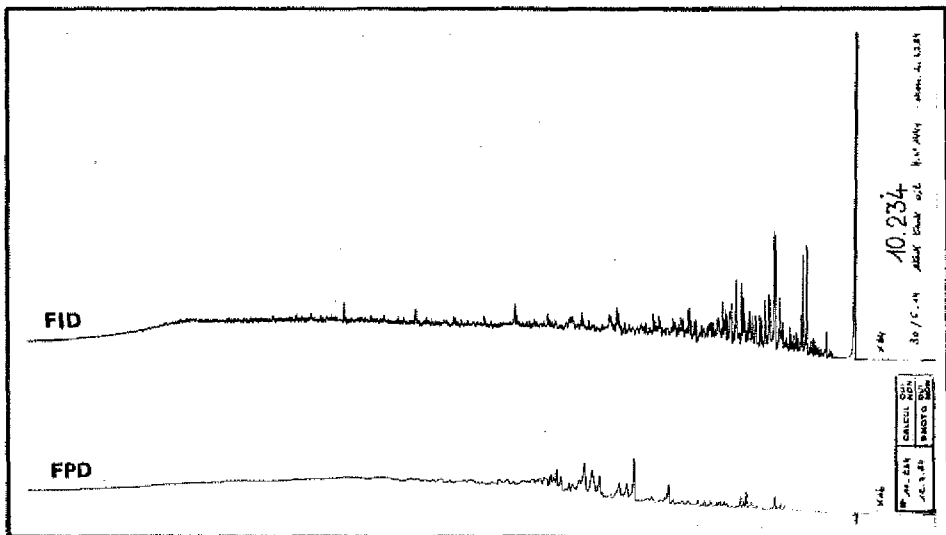


Fig. 1 a - LOCATION OF WELL 30 / 6 - 14  
IN BLOCK 30 / 6

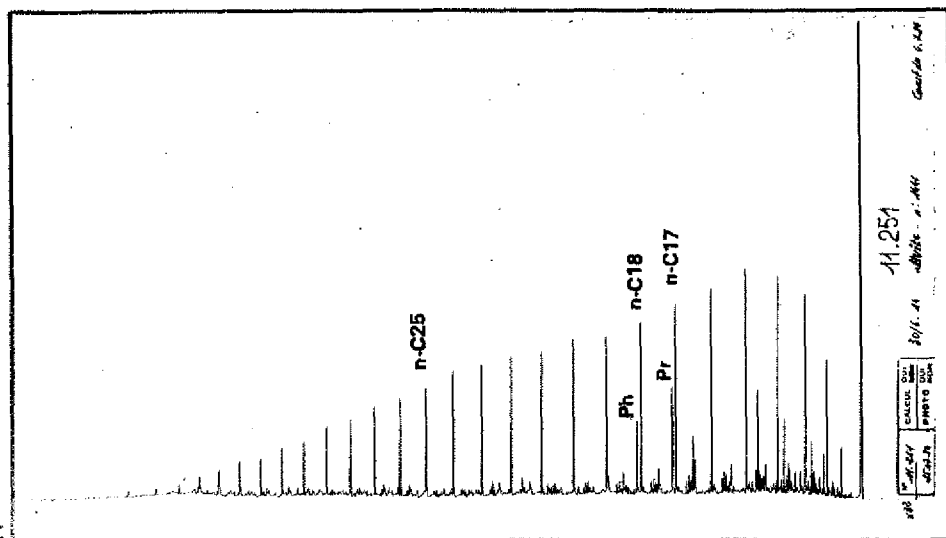
# SNEA (P)

DIVISION RECHERCHES ET APPLICATIONS EN GEOLOGIE

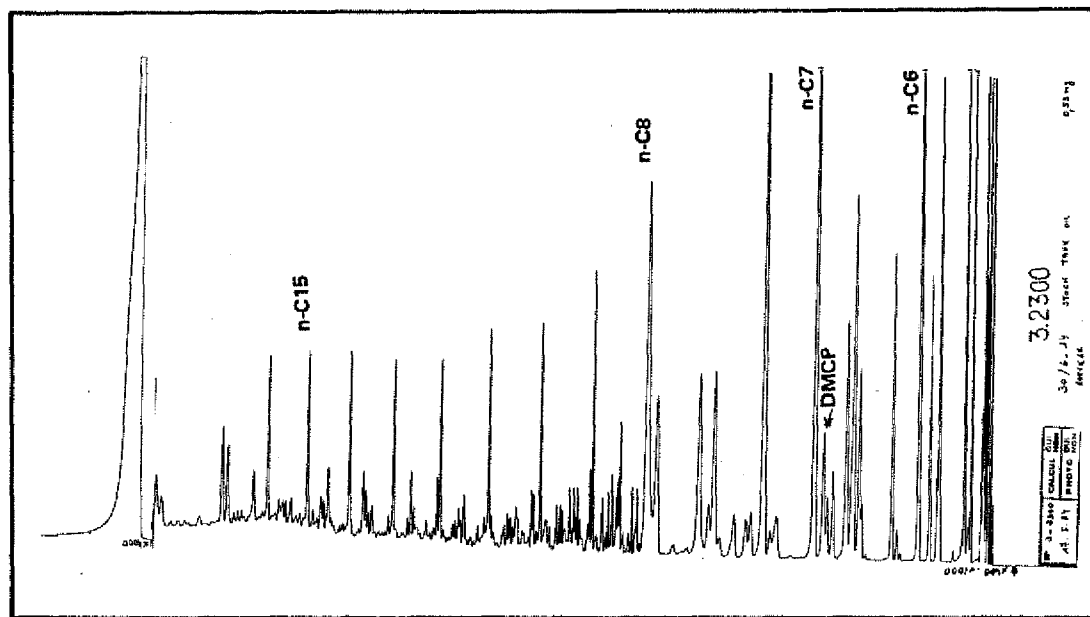
PAYS : NORWAY  
 Country : NORWAY  
 SONDAGE : 30 / 6 - 14 (Zeta)  
 Well : 30 / 6 - 14 (Zeta)



HC AROMATIQUES AROMATIC HC.



HC SATURES SATURATED HC.



HC THERMOVAPORISES THERMOVAPORISED HC

Huile Cote  
 Oil Depth  
 Identification Identification  
 Formation Formation  
 Age Age

**STOCKTANK OIL**

Composition du produit total (%)  
 Composition of total product

Asphaltènes Asphaltenes	As	: 2,2	
Résines Resins	R	: 5,5	
HC saturés Saturated HC	S	: 42,8	$\frac{S}{A} = 2,28$
HC aromatiques Aromatic HC	A	: 18,7	
Distillat Distillate	D	: 30,7	