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ETABLISSEMENT DE BOUSSENS

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18/10 - 1 WELL (NORWAY)

GEOCHEMICAL AND OPTICAL STUDIES

OF THE JURASSIC SERIES

(KEROGENS AND OIL)

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Boussens - December 1983

ABBREVIATIONS AND UNITS

USED IN TABLES 1 AND 3

TOC : Total organic carbon (% of the rock)

S 1 : Hydrocarbons present in the rock
S 2 : Hydrocarbons produced by pyrolysis
} (mg HC/g of the rock)

H I : Hydrogen index (mg H C/g TOC)

O I : Oxygen index (mg CO_2/g TOC)

Tm : Temperature at the top of peak S^2 , °C

X 1 : n C 6/methylcyclopentane

X 2 : n C 7/dimethylcyclopentane

Pr, Ph : Pristane, Phytane

A, B : Pristane/n C 17, Phytane/n C 18

TABLE 1

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GEOCHEMICAL RESULTS ON ROCK SAMPLES

* D : Cutting, C : SWC, K : Core.

n°	*	Depth (m)	TOC	S 1	S 2	HI	OI	Tm °C	X 2	Pr/ n C 17	Ph/ n C 18	Pr/ Ph
1	C	1573	4.37	-	3.11	71	56	434				
2	C	1992	0.76	-	1.11	146	65	431				
3	C	2045	1.24	0.02	1.02	82	40	433				
4	D	2150	1.01	-	0.93	92	73	432				
5	D	2180	1.07	-	1.59	149	61	432				
6	C	2198	1.04	-	1.40	135	76	433				
7	D	2250	1.50	0.07	2.08	139	41	433				
8	C	2283	6.94	1.11	28.8	415	20	424	1.24	1.13	1.58	1.10
9	C	2317	2.01	-	2.81	140	95	433				
10	C	2335	2.21	-	4.74	215	36	433				
11	D	2420	64.4	17.35	187.8	292	4	427	1.85	4.09	0.60	8.46
12	K 1	2422	51.9	8.35	171.1	330	2	432				
13	K 2	2435	8.48	1.23	11.28	133	3	433	2.10	-	-	-
14	C	2490	0.9	-	1.62	180	34	448	-	-	-	-
15	C	2512	4.19	0.22	9.46	226	7	425	0.49	1.01	0.23	3.89
16	C	2572	0.17	0.32	-	-	600	-				
17	D	2620	0.51	0.03	0.18	37	65	444				
18	D	2670	0.13	0.03	-	-	227	-				
19	C	2710.9	0.12	0.48	-	-	352	-				
20	D	2798	0.10	0.02	-	-	215	-				

1) Composition in µl/kg

IDENT.	C1	C2	C3	IC4	NC4	IC5	NC5	C6+	SOMME C1..C5	IC4/NC4	IC5/NC5	C1/S.CN	C3+/C1	C2/C1
1750.0	43.7	1.1	2.1	1.5	0.2	0.2	0.0	0.0	48.9	6.66	0.00	0.89	0.09	0.03
1800.0	32.2	1.0	1.6	1.5	0.3	0.3	0.0	0.0	36.9	5.53	0.00	0.87	0.11	0.03
1850.0	36.2	0.9	2.1	2.6	0.9	0.8	1.3	0.0	44.8	2.73	0.62	0.81	0.21	0.03
1900.0	28.9	0.7	2.2	1.6	0.7	0.4	0.5	0.0	35.5	6.25	0.78	0.84	0.16	0.02
1950.0	9.7	0.5	2.5	1.9	0.5	0.4	0.1	0.0	15.6	4.03	3.58	0.62	0.57	0.05
2000.0	6.3	0.9	2.7	4.7	1.3	1.5	0.8	0.0	18.2	3.71	1.90	0.35	1.74	0.14
2050.0	71.6	3.8	6.8	10.0	2.9	3.8	0.9	2.9	99.8	3.44	3.99	0.72	0.38	0.05
2100.0	40.1	3.4	7.9	10.1	2.0	2.4	0.4	0.0	65.5	5.00	5.38	0.61	0.55	0.09
2150.0	15.0	2.1	7.5	10.1	2.5	3.4	0.8	0.0	41.5	3.99	4.18	0.36	1.63	0.14
2200.0	45.4	4.5	11.2	9.9	3.2	3.3	0.5	0.0	78.0	3.05	6.67	0.58	0.62	0.10
2250.0	52.3	10.8	54.8	33.3	18.4	9.9	1.4	0.0	180.8	1.81	7.11	0.29	2.25	0.21
2300.0	825.3	333.2	541.1	110.6	136.7	50.5	20.5	14.4	2017.8	0.81	2.47	0.41	1.06	0.40
2400.0	39.4	23.6	67.0	25.1	10.4	3.6	1.0	0.0	170.1	2.42	3.52	0.23	2.72	0.60
2450.0	28.9	29.6	66.2	18.8	11.2	3.2	1.0	0.0	158.9	1.68	3.13	0.18	3.48	1.02
2500.0	13.0	15.9	43.9	14.5	7.8	2.5	0.0	0.0	97.5	1.86	0.00	0.13	5.27	1.22
2550.0	7.1	1.7	7.1	2.3	1.3	0.2	0.0	0.0	19.6	1.76	0.00	0.36	1.52	0.23
2600.0	1.4	0.1	1.1	0.3	0.1	0.0	0.0	0.0	2.9	2.02	0.00	0.47	1.08	0.06
2650.0	1.3	0.0	0.8	0.3	0.2	0.0	0.0	0.0	2.6	1.14	0.00	0.50	1.00	0.00
2700.0	2.9	0.3	2.2	0.3	0.4	0.0	0.0	0.0	6.0	0.77	0.00	0.46	1.05	0.11
2750.0	1.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.1	0.00	0.00	0.86	0.16	0.00
2800.0	15.1	0.1	0.4	0.2	0.1	0.1	0.1	1.8	16.1	2.91	1.03	0.94	0.17	0.01

2) Composition in percentage

1750.0	89.3	2.3	4.3	3.1	0.5	0.4	0.0
1800.0	87.4	2.7	4.3	4.2	0.8	0.7	0.0
1850.0	80.9	2.1	4.6	5.7	2.1	1.8	2.9
1900.0	84.4	1.9	6.1	4.6	0.7	1.0	1.3
1950.0	61.9	3.2	16.3	12.3	3.1	2.6	0.7
2000.0	34.7	4.9	14.8	25.7	6.9	8.5	4.5
2050.0	71.7	3.8	6.8	10.0	2.9	3.8	0.9
2100.0	61.2	5.2	10.7	15.4	3.1	3.7	0.7
2150.0	36.1	5.2	18.1	24.4	6.1	8.2	2.0
2200.0	58.2	5.7	14.3	12.7	4.2	4.2	0.6
2250.0	28.9	6.0	30.3	18.4	10.2	5.5	0.8
2300.0	40.9	16.5	26.8	5.5	6.8	2.5	1.0
2400.0	23.2	13.9	39.4	14.8	6.1	2.1	0.6
2450.0	18.2	18.6	41.7	11.8	7.0	2.0	0.6
2500.0	13.4	16.3	45.0	14.8	8.0	2.6	0.0
2550.0	36.4	8.5	36.2	11.6	6.6	0.9	0.0
2600.0	46.7	3.0	35.8	9.7	4.8	0.0	0.0
2650.0	50.1	0.6	30.9	10.1	8.9	0.0	0.0
2700.0	46.4	4.9	35.9	5.5	7.2	0.0	0.0
2750.0	86.0	0.0	14.0	0.0	0.0	0.0	0.0
2800.0	94.0	0.8	2.4	1.4	0.5	0.5	0.5

TABLE 2

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CHEMICAL COMPOSITION OF HEAD SPACE GASES

T A B L E 3

CHARACTERISTICS OF OILS FROM 18/10 AND 17/12

		18/10 - 1	17/12 - 1		17/12 - 2
		DST 1	DST 2	DST 1	DST 2
		2415 - 2427	2316.5 - 2325	2337 - 2341.5	2150
COMPOSITION (%) OF TOTAL PRODUCT	Distillate (D)	27.0	30	30	16.5
	Asphaltenes	10.4 { 2.6	10.5 { -	10.2 { 1.5	11.4 { 2.3
	Résins	{ 7.8	{ -	{ 8.7	{ 9.1
	Saturated H C (S)	40.1	37.1	36.7	45.6
	Aromatic H C (A)	22.6	22.4	23	26.5
	S / A	1.78	1.66	1.60	1.72
	S + D	67.1	67.1	66.7	62.1
C 5 - C 15 (T.V.)	% n - Alk. in T.V.	36	-	36	30
	X 1 : n C 6/MCP	2.14	2.4	2.58	1.96
	X 2 : n C 7/DMCP	3.48	4.4	4.11	4.18
C 15 - C 30	% n - Alk. in (C 15 - C 30)	17	-	18	20
	Pr/n C 17 (A)	0.82	0.88	0.73	1.34
	Ph/n C 18 (B)	0.70	0.74	0.65	1.30
	A / B	1.17	1.19	1.13	1.03
	Gravity (15°C)	0.845	0.86	0.88	-