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 Petroleum Geochemistry of well 6305/5-1

OLJEDIREKTORATET
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Table 1.2: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/5-1

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Depth (m)	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
2610.00		DC								1				
2630.00		DC								1				
2650.00		DC												1
2650.00		DC								1				
2670.00		DC								1				
2690.00		DC								1				
2710.00		DC								1				
2825.00		DC								1				
2845.00		DC								1				
2850.00		DC												1
2865.00		DC								1				
2880.00		DC								1				
2905.00		DC								1				
2925.00		DC								1				
2945.00		DC								1				
2950.00		DC												1
2965.00		DC								1				
2985.00		DC								1				
3005.00		DC								1				
3025.00		DC								1				
3045.00		DC								1				
3050.00		DC												1

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Depth (m)	Group/Fm.	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
1650.00			DC												1
1850.00			DC												1
1950.00			DC												1
2050.00			DC												1
2150.00			DC												1
2250.00			DC												1
2290.00			DC								1				
2310.00			DC								1				
2330.00			DC								1				
2350.00			DC												1
2350.00			DC								1				
2370.00			DC								1				
2390.00			DC								1				
2410.00			DC								1				
2430.00			DC								1				
2450.00			DC												1
2450.00			DC								1				
2470.00			DC								1				
2490.00			DC								1				
2510.00			DC								1				
2530.00			DC								1				
2550.00			DC												1
2550.00			DC								1				
2570.00			DC								1				
2590.00			DC								1				

Table 1.2: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/5-1

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Depth (m)	Group/Fm.	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
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MPLC = Separation

SatGC = Saturated HC

Isot = Isotope data

Vitr = VR0 (ave) %

Extr = Extraction

Iatr = Iatroscan

Sat-biom = Biomarker data

RE/EXT = Rock Eval on extracted Seciment

Table 1.2: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/5-1

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Depth (m)	Group/Fm.	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
1574.00		CLYST	SWC	1											
1586.00		SLST	SWC	1											
1599.00		CLYST	SWC	1	1	1									
1611.00		CLYST	SWC	1											
1631.00		CLYST	SWC	1	1										
1641.00		SST	SWC	1											
1654.00		CLYST	SWC	1											
1659.00		CLYST	SWC	1	2	1		1							
1666.00		CLYST	SWC	1											
1676.00		CLYST	SWC	1	1										
1687.00		CLYST	SWC	1											
1696.00		CLYST	SWC	1	1										
1706.00		CLYST	SWC	1	2	1		1							
1716.00		CLYST/SST	SWC	1											
1728.00		SLST	SWC	1	1										
1733.00		SLST	SWC	1	2	1		1							
1736.00		CLYST/SST/S	SWC	1											
1746.00		CLYST	SWC	1	1										
1756.00		CLYST	SWC	1											
1766.00		CLYST	SWC	1											
1781.00		CLYST	SWC	1	1										
1799.00		CLYST	SWC	1											
1814.00		CLYST	SWC	1											
1828.00		CLYST	SWC	1	2	1		1							
1841.00		CLYST	SWC	1											

Table 1.2: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/5-1

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Depth (m)	Group/Fm.	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
1846.00		CLYST	SWC	1	1	1		1							
1861.00		CLYST	SWC	1											
1866.00		CLYST	SWC	1											
1920.00		CLYST	SWC	1											
1931.00		CLYST	SWC	1	1										
1943.00		SLST	SWC	1											
1961.00		SLST	SWC	1											
1981.00		CLYST	SWC	1	1										
1986.00		CLYST	SWC	1											
1996.00		CLYST	SWC	1											
2005.00		CLYST	SWC	1	2	1		1							
2011.00		CLYST	SWC	1											
2016.00		CLYST	SWC	1	1										
2026.00		CLYST	SWC	1											
2041.00		CLYST	SWC	1											
2071.00		CLYST	SWC	1											
2081.00		CLYST	SWC	1	1										
2091.00		CLYST	SWC	1											
2101.00		CLYST	SWC	1											
2111.00		CLYST	SWC	1	1										
2116.00		CLYST	SWC	1											
2121.00		CLYST	SWC	1											
2126.00		CLYST	SWC	1	1										
2131.00		CLYST	SWC	1											
2141.00		CLYST	SWC	1	1										

Table 1.2: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/5-1

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Depth (m)	Group/Fm.	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
2838.00			SWC	1	1										
2848.00			SWC	1	1										
2853.00			SWC	1	1										
2858.00			SWC	1	1										
2878.00			SWC	1	1										
2895.00			SWC	1	1										
2910.00			SWC	1	1										
2983.00			SWC	1	1										

MPLC = Sc

SatGC = Saturated HC

Isot = Isotope data

Vitr = VR0 (ave) %

Extr = Ext

Iatr = Iatrosan

Sat-biom = Biomarker data

RE/EXT = Rock Eval on extracted Seciment

Table 1.2: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/5-1

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Depth (m)	Group/Fm.	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
2730.55		SST	COCH	1											
2737.00		SST	COCH	1											
2745.25		SST	COCH	1											
2771.65		CLYST	COCH	1											1
2775.45		CLYST	COCH	1											
2778.45		CLYST	COCH	1		1		1							
2783.70		CLYST	COCH	1											

MPLC = S

SatGC = Saturated HC

Isot = Isotope data

Vitr = VRO (ave) %

Extr = E:

Iatr = Iatroscan

Sat-biom = Biomarker data

RE/EXT = Rock Eval on extracted Seciment

Table 1.2: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/5-1

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Depth (m)	Group/Fm.	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
2747.00			GAS								1				
2763.50			GAS								1				
2777.00			GAS								2				

MPLC = S

SatGC = Saturated HC

Isot = Isotope data

Vitr = VR0 (ave) %

Extr = E

Iatr = Iatroscan

Sat-biom = Biomarker data

RE/EXT = Rock Eval on extracted Sediment

Table 2.1: Vitrinite reflectance data.



VITRINITE REFLECTANCE Ro (average values), WELL NOR : 6305/5-1

11-Dec-1997 09:55

Depth (m)	Group/Fm.	Lithology	Type	Population I		Population II		Analysing Company
				%Ro	n	%Ro	n	
1650.00			DC	0.27	(25)	()		IFE
1850.00			DC	0.26	(24)	()		IFE
1950.00			DC	0.28	(20)	()		IFE
2050.00			DC	0.28	(24)	()		IFE
2150.00			DC	0.34	(22)	()		IFE
2250.00			DC	0.34	(23)	()		IFE
2350.00			DC	0.33	(21)	()		IFE
2450.00			DC	0.35	(23)	()		IFE
2550.00			DC	0.39	(22)	()		IFE
2650.00			DC	0.38	(8)	()		IFE
2771.65		CLYST	COCH	0.36	(13)	()		IFE
2850.00			DC	0.50	(19)	()		IFE
2950.00			DC	0.47	(25)	()		IFE
3050.00			DC	0.47	(25)	()		IFE

Table 2.2: Rock-Eval data, extracted sediments.



ROCK EVAL SCREENING DATA ON EXTRACTED SEDIMENTS, WELL NOR : 6305/5-1

11-Dec-1997

09:53

Depth (m)	Group/Fm.	Lithology	Type	Tmax (C)	S1(kg/t)	S2 (kg/t)	TOC (%)	HI	PI	Analysing Company
1599.00		CLYST	SWC	364	0.1	0.8	0.2	385	0.09	NORSK HYDRO
1631.00		CLYST	SWC		0.1	1.0	0.3	370	0.07	NORSK HYDRO
1659.00		CLYST	SWC	414	0.4	1.7	1.1	162	0.19	NORSK HYDRO
1659.00		CLYST	SWC	414	0.4	1.7	1.1	162	0.19	NORSK HYDRO
1676.00		CLYST	SWC	404	0.5	2.3	1.9	122	0.17	NORSK HYDRO
1696.00		CLYST	SWC	405	0.5	3.4	1.8	189	0.13	NORSK HYDRO
1706.00		CLYST	SWC	405	0.6	3.2	1.8	179	0.15	NORSK HYDRO
1706.00		CLYST	SWC	405	0.6	3.2	1.8	179	0.15	NORSK HYDRO
1728.00		SLST	SWC	396	0.6	3.2	1.2	270	0.16	NORSK HYDRO
1733.00		SLST	SWC	402	0.5	2.1	0.8	263	0.19	NORSK HYDRO
1733.00		SLST	SWC	402	0.5	2.1	0.8	263	0.19	NORSK HYDRO
1746.00		CLYST	SWC	401	0.7	3.1	1.3	241	0.18	NORSK HYDRO
1781.00		CLYST	SWC	410	0.7	4.2	1.6	263	0.14	NORSK HYDRO
1828.00		CLYST	SWC	415	0.3	2.4	1.3	182	0.12	NORSK HYDRO
1828.00		CLYST	SWC	415	0.3	2.4	1.3	182	0.12	NORSK HYDRO
1846.00		CLYST	SWC	410	0.7	6.0	2.4	247	0.11	NORSK HYDRO
1931.00		CLYST	SWC	414	0.3	2.1	1.1	188	0.12	NORSK HYDRO
1981.00		CLYST	SWC	422	0.2	2.2	1.3	176	0.09	NORSK HYDRO
2005.00		CLYST	SWC	406	0.3	2.6	1.3	198	0.10	NORSK HYDRO
2005.00		CLYST	SWC	406	0.3	2.6	1.3	198	0.10	NORSK HYDRO
2016.00		CLYST	SWC	416	0.2	2.5	2.1	116	0.09	NORSK HYDRO
2081.00		CLYST	SWC	424	0.4	3.4	3.2	106	0.10	NORSK HYDRO
2111.00		CLYST	SWC	393	0.1	1.0	0.4	277	0.08	NORSK HYDRO
2126.00		CLYST	SWC	413	0.1	0.7	0.3	223	0.09	NORSK HYDRO
2141.00		CLYST	SWC	410	0.1	1.1	0.4	300	0.07	NORSK HYDRO
2838.00			SWC		0.0	0.3	0.2	150		NORSK HYDRO
2848.00			SWC	424	0.0	1.1	0.5	236	0.04	NORSK HYDRO
2853.00			SWC		0.1	1.0	0.5	213	0.07	NORSK HYDRO
2858.00			SWC	370	0.2	1.5	0.6	258	0.13	NORSK HYDRO
2878.00			SWC	358	0.3	2.4	0.9	273	0.10	NORSK HYDRO

Table 2.2: Rock-Eval data, extracted sediments.

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ROCK EVAL SCREENING DATA ON EXTRACTED SEDIMENTS, WELL NOR : 6305/5-1

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Depth (m)	Lithology	Type	Tmax (C)	S1(kg/t)	S2 (kg/t)	TOC (%)	HI	PI	Analysing Company
2895.00		SWC	433	0.0	0.6	0.3	182	0.03	NORSK HYDRO
2910.00		SWC	430	0.1	1.5	0.7	218	0.05	NORSK HYDRO
2983.00		SWC	434	0.0	0.7	0.4	163	0.03	NORSK HYDRO

Table 3.1: Rock-Eval data, core samples.



ROCK EVAL SCREENING DATA

Well	Depth (m)	Group/Fm.	Lithology	Type	Tmax (C)	S1(kg/t)	S2 (kg/t)	TOC (%)	HI	PI	Analysing Company
NOR : 6305/5-1	2730.55		SST	COCH	328	0.8	0.2	0.2	125	0.80	NORSK HYDRO
NOR : 6305/5-1	2737.00		SST	COCH	328	0.8	0.4	0.1	250	0.68	NORSK HYDRO
NOR : 6305/5-1	2745.25		SST	COCH	335	0.5	0.6	0.1	400	0.47	NORSK HYDRO
NOR : 6305/5-1	2771.65		CLYST	COCH	430	0.2	0.8	1.0	78	0.18	NORSK HYDRO
NOR : 6305/5-1	2775.45		CLYST	COCH	426	0.1	0.9	1.5	58	0.08	NORSK HYDRO
NOR : 6305/5-1	2778.45		CLYST	COCH	428	0.1	1.4	1.7	81	0.07	NORSK HYDRO
NOR : 6305/5-1	2783.70		CLYST	COCH	423	0.1	0.4	0.9	43	0.15	NORSK HYDRO

Table 3.2: Extraction data.



EXTRACTION/DESPHALTING DATA (SEDIMENTS)

Well	Depth (m)	Group/Fm.	Lithology	Type	Rock (g)	EOM (mg)	ASP (mg)	EOM (%)	ASP (%)	EOM (ppm)	TOC (%)	EOM/TOC (%)	Analysing comp
NOR : 6305/5-1	1599.00			SWC							0.5		Norsk Hydro
NOR : 6305/5-1	1659.00			SWC	3.2	52.0	7.1	1.63	15.2	16 300	1.8	0.9	Norsk Hydro
NOR : 6305/5-1	1706.00			SWC	3.3	107.0	56.2	3.28	58.4	32 800	2.2	1.5	Norsk Hydro
NOR : 6305/5-1	1733.00			SWC	3.3	86.0	19.9	2.65	25.7	26 500	1.5	1.8	Norsk Hydro
NOR : 6305/5-1	1828.00			SWC	2.3	78.0	25.7	3.36	36.6	33 600	2.3	1.4	Norsk Hydro
NOR : 6305/5-1	1846.00			SWC	9.0	52.5	48.5	0.59	92.4	5 900	2.6	0.2	Norsk Hydro
NOR : 6305/5-1	2005.00			SWC	5.6	83.0	25.6	1.48	34.3	14 800	1.5	1.0	Norsk Hydro
NOR : 6305/5-1	2778.45			COCH	36.0	58.0	25.2	0.16	48.3	1 600	1.7	0.1	Norsk Hydro

IATROSCAN - Calculated Weight% / SARA

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Table 3.3: Iatroscan bulk separation data.

COMPOSITION OF EXTRACTS/OILS WELL

Well	St.Depth (m)	En.Depth (m)	Group/Fm.	Type	Lithology	Name	Calculated Weight %			HC TOTA	ASPH%	Non-HC TOTAL	TOT HC /Non-HC	Analysing Company
							SAT	ARO	NSO					
NOR 6305/5-1	1659.00	1659.00		SWC	CLYST		58.1	0.0	26.7	58.1	15.2	41.9	1.4	NORSK HYDRO
NOR 6305/5-1	1706.00	1706.00		SWC	CLYST		26.7	0.0	15.0	26.7	58.4	73.3	0.4	NORSK HYDRO
NOR 6305/5-1	1733.00	1733.00		SWC	SLST		55.3	0.0	19.0	55.3	25.7	44.7	1.2	NORSK HYDRO
NOR 6305/5-1	1828.00	1828.00		SWC	CLYST		36.3	0.0	27.1	36.3	36.6	63.7	0.6	NORSK HYDRO
NOR 6305/5-1	2005.00	2005.00		SWC	CLYST		31.6	0.0	34.2	31.6	34.3	68.4	0.5	NORSK HYDRO
NOR 6305/5-1	2778.45	2778.45		COCH	CLYST		10.5	8.4	32.8	18.9	48.3	81.1	0.2	NORSK HYDRO

Table 5.1: Volume composition data, reservoir gases

GAS VOLUME COMPOSITION DATA NOR : 6305/5-1

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Well	Name	Type	TOP (m)	BOTTOM (m)	C1(%)	C2(%)	C3(%)	iC4(%)	nC4(%)	iC5(%)	nC5(%)	CO2(%)	C1-C5(%)	Total(%)	Wetness(%)	iC4/nC4(%)
6305/5-1		GAS	2747.00	2747.00	94.80	3.30	1.10	0.22	0.30	0.12	0.12	0.15	99.96	100.11	4.93	0.73
6305/5-1		GAS	2763.50	2763.50	95.40	2.90	0.95	0.20	0.31	0.24	0.11	0.08	100.11	100.19	4.37	0.65
6305/5-1		GAS	2777.00	2777.00	95.50	2.80	0.94	0.17	0.27	0.11	0.10	0.10	99.89	99.99	4.19	0.63

Table 5.2: Stable isotope data, reservoir gases

ISOTOPE ANALYSIS NOR : 6305/5-1

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Well	Name	Type	TOP (m)	BOTTOM (m)	Meth	dDC1	Etha	Prop	Buta	IBut	13CO2	18CO2
6305/5-1		GAS	2747.00	2747.00	-41.1	-201.0	-30.2	-28.8	-28.4	-27.9	-13.7	-7.7
6305/5-1		GAS	2763.50	2763.50	-40.8	-170.0	-30.0	-28.8	-28.4	-25.0	-9.7	-7.1
6305/5-1		GAS	2777.00	2777.00	-39.0		-29.5	-28.4	-27.7	-24.7	-10.5	-6.3

Table 6.1: Gas volume data from headspace analysis

GAS VOLUME COMPOSITION DATA NOR : 6305/5-1

Petroleum Geochemistry Group
Research Centre Bergen

15-Dec-1997 09:34



Well	Name	Type	TOP (m)	BOTTOM (m)	C1(%)	C2(%)	C3(%)	iC4(%)	nC4(%)	iC5(%)	nC5(%)	CO2(%)	C1-C5(%)	Total(%)	Wetness(%)	iC4/nC4(%)
6305/5-1		DC	2280.00	2290.00	95.03	3.74	0.48	0.32	0.14		0.29				4.69	2.29
6305/5-1		DC	2300.00	2310.00	95.78	2.95	0.38	0.30	0.14		0.45				3.79	2.14
6305/5-1		DC	2320.00	2330.00	93.79	3.12	0.51	0.83	0.38		1.36				4.91	2.18
6305/5-1		DC	2340.00	2350.00	93.00	4.44	0.42	0.75	0.26		1.13				5.94	2.88
6305/5-1		DC	2360.00	2370.00	94.05	4.21	0.30	0.70	0.16		0.57				5.40	4.38
6305/5-1		DC	2380.00	2390.00	90.89	5.51	0.45	1.48	0.24		1.43				7.79	6.17
6305/5-1		DC	2400.00	2410.00	43.49	6.69	2.97	11.52	3.35		31.97				36.06	3.44
6305/5-1		DC	2420.00	2430.00	95.07	3.84	0.37	0.37	0.08		0.27				4.67	4.63
6305/5-1		DC	2440.00	2450.00	84.98	8.16	1.93	1.74	0.66		2.54				12.81	2.64
6305/5-1		DC	2460.00	2470.00	79.37	9.56	3.63	1.93	1.36		4.15				17.19	1.42
6305/5-1		DC	2480.00	2490.00	33.57	4.20	6.99	4.90	5.59		44.76				39.24	0.88
6305/5-1		DC	2500.00	2510.00	23.08	3.30	7.69	6.59	8.79		50.55				53.33	0.75
6305/5-1		DC	2520.00	2530.00	11.54	1.92	3.85	3.85	5.77		73.08				57.15	0.67
6305/5-1		DC	2540.00	2550.00	20.15	11.66	17.79	8.55	11.00		30.85				70.86	0.78
6305/5-1		DC	2560.00	2570.00	38.46	6.59	4.40	10.99	5.49		34.07				41.67	2.00
6305/5-1		DC	2580.00	2590.00	8.53	2.33	9.30	5.43	12.40		62.02				77.55	0.44
6305/5-1		DC	2600.00	2610.00	8.06	1.61	1.61	3.23	4.84		80.65				58.35	0.67
6305/5-1		DC	2620.00	2630.00	78.71	6.92	5.35	1.70	2.29		5.04				17.12	0.74
6305/5-1		DC	2640.00	2650.00	81.09	7.75	5.16	1.57	1.73		2.71				16.66	0.91
6305/5-1		DC	2660.00	2670.00	83.00	8.27	4.52	1.21	1.26		1.74				15.53	0.96
6305/5-1		DC	2680.00	2690.00	78.99	10.00	5.80	1.38	1.54		2.28				19.16	0.90
6305/5-1		DC	2700.00	2710.00	79.81	10.81	5.34	1.18	1.22		1.64				18.86	0.97
6305/5-1		DC	2815.00	2825.00	84.75	5.92	3.25	1.43	1.29		3.37				12.30	1.11
6305/5-1		DC	2835.00	2845.00	82.45	9.32	4.47	0.97	1.06		1.72				16.10	0.92
6305/5-1		DC	2855.00	2865.00	82.85	7.41	3.74	1.40	1.35		3.26				14.37	1.04
6305/5-1		DC	2870.00	2880.00	79.29	11.49	5.23	0.99	1.14		1.85				19.21	0.87
6305/5-1		DC	2885.00	2905.00	76.59	13.70	5.87	0.93	1.13		1.77				22.02	0.82
6305/5-1		DC	2905.00	2925.00	75.47	15.14	5.98	0.86	1.07		1.49				23.40	0.80
6305/5-1		DC	2925.00	2945.00	76.23	14.55	5.87	0.84	1.08		1.44				22.66	0.78
6305/5-1		DC	2945.00	2965.00	71.96	16.11	7.52	1.05	1.46		1.90				26.65	0.72

Table 6.1: Gas volume data from headspace analysis

GAS VOLUME COMPOSITION DATA NOR : 6305/5-1

**Petroleum Geochemistry Group
Research Centre Bergen**

15-Dec-1997 09:34



Well	Name	Type	TOP (m)	BOTTOM (m)	C1(%)	C2(%)	C3(%)	iC4(%)	nC4(%)	iC5(%)	nC5(%)	CO2(%)	C1-C5(%)	Total(%)	Wetness(%)	iC4/nC4(%)
6305/5-1		DC	2965.00	2985.00	70.21	16.80	8.15	1.16	1.55		2.12				28.26	0.75
6305/5-1		DC	2985.00	3005.00	66.19	18.84	9.59	1.34	1.71		2.33				32.23	0.78
6305/5-1		DC	3005.00	3025.00	57.45	22.94	12.07	1.68	2.29		3.57				40.42	0.73
6305/5-1		DC	3025.00	3045.00	67.49	17.87	9.15	1.31	1.76		2.40				30.84	0.74

Table 6.2: Gas isotopes from headspace analysis

ISOTOPE ANALYSIS NOR : 6305/5-1

Petroleum Geochemistry Group
Research Centre Bergen

15-Dec-1997 09:08



Well	Name	Type	TOP (m)	BOTTOM (m)	Meth	dDC1	Etha	Prop	Buta	lBut	13CO2	18CO2
6305/5-1		DC	2280.00	2290.00	-52.6	-169.0	-35.3	-34.1	-29.1	-26.5	-27.5	
6305/5-1		DC	2300.00	2310.00	-53.0	-168.0	-32.8	-33.1	-27.2	-26.4	-26.4	
6305/5-1		DC	2320.00	2330.00	-54.5	-154.0	-32.0	-32.2	-26.5	-26.0	-26.9	
6305/5-1		DC	2340.00	2350.00	-51.7	-175.0	-32.0	-30.5	-25.8	-25.3	-26.9	
6305/5-1		DC	2360.00	2370.00	-51.9	-189.0	-31.2	-29.8	-25.8	-25.4	-26.7	
6305/5-1		DC	2380.00	2390.00	-54.3	-196.0	-31.0	-29.8	-26.4	-25.4	-26.2	
6305/5-1		DC	2400.00	2410.00	-67.5		-27.2	-31.0	-29.8	-21.7	-27.8	
6305/5-1		DC	2420.00	2430.00	-49.2	-190.0	-30.7	-27.3	-26.6	-25.7	-26.6	
6305/5-1		DC	2440.00	2450.00	-48.5	-194.0	-33.3	-27.1	-26.2	-26.0	-26.4	
6305/5-1		DC	2460.00	2470.00	-47.9	-219.0	-30.1	-27.4	-25.9	-26.4	-25.5	
6305/5-1		DC	2480.00	2490.00	-62.2				-31.1		-30.9	
6305/5-1		DC	2500.00	2510.00	-72.4			-28.1	-28.0		-29.5	
6305/5-1		DC	2520.00	2530.00	-75.5						-27.4	
6305/5-1		DC	2540.00	2550.00	-14.4		-15.3	-21.7	-23.4	-23.8	-26.5	
6305/5-1		DC	2560.00	2570.00	-72.1						-28.9	
6305/5-1		DC	2580.00	2590.00	-77.2		-35.3		-28.2		-29.2	
6305/5-1		DC	2600.00	2610.00	-73.3						-25.9	
6305/5-1		DC	2620.00	2630.00	-44.1	-155.0	-29.5	-27.3	-26.2	-23.2	-31.8	
6305/5-1		DC	2640.00	2650.00	-48.1	-200.0	-29.1	-27.2	-26.6	-26.2	-29.4	
6305/5-1		DC	2660.00	2670.00	-45.5	-182.0	-29.6	-27.2	-26.6	-26.1	-29.4	
6305/5-1		DC	2680.00	2690.00	-43.1	-171.0	-29.2	-27.1	-25.8	-26.0	-27.9	
6305/5-1		DC	2700.00	2710.00	-44.0	-175.0	-30.6	-27.1	-26.0	-26.2	-27.6	
6305/5-1		DC	2815.00	2825.00	-53.4	-183.0	-33.4	-30.2	-29.8	-29.1	-31.7	
6305/5-1		DC	2835.00	2845.00	-48.8	-214.0	-30.4	-28.9	-29.1	-28.7	-28.9	
6305/5-1		DC	2855.00	2865.00	-53.1	-188.0	-31.0	-28.5	-26.7	-26.8	-30.4	
6305/5-1		DC	2870.00	2880.00	-45.4	-169.0	-29.3	-27.8	-26.7	-28.0	-30.9	
6305/5-1		DC	2885.00	2905.00	-45.8	-173.0	-29.9	-28.2	-27.9	-28.2	-33.9	
6305/5-1		DC	2905.00	2925.00	-45.8	-180.0	-30.2	-28.5	-28.4	-29.1	-28.7	
6305/5-1		DC	2925.00	2945.00	-43.1	-174.0	-29.8	-28.1	-27.6	-27.9	-30.5	
6305/5-1		DC	2945.00	2965.00	-44.1	-178.0	-29.5	-28.3	-27.6	-29.7	-28.6	

Table 6.2: Gas isotopes from headspace analysis

ISOTOPE ANALYSIS NOR : 6305/5-1

**Petroleum Geochemistry Group
Research Centre Bergen**

15-Dec-1997 09:08



Well	Name	Type	TOP (m)	BOTTOM (m)	Meth	dDC1	Etha	Prop	Buta	IBut	13CO2	18CO2
6305/5-1		DC	2965.00	2985.00	-43.6	-187.0	-30.0	-28.5	-26.6	-27.3	-27.4	
6305/5-1		DC	2985.00	3005.00	-48.7	-181.0	-30.0	-28.4	-27.0	-26.8	-28.7	
6305/5-1		DC	3005.00	3025.00	-44.9	-185.0	-29.6	-27.8	-26.9	-27.0	-27.9	
6305/5-1		DC	3025.00	3045.00	-49.9	-173.0	-29.7	-27.9	-27.1	-27.3	-29.5	



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Address KJELLER HALDEN N-2007 Kjeller, Norway N-1751 Halden, Norway Telephone +47 63 80 60 00 +47 69 18 31 00 Telex 76 361 isotp n 76 335 energ n Telefax +47 63 81 11 68		Availability In Confidence	
Report type	Report number IFE/KR/F-97/236	Date 1997-12-12	
	Report title Vitrinite reflectance well 6305/5-1 offshore Norway (2.5.266.97 IFE ref. nr.)	Date of last revision	
	Client Norsk Hydro ASA, Bergen	Revision number	
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Keywords			
	Name	Date	Signature
Prepared by	Kristine Aasgaard	1997-12-12	<i>Kristine Aasgaard</i>
Reviewed by	Kjersti Iden	1997-12-12	<i>Kjersti Iden</i>
Approved by	Tor Bjørnstad	1997-12-12	<i>Tor Bjørnstad</i>

1 Introduction

This report gives the result of routine vitrinite reflectance analyses on 16 samples covering the interval from 1540 to 3050 mRKB in well 6305/5-1 offshore Norway.

2 Material

2.1 Samples

The material was provided from the client as 1 core chip and 15 washed and dried cuttings samples.

2.2 Geological information and casing points

Information on stratigraphy in well 6305/5-1 was not provided from the client.

3 Analytical techniques

3.1 Preparation

The cuttings samples were washed and then treated with hydrochloric and hydrofluoric acid prior to further preparation. The aim was to avoid soft and expanding mineral phases in order to ensure good polishing quality. The sample material resulting from the acid treatment was embedded in an epoxy resin to make briquettes, ground flat and polished using 0.25 micron diamond paste and magnesium oxide as the two final steps.

3.2 Analysis

The analytical equipment being used was a Zeiss MPM 03 photometer microscope equipped with an Epiplan-Neofluar 40/0.90 oil objective. The sensitive measuring spot was kept constant for all measurements at about 2.5 micron in diameter. The

measurements were made through a green band pass filter (546 nm) and in oil immersion (refractive index 1.515 at 18°C). The readings were made without a polarizer and using a stationary stage. This procedure is called measurement of random reflectance (%Rm). The photometer is calibrated daily against a standard of known reflectance (%Rm=0.588) and routinely (daily) checked against two other standards of significant different reflectances (%Rm=0.879 and 1.696). A deviation from these values of less than ± 0.01 and ± 0.02 respectively is considered as acceptable. The calibration is routinely checked during the course of measurements at least every hour, and a deviation of less than ± 0.005 is considered as acceptable.

For each sample at least 20 points were measured if possible, and quality ratings are given to various important aspects which may affect the measurements. These aspects are abundance of vitrinite, uncertainties in the identification of indigenous vitrinite, type of vitrinite, particle size, particle surface quality and abundance of pyrite.

3.3 Presentation of results

The raw data from the measurements are presented in appendix for each sample both as tabulated data and histograms. A true vitrinite population is selected among the readings based on observations made during the measurements, and arithmetic mean values are calculated for this population and other populations. A quality rating is given to the true population. The results are listed in table 1. Figure 1 shows a vitrinite reflectance data versus depth plot in both linear and logarithmic scale.

Table 1. Vitrinite reflectance data table

Analysis type:	Vitrinite reflectance
Well:	6305/5-1
Number of samples:	16
Time period for analysis:	now-97
Analysis performed by:	Kristine Aasgaard, Institutt for energiteknikk
Analysis ordered by:	Norsk Hydro, Bergen

IFE sample code	Depth (m)	Sample type	Lithology	Vitr. refl. (%Rm)	Stand. dev.	Number of readings	Sample description	Sample quality	Sample prep.
971412	1540-50	cut	clyst	barren					HF
971413	1640-50	cut	clyst	0.27	0.06	25	ooo-o+	M	HF
971414	1740-50	cut	clyst	barren					HF
971415	1840-50	cut	clyst	0.26	0.04	24	ooo--+	M	HF
971416	1960-70	cut	clyst	0.28	0.03	20	ooo-o+	M	HF
971417	2040-50	cut	clyst	0.28	0.05	24	ooo--+	M	HF
971418	2140-50	cut	clyst	0.34	0.04	22	ooo-o+	M	HF
971419	2250	cut	clyst	0.34	0.04	23	oooo+	M	HF
971420	2350	cut	clyst	0.33	0.04	21	ooo-o+	M	HF
971421	2450	cut	clyst	0.35	0.04	23	ooo-o+	M	HF
971422	2540-50	cut	clyst	0.39	0.05	22	oooo+	M	HF
971423	2650	cut	clyst	0.38	0.03	8	-oo--+	P	HF
971424	2771.65	core	clyst	0.36	0.05	13	-oo-o	M	bulk
971425	2845-50	cut	clyst	0.5	0.04	19	ooo--+	M	HF
971426	2945-50	cut	clyst	0.47	0.07	25	ooo--+	M	HF
971427	3045-50	cut	clyst	0.47	0.07	25	ooo-o+	M	HF

Legend to vitrinite reflectance data table



sst	sandstone		
sist	siltstone		
clst	claystone		
sh	shale		
lst	limestone		
HF	sample treated with hydrofluoric acid prior to epoxy resin embedding		
DCM	sample treated with dichloromethane prior to epoxy resin embedding		
G	Good quality sample		
M	Moderate quality sample		
P	Poor quality sample		
st	Sample is stained		
ooooo	Sample description:	1	Abundance of vitrinite
123456		2	Identification of vitrinite
		3	Type of vitrinite
		4	Vitrinite fragment size
		5	Vitrinite surface quality
		6	Abundance of pyrite
-	may give too low vitrinite reflectance sample value		
0	reliable vitrinite reflectance sample value		
+	may give too high vitrinite reflectance sample value		

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
Int.Std.(if added):					
4	45.74	217	24baa	2731	29
DITERPANES:					
5	33.54	191	19/3	1093	9
6	35.48	191	20/3	858	7
7	37.51	191	21/3	1183	10
11	41.45	191	23/3	1933	17
13	42.55	191	24/3	1439	12
14	44.81	191	25/3	851	7
16	46.43	191	26/3R	575	5
17	46.57	191	26/3S	589	5
20	50.07	191	28/3R	764	7
21	50.30	191	28/3S	662	6
23	51.09	191	29/3R	1063	9
25	51.39	191	29/3S	864	7
15	46.32	191	24/4	1437	12
TRITERPANES:					
26	52.19	191	27Ts	4701	40
28	52.44	177	25nor28ab	3712	32
29	52.86	191	27Tm	3840	33
33	53.35	191	27b	811	7
32	53.24	177	25nor29ab	2030	17
34	54.40	191	28ab	6437	55
36	54.62	177	25nor30ab	1856	16
39	55.11	191	29ab	11383	98
40	55.22	191	29Ts	4449	38
43	55.89	191	29ba	2227	19
42	55.47	191	30D	2598	22
46	56.48	191	30ab	26724	160
47	56.80	191	30D13	1882	16
48	57.09	191	30ba	3135	19
51	58.56	191	30G	1778	15
49	58.05	191	31abS	9946	85
50	58.23	191	31abR	7022	60
52	58.75	191	31ba	1158	10
53	59.27	191	32abS	6718	58
54	59.54	191	32abR	5457	47
55	60.70	191	33abS	6218	53
56	61.06	191	33abR	4041	35
57	62.17	191	34abS	3691	32
58	62.63	191	34abR	2388	21
59	63.78	191	35abS	2818	24
60	64.42	191	35abR	1994	17

SATURATE BIOMARKERS					
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File path: K:\CAP\MSDARKIVHC_SATERTI\					
Misc information:					
Sample name: Ref.olje NSO-1 Sat					
Operator: Reidun					
Method: MSD_S_C					
Date analyzed: #VALUE!					

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
STERANES:					
8	38.01	217	21aa	2513	27
9	39.64	217	21bb	3085	33
10	39.77	217	22aa	1977	21
12	41.97	217	22bb	1755	19
18	48.26	217	27dbS	5904	64
19	48.89	217	27dbR	3501	38
22	51.22	218	27bbR	4517	49
24	51.36	218	27bbS	3017	33
27	51.75	217	27aaR	1735	19
30	52.94	218	28bbR	2790	30
31	53.08	218	28bbS	3372	36
35	54.04	217	29aaS	1912	21
37	54.36	218	29bbR	3593	39
38	54.45	218	29bbS	3763	41
41	55.05	217	29aaR	1947	21
44	55.52	218	30bbR	1584	17
45	55.58	218	30bbS	1266	14

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
Int.Std.(if added):					
4	45.74	217	24baa	18287	0
DITERPANES:					
5	33.50	191	19/3	108	0
6	35.47	191	20/3	67	0
7	37.49	191	21/3	69	0
11	41.42	191	23/3	352	0
13	42.53	191	24/3	136	0
14	44.79	191	25/3	75	0
16	46.43	191	26/3R	47	0
17	46.57	191	26/3S	66	0
20	50.07	191	28/3R	235	0
21	50.29	191	28/3S	76	0
23	51.07	191	29/3R	93	0
25	51.40	191	29/3S	149	0
15	46.30	191	24/4	462	0
TRITERPANES:					
26	52.17	191	27Ts	561	0
28	52.39	177	25nor28ab	49	0
29	52.83	191	27Tm	1918	0
33	53.32	191	27b	330	0
32	53.16	177	25nor29ab	45	0
34	54.32	191	28ab	89	0
36	54.54	177	25nor30ab	51	0
39	55.09	191	29ab	3610	0
40	55.16	191	29Ts	2002	0
43	55.88	191	29ba	1810	0
42	55.34	191	30D	76	0
46	56.46	191	30ab	3359	0
47	56.74	191	30D13	806	0
48	57.01	191	30ba	2894	0
51	58.56	191	30G	163	0
49	58.03	191	31abS	1364	0
50	58.22	191	31abR	9932	0
52	58.69	191	31ba	5358	0
53	59.25	191	32abS	499	0
54	59.52	191	32abR	493	0
55	60.68	191	33abS	662	0
56	61.04	191	33abR	162	0
57	62.16	191	34abS	125	0
58	62.63	191	34abR	63	0
59	63.76	191	35abS	71	0
60	64.40	191	35abR	37	0

SATURATE BIOMARKERS

File name (sample):

2005S.D

File path:

K:\CAPMSDARKIV\HC_SATERT1\

Misc information:

Sample name:

2005m, 6305/5-1, Sat

Operator:

Reidun

Method:

MSD_S_C

Date analyzed:

#VALUE!

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
STERANES:					
8	37.98	217	21aa	32	0
9	39.63	217	21bb	149	0
10	39.74	217	22aa	39	0
12	41.95	217	22bb	104	0
18	48.23	217	27dbS	136	0
19	48.88	217	27dbR	65	0
22	51.18	218	27bbR	333	0
24	51.34	218	27bbS	232	0
27	51.73	217	27aaR	448	0
30	52.91	218	28bbR	182	0
31	53.07	218	28bbS	177	0
35	54.03	217	29aaS	154	0
37	54.36	218	29bbR	390	0
38	54.43	218	29bbS	210	0
41	55.05	217	29aaR	622	0
44	55.56	218	30bbR	142	0
45	55.58	218	30bbS	159	0

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
Int.Std.(if added):					
4	45.69	217	24baa	1	0
DITERPANES:					
5	33.47	191	19/3	41	0
6	35.43	191	20/3	20	0
7	37.44	191	21/3	25	0
11	41.38	191	23/3	65	0
13	42.50	191	24/3	28	0
14	44.68	191	25/3	17	0
16	46.42	191	26/3R	7	0
17	46.53	191	26/3S	13	0
20	50.03	191	28/3R	58	0
21	50.27	191	28/3S	16	0
23	51.06	191	29/3R	13	0
25	51.45	191	29/3S	604	0
15	46.25	191	24/4	57	0
TRITERPANES:					
26	52.14	191	27Ts	36	0
28	52.41	177	25nor28ab	13	0
29	52.81	191	27Tm	281	0
33	53.41	191	27b	590	0
32	53.21	177	25nor29ab	10	0
34	54.32	191	28ab	16	0
36	54.51	177	25nor30ab	17	0
39	55.06	191	29ab	1050	0
40	55.12	191	29Ts	332	0
43	55.84	191	29ba	551	0
42	55.40	191	30D	8	0
46	56.43	191	30ab	466	0
47	56.71	191	30D13	263	0
48	56.97	191	30ba	815	0
51	58.53	191	30G	11	0
49	58.01	191	31abS	140	0
50	58.20	191	31abR	1836	0
52	58.67	191	31ba	847	0
53	59.25	191	32abS	34	0
54	59.50	191	32abR	50	0
55	60.43	191	33abS	25	0
56	60.68	191	33abR	74	0
57	61.81	191	34abS	11	0
58	62.52	191	34abR	7	0
59	63.63	191	35abS	11	0
60	64.35	191	35abR	7	0

SATURATE BIOMARKERS					
File name (sample): 1846S.D					
File path: K:\CAP\MSDARKIV\HC_SA\TERT10A\					
Misc information:					
Sample name: 1846m, 6305/5-1 sat					
Operator: Reidun					
Method: MSD_S_C					
Date analyzed: #VALUE!					

Peak#	Rt min.	Ion m/z	Compound	Height	Amount ng/mg
STERANES:					
8	37.95	217	21aa	10	0
9	39.59	217	21bb	25	0
10	39.72	217	22aa	9	0
12	41.92	217	22bb	12	0
18	48.21	217	27dbS	19	0
19	48.84	217	27dbR	16	0
22	51.17	218	27bbR	31	0
24	51.32	218	27bbS	22	0
27	51.71	217	27aaR	66	0
30	52.89	218	28bbR	10	0
31	53.05	218	28bbS	11	0
35	53.99	217	29aaS	32	0
37	54.32	218	29bbR	32	0
38	54.42	218	29bbS	10	0
41	55.01	217	29aaR	84	0
44	55.36	218	30bbR	24	0
45	55.55	218	30bbS	14	0

BA-98-9651-1

DATA REPORT

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CLIENT

NORSK HYDRO

REF(S)
ELIN REIN
FB 82959

TITLE

**HEADSPACE OG ISOTOP ANALYSER BRØNN
6305/5-1**

AUTHOR(S)

Marianne Sandstad

GEOLAB PROJECT NO

62408

DATE

24.11.97

PROJECT LEADER

**Åshild Linnestad
Lab. sjef**

QA RESPONSIBLE

**Åshild Linnestad
Lab. sjef**

FRONTPAGE

Table 1a: C1 to C7 hydrocarbons in HEADSPACE gas
(μ l gas/kg rock)

Project: NOCS 6305/5-1

Well: NOCS 6305/5-1

Depth unit of measure: m

* Indicated values in ml gas/kg rock

Depth	C1	C2	C3	iC4	nC4	C5+	sum C1-C4	sum C2-C4	%wet ness	iC4 --- nC4
2290.00	16610	653	84	56	25	51	17428	819	4.7	2.25
2310.00	11991	369	47	38	18	56	12464	473	3.8	2.16
2330.00	16948	565	92	151	69	247	17826	877	4.9	2.18
2350.00	17277	825	78	139	48	210	18367	1090	5.9	2.93
2370.00	19211	859	62	144	33	117	20309	1098	5.4	4.40
2390.00	36024	2183	180	586	94	566	39067	3043	7.8	6.21
2410.00	117	18	8	31	9	86	183	66	36.0	3.34
2430.00	21482	868	83	83	19	61	22535	1053	4.7	4.47
2450.00	18635	1790	423	381	144	556	21373	2739	12.8	2.64
2470.00	30956	3729	1417	753	531	1617	37387	6430	17.2	1.42
2490.00	48	6	10	7	8	64	79	30	38.4	0.86
2510.00	21	3	7	6	8	46	46	25	54.2	0.79
2530.00	6	1	2	2	3	38	15	8	58.4	0.75
2550.00	674	390	595	286	368	1032	2314	1641	70.9	0.78
2570.00	35	6	4	10	5	31	61	26	42.8	1.92
2590.00	11	3	12	7	16	80	50	39	78.1	0.47
2610.00	5	1	1	2	3	50	12	7	56.6	0.64
2630.00	12389	1089	842	267	360	794	14946	2557	17.1	0.74
2650.00	13525	1292	860	262	289	452	16227	2702	16.7	0.90
2670.00	13467	1342	733	197	205	282	15943	2476	15.5	0.96
2690.00	9543	1208	701	167	186	276	11805	2262	19.2	0.90
2710.00	10856	1470	727	161	166	223	13380	2524	18.9	0.97
2825.00	6889	481	264	116	105	274	7855	966	12.3	1.11
2845.00	21233	2400	1152	251	274	444	25311	4078	16.1	0.92
2865.00	7627	682	344	129	124	300	8906	1279	14.4	1.04
2880.00	9013	1306	595	113	130	210	11157	2144	19.2	0.87
2905.00	9497	1699	728	115	140	220	12179	2682	22.0	0.82

Table 1a: C1 to C7 hydrocarbons in HEADSPACE gas
(μ l gas/kg rock)

Project: NOCS 6305/5-1

Well: NOCS 6305/5-1

Depth unit of measure: m

* Indicated values in ml gas/kg rock

Depth	C1	C2	C3	iC4	nC4	C5+	sum C1-C4	sum C2-C4	%wet ness	iC4 nC4
2925.00	16402	3290	1299	186	233	324	21410	5008	23.4	0.80
2945.00	11378	2171	876	125	161	215	14711	3333	22.7	0.78
2965.00	16111	3607	1683	235	327	426	21963	5852	26.6	0.72
2985.00	12118	2900	1406	201	268	366	16893	4775	28.3	0.75
3005.00	13661	3889	1976	277	352	480	20155	6494	32.2	0.79
3025.00	7472	2984	1570	218	298	464	12542	5070	40.4	0.73
3045.00	11626	3079	1577	226	304	414	16812	5186	30.8	0.74

Table 1b: C1 to C7 hydrocarbons in CUTTINGS gas
(μ l gas/kg rock)

Project: NOCS 6305/5-1

Well: NOCS 6305/5-1

Depth unit of measure: m

* Indicated values in ml gas/kg rock

Depth	C1	C2	C3	iC4	nC4	C5+	sum C1-C4	sum C2-C4	%wet ness	iC4 --- nC4
2290.00	54	21	13	16	12	82	115	61	53.3	1.35
2310.00	113	17	9	14	10	72	164	51	31.0	1.42
2330.00	17	2	1	3	3	34	26	9	34.2	0.95
2350.00	146	55	20	64	30	210	316	170	53.9	2.11
2370.00	239	92	27	96	34	236	488	249	51.0	2.78
2390.00	44	23	8	33	10	147	119	74	62.6	3.14
2410.00	27	4	2	13	4	90	50	23	46.3	3.35
2430.00	321	113	42	56	21	157	553	232	41.9	2.68
2450.00	18	8	10	12	11	104	60	42	69.7	1.12
2470.00	19	18	34	27	41	390	138	119	86.0	0.66
2490.00	31	3	12	28	49	891	123	92	75.0	0.56
2510.00	26	3	6	12	26	605	73	48	64.8	0.48
2530.00	77	4	7	15	34	722	138	60	43.8	0.46
2550.00	23	6	26	22	58	806	136	113	83.0	0.38
2570.00	63	4	3	3	8	363	80	18	22.0	0.33
2590.00	33	4	3	2	5	218	46	13	28.0	0.35
2610.00	35	5	2	1	2	112	45	10	22.1	0.39
2630.00	47	9	11	4	13	191	84	37	44.0	0.31
2650.00	56	18	35	17	37	273	164	108	65.8	0.46
2670.00	87	49	87	34	64	236	320	233	72.9	0.52
2690.00	74	62	115	43	82	276	376	302	80.2	0.53
2710.00	99	92	167	65	117	352	539	441	81.7	0.56
2825.00	88	13	23	15	27	140	167	79	47.4	0.56
2845.00	59	13	28	13	27	111	141	82	57.9	0.50
2865.00	77	13	22	17	24	154	153	76	49.8	0.72
2880.00	48	21	39	14	27	89	149	101	67.7	0.52
2905.00	58	38	58	14	30	70	199	141	70.8	0.47

Table 1b: C1 to C7 hydrocarbons in CUTTINGS gas
(μ l gas/kg rock)

Project: NOCS 6305/5-1

Well: NOCS 6305/5-1

Depth unit of measure: m

* Indicated values in ml gas/kg rock

Depth	C1	C2	C3	iC4	nC4	C5+	sum C1-C4	sum C2-C4	%wet ness	iC4 --- nC4
2925.00	49	41	71	17	39	67	217	168	77.3	0.42
2945.00	83	64	96	21	51	124	314	231	73.7	0.40
2965.00	34	43	91	21	52	143	241	207	85.9	0.41
2985.00	61	42	93	23	56	125	275	214	77.9	0.41
3005.00	41	42	103	26	60	130	271	231	85.1	0.44
3025.00	47	41	92	22	52	143	254	207	81.5	0.42
3045.00	74	43	98	26	58	149	298	225	75.3	0.44

Table 1c: C1 to C7 hydrocarbons in HEADSPACE and CUTTINGS gas
(μ l gas/kg rock)

Project: NOCS 6305/5-1

Well: NOCS 6305/5-1

Depth unit of measure: m

* Indicated values in ml gas/kg rock

Depth	C1	C2	C3	iC4	nC4	C5+	sum C1-C4	sum C2-C4	%wet ness	iC4 --- nC4
2290.00	16663	674	97	72	37	134	17543	880	5.0	1.96
2310.00	12104	387	57	53	28	128	12628	524	4.1	1.90
2330.00	16965	567	93	154	72	281	17852	886	5.0	2.14
2350.00	17423	879	99	204	78	420	18683	1260	6.7	2.61
2370.00	19450	951	89	240	67	354	20797	1347	6.5	3.57
2390.00	36068	2206	189	618	105	713	39186	3118	8.0	5.90
2410.00	144	22	10	44	13	176	233	89	38.2	3.34
2430.00	21804	981	125	139	39	218	23088	1285	5.6	3.53
2450.00	18653	1798	433	394	155	660	21433	2781	13.0	2.54
2470.00	30976	3747	1451	780	572	2007	37524	6549	17.5	1.36
2490.00	79	10	22	34	57	955	201	122	60.7	0.61
2510.00	47	6	13	19	34	651	119	72	60.8	0.55
2530.00	83	5	9	18	37	760	152	69	45.2	0.48
2550.00	697	396	622	309	426	1838	2450	1753	71.6	0.72
2570.00	97	10	7	13	13	393	141	44	31.0	0.95
2590.00	44	7	15	9	20	298	95	52	54.1	0.44
2610.00	40	6	4	3	5	162	57	17	29.4	0.53
2630.00	12436	1097	853	271	373	985	15030	2594	17.3	0.73
2650.00	13581	1310	895	279	326	725	16391	2810	17.1	0.85
2670.00	13553	1391	820	230	268	519	16263	2709	16.7	0.86
2690.00	9618	1270	815	210	268	552	12182	2564	21.0	0.78
2710.00	10955	1561	894	227	283	575	13920	2965	21.3	0.80
2825.00	6976	494	287	132	132	413	8021	1045	13.0	1.00
2845.00	21293	2414	1180	264	301	555	25452	4160	16.3	0.88
2865.00	7703	695	367	146	148	454	9059	1355	15.0	0.99
2880.00	9061	1327	634	127	157	299	11306	2245	19.9	0.81
2905.00	9555	1737	785	129	170	290	12378	2823	22.8	0.76

Table 1c: C1 to C7 hydrocarbons in HEADSPACE and CUTTINGS gas
(µl gas/kg rock)

Project: NOCS 6305/5-1

Well: NOCS 6305/5-1

Depth unit of measure: m

* Indicated values in ml gas/kg rock

Depth	C1	C2	C3	iC4	nC4	C5+	sum C1-C4	sum C2-C4	%wet ness	iC4 --- nC4
2925.00	16451	3331	1370	203	273	390	21628	5176	23.9	0.74
2945.00	11461	2234	972	146	212	338	15025	3564	23.7	0.69
2965.00	16145	3649	1774	257	379	569	22203	6059	27.3	0.68
2985.00	12178	2942	1499	224	324	491	17167	4989	29.1	0.69
3005.00	13701	3931	2079	303	412	610	20427	6725	32.9	0.74
3025.00	7519	3024	1662	240	350	608	12796	5277	41.2	0.69
3045.00	11700	3122	1675	252	362	562	17110	5410	31.6	0.69

Table 2: Inorganic gases for well nocs 6305/5-1, amounts in ppm.

Sample	CO2 ppm	H2S ppm	N2/O2 ppm
2290	151	1828	969442
2310	668	1981	978648
2330	68	1777	987691
2350	609	1605	973292
2370	615	1564	964051
2390	281	1855	976646
2410	329	1985	997478
2430	1205	1879	950396
2450	96	1530	980399
2470	208	3991	967486
2490	1125	2251	996529
2510	1445	2127	996364
2530	935	1916	997112
2550	244	2070	995685
2570	381	1726	997827
2590	122	2025	997704
2610	113	1845	998004
2630	159	2014	980113
2650	487	1675	966275
2670	1117	1806	955788
2690	910	2563	961448
2710	1862	2453	965737
2825	170	2262	991084
2845	1244	2282	990128
2865	489	2546	990882
2880	385	2333	989989
2905	112	2183	989558
2925	100	2061	988489
2945	327	2664	987072
2965	237	3193	984992
2985	112	2771	987973
3005	137	2997	988710
3025	106	2439	992882
3045	82	2420	989600

Table 3 Isotopic Composition of Gas Samples from well NOCS 6305/5-1

Depth unit of measure: m

Depth	Typ	Lithology	C1 d13C	C1 dD	C2 d13C	C3 d13C	iC4 d13C	nC4 d13C	CO2 d13C	CO2 d18O	Sample
2290.00	dc	bulk	-52.6	-169.0	-35.3	-34.1	-26.5	-29.1	-27.5	-	0001-0B
2310.00	dc	bulk	-53.0	-168.0	-32.8	-33.1	-26.4	-27.2	-26.7	-	0002-0B
2330.00	dc	bulk	-54.5	-154.0	-32.0	-32.2	-26.0	-26.5	-26.9	-	0003-0B
2350.00	dc	bulk	-51.7	-175.0	-32.0	-30.5	-25.3	-25.8	-26.9	-	0004-0B
2370.00	dc	bulk	-51.9	-189.0	-31.2	-29.8	-25.4	-25.8	-26.7	-	0005-0B
2390.00	dc	bulk	-54.3	-196.0	-31.0	-29.8	-25.4	-26.4	-26.2	-	0006-0B
2410.00	dc	bulk	-67.5	-	-27.2	-31.0	-21.7	-29.8	-27.8	-	0007-0B
2430.00	dc	bulk	-49.2	-190.0	-30.7	-27.3	-25.7	-26.6	-26.6	-	0008-0B
2450.00	dc	bulk	-48.5	-194.0	-33.3	-27.1	-26.0	-26.2	-26.4	-	0009-0B
2470.00	dc	bulk	-47.9	-219.0	-30.1	-27.4	-26.4	-25.9	-25.5	-	0010-0B
2490.00	dc	bulk	-62.2	-	-	-	-	-31.1	-30.9	-	0011-0B
2510.00	dc	bulk	-72.4	-	-	-28.1	-	-28.0	-29.5	-	0012-0B
2530.00	dc	bulk	-75.5	-	-	-	-	-	-27.4	-	0013-0B
2550.00	dc	bulk	-14.4	-	-15.3	-21.7	-23.8	-23.4	-26.5	-	0014-0B
2570.00	dc	bulk	-72.1	-	-	-	-	-	-28.9	-	0015-0B
2590.00	dc	bulk	-77.2	-	-35.3	-	-	-28.2	-29.2	-	0016-0B

Table 3 Isotopic Composition of Gas Samples from well NOCS 6305/5-1

Depth unit of measure: m

Depth	Typ	Lithology	C1 d13C	C1 dD	C2 d13C	C3 d13C	iC4 d13C	nC4 d13C	CO2 d13C	CO2 d18O	Sample
2610.00	dc	bulk	-73.3	-	-	-	-	-	-25.9	-	0017-0B
2630.00	dc	bulk	-44.1	-155.0	-29.5	-27.3	-23.2	-26.2	-31.8	-	0018-0B
2650.00	dc	bulk	-48.7	-200.0	-29.1	-27.2	-26.2	-26.6	-29.4	-	0019-0B
2670.00	dc	bulk	-45.5	-182.0	-29.6	-27.2	-26.1	-26.6	-29.4	-	0020-0B
2690.00	dc	bulk	-43.1	-171.0	-29.2	-27.1	-26.0	-25.8	-27.9	-	0021-0B
2710.00	dc	bulk	-44.0	-175.0	-30.6	-27.1	-26.2	-26.0	-27.6	-	0022-0B
2825.00	dc	bulk	-53.4	-183.0	-33.4	-30.2	-29.1	-29.8	-31.7	-	0023-0B
2845.00	dc	bulk	-48.8	-214.0	-30.4	-28.9	-28.7	-29.1	-28.9	-	0024-0B
2865.00	dc	bulk	-53.1	-188.0	-31.0	-28.5	-26.8	-26.7	-30.4	-	0025-0B
2880.00	dc	bulk	-45.4	-169.0	-29.3	-27.8	-28.0	-26.7	-30.9	-	0026-0B
2905.00	dc	bulk	-45.8	-173.0	-29.9	-28.2	-28.2	-27.9	-33.9	-	0027-0B
2925.00	dc	bulk	-45.8	-180.0	-30.2	-28.5	-29.1	-28.4	-28.7	-	0028-0B
2945.00	dc	bulk	-43.1	-174.0	-29.8	-28.1	-27.9	-27.6	-30.5	-	0029-0B
2965.00	dc	bulk	-44.1	-178.0	-29.5	-28.3	-29.7	-27.6	-28.6	-	0030-0B
2985.00	dc	bulk	-43.6	-187.0	-30.0	-28.5	-27.3	-26.6	-27.4	-	0031-0B
3005.00	dc	bulk	-48.7	-181.0	-30.0	-28.4	-26.8	-27.0	-28.7	-	0032-0B

Table 3 Isotopic Composition of Gas Samples from well NOCS 6305/5-1

Depth unit of measure: m

Depth	Typ	Lithology	C1 d13C	C1 dD	C2 d13C	C3 d13C	iC4 d13C	nC4 d13C	CO2 d13C	CO2 d18O	Sample
3025.00	dc	bulk	-44.9	-185.0	-29.6	-27.8	-27.0	-26.9	-27.9	-	0033-0B
3045.00	dc	bulk	-49.4	-173.0	-29.7	-27.9	-27.3	-27.1	-29.5	-	0034-0B