5.2 FMT summary

Pressure readings from Flopetrol SDP/CRG are listed below:

Run no. 1

Depth (m RKB)	Formation pressure (KPa)	Comments
2965.5	37130	Good perm.
2967	----	No seal
2970	----	No seal
2973	----	No seal
2975	----	Tight
2978	----	Tight
2980	37150	Good perm.
2984	37163	Good perm.
2986	37169	Good perm.

2990	37184	Good perm.
2992	37193	Good perm.
2998.5	37252	Good perm.
3000.5	37214	Good perm.
3007.5	37230	Good perm.
3018	37280	Good perm.
3022	37299	Good perm.
3032	37358	Fair perm.
3034.5	37383	Fair perm.
3042.5	----	No seal
3049.5	37507	Good perm.
3051	37521	Good perm.
3070	37703	Good perm.
3078	37785	Good perm.
3088.5	37910	Good perm.
3106	38066	Good perm.
3037.5	37356	Fair perm.

Run no. 2

Lost seal when sampling.
Misrun.

Run no. 3 and 4

Unable to get seal.
Misrun.

Run no. 5

Segregated sample taken at 3021.5 m RKB.

2 3/4 gallon sample was drained offshore.

Opening pressure:	11720 KPa
Content:	7100 ml oil
	0,37 m^3 gas
Oil gravity:	0,87 at 18.3 ^oC

1 gallon chamber was sent offshore for PVT analyses.
Opening pressures: 4830 KPa

Run no. 6

2 3/4 gallon sample taken at 3007.5 m RKB

Opening pressure:	12065 KPa
Content:	300 ml condensate
	5200 mud filtrate
	0.30 m^3 gas
Condenstae gravity:	0.780 g/cc at 16,9^oC

2 3/4 gallon sample taken 3016 m RKB

Opening pressure:	6895 KPa
Content:	200 ml oil
	3000 ml mud filtrate
	0.65 m^3 gas

Run no. 7

2 3/4 gallom sample taken at 2992 m RKB.

Opening pressure:	16550 KPa
Content:	300 ml condensate
	4700 ml mud filtrate
	0.57 m^3 gas
Condensate gravity:	0.77.g/cc at 17.2 ^oC

2 3/4 gallon sample taken at 2998.5 m RKB.

Opening pressure:	15170 KPa
Content:	300 ml condensate
	0.34 m^3 gas
Condensate gravity:	0.802 g/cc at 18.2 ^oC

Run no. 8

Segregated sample taken at 2966 m RKB.

2 3/4 gallon sample was drained offshore.

Opening pressure:	10000 KPa
Content:	930 condensate
	470 ml mud/filtrate
	0.87 m^3 gas
Condensate gravity:	0.77 g/cc at 19 ^{o} C

1 gallon chamber was sent onshore for analysis.

5.3 Test results

Three DST tests were carried out in this well. Two tests in sandstones of Jurassic/Triassic age and one in the Cretaceous, Hod Fm.

DST no. 1 (3015-3023 m RKB):

The main objectives for the test was to determine productivity of the oil bearing sand and to obtain reservoir fluid samples (surface and bottom hole) for PVT analysis.

The well was perforated underblanced using water cushion and tubing conveyed perforaters with a shot density of 6 shots per foot.

The test consisted of a clean up flow and a build up period followed by a 3 points modified isochronal test. After the isochronal test two runs with bottom hole samplers were conducted. 3 out of 4 bottom hole samples were successful.

5 PVT sets were taken at the separator. The well producted oil and gas with no sign of sand or water.

A summary of flow periods and results are listed in table 5.1

DST no. 2 (2978-2993 m RKB)

The main objectives for the test was to determine productivity of the gas/condensate bearing sand and to obtain PVT samples. The performance of test no. 1 and 2 was identical except no bottom hole sampling was carried out in test no. 2.

5 PVT sets were taken at the separator.

The well was producing gas and condensate with only traces of sand and water.
A summary of flow periods and results are listed in table 5.2.

DST no. 3 (2902-2921 m RKB):

The main objective for this test was to determine productivity of the chalk in Hod Fm and its possible contribution to reserves.

The well was perforated underbalanced using diesel cushion and tubing conveyed perforators with a shot density of 12 shots per foot. Since no response after perforating, the well was acidized. A total of 2.6 m^3 diesel cushion was produced to the tank after the stimulation job. Mud with traces of oil was recovered when reversing out the string volume above the circulating valve.

TESTRESULTS 6/3-1 TEST NUMBER 1

PERIODE	MINUTE	OILRATES.M^3/D	GASRATES.M^3/D	GOR.M^3/M^3	CHOKEDIAMETER.M	WHP.KPA	BHP.KPA	WHT.^0C	BHT.^0C
CLEAN UP	545.	907.	140700.	155.	.0254	5171.		71.6	
BUILD UP	1380.								
FIRST ISOCHRON	240.	333.	47000.	141.	.0079	15306.	33867.	31.6	130.
BUILD UP	240.						36894.		127.
SECOND ISOCHRON	240.	703.	114700.	163.	.0159	9894.	28675.	43.3	131.
BUILD UP	240.						36790.		127.
THIRD ISOCHRON	270.	909.	166500.	183.	.0254	6157.	25359.	53.8	131.
BUILD UP	1016.						36894.		126.
FIRST SAMPLE	54.				.0056				
BUILD UP	246.								
SECOND SAMPLE	84.				.0060				
BUILD UP	204.								
FINAL RATE		904.	179900.	199.	.0254 * 2	4757		49.4	
FINAL RATE	256.	732.	212100.	289.	.0254	6198		67.7	
	Σ 5015.								

OIL DENSITY = 850. KG/M^3 GAS RELATIV GRAVITY = .68

CO_2 = 2.2 % H_2S =1.1 PPM

Tab. 5.1

TESTRESULTS 6/3-1 TEST NUMBER 2

PERIODE	MINUTE	OILRATES.M^3/D	GASRATES.M^3/D	GOR.M^3/M^3	CHOKEDIAMETER.M	WHP.KPA	BHP.KPA	WHT.^0C	BHT.^0C
CLEAN UP	489.	398.	867300.	2179.	.0254	12510.	35628.	71.6	130.5
BUILD UP	575.								
FIRST ISOCHRON	240.	270.	461800.	1714.	.0127	24130.	36129.	52.2	128.5
BUILD UP	240.						36642.		125.
SECOND ISOCHRON	240.	400.	714500.	1786.	.0191	17690.	35707.	47.2	128.
BUILD UP	240.						36510.		125.
THIRD ISOCHRON	240.	387.	850200.	2196.	.0254	12480.	35263.	68.9	129.
BUILD UP	240.						36426.		124.5
	I 2504.								

OIL DENSITY = 768. KG/M^3 GAS RELATIV GRAVITY = .66 AT 20 ^0C

CO_2 = 2.0 % H_2S =2.0 PPM

Tab. 5.2

WELL NAME: 6/3-1

NORSK PETROLEUM nps SERVICES

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	feet	PPG/ Spcf/ SG			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
1984	metres		secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100 cm²			mg/litre	ppm				%	%	%	Bent. Eq.	XS GYP	SAND	
01.11	150	1.04	130					9.5	32	48			2000	80					3	3				
03.11	172	1.04	44					9.6	12	32	15	17	4000	120					3	3				
04.11	190	1.06	48	38	4			9.9	7	31	15	17	8000	160					3	3				
05.11	520	1.09	42	42	4			9.6	8	27	16	26	10000	280					95	5	15			
06.11	520	1.11	40	42	4			9.0	6	25	14	21	11000	280							17			
07.11		Clean	pits	and	begin	mixing	GYP	mud																
08.11	520	1.10	45	5.6	1			9.7	15	22	3	4	20000	2320	.3	.4			96	4		4.1		
09.11	695	1.12	49	5.4	1			10.1	16	24	3	9	20000	2000	.1	.4			95	5	10	4.2		
10.11	936	1.14	51	5.2	1			9.9	18	24	4	13	19000	2080	.2	.5			93	7	12	3.9		
11.11	1225	1.15	52	5.6	1			10.2	17	24	8	18	20000	2680	.2	.7			94	6	12	3.2		
12.11	1459	1.14	61	7.6	1			10.2	16	26	12	26	19000	2480	.2	.5			91	9	17.5	3.8		
13.11	1630	1.16	86	5.2	1			10.1	19	34	13	34	20000	2120	.2	.7			91	9	20	3.4		
14.11	1630	1.14	61	6.6	1			10.2	15	23	12	26	20000	1920	.15	.5			92	8	16	4.8		
15.11	1630	1.15	62	6.4	1			9.9	14	24	14	26	20000	2200	.1	.3			91	9	17	3.5		
16.11	1630	1.14+	63	6.3	1			9.9	14	22	12	26	20000	2300	.1	.3			91	9	17	3.7		
18.11	1630	1.14+	62	6.6	1			9.7	14	22	12	26	20000	2300	.1	.3			91	9	17	3.6		
19.11	1630	1.21	57	9.0	2			9.0	14	18	14	29	20000	2240	.1	.6			88	12	20	3.5		
20.11	1630	1.20	55	9.3	2			9.3	13	19	12	26	20000	2000	.1	.6			89	11	20	3.6		
20.11	1635	1.20	52	21	3			11.3	14	19	16	25	20000	1760	.3	1.2			88	12	19	3.4	.25	

WELL NAME: 6/3-1

NORSK PETROLEUM nps SERVICES I

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	feet	PPG/ Spcf/ SG			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
1984	metres		secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100cm²			mg/litre	ppm				%	%	%	Bent. Eq.	XS GYP	SAND	
21.11	1858	1.20	64	9.2	2			10.4	14	20	12	50	20000	2280	.1	.9			87	13	24	3.8	.3	
22.11	2166	1.18	46	9.8	2			9.5	12	15	12	34	20500	2500	.1	.5			88.5	11.5	19	5.6	Trace	
23.11	2415	1.18	51	8.0	2			9.5	14	20	11	32	20000	2500	.1	.4			88.5	11.5	22	3.4	Trace	
24.11	2556	1.20	51	8.0	2			9.7	12	20	13	18	20000	2560	.1	.4			89	11	21	4.0	Trace	
25.11	2637	1.21	52	6.2	2			9.6	12	22	12	24	20000	2440	.1	.35			89	11	22	3.8	.25	
26.11	2657	1.21	47	6.9	2			9.7	12	22	16	25	20000	2440	.1	.3			88	12	22	4.2	Trace	
27.11	2675	1.20	47	6.5	2			10.0	13	19	12	20	20000	2200	.1	.3			87.5	12.5	21	4.0	Trace	
28.11	2745	1.20	46	6.0	2			10.0	11	20	12	22	20000	2240	.1	.3			88.5	11.5	23	4.0	Trace	
29.11	2875	1.20	44	5.8	2			10.2	12	18	14	22	22000	2120	.1	.6			88	12	23	4.4	Trace	
30.11	2926	1.35	45	5.8	2			10.2	14	16	8	26	22500	1920	.1	.6			84	16	21	3.6	1/4	
01.12	2926	1.35	56	6.4	2			10.1	18	18	7	26	22500	2000	.1	.4			84	16	25	3.7	1/2	
02.12	2926	1.35	64	6.0	2			10.0	17	20	6	27	22000	1840	.1	.5			84	16	25	3.8	1/4	
03.12	2926	1.35	53	6.6	2			10.2	18	16	4	19	22500	1680	.2	.9			84	16	24	4.0	1/4	
04.12	2926	1.35	57	6.4	2			10.6	19	18	7	22	23000	1720	.3	1.2			84	16	24	3.9	Trace	
05.12	2926	1.35	62	6.2	2			10.1	17	19	8	26	23000	1890	.1	.9			84	16	25	4.1	1/4	
06.12	2926	1.40	50	8.5	2	24.8	4	11.5	19	14	3	16	21000	1960	.7	1.6		0	83	17	25		1/4	
07.12	2930	1.40	52	5.4	2	16.4	4	11.1	17	12	4	13	22000	1800	.3	1.4		0	83	17	25	2.8	1/4	
08.12	2968	1.45	57	3.4	2	14.0	3	11.0	23	15	4	22	22500	1500	.3	1.7		0	82	18	-		1/4	
09.12	2986	1.45	59	3.3	2	14.8	3	10.9	23	14	3	16	23000	1800	.3	1.8		0	82	18	25		1/4	

WELL NAME: 6/3-1

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISCOSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	feet	PPG/ Spcf/			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
1984	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft² - gms/100cm²			mg/litre	ppm				%	%	%	Bent. Eq.	XS GYP	SAND	
10.12	2988	1.45	63	3.4	1	14.2	3	22.3	21	14	3	11	23000	1680	.4	1.8		0	83	17	–		1/4	
11.12	3012	1.45	60	2.9	1	14.0	3	10.9	23	14	3	13	22500	1720	.3	1.8		0	82	18	–	3.7	1/4	
12.12	3043	1.45	58	3.2	1	14.6	3	11.2	23	13	3	13	22500	1640	.4	2.2		0	82	18	25		1/4	
13.12	3067	1.45	61	3.0	1	14.0	3	11.0	23	15	2	12	22000	1600	.3	1.6		0	82	18	22		.25	
14.12	3110	1.45	58	3.0	1	13.8	3	10.6	23	14	3	11	22000	1660	.3	1.4		0	81	19	21		.25	
15.12	3116	1.45+	60	2.8	1	14.2	3	10.6	23	12	2	11	22000	1640	.3	1.4		0	81	19	21		Trace	
16.12	3116	1.45+	57	2.8	1	14.4	3	10.6	22	12	2	10	22000	1640	.3	1.4		0	81	19	21		Trace	
17.12	3116	1.41	57	3.7	1	14.8	3	10.3	20	11	2	10	21000	1500	.3	1.3		0	82	18	20		Trace	
18.12	3168	1.40	54	4.0	1	14.4	3	10.9	19	13	3	12	19500	1000	.3	1.1		0	82	18	18		.25	
19.12	3220	1.40	56	4.4	1	13.8	3	9.8	20	13	3	9	19000	720	.1	.8		0	83	17	20		Trace	
20.12	3339	1.40	55	4.2	1	15.0	3	10.5	20	15	3	16	21000	660	.2	1.0		0	81	19	20		Trace	
21.12	3393	1.40	58	4.4	1	15.4	3	10.6	20	15	3	15	20000	520	.3	1.1		0	82	18	19		Trace	
22.12	3515	1.40	54	4.8	1	15.6	3	10.1	20	15	3	16	20500	530	.2	.9		0	81	19	20		Trace	
23.12	3560	1.38	53	5.4	1	15.8	3	10.1	18	13	4	15	21000	380	.2	.9		0	83	17	18		Trace	
24.12	3560	1.38	62	5.4	1	14.2	3	10.1	20	13	3	9	20500	320	.3	1.0		0	81	19	20		Trace	
25.12	3560	1.38-	56	5.2	1	14.2	3	10.0	18	11	2	8	21500	240	.3	1.1		0	81.5	18.5	20		Trace	
26.12	3080	1.38	59	5.0	1	14.4	3	10.6	18	11	3	10	21000	240	.4	1.1		0	81	19	20		Trace	
27.12	3099	1.38	58	5.4	1	15.8	4	11.0	19	11	3	8	21000	280	.4	1.4		0	80	20	20		Trace	
28.12	2742	1.38	60	6.0	1	16.8	4	11.4	23	15	3	14	21000	560	.5	1.6		0	80	20	20		Trace	

Spesialtrykk a.s

WELL NAME: 6/3-1

NORSK PETROLEUM nps SERVICES!

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	feet	PPG/ Spcf/			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
1985	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100cm²			mg/litre	ppm				%	%	%	Bent. Eq.		SAND	
17.01	3005	1.35-	56	12.3	3			11.6	18	12	3	16	18000	360	.5	1.3		0	82	18			Trace	
18.01	2950	1.35	58	12.5	3			11.6	18	13	4	18	17000	360	.6	1.5		0	82	18			Trace	
19.01	2950	1.35	55	11.8	3			11.6	17	11	3	17	17000	300	.5	1.3		0	83	17			Trace	
20.01	2950	1.35	56	12.0	3			11.6	18	11	3	17	17000	320	.4	1.1		0	82	18			Trace	
21.01	2950	1.35	55	11.0	3			11.6	17	11	2	15	17000	360	.4	1.2		0	82	18			Trace	
22.01	2950	1.35	53	11.0	3			11.4	17	11	4	20	17000	420	.35	0.9		0	82	18			.25	
23.01	2950	1.45	54	11.0	3			11.1	22	13	8	28	17000	560	.3	0.8		0	80	20			.25	
24.01	2950	1.45	56	11.6	3			11.0	21	12	2	26	17000	600	.3	0.9		0	80	20			.25	
25.01	2709	1.46	56	12.0	3			11.1	20	12	2	26	17000	680	.3	0.9							.25	
26.01	2616	1.45	56	11.8	3			11.2	21	11	7	28	17000	760	.3	0.9		0	79	21			.25	
27.01	2616	1.46	55	12.8	3			11.1	19	11	6	26	17000	760	.3	0.8		0	80	20			.25	
28.01	290	1.36	65	13.4	3			11.0	18	20	6	38	17000	880	.3	0.9		0	82	18			.25	
29.01	290	1.32	59	17.4				11,2	14	20	10	44	17000	840	.3	1.1		0	84	16			.25	

Spesialtrykk a.s

WELL NAME: 6/3-1

NORSK PETROLEUM nps SERVICES!

MUD PROPERTY RECAP

DATE	DEPTH	DENSITY	VISC-OSITY	FILTRATE		HT/HP filt		pH	RHEOLOGY				FILTRATE ANALYSIS					RETORT ANALYSIS			CEC	OTHER		
	feet	PPG/ Spgf/			Cake	°500psi			PV	YP	10"	10'	Cl	Ca	Pf	Mf	Pm	Oil	Water	Corr. Solids	PPB			
1984/	metres	SG	secs	ccs	1"/32/mm	ccs	1"/32/mm		cp	lbs/100ft²-gms/100 cm²			mg/litre	ppm				%	%	%	Bent. Eq.		SAND	
29.12	2742	1.38	66	6.2	1			11.7	24	15	3	15	21000	520	.5	1.6		0	80	20	20		1/4	
30.12	2742	1.38	68	6.6	2			11.7	24	14	3	17	21000	560	.5	1.5		0	80	20	20		1/4	
31.12	3040	1.38	56	9.2	2			11.2	19	13	3	12	20000	440	.4	1.2		0	80	20	20		1/4	
01.01	3040	1.35	57	8.6	2			11.5	18	13	3	14	20000	440	.5	1.2		0	80	20	20		1/4	
02.01	3040	1.35	57	8.6	2			11.5	19	11	3	15	20000	440	.4	1.2		0	80	20	20		1/4	
03.01	3040	1,35	63	8.7	2			11.8	20	14	3	15	20000	480	.7	1.5		0	81	19	20		1/4	
04.01	3100	1.35	61	8.8	2			11.8	18	12	2	14	20000	440	.6	1.5		0	81	19	-		1/4	
05.01	3100	1.35	58	8.8	2			11.8	17	12	3	16	20000	480	.6	1.6		0	81	19	-		1/4	
06.01	3100	1.35	59	8.6	2			11.8	17	11	3	15	20000	520	.6	1.8		0	81	19	-		1/4	
07.01	3100	1.35	57	9.2	2			11.9	17	10	3	16	20000	480	.7	1.8		0	81	19	20		1/4	
08.01	3100	1.35	54	8.8	2			11.9	16	11	3	16	20000	440	.6	1.8		0	81	19	-		1/4	
09.01	3100	1.35	58	10.0	2			11.8	20	13	3	17	19500	400	.8	2.2		0	81	19	-		1/4	
10.01	3056	1.34+	54	10.2	2			11.8	18	11	3	15	20000	380	.9	2.0		0	84	16	-		1/4	
11.01	2990	1.34+	58	10.1	2			11.8	17	13	2	16	19000	400	.7	1.8		0	82	18	-		.25	
12.01	3005	1.35	55	10.2	2			11.8	17	11	3	15	20000	340	.8	1.7		0	82	18	-		.25	
13.01	3005	1.35+	57	10.3	3			11.8	18	11	2	15	19000	340	.8	1.7		0	82	18			.25	
14.01	3005	1.36	57	10.2	3			11.8	17	11	2	16	19000	340	.8	1.7		0	82	18			.25	
15.01	3005	1.36	56	10.1	3			11.8	17	11	3	16	19000	360	.8	1.7		0	82	18			.25	
16.01	3005	1.35	58	12.0	3			11.6	19	14	5	21	18500	340	.5	1.2		0	81	19			.25	

Statoil

OPERATING AREA 6/3-1

NORSK PETROLEUM nps SERVICES I

INTERVAL DISCUSSION

8 1/2" Hole 7" Liner

Volume of mud built	201 m^3
Material Cost	$28,153.00
Mud Cost	$39,256.00
Estimated Material Cost	$26,945.00

OPERATING AREA Statoil 6/3-1

MATERIALS USED PER CASING INTERVAL

36" Hole to 172 m 30" Casing to 170 m

Material	Unit	Estimated Qty	Estimated Cost ($)	Actual Qty	Actual Cost ($)
Barite	MT	35	3,500.00	13	1,300.00
Bentonite	MT	23	5,750.00	44	11,000.00
Caustic	25 kg	-	-	13	146.25
CC-16	50 lb	-	-	2	34.00
Soda Ash	50 kg	-	-	11	223.52
			$9,250.00		$12,703.77

OPERATING AREA Statoil
6/3-1

MATERIALS USED PER CASING INTERVAL

26" Hole to 520 m 20" Casing at 502 m

		Estimated		Actual	
Material	Unit	Qty	Cost ($)	Qty	Cost ($)
Barite	MT	80	8,000.00	57	5,700.00
Bentonite	MT	66	16,500.00	26	6,500.00
Caustic	25 kg	-	-	12	135.00
CC-16	50 lb	-	-	3	51.00
CMC EHV	25 kg	-	-	1	43.75
Drispac Reg.	50 lb	-	-	7	682.50
Lime	25 kg	-	-	4	24.40
Q-Broxin	25 kg	-	-	8	106.00
Soda Ash	50 kg	-	-	6	121.92
			$24,500.30		$13,364.57

6/3-1 Statoil

MATERIALS USED PER CASING INTERVAL

17½" hole

			Estimated		Actual	
Material	Unit	Unit Cost($)	Qty	Cost($)	Qty	Cost($)
Barite	mt	100.00	433	4300.00	91	9100.00
Bentonite	mt	250.00	-	-	7	1750.00
Bicarbonate	50 kg	21.60	-	-	4	86.40
Caustic	25 kg	11.25	170	1912.50	211	2373.75
CMC-EHV	25 kg	43.75	-	-	6	262.50
CMC-LV	25 kg	36.75	118	4336.50	114	4189.50
COAT Det	55 gal	423.40	-	-	11	4657.40
Dextrid	50 lb	59.36	616	36565.76	266	15789.76
Drispac, Reg	50 lb	97.50	231	22522.50	168	16380.00
Drispac, SL	50 lb	97.50	-	-	7	682.50
Gypsum	40 kg	7.44	741	5513.04	725	5394.00
Lime	25 kg	6.10	-	-	25	152.50
Lignosulfonate	25 kg	13.25	-	-	3	39.75
Staflo, ExLo	25 kg	107.45	-	-	30	3223.50
XCD Polymer	25 kg	359.60	20	7192.00	64	23014.40
				$82,342.30		$87,095.96

6/3-1 Statoil

MATERIALS USED PER CASING INTERVAL

12 1/4" hole

			Estimated		Actual	
Material	Unit	Unit Cost($)	Qty	Cost($)	Qty	Cost($)
Barite	mt	100.00	253	28300.00	102	10200.00
Bentonite	50 kg	15.90	-	-	35	397.50
Bicarbonate	50 kg	21.60	13	780.80	10	216.00
Caustic	25 kg	11.25	161	1811.25	156	1755.00
CMC-LV	25 kg	36.75	189	6945.75	62	2278.50
COAT 45	25 kg	70.98	-	-	18	1277.64
Dextrid	50 lb	59.36	354	21013.44	280	16620.50
Drispac, Reg	50 lb	97.50	89	8677.50	55	5362.50
Drispac, SL	50 lb	97.50	-	-	4	390.00
Gypsum	40 kg	7.44	502	3734.88	375	2790.00
Lime	25 kg	6.10	-	-	10	61.00
Lignosulfonate	25 kg	13.25	-	-	88	1166.00
Staflo, ExLo	25 kg	107.45	-	-	50	5372.50
Surflo B21	50 kg	86.00	-	-	6	516.00
XCD Polymer	25 kg	359.60	-	-	13	4674.80
				$70,763.62		$53,078.24

6/3-1 Statoil

MATERIALS USED PER CASING INTERVAL

8½" hole 7" liner

			Estimated		Actual	
Material	Unit	Unit Cost($)	Qty	Cost($)	Qty	Cost($)
Barite	mt	100.00	97	9700.00	92	9200.00
Bentonite	mt	250.00	14	350.00	9	2250.00
Bicarbonate	50 kg	21.60	13	280.00	20	432.00
Caustic	25 kg	11.25	76	855.00	107	1203.75
CC-16	50 lbs	17.00	275	4284.75	313	5321.00
CMC-LV	25 kg	36.75	106	3895.50	72	2646.00
CMC-HV	25 kg	36.75	-	-	43	1580.25
Dextrid	50 lb	59.36	-	-	15	890.40
Drispac, SL	50 lb	97.50	-	-	3	292.50
Lignosulfonate	25 kg	13.25	337	4465.25	187	2477.75
Soda Ash	50 kg	20.32	-	-	3	60.96
XCD Polymer	25 kg	359.60	-	-	5	1798.00
				$26,945.30		$28,152.61

OPERATING AREA Statoil 6/3-1

MATERIALS USED PER CASING INTERVAL

Test Program

Material	Unit	Unit Cost	Qty	Total Cost $
Barite	MT	100.00	114	11,400.00
Bentonite	MT	250.00	9	2,250.00
Caustic	25 kg	11.25	18	202.50
CMC HV	25 kg	36.75	4	147.00
Coat 45	25 kg	70.98	8	567.84
Drispac Reg.	50 lb	97.50	6	585.00
Lignosulfonate	25 kg	13.25	46	609.50
Soda Ash	50 kg	20.32	3	60.96
Sodium Bicarb.	50 kg	21.60	27	583.20
XCD Polymer	25 kg	359.60	13	4,674.80
				$21,080.80

Total volume built - 96 m^3

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PETROLEUM TECHNOLOGY

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Hydrocarbon characterisation of oil, condensate, cuttings and cores.

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Abstract

Prepared by

IKU

Textoperator

Approved by

10/3-86 Kjell Øygard

11/3-86 Hilary Irwin

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HYDROCARBON CHARACTERISATION OF OIL, CONDENSATE, CUTTINGS AND CORES. Final report.

CLIENT/ OPPDRAGSGIVER
Statoil

PROJECT MANAGER/ PROSJEKTANSVARLIG
W. Krokstad

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SUMMARY/ SAMMENDRAG

See inside.

KEY WORDS
Source rocks
Oil-source rock correlation
Hydrocarbon stainings
6/3-1

STIKKORD
Organic geochemistry
Condensate
Analysis
Hydrocarbons

1. INTRODUCTION

The aim of this report is to give an organic geochemical characterisation and interpretation of possible source rocks, oil staining of reservoir fluid samples from well 6/3-1, and to correlate the reservoir fluids and oil stainings with the source rocks.

75 canned samples from the 1295-3570 m interval, 15 core chips, 9 sidewall cores (swc) and 2 fluid samples from DST 1 and 2, were submitted for analysis. Copies of GR-ISF-BHC logs were also supplied.

The following analyses were carried out on core chips, sidewall cores and cutting samples:

- C_1-C_7 light hydrocarbon analyses of headspace and occluded gas from canned samples	75 samples
- Preparation, washing, handpicking and lithological description (type A)	99 samples*
- Total organic carbon determination	101 samples*
- Rock-Eval pyrolysis	57 samples*
- Vitrinite reflectance determination	25 samples
- Kerogen description and thermal alteration index (TAI)	26 samples
- Extraction, Soxtech	19 samples
- Precipitation of asphaltenes	13 samples
- MPLC separation	6 samples
- TLC separation	6 samples
- Iatroscan quantification	13 samples
- Gas chromatography of saturated and aromatic hydrocarbons (FID only)	13 samples
- GC-MS of saturated hydrocarbons	7 samples
- Pyrolysis-GC on extracted kerogen concentrates (extraction excluded)	7 samples
- $\delta^{13}C$ isotope analysis of total extract, EOM	11 samples*
- $\delta^{13}C$ isotope analysis of aromatic hydrocarbons	8 fractions*
- $\delta^{13}C$ isotope analysis of saturated hydrocarbons	9 fractions*

* Comments:
The Rock-Eval pyrolysis data from two limestone samples were suspected to be influenced by asphaltenes or heavy hydrocarbons, which hampered a

definition of the true kerogen type. Therefore, the samples were extracted prior to a new TOC determination and Rock-Eval pyrolysis.

When the source rocks or stainings gave very small amounts of extract, thin layer chromatography (TLC) had to replace MPLC separation. The weights of the resultant proportions of polar compounds, saturated and aromatic hydrocarbons are then not reliable and only Iatroscan data are given in these cases.

Occasionally there was not enough extract to determine any carbon isotope ratios.

Rock-Eval pyrolysis was only performed on claystones with a total carbon content greater than 0.5%.

The two DST fluid samples were analysed by:

- API gravity.
- C_2-C_8 gas chromatography.
- MPLC separation of > 210°C fraction.
- Gas chromatography of whole oil, saturated and aromatic hydrocarbons.
- Gas chromatography of whole oil >210°C.
- GC-MS of saturated hydrocarbons.
- $\delta^{13}C$ isotope ratio of whole oil, saturated and aromatic hydrocarbons.

A detailed analysis program for the more advanced analyses is given in table 1.

Well 6/3-1 is the first well at IKU, in which the proportions of polar compounds, aromatic and saturated hydrocarbons have been determined by means of Iatroscan Triplettes have been run on each extract to examine the reproducibility. These data have also been compared to the gravimetric analytical results when enough extract (table 2).

Only moderate amounts of cavings are noted in well 6/3-1. Caving problems will be discussed more in detail under each lithostratigraphic unit.

The lignosulphonate/lignite additives from 2885 m RKB, (logger's depth) to T.D. are believed to cause no problems to the interpretation of the claystones. It is, however, difficult to distinguish between in situ coal and coal additives in the Skagerrak Formation. Generally, the reddish coals are interpreted as in situ lithology in this case. Coaly matter bleeding under preparation of kerogen slides, typically indicates material too immature to represent in situ coals. Other mud additives have not been observed.

Phtalate contaminants have been observed in the saturated fraction of the samples C-2626 (Sele Fm.) and C-2639 (Maureen Fm.).

The core drilling in the Upper/Middle Jurassic group and the Skagerrak Formation has occasionally severely damaged the lithology. This effect resembles the one often encountered in turbodrilled intervals. In well 6/3-1 the evidences for core drilling damage are contorted, burnt claystones and partly melted sandstone grains. This "turbo" effect has also been noted in the samples analysed by reflection microscopy.

The evidences for non-indigenous hydrocarbons are numerous. Sandstones in the Upper/Middle Jurassic Group and the Upper Skagerrak Formation are hydrocarbon stained. The same applies to the Tor and Hod limestones. Hydrocarbon stainings are discussed in detail under each lithostratigraphic unit (Section 3) while the DST fluids are discussed in Section 4.

Well information given by Statoil is shown in table 3 and 4.

The analyses and reporting were carried out under IKU number 22.1808, according to Statoil order T-4533, job no. 17. The project was authorised by Kjell Øygard, Statoil, Stavanger.

One draft copy of this report will be sent to Statoil for approval. On approval, ten copies of the final report will be sent to Statoil and ten copies will be stored at IKU. A geochemical data tape with C_1-C_7 gas composition of headspace and occluded gas, TOC, extraction data, gas chromatographic data, vitrinite and kerogen data has been sent to Statoil.

2. EXPERIMENTAL METHODS AND DESCRIPTION OF INTERPRETATION LEVELS

2.1 Gas analyses

Headspace gas:

A septum was attached to the can, a sample of the headspace gas was taken and analysed for C_1, C_2, C_3, i-C_4, nC_4 and C_5+ (conditions: see below). If any C_5+ was detected a second sample was taken and analysed for C_1-C_{10} compounds (conditions: see below).

The can was opened, headspace volume, water volume and sample weight were measured. The canned samples were washed with temperated water on 4, 2 and 0.125 mm sieves to remove drilling mud and thereafter dried at 35°C.

Occluded gas:

For occluded gas analysis an aliquot of the 2-4 mm fraction of each sample before drying was crushed in water using an airtight ball mill. The evolved gas was analysed as described for headspace gas.

GC conditions:

C_1-C_5+ analysis

This analysis was performed on Carlo Erba Fractovap 2150 and 2350 gas chromatographs equipped with 2 m x 1/8" stainless steel columns filled with Porapack Q on Chromosorb using nitrogen as carrier gas. The oven temperature was 150°C. After elution of n-butane the column was back-flushed and C_5+ was recorded. A standard gas containing methane, ethane, propane, n-butane, n-pentane and n-hexane was used for quantitation.

2.2 Lithological descriptions

Lithological examinations are normally carried out using a binocular microscope (maximum 50x magnification). Colour descriptions are in accordance with "Rock Colour Chart" published in 1979 by the Geology Society of America. Boulder, Colorado. The clients have a choice of three different levels of description from a simple identification of the litho-

logies to a full examination of the sample. Handpicking of the cuttings for organic geochemical analyses is based on these descriptions.

2.3 Total Organic Carbon

Bulk samples were crushed in a morter. Aliquots of the samples were then weighed into Leco crucibles and treated three times with hot 10% HCl to remove carbonate, and washed 4 times with distilled water to remove traces of HCl. The crucibles were then placed on a hot plate and dried for 24 hours. The total organic carbon (TOC) content of the dried samples was determined using a Leco CR12 carbon analyser.

2.4 Rock-Eval pyrolysis

Crushed sample (100 mg) was weighed into a platinum crucible the base and cover of which are made of sintered steel, and analysed on a Rock-Eval pyrolyser.

2.5 Preparation of kerogen concentrates

Finely crushed preextracted material is treated with concentrated HCl (200 ml) and then with 40% HF (100 ml). The acids are removed by decanting and washing with water several times. After the acid treatment the sample is washed with hot water (2 hours), 10% ammunoniumcarbonate solution (> 2 hours) and cold water (2x2 hours).

The kerogen is further purified by extraction with methanol.

2.6 Extractable Organic Matter

Powdered rock was extracted by Soxhlet technique with boiling dicloromethane containg 1% methanol as solvent in a Soxtech apparatus (samples smaller than 10 g) or Soxhlet (larger samples).

The DCM used was of organic geochemical grade and blank analyses showed the occurrence of negligible amounts of contaminating hydrocarbons.

Activated copper fillings were used to remove any free sulphur from the samples.

After extraction the solvent was removed on a Buchi Rotavapor and the amount of extractable organic matter (EOM) was determined.

2.7 Evaporation of the light components in fluid samples

Prior to chromatographic separation of oil/condensate samples, the fractions boiling below 210°C were removed by heating the samples until constant weight at 210°C is obtained. The heating is performed at atmospheric pressure.

The fraction of light components is determined as the weight difference between the original sample and the amount that is left after the heating.

2.8 Iatroscan

The extractable organic material was dissolved in DCM and ca. 30-40 µg was applied to a precleaned and activated chromarod (type SII). Three replicates were analysed for each sample. The rods were initially fully developed with n-hexane, then dried and redeveloped to half-rod hight in toluene.

The rods were scanned by passing through the flame-ionisation detector (FID) of an Iatroscan TH-10 (H_2 = 160 ml/min, Air = 2 l/min., Scanspeed = 0.38 cm/sec. (gear no. 30)). The FID response was recorded and integrated using a Hewlett Packard 3390A integrator. The retention times of the aliphatic and aromatic hydrocarbons were determined by comparison with standards (nC_{20} and fluorene).

2.9 Chromatographic separation

The extractable organic matter (EOM) was separated into saturated fraction, aromatic fraction and non hydrocarbon fraction using a MPLC system with hexane as eluant (Radke et al., Anal. Chem., 1980) after precipitation of asphaltenes with pentane in large excess (>30:1). The various fractions were evaporated on a Buchi Rotavapor and transferred to glass vials and dried in a stream of nitrogen. The amount of asphaltenes were recorded by weighing after drying at 50°C for 12 hours.

The same separation procedure was applied to the fractions of oil/condensate samples boiling above 210°C.

The aliphatic hydrocarbon and aromatic hydrocarbon fractions were separated on two samples from the EOM by thin-layer chromatography (tlc) on silica gel using n-hexane as eluant. Naphthalene, anthracene and nC_{20} were used as standards.

The fractions were located on the tlc plate after spraying with a 0.1% solution of Rhodamne 6G in methanol and viewing in UV light. Bands corresponding to the aliphatic (nC_{20}) and aromatic (naphthalene/anthracene) standards were scraped from the plate and transferred to a short column of pre-washed, deactivated alumina. The fractions were eluted from the column with ca. 30ml DCM; the solvent was removed using a Büchi rotary evaporator and the weight of each fraction was determined.

2.10 Pyrolysis Gas Chromatography (Py-GC Programmed)

Thermal extraction (S1)

20-30 mg of whole rock sample was placed in a boat shaped sample probe and thermoextracted in a stream of helium at 350°C for 5 minutes.

Pyrolysis-Gas Chromatography (S2)

20-30 mg of solvent- and thermoextracted whole rock sample was programmed pyrolysed in helium (340°C to 550°C at 50°C/min.) in a furnace type pyrolyzer. The outlet of the pyrolyzer was directly connected to a splitter (30:1) and a fused silica capillary column. The pyrolysis product was trapped in a cooled (liq. Nitrogen) section at the front of the column.

The outlet of the splitter was directly connected to a FID detector and the course of the pyrolysis could be followed by the detector response of the bulk pyrolysis product (30:1) which was recorded as a broad peak. At the end of the pyrolysis the pyrolysis product was injected on to the capillary column at ambient temperature (by removing the nitrogen bath) and analysed under the GC conditions given below.

GC-conditions

Column: 25 m OV-1, I.D. 0.25 mm, fused silica capillary column.
Carrier gas: Helium with inlet pressure 8 psi. Flow; ca. 1.5. ml/min.

Oven programme: -10°C (1 min.) - 5°C/min. - 290°C (30 min.)

2.11 Vitrinite reflectance

Vitrinite reflectance measurements are carried out using the following method. The rock samples are broken up, if necessary, and are mounted in a fast-setting, synthetic resin. Temperatures in excess of about 70°C are avoided as these can result in alteration of the organic material. Once the resin is set, the samples are ground on a diamond lap in order to expose an area of sample for polishing. The samples are then ground on 600 and 280 grade silicon carbide paper to remove any coarse scratches. Where clastic sediments are involved, grinding and polishing is carried out using propan-2-ol to avoid swelling of any clay minerals in the sample. If coals are to be measured, water is used. The samples are then polished on selvyt cloth using 5/20, 3/50 and gamma grade alumina powder. Following polishing, the surface of the samples is carefully cleaned to remove any traces of the polishing powders.

Reflectance measurements are carried out using a Leitz M.P.V. microscope and photomultiplier combination. The measurements are made under oil immersion, using an oil with a refractive index of 1.518, at a wavelength of 546 nm. The surface of the sample is examined for suitable particles of vitrinite and reflectance measurements are taken on these. The reflectance of the vitrinite particle is determined relative to an optical glass standard with a known reflectance of a similar order to that of the sample. If possible, a minimum of twenty reflectance measurements are made on each rock sample. Coals and carbonaceous claystones generally provide the most reliable data, while sandstones and carbonates generally provide the least reliable data.

The samples are also examined in ultra-violet light in order to determine the composition and colour of the fluorescent material present in the sample. The colour of certain liptinite macerals in ultra-violet light can be related to the thermal maturity of the sample. A scale comparing vitrinite reflectance measurements and spore fluorescence to thermal maturity is shown below.

VITRINITE REFLECTANCE R.AVER. 546 nm	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10
% CARBON CONTENT DAF.	57	62	70	73	76	79	80.5	82.5	84	85.5
EXC. 400 nm BAR. 530 nm colour	G	$G/_Y$	Y	$Y/_O$	L.O	M.O.		D.O.	$O/_R$	R
zone	1	2	3	4	5	6		7	8	9

Relationship between liptinite fluorescence colour, vitrinite reflectance and carbon content is variable with depositional environment and catagenic history. The above is only a guide. Liptinite fluorescence will often appear to change towards a deep orange colour and then fade, rather than develop an orange/red to red colour. The point of termination of fluorescence is also variable.

2.12 Processing of samples and evaluation of visual kerogen

Crushed rock samples were treated with hydrochloric and hydrofluoric acids to remove the minerals. A series of microscopic slides contain strew mounts of the residue:

T-slide represents the total acid insoluble residue.
N-slide represents a screened residue (15 µ mesh).
O-slide contains palynodebris remaining after flotation ($ZnBr_2$) to remove heavy minerals.
X-slides contain oxidized residues, (oxidizing may be required to remove sapropel which embeds palynomorphs, or where high coalification prevents the identification of the various groups).

T and/or O slides are necessary to evaluate kerogen composition/-palynofacies which is closely related to sample lithology.

Screened or oxidized residues are normally required to concentrate the larger fragments, and to study palynomorphs (pollen, spores and dinoflagellates) and cuticles for paleodating and colour evaluation.

So far visual evaluation of kerogen has been undertaken from residues mounted in glycerine jelly, and studied by Leitz Dialux in normal light

(halogene) using x10 and x63 objectives. By x63 magnification it is possible to distinguish single particles of diameters about 2 and, if required, to make a more refined classification of the screened residues (particles >15 μ).

The colour evaluation is based on colour tones of spores and pollen (preferably) with supporting evidence from colour tones of other types of kerogen (woody material, cuticles and sapropel). These colours are dependant upon the maturity, but are also influenced by the paleo-environment (lithology of the rock, oxidation and decay processes). The colours and the estimated colour index of an individual sample may therefore differ from those of the neighbouring samples. The techniques in visual kerogen studies are adopted from Staplin (1969) and Burgess (1974).

In interpretation of the maturity from the estimated colour indices we follow a general scheme that is calibrated against vitrinite reflectance values (R_o).

Ro	0.45	0.6	0.9	1.0	1.3
colour index	2-	2	2+	3-	3

2.13 Gas chromatographic analysis

Whole oil samples were analysed on a HP5730A GC, applying a temperature program from -50°C (2 min.) to 280°C at 4°C/min. The GC was fitted with a 15 m DB-1 fused silica column. Hydrogen (2.5ml/min.) was used as carrier gas, and 0.02 μl was injected in split mode (split ratio 1:10).

The saturated hydrocarbon fractions were each diluted with n-hexane and analysed on a HP 5730A GC. The GC is equipped with a 15 m DB-1 fused silica column and hydrogen (ca. 2.5 ml/min.) is used as carrier gas. Injections are performed in split mode (split ratio 1:10). The temperature program applied is 80°C (2 min.) to 280°C at 4°C/min.

The total aromatic fractions were, after dilution with n-hexane, analysed on a HP 5730 A GC. The GC is equipped with a 30 m DB-5 fused silica column, and hydrogen (2.5 ml/min.) is used as carrier gas. The temperature

program applied is 80°C (2 min.) to 280°C at 4°C/min. on both systems. Injections are performed in split mode (split ratio 1:10).

The data processing for all the GC analyses was performed on a VG Multichrom lab data system.

2.14 Gas chromatography - mass spectrometry (GC-MS)

GC-MS analyses were performed on a VG Micromass 70-70H GC-MS-DS system. The Varian Series 3700 GC was fitted with a fused silica OV-1 capillary column (30 m x 0.3 mm i.d.). Helium (0.7 kg/cm^2) was used as carrier gas and the injections were performed in split mode (1.5 µl, split ratio 1:15). The GC oven was programmed from 70°C to 280°C at 4°C/min. after an initial isothermal period of 2 minutes.

The saturated hydrocarbons were analysed in multiple ion mode (MID) at a scan cycle time of approximately 2 secs. Full data collection was applied for the aromatic hydrocarbons at a scan time of 1 sec/decade. The mass spectrometer operated at 70eV electron energy and an ion source temperature of 200°C. Data acquisition was done by VG data systems.

Peak identification was performed applying knowledge of elution patterns in certain mass chromatograms. Calculation of peak ratios was done from peak height in the appropriate mass chromatograms.

2.15 $\delta^{13}C$ istotope analysis

The $\delta^{13}C$ isotope analysis was performed by mass spectrometry at Institute for Energy Technology (IFE) in Oslo according to their method. Their reference value for the standard NBS-22 is -29.8.

TABLES

Table 1. Explanations

I : Extraction only.

II : Extraction, separation into saturates, aromatic hydrocarbons and polare compounds after deasphalting of extract, GC of saturated and aromatic hydrocarbons.

III : As II. In addition GC-MS of steranes and terpanes.

DC : Ditch cuttings (canned samples).

SWC : Sidewall cores.

VR : Vitrinite reflectance (and exinite fluorescence colour determination).

TLC : Thin layer chromatography replacing MPLC separation due to small amount of extract.

Table 1. Well 6/3-1. Analysis program (screening excluded).

Source rocks and hydrocarbon stainings.

IKU No.	Depth (m)	Type of sample	Lithology	TOC	FM/GR	VR	TAI	PY-GC	$\delta^{13}C$ EOM	$\delta^{13}C$ SAT	$\delta^{13}C$ ARO	I	II	III
C-2549	1295-1310	DC	Clyst.	6.75		x	x							
C-2554	1370-1375	DC	Clyst.	6.11,1.78		x								
C-2559	1445-1460	DC	Clyst.	5.98		x	x	x				x		
C-2564	1515-1530	DC	Clyst.	2.59,6.13		x	x							
C-2564	1590-1605	DC	Clyst.	5.68		x								
C-2574	1665-1680	DC	Clyst.	1.48			x							
C-2579	1740-1755	DC	Clyst.	2.22		x								
C-2599	2040-2055	DC	Clyst.	2.77		x	x	x				x		
C-2604	2115-2130	DC	Clyst.	2.81		x								
C-2609	2190-2205	DC	Clyst.	0.89		x	x							
C-2614	2265-2280	DC	Clyst.	3.19,0.58		x								
C-2619	2340-2355	DC	Clyst.	0.69			x							
C-2624	2415-2430	DC	Clyst.	2.26		x								
C-2626	2445-2460	DC	Clyst.	1.62		x	x	x	x				x(TLC)	
C-2629	2490-2505	DC	Clyst.	1.39			x							
C-2631	2520-2535	DC	Clyst.	1.13		x								
C-2633	2550-2565	DC	Clyst.	1.42		x	x							
C-2637	2610-2625	DC	Clyst.	0.54		x	x							
C-2639	2640-2655	DC	Clyst.	1.19		x	x	x					x(TLC)	
C-2647	2760-2775	DC	Clyst.	0.85			x							

Table 1 continued. Well 6/3-1. Analysis program (screening excluded).
Source rocks and hydrocarbon stainings.

IKU No.	Depth (m)	Type of sample	Lithology	TOC	/R	TAI	PY-GC	$\delta^{13}C$ EOM	$\delta^{13}C$ SAT	$\delta^{13}C$ ARO	I	II	III
C-2275	2800.0	SWC	Lst.	0.18		x							
C-2655	2880-2895	DC	Lst.	0.32				x	x	x		x	
C-2276	2895.0	SWC	Lst.	0.32		x							
C-2657	2910-2925	DC	Lst.	1.02		x					x		
C-2658	2925-2940	DC	Lst.	0.71									
C-2658	2925-2940	DC	Clyst.	0.76	x								
C-2659	2940-2955	DC	Clyst.	2.95		x	x				x		
C-2660	2955-2970	DC	Clyst.	7.01	x	x	x						x(TLC)
C-2660	2955-2970	DC	Clyst.	0.42		x							
C-2277	2964.0	SWC	Clyst.	0.40	x	x							
C-2283	2969.5	Core	Tuff?	0.22									x(TLC)
C-2664	2975-2985	DC	Clyst.	0.42	x	x							
C-2285	2990.5	Core	Sst.	0.13				x					x
C-2286	3000.6	Core	Sst.(stained)	0.0				x	x	x		x	
C-2663	3000-3015	DC	Clyst.	2.21	x	x							
C-2287	3010.80	Core	Sst.	0.23				x	x	x			x
C-2288	3012.10	Core	Sst.	0.60				x	x	x			x
C-2664	3015-3030	DC	Coal/lign.	-	x								
C-2290	3025.5	Core	Sst.	0.43				x	x				x

Table 1 continued. Well 6/3-1. Analysis program (screening excluded).

Source rocks and hydrocarbon stainings.

IKU No.	Depth (m)	Type of sample	Lithology	TOC	VR	TAI	PY-GC	$\delta^{13}C$ EOM	$\delta^{13}C$ SAT	$\delta^{13}C$ ARO	I	II	III
C-2291	3035.2	Core	Sst.	0.38				x	x	x			x
C-2665	3030-3045	Dc	Clyst.	0.65		x	x	x	x	x		x(TLC)	
C-2665	3030-3045	DC	Coal/lign.	-	x								
C-2665	3030-3045	DC	Clyst.	-	x								
C-2666	3045-3060	DC	Clyst.	-		x							
C-2666	3045-3060	DC	Clyst.	0.96	x	x							
C-2666	3045-3060	DC	Coal	-	x								
C-2295	3069.5	Core	Sst.	0.16								x(TLC)	

Table 2a. Iatroscan well 6/3-1

Sample no.	Sat.	Mean Sat.	Deviation from mean sat. %	Aro.	Mean Aro.	Deviation from mean aro. %	NSO/asphaltenes	NSO/asphaltenes	Deviation NSO/ asphaltenes %
	6.25		-9.02	13.30		-2.92	80.40		1.13
C-2283	8.26	6.87	20.20	15.00	13.70	9.49	76.80	79.50	-3.40
	6.09		-11.30	12.80		-6.57	81.20		2.14
	74.80			13.50			11.70		
C-2285	73.90	74.35	-0.60	14.50	14.00	-3.57	11.60	11.65	-0.43
C-2286	56.70		3.65	11.90		10.60	31.30		-9.28
	50.50	53.60	-7.67	11.70	11.80	8.73	37.90	34.60	9.86
C-2286	54.70			8.02		-25.50	37.30		8.11
	56.90	55.80		11.40	9.71	5.95	31.70	34.50	-8.11
C-2287	58.20		2.10	14.80		-3.26	27.00		-2.53
	57.10	57.65	0.18	14.10	14.40	-7.84	28.90	27.95	4.33
	55.90		-1.92	15.30		3.77	28.80		3.97
C-2287	59.10	56.50	3.68	16.30	15.90	6.54	24.60	27.57	-11.20
	54.50		-4.39	16.10		5.22	29.30		5.78

Table 2a continued. Iatroscan well 6/3-1

Sample no.	Sat.	Mean Sat.	Deviation from mean sat. %	Aro.	Mean Aro.	Deviation from mean aro. %	NSO/asphaltenes	NSO/asphaltenes	Deviation NSO/ asphaltenes %
	59.30		0.17	25.00		0	15.70		0
C-2288	60.30	59.20	1.86	24.70	25.00	-1.20	15.00	15.70	-4.46
	58.10		-1.86	25.40		1.60	16.40		4.46
	64.20		1.10	21.60		-8.47	14.20		9.23
C-2290	62.40	63.50	-1.73	25.00	23.60	5.93	12.60	13.00	-3.07
	63.80		0.47	24.10		2.12	12.10		-6.92
	65.30		2.03	20.30		-3.33	14.40		-3.36
C-2291	61.40		-4.06	23.80		13.30	14.80		-0.67
	65.40	64.00	2.19	20.60	21.00	-1.9	13.90	14.90	-6.71
C-2291	64.20		0.31	21.10		0.48	14.70		-1.34
	63.90	64.05	-0.15	19.40	20.25	-7.61	16.70	15.70	10.80
C-2295	18.10			10.10			71.80		
C-2295	17.50	19.10	-8.37	13.40	12.70	5.51	69.10	68.20	-1.32
	21.70		13.60	14.50		14.20	63.80	69.80	-6.45

Table 2a continued. Iatroscan well 6/3-1

Sample no.	Sat.	Mean Sat.	Deviation from mean sat. %	Aro.	Mean Aro.	Deviation from mean aro. %	NSO/asphaltenes	NSO/asphaltenes	Deviation NSO/ asphaltenes %
	24.10		4.32	39.80		0.51	36.00		-3.48
C-2626	21.90	23.10	-5.19	38.90	39.60	-1.77	39.20	37.30	5.09
	23.20		0.43	40.10		1.26	36.80		-1.34
	13.30		0.76	25.60		-9.86	61.10		4.62
C-2639	12.90	13.20	-2.27	30.10	28.40	5.99	57.00	58.40	-2.40
	13.40		1.52	29.40		3.52	57.20		-2.05
	51.40		-2.28	36.10		5.87	12.60		-5.26
C-2655	52.60	52.60	0	32.80	34.10	-3.81	14.60	13.30	9.77
	53.90		2.47	33.50		-1.76	12.60		-5.26
	17.90		-2.72	38.20		-1.80	43.80		2.58
C-2660	17.30	18.40	-5.98	39.10	38.90	0.51	43.70	42.70	2.34
	20.10		9.24	39.30		1.03	40.60		-4.92
	70.80		-1.94	24.00		7.62	5.26		-4.71
C-2665	73.50	72.20	1.80	21.30	22.30	-4.48	5.30	5.52	-3.99
	72.30		0.14	21.70		-2.69	6.00		8.69

Table 2b.

Deviation between MPLC and Iatroscan data (see also figs 6b, c).

IKU No.	Depth (m)	SAT/ARO % MPLC -IATRO.	SAT/EOM Percent deviation from MPLC	ARO/EOM % MPLC -IATRO.	ARO/EOM Percent deviation from MPLC	NON HC/EOM % MPLC -IATRO.	NON HC/EOM Percent deviation from MPLC	SAT/ARO x 100 MPLC -IATRO.	SAT/ARO x 100 Percent deviation from MPLC
C-2655	2895	-15.3	-46.6	-10.6	-51.5	25.9	55.6	4.7	3.0
C-2285	2990.50	-33.4	-87.9	5.5	28.9	27.9	64.9	-330.1	-16.5
C-2286	3000.60	-0.9	-2.5	8.1	52.9	-7.3	-0.15	-272.6	-1.2
C-2287	3010.80	-34.1	-160.0	-6.0	-0.7	40.1	57.4	-131.8	-0.5
C-2288	3012.10	-18.7	-55.7	-7.1	-0.5	25.8	50.2	-12.4	-0.1
C-2290	3025.50	-21.6	-59.8	-5.7	-0.4	27.3	56.6	-39.1	-0.2
C-2291	3035.20	7.3	10.5	-4.7	-0.3	-2.7	-0.2	131.9	30.7

IKU SINTEF-GRUPPEN

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TABLE 5a.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN HEADSPACE

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4/nC4
C 2549	1310	16950	139	155	25		32	17269	319	1.85	******
C 2554	1385	28447	291	212	60	17	26	29027	580	2.00	3.65
C 2559	1460	57828	592	746	319		193	59484	1656	2.78	******
C 2564	1530	51884	482	397	140		143	52903	1019	1.93	******
C 2569	1605	54684	571	476	190	50	189	55970	1286	2.30	3.80
C 2574	1680	23085	821	918	376	142	427	25342	2257	8.91	2.65
C 2579	1755	12512	397	425	174	67	204	13575	1064	7.83	2.61
C 2584	1830	12429	596	536	202	76	187	13839	1410	10.19	2.66
C 2589	1905	15286	612	462	205	67	205	16632	1346	8.09	3.06
C 2594	1980	9696	753	585	228		275	11263	1566	13.91	******
C 2599	2055	33942	2426	1183	350		377	37901	3959	10.44	******
C 2604	2130	4217	676	436	162	43	153	5533	1317	23.79	3.76
C 2609	2205	8281	1134	596	200		163	10211	1930	18.90	******
C 2614	2280	2661	428	333	151	34	59	3607	946	26.24	4.42
C 2619	2355	1542	352	479	201	81	87	2654	1112	41.89	2.49
C 2624	2430	2125	480	802	241	179	97	3826	1701	44.46	1.35
C 2626	2460	4698	1367	3234	968	1269	1420	11536	6837	59.27	0.76
C 2629	2505	1158	630	1962	667	1042	1087	5459	4301	78.79	0.64
C 2631	2535	2844	1776	7068	2655	4109	4820	18452	15607	84.59	0.65
C 2633	2565	1822	1322	6434	3299	4935	7215	17812	15990	89.77	0.67
C 2635	2595	884	599	3215	2075	3348	5999	10121	9237	91.27	0.62
C 2637	2625	1251	486	1930	926	1325	1400	5919	4668	78.86	0.70

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TABLE 5a.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN HEADSPACE

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4/nC4
C 2639	2655	1583	2144	16902	12012	18473	19739	51114	49531	96.90	0.65
C 2641	2685	1223	636	3075	2033	2705	3569	9672	8449	87.36	0.75
C 2643	2715	383	195	1130	778	1287	2579	3773	3389	89.84	0.60
C 2645	2745	649	1446	9187	9148	17185	62897	37615	36966	98.27	0.53
C 2647	2775	408	795	4909	4351	8190	25588	18653	18245	97.81	0.53
C 2649	2805	2569	5580	15498	8252	15486	19482	47385	44816	94.58	0.53
C 2651	2835	1582	2193	9460	3656	7635	12195	24526	22944	93.55	0.48
C 2653	2865	9831	10030	35070	11490	24473	39838	90893	81062	89.18	0.47
C 2655	2895	4469	7915	29510	14551	30198	42574	86642	82174	94.84	0.48
C 2657	2925	7983	7514		6623	12838	13322	34958	26975	77.16	0.52
C 2658	2940	519	456	1902	861	1619	4349	5357	4837	90.30	0.53
C 2659	2955	2769	2424	6119	2604	5720	15489	19635	16867	85.90	0.46
C 2660	2970	1794	3830	4532	825	1651	3022	12632	10838	85.80	0.50
C 2661	2985	6142	4067	6237	952	2371	5538	19768	13626	68.93	0.40
C 2662	3000	1836	1047	1059	126	312	602	4380	2544	58.08	0.40
C 2663	3015	2271	1326	1246	140	413	1515	5396	3125	57.92	0.34
C 2664	3030	1661	636	675	55	156	751	3183	1522	47.81	0.36
C 2665	3045	2348	995	852	78	205	671	4478	2130	47.57	0.38
C 2666	3060	2678	1340	1287	129	375	1586	5808	3130	53.89	0.34
C 2667	3075	573	57	122		13	97	765	192	25.08	0.00
C 2668	3090	501	89	447			251	1037	536	51.69	******
C 2669	3105	955	169	576			155	1700	745	43.84	******

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TABLE 5a.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN HEADSPACE

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4/nC4
C 2670	3120	507	245	745		75		1571	1065	67.74	0.00
C 2671	3135	459	142	527	23	102	215	1254	795	63.39	0.23
C 2672	3150	1149	648	1079	162	455	2096	3494	2345	67.12	0.36
C 2673	3165	683	434	414	90	213	915	1834	1151	62.76	0.42
C 2674	3180	463	315	489	85	185	787	1536	1073	69.86	0.46
C 2675	3195	3430	443	557	134	291	1529	4855	1424	29.34	0.46
C 2676	3210	2693	2256	2126	434	971	3069	8480	5787	68.24	0.45
C 2677	3225	1830	913	913	100	230	573	3986	2156	54.08	0.43
C 2678	3240	373	159	185	26	63	239	805	432	53.67	0.41
C 2679	3255	2007	826	751	68	169	416	3820	1813	47.46	0.40
C 2680	3270	1919	1181	844	91	198	399	4233	2314	54.66	0.46
C 2681	3285	2347	1509	1111	125	300	597	5392	3046	56.48	0.42
C 2682	3300	2863	578	619	39	102	197	4202	1339	31.86	0.38
C 2683	3315	3444	45	224				3712	268	7.23	******
C 2684	3330	422	58	106				586	164	27.97	******
C 2685	3345	276	31	150				458	181	39.61	******
C 2687	3375	1936	85	338		11		2370	434	18.31	0.00
C 2688	3390	2044	90	183	10	20		2347	303	12.89	0.48
C 2689	3405	1747	25	133				1905	158	8.29	******
C 2690	3420	1409	18	95				1522	113	7.43	******
C 2691	3435	464	20	88				572	108	18.89	******
C 2692	3450	1174	19	77				1270	96	7.55	******

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TABLE 5a.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN HEADSPACE

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4/nC4
C 2693	3465	1085	21	59				1164	79	6.82	******
C 2694	3480	284	44	76				404	120	29.71	******
C 2695	3495	120	28	47				195	74	38.20	******
C 2696	3510	750	46	118				913	164	17.92	******
C 2697	3525	1869	40	79				1988	119	5.97	******
C 2698	3540	4943	46	124				5113	170	3.32	******
C 2699	3555	2852	59	185				3097	245	7.90	******
C 2700	3570	621	62	177				859	239	27.80	******

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TABLE 5b.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN OCLUDED

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4/nC4
C 2549	1310	463	42	112	36	26	151	680	216	31.83	1.35
C 2554	1385	1172	68	181	74	38	232	1533	361	23.53	1.95
C 2559	1460	411	47	126	84	41	351	709	298	42.05	2.07
C 2564	1530	662	68	199	101	48	349	1077	415	38.57	2.10
C 2569	1605	750	52	132	75	36	365	1045	295	28.21	2.10
C 2574	1680	182	26	82	61	37	405	389	207	53.13	1.64
C 2579	1755	171	24	74	61	40	551	369	199	53.77	1.53
C 2584	1830	194	40	160	106	67	623	567	372	65.70	1.58
C 2589	1905	361	82	276	164	98	844	981	620	63.22	1.68
C 2594	1980	260	87	374	235	125	969	1081	821	75.97	1.89
C 2599	2055	371	251	922	481	207	1337	2231	1860	83.39	2.33
C 2604	2130	261	146	617	362	148	1024	1534	1274	83.00	2.44
C 2609	2205	358	371	1171	624	237	1406	2761	2404	87.05	2.63
C 2614	2280	192	121	669	516	192	787	1691	1498	88.62	2.69
C 2619	2355	113	59	498	327	205	386	1202	1089	90.59	1.59
C 2624	2430	159	160	1545		826	818	2691	2532	94.10	0.00
C 2626	2460	365	255	3372	1569	3094	7057	8656	8291	95.78	0.51
C 2629	2505	345	327	4490	2261	4893	11612	12316	11970	97.19	0.46
C 2631	2535	299	187	3920	3112	7018	26824	14536	14237	97.94	0.44
C 2633	2565	68	20	329	286	706	3522	1410	1342	95.17	0.41
C 2635	2595	180	34	362	439	1152	13877	2166	1987	91.71	0.38
C 2637	2625	148	50	768	531	1353	4740	2850	2702	94.80	0.39

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TABLE 5b.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN OCLUDED

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4/nC4
C 2639	2655	243	71	1272	2096	5109	41440	8790	8547	97.23	0.41
C 2641	2685	195	57	690	649	1656	10683	3248	3053	94.00	0.39
C 2643	2715	99	17	69	59	153	2004	398	299	75.20	0.38
C 2645	2745	108	22	109	84	265	13103	587	479	81.62	0.32
C 2647	2775	128	22	39	60	170	13322	419	292	69.52	0.35
C 2649	2805	132	67	1044	1190	3071	42283	5503	5372	97.61	0.39
C 2651	2835	99	22	147	141	391	12108	801	702	87.61	0.36
C 2653	2865	137	75	1437	1621	4542	58510	7812	7676	98.25	0.36
C 2655	2895	158	183	3561	2821	8712	80326	15435	15277	98.97	0.32
C 2657	2925	1045	1652	17413	9929	25265	131566	55304	54259	98.11	0.39
C 2658	2940	213	36	327	299	845	16015	1721	1507	87.60	0.35
C 2659	2955	229	82	831	491	1692	17511	3325	3096	93.11	0.29
C 2660	2970	504	2108	9216	1793	5616	10215	19238	18733	97.38	0.32
C 2661	2985	260	39	259	114	447	2341	1118	859	76.77	0.25
C 2662	3000	1146	38	105	23	97	837	1410	264	18.72	0.24
C 2663	3015	802	43	192	54	219	1172	1309	508	38.77	0.25
C 2664	3030	1574	72	215	53	175	1622	2089	515	24.64	0.30
C 2665	3045	422	899	716	88	357	1263	2482	2060	83.01	0.25
C 2666	3060	353	40	94	27	101	989	616	262	42.61	0.27
C 2667	3075	474	56	21			538	552	78	14.07	******
C 2668	3090	1091	120	172			1432	1384	292	21.14	******
C 2669	3105	520	45	172	21	68	456	827	307	37.10	0.31

IKU SINTEF-GRUPPEN

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TABLE 5b.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN OCLUDED

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4/nC4
C 2670	3120	383	41	92	28	49	588	593	210	35.39	0.57
C 2671	3135	333	33	9		37	629	413	80	19.28	0.00
C 2672	3150	653	81	132		179	2443	1044	391	37.49	0.00
C 2673	3165	443	55	85	39	130	2163	751	308	41.05	0.30
C 2674	3180	387	60	269	139	515	5665	1370	983	71.76	0.27
C 2675	3195	213	31	108	33	130	1900	515	302	58.64	0.25
C 2676	3210	146	59	272	90	328	2496	895	749	83.69	0.27
C 2677	3225	237	61	278	81	310	1602	967	730	75.48	0.26
C 2678	3240	392	55	187	63	236	2340	933	540	57.93	0.27
C 2679	3255	396	57	183	57	214	1965	907	510	56.30	0.27
C 2680	3270	289	115	444	124	441	2733	1412	1123	79.53	0.28
C 2681	3285	434	83	329	113	411	3430	1371	937	68.33	0.28
C 2682	3300	411	49	149	34	137	1409	781	370	47.36	0.25
C 2683	3315	416	35	32			172	483	68	14.01	******
C 2684	3330	472	40	39	11		403	562	89	15.92	******
C 2685	3345	390	36	39	8			472	83	17.56	******
C 2686	3360	314	25	31	10			379	65	17.25	******
C 2687	3375	483	46	35	6	47	511	618	134	21.73	0.13
C 2688	3390	254	18	26	9	10	70	316	62	19.66	0.95
C 2689	3405	688	68	96	25		363	877	188	21.47	******
C 2690	3420	559	49	67	24		138	700	140	20.07	******
C 2691	3435	506	50	57	23			636	130	20.43	******

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TABLE 5b.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS IN OCLUDED

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4 ----- nC4
C 2692	3450	386	34	46	15		101	481	94	19.66	******
C 2693	3465	757	78	115	50		177	1000	243	24.33	******
C 2694	3480	528	64	106	49		171	747	219	29.36	******
C 2695	3495	423	35	51	21	20	123	549	127	23.05	1.07
C 2696	3510	509	48	61	21			639	129	20.24	******
C 2697	3525	412	37	57			115	507	94	18.65	******
C 2698	3540	504	56	80	32			672	168	24.97	******
C 2699	3555	522	62	93	38		105	716	194	27.13	******
C 2700	3570	440	48	73	30		99	591	151	25.50	******

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TABLE 5c.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS SUMMATION

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4/nC4
C 2549	1310	17414	181	267	61	26	182	17949	535	2.98	2.31
C 2554	1385	29619	358	394	134	54	258	30560	941	3.08	2.46
C 2559	1460	58238	639	872	403	41	544	60193	1955	3.25	9.87
C 2564	1530	52545	550	596	241	48	492	53980	1434	2.66	5.01
C 2569	1605	55434	623	608	264	86	553	57015	1581	2.77	3.09
C 2574	1680	23267	847	1001	437	179	832	25731	2464	9.58	2.44
C 2579	1755	12683	422	499	235	107	755	13945	1262	9.05	2.21
C 2584	1830	12623	635	696	308	143	810	14406	1782	12.37	2.15
C 2589	1905	15646	694	738	369	165	1049	17613	1966	11.16	2.24
C 2594	1980	9956	840	959	464	125	1244	12344	2388	19.34	3.72
C 2599	2055	34313	2677	2105	831	207	1713	40132	5819	14.50	4.02
C 2604	2130	4478	822	1054	523	191	1177	7068	2590	36.65	2.74
C 2609	2205	8639	1505	1767	825	237	1569	12972	4333	33.40	3.48
C 2614	2280	2853	549	1003	667	226	846	5298	2445	46.15	2.95
C 2619	2355	1655	411	976	528	286	472	3856	2201	57.07	1.84
C 2624	2430	2283	640	2347	241	1005	915	6516	4233	64.96	0.24
C 2626	2460	5063	1622	6607	2537	4363	8477	20191	15128	74.92	0.58
C 2629	2505	1503	957	6452	2928	5935	12699	17775	16271	91.54	0.49
C 2631	2535	3144	1963	10988	5766	11127	31644	32988	29844	90.47	0.52
C 2633	2565	1890	1342	6763	3585	5641	10737	19222	17332	90.17	0.64
C 2635	2595	1063	633	3576	2514	4500	19877	12287	11224	91.35	0.56
C 2637	2625	1400	536	2699	1457	2678	6140	8769	7369	84.04	0.54

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TABLE 5c.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS SUMMATION

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4/nC4
C 2639	2655	1827	2215	18173	14108	23581	61180	59904	58078	96.95	0.60
C 2641	2685	1418	693	3765	2682	4361	14252	12919	11502	89.03	0.62
C 2643	2715	482	212	1199	837	1440	4584	4171	3688	88.44	0.58
C 2645	2745	757	1468	9295	9232	17450	76000	38202	37445	98.02	0.53
C 2647	2775	535	817	4947	4411	8361	38911	19072	18537	97.19	0.53
C 2649	2805	2701	5647	16542	9441	18557	61765	52889	50188	94.89	0.51
C 2651	2835	1681	2215	9607	3797	8026	24303	25327	23646	93.36	0.47
C 2653	2865	9968	10105	36507	13111	29015	98348	98705	88738	89.90	0.45
C 2655	2895	4627	8098	33071	17372	38910	122900	102078	97451	95.47	0.45
C 2657	2925	9028	9165	17413	16553	38103	144888	90262	81234	90.00	0.43
C 2658	2940	733	492	2229	1160	2464	20364	7077	6345	89.65	0.47
C 2659	2955	2998	2506	6950	3095	7412	33000	22961	19963	86.94	0.42
C 2660	2970	2298	5938	13748	2618	7266	13238	31869	29571	92.79	0.36
C 2661	2985	6402	4107	6495	1065	2817	7879	20887	14485	69.35	0.38
C 2662	3000	2982	1085	1165	149	409	1440	5790	2808	48.49	0.36
C 2663	3015	3072	1369	1438	194	631	2687	6705	3633	54.18	0.31
C 2664	3030	3236	707	890	109	330	2372	5272	2037	38.63	0.33
C 2665	3045	2770	1894	1567	167	562	1934	6960	4191	60.21	0.30
C 2666	3060	3031	1379	1381	156	477	2576	6424	3393	52.81	0.33
C 2667	3075	1047	113	144		13	636	1317	269	20.47	0.00
C 2668	3090	1592	209	619			1683	2421	829	34.22	******
C 2669	3105	1475	214	748	21	68	611	2527	1052	41.64	0.31

IKU SINTEF-GRUPPEN

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TABLE 5c.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS SUMMATION

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4 / nC4
C 2670	3120	890	286	837	28	124	588	2164	1274	58.88	0.23
C 2671	3135	793	175	537	23	140	844	1667	875	52.46	0.17
C 2672	3150	1801	729	1211	162	634	4539	4538	2736	60.30	0.26
C 2673	3165	1126	488	499	129	343	3078	2585	1459	56.45	0.38
C 2674	3180	850	375	758	223	700	6452	2906	2056	70.75	0.32
C 2675	3195	3643	474	665	167	421	3428	5370	1727	32.15	0.40
C 2676	3210	2840	2315	2398	524	1299	5564	9376	6536	69.71	0.40
C 2677	3225	2067	974	1191	181	540	2175	4953	2885	58.26	0.34
C 2678	3240	766	213	371	89	299	2578	1738	973	55.96	0.30
C 2679	3255	2404	882	934	125	382	2381	4727	2324	49.15	0.33
C 2680	3270	2208	1295	1288	214	639	3132	5645	3437	60.88	0.34
C 2681	3285	2781	1592	1441	238	712	4028	6763	3983	58.88	0.33
C 2682	3300	3274	628	768	73	239	1605	4983	1708	34.29	0.30
C 2683	3315	3859	80	256			172	4196	336	8.01	******
C 2684	3330	895	98	145	11		403	1148	253	22.07	******
C 2685	3345	666	67	189	8			930	264	28.41	******
C 2686	3360	314	25	31	10			379	65	17.25	******
C 2687	3375	2419	131	373	6	58	511	2988	568	19.02	0.10
C 2688	3390	2298	108	209	19	29	70	2663	365	13.70	0.64
C 2689	3405	2436	92	229	25		363	2782	346	12.44	******
C 2690	3420	1968	67	162	24		138	2221	253	11.41	******
C 2691	3435	970	69	146	23			1208	238	19.70	******

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TABLE 5c.

CONCENTRATION (ul Gas / kg dry Rock) OF C1 - C5+ HYDROCARBONS SUMMATION

IKU no.	DEPTH m	C1	C2	C3	iC4	nC4	C5+	SUM C1-C4	SUM C2-C4	WET-NESS (%)	iC4/nC4
C 2692	3450	1560	53	123	15		101	1751	190	10.88	******
C 2693	3465	1841	99	173	50		177	2164	323	14.91	******
C 2694	3480	812	108	182	49		171	1151	339	29.48	******
C 2695	3495	543	63	98	21	20	123	744	201	27.01	1.07
C 2696	3510	1259	94	179	21			1552	293	18.87	******
C 2697	3525	2281	77	136			115	2495	213	8.55	******
C 2698	3540	5447	102	204	32			5785	338	5.84	******
C 2699	3555	3374	122	279	38		105	3813	439	11.51	******
C 2700	3570	1061	110	249	30		99	1450	389	26.86	******

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
Nordland Gr.			
C-2549	1295-1310		90% Claystone, greenish grey, light brownish grey, to light grey, noncalcareous to slightly calcareous
		6.75	*10% Claystone, dark brownish grey
			Sm.am. Chalk; Pyrite; Oolite; Shell fragments
Hordaland Gr.			
C-2554	1370-1385	1.78	*60% Claystone, greenish grey, light brownish grey, light grey, brownish grey
		6.11	*30% Claystone, black to dark brownish grey, micaceous, noncalcareous
			10% Chalk, white
			Sm.am. ?Chamosite oolite
C-2559	1445-1460	2.56	*50% Claystone, light brownish grey to brownish grey, light grey to light greenish grey
		5.98	*50% Claystone, dark grey to black, occasionally laminated, fissile to sub-fissile, micromicaceous
			Sm.am. Chalk; ?Chamosite oolite
C-2564	1515-1530	2.54	*50% Claystone, light brownish grey to brownish grey, light grey to light greenish grey, micromicaceous
		6.13	*50% Claystone, dark grey to dark brownish grey, micromicaceous, subfissile
			Sm.am. Chalk, ?Chamosite oolite; Shell fragments; Wood fragments
C-2569	1590-1605	2.05	*60% Claystone, light brownish grey to brownish grey, light grey to light greenish grey
		5.68	*40% Claystone, dark grey to dark brownish grey, micromicaceous, subfissile to fissile
			Sm.am. Pyrite; Chalk; Siderite

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

IKU

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2574	1665-1680	1.48	*90% Claystone, light brownish grey to brownish grey, calcareous 10% Casing cement, white to light grey Sm.am. Siderite; Pyrite
C-2579	1740-1755	1.45	*100% Claystone, light brownish grey to brownish grey, calcareous Sm.am. Casing cement; Siderite; Pyrite
C-2584	1815-1830	1.65	*100% Claystone, light brownish grey to brownish grey, calcareous Sm.am. Siderite; Chalk; Tuff
C-2589	1890-1905	1.74	*100% Claystone, brownish grey to light brownish grey, calcareous Sm.am. Siderite; Chalk; Steel
C-2594	1965-1980	2.22 1.44	*60% Claystone, brownish grey to dark brownish grey *40% Claystone, light brownish grey to grey Sm.am. Siderite; Casing cement
C-2599	2040-2055	2.77	*100% Claystone, brownish grey to dark brownish grey Sm.am. Claystone, light brownish grey to grey; Siderite
C-2604	2115-2130	2.81	*80% Claystone, brownish grey to dark brownish grey, pyritic 20% Claystone, greenish grey to grey Sm.am. Pyrite; Siderite; Coal

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

IKU

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2609	2190-2205		60% Claystone, brownish grey to dark brownish grey
		0.89	*40% Claystone, light grey to light greenish (olive) grey, noncalcareous
			Sm.am. Siderite; Chalk; Fossils
C-2614	2265-2280	0.59	*90% Claystone, light grey, light greenish grey
		3.19	*10% Claystone, brownish grey to dark brownish grey
			Sm.am. Siderite
C-2619	2340-2355	0.69	100% Claystone, light grey to light greenish grey
			Sm.am. Claystone, dark brownish grey to brownish grey; Siderite
Hordaland Gr./Balder Fm.			
C-2624	2415-2430	0.49	70% Claystone, light grey to light greenish grey, subfissile or stringy
		2.26	30% Claystone, brownish grey to dark brownish grey
			Sm.am. Claystone, weak reddish grey to reddish brown
Sele Fm.			
C-2626	2445-2460		50% Claystone, light grey to greenish grey
		1.62	50% Claystone, grey, laminated, pyritic, tuffaceous
			Sm.am. Claystone, reddish brown; Claystone, white; Tuff; Siderite; Claystone, dark brownish grey

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

IKU

Lithology and Total Organic Carbon measurements

TABLE NO.: 6.
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2629	2490-2505	1.39	*60% Claystone, grey, laminated pyritic, tuffaceous
		0.48	*40% Claystone, light grey to greenish grey
			Sm.am. Claystone, dark brownish grey; Tuff; Claystone, reddish brown
C-2631	2520-2535	1.13	*60% Claystone, grey, laminated, pyritic, tuffaceous
			30% Claystone, greenish grey
			10% Tuff, laminated, white with closely spaced darker laminae
			Sm.am. Claystone, dark brownish grey; Pyrite
Lista Fm.			
C-2633	2550-2565	1.42	*50% Claystone, grey, laminated, pyritic, tuffaceous
			40% Claystone, greenish grey
			10% Tuff, laminated, white with closely spaced darker laminae
			Sm.am. Claystone, green; Claystone, dark reddish brown; Chalk, white; Siderite
C-2635	2580-2595		50% Claystone, grey, greenish grey, green
			20% Claystone, pale red
			30% Claystone, greyish red to drak greyish red
			Sm.am. Siderite
C-2637	2610-2625	0.54	*60% Claystone, grey, greenish grey, green
			20% Claystone, pale red
		0.32	*20% Claystone, greyish red to dark greyish red
			Sm.am. Siderite; Tuff; Pyrite
Maureen Fm.			
C-2639	2640-2655	0.35	*60% Claystone, grey, greenish grey
			20% Chalk; Limestone, white, hard, brittle
			10% Claystone, greyish red
		1.19	*10% Claystone, dark grey to black

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

IKU

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
Ekofisk Fm./Tor Fm.			
C-2641	2670-2685	0	60% Chalky limestone, white 40% Claystone, grey, greenish grey, brownish grey Sm.am. Claystone, dark grey; Siderite
Tor Fm.			
C-2274	2685.0	0.24	Limestone, chalky, white, blocky, soft, brittle
C-2643	2700-2715		90% Chalky limestone, white 10% Claystone, dark grey, brownish grey, greenish grey Sm.am. Tuff
C-2645	2730-2745	0	100% Chalky limestone, white Sm.am. Claystone, light grey, light greenish grey
C-2647	2760-2775	0.85	90% Chalky limestone, white *10% Claystone, dark grey, dark reddish grey Sm.am. Siderite
C-2649	2790-2805	0	100% Chalky limestone, white Sm.am. Claystone, dark grey, grey
C-2275 swc	2800.0	0.18	Limestone, chalky, white blocky, soft, brittle
C-2651	2820-2835	0	100% Chalky limestone, white Sm.am. Claystone, grey
Hod Fm.			
C-2653	2850-2865	0	100% Chalky limestone, off white Sm.am. Claystone, grey, dark reddish grey

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2655	2880-2895	0.32	*100% Chalky limestone, brownish white Sm.am. Claystone, grey, brownish grey (?Hydrocarbon staining)
C-2276 swc	2895.0	0.32	Limestone, chalky, white, blocky, soft, brittle, some light brown staining
Cromer Knoll Gr.			
C-2657	2910-2925	1.02	*60% Limestone, sandy, light brown, glauconitic
		0.85	*30% Claystone, grey, subfissile 10% Limestone, chalky, white (probably caved) Sm.am. Claystone, dark reddish grey
C-2658	2925-2940	0.76	*50% Claystone, grey occasionally glauconitic
		0.18	*30% Claystone, greyish red, reddish brown, blackish red, very calcareous 10% Limestone, chalky, white
		0.71	*10% Limestone, sandy, light brown, 10% Lignite additive; Coal Sm.am. Steel
C-2659	2940-2955	0.23	*30% Claystone, greyish red, reddish brown, blackish red, very calcareous
		0.36	*20% Limestone, chalky, white
		2.95	*10% Claystone, grey, light grey 40% Lignite additive, Coal Sm.am. Claystone, dark grey

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
Draupne Fm.			
C-2660	2955-2970	0.19	*50% Claystone, greyish red, reddish brown, blackish red, very calcareous
		7.01	*20% Claystone, dark grey, fissile, stringy, micaceous, silty
		0.42	*10% Claystone, grey, greenish grey
			20% Sand, very fine to coarse, angular to subangular
			Sm.am. Claystone, dark grey; Pyrite; Lignite additive
C-2277 swc	2964.0	0.40	Claystone, grey, subfissile, very calcareous
Late/Middle Jurassic Gr.			
C-2283 Core	2969.5	0.22	Clastic rock consisting of angular Clay fragments in the fine to very fine range. The rock bears close similarities with a Tuff and grains could originally have been glass fragments. The rock is rich in pyrite. Faint lamination. Intergranular clay present. Little or no calcite occurs.
Skagerrak Fm.			
C-2284 Core	2981.6	0	Sandstone, medium to coarse, relatively well sorted. Some calcite and silica cement. Intergranular clay present. Faint brown staining. Little or no HC smell. Relatively high porosity.

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2661	2970-2985	0.17	*50% Claystone, greyish red, reddish brown, blackish red
		0.42	*10% Claystone, grey 10% Sand, fine to medium, angular to subangular 10% Claystone, dark grey, fissile, stringy, silty, sandy, calcareous, micaceous 10% Lignite additive, Coal 10% Chalk, white Sm.am. Pyrite
C-2285 Core	2990.5	0.13	Sandstone, medium to coarse, angular to subangular, well sorted. Mainly quartz grains, but feldspar also observed. Some silica and calcite cementing. Some intergranular clay. Weak brown staining.
C-2662	2985-3000		80% Sand, very fine to medium, angular to subangular 10% Claystone, reddish brown, greyish red, blackish red 10% Claystone, grey, strongly contorted due to ?turbine drilling Sm.am. Lignite additive; Limestone, chalky; Claystone, dark grey, fissile, stringy, calcareous, silty, micaceous
C-2286 Core	3000.6	0	Sandstone, fine, angular to subangular, well sorted. Mainly quartz grains, but feldspar and mica common. Pores almost filled by intergranular clay. Well cemented, calcite absent or present only in very small amounts. Faint lamination defined by mica flakes. Low porosity. Faint brown staining.

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2663	3000-3015	0.20 2.21	*30% Claystone, reddish brown, greyish red *10% Claystone, grey, greenish grey 10% Limestone, chalky, white 50% Material strongly affected by turbine drilling Sm.am. Steel; Claystone, dark grey grading to coal
C-2287 Core	3010.8	0.23	Sandstone, fine to very fine, angular to subrounded. Mainly quartz, but feldspar and mica grains also occurs. Moderately cemented, calcite occurs, but not as cementing material. Silica is believed to be main cementing material. Some intergranular clay. Little or no lamination is present. Some brown staining. Moderate porosity.
C-2288	3012.1	0.60	Sandstone, very fine, angular to Core subangular, well sorted. Mainly quartz grains. Some mica present. Clay filling intergranular space. Well cemented. Little calcite present. Low porosity. No staining observed.
C-2289 Core	3015.2	0.30	Sandstone, fine, angular to subangular, well sorted. Mainly quartz grains. Mica common. Clay fills intergranular space. Low porosity. Low calcite content. No staining observed. No smell of HC.

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2664	3015-3030		50% Material strongly affected by turbine drilling 50% Lignite additive/Coal Sm.am. Claystone, grey, brownish grey; Chalk, white, pink
C-2290 Core	3025.5	0.43	Sandstone, fine to very fine, angular to subangular. Laminated with mica defining the laminae. Mainly quartz grains, but feldspar and mica occurs. Local bioturbation. Mainly silica cementation. Only small amounts of intergranular clay present. No staining.
C-2291 Core	3035.2	0.38	Sandstone, coarse grained, with local medium grained bands, well sorted, angular. No subangular grains. Mainly quartz, but feldspar common. Some intergranular clay. Mainly silica cement, but locally calcite occurs. Brown staining. Smell of HC.
C-2292 Core	3038.9	0	Sandstone, very fine to fine, angular to subangular, moderately sorted. Contains quartz feldspar and mica. Faint and discontinuous lamination. Some intergranular clay. Mainly silica cement. No staining. No HC smell.
C-2665	3030-3045	0.65	*70% Claystone, reddish brown, greyish red, occasionally silty, sandy 20% Claystone, grey, greenish grey 10% Lignite additive/Coal Sm.am. Claystone, dark grey; Steel; Sand

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2293 Core	3042.2	0	Sandstone, very fine to fine, angular to subangular, moderately to well sorted. Mainly quartz but also contains feldspar and mica. Some intergranular clay. Faint lamination. Mainly silica cemented. Relatively low porosity. Local staining along a couple of laminae. No smell.
C-2666	3045-3060		30% Claystone, reddish brown, greyish red, occasionally silty, sandy
		0.96	*30% Claystone, grey, greenish grey
			10% Sand, fine
			30% Lignite additive/Coal
			Sm.am. Material affected by turbine drilling; chalky Limestone, white; Steel
C-2294 Core	3050.0	0	Sandstone, fine to medium, mainly angular grains, moderately sorted. Faint discontinuous laminae. Mainly quartz grains, but feldspar grains occur. Some intergranular clay. Well cemented, with silicate as main cementing material, although some calcite occurs. Porosity is moderate to low. No staining. No smell.
C-2667	3060-3075		60% Lignite additive/Coal
			40% Material strongly affected by turbine drilling
			Sm.am. Chalk, white; Claystone, reddish brown, greyish red; Sand

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

IKU

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2295 Core	3069.5	0.16	Sandstone, fine to medium, moderately to well sorted, angular to subangular. Mainly quartz, but with some feldspar and mica. Well cemented with calcite as cementing material. Faint lamination. Some pockets with very fine grained sandstone. Some plant fragments. Moderate porosity. No staining.
C-2668	3075-3090		80% Lignite additive/Coal 20% Material strongly affected by turbine drilling Sm.am. Claystone, reddish brown; Claystone, grey; Sand; Chalk, white; Claystone, dark grey grading to coal
C-2296	3089.2	0	Sandstone, fine to medium, moderately Core sorted, angular to subangular. Faint lamination. Mainly quartz, but feldspar and mica (muscovite and chlorite) is present. Calcite and silica cemented. Faint lamination/bedding. Some plant fragments present. Moderate porosity. No staining.
C-2669	3090-3105		60% Lignite additive/Coal 40% Material strongly affected by turbine drilling Sm.am. Claystone, grey, greenish grey; Siderite; Claystone, reddish brown; Chalk, white; Sand

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

IKU

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2670	3105-3120	0.31	*70% Sand, fine to medium, angular to subangular 10% Coal/Lignite additive 10% Claystone, reddish brown, reddish grey 10% Material, strongly affected by turbine drilling Sm.am. Claystone, grey
C-2297	3115.5	0	Sandstone, fine to very fine, moderately sorted. Angular to subangular. Mainly silica but some patchy calcite cement. Grains are mainly quartz, but some feldspar and mica present. Low porosity. No staining.
C-2671	3120-3135		70% Sand, fine to medium, angular to subangular 20% Claystone, reddish brown, greyish red Sm.am. Coal/Lignite additive; Chalk, purple white; Claystone, grey; Pyrite
C-2278 swc	3136.0	0.20	Claystone, reddish brown, silty, micaceous. No planar structure observed.
C-2672	3135-3150	0.20	*80% Claystone, reddish brown, greyish red 10% Sand, fine to medium 10% Coal/Lignite additive Sm.am. Claystone, grey
C-2673	3150-3165	0.21	*70% Sandstone/Sand, fine to coarse, moderately cemented, calcite cement 10% Claystone, reddish brown, greyish red 10% Coal/Lignite additive Sm.am. Casing cement

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2674	3165-3180	0.17	*80% Sand/Sandstone, fine to coarse, angular to subangular, moderately cemented (some brown staining) 10% Claystone, reddish brown, greyish red 10% Coal/Lignite additive Sm.am. Claystone, grey, greenish grey; Casing cement; Pyrite; Steel
C-2675	3180-3195	0 0 0.61	50% Claystone, reddish brown, greyish red 30% Sand, fine to medium *10% Claystone, grey, greenish grey 10% Coal/Lignite additive Sm.am. Steel
C-2676	3195-3210	0.26	60% Claystone, reddish brown, brownish grey *20% Sandstone, fine to medium, angular to subangular, some brown staining 10% Claystone, grey, greenish grey 10% Coal/Lignite additive Sm.am. Chalk, white
C-2677	3210-3225	0	70% Sandstone/Sand, fine to coarse, moderately cemented 20% Claystone, reddish brown, greyish red 10% Coal/Lignite additive Sm.am. Claystone, grey, greenish grey; Claystone, dark grey; sandy limestone
C-2678	3225-3240		90% Sandstone/Sand, fine to coarse 10% Coal/Lignite additive Sm.am. Claystone, greyish red, red, reddish brown; Claystone, grey; Chalk

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2279 swc	3240.0	0.14	Sandstone, very fine to fine, well cemented, rich in intergranular clay.
C-2679	3240-3255	0	80% Sandstone/Sand, fine to coarse, angular to subangular, moderately sorted 10% Claystone, reddish brown, greyish red 10% Coal/Lignite additive Sm.am. Chalk, white
C-2680	3255-3270	0.16	*60% Claystone, reddish brown, greyish red 30% Sand/Sandstone, fine
		0.60	*10% Claystone, grey Sm.am. Claystone, dark grey grading to black
C-2681	3270-3285		50% Claystone, reddish brown, greyish red 40% Sand/Sandstone, fine 10% Coal/Lignite additive Sm.am. Chalk, white
C-2682	3285-3300	0.24	*40% Claystone, reddish brown, greyish red 40% Sand/Sandstone, fine, angular to subangular 20% Coal/Lignite additive Sm.am. Claystone, grey, greenish grey; Claystone, dark grey
C-2683	3300-3315	0	80% Sand/Sandstone, very fine to fine 10% Claystone, reddish brown to greyish red 10% Coal/Lignite additive Sm.am. Chalk, white

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2684	3315-3330		90% Sand, very fine to coarse, angular to subangular 10% Coal/Lignite additive Sm.am. Claystone, reddish brown, reddish grey; Chalk, white, pink
C-2280 swc	3333.5	0	Claystone, reddish brown, interbedded with Sandstone, very fine to Siltstone, light greyish red to white.
C-2685	3330-3345	0	70% Sand/Sandstone, fine, well sorted,angular to subrounded 20% Coal/Lignite additive 10% Claystone, reddish brown, reddish grey Sm.am. Claystone, grey, greenish grey
C-2686	3345-3360		70% Sand/Sandstone, very fine to fine 20% Coal/Lignite additive 10% Claystone, reddish brown, greyish red Sm.am. Limestone, white, brownish white; Claystone, grey, greenish grey; Chalk, white
C-2687	3360-3375	0 0.20	80% Sand/Sandstone, very fine to fine, angular to subangular *10% Limestone, white, brownish white 10% Claystone, reddish brown, greyish red Sm.am. Coal/Lignite additive; Claystone, greenish grey, brownish grey, grey; Chalk, white

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

IKU

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2688	3375-3390		50% Sand/Sandstone, very fine to fine, moderately to well cemented, calcite cement
		0	40% Claystone, reddish brown, greyish red
			10% Coal/Lignite additive
			Sm.am. Claystone, greenish grey, brownish grey
C-2689	3390-3405	0	80% Sand/Sandstone, fine to coarse, poorly cemented
			10% Claystone, reddish brown, greyish red
			10% Coal/Lignite additive
			Sm.am. Claystone, grey, greenish grey; Chalk, white; Pyrite
C-2690	3405-3420		80% Sand/Sandstone, fine to coarse, angular to subangular, moderately to poorly cemented
			20% Coal/Lignite additive
			Sm.am. Claystone, grey, greenish grey; Claystone, reddish brown, greyish red; Chalk, white
C-2691	3420-3435		90% Sand/Sandstone, fine to very coarse angular to subrounded
			10% Coal/Lignite additive
			Sm.am. Claystone, reddish brown, greyish red; Claystone, grey, greenish grey
C-2692	3435-3450		90% Sand/Sandstone, fine to coarse, angular to subrounded
			10% Coal/Lignite additive
			Sm.am. Claystone, reddish brown, greyish red
C-2693	3450-3465		80% Sand/Sandstone, fine to very coarse
			20% Coal/Lignite additive
			Sm.am. Chalk, white

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

IKU

Lithology and Total Organic Carbon measurements

TABLE NO.: 6.
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2281 swc	3465.5	0	Sandstone, very fine, with abundant clay matrix. Laminated. Calcareous.
C-2694	3465-3480		80% Sand/Sandstone, fine to coarse 20% Coal/Lignite additive Sm.am. Claystone, reddish brown, greyish red; Chalk, white; Claystone, grey, greenish grey
C-2695	3480-3495	0	90% Sand/Sandstone, fine to very coarse, angular to subrounded 10% Coal/Lignite additive Sm.am. Claystone, reddish brown, greyish red; Pyrite
C-2696	3495-3510		80% Sand/Sandstone, fine to coarse 20% Coal/Lignite additive Sm.am. Claystone, reddish brown, greyish red; Claystone, grey, greenish grey; Pyrite
C-2697	3510-3525	0	60% Sand/Sandstone, fine to coarse 30% Coal/Lignite additive 10% Claystone, reddish brown, greyish red Sm.am. Claystone, grey, greenish grey, brownish grey; Pyrite
C-2698	3525-3540		60% Coal/Lignite additive 40% Sand/Sandstone, very fine to fine Sm.am. Claystone, grey, greenish grey

CUTTINGS, SIDEWALL CORES AND CORE CHIPS

IKU

Lithology and Total Organic Carbon measurements

TABLE NO.: 6
WELL NO.: 6/3-1

Sample	Depth (m)	TOC	Lithology
C-2699	3540-3555		70% Coal/Lignite additive
		0	30% Sand/Sandstone, very fine, occasionally fine with reddish brown coal
			Sm.am. Claystone, reddish brown, greyish red; Claystone, grey, greenish grey; Pyrite
C-2282 swc	3560.0	0	Sandstone, very fine white, with abundant clay matrix. Laminated. Calcareous.
C-2700	3555-3570		50% Coal/Lignite additive
			40% Sandstone, fine to medium with brown or reddish brown coating
		0.17	*10% Claystone, reddish brown, greyish red
			Sm.am. Claystone, grey, greenish grey; Chalk, white; Calcite, white

TABLE 7.

D A T A F R O M R O C K E V A L P Y R O L Y S I S

Well 6/3-1

IKU No.	DEPTH m/ft	S1 (mg/g ROCK)	S2 (mg/g ROCK)	S3 (mg/g ROCK)	TOC (%)	HYDR. INDEX (mg/g TOC)	OXYGEN INDEX (mg/g TOC)	PETROLEUM POTENTIAL S1+S2	PROD. INDEX S1/(S1+S2)	TEMP. MAX (C)
C 2549	1310	0.53	9.72	7.88	6.75	144	117	10.25	0.05	423
		Clst dk brn gy								
C 2554	1385	0.53	8.67	6.19	6.11	142	101	9.20	0.06	426
		Clst blk dk brn gy								
C 2554	1385	0.42	2.04	3.11	1.78	115	175	2.46	0.17	428
		Clst gnsh gy								
C 2559	1460	0.39	3.41	3.41	2.56	133	133	3.80	0.10	423
		Clst lt brn gy								
C 2559	1460	0.53	8.07	6.57	5.98	135	110	8.60	0.06	424
		Clst dk gy blk								
C 2564	1530	0.43	8.36	7.31	6.13	136	119	8.79	0.05	428
		Clst dk gy								
C 2564	1530	0.32	4.07	3.88	2.54	160	153	4.39	0.07	427
		Clst lt brn gy								
C 2569	1605	0.46	7.95	7.51	5.68	140	132	8.41	0.05	424
		Clst dk gy								
C 2569	1605	0.32	3.03	3.73	2.05	148	182	3.35	0.10	425
		Clst lt brn gy								
C 2574	1680	0.14	1.34	4.42	1.48	91	299	1.48	0.09	427
		Clst lt brn gy								
C 2579	1755	0.14	1.36	3.17	1.45	94	219	1.50	0.09	431
		Clst lt brn gy								
C 2584	1830	0.15	1.82	2.70	1.65	110	164	1.97	0.08	430
		Clst lt brn gy								
C 2589	1905	0.16	1.73	2.49	1.74	99	143	1.89	0.08	430
		Clst brn gy								
C 2594	1980	0.24	3.26	3.78	2.22	147	170	3.50	0.07	429
		Clst brn gy								
C 2594	1980	0.13	1.74	2.67	1.44	121	185	1.87	0.07	(426)
		Clst lt brn gy								
C 2599	2055	0.20	5.46	2.05	2.77	197	74	5.66	0.04	432
		Clst brn gy								
C 2604	2130	0.16	4.22	2.04	2.81	150	73	4.38	0.04	434
		Clst brn gy								
C 2609	2205	0.21	5.20	1.94	3.34	156	58	5.41	0.04	431
		Clst brn gy								
C 2609	2205	0.14	0.65	1.94	0.89	73	218	0.79	0.18	(425)
		Clst lt gy gnsh gy								
C 2614	2280	0.06	0.25	2.04	0.59	42	346	0.31	0.19	(424)
		Clst lt gnsh gy lt gy								
C 2614	2280	0.16	4.15	2.48	3.19	130	78	4.31	0.04	435
		Clst brn gy								
C 2619	2355	0.11	0.35	1.57	0.69	51	228	0.46	0.24	(424)
		Clst lt gy gnsh gy								
C 2624	2430	0.20	2.34	1.56	2.26	104	69	2.54	0.08	438
		Clst brn gy								

TABLE 7.

D A T A F R O M R O C K E V A L P Y R O L Y S I S

IKU No.	DEPTH m/ft	S1	S2	S3	TOC (%)	HYDR. INDEX	OXYGEN INDEX	PETROLEUM POTENTIAL	PROD. INDEX S1/(S1+S2)	TEMP. MAX (C)
		(mg/g ROCK)				(mg/g TOC)		S1+S2		
C 2626	2460	0.33	3.82	0.49	1.62	236	30	4.15	0.08	422
		Clst gy								
C 2629	2505	0.23	1.98	0.97	1.39	142	70	2.21	0.10	430
		Clst gy								
C 2631	2535	0.25	1.56	1.08	1.13	138	96	1.81	0.14	430
		Clst gy								
C 2633	2565	0.23	2.31	1.07	1.42	163	75	2.54	0.09	431
		Clst gy								
C 2637	2635	0.08	0.25	1.15	0.54	46	213	0.33	0.24	(426)
		Clst gy gnsh gy								
C 2639	2655	0.22	0.71	1.35	1.19	60	113	0.93	0.24	434
		Clst dk gy blk								
C 2639	2655	0.13	0.10	0.89	0.35	29	254	0.23	0.57	***
		Clst gy gnsh gy								
C 2274	2685	0.21	0.17	1.32	0.24	71	550	0.38	0.55	(401)
		SWC Lst chk wh								
C 2647	2775	0.16	0.47	1.31	0.85	55	154	0.63	0.25	(425)
		Clst dk gy								
C 2275	2800	0.21	0.04	1.01	0.18	22	561	0.25	0.84	445
		SWC Lst chk wh								
C 2655	2895	1.09	0.49	1.02	0.32	153	319	1.58	0.69	***
		Chk lst brn wh								
C 2655	2895	0.14	0.16	1.25	0.20	80	625	0.30	0.47	426
		Extracted lst								
C 2657	2925	6.13	2.69	2.10	1.02	264	206	8.82	0.70	(408)
		Ls sdy lt brn								
C 2657	2925	1.14	0.68	1.79	0.85	80	211	1.82	0.63	428
		Clst gy								
C 2657	2925	0.16	0.30	0.71	0.24	125	296	0.46	0.35	432
		Extracted lst								
C 2658	2940	0.77	0.65	4.17	0.71	92	587	1.42	0.54	***
		Ls sdy lt brn								
C 2658	2940	0.25	0.39	1.98	0.76	51	261	0.64	0.39	430
		Clst gy								
C 2659	2955	0.93	5.17	5.51	2.95	175	187	6.10	0.15	435
		Clst gy lt gy								
C 2283	2969.50	0.11	0.06	1.40	0.22	27	636	0.17	0.65	***
		Core tuff?								
C 2660	2970	1.74	16.58	1.44	7.01	237	21	18.32	0.09	435
		Clst dk gy								
C 2661	2985	0.12	0.06	1.27	0.42	14	302	0.18	0.67	***
		Clst gy								
C 2285	2990.50	0.29	0.10	0.36	0.13	77	277	0.39	0.74	***
		Core Sst								
C 2287	3010.80	0.45	0.21	0.33	0.23	91	143	0.66	0.68	***
		Core Sst								

TABLE 7.

D A T A F R O M R O C K E V A L P Y R O L Y S I S

IKU No.	DEPTH m/ft	S1 (mg/g ROCK)	S2 (mg/g ROCK)	S3 (mg/g ROCK)	TOC (%)	HYDR. INDEX (mg/g TOC)	OXYGEN INDEX (mg/g TOC)	PETROLEUM POTENTIAL S1+S2	PROD. INDEX S1/(S1+S2)	TEMP. MAX (C)
C 2288	3012.10	1.02	1.07	0.53	0.60	178	88	2.09	0.49	450
		Core Sst								
C 2663	3015	0.52	3.99	2.21	2.21	181	100	4.51	0.12	439
		Clst gy gnsh gy								
C 2289	3015.20	1.34	0.53	0.37	0.30	177	123	1.87	0.72	***
		Core Sst								
C 2290	3025.50	0.38	0.21	0.90	0.43	49	209	0.59	0.64	***
		Core Sst								
C 2291	3035.20	3.35	0.71	0.41	0.38	187	108	4.06	0.83	***
		Core Sst								
C 2665	3045	2.15	1.33	2.34	0.65	205	360	3.48	0.62	***
		Clst redsh brn								
C 2666	3060	0.30	1.07	2.47	0.96	111	257	1.37	0.22	436
		Clst gy gnsh gy								
C 2295	3069.50	0.09	0.03	0.33	0.16	19	206	0.12	0.75	411
		Core Sst								
C 2675	3195	0.11	0.29	1.34	0.61	48	220	0.40	0.28	(437)
		Clst gy gnsh gy								
C 2680	3270	0.20	0.16	1.35	0.60	27	225	0.36	0.56	(438)
		Clst gy								
C 2687	3375	0.16	0.09	0.92	0.20	45	460	0.25	0.64	400
		Lst wh brn wh								

DATE : 2 - 12 - 85.

IKU

Visual Kerogen Analysis

TABLE NO.: 8.
WELL NO.: 6/3-1

Sample	Depth (m)	Composition of residue	Particle size	Preservation palynomorphs	Thermal maturation index	Remarks
C-2549	1295-1310	Algal(30%),Am(30%),W(20%) P,Cy	F-M	fair to good	1+	Dense, pyritic aggregates of degraded material embed and obscure particulate organic matter.
C-2559	1445-1460	Algal(30%),Am(30%),W(20%) P,Cy	F-M	fair to good	1+	As for C-2549.
C-2564	1515-1530	Algal(25%),Am(30%),W(25%) WR!,P	F-M	fair to good	1+	Partly aggregates as for C-2549 and C-2559. But also (?indigenous) more greyish, less dense aggregates. Probably mixture of two lithologies.
C-2574	1665-1680	Algal(30%),A(30%)W(20%) Cy(10%),P,WR!	F-M	variable	1/1+	Fluffy aggregates. Varied cyst assemblage. Granular (degraded) material stick to cyst surfaces. Some minerals.

ABBREVATIONS

Am	Amorphous	Cy	Cysts, algae	W	Woody material	F	Fine
He	Herbaceous	P	Pollen grains	C	Coal	M	Medium
Cut	Cuticles	S	Spores	R!	Reworked	L	Large

IKU

Visual Kerogen Analysis

TABLE NO.: 8.
WELL NO.: 6/3-1

Sample	Depth (m)	Composition of residue	Particle size	Preservation palynomorphs	Thermal maturation index	Remarks
C-2599	2040-2055	Algal(35%),Am(35%),W(25%) P,Cy	F-M	poor to fair	1/1+	Resemblance with C-2574 but strongly (bio)degraded thinwalled remains.
C-2609	2190-2205	Algal(35%),Am(35%),W(25%) P,Cy,WR!	F-M	variable	1+	Resemblance with C-2574 and C-2599. Acid insoluble minerals remain abundant.
C-2619 (black)	2340-2355	*Algal(35%),Am(35%), W(20%),Cy,P	F-M	fair to good	1+,1+/2-,2-	*Small residue. Opaque minerals (in part pyrite) very abundant. Mostly loose aggregates also embed minerals. Some staining.
C-2624	2415-2430	Algal(35%),Am(25%),W(25%) Cy,P	F-M	fair to good	1+,1+/2-	Aggregates and disperse fine material.

ABBREVATIONS

Am	Amorphous	Cy	Cysts, algae	W	Woody material	F	Fine
He	Herbaceous	P	Pollen grains	C	Coal	M	Medium
Cut	Cuticles	S	Spores	R!	Reworked	L	Large

IKU

Visual Kerogen Analysis

TABLE NO.: 8.
WELL NO.: 6/3-1

Sample	Depth (m)	Composition of residue	Particle size	Preservation palynomorphs	Thermal maturation index	Remarks
C-2626	2445-2460	*Am(40%),W(20%),WR!,(5%) Cy,P(5%)	F-M	Variable	1/1+,1+/2-	Pyrite framboids very abundant loose aggregates of organic/inorganic and darker more vividly coloured aggregates. Tertiary pollen very abundant. Variably coloured structured wood fragments. Some staining of pollen.
C-2629	2490-2505	*Am(40%),W(25%),WR!(5%) Cy(5%),P+S(10%)	F-M-L	fair to good	1/1+,1+/2-	As for C-2626.
C-2633	2550-2565	Am(40%),W(30%),WR!(10%) Cy(5%),P+S(10%)	F-M-L	fair to good	1/1+	As for C-2626. Larger proportion of structured woody material.

ABBREVATIONS

Am	Amorphous	Cy	Cysts, algae	W	Woody material	F	Fine
He	Herbaceous	P	Pollen grains	C	Coal	M	Medium
Cut	Cuticles	S	Spores	R!	Reworked	L	Large

IKU

Visual Kerogen Analysis

TABLE NO.: 8.
WELL NO.: 6/3-1

Sample	Depth (m)	Composition of residue	Particle size	Preservation palynomorphs	Thermal maturation index	Remarks
C-2637	2610-2635	*Am(50%),W(20%),WR!(10%) Cy(5%),P	F-M	good		*Aggregates dominantly of inorganic substance with strongly degraded organic remains. Dark angular woody material and structured remains (tracheids).
C-2639	2640-2655	*Am(50%),W(30%),WR!(20%) Algal,Cy,P,S	F-M	variable	2-,1+/2-,2	*Aggregates of inorganic/organic substance. Well preserved varied cystassemblage. Pollen partly stained. Two lithologies mixed??
C-2647	2760-2675	*Am(40%),W(20%),WR!(30%) Cy,P,S	F-M-L	variable	1+/2-,2-/2	Structured (oxidized) woodfr.

ABBREVATIONS

Am	Amorphous	Cy	Cysts, algae	W	Woody material	F	Fine
He	Herbaceous	P	Pollen grains	C	Coal	M	Medium
Cut	Cuticles	S	Spores	RI	Reworked	L	Large

IKU

Visual Kerogen Analysis

TABLE NO.: 8.
WELL NO.: 6/3-1

Sample	Depth (m)	Composition of residue	Particle size	Preservation palynomorphs	Thermal maturation index	Remarks
C-2275	2800 swc	*Am,Cy,P	F	poor	2	*Very small residue, sieved. Mostly degraded, amorphous indeterminate material. Palynomorphs are very rare.
C-2276	2895 swc	*Am,Cy,P	F	poor	2	*As for C-2275.
C-2657	2925 s.lmst.brn	?Algal(70%),Am(25%),W(5%)	F	-	N.D.P.	Aggregates of a degraded material as above but embedding small globules showing strong light refraction. Palynomorphs were not observed.

ABBREVATIONS

Am	Amorphous	Cy	Cysts, algae	W	Woody material	F	Fine
He	Herbaceous	P	Pollen grains	C	Coal	M	Medium
Cut	Cuticles	S	Spores	Rl	Reworked	L	Large

IKU

Visual Kerogen Analysis

TABLE NO.: 8.
WELL NO.: 6/3-1

Sample	Depth (m)	Composition of residue	Particle size	Preservation palynomorphs	Thermal maturation index	Remarks
C-2659	2940-2955	*Am,W,WR!	F	variable	1+,1+/2-	*As for C-2275, relatively more of woody particles in sieved residues. Palynomorph walls partly have dissolved structures and a grey dull appearance.
C-2660	2955-2970 gy-greenish gy	*Am(40%),WR!(50%),W,Cy,P	F	fair to good	1+/2-	*Small residue. Dark wood, fragments and grey etched structured wood. Darkly stained cysts (Cretaceous/Jurassic).
C-2660	2955-2970	*Am,Algal,W,P,Cy	F-M	fair to poor	1+	*Sieved residue. Laminated, sheetlike coherent aggregates embed woody material, algal bodies and palynomorphs.

ABBREVATIONS

Am	Amorphous	Cy	Cysts, algae	W	Woody material	F	Fine
He	Herbaceous	P	Pollen grains	C	Coal	M	Medium
Cut	Cuticles	S	Spores	R!	Reworked	L	Large

IKU

Visual Kerogen Analysis

TABLE NO.: 8.
WELL NO.: 6/3-1

Sample	Depth (m)	Composition of residue	Particle size	Preservation palynomorphs	Thermal maturation index	Remarks
C-2277	2964 swc	*Am,W	F	-	-	*Small residue dominated by amorphous (very fine material) with some dark woody fragments (coarse).
C-2661	2970-2985	*Am,Algal,W,WR!,P	F-M	fair to poor	1+	Small residue. Grey amorphous aggregates and fine material. Denser aggregates may be caved in from high levels.
C-2663	3000-3015	*(Am),W,WR!,P	F(M)	fair	2	As C-2661 but relatively more of particulate matter remain after screening and includes woody material as well as minerals.

ABBREVATIONS

Am	Amorphous	Cy	Cysts, algae	W	Woody material	F	Fine
He	Herbaceous	P	Pollen grains	C	Coal	M	Medium
Cut	Cuticles	S	Spores	R!	Reworked	L	Large

IKU

Visual Kerogen Analysis

TABLE NO.: 8.
WELL NO.: 6/3-1

Sample	Depth (m)	Composition of residue	Particle size	Preservation palynomorphs	Thermal maturation index	Remarks
C-2665	3030-3045	*W	F(M)	-	-	*Sieved very small residue. Some dark (opaque) fragments dissolved in glycerine jelly and represent additives.
C-2666	3045-3060 clsst. brn.	*WR!,Am	F(M)	-	-	*Sieved very small residue with mica.
C-2666	3045-3060 gy.grn.gy.	*W,WR!	F(M)	-	-	*Sieved very small residue with mica and other minerals. Additives were not observed.

ABBREVATIONS

Am	Amorphous	Cy	Cysts, algae	W	Woody material	F	Fine
He	Herbaceous	P	Pollen grains	C	Coal	M	Medium
Cut	Cuticles	S	Spores	R!	Reworked	L	Large

Well Identification:6/3-1
Reference number:22.1808
(1/2)

Table 9.

VITRINITE REFLECTANCE DATA

IKU NO	LOCATION	DEPTH (M)	VITRINITE REFLECTANCE	PP	STANDARD DEVIATION	FLUORESCENCE
C 2549	----	1310	0.31 (20)*	Y	0.06	1-2
C 2554	----	1385	0.28 (19)*	Y	0.05	2-3
C 2559	----	1460	0.32 (20)*	Y	0.04	3
C 2564	----	1530	0.31 (18)*	Y	0.05	1-3
C 2569	----	1605	0.33 (20)*	Y	0.06	3-4
C 2579	----	1755	0.85 (2)	N	0.01	3-5
C 2599	----	2055	0.27 (10)	N	0.04	4-5
			0.53 (2)	N	0.04	
C 2604	----	2130	0.34 (8)	Y	0.05	4-6
			0.84 (1)	N	0.00	
C 2609	----	2205	0.44 (1)	Y	0.00	4-6
			0.86 (6)	N	0.18	
			1.34 (4)	N	0.04	
C 2614	----	2280	0.42 (14)B?	Y	0.09	5-6
			0.98 (4)	N	0.11	
C 2626	----	2460	0.46 (3)	Y	0.02	4-5
			0.81 (14)	N	0.16	
			1.30 (1)	N	0.00	
C 2631	----	2535	0.36 (3)	Y	0.02	5?
			0.69 (6)	N	0.05	
			1.00 (4)	N	0.12	
C 2633	----	2565	0.56 (18)R?	Y	0.07	6?
			0.23 (1)	N	0.00	
			0.95 (1)	N	0.00	
C 2637	----	2635	N.D.P.	-	----	3-4?
C 2639	----	2655	0.46 (4)	Y	0.04	4-6
			0.33 (5)	N	0.03	
			0.71 (4)	N	0.09	
C 2658	----	2950	1.79 (5)	N	0.34	?

*=Readings are reasonably representative
R=This principal population contains reworked material
N.D.P.=No determination possible
B=Average reflectance value may be slightly low due to bitumen staining or poor preservation.

Well Identification:6/3-1
Reference number:22.1808
(2/2)

Table 9.

VITRINITE REFLECTANCE DATA

IKU NO	LOCATION	DEPTH (M)	VITRINITE REFLECTANCE	PP	STANDARD DEVIATION	FLUORESCENCE
C 2660	----	2970	0.52 (10)*?	Y	0.07	4-5
			0.27 (2)	N	0.07	
			0.78 (7)	N	0.08	
C 2277 (SWC)	----	2964	0.71 (6)	N	0.21	5?
C 2661	----	2985	0.21 (1)	N	0.00	3-6
			1.04 (2)	N	0.23	
			1.73 (5)	N	0.11	
C 2663	----	3015	1.32 (2)	N	0.12	4??
			1.89 (4)	N	0.07	
C 2664	----	3030	0.59 (30)*?	Y	0.11	5-7
C 2665	----	3045	N.D.P.	-	----	3-4??
C 2665C	----	3045	0.48 (17)B?	Y	0.08	4-7
			0.68 (4)	N	0.01	
			0.88 (8)	N	0.07	
C 2666	----	3060	0.54 (13)B?	Y	0.08	3-4??
			0.95 (7)	N	0.13	
C 2666C	----	3060	0.52 (20)B?	Y	0.10	4-6

*=Readings are reasonably representative
R=This principal population contains reworked material
N.D.P.=No determination possible
B=Average reflectance value may be slightly low due to bitumen staining or poor preservation.

Table 10a. Well 6/3-1. Stable carbon isotopes

Sample no.	Depth (m)	δ^{13}EOM	δ^{13}C SAT	δ^{13}C ARO	CV
C-2285	2990.5	-28.8	-	-	-
C-2286	3000.6	-28.8	-29.1	-28.1	-0.41
C-2288	3012.1	-28.7	-29.1	-28.1	-0.41
C-2290	3025.5	-28.7	-28.9	-	-
C-2291	3035.2	-28.7	-29.0	-28.3	-1.11
C-2626	2445-2460	-28.5	-	-	-
C-2655	2880-2895	-29.1	-29.4	-28.8	-1.20
C-2665	3030-3045	-27.4	-28.4	-27.1	-2.49
C-2298	DST 1	-28.7	-29.1	-28.2	-0.63
C-2299	DST 2	-28.8	-29.0	-27.7	-0.23

CV - canonical variable (Z. Sofer, 1984)

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 19 - 2 - 86.

T A B L E : 10b.

CONCENTRATION OF EOM AND CHROMATOGRAPHIC FRACTIONS

MPLC DATA

IKU-No	DEPTH (m)	Rock Extr. (g)	EOM (mg)	Sat. (mg)	Aro. (mg)	HC (mg)	Non HC (mg)	TOC (%)
C 2655	2895	13.4	32.6	10.7	6.7	17.4	15.2	0.39
C 2285	2990.50	20.4	10.1	3.8	1.9	5.7	4.4	0.13
C 2286	3000.60	12.6	9.4	3.4	1.4	4.8	4.6	0.06
C 2287	3010.80	15.1	27.0	5.8	2.4	8.2	18.8	0.20
C 2288	3012.10	19.7	23.2	7.8	3.5	11.3	11.9	0.60
C 2290	3025.50	19.9	16.6	6.0	2.6	8.6	8.0	0.43
C 2291	3035.20	17.6	94.3	65.3	15.2	80.5	13.8	0.45

IKU SINTEF-GRUPPEN

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 19 - 2 - 86.

TABLE : 10b.

CONCENTRATION OF EOM AND CHROMATOGRAPHIC FRACTIONS

IATROSCAN DATA

IKU-No	DEPTH (m)	Rock Extr. (g)	EOM (mg)	Sat. (mg)	Aro. (mg)	HC (mg)	Non HC (mg)	TOC (%)
C 2626	2460	7.1	9.2	1.6	2.8	4.4	4.7	1.87
C 2639	2655	4.2	3.5	0.4	0.8	1.1	2.4	1.54
C 2655	2895	13.4	32.6	15.7	10.2	25.9	6.7	0.39
C 2283	2969.50	20.2	3.2	0.2	0.4	0.5	2.7	0.22
C 2660	2970	1.1	4.8	0.8	1.6	2.3	2.5	5.24
C 2285	2990.50	20.4	10.1	7.2	1.4	8.6	1.5	0.13
C 2286	3000.60	12.6	9.4	3.4	0.7	4.1	5.3	0.06
C 2287	3010.80	15.1	27.0	15.0	4.0	19.0	8.0	0.20
C 2288	3012.10	19.7	23.2	12.1	5.1	17.3	5.9	0.60
C 2290	3025.50	19.9	16.6	9.6	3.5	13.1	3.5	0.43
C 2291	3035.20	17.6	94.3	58.4	19.6	78.0	16.3	0.45
C 2665	3045	4.5	8.5	5.5	1.7	7.2	1.3	0.02
C 2295	3069.50	20.0	4.3	0.6	0.4	1.0	3.3	0.16

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 19 - 2 - 86.

TABLE : 10b.

DST FLUIDS

MPLC DATA

IKU-No	SAMPLE	Crude oil (mg)	EOM >210' (mg)	Sat. >210' (mg)	Aro. >210' (mg)	HC >210' (mg)	Non HC >210' (mg)
C 2298	DST 1	145.2	117.1	51.5	22.1	73.6	43.5
C 2299	DST 2	212.5	118.8	58.6	12.6	71.2	47.6

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 12 - 12 - 85.

TABLE : 10b.

DST FLUID

IATROSCAN DATA

IKU-No	SAMPLE	Crude oil (mg)	EOM <210' (mg)	Sat. (mg)	Aro. (mg)	HC (mg)	Non HC (mg)
C 2298	DST 1	145.1	117.1	64.8	31.0	95.8	21.3
C 2299	DST 2	212.5	118.8	88.4	19.0	107.4	11.4

IKU SINTEF-GRUPPEN

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 19 - 2 - 86.

T A B L E : 10c.

WEIGHT OF EOM AND CHROMATOGRAPHIC FRACTIONS

(Weight ppm OF rock)

MPLC DATA

IKU-No	DEPTH (m)	EOM	Sat.	Aro.	HC	Non HC
C 2655	2895	2427	797	499	1296	1132
C 2285	2990.50	494	186	93	279	215
C 2286	3000.60	745	270	111	381	365
C 2287	3010.80	1789	384	159	543	1246
C 2288	3012.10	1177	396	178	573	604
C 2290	3025.50	834	302	131	432	402
C 2291	3035.20	5352	3706	863	4569	783

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 19 - 2 - 86.

T A B L E : 10c.

WEIGHT OF EOM AND CHROMATOGRAPHIC FRACTIONS

(Weight ppm OF rock)
IATROSCAN DATA

IKU-No	DEPTH (m)	EOM	Sat.	Aro.	HC	Non HC
C 2626	2460	1301	232	397	629	672
C 2639	2655	841	87	183	269	572
C 2655	2895	2427	1168	757	1925	503
C 2283	2969.50	159	9	18	27	132
C 2660	2970	4324	676	1432	2108	2216
C 2285	2990.50	494	353	67	419	75
C 2286	3000.60	746	273	54	327	419
C 2287	3010.80	1789	994	265	1259	530
C 2288	3012.10	1178	616	260	876	302
C 2290	3025.50	834	481	178	660	174
C 2291	3035.20	5352	3313	1113	4426	926
C 2665	3045	1876	1210	373	1583	294
C 2295	3069.50	215	31	21	52	162

IKU SINTEF-GRUPPEN

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 19 - 2 - 86.

T A B L E : 10d.

CONCENTRATION OF EOM AND CHROMATOGRAPHIC FRACTIONS

(mg/g TOC)

MPLC DATA

IKU-No	DEPTH (m)	EOM	Sat.	Aro.	HC	Non HC
C 2655	2895	622.4	204.3	127.9	332.2	290.2
C 2285	2990.50	380.3	143.1	71.5	214.6	165.7
C 2286	3000.60	1242.4	449.4	185.0	634.4	608.0
C 2287	3010.80	894.6	192.2	79.5	271.7	622.9
C 2288	3012.10	196.2	66.0	29.6	95.6	100.6
C 2290	3025.50	194.0	70.1	30.4	100.5	93.5
C 2291	3035.20	1189.3	823.6	191.7	1015.3	174.0

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 19 - 2 - 86.

TABLE : 10d.

CONCENTRATION OF EOM AND CHROMATOGRAPHIC FRACTIONS

(mg/g TOC)

IATROSCAN DATA

IKU-No	DEPTH (m)	EOM	Sat.	Aro.	HC	Non HC
C 2626	2460	69.6	12.4	21.3	33.7	35.9
C 2639	2655	54.6	5.6	11.9	17.5	37.2
C 2655	2895	622.4	299.4	194.2	493.5	128.9
C 2283	2969.50	72.1	4.1	8.1	12.2	59.9
C 2660	2970	82.5	12.9	27.3	40.2	42.3
C 2285	2990.50	380.3	271.5	51.2	322.7	57.6
C 2286	3000.60	1243.4	455.0	89.9	545.0	698.4
C 2287	3010.80	894.6	497.0	132.5	629.6	265.1
C 2288	3012.10	196.3	102.6	43.4	146.0	50.3
C 2290	3025.50	194.0	112.0	41.5	153.4	40.6
C 2291	3035.20	1189.3	736.2	247.3	983.5	205.8
C 2665	3045	9381.9	6048.6	1865.3	7913.9	1468.0
C 2295	3069.50	134.1	19.6	13.1	32.7	101.4

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 19 - 2 - 86.

TABLE : 10e.

COMPOSITION OF MATERIAL EXTRACTED FROM THE ROCK

MPLC DATA

IKU-No	DEPTH (m)	Sat --- EOM %	Aro --- EOM %	HC --- EOM %	SAT --- Aro x 100	Non HC ------ EOM %	HC ------ Non HC x 100
C 2655	2895	32.8	20.6	53.4	159.7	46.6	114.5
C 2285	2990.50	37.6	18.8	56.4	200.0	43.6	129.5
C 2286	3000.60	36.2	14.9	51.1	242.9	48.9	104.3
C 2287	3010.80	21.5	8.9	30.4	241.7	69.6	43.6
C 2288	3012.10	33.6	15.1	48.7	222.9	51.3	95.0
C 2290	3025.50	36.1	15.7	51.8	230.8	48.2	107.5
C 2291	3035.20	69.2	16.1	85.4	429.6	14.6	583.3

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 19 - 2 - 86.

TABLE : 10e.

COMPOSITION OF MATERIAL EXTRACTED FROM THE ROCK
IATROSCAN DATA

IKU-No	DEPTH (m)	Sat EOM %	Aro EOM %	HC EOM %	SAT Aro x 100	Non HC EOM %	HC Non HC x 100
C 2626	2460	17.8	30.5	48.4	58.4	51.6	93.7
C 2639	2655	10.3	21.7	32.0	47.4	68.0	47.1
C 2655	2895	48.1	31.2	79.3	154.2	20.7	383.0
C 2283	2969.50	5.6	11.2	16.9	50.0	83.1	20.3
C 2660	2970	15.6	33.1	48.8	47.2	51.3	95.1
C 2285	2990.50	71.4	13.5	84.9	530.1	15.1	560.1
C 2286	3000.60	36.6	7.2	43.8	505.9	56.2	78.0
C 2287	3010.80	55.6	14.8	70.4	375.0	29.6	237.5
C 2288	3012.10	52.3	22.1	74.4	236.5	25.6	290.6
C 2290	3025.50	57.7	21.4	79.1	269.9	20.9	378.4
C 2291	3035.20	61.9	20.8	82.7	297.7	17.3	477.8
C 2665	3045	64.5	19.9	84.4	324.3	15.6	539.1
C 2295	3069.50	14.7	9.8	24.4	150.0	75.6	32.3

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 12 - 12 - 85.

TABLE : 10e.

DST FLUIDS

MPLC DATA

IKU-No	SAMPLE	Sat --- EOM %	Aro --- EOM %	HC --- EOM %	SAT --- Aro x 100	Non HC ------- EOM %	HC ------- Non HC x 100
C 2298	DST 1	44.0	18.9	62.9	233.0	37.1	169.2
C 2299	DST 2	49.3	10.6	59.9	465.1	40.1	149.6

Project no.: 22.1808.00
Well ident.: 6/3-1
DATE : 12 - 12 - 85.

TABLE : 10e.

DST FLUIDS

IATROSCAN DATA

IKU-No	SAMPLE	Sat --- EOM %	Aro --- EOM %	HC --- EOM %	SAT --- Aro x 100	Non HC ------ EOM %	HC ------ Non HC x 100
C 2298	DST 1	55.3	26.5	81.8	208.7	18.2	449.5
C 2299	DST 2	74.4	16.0	90.4	465.0	9.6	942.1

Project no.: 22.1808
Well ident.: 6/3-1
DATE : 5 - 12 - 85.

TABLE : 10f.

API GRAVITY OF OIL SAMPLE

DST FLUIDS

IKU-No	CODE	API GRAVITY (DENSITY)	
		Crude oil	>210'C
C 2298	DST 1	33.7 (0.8563)	
C 2299	DST 2	48.5 (0.7863)	38.2 (0.8336)

Project no.: 22.1808
Well ident.: 6/3-1
DATE : 5 - 12 - 85.

T A B L E : 10g.

FRACTION BOILING BELOW 210'C
DST FLUIDS

IKU-No	CODE	Crude oil (mg)	EOM >210' (mg)	Low molecular weight compounds (mg)	(%)
C 2298	DST 1	145.1	117.1	28.0	19.3
C 2299	DST 2	212.5	118.8	93.7	44.1

Project no.: 22.1808
Well ident.: 6/3-1
DATE : 5 - 12 - 85.

TABLE : 10h.

AMOUNT OF ASPHALTENES AND NSO IN OIL
DST FLUIDS

IKU-No	CODE	Crude oil	Asphaltenes		NSO (Asph. exluded)	
		(mg)	(mg)	(%)	(mg)	(%)
C 2298	DST 1	145.1	13.7	9.4	7.1	4.9
C 2299	DST 2	212.5	10.5	4.9	0.5	0.2

Table 10i. Asphaltene and "resine" content.
Source rocks and hydrocarbon stainings.

IKU No.	Depth (m)	Asph. (mg)	"Resines" (mg)	Asph. EOM (%)	Asph. Non HC (%)	Asph. "Resines" (%)
C-2626	2445-2460	2.1	0.5	22.8	44.7	80.8
C-2639	2640-2655	0.8	1.2	22.9	33.3	40.0
C-2655	2880-2895	2.8	4.7	8.6	41.8	37.3
C-2660	2955-2970	0.7	1.2	14.6	28.0	36.8
C-2283	2969.50	0.6	1.0	18.8	22.2	37.5
C-2285	2990.50	0.4	0.9	4.0	26.7	30.8
C-2286	3000.60	3.1	1.1	33.0	58.5	73.8
C-2287	3010.80	2.5	1.6	2.7	8.9	61.0
C-2288	3012.10	2.7	2.6	11.6	45.8	50.9
C-2290	3025.50	1.5	2.0	9.0	42.9	42.9
C-2291	3055.20	3.1	7.8	3.3	19.0	28.4
C-2665	3030-3045	0.9	1.0	10.6	69.2	47.4
C-2295	3069.50	1.0	1.4	23.3	30.3	41.7

T A B L E 11a.

TABULATION OF DATA FROM THE GASCHROMATOGRAMS

IKU No.	DEPTH (m)	PRISTANE / PHYTANE A =	PRISTANE / n-C17 B =	PHYTANE / n-C18	A / B	n-C17 / n-C27	CPI
C 2626	2460	1.8	2.1	1.0	2.0	1.9	1.1
C 2639	2655	2.7	1.7	0.7	2.4	3.0	1.1
C 2655	2895	1.5	1.0	0.6	1.7	1.3	1.0
C 2283	2969.50	1.5	0.7	0.5	1.4	3.7	1.2
C 2660	2970	2.7	1.4	0.6	2.4	2.8	1.1
C 2285	2990.50	1.5	0.8	0.5	1.5	4.8	1.0
C 2286	3000.60	1.2	0.7	0.5	1.3	2.4	1.0
C 2287	3010.80	1.4	0.7	0.6	1.3	2.7	1.0
C 2288	3012.10	1.5	0.7	0.5	1.4	3.2	1.0
C 2290	3025.50	1.5	0.8	0.6	1.3	2.4	1.0
C 2291	3035.20	1.4	0.6	0.5	1.2	2.4	1.0
C 2665	3045	0.8	1.0	0.8	1.1	***	***
C 2295	3069.50	1.3	1.0	0.9	1.2	3.6	1.1

DATE : 23 - 12 - 85.

T A B L E 11a.

TABULATION OF DATA FROM THE GASCHROMATOGRAMS

IKU No.	PRISTANE / PHYTANE = A	PRISTANE / n-C17 = B	PHYTANE / n-C18	A / B	n-C17 / n-C27	CPI
C 2298 Oil	1.4	0.7	0.5	1.3	1.9	1.0
C 2299 Oil	1.6	0.7	0.5	1.3	7.9	1.0

DATE : 27 - 11 - 85.

Table 11b. Well 6/3-1.

MP-indices from aromatic hydrocarbons.

IKU sample	Depth (m)	Lithology	MPI-1	MPI-2	3+2/9+1 MP	2/1 MP
C-2626	2445-2460	Clyst.	0.67	0.51	0.76	0.67
C-2639	2640-2655	Clyst.	0.61	0.58	0.71	0.73
C-2660	2955-2970	Clyst.	0.60	0.56	0.65	0.65
DST fluids and hydrocarbon stainings						
C-2655	2880-2895	Chalky lst.	0.80	0.68	0.69	0.60
C-2283	2969.5	Tuff?	0.60	0.58	0.64	0.66
C-2285	2990.5	Sst	0.71	0.60	0.70	0.62
C-2286	3000.6	Sst	0.77	0.67	0.75	0.69
C-2287	3010.8	Sst	0.68	0.57	0.69	0.60
C-2288	3012.1	Sst	0.64	0.55	0.66	0.59
C-2290	3025.5	Sst	0.60	0.48	0.62	0.54
C-2291	3035.2	Sst	0.69	0.56	0.70	0.60
C-2665	3030-3045	Clyst.	0.57	0.58	0.78	0.83
C-2295	3069.5	Sst	0.76?	0.80?	1.28?	1.23?
C-2299		DST 2	0.74	0.64	0.86	0.75
C-2298		DST 1	0.72	0.61	0.75	0.68

Table 11c

Background data from GC analysis of saturated hydrocarbons

5wAnalysis:3 808C2626S,1,10w
Created at 14:30 on 03/Dec/85

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 9/10/84 Time 15:42
Analysis:808C2626S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
18	9.112	9753	35957	0.237	n-C14	0
33	11.832	32068	129176	0.850	n-C15	0
48	14.541	43441	193739	1.276	n-C16	0
63	17.181	46996	204648	1.347	n-C17	0
64	17.432	77458	426359	2.807	Pristane	0
76	19.715	48114	231657	1.525	n-C18	0
77	20.008	38500	239207	1.575	Phytane	0
89	22.131	38435	181723	1.196	n-C19	0
100	24.445	36238	199295	1.312	n-C20	0
111	26.669	34964	146415	0.964	n-C21	0
120	28.797	33510	212442	1.399	n-C22	0
127	30.851	29497	184999	1.218	n-C23	0
136	32.797	30397	136816	0.901	n-C24	0
146	34.669	24725	123467	0.813	n-C25	0
153	36.477	27498	168270	1.108	n-C26	0M
160	38.227	24667	156712	1.032	n-C27	0
168	39.704	21055	135392	0.891	n-C28	0
175	41.555	29089	161936	1.066	n-C29	0
180	42.941	25102	180140	1.186	n-C30	0
189	44.653	21295	129821	0.855	n-C31	0
195	46.125	13366	103852	0.684	n-C32	0
201	47.555	13057	87495	0.576	n-C33	0
206	48.952	10258	113011	0.744	n-C34	0M
211	50.317	9685	116282	0.766	n-C35	0M
214	51.592	12626	132004	0.869	n-C36	0
218	53.027	14373	124785	0.822	n-C37	0
224	54.675	9992	67596	0.445	n-C38	0
230	56.669	1998	14921	0.098	n-C39	L0
234	59.037	904	7693	0.051	n-C40	0
Total		1914435	15188590	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

SwAnalysis:3 808C2639S,1,10w
Created at 14:16 on 10/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 9/10/84 Time 17:56
Analysis:808C2639S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
11	9.139	6728	23720	0.155	n-C14	FO
24	11.837	44803	180154	1.175	n-C15	O
37	14.547	81289	329986	2.152	n-C16	O
52	17.176	82647	370671	2.417	n-C17	O
53	17.432	96548	627371	4.091	Pristane	O
63	19.693	72804	332828	2.170	n-C18	O
64	19.981	35162	232251	1.514	Phytane	O
76	22.115	53726	287790	1.877	n-C19	O
85	24.424	43776	223359	1.457	n-C20	O
94	26.643	37161	165234	1.077	n-C21	O
103	28.765	35944	213814	1.394	n-C22	O
112	30.808	34735	195008	1.272	n-C23	O
121	32.755	28822	132305	0.863	n-C24	O
132	34.632	26796	162449	1.059	n-C25	O
140	36.440	26785	148251	0.967	n-C26	O
146	38.200	27189	157883	1.030	n-C27	O
153	39.885	24648	123569	0.806	n-C28	O
160	41.507	27357	215635	1.406	n-C29	OM
166	43.085	18037	118066	0.770	n-C30	O
173	44.600	18235	139136	0.907	n-C31	O
178	46.088	11873	112047	0.731	n-C32	O
184	47.517	13906	112650	0.735	n-C33	O
188	48.893	10478	125198	0.816	n-C34	OM
194	50.259	8976	113095	0.737	n-C35	OM
198	51.544	7555	99436	0.648	n-C36	O
202	52.963	7079	85851	0.560	n-C37	O
205	54.627	4525	39597	0.258	n-C38	O
209	56.595	2520	30832	0.201	n-C39	OM
216	59.005	1412	15268	0.100	n-C40	OM
Total		1923065	15335300	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

SwAnalysis:3 808C2655S,1,10w
Created at 13:50 on 10/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 10/10/84 Time 12:31
Analysis:808C2655S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
35	9.091	35105	121733	0.495	n-C14	0
50	11.800	48595	187004	0.760	n-C15	0
65	14.504	60703	242750	0.986	n-C16	0
79	17.144	79534	308423	1.253	n-C17	0
80	17.363	46950	312105	1.268	Pristane	0
91	19.683	80297	361620	1.469	n-C18	0
92	19.965	33308	212062	0.862	Phytane	0
103	22.109	86462	370875	1.507	n-C19	0
116	24.440	93908	463443	1.883	n-C20	0M
124	26.669	92840	513390	2.086	n-C21	0M
132	28.813	88262	430955	1.751	n-C22	0
142	30.851	83303	483977	1.967	n-C23	0
148	32.813	81731	406697	1.653	n-C24	0M
156	34.696	73888	515584	2.095	n-C25	0
161	36.515	68440	381140	1.549	n-C26	0
168	38.259	63541	393216	1.598	n-C27	0
174	39.939	59204	375686	1.527	n-C28	0
181	41.571	52673	326897	1.328	n-C29	0
190	43.144	48289	364492	1.481	n-C30	0
197	44.669	45340	298924	1.215	n-C31	0
203	46.141	43288	326145	1.325	n-C32	0
208	47.576	37447	379258	1.541	n-C33	0M
212	48.973	34380	341524	1.388	n-C34	0M
217	50.328	30920	274399	1.115	n-C35	0M
221	51.635	22840	280181	1.138	n-C36	0
225	53.032	16587	148586	0.604	n-C37	0
231	54.696	12088	117920	0.479	n-C38	0M
238	56.685	7744	87378	0.355	n-C39	0
247	59.059	5205	92172	0.375	n-C40	0
Total		2998161	24609990	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

SwAnalysis:3 808C2660S,1,10w
Created at 13:06 on 10/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 22/11/85 Time 12:45
Analysis:808C2660S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.#	R/T	Height	Area	0.00	Identity	Type
14	9.091	19086	64533	0.445	n-C14	O
29	11.811	57293	217947	1.502	n-C15	O
43	14.525	78450	322437	2.221	n-C16	O
58	17.160	94671	375850	2.589	n-C17	O
59	17.395	71003	537041	3.700	Pristane	O
69	19.683	74757	332579	2.291	n-C18	O
70	19.971	28990	200471	1.381	Phytane	O
81	22.109	72407	310851	2.142	n-C19	O
93	24.419	61424	298300	2.055	n-C20	O
104	26.643	58994	294547	2.029	n-C21	O
112	28.771	50430	232190	1.600	n-C22	O
122	30.813	51158	264094	1.819	n-C23	O
128	32.771	41407	182271	1.256	n-C24	O
136	34.659	41552	270259	1.862	n-C25	O
142	36.456	38420	184287	1.270	n-C26	O
150	38.200	33507	187812	1.294	n-C27	O
157	39.885	27059	169828	1.170	n-C28	O
163	41.517	28044	168929	1.164	n-C29	OM
169	43.085	19712	118047	0.813	n-C30	O
177	44.616	21451	127697	0.880	n-C31	O
182	46.088	17419	122222	0.842	n-C32	O
187	47.517	18468	117748	0.811	n-C33	O
191	48.909	15181	153728	1.059	n-C34	OM
197	50.259	12342	136026	0.937	n-C35	OM
200	51.576	10955	104639	0.721	n-C36	O
203	52.957	8366	84816	0.584	n-C37	O
207	54.621	4240	35542	0.245	n-C38	O
212	56.627	3581	33057	0.228	n-C39	O
219	59.005	2307	24282	0.167	n-C40	LOM
Total		1962006	14515260	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

SwAnalysis:3 808C2283S,1,10w
Created at 18:21 on 09/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 21/11/85 Time 12:26
Analysis:808C2283S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.#	R/T	Height	Area	0.00	Identity	Type
7	12.013	1167	12193	1.330	n-C15	FOM
15	14.685	9725	41316	4.507	n-C16	LO
25	17.325	13925	53190	5.802	n-C17	O
26	17.549	6134	35155	3.835	Pristane	O
33	19.853	12996	48596	5.301	n-C18	O
35	20.147	4141	23309	2.543	Phytane	O
44	22.291	9047	36748	4.008	n-C19	O
52	24.605	7525	30443	3.321	n-C20	LO
61	26.840	6086	23830	2.599	n-C21	LO
67	28.979	6071	22882	2.496	n-C22	O
73	31.029	4842	22554	2.460	n-C23	FO
77	32.989	4661	22279	2.430	n-C24	FO
83	34.861	4507	26150	2.852	n-C25	LO
88	36.680	3966	18844	2.056	n-C26	O
92	38.435	3807	15171	1.655	n-C27	FO
97	40.120	3350	16971	1.851	n-C28	FO
102	41.768	3713	14698	1.603	n-C29	
108	43.331	2654	12383	1.351	n-C30	LO
112	44.867	3566	13761	1.501	n-C31	O
117	46.349	2592	10558	1.152	n-C32	LO
122	47.789	2331	9141	0.997	n-C33	M
126	49.187	1886	11697	1.276	n-C34	FOM
130	50.531	1465	7211	0.787	n-C35	O
133	51.853	1162	6003	0.655	n-C36	O
135	53.280	939	7562	0.825	n-C37	FO
138	54.989	659	4603	0.502	n-C38	O
140	57.051	488	6976	0.761	n-C39	OM
141	59.477	312	2396	0.261	n-C40	O
Total		172658	916771	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

SwAnalysis:3 808C2285S,1,10w
Created at 18:36 on 09/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1.

Channel:3 Title: HP-5730 Date 21/11/85 Time 16: 2
Analysis:808C2285S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.#	R/T	Height	Area	0.00	Identity	Type
18	9.251	48534	161828	0.827	n-C14	O
34	11.997	127480	515142	2.633	n-C15	O
49	14.723	164057	729745	3.730	n-C16	O
63	17.368	170009	783165	4.003	n-C17	O
64	17.587	85424	609206	3.114	Pristane	O
76	19.907	144174	741774	3.792	n-C18	O
77	20.179	61146	397545	2.032	Phytane	O
88	22.339	131813	625380	3.197	n-C19	O
98	24.653	119697	575781	2.943	n-C20	O
109	26.877	90292	517675	2.646	n-C21	OM
117	29.005	80510	404316	2.067	n-C22	OM
127	31.043	69813	328640	1.680	n-C23	O
134	33.000	62321	386762	1.977	n-C24	O
140	34.883	49838	319214	1.632	n-C25	O
147	36.691	44833	263629	1.348	n-C26	O
151	38.440	35090	175003	0.895	n-C27	O
158	40.125	29474	157044	0.803	n-C28	O
164	41.747	25301	137423	0.702	n-C29	O
170	43.325	23763	120538	0.616	n-C30	O
176	44.840	21505	114273	0.584	n-C31	OM
183	46.328	19838	104506	0.534	n-C32	O
187	47.752	18274	102366	0.523	n-C33	OM
192	49.144	18140	104016	0.532	n-C34	OM
198	50.499	9008	63029	0.322	n-C35	O
202	51.784	13356	78749	0.403	n-C36	O
207	53.197	8220	47715	0.244	n-C37	O
213	54.856	7454	44016	0.225	n-C38	FO
219	56.872	5013	33779	0.173	n-C39	M
224	59.272	4590	39130	0.200	n-C40	O
Total		2951750	19562670	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

5wAnalysis:3 808C2286S,1,10w
Created at 15:40 on 09/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 19/11/85 Time 11:25
Analysis:808C2286S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
11	8.963	7169	28014	0.370	n-C14	FO
25	11.805	25442	90178	1.131	n-C15	O
38	14.600	46432	176886	2.337	n-C16	O
52	17.293	66731	247321	3.257	n-C17	O
53	17.528	28238	165039	2.130	Pristane	O
62	19.864	64701	257687	3.404	n-C18	O
64	20.152	22600	132051	1.744	Phytane	LO
74	22.312	63618	248884	3.238	n-C19	LO
85	24.648	63419	259662	3.430	n-C20	O
95	26.883	51761	230515	3.045	n-C21	O
101	29.011	46569	193847	2.561	n-C22	O
110	31.064	42491	185176	2.446	n-C23	O
117	33.016	38882	173265	2.289	n-C24	O
123	34.904	34846	161758	2.137	n-C25	LO
130	36.717	31504	151681	2.004	n-C26	O
134	38.461	28379	114177	1.508	n-C27	O
141	40.141	22905	122610	1.620	n-C28	O
147	41.784	24320	112202	1.482	n-C29	O
154	43.357	21173	104741	1.384	n-C30	O
160	44.883	20894	103258	1.364	n-C31	O
165	46.365	18705	108820	1.438	n-C32	O
170	47.800	18037	120177	1.588	n-C33	OM
176	49.192	18792	140238	1.853	n-C34	OM
181	50.531	14259	121735	1.608	n-C35	OM
185	51.848	11431	90949	1.201	n-C36	O
189	53.293	7296	69192	0.914	n-C37	O
194	55.005	5188	39994	0.528	n-C38	O
199	57.091	3222	31494	0.416	n-C39	OM
207	59.560	1897	17837	0.236	n-C40	LO
Total		1275391	7569971	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

SwAnalysis:3 808C2287S,1,10w
Created at 17:54 on 09/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 19/11/85 Time 13: 9
Analysis:808C2287S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
23	9.320	58208	194484	0.734	n-C14	0
39	12.061	113013	444495	1.679	n-C15	0
54	14.776	141625	628152	2.372	n-C16	0
69	17.421	146188	738781	2.790	n-C17	0M
70	17.640	74803	549018	2.073	Pristane	0
80	19.955	136376	684458	2.585	n-C18	0
81	20.221	58471	382678	1.445	Phytane	0
92	22.376	122963	612558	2.313	n-C19	0
104	24.691	112769	609642	2.302	n-C20	0
115	26.920	106528	558015	2.107	n-C21	0
122	29.048	89758	473600	1.789	n-C22	0M
132	31.096	81487	468417	1.769	n-C23	0
138	33.043	75536	354906	1.340	n-C24	0
147	34.888	66075	461810	1.744	n-C25	0
153	36.701	59189	363840	1.374	n-C26	0
159	38.435	53752	284012	1.073	n-C27	0
168	40.104	46164	288981	1.091	n-C28	0
175	41.747	43330	285464	1.078	n-C29	0
182	43.309	40526	273250	1.032	n-C30	0
186	44.851	40545	281959	1.065	n-C31	0M
192	46.328	36940	275211	1.039	n-C32	0
197	47.752	32896	305846	1.155	n-C33	0M
202	49.149	29543	288372	1.089	n-C34	0M
207	50.499	25839	227940	0.861	n-C35	0M
211	51.805	17835	195669	0.739	n-C36	0
215	53.251	11930	124752	0.471	n-C37	0
219	54.968	7541	73853	0.279	n-C38	0M
226	57.021	5079	59142	0.223	n-C39	0M
234	59.480	2747	29950	0.113	n-C40	L0M
Total		3509322	26478790	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

5wAnalysis:3 808C2288S,1,10w
Created at 13:06 on 10/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 22/11/85 Time 14:43
Analysis:808C2288S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
28	9.112	78145	250304	1.615	n-C14	0
43	11.837	123558	450137	2.905	n-C15	0
57	14.552	133568	547129	3.530	n-C16	0
70	17.192	131920	559419	3.610	n-C17	0
71	17.400	60451	399087	2.575	Pristane	0
81	19.725	113120	537077	3.466	n-C18	0
82	19.992	44833	267762	1.728	Phytane	0
92	22.141	102103	486792	3.141	n-C19	0
102	24.461	106711	475323	3.067	n-C20	0
112	26.680	87759	427689	2.760	n-C21	0
120	28.808	78237	355943	2.297	n-C22	0
129	30.851	67707	314328	2.028	n-C23	0
137	32.797	64900	269786	1.741	n-C24	0
144	34.691	55412	292167	1.885	n-C25	0
151	36.483	51936	223254	1.441	n-C26	0
157	38.232	41842	188372	1.216	n-C27	0
165	39.917	34563	173193	1.118	n-C28	0
172	41.549	30928	141987	0.916	n-C29	0
179	43.123	27815	121796	0.786	n-C30	0
186	44.648	25797	108119	0.698	n-C31	LO
192	46.125	25140	107349	0.693	n-C32	0
197	47.555	22512	106564	0.688	n-C33	LO
201	48.952	21936	120899	0.780	n-C34	OM
204	50.296	17175	100401	0.648	n-C35	FOM
208	51.619	11856	58601	0.378	n-C36	LO
212	53.005	8082	49662	0.320	n-C37	OM
216	54.680	5784	36691	0.237	n-C38	FOM
222	56.643	4742	32199	0.208	n-C39	LOM
228	59.048	3308	28486	0.184	n-C40	OM
Total		2611549	15497420	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

SwAnalysis:3 808C2290S,1,10w
Created at 08:59 on 23/Dec/85

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 22/11/85 Time 10:51
Analysis:808C2290S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
11	6.227	44219	115924	0.596	n-C13	FOM
25	8.435	118599	367930	1.831	n-C14	O
37	10.696	148447	477734	2.455	n-C15	O
48	12.915	139489	494854	2.543	n-C16	O
58	15.048	126900	496867	2.554	n-C17	O
59	15.235	68180	412549	2.120	Pristane	O
67	17.096	119194	421364	2.166	n-C18	O
68	17.325	49113	270526	1.390	Phytane	OM
79	19.048	117149	418749	2.152	n-C19	O
88	20.920	107703	481584	2.475	n-C20	OM
95	22.701	93710	407269	2.093	n-C21	OM
100	24.424	84600	391111	2.010	n-C22	O
106	26.061	84264	342787	1.762	n-C23	OM
115	27.635	75261	344589	1.771	n-C24	O
122	29.149	69081	361388	1.857	n-C25	O
127	30.600	62687	336799	1.731	n-C26	O
132	32.013	52322	237991	1.223	n-C27	O
138	33.363	47496	220023	1.131	n-C28	O
145	34.664	47767	202100	1.039	n-C29	O
150	35.933	38321	208788	1.073	n-C30	O
154	37.165	37657	199032	1.023	n-C31	O
159	38.349	36085	206710	1.062	n-C32	O
163	39.501	30878	224476	1.154	n-C33	OM
167	40.627	30642	219331	1.127	n-C34	OM
172	41.709	25362	210575	1.082	n-C35	O
176	42.861	17293	114946	0.591	n-C36	O
180	44.216	11932	127884	0.657	n-C37	O
184	45.864	8674	92420	0.475	n-C38	O
189	47.832	5798	71114	0.365	n-C39	OM
Total		3148984	19457270	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

SwAnalysis:3 808C2291S,1,10w
Created at 18:20 on 09/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 19/11/85 Time 15:20
Analysis:808C2291S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
22	9.293	28650	91827	1.462	n-C14	O
38	12.024	45981	160017	2.547	n-C15	O
53	14.739	53878	196792	3.132	n-C16	O
68	17.384	58403	207250	3.299	n-C17	O
69	17.613	22985	128104	2.039	Pristane	O
79	19.923	48904	189268	3.013	n-C18	O
81	20.205	16522	93897	1.495	Phytane	O
92	22.349	46615	187356	2.982	n-C19	O
104	24.664	43738	199448	3.175	n-C20	OM
114	26.899	40732	166611	2.652	n-C21	O
121	29.032	37890	152842	2.433	n-C22	OM
131	31.080	35574	149614	2.381	n-C23	O
137	33.048	33651	128583	2.047	n-C24	O
145	34.915	31363	123626	1.968	n-C25	O
152	36.739	27754	132369	2.107	n-C26	O
157	38.477	23908	100480	1.599	n-C27	O
166	40.173	19540	98071	1.561	n-C28	O
174	41.795	17251	84791	1.350	n-C29	O
180	43.379	15472	75732	1.205	n-C30	O
184	44.904	15379	71045	1.131	n-C31	OM
191	46.392	12902	66923	1.065	n-C32	O
196	47.827	11436	64090	1.020	n-C33	OM
202	49.224	11153	82027	1.306	n-C34	OM
207	50.573	9024	79743	1.269	n-C35	OM
210	51.880	7009	66555	1.059	n-C36	O
212	53.341	4631	35884	0.571	n-C37	OM
219	55.043	2691	34054	0.542	n-C38	O
224	57.101	1895	14260	0.227	n-C39	OM
230	59.565	935	5672	0.090	n-C40	LO
Total		1136990	6282469	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

SwAnalysis:3 808C2295S,1,10w
Created at 17:56 on 10/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 9/10/84 Time 13:58
Analysis:808C2295S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
7	11.477	4280	20269	0.545	n-C15	FO
19	14.301	23424	92288	2.482	n-C16	O
33	17.005	36604	150213	4.039	n-C17	OM
34	17.240	18480	156476	4.208	Pristane	O
43	19.587	30214	140752	3.785	n-C18	O
44	19.875	12488	122962	3.307	Phytane	O
53	22.035	24805	117187	3.151	n-C19	O
63	24.360	20231	96539	2.596	n-C20	O
73	26.584	17896	79768	2.145	n-C21	O
81	28.712	15794	71421	1.921	n-C22	O
89	30.760	14528	80286	2.159	n-C23	O
95	32.717	13242	56517	1.520	n-C24	O
103	34.595	12437	77616	2.087	n-C25	O
109	36.408	11333	64564	1.736	n-C26	O
114	38.152	10295	45848	1.233	n-C27	O
122	39.848	8378	43228	1.162	n-C28	O
128	41.480	7639	30421	0.818	n-C29	LO
135	43.053	5491	22876	0.615	n-C30	FO
141	44.589	5144	21534	0.579	n-C31	LO
146	46.061	4098	16231	0.436	n-C32	LO
151	47.507	4000	18096	0.487	n-C33	M
154	48.899	3413	22457	0.604	n-C34	OM
159	50.248	2798	20316	0.546	n-C35	OM
164	51.565	2011	15901	0.428	n-C36	O
166	52.936	1288	9818	0.264	n-C37	O
170	54.595	751	5185	0.139	n-C38	FO
174	56.592	554	3856	0.104	n-C39	M
Total		531996	3718735	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

SwAnalysis:3 808C2665S,1,10w
Created at 12:50 on 11/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 10/10/84 Time 14: 8
Analysis:808C2665S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
14	9.107	4504	16931	0.044	n-C14	0
25	11.805	5953	21300	0.055	n-C15	
36	14.504	5992	26353	0.068	n-C16	0
47	17.139	5795	23174	0.060	n-C17	0
48	17.357	3367	22188	0.058	Pristane	LO
55	19.672	5939	31331	0.081	n-C18	0
56	19.949	2827	26287	0.068	Phytane	0
65	22.099	5357	30231	0.079	n-C19	0
74	24.408	5326	46594	0.121	n-C20	0M
84	26.648	6755	120954	0.314	n-C21	0
93	28.776	9517	148636	0.386	n-C22	0
102	30.824	13214	244142	0.634	n-C23	0
110	32.776	17182	150328	0.390	n-C24	0
117	34.653	22001	441997	1.148	n-C25	0
Total		2347660	38510680	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

5wAnalysis:3 808C2298S,1,10w
Created at 14:34 on 11/Oct/84

IKU - Institutt for kontinentalsokkelundersokelser og petroleumtekn.

STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 6/11/85 Time 11:32
Analysis:808C2298S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
7	4.189	316609	911896	1.256	n-C12	FO
22	6.435	321736	1187189	1.635	n-C13	O
37	9.032	301593	1510873	2.080	n-C14	OM
51	11.752	308796	1552234	2.137	n-C15	O
66	14.451	283220	1564276	2.154	n-C16	OM
79	17.096	270769	1537874	2.118	n-C17	O
80	17.304	156473	1083318	1.492	Pristane	O
93	19.624	251358	1473243	2.029	n-C18	O
94	19.885	116447	770899	1.061	Phytane	O
105	22.051	225386	1366772	1.882	n-C19	O
116	24.371	227187	1694906	2.334	n-C20	OM
125	26.589	211622	1282961	1.767	n-C21	O
133	28.723	195477	1359202	1.872	n-C22	OM
142	30.760	180980	1080326	1.488	n-C23	O
148	32.728	171809	1249548	1.721	n-C24	OM
156	34.611	164759	1286225	1.771	n-C25	O
162	36.403	152048	1087258	1.497	n-C26	OM
168	38.157	142282	893651	1.231	n-C27	O
176	39.843	130013	928318	1.278	n-C28	O
184	41.475	121742	789128	1.087	n-C29	O
192	43.043	103995	788695	1.086	n-C30	O
199	44.563	98288	739700	1.019	n-C31	O
204	46.040	89941	590834	0.814	n-C32	OM
210	47.469	82906	899883	1.239	n-C33	OM
214	48.856	79305	769039	1.059	n-C34	OM
220	50.200	63023	770314	1.061	n-C35	OM
225	51.501	46473	619349	0.853	n-C36	OM
229	52.856	33472	457241	0.630	n-C37	O
233	54.472	19773	244719	0.337	n-C38	OM
Total		9998558	72623700	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

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STATOIL 6507/7-1

Channel:3 Title: HP-5730 Date 6/11/85 Time 13:36
Analysis:808C2299S Sample Name:STATOI_ 6/3-1,SAT,GH
Sample 1 Injection 1

PK.£	R/T	Height	Area	0.00	Identity	Type
6	4.232	261002	686455	5.228	n-C12	FO
21	6.445	220564	727011	5.537	n-C13	O
37	9.005	190380	762535	5.808	n-C14	O
50	11.699	167567	662954	5.049	n-C15	O
63	14.392	147058	579442	4.413	n-C16	O
77	17.016	127709	499635	3.805	n-C17	O
78	17.235	61897	341455	2.601	Pristane	O
87	19.544	97388	408261	3.109	n-C18	O
88	19.811	37707	208448	1.588	Phytane	O
98	21.971	82509	335543	2.556	n-C19	O
108	24.285	70805	292118	2.225	n-C20	O
119	26.504	54595	233714	1.780	n-C21	OM
127	28.637	46901	195535	1.489	n-C22	FOM
135	30.664	39774	163466	1.245	n-C23	O
141	32.627	32572	120736	0.920	n-C24	O
150	34.499	26045	118683	0.904	n-C25	LO
157	36.312	20147	93821	0.715	n-C26	LO
161	38.056	16229	70922	0.540	n-C27	O
168	39.741	12288	54156	0.412	n-C28	O
174	41.368	10170	39993	0.305	n-C29	O
183	42.947	8029	31133	0.237	n-C30	LO
188	44.477	6467	27406	0.209	n-C31	LO
193	45.955	5485	22150	0.169	n-C32	LO
198	47.389	4381	21852	0.166	n-C33	LOM
203	48.781	3529	18801	0.143	n-C34	M
209	50.131	2663	14887	0.113	n-C35	LO
213	51.443	1661	11835	0.090	n-C36	OM
216	52.803	1050	5150	0.039	n-C37	
219	54.421	647	3739	0.028	n-C38	FO
Total		3078113	13129990	100.000		

Sample Type: SA Scale Factor: 1.000 Amount: 1.000 Bottle: 1
Method: TB Calibration: TB Type: UC

Table 12. Pyrolysis-GC. M(+p)xylene/n-octene ratio

Sample no.	Depth (m)	TOC (%)	M(+p)xylene / n-octene
C-2559	1445-1460	5.98	1.52
C-2599	2040-2055	2.77	0.85
C-2626	2445-2460	1.62	1.10
C-2639	2640-2655	1.19	0.98
C-2659	2940-2955	2.95	1.20
C-2660	2955-2970	7.01	0.83
C-2665	3030-3045	0.63	

Table 13: Semiquantitative data from pyrolysis-GC.

HEIGHT

IKU.NO	DYBDE	C1	C2-C5	C6-C14	C15+
C-2559	1460	2997	159345	442568	181710
C-2599	2055	11588	1405372	2350865	1443741
C-2626	2460	6661	641110	1238404	952553
C-2639	2655	48154	2152841	11557270	5112263
C-2659	2955	21030	2570242	2358447	487043
C-2660	2970	12742	2687485	3508410	1062735

AREA

IKU.NO	DYBDE	C1	C2-C5	C6-C14	C15+
C-2559	1460	490989	366340	2966661	2397779
C-2599	2055	1923602	4635834	12824740	15559540
C-2626	2460	770653	1967962	10287810	13452450
C-2639	2655	6059162	6079029	58233680	55496960
C-2659	2955	2463387	6377162	12948300	4962851
C-2660	2970	1805892	4812117	17442710	10899070

PERCENT

IKU.NO	DYBDE	C1	C2-C5	C6-C14	C15+
C-2559	1460	7.89	5.89	47.68	38.54
C-2599	2055	5.50	13.27	36.70	44.53
C-2626	2460	2.91	7.43	38.85	50.80
C-2639	2655	4.62	4.63	44.36	42.28
C-2659	2955	9.10	23.56	47.84	18.34
C-2660	2970	5.11	13.62	49.35	30.84

Table 14. C_2-C_8 hydrocarbons in oil and condensate samples. Light hydrocarbons ratios indicative of water washing, biodegradation and maturation.

	C-2298 DST 1	C-2290 DST 2
Water washing:		
3-methylpentane/benzene:	0.27	0.35
Methylcyclohexane/toluene:	0.81	1.08
Biodegradation/maturity:		
Methylbutane/n-pentane:	0.51	0.49
3-methylpentane/n-hexane:	0.29	0.30
Maturity, nonbiodegraded oil:		
n-hexane/methylcyclopentane:	1.55	1.28
n-heptane/methylcyclohexane:	0.77	0.72
Kerogen type/maturity:		
Benzene/n-hexane	1.08	0.86
(m+p)-xylene/n-octane	0.85	0.82

IKU SINTEF-GRUPPEN

Table 15a. DST 1 fluid. Content of C_2-C_8 hydrocarbons. Well 6/3-1

C-2298	area	ug	mg/ml	% of t.oil
iso-C4	5038	.046	.155	.018
nC4	35708	.331	1.104	.129
iso-C5	79157	.734	2.449	.286
nC5	155494	1.443	4.810	.561
CyC5+2,3diMeC4	47108	.437	1.457	.170
2MeC5	106824	.991	3.305	.385
3MeC5	70736	.656	2.188	.255
nC6	243828	2.263	7.543	.880
MeCyC5	157057	1.457	4.859	.567
benzene	263712	2.447	8.159	.952
CyC6	213431	1.981	6.603	.771
2MeC6	84322	.782	2.608	.304
2,3diMeC5	35081	.325	1.085	.126
3MeC6	136655	1.268	4.228	.493
DiMeCyC5	188100	1.745	5.819	.679
nC7	299772	2.782	9.274	1.083
MeCyC6	387298	3.594	11.982	1.399
EtCyC5+2,5diMeC6	54257	.503	1.678	.196
'2,4diMeC6	33193	.308	1.026	.119
triMeCyC5	22034	.204	.681	.079
toluene	475167	4.410	14.701	1.716
2+4MeC7	153407	1.423	4.746	.554
3MeC7	89364	.829	2.764	.322
DiMeCyC6	150269	1.394	4.649	.542
nC8	283660	2.632	8.776	1.024
2,4diMeC7+diMeCyC6	35797	.332	1.107	.129
EtCyC6	85079	.789	2.632	.307
EtBenzene	64093	.594	1.983	.231
m,p-Xylene	242400	2.249	7.499	.875
2+4MeC8	84310	.782	2.608	.304
o-xylene	80345	.745	2.485	.290
sum		40.493	134.979	15.763

tot.oil-ant ug inj.: 256.890ug

%C2-C8 (tot.area) in tot.oil: 21.149%

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Table 15b. DST 2 fluid. Content of C_2-C_8 hydrocarbons. Well 6/3-1.

C-2299	area	ug	mg/ml	% of t.oil
iso-C4	0	.000	.000	.000
nC4	6458	.054	.180	.022
iso-C5	17161	.143	.479	.060
nC5	34862	.292	.973	.123
CyC5+2,3diMeC4	26415	.221	.737	.093
2MeC5	74241	.621	2.073	.263
3MeC5	51345	.430	1.433	.182
nC6	172655	1.446	4.821	.613
MeCyC5	135227	1.132	3.776	.480
benzene	147943	1.239	4.131	.525
CyC6	213281	1.786	5.956	.757
2MeC6	106222	.889	2.966	.377
2,3diMeC5	38349	.321	1.070	.136
3MeC6	161434	1.352	4.508	.573
DiMeCyC5	189740	1.589	5.298	.673
nC7	381260	3.194	10.646	1.354
MeCyC6	529002	4.431	14.772	1.878
EtCyC5+2,5diMeC6	74170	.621	2.071	.263
'2,4diMeC6	41931	.351	1.170	.148
triMeCyC5	33451	.280	.934	.118
toluene	488068	4.088	13.629	1.733
2+4MeC7	273396	2.290	7.634	.970
3MeC7	152416	1.276	4.256	.541
DiMeCyC6	236858	1.984	6.614	.841
nC8	590230	4.944	16.482	2.096
2,4diMeC7+diMeCyC6	103804	.869	2.898	.368
EtCyC6	177872	1.490	4.967	.631
EtBenzene	102967	.862	2.875	.365
m,p-Xylene	483028	4.046	13.488	1.715
2+4MeC8	216299	1.812	6.040	.768
o-xylene	167541	1.403	4.678	.595
sum		45.471	151.570	19.276

tot.oil-ant ug inj.: 235.890ug

%C2-C8 (tot.area) in tot.oil: 25.290%

Table 16a. Molecular ratios from sterane and terpane mass chromatograms. Maturity ratios.

IKU code	Depth (m)	αβ/αβ+βα[1)]	%22S[2)]	%20S[3)]	%ββ[4)]
C-2660	2955-2970	0.88	59.8	37.1	59.7
C-2283	2969.5	0.89	53.7	29.4	71.1
C-2285	2990.5	0.95	57.6	46.7	83.9
C-2287	3010.8	0.95	60.2	47.1	81.7
C-2288	3012.1	0.94	59.3	44.9	83.7
C-2290	3025.5	0.94	60.8	41.7	81.2
C-2291	3035.2	0.97	62.0	41.4	84.0
C-2299	2978-2993				
	Cond.DST 2	0.98	60.5	45.5	87.4
C-2298	3015-3023	0.93	60.7	37.5	84.2
	Oil, DST 1				

1) E/E+F in m/z 191

2) Average % distribution between first and second eluting isomers of extended hopanes (G-H in m/z 191)

3) 2(r+s)/(q+t+2(r+s)) in m/z 217

4) q/q+t in m/z 217

155/j/anl/2

Table 16b. Molecular ratios from terpane and sterane mass chromatograms. Maturity and source characteristic ratios.

IKU no.	Depth (m)	Q/E[1]	Tm/Ts[2]	X/E[3]	Z/E[4]	a/a+j[5]
C-2660	2955-2970	0.04	0.93	0.05	0.04	0.65
C-2283	2969.5	0.31	1.39	0.02	-	0.62
C-2285	2990.5	0.23	0.48	0.06	0.06	0.89
C-2287	3010.8	0.13	0.53	0.06	0.05	0.92
C-2288	3012.1	0.10	0.36	0.07	0.05	0.89
C-2290	3025.5	0.21	0.23	0.13	0.08	0.97
C-2291	3035.2	0.07	0.60	0.04	0.03	0.94
C-2299	2978-2993					
	Cond.DST 2	0.23	0.42	0.03	-	0.95
C-2298	3015-3023	0.06	0.60	0.06	0.05	0.88
	Oil, DST 1					

1) Relative abundance of tricyclic terpanes (Q/E in m/z 191)
2) B/A in m/z 191
3) Relative abundance of unknown (X/E in m/z 191)
4) Relative abundance of bisnorhopane (Z/E in m/z 191)
5) Relative abundance of C_{27} rearranged steranes (a/a+j in m/z 217)

Table 17

List of peak heights and peak areas
in mass chromatograms

Table 17a

Peak areas in m/z 191 mass chromatograms

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	AREA	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	8.126122E+02	0:18:53	
2	1.391601E+03	0:22:59	P
3	5.461246E+02	0:24:07	Q
4	8.260754E+02	0:26:30	R
5	7.332529E+02	0:27:49	S
6	4.744128E+02	0:30:05	
7	5.436337E+02	0:31:44	
8	3.901978E+02	0:33:05	
9	2.946214E+03	0:33:55	A
10	2.044418E+02	0:34:27	
11	2.097209E+03	0:34:35	B
12	8.587953E+02	0:35:08	
13	8.502717E+02	0:35:53	
14	6.619549E+03	0:37:00	C
15	1.435401E+03	0:37:07	
16	9.871335E+02	0:37:26	X
17	1.596476E+03	0:37:51	D
18	1.728454E+04	0:38:27	E
19	1.212671E+03	0:38:46	
20	2.749279E+02	0:38:56	
21	2.198719E+03	0:39:05	F
22	7.289889E+03	0:40:07	G
23	4.774686E+03	0:40:19	
24	7.096490E+02	0:40:39	
25	1.532417E+03	0:40:53	I
26	4.358816E+03	0:41:27	J
27	3.267867E+03	0:41:45	
28	3.002346E+02	0:42:14	
29	3.619864E+03	0:43:06	K
30	2.587799E+03	0:43:35	
31	2.230950E+03	0:45:08	L
32	1.306286E+03	0:45:50	

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	AREA	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	2.648734E+02	0:18:50	
2	3.927587E+01	0:20:09	
3	1.035291E+02	0:20:43	
4	6.748180E+01	0:21:39	
5	6.369659E+02	0:22:55	P
6	2.817946E+02	0:24:04	Q
7	2.721823E+02	0:26:26	R
8	1.647529E+02	0:27:46	S
9	5.659950E+01	0:28:08	T
10	6.079673E+01	0:28:17	
11	5.875638E+01	0:31:58	
12	5.650753E+01	0:32:13	
13	7.925057E+01	0:33:03	
14	7.180268E+01	0:33:21	
15	2.596059E+02	0:33:51	A
16	3.241115E+02	0:34:32	B
17	1.335952E+02	0:35:06	
18	3.350055E+01	0:35:25	
19	5.369504E+01	0:36:13	
20	5.049277E+01	0:36:28	
21	1.148635E+03	0:36:57	C
22	9.875681E+01	0:37:47	D
23	1.228483E+03	0:38:24	E
24	3.272579E+01	0:38:43	
25	1.362053E+02	0:39:03	F
26	3.250131E+02	0:40:04	G
27	2.514284E+02	0:40:17	H
28	5.286818E+01	0:40:51	I
29	1.959667E+02	0:41:25	J
30	1.361748E+02	0:41:43	
31	8.206681E+01	0:43:03	

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	AREA	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	1.977864E+02	0:18:50	
2	7.171690E+01	0:21:21	
3	5.949116E+01	0:21:39	
4	2.904307E+02	0:22:54	P
5	1.838168E+02	0:24:03	Q
6	1.760970E+02	0:26:27	R
7	5.478194E+01	0:27:45	S
8	5.033460E+01	0:28:16	T
9	6.616913E+01	0:30:02	
10	3.632243E+01	0:32:11	
11	9.157391E+01	0:33:20	
12	2.196310E+02	0:33:51	A
13	8.824226E+01	0:34:31	B
14	9.727716E+01	0:35:06	
15	2.988888E+02	0:36:55	C
16	6.705033E+01	0:37:03	
17	5.454246E+01	0:37:22	X
18	9.372321E+02	0:38:23	E
19	2.968351E+02	0:40:03	G
20	2.135326E+02	0:40:15	H
21	2.108970E+02	0:41:23	J
22	1.223306E+02	0:41:41	
23	1.096551E+02	0:43:02	

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SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	AREA	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	1.167704E+02	0:18:51	
2	3.185917E+01	0:20:45	
3	5.727287E+01	0:21:22	
4	1.843402E+02	0:22:56	P
5	1.388905E+02	0:24:05	Q
6	1.230127E+02	0:26:26	R
7	5.527117E+01	0:27:47	S
8	2.388852E+01	0:28:09	T
9	4.588519E+01	0:30:03	
10	3.564241E+01	0:31:59	
11	4.096682E+01	0:33:03	
12	6.304020E+01	0:33:22	
13	3.054112E+02	0:33:51	A
14	1.670216E+01	0:34:24	
15	1.459822E+02	0:34:32	B
16	8.226421E+01	0:35:07	
17	7.272566E+01	0:35:51	
18	4.125896E+02	0:36:57	C
19	1.365502E+02	0:37:04	
20	7.344204E+01	0:37:23	X
21	1.380442E+03	0:38:23	E
22	6.928400E+01	0:39:02	F
23	3.968487E+02	0:40:04	G
24	2.570334E+02	0:40:16	H
25	2.481224E+02	0:41:24	J
26	1.512466E+02	0:41:42	
27	1.251491E+02	0:43:03	K
28	7.555373E+01	0:43:30	

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	AREA	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	2.232797E+02	0:18:51	
2	3.066224E+02	0:22:55	P
3	2.353919E+02	0:24:06	Q
4	2.670091E+02	0:26:28	R
5	1.376984E+02	0:27:47	S
6	5.694126E+01	0:28:09	T
7	6.973784E+01	0:28:18	
8	1.035700E+02	0:30:04	
9	6.282850E+01	0:31:31	
10	7.209785E+01	0:31:59	
11	6.786202E+01	0:32:12	
12	9.039175E+01	0:33:03	
13	1.398072E+02	0:33:20	
14	6.744562E+02	0:33:51	A
15	4.045225E+01	0:34:25	
16	2.289233E+02	0:34:31	B
17	1.915914E+02	0:35:07	
18	2.003802E+02	0:35:50	
19	2.007030E+03	0:36:58	C
20	2.008057E+02	0:37:23	X
21	1.135523E+02	0:37:47	D
22	2.761801E+03	0:38:23	E
23	1.727054E+02	0:39:03	F
24	9.206839E+02	0:40:05	G
25	5.719785E+02	0:40:17	H
26	1.447532E+02	0:40:51	I
27	7.190088E+02	0:41:25	J
28	4.955282E+02	0:41:43	
29	5.447552E+02	0:43:04	K
30	3.164378E+02	0:43:31	
31	2.055612E+02	0:45:04	

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	AREA	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	2.179398E+02	0:18:49	
2	7.054800E+01	0:20:10	
3	4.991227E+01	0:20:43	
4	3.691236E+02	0:22:55	P
5	2.728720E+02	0:24:04	Q
6	2.786789E+02	0:26:26	R
7	1.170230E+02	0:27:46	S
8	7.821581E+01	0:28:08	T
9	7.901064E+01	0:28:15	
10	8.902999E+01	0:30:03	
11	5.122307E+01	0:31:31	
12	9.187551E+01	0:31:58	
13	9.651295E+01	0:32:12	
14	1.201421E+02	0:33:02	
15	1.537181E+02	0:33:21	
16	6.340046E+02	0:33:51	A
17	4.893634E+01	0:34:23	
18	1.018690E+02	0:34:32	B
19	2.052614E+02	0:35:07	
20	1.259121E+02	0:35:50	
21	6.714998E+02	0:36:55	
22	3.385487E+02	0:37:03	C
23	1.960551E+02	0:37:22	X
24	1.047585E+02	0:37:46	D
25	1.527872E+03	0:38:23	E
26	8.909937E+01	0:39:02	F
27	6.923901E+02	0:40:04	G
28	4.213999E+02	0:40:16	H
29	1.236703E+02	0:40:51	I
30	5.318929E+02	0:41:25	J
31	3.416700E+02	0:41:42	
32	3.433036E+02	0:43:03	K
33	2.285418E+02	0:43:31	
34	1.472633E+02	0:45:04	

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	AREA	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	5.171345E+01	0:18:52	
2	1.507553E+01	0:21:23	
3	6.216954E+01	0:22:56	P
4	4.325691E+01	0:24:06	Q
5	4.840826E+01	0:26:28	R
6	2.261925E+01	0:27:47	S
7	1.631181E+01	0:30:04	
8	2.082197E+01	0:33:22	
9	1.293105E+02	0:33:52	A
10	5.902398E+01	0:34:32	B
11	2.778477E+01	0:35:07	
12	2.963469E+01	0:35:51	
13	2.104924E+02	0:36:57	C
14	5.579538E+01	0:37:04	
15	2.611818E+01	0:37:24	X
16	1.588754E+01	0:37:48	D
17	6.853983E+02	0:38:23	E
18	2.547776E+01	0:39:03	F
19	1.878751E+02	0:40:04	G
20	1.225035E+02	0:40:16	H
21	1.606567E+01	0:40:51	I
22	1.212091E+02	0:41:24	J
23	7.455598E+01	0:41:43	
24	6.725803E+01	0:43:03	K
25	4.084324E+01	0:43:31	

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	AREA	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	8.301517E+01	0:18:52	
2	1.425010E+02	0:22:57	P
3	1.006492E+02	0:24:07	Q
4	1.078832E+02	0:26:29	R
5	5.016983E+01	0:27:47	S
6	5.828421E+01	0:33:04	
7	8.038832E+01	0:33:23	
8	3.685390E+02	0:33:53	A
9	1.847064E+02	0:34:34	B
10	9.973643E+01	0:35:08	
11	1.099216E+02	0:35:52	
12	5.541232E+02	0:36:59	C
13	1.342926E+02	0:37:06	
14	1.150296E+02	0:37:24	X
15	6.430340E+01	0:37:50	D
16	2.041378E+03	0:38:24	E
17	1.218566E+02	0:39:04	F
18	7.057986E+02	0:40:06	G
19	4.676895E+02	0:40:19	H
20	9.211198E+01	0:40:51	I
21	5.533307E+02	0:41:26	J
22	3.774858E+02	0:41:44	
23	3.739216E+02	0:43:05	K
24	2.372381E+02	0:43:32	
25	1.456902E+02	0:45:07	

Table 17a

Peak heights in m/z 191 mass chromatograms

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	HEIGHT	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	2.192950E+02	0:18:53	
2	3.065137E+02	0:22:59	P
3	1.296785E+02	0:24:07	Q
4	1.244484E+02	0:26:30	R
5	1.539168E+02	0:27:49	S
6	8.569788E+01	0:30:05	
7	1.002422E+02	0:31:44	
8	5.574728E+01	0:33:05	
9	5.631463E+02	0:33:55	A
10	6.337260E+01	0:34:27	
11	4.852654E+02	0:34:35	B
12	1.120924E+02	0:35:08	
13	1.497700E+02	0:35:53	
14	1.757505E+03	0:37:00	C
15	4.931041E+02	0:37:07	
16	2.346692E+02	0:37:26	X
17	3.189100E+02	0:37:51	D
18	3.923013E+03	0:38:27	E
19	2.876754E+02	0:38:46	
20	6.937801E+01	0:38:56	
21	5.157819E+02	0:39:05	F
22	1.397411E+03	0:40:07	G
23	8.722596E+02	0:40:19	H
24	1.226953E+02	0:40:39	
25	2.843590E+02	0:40:53	I
26	7.947546E+02	0:41:27	J
27	5.408457E+02	0:41:45	
28	6.569427E+01	0:42:14	
29	4.930120E+02	0:43:06	K
30	3.181779E+02	0:43:35	
31	2.420741E+02	0:45:08	L
32	1.400529E+02	0:45:50	

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	HEIGHT	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	7.178780E+01	0:18:50	
2	8.034575E+00	0:20:09	
3	2.348300E+01	0:20:43	
4	1.534239E+01	0:21:39	
5	1.868184E+02	0:22:55	P
6	6.728076E+01	0:24:04	Q
7	4.651876E+01	0:26:26	R
8	3.881190E+01	0:27:46	S
9	1.648299E+01	0:28:08	T
10	1.611055E+01	0:28:17	
11	1.279029E+01	0:31:58	
12	1.158468E+01	0:32:13	
13	1.062006E+01	0:33:03	
14	1.683288E+01	0:33:21	
15	5.119236E+01	0:33:51	A
16	6.940663E+01	0:34:32	B
17	1.816884E+01	0:35:06	
18	6.657272E+00	0:35:25	
19	8.242767E+00	0:36:13	
20	1.068817E+01	0:36:28	
21	1.670131E+02	0:36:57	C
22	1.880892E+01	0:37:47	D
23	2.150863E+02	0:38:24	E
24	7.563090E+00	0:38:43	
25	2.702254E+01	0:39:03	F
26	5.866226E+01	0:40:04	G
27	5.114761E+01	0:40:17	H
28	9.644538E+00	0:40:51	I
29	2.826082E+01	0:41:25	J
30	2.194954E+01	0:41:43	

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	HEIGHT	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	4.295317E+01	0:18:50	
2	1.214074E+01	0:21:21	
3	1.077931E+01	0:21:39	
4	7.166201E+01	0:22:54	P
5	4.027993E+01	0:24:03	O
6	3.089690E+01	0:26:27	R
7	1.620306E+01	0:27:45	S
8	1.212750E+01	0:28:16	T
9	1.358619E+01	0:30:02	
10	1.068338E+01	0:32:11	
11	1.882267E+01	0:33:20	
12	4.890422E+01	0:33:51	A
13	2.321908E+01	0:34:31	B
14	1.332895E+01	0:35:06	
15	7.314258E+01	0:36:55	C
16	2.544609E+01	0:37:03	
17	1.050078E+01	0:37:22	X
18	1.592494E+02	0:38:23	F
19	5.896229E+01	0:40:03	G
20	4.134551E+01	0:40:15	H
21	2.834145E+01	0:41:23	J
22	1.827585E+01	0:41:41	

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SINTEF-GRUPPEN

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	HEIGHT	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	3.076935E+01	0:18:51	
2	9.137734E+00	0:20:45	
3	1.042316E+01	0:21:22	
4	5.266464E+01	0:22:56	P
5	3.202493E+01	0:24:05	Q
6	1.879051E+01	0:26:26	R
7	1.605503E+01	0:27:47	S
8	6.845089E+00	0:28:09	T
9	1.035413E+01	0:30:03	
10	7.807946E+00	0:31:59	
11	6.895930E+00	0:33:03	
12	1.431200E+01	0:33:22	
13	7.001404E+01	0:33:51	A
14	5.219767E+00	0:34:24	
15	3.484081E+01	0:34:32	B
16	1.340795E+01	0:35:07	
17	1.213146E+01	0:35:51	
18	1.012835E+02	0:36:57	C
19	4.345313E+01	0:37:04	
20	1.503140E+01	0:37:23	X
21	2.431882E+02	0:38:23	E
22	1.500583E+01	0:39:02	F
23	7.293015E+01	0:40:04	G
24	4.924520E+01	0:40:16	H
25	4.229708E+01	0:41:24	J
26	2.410991E+01	0:41:42	
27	1.810321E+01	0:43:03	K
28	9.896002E+00	0:43:30	

IKU SINTEF-GRUPPEN

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	HEIGHT	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	5.528448E+01	0:18:51	
2	7.981893E+01	0:22:55	P
3	5.802373E+01	0:24:06	Q
4	3.890208E+01	0:26:28	R
5	3.586898E+01	0:27:47	S
6	1.795592E+01	0:28:09	T
7	1.859085E+01	0:28:18	
8	2.248230E+01	0:30:04	
9	1.293525E+01	0:31:31	
10	1.764420E+01	0:31:59	
11	1.766361E+01	0:32:12	
12	1.447129E+01	0:33:03	
13	2.761237E+01	0:33:20	
14	1.452690E+02	0:33:51	A
15	9.330536E+00	0:34:25	
16	4.671832E+01	0:34:31	B
17	3.025470E+01	0:35:07	
18	2.747878E+01	0:35:50	
19	2.335959E+02	0:36:58	C
20	3.728532E+01	0:37:23	X
21	1.883414E+01	0:37:47	D
22	4.999270E+02	0:38:23	E
23	3.880654E+01	0:39:03	F
24	1.717778E+02	0:40:05	G
25	1.086692E+02	0:40:17	H
26	2.337911E+01	0:40:51	I
27	1.059606E+02	0:41:25	J
28	6.970803E+01	0:41:43	
29	6.483322E+01	0:43:04	K
30	3.931226E+01	0:43:31	
31	2.359601E+01	0:45:04	

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	HEIGHT	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	4.891590E+01	0:18:49	
2	1.505462E+01	0:20:10	
3	1.492750E+01	0:20:43	
4	7.250792E+01	0:22:55	P
5	6.295471E+01	0:24:04	Q
6	4.733958E+01	0:26:26	R
7	3.075263E+01	0:27:46	S
8	2.198529E+01	0:28:08	T
9	2.047389E+01	0:28:15	
10	1.986674E+01	0:30:03	
11	1.494304E+01	0:31:31	
12	2.149779E+01	0:31:58	
13	1.933811E+01	0:32:12	
14	2.363491E+01	0:33:02	
15	3.318403E+01	0:33:21	
16	1.374394E+02	0:33:51	A
17	1.387240E+01	0:34:23	
18	2.580317E+01	0:34:32	B
19	3.148441E+01	0:35:07	
20	2.432412E+01	0:35:50	
21	1.603627E+02	0:36:55	
22	9.555686E+01	0:37:03	C
23	3.994920E+01	0:37:22	X
24	1.658911E+01	0:37:46	D
25	2.913032E+02	0:38:23	E
26	1.818599E+01	0:39:02	F
27	1.309665E+02	0:40:04	G
28	8.493076E+01	0:40:16	H
29	1.813520E+01	0:40:51	I
30	8.061897E+01	0:41:25	J
31	5.121070E+01	0:41:42	
32	4.461764E+01	0:43:03	K
33	2.965705E+01	0:43:31	

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	HEIGHT	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	1.099817E+01	0:18:52	
2	2.995102E+00	0:21:23	
3	1.740360E+01	0:22:56	P
4	9.912878E+00	0:24:06	Q
5	7.509529E+00	0:26:28	R
6	5.894813E+00	0:27:47	S
7	3.687468E+00	0:30:04	
8	3.974148E+00	0:33:22	
9	2.863185E+01	0:33:52	A
10	1.656219E+01	0:34:32	B
11	4.225333E+00	0:35:07	
12	4.215423E+00	0:35:51	
13	5.924755E+01	0:36:57	C
14	1.798706E+01	0:37:04	
15	5.868422E+00	0:37:24	X
16	3.306110E+00	0:37:48	D
17	1.420728E+02	0:38:23	E
18	5.332067E+00	0:39:03	F
19	3.847700E+01	0:40:04	G
20	2.310466E+01	0:40:16	H
21	2.918278E+00	0:40:51	I
22	2.191217E+01	0:41:24	J
23	1.136838E+01	0:41:43	
24	9.669470E+00	0:43:03	K
25	5.490299E+00	0:43:31	

SAMPLE 1 INJECTION 1 GROUP 1 CHANNEL 191.10

	HEIGHT	RETENTION TIME	PEAK IDENTITIES IN CHROMATOGRAM
1	2.353913E+01	0:18:52	
2	3.501460E+01	0:22:57	P
3	2.204637E+01	0:24:07	Q
4	1.931438E+01	0:26:29	R
5	1.612244E+01	0:27:47	S
6	9.892350E+00	0:33:04	
7	1.754344E+01	0:33:23	
8	7.322028E+01	0:33:53	A
9	4.080891E+01	0:34:34	B
10	1.620061E+01	0:35:08	
11	1.773631E+01	0:35:52	
12	1.454792E+02	0:36:59	C
13	4.395140E+01	0:37:06	
14	2.332190E+01	0:37:24	X
15	1.386667E+01	0:37:50	D
16	3.624159E+02	0:38:24	E
17	2.492708E+01	0:39:04	F
18	1.353575E+02	0:40:06	G
19	8.507817E+01	0:40:19	H
20	1.576423E+01	0:40:51	I
21	8.628957E+01	0:41:26	J
22	5.398862E+01	0:41:44	
23	4.715092E+01	0:43:05	K
24	2.911060E+01	0:43:32	

Table 17a.

Peak heights and peak areas from m/z 191 mass chromatograms.

C-2299 SAT	Peak areas	Peak heights
	64.5	14.3
P	98.7	21.1
Q	57.3	11.7
R	54.8	7.5
S	28.8	4.4
T	23.3	2.3
A	96.4	17.8
B	44.1	7.1
C	273.0	27.9
X	7.4	1.8
D	4.2	0.9
E	405.0	53.9
F	4.9	1.0
G	78.7	12.4
H	66.6	8.3
J	7.8	0.9
	47.4	6.2
K	35.8	3.8
	24.1	2.6
L	13.4	1.4
	5.6	0.7
M	1.3	0.2
	1.6	0.3

Table 17b.

Peak heights and peak areas from m/z 217 and 218 mass chromatograms.

	m/z 217		m/z 218	
Peak identities	Peak areas	Peak heights	Peak areas	Peak heights
C-2660 SAT				
a	3324.0	547.0		
b	2111.6	382.0		
c	929.2	149.5		
f	1732.1	178.4		
g	2371.9	268.1		
h	3094.0	378.1	1774.2	270.2
i			1142.2	172.7
j	1666.4	299.7		
k	2964.9	339.0		
n	1288.1	153.2	922.5	145.0
o	554.1	115.6	793.5	170.8
p	1147.8	137.9		
q	1359.0	130.2		
r	1075.0	154.3	1183.7	184.9
s	630.5	108.8	1084.3	182.6
t	2089.7	227.4		
u	1372.0	289.8		
v	761.6	77.7		

Table 17b.

Peak heights and peak areas from m/z 217 and 218 mass chromatograms.

	m/z 217		m/z 218	
Peak identities	Peak areas	Peak heights	Peak areas	Peak heights
C-2283 SAT				
a	137.1	28.4		
b	89.3	14.2		
c	23.6	5.0		
f	70.5	6.4		
g	128.4	12.8		
h	133.0	15.3	102.2	16.1
i			88.0	15.3
j	101.9	17.0		
k	165.8	19.0		
n	82.8	12.1	61.1	11.9
o	30.9	6.1	47.8	9.2
p	59.2	6.1		
q	37.0	4.6		
r	65.9	11.0	70.0	12.2
s	68.9	8.9	77.4	11.7
t	97.3	12.1		
u	153.4	46.6		
v	45.2	7.8		

Table 17b.

Peak heights and peak areas from m/z 217 and 218 mass chromatograms.

	m/z 217		m/z 218	
Peak identities	Peak areas	Peak heights	Peak areas	Peak heights
C-2285 SAT				
a	385.7	74.5		
b	238.5	44.5		
c	74.2	13.8		
f	153.0	14.5		
g	161.2	17.3		
h	324.3	43.1	202.1	29.6
i			142.8	26.4
j	51.0	10.2	101.2	16.1
k	277.4	33.6	96.1	16.0
n	116.7	13.7	110.8	17.3
o	91.6	11.6	137.4	19.9
p	31.7	3.3		
q	43.4	4.6		
r	101.6	15.0		
s	105.2	13.9		
t	34.9	5.1		
u	220.7	49.9		
v	80.9	8.2		

Table 17b.

Peak heights and peak areas from m/z 217 and 218 mass chromatograms.

	m/z 217		m/z 218	
Peak identities	Peak areas	Peak heights	Peak areas	Peak heights
C-2287 SAT				
a	309.1	68.3		
b	192.8	43.0		
c	51.0	7.6		
f	119.7	12.1		
g	137.0	14.5		
h	279.3	36.1	171.1	36.6
i			129.9	25.4
j	52.5	7.9		
k	246.8	32.3		
n	124.3	17.1	95.0	14.7
o	88.7	12.2	93.0	16.8
p	34.8	3.7		
q	49.5	5.4		
r	99.7	13.7	106.0	15.4
s	95.3	13.1	106.9	17.8
t	42.6	5.9		
u	186.9	38.8		
v	69.8	6.6		

Table 17b.

Peak heights and peak areas from m/z 217 and 218 mass chromatograms.

	m/z 217		m/z 218	
Peak identities	Peak areas	Peak heights	Peak areas	Peak heights
C-2288 SAT				
a	644.7	104.7		
b	414.3	62.5		
c	149.6	22.7		
f	327.1	34.5		
g	321.2	35.9		
h	550.7	62.0	366.2	57.1
i			283.3	40.8
j	83.5	15.4		
k	583.9	71.6		
n	284.6	31.5	201.9	32.1
o	225.1	29.7	211.5	38.2
p	69.8	7.2		
q	131.3	11.4		
r	239.9	35.1	270.2	41.0
s	273.6	34.3	306.7	45.7
t	122.4	13.6		
u	341.5	66.7		
v	144.9	19.1		

Table 17b.

Peak heights and peak areas from m/z 217 and 218 mass chromatograms.

	m/z 217		m/z 218	
Peak identities	Peak areas	Peak heights	Peak areas	Peak heights
C-2290 SAT				
a	517.6	91.4		
b	317.9	56.7		
c	97.9	17.2		
f	228.5	21.0		
g	155.0	14.3		
h	397.4	59.3	133.6	15.7
i			75.8	11.6
j	23.3	4.2		
k	372.0	55.5		
n	135.3	18.3	51.7	8.5
o	57.2	11.0	57.1	10.7
p	1.1	0.1		
q	49.3	4.5		
r	93.8	13.1	72.4	12.1
s	54.0	7.4	71.9	10.1
t	38.5	6.1		
u	141.5	30.1		
v	69.5	13.2		

Table 17b.

Peak heights and peak areas from m/z 217 and 218 mass chromatograms.

	m/z 217		m/z 218	
Peak identities	Peak areas	Peak heights	Peak areas	Peak heights
C-2291 SAT				
a	126.1	29.7		
b	70.3	13.4		
c	18.5	3.6		
f	41.1	4.0		
g	51.1	5.7		
h	93.0	11.2	64.7	14.6
i			47.2	8.7
j	16.7	2.8		
k	93.2	13.9		
n	33.2	5.0	30.7	4.6
o	29.7	4.6	32.3	6.4
p	9.1	1.3	37.6	6.9
q	15.0	1.5		
r	40.8	6.2		
s	28.9	5.2	44.3	7.6
t	14.7	2.1		
u	67.7	14.2		
v	25.0	2.7		

Table 17b.

Peak heights and peak areas from m/z 217 and 218 mass chromatograms.

	m/z 217		m/z 218	
Peak identities	Peak areas	Peak heights	Peak areas	Peak heights
C-2298 SAT				
a	340.3	74.1		
b	215.8	42.9		
c	66.4	11.8		
f	156.7	16.2		
g	170.0	16.9		
h	349.7	42.0	225.1	44.8
i			167.4	30.0
j	60.1	10.4		
k	329.2	39.3		
n	160.7	19.5	127.6	23.6
o	125.8	17.4	134.0	22.3
p	53.0	5.9		
q	85.1	6.9		
r	166.4	27.4	178.2	31.4
s	151.2	22.4	196.5	32.6
t	77.1	10.4		
u	148.9	30.6		
v	58.1	6.3		

Table 17b.

Peak heights and peak areas from m/z 217 and 218 mass chromatograms.

	m/z 217		m/z 218	
Peak identities	Peak areas	Peak heights	Peak areas	Peak heights
C-2299 SAT				
a	149.1	35.2		
b	82.2	17.0		
c	21.2	3.0		
f	45.6	4.5		
g	39.2	4.1		
h	91.5	11.6	51.0	7.2
i			39.9	7.0
j	6.8	1.9		
k	78.0	9.7		
n	27.6	4.1	18.0	3.4
o	14.3	1.7	20.1	3.2
p				
q	7.4	0.8		
r	22.3	3.2	24.8	3.7
s	21.2	3.2	31.2	4.4
t	3.6	0.7		
u	98.5	22.5		
v	38.9	5.0		

APPENDIX 1

DESCRIPTION OF SAMPLES IN REFLECTED LIGHT

C-2549: 1295-1310 m.
Vitrinite Reflectance: 0.31%(20).
Sporinite Fluorescence: 1-2.
The sample is a claystone with a fair organic matter content consisting mostly of vitrinite particles, some of which are reworked. There is also a significant content of brown liptinite/bitumenite wisps. In ultra-violet light, the liptinite consists mostly of green to greenish-yellow sporinite fragments. Small yellow-orange cysts were also seen and some of the rock chips have a yellow-ochre background fluorescence.

C-2554: 1370-1385 m.
Vitrinite Reflectance: 0.28%(19).
Sporinite Fluorescence: 2-3.
The sample is a claystone with a fair organic matter content comprised of common brown liptinite/bitumenite wisps and particles of indigenous and reworked vitrinite. The vitrinite particles are often quite poorly preserved. Inertinite is largely absent. In ultra-violet light, the sample has a poor to fair content of greenish-yellow to yellow sporinite and cutinite fragments. Cutinite is often seen wrapped around pyrite crystals.

C-2559: 1445-1460 m.
Vitrinite Reflectance: 0.32%(20).
Sporinite Fluorescence: 3.
This claystone sample has a fair organic matter content consisting mostly of brown wispy liptinite, although some large resinite globules were also seen. The sample has a fair content of indigenous vitrinite particles, although the particles are usually small and are difficult to measure accurately. The sample has a fair content of mostly yellow sporinite and cutinite fragments in ultra-violet light. The cutinite is often seen to be wrapped around pyrite crystals.

C-2564: 1515-1530 m.
Vitrinite Reflectance: 0.31%(18).
Sporinite Fluorescence: 1-3.
The sample is a claystone with a fair organic matter content consisting largely of brown liptinite/bitumenite wisps. Very little vitrinite or inertinite is present. In ultra-violet light, the sample has a poor to

fair liptinite content comprised of green to yellow cutinite and sporinite fragments which tend to occur as contorted particles. The green material tends to occur in rock chips similar to those seen in some of the overlying samples and could represent caving.

C-2569: 1590-1605 m.
Vitrinite Reflectance: 0.33%(20).
Sporinite Fluorescence: 3-4.
The claystone sample has a fair content of brown liptinite/bitumenite wisps and less common particles of vitrinite, both reworked and indigenous. There is some locallised bitumen staining and trace amounts of inertinite particles. In ultra-violet light, the sample has a poor content of mostly yellow to yellow-orange cutinite/sporinite fragments and a few particles of possible resinite.

C-2579: 1740-1755 m.
Vitrinite Reflectance: 0.85%(2).
Sporinite Fluorescence: 3-5.
The sample has a fair organic matter content consisting mostly of liptinite fragments and traces of bitumen staining. Only a few particles of reworked vitrinite were present and were mostly difficult to measure. As a result, the mean reflectance value is not representative. The sample has a fair content of small yellow to yellow-orange sporinite particles and some light orange sporinite particles of more restricted occurrence in ultra-violet light. Some rock chips have a greenish-ochre background fluorescence.

C-2599: 2040-2055 m.
Vitrinite Reflectance: 0.27%(10), 0.53%(2).
Sporinite Fluorescence: 4-5
The claystone sample has a fair content of mostly wispy brown liptinite and bitumenite. A few small vitrinite particles are present, but are difficult to measure accurately and the data should be treated with caution. In ultra-violet light, the sample has a poor-fair content of light to medium orange amorphous globules and yellow-orange to light orange sporinite particles. Some rock chips show a strong orange-ochre fluorescence.

C-2604: 2115-2130 m.
Vitrinite Reflectance: 0.34%(8), 0.84%(1).
Sporinite Fluorescence: 4-6.
This claystone sample is fairly similar to the previous one and the organic matter consists largely of brown wispy liptinite/bitumenite, with lesser amounts of moderately preserved vitrinite particles. In ultra-violet light, the sample has a poor to fair content of mostly fragmentary liptinite in rock chips which show a greenish-ochre fluorescence. The liptinite fragments vary from a yellow-orange to a medium orange colour, reaching a dark orange colour in some amorphous globules.

C-2609: 2190-2205 m.
Vitrinite Reflectance: 0.44%(1), 0.86%(6), 1.34%(4).
Sporinite Fluorescence: 4-6.
The claystone sample has a generally poor organic matter content consisting mostly of small liptinite fragments and locallised bitumen staining. Some vitrinite particles are present, but are usually small and show evidence of reworking. In ultra-violet light, the rock chips may be separated into a non-fluorescing group and a group with a strong greenish-ochre background fluorescence. The liptinite content is fair and consists of fragmentary cutinite and sporinite particles with a yellow-orange to medium orange colour.

C-2614: 2265-2280 m.
Vitrinite Reflectance: 0.42%(14), 0.98%(4).
Sporinite Fluorescence: 5-6.
The sample consists of a nearly organic-barren calcareous claystone containing only a few particles of liptinite and reworked vitrinite. Another claystone lithology in the sample is bitumen-stained and contains a fair abundance of mostly liptinite/bitumenite wisps and small particles of both indigenous and reworked vitrinite. The primary mean reflectance value is may be slightly high due to the poor preservation state of some of the particles. This latter lithology may be caved. In ultra-violet light, the calcareous claystone showed a strong green mineral fluorescence. The liptinite content of the sample is generally poor, consisting of light to medium orange sporinite/cutinite fragments, these tending to occur in the non-fluorescing lithology.

C-2626: 2445-2460 m.
Vitrinite Reflectance: 0.46%(3), 0.81%(14), 1.30%(1).
Sporinite Fluorescence:4-5.
This claystone lithology has a fair organic matter content consisting largely of liptinite fragments and small dark particles. Vitrinite is moderately common, but is largely reworked. The lithology has a greenish mineral fluorescence in ultra-violet light and has a fair to good content of yellow- orange to light orange sporinite/cutinite particles which tend to show an alignment. Palynomorphs of similar colour and variable preservation were also seen.

C-2631: 2520-2535 m.
Vitrinite Reflectance: 0.36%(3), 0.69%(6), 1.00%(4).
Sporinite Fluorescence: 5?.
The claystone has a fair to good organic matter content consisting mostly of wispy brown liptinite. Vitrinite is less common, occurring as small particles which often show evidence of reworking. In ultra-violet light, the rock chips have a greenish-ochre fluorescence and have a fair content of generally light orange cutinite and more fragmentary liptinite particles.

C-2633: 2550-2565 m.
Vitrinite Reflectance: 0.56%(18), 0.23%(1), 0.95%(1).
Sporinite Fluorescence: 6?.
This claystone sample is broadly similar to the previous sample in organic matter content, although the vitrinite particles tend to be better preserved in this sample.The main mean reflectance value is felt to be a bit high as it may include some reworked material. The background rock fluorescence in this sample is slightly more patchy than in the previous sample and the liptinite colours tend to be a more medium orange colour.

C-2637: 2610-2625 m.
Vitrinite Reflectance: No Determination Possible.
Sporinite Fluorescence: 3-4?
The sample is a possibly calcareous claystone with a poor organic matter content consisting of liptinite/bitumenite flecks and occasionally particles of reworked vitrinite and inertinite. In ultra-violet light, the sample has a greenish- ochre mineral fluorescence. A very poor abundance of yellowish cutinite and sporinite fragments is present, although the colour is often difficult to distinguish clearly.

C-2639: 2640-2655 m.
Vitrinite Fluorescence: 0.46%(4), 0.33%(5), 0.71%(4).
Sporinite Fluorescence: 4-6.
The sample is a claystone with a poor-fair organic matter content comprised mostly of small brown liptinite/bitumenite wisps and small dark fragments. Vitrinite occurs as small, rounded particles which are probably reworked. Some of the rock chips show an ochre background fluorescence and contain a fair abundance of yellow-orange to medium orange sporinite and cutinite fragments. The reflectance data are not thought to be too reliable.

C-2658: 2925-2940m.
Vitrinite Reflectance: 1.79%(5).
Sporinite Fluorescence: ?
This possibly calcareous claystone sample has a poor organic matter content consisting mostly of brown liptinite wisps and small particles of reworked vitrinite and inertinite, and the reflectance data reflect this reworked material. In ultra-violet light, the rock chips have a greenish mineral fluorescence and contain traces of liptinite, although it is not possible to clearly distinguish any colour.

C-2660: 2955-2970 m.
Vitrinite Reflectance: 0.52%(10), 0.27%(2), 0.78%(7).
Sporinite Fluorescence: 4-5.
The sample is a claystone with a fair content of common wispy liptinite and particles of reworked vitrinite and inertinite. Bitumen staining may be quite strong in places. Any indigenous vitrinite present is poorly preserved and this may affect the reflectance values obtained. The sample has a fair to good liptinite content in ultra-violet light, consisting of bright yellow- orange thick-walled sporinite, duller yellow-orange to light orange thin- walled sporinite and variably preserved palynomorphs. Yellow-orange cutinite/ sporinite may be observed surrounding pyrite grains.

C-2277: 2964.0m (SWC).
Vitrinite Reflectance: 0.71%(6).
Sporinite Fluorescence: 5?.
The sample appears to be a calcareous claystone sample which is virtually barren of organic matter, with the exception of a few brown liptinite wisps and a few particles of probably reworked vitrinite. A few

light orange to ochre fragments were seen in ultra-violet light, but may not be liptinitic. Good calcite crystals were also seen in ultra-violet light.

C-2661: 2970-2985 m.
Vitrinite Reflectance: 0.21%(1), 1.04%(2), 1.73%(5).
Sporinite Fluorescence:3-6.
The sample consists of a claystone lithology, some fragments of which appear to be quite calcareous. The sample has a fair to poor organic matter content consisting mostly of brown liptinitic wisps in some rock chips and mostly angular fragments of reworked vitrinite in others. A number of rock chips have a green mineral fluorescence in ultra-violet light. The sample has a very poor content of small yellow to medium orange fragments which may be liptinitic.

C-2663: 3000-3015 m.
Vitrinite Reflectance: 1.32%(2), 1.89%(4).
Sporinite Fluorescence: 4??.
The sample is a silty claystone which is nearly barren of organic matter except for a few brown liptinite/bitumenite wisps and a few particles of reworked vitrinite and inertinite. This composition is reflected in the reflectance data. The sample has a slightly fluorescent groundmass in ultra- violet light and has a very poor liptinite content consisting of small yellow-orange fragments, which may be liptinitic.

C-2664: 3015-3030 m.
Vitrinite Reflectance: 0.59%(30).
Sporinite Fluorescence: 5-7.
This sample consists of a mixed coal/claystone/carbonaceous claystone lithology. The claystone has a generally poor organic matter content. The other two lithologies have good organic matter contents comprised largely of liptinite and vitrinite, which are often closely associated with each other. This makes it difficult to obtain good reflectance data from the sample and accounts for the relatively large degree of scatter in the results. It is thought that the mean reflectance value may be slightly high. Fluorescent liptinites tend to be restricted to the coaly chips and consist mainly of light to dark orange sporinite and cutinite particles. Some dull orange resinite globules were seen in some of the coaly chips and some of the more argillaceous chips appear to have a largely lipto-detrinitic groundmass.

C-2665: 3030-3045 m.
Vitrinite Reflectance: No Determination Possible.
Sporinite Fluorescence: 3-4??.
The sample is a largely barren silty claystone similar to that described from C-2663. Some rock chips show a green mineral fluorescence in ultra-violet light and small yellow to yellow-orange flecks were seen, although these may not be liptinitic.

C-2665C: 3030-3045 m.
Vitrinite Reflectance: 0.48%(17), 0.68%(4), 0.88%(8).
Sporinite Fluorescence:4-7.
This sample consists of a picked claystone/carbonaceous claystone with a fair to good organic matter content consisting of liptinite wisps, vitrinite and inertinite. The organic matter in the carbonaceous rock chips is mostly vitrinite and inertinite which shows evidence of quite strong oxidation. The generally poor condition of the vitrinite caused problems in measuring the reflectance and the primary mean reflectance may be slightly low. The sample has a fair to good content of fluorescent liptinite consisting of yellow-orange to dark orange sporinite and yellow to yellow-orange cutinite/ resinite globules, the latter often being associated with pyrite particles.

C-2666: 3045-3060 m.
Vitrinite Reflectance: 0.54%(13), 0.95%(7).
Sporinite Fluorescence: 3-4??.
The sample has a mixed silty claystone/coaly lithology, the former lithology being similar to that described from sample C-2665. The primary reflectance value may be slightly low due to the generally poor preservation of the vitrinite particles. In ultra-violet light, the sample shows quite a lot green background mineral fluorescence and contains traces of small yellow to yellow-orange flecks, which may be liptinitic.

C-2666C: 3045-3060 m.
Vitrinite Reflectance: 0.52%(20).
Sporinite Fluorescence: 4-6.
This sample consists of picked coal/carbonaceous claystone/claystone lithologies with a generally good organic matter content. Vitrinite and liptinite are probably the main types of organic matter present, although the close association of these components and the poor

preservation state of the vitrinite may have resulted in a slightly low mean reflectance. The sample has a good liptinite content in ultra-violet light, consisting of generally dully fluorescing yellow-orange resinite stringers, yellow-orange to light orange sporinite and light to medium orange resinite globules and sporinite.

APPENDIX 2

ANALYSES IN TRANSMITTED LIGHT

The description of the particulate organic matter of well 6/3-1 is based on 26 samples spaced between 1295 m and 3375 m. Three samples are side wall cores, the remaining are picked lithologies from ditch cuttings.

Most residues are small (marked by asterisk) and have a major input of very fine material. The average composition of organic residues from the upper part of the well (1295 m to 2775 m) is algal/bacterial remains (25-30%), amorphous degraded material (about 30%) and woody (including reworked woody) material (20-40%). Semiquantitative estimates have medium confidence when as here they are based on carbonate lithologies.

From C-2275 (2800 m swc) and down the investigated interval the samples are very small and often disturbed by acid resistant minerals. The main components are indicated in the diagram, but percentages have not been evaluated for the tables.

The palynomorphs are variably represented throughout. Their general preservation and the more refined composition of the kerogen groups reflect a changing marine environment.

Mixing probably of two or more lithologies was noted at some levels and is mentioned for the individual samples.

Colour indices (TAI) in most of the investigated interval were about 1+, 1+/2- suggesting immature organic material.

Higher readings about 2 were evaluated at 2640-55 m and deeper and may suggest mature deposits, but environmentally controlled oxidation cannot be excluded.

Description of samples

C-2549, (1295-1310 m): The residue consists of dense pyritic aggregates. Degraded (amorphous) material embeds finely particulate remains of wood, algae and rounded bodies of algal/bacterial origin. Pollen grains and dinoflagellate cysts are fairly well preserved.
Colour index: 1+.

C-2559 (1445-60 m): The residue resembles C-2549 above and may represent caved in lithologies.
Colour index: 1+.

C-2564 (1515-30 m): The residue consists partly of material as in the two samples above, but also less dense grey amorphous aggregates. Woody particulate matter is subordinate. Probably organic material derived from two lithologies.
Colour index: 1+.

C-2574 (1665-80 m), C-2599 (2040-55 m), C-2609 (2190-2205 m):
Residues consisting of fluffy aggregates of granular degraded remains which also stick to cyst surfaces. Abundant and variably preserved dinoflagellate cysts. Some acid resistant minerals remain.
Colour index: 1/1+, 1+.

C-2619 (2340-55 m): A small organic residue disturbed by remaining acid resistant minerals. Mostly loose aggregates embed fairly well preserved partly stained pollen and cysts.
Colour index: 1+, 1+/2-, 2-.

C-2624 (2415-30 m): Loose aggregates and disperse material. Fairly well preserved palynomorphs.
Colour index: 1+, 1+/2-.

C-2626, C-2629 (2445-2505 m): Small organic residues. Partly loose aggregates of organic/inorganic matrix, partly darker more vividly coloured organic aggregates and variably coloured structured wood fragments. Pollen show staining. Probably derived from two lithologies.
Colour index: 1/1+, 1+/2-.

C-2633 (2550-65 m): Same residues as for the interval above but apparently with a larger proportion of structured woody material from an oxidative environment.
Colour index: 1/1+.

C-2637, C-2639 (2610-2655 m): Inorganic material (acid resistant minerals) dominate the aggregates of these residues. Strongly degraded organic material (amorphous) dominates (50%). The other major component is angular and structural woody remains together with a well preserved cyst assemblage.

C-2647 (2760-75 m): Residue composed mainly as in the above interval, but with a larger proportion of structured woody material, from an oxidative environment.
Colour index: 1+/2-, 2-/2.

C-2275 (2800 m swc): A very small residue, after sieving enriched in strongly degraded amorphous matter of indeterminate origin. Palynomorphs are very rare and somewhat stained.
Colour index: 2.

C-2276, C-2659 (2895 m swc, 2940-55 m): The residues resemble C-2275 above. Woody material is abundant in sieved residues. Palynomorph walls partly have dissolved structures and a dull grey appearance. Variable preservation.
Colour index: 2, 1+/2-, 1+.

C-2657 (2910-25 m): The residue comprises of degraded material as granular aggregates similar to the interval above. It is distinguished by the enclosed light coloured, more or less globular fragments showing

strong light refraction. The "globules" are believed to represent degraded (?) algae. Palynomorphs were not observed.

C-2660 (grey-greenish grey, 2955-70 m): Small residue. A mixture of amorphous remains, degraded grey (etched) woody material and dark woody fragments. Cysts are fairly well preserved and darkly stained.
Colour index: 1+/2-.

C-2660 (dark grey claystone 2955-70 m): Small residue. After sieving coherent sheetlike aggregates embed woody material, palynomorphs and algal bodies.
Colour index: 1+.

C-2277 (2964 m swc): A very small residue dominated by very fine amorphous material and coarse dark woody fragments. Palynomorphs were not recorded.
Colour index: No determination possible.

C-2661, C-2663 (2970-3015 m): Small residues of fine material partly as grey amorphous aggregates.

C-2665, C-2666 (clayst., brown-red), C-2666 (gy grn-gy) (3030-3060 m): Small residues. Reworked oxidised woody fragments dominate the sieved residues. C-2665 also shows presence of mud additives that dissolve in the mounting media.
Colour index: No determination possible.

strong light refraction. The "globules" are believed to represent degraded (?) algae. Palynomorphs were not observed.

C-2660 (grey-greenish grey, 2955-70 m): Small residue. A mixture of amorphous remains, degraded grey (etched) woody material and dark woody fragments. Cysts are fairly well preserved and darkly stained.
Colour index: 1+/2-.

C-2660 (dark grey claystone 2955-70 m): Small residue. After sieving coherent sheetlike aggregates embed woody material, palynomorphs and algal bodies.
Colour index: 1+.

C-2277 (2964 m swc): A very small residue dominated by very fine amorphous material and coarse dark woody fragments. Palynomorphs were not recorded.
Colour index: No determination possible.

C-2661, C-2663 (2970-3015 m): Small residues of fine material partly as grey amorphous aggregates.

C-2665, C-2666 (clayst., brown-red), C-2666 (gy grn-gy) (3030-3060 m): Small residues. Reworked oxidised woody fragments dominate the sieved residues. C-2665 also shows presence of mud additives that dissolve in the mounting media.
Colour index: No determination possible.