TOTAL CONSUMPTION OF MUD ADDITIVES ON WELL 31/5-6

Section	Product/ Additive	Unit	Total Amount Used
36"	CMC EHV	kg	325,00
	M-I BAR	kg	83000,00
	SODA ASH	kg	150,00
	WYOMING BENTONITE	kg	26000,00
17 1/2"	CMC EHV	kg	425,00
	M-I BAR	kg	39000,00
	SODA ASH	kg	400,00
	WYOMING BENTONITE	kg	23000,00
12 1/4"	CELPOL ESL	kg	1700,00
	CITRIC ACID	kg	175,00
	DUOTEC NS	kg	1225,00
	KCL BRINE	l	110000,00
	M-I BAR	kg	74000,00
	POTASSIUM CARBONATE	kg	225,00
	SODA ASH	kg	100,00
	WYOMING BENTONITE	kg	7000,00
8 1/2"	BACL2	l	75,00
	CELPOL ESL	kg	3900,00
	CITRIC ACID	kg	100,00
	DUOTEC NS	kg	2125,00
	GLYDRIL MC	l	11390,00
	KCL POWDER	kg	48000,00
	M-I BAR	kg	45000,00
	POTASSIUM CARBONATE	kg	150,00
	SODA ASH	kg	175,00
P&A	BARITE	kg	12000,00
	BENTONITE	kg	2,00
	CITRIC ACID	kg	625,00
	CMC EHV	kg	125,00
	SODIUM BICARBONATE	kg	700,00

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 31/5-6 PO: 1

Hole section : 17 1/2" **WATER BASED SYSTEM**

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Dens [sg]	Filtrate API [ml]	Filtrate HPHT [ml]	Filtcake API [mm]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Alcalinity Pf [ml]	Alcalinity Mf [ml]	Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid [%]	Percentage Oil [%]	Percentage Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
2000-07-04 12:00	431	431	SPUD MUD	1,06					/																
2000-07-05 23:00	431	431	SPUD MUD	1,06					/																
2000-07-06	441	441	SPUD MUD	1,06					/																
2000-07-07	1065	1065	SPUD MUD	1,06					/																
2000-07-08	1201	1201	SPUD MUD	1,06					/																
2000-07-09	1201	1201	SPUD MUD	1,06					/																
2000-07-10	1201	1201	GLYDRIL	1,35	2,8				/			0,0	0,1			80000	240			15,0		0,1			40
2000-07-11	1201	1201	GLYDRIL	1,35	2,8				/			0,0	0,1			80000	240			15,0		0,1			40

Hole section : 12 1/4" **WATER BASED SYSTEM**

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Dens [sg]	Filtrate API [ml]	Filtrate HPHT [ml]	Filtcake API [mm]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Alcalinity Pf [ml]	Alcalinity Mf [ml]	Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid [%]	Percentage Oil [%]	Percentage Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
2000-07-12	1550	1549	GLYDRIL	1,35	2,3				/			0,0	0,0			80000	320			15,0		0,1			24
2000-07-13	1606	1605	GLYDRIL	1,35	2,4		1		/	8,4				164		78000	380			9,0					45
2000-07-14	1709	1708	GLYDRIL	1,35	2,4		1		/	8,3				170	0	81000	380			8,9					37
2000-07-15	1709	1708	GLYDRIL	1,35	2,4		1		/	8,3				170		81000	380			8,9					37
2000-07-16 12:00	1709	1708	GLYDRIL	1,19	2,2		1		/					143	0	68000	280			4,7					53

Hole section : 8 1/2" **WATER BASED SYSTEM**

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Dens [sg]	Filtrate API [ml]	Filtrate HPHT [ml]	Filtcake API [mm]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Alcalinity Pf [ml]	Alcalinity Mf [ml]	Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid [%]	Percentage Oil [%]	Percentage Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
2000-07-17	2075	2073	GLYDRIL	1,19	2,3		1		/			0,0	0,0			67000	280			10,0		9,0	42	3,0	55
2000-07-18	2370	2367	GLYDRIL	1,19	2,2		1		/			0,0	0,0			68000	340			11,0			28	3,0	87
2000-07-19	2370	2367	GLYDRIL	1,19	2,3		1		/			0,0	0,0			68000	280			11,0			18	3,0	114
2000-07-20	2370	2367	GLYDRIL	1,20	5,2		1		/			0,1	2,1			63000	400			11,5			14	3,0	138
2000-07-21	2370	2367	GLYDRIL	1,20	2,8		1		/			0,3	1,8			60000	280			11,0			14	3,0	138
2000-07-22	2370	2367	GLYDRIL	1,20	2,8		1		/			0,3	1,8			60000	280			11,0			14	3,0	138
2000-07-23	2370	2367	GLYDRIL	1,20	2,8		1		/			0,3	1,8			60000	280			11,0			14	3,0	138
2000-07-24	2370	2367	GLYDRIL	1,22	3,5		1		/			0,1	1,9			53000	560			11,0			14	3,0	102
2000-07-25	2370	2367	GLYDRIL	0,00	0,0		0		/			0,0	0,0			0	0			0,0			0	0,0	0

Norsk Hydro

2001-06-12

DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 31/5-6 PO: 1

Hole section : 17 1/2" **WATER BASED SYSTEM**

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings 600	300	200	100	60	30	6	3	Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]
2000-07-04 12:00	431	431	SPUD MUD	100,0	1,06						0	0			50,0				
2000-07-05 23:00	431	431	SPUD MUD	100,0	1,06						0	0			50,0				
2000-07-06	441	441	SPUD MUD	100,0	1,06						0	0							
2000-07-07	1065	1065	SPUD MUD	100,0	1,06						0	0							
2000-07-08	1201	1201	SPUD MUD	100,0	1,06						0	0							
2000-07-09	1201	1201	SPUD MUD	100,0	1,06						0	0							
2000-07-10	1201	1201	GLYDRIL	78,0	1,35						0	0				17,0	15,5	5,0	7,0
2000-07-11	1201	1201	GLYDRIL	79,0	1,35						0	0				17,0	15,5	5,0	7,0

Hole section : 12 1/4" **WATER BASED SYSTEM**

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings 600	300	200	100	60	30	6	3	Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]
2000-07-12	1550	1549	GLYDRIL	78,0	1,35						0	0				16,0	15,5	6,0	10,0
2000-07-13	1606	1605	GLYDRIL	59,0	1,35		58	45	39	28	0	0	13	10		13,0	16,0	5,0	8,0
2000-07-14	1709	1708	GLYDRIL	61,0	1,35		65	49	43	33	0	0	13	11	50,0	16,0	16,5	6,0	9,0
2000-07-15	1709	1708	GLYDRIL	61,0	1,35		65	49	43	33	0	0	13	11	50,0	16,0	16,5	6,0	9,0
2000-07-16 12:00	1709	1708	GLYDRIL	52,0	1,19		46	33	26	28	0	0	9	8	0,5	13,0	10,0	5,0	7,0

Hole section : 8 1/2" **WATER BASED SYSTEM**

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings 600	300	200	100	60	30	6	3	Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]
2000-07-17	2075	2073	GLYDRIL	60,0	1,19	26,0	49	38	30	22	0	0	10	8	0,5	11,0	13,5	6,0	8,0
2000-07-18	2370	2367	GLYDRIL	68,0	1,19	26,0	54	39	31	23	0	0	13	10	50,0	11,0	13,5	6,0	8,0
2000-07-19	2370	2367	GLYDRIL	68,0	1,19		52	38	30	22	0	0	11	9	50,0	14,0	12,5	6,0	8,0
2000-07-20	2370	2367	GLYDRIL	68,0	1,20		57	44	37	29	0	0	11	9	50,0	13,0	15,5	5,0	6,5
2000-07-21	2370	2367	GLYDRIL	68,0	1,20		52	40	34	26	0	0	10	8	50,0	12,0	14,0	4,5	7,0
2000-07-22	2370	2367	GLYDRIL	68,0	1,20		52	40	34	26	0	0	10	8	50,0	12,0	14,0	4,5	7,0
2000-07-23	2370	2367	GLYDRIL	68,0	1,20		52	40	34	26	0	0	10	8	50,0	12,0	14,0	4,5	7,0
2000-07-24	2370	2367	GLYDRIL	64,0	1,22		50	37	32	24	0	0	8	6	50,0	13,0	12,0	3,5	5,0
2000-07-25	2370	2367	GLYDRIL	0,0	0,00		0	0	0	0	0	0	0	0	50,0	0,0	0,0	0,5	0,0

E&P Division

Access	
Licence	
Downgrading	
Retention	Experience

Title

Reservoir geochemistry of well 31/5-6

Keywords

reservoir geochemistry, maturity, facies, headspace gas, correlation

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2 Introduction

All depths in the report refer to m RKB. The stratigraphy of well 31/5-6 is listed in Table 2.1 and a cross section is shown in Figure 2.2. The well was drilled using Spud mud down to 1202 m, with Grydril mud from 1202 m-1752 m and with Sulphat Free Glydrill mud from 1752 m -T.D.

A list of analysed samples is presented in Table 2.2. Sample characterisation included solvent extraction followed by asphaltene precipitation, preparative group type separation by MPLC[1] and group type distribution by TLC-FID[2] (Iatroscan). Rock extracts were further analysed by gas chromatography (GC-FID) of saturated hydrocarbons, analysis of the saturated and aromatic hydrocarbon fractions by gas chromatography-mass spectrometry (GC-MSD[3]). All chromatographic data are based on quantitative measurements.

The analytical methods are based on the guidelines in the Norwegian Industry Guide to Organic Geochemical Analyses (NIGOGA[4]). Major deviations from this guide are accordingly:

[1] Medium Pressure/Performance Liquid Chromatography

[2] Thin layer chromatography with Flame Ionisation Detection

[3] Gas Chromatogrphy - Mass Selective Detector

[4] The Norwegian Industry Guide to Organic Geochemical Analyses, 3rd edition, 1993

- TOC measurement by Rock Eval (no decarbonisation by acid).
- Extract and asphaltene workup by centrifugation (no filtering).
- Internal standard mixture added to the EOM or whole oil/fluid, for quality control and quantitative reports.
- GC analysis of SAT and ARO fractions by 5% phenyl methyl-silicone stationary phase.
- GC-MSD detection of the aromatic hydrocarbons (not FID).
- Report of a restricted number of compounds relative to the NIGOGA guide, due to known co-elutions or disputable identities.

Quality control are according to defined lab procedures, available on request. Samples which are annotated "NSO1..." represent the internal North Sea reference oil and reflect the analytical repeatability

APPENDIX I

Tables

Table 2.2 List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 31/5-6

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Depth (m)	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
1775.00		SWC	1											
1780.00		DC								2				
1781.00		SWC	1											
1786.00		SWC	1											
1793.00		SWC	1											
1797.00		SWC	1											
1797.50		SWC	1											
1798.00		SWC	1	1	1		1	1		1	1		1	
1800.00		DC								2				
1803.00		SWC	1											
1804.00		SWC	1	1	1		1	1		1	1		1	
1805.00		SWC	1	1	1		1	1		1	1		1	
1814.00		SWC	1	1	1		1	1		1	1		1	
1817.00		SWC	1											
1820.00		DC								1				
1840.00		SWC	1	1	1		1	1		1	1		1	
1840.00		DC								1				
1841.00		SWC	1											
1843.00		SWC	1	1	1		1	1		1	1		1	
1875.00		SWC	1											
1880.00		DC								2				
1900.00		MUD	1		1		1				1			
1930.00		SWC	1											
1940.00		DC								1				
1947.00		SWC	1											

Table 2.2 List of samples analysed

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ANALYSIS PROGRAMME, WELL NOR : 31/5-6

Depth (m)	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
1972.00		SWC	1	1	1		1	1		1	1		1	
2000.00		DC								1				
2015.00		SWC	1	1	1		1	1		1	1		1	
2020.00		DC								1				
2048.00		SWC	1		1		1							
2056.00		SWC	1											
2080.00		DC								2				
2140.00		DC								2				
2180.00		SWC	1	1	1		1	1		1	1		1	
2180.00		DC								1				
2215.00		SWC	1											
2220.00		SWC	1	1	1		1	1		1	1		1	
2220.00		DC								1				
2240.00		DC								1				
2260.00		DC								1				
2280.00		SWC	1	1	1		1	1		1	1		1	
2315.00		SWC	1											
2320.00		DC								1				
2363.00		SWC	1											

MPLC = Separation
Extr = Extraction
SatGC = Saturated HC
Iatr = Iatroscan
Isot = Isotope data
Sat-biom = Biomarker data
Vitr = VR0 (ave) %
RE/EXT = Rock Eval on extracted Seciment

Table 3.1 Rock Eval pyrolysis data

ROCK EVAL SCREENING DATA

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Well	Depth (m)	Lithology	Type	Tmax (C)	S1(kg/t)	S2 (kg/t)	TOC (%)	HI	PI	Analysing Company
NOR : 31/5-6	1775,00		SWC	348	0,1	1,8	1,1	161	0,06	NORSK HYDRO
NOR : 31/5-6	1781,00		SWC	350	0,2	2,7	1,5	188	0,06	NORSK HYDRO
NOR : 31/5-6	1786,00		SWC	361	0,2	2,7	1,3	200	0,06	NORSK HYDRO
NOR : 31/5-6	1793,00		SWC	341	0,3	1,9	0,4	546	0,12	NORSK HYDRO
NOR : 31/5-6	1797,00		SWC	424	0,5	5,4	1,7	315	0,08	NORSK HYDRO
NOR : 31/5-6	1797,50		SWC	428	0,6	7,6	2,0	382	0,07	NORSK HYDRO
NOR : 31/5-6	1798,00		SWC	408	1,3	2,5	1,4	176	0,34	NORSK HYDRO
NOR : 31/5-6	1803,00		SWC	420	4,2	2,9	1,6	184	0,59	NORSK HYDRO
NOR : 31/5-6	1804,00		SWC	414	0,7	0,7	0,2	291	0,50	NORSK HYDRO
NOR : 31/5-6	1805,00		SWC	329	0,7	0,5	0,2	267	0,60	NORSK HYDRO
NOR : 31/5-6	1814,00		SWC	334	0,6	0,6	0,1	429	0,50	NORSK HYDRO
NOR : 31/5-6	1817,00		SWC	330	1,0	0,4	0,1	285	0,73	NORSK HYDRO
NOR : 31/5-6	1840,00		SWC	348	1,3	1,5	0,7	199	0,46	NORSK HYDRO
NOR : 31/5-6	1841,00		SWC	336	1,0	1,0	0,4	216	0,50	NORSK HYDRO
NOR : 31/5-6	1843,00		SWC	421	1,0	1,8	0,6	308	0,36	NORSK HYDRO
NOR : 31/5-6	1875,00		SWC	418	1,5	3,3	1,8	180	0,31	NORSK HYDRO
NOR : 31/5-6	1900,00		MUD		0,0	0,1	0,5	17	0,27	NORSK HYDRO
NOR : 31/5-6	1930,00		SWC	335	0,9	2,7	1,5	181	0,25	NORSK HYDRO
NOR : 31/5-6	1947,00		SWC	344	0,5	1,9	0,4	432	0,22	NORSK HYDRO
NOR : 31/5-6	1972,00		SWC	337	0,7	1,5	0,6	258	0,32	NORSK HYDRO
NOR : 31/5-6	2015,00		SWC	320	1,0	0,4	0,2	235	0,71	NORSK HYDRO
NOR : 31/5-6	2048,00		SWC	429	1,4	3,2	1,4	225	0,31	NORSK HYDRO
NOR : 31/5-6	2056,00		SWC	424	1,0	2,2	0,9	249	0,31	NORSK HYDRO
NOR : 31/5-6	2180,00		SWC	428	0,7	2,8	1,1	256	0,20	NORSK HYDRO
NOR : 31/5-6	2215,00		SWC	337	0,5	1,2	0,5	259	0,31	NORSK HYDRO
NOR : 31/5-6	2220,00		SWC	424	0,7	0,9	0,4	237	0,43	NORSK HYDRO
NOR : 31/5-6	2280,00		SWC	343	0,9	0,7	0,2	348	0,54	NORSK HYDRO
NOR : 31/5-6	2315,00		SWC	325	0,6	1,9	0,7	271	0,22	NORSK HYDRO
NOR : 31/5-6	2363,00		SWC	433	0,4	2,8	0,9	313	0,12	NORSK HYDRO

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Table 4.1 Extraction and deasphalted data on extracts

EXTRACTION/DESPHALTING DATA (SEDIMENTS)

Well	Depth (m)	Lithology	Type	Rock (g)	EOM (mg)	ASP (mg)	EOM (%)	ASP (%)	EOM (ppm)	TOC (%)	EOM/TOC (%)	Analysing comp
NOR : 31/5-6	1798,00		SWC	13,4	91,0	17,6	0,68	21,5	6 800	1,4	0,5	Norsk Hydro
NOR : 31/5-6	1804,00		SWC	11,4	30,0	2,4	0,26	8,9	2 600	0,2	1,1	Norsk Hydro
NOR : 31/5-6	1805,00		SWC	12,3	27,0	2,0	0,22	8,2	2 200	0,2	1,2	Norsk Hydro
NOR : 31/5-6	1814,00		SWC	11,2	25,0	1,7	0,22	7,6	2 200	0,1	1,6	Norsk Hydro
NOR : 31/5-6	1840,00		SWC	11,2	46,0	5,0	0,41	12,1	4 100	0,7	0,6	Norsk Hydro
NOR : 31/5-6	1843,00		SWC	17,1	48,0	3,0	0,28	6,9	2 800	0,6	0,5	Norsk Hydro
NOR : 31/5-6	1900,00		MUD	5,3	118,0	2,1	2,25	2,0	22 500	0,5	4,9	Norsk Hydro
NOR : 31/5-6	1972,00		SWC	15,5	52,0	7,9	0,34	16,9	3 400	0,6	0,6	Norsk Hydro
NOR : 31/5-6	2015,00		SWC	10,2	26,0	1,5	0,25	6,4	2 500	0,2	1,5	Norsk Hydro
NOR : 31/5-6	2048,00		SWC	9,6	63,0	11,9	0,66	21,0	6 600	1,4	0,5	Norsk Hydro
NOR : 31/5-6	2180,00		SWC	11,9	46,0	4,7	0,39	11,4	3 900	1,1	0,4	Norsk Hydro
NOR : 31/5-6	2220,00		SWC	16,9	51,0	5,4	0,30	11,8	3 000	0,4	0,8	Norsk Hydro
NOR : 31/5-6	2280,00		SWC	10,3	34,0	2,4	0,33	7,8	3 300	0,2	1,6	Norsk Hydro

IATROSCAN - Calculated Weight% / SARA

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Table 4.2 Bulk separation data on deasphalted extracts

COMPOSITION OF EXTRACTS/OILS WELL

Well	St.Depth (m)	En.Depth (m)	Type	Lithology	Name	Calculated Weight % SAT	ARO	NSO	HC TOTA	ASPH%	Non-HC TOTAL	TOT HC /Non-HC	Analysing Company
NOR 31/5-6	1798,00	1798,00	SWC			3,8	7,7	67,0	11,5	21,5	88,5	0,1	NORSK HYDRO
NOR 31/5-6	1804,00	1804,00	SWC			5,0	3,0	83,2	7,9	8,9	92,1	0,1	NORSK HYDRO
NOR 31/5-6	1805,00	1805,00	SWC			8,9	1,2	81,6	10,2	8,2	89,8	0,1	NORSK HYDRO
NOR 31/5-6	1814,00	1814,00	SWC			5,4	1,0	86,1	6,4	7,6	93,6	0,1	NORSK HYDRO
NOR 31/5-6	1840,00	1840,00	SWC			4,6	3,6	79,7	8,2	12,1	91,8	0,1	NORSK HYDRO
NOR 31/5-6	1843,00	1843,00	SWC			2,1	1,4	89,6	3,5	6,9	96,5	0,0	NORSK HYDRO
NOR 31/5-6	1900,00	1900,00	MUD			3,2	0,8	94,0	4,0	2,0	96,0	0,0	NORSK HYDRO
NOR 31/5-6	1972,00	1972,00	SWC			5,8	5,2	72,1	11,0	16,9	89,0	0,1	NORSK HYDRO
NOR 31/5-6	2015,00	2015,00	SWC			4,3	0,9	88,4	5,2	6,4	94,8	0,1	NORSK HYDRO
NOR 31/5-6	2048,00	2048,00	SWC			4,3	4,7	70,0	9,0	21,0	91,0	0,1	NORSK HYDRO
NOR 31/5-6	2180,00	2180,00	SWC			5,9	3,8	78,9	9,7	11,4	90,3	0,1	NORSK HYDRO
NOR 31/5-6	2220,00	2220,00	SWC			3,0	3,8	81,5	6,7	11,8	93,3	0,1	NORSK HYDRO
NOR 31/5-6	2280,00	2280,00	SWC			5,0	1,2	86,0	6,2	7,8	93,8	0,1	NORSK HYDRO

Table 4.3 Isotope composition, saturated and aromatic fractions

Petroleum Geochemistry Group
Research Centre Bergen

ISOTOPE ANALYSIS RESULTS (SEDIMENT SAMPLES) :

14-nov-2000 15:24

Well	St.Depth (m)	En.Depth (m)	Name	Lithology	Type	d13C EXTR	dD	d13C SAT	d13C ARO	d13C POL	d13C ASP	d13C KERO	Analysing Compa
NOR 31/5-6	1798,00	1798,00			SWC			-29,00	-26,80				IFE
NOR 31/5-6	1804,00	1804,00			SWC			-28,40	-27,20				IFE
NOR 31/5-6	1805,00	1805,00			SWC			-27,80	-26,70				IFE
NOR 31/5-6	1814,00	1814,00			SWC			-26,40	-26,10				IFE
NOR 31/5-6	1840,00	1840,00			SWC			-27,30	-24,70				IFE
NOR 31/5-6	1843,00	1843,00			SWC			-27,60	-25,40				IFE
NOR 31/5-6	1972,00	1972,00			SWC			-28,20	-25,70				IFE
NOR 31/5-6	2015,00	2015,00			SWC			-27,90	-26,40				IFE
NOR 31/5-6	2180,00	2180,00			SWC			-28,10	-27,00				IFE
NOR 31/5-6	2220,00	2220,00			SWC			-27,50	-24,70				IFE
NOR 31/5-6	2280,00	2280,00			SWC			-28,30	-25,80				IFE

Table 5.1 Volume composition, headspace samples

GAS VOLUME COMPOSITION DATA NOR : 31/5-6

Petroleum Geochemistry Group
Research Centre Bergen
14-nov-2000 15:25

Well	Name	Type	TOP (m)	BOTTOM (m)	C1(%)	C2(%)	C3(%)	iC4(%)	nC4(%)	iC5(%)	nC5(%)	CO2(%)	C1-C5(%)	Total(%)	Wetness(%)	iC4/nC4(%)
31/5-6		DC	1760,00	1780,00	23,90	6,20	8,00	1,80	5,10	2,70	3,30	49,00	51,00	100,00	47,00	0,35
31/5-6		DC	1780,00	1800,00	28,30	5,90	7,70	1,80	5,00	2,90	3,50	44,90	55,10	100,00	42,00	0,36
31/5-6		DC	1800,00	1820,00	19,80	13,00	18,50	4,13	10,87	4,57	5,22	23,90	76,09	99,99	70,00	0,38
31/5-6		DC	1820,00	1840,00	34,50	18,30	22,00	4,03	11,63	4,57	4,99	0,00	100,02	100,02	62,00	0,35
31/5-6		DC	1860,00	1880,00	41,70	9,50	10,80	2,50	6,40	5,00	5,40	18,70	81,30	100,00	41,00	0,39
31/5-6		DC	1920,00	1940,00	0,20	0,10	0,60	0,30	1,00	0,90	0,80	96,20	3,90	100,10	91,00	0,30
31/5-6		DC	1980,00	2000,00	18,20	5,30	6,40	1,56	3,12	1,07	0,66	63,70	36,31	100,01	47,00	0,50
31/5-6		DC	2000,00	2020,00	10,10	4,20	6,30	1,66	3,32	1,22	0,80	72,40	27,60	100,00	61,00	0,50
31/5-6		DC	2060,00	2080,00	4,90	1,70	2,80	0,80	1,40	1,00	0,60	86,90	13,20	100,10	58,00	0,57
31/5-6		DC	2120,00	2140,00	4,80	1,00	1,60	0,50	0,70	0,60	0,40	90,40	9,60	100,00	44,00	0,71
31/5-6		DC	2160,00	2180,00	19,10	3,30	4,00	1,20	1,40	1,80	0,90	68,20	31,70	99,90	34,00	0,86
31/5-6		DC	2200,00	2220,00	9,30	3,02	4,15	1,17	1,51	1,27	0,58	79,00	21,00	100,00	51,00	0,77
31/5-6		DC	2220,00	2240,00	70,60	8,80	4,50	1,00	0,70	1,10	0,30	13,00	87,00	100,00	18,00	1,43
31/5-6		DC	2240,00	2260,00	75,20	7,10	2,70	0,60	0,40	0,60	0,20	13,30	86,80	100,10	13,00	1,50
31/5-6		DC	2300,00	2320,00	29,50	11,20	6,20	1,46	1,28	1,24	0,40	48,70	51,28	99,98	41,00	1,14

Table 5.2 Isotope composition, headspace samples

ISOTOPE ANALYSIS NOR : 31/5-6

Petroleum Geochemistry Group
Research Centre Bergen
14-nov-2000 15:26

Well	Name	Type	TOP (m)	BOTTOM (m)	Meth	dDC1	Etha	Prop	Buta	IBut	dC13C5	dC13iC5	13CO2	18CO2
31/5-6		DC	1760,00	1780,00	-45,6		-29,2	-28,9	-28,8	-29,8	-30,7	-28,0	-29,7	
31/5-6		DC	1760,00	1780,00	-46,8									
31/5-6		DC	1780,00	1800,00	-45,7		-30,5	-29,3	-29,1	-29,7	-27,9	-28,4	-31,9	
31/5-6		DC	1780,00	1800,00			-30,9	-28,6	-27,5	-28,3	-27,0	-27,1	-30,6	
31/5-6		DC	1800,00	1820,00	-44,5		-29,9	-28,2	-28,1	-29,7	-28,7	-26,8	-27,8	
31/5-6		DC	1820,00	1840,00	-44,9		-31,0	-27,7	-27,7	-27,2	-26,0	-29,8		
31/5-6		DC	1860,00	1880,00	-46,6		-31,8		-30,0	-31,6	-29,0	-29,9	-29,4	
31/5-6		DC	1860,00	1880,00	-44,0		-29,7	-28,2	-28,1	-29,0	-27,3	-26,7	-28,3	
31/5-6		DC	1920,00	1940,00				-27,3	-28,6	-30,3	-28,6	-27,3	-23,7	
31/5-6		DC	1980,00	2000,00	-46,4		-31,7	-29,9	-29,0	-30,6	-32,1	-29,0		
31/5-6		DC	2000,00	2020,00	-46,6		-31,7	-29,5	-28,9	-28,8	-30,9	-25,6	-31,2	
31/5-6		DC	2060,00	2080,00	-46,6		-27,0	-28,2	-28,8	-29,8	-27,2	-27,2		
31/5-6		DC	2060,00	2080,00			-26,8	-28,1					-24,5	
31/5-6		DC	2120,00	2140,00	-45,7		-25,8	-30,1	-29,2	-28,2				
31/5-6		DC	2120,00	2140,00			-28,0	-30,6	-28,4				-24,6	
31/5-6		DC	2160,00	2180,00	-42,8		-28,4	-29,2	-30,2	-28,8			-24,8	
31/5-6		DC	2200,00	2220,00			-28,9	-29,5	-29,0	-28,6			-28,6	
31/5-6		DC	2220,00	2240,00	-44,5		-29,4	-29,9	-30,2	-27,8		-28,3	-25,0	
31/5-6		DC	2240,00	2260,00	-43,0		-28,9	-29,4	-30,7	-29,3			-19,2	
31/5-6		DC	2300,00	2320,00	-47,1		-30,3	-30,7	-31,6	-31,0	-32,9	-27,7	-27,9	

APPENDIX II

Data tables and reports , C $^{15+}$saturated hydrocarbons

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

Norsk Hydro E&P Research Centre, Bergen, Norway

Petroleum Geochemistry Laboratories

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.27	GC1	C12D26	1343268	4.00
6)	24.59	GC1	C16D34	14456388	4.00
2)	9.66	GC1	nC11	3612	
3)	12.84	GC1	nC12	33374	
4)	16.07	GC1	nC13	168329	
5)	19.24	GC1	nC14	581193	
7)	21.18	GC1	iC16	185202	0.05
8)	22.29	GC1	nC15	422911	0.12
9)	25.21	GC1	nC16	292705	0.08
10)	26.58	GC1	iC18	86947	0.02
11)	27.98	GC1	nC17	195887	0.05
12)	28.15	GC1	pristane	154723	0.04
13)	30.63	GC1	nC18	144895	0.04
14)	30.88	GC1	phytane	144655	0.04
15)	33.17	GC1	nC19	138294	0.04
16)	35.59	GC1	nC20	125401	0.03
17)	37.92	GC1	nC21	101575	0.03
18)	40.15	GC1	nC22	66393	0.02
19)	42.31	GC1	nC23	57805	0.02
20)	44.36	GC1	nC24	78331	0.02
21)	46.37	GC1	nC25	75356	0.02
22)	48.29	GC1	nC26	73609	0.02
23)	50.12	GC1	nC27	38424	0.01
24)	51.93	GC1	nC28	86489	0.02
25)	53.67	GC1	nC29	53327	0.01
26)	55.44	GC1	nC30	56175	0.02
27)	57.01	GC1	nC31	44959	0.01
28)	58.61	GC1	nC32	19809	0.01
29)	60.16	GC1	nC33	14474	0.00
30)	61.64	GC1	nC34	14244	0.00
31)	63.20	GC1	nC35	19414	0.01

Data file name: **1798S.D**
Sample name: **31/5-6 swc, 1798s**
Data File Path: C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:

Vial no.: 2
Method: MSD_S_E2
Operator: Marian
Date: 8:42:00

Response curve y = ax
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.79	0.79
Ph/nC18	1.00	1.00
(Pr/nC17)/(Ph/nC18)	0.79	0.79
Pr/Ph	1.07	1.07
nC17/(nC17+nC27)	0.84	0.84
CPI-1	0.81	0.81
CPI-2 (2*nC27/(nC26+nC27)	0.69	0.69

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.29	GC1	C12D26	3893897	4.00
6)	24.55	GC1	C16D34	4673895	4.00
2)	9.67	GC1	nC11	8284533	
3)	12.88	GC1	nC12	8653933	
4)	16.12	GC1	nC13	7900009	
5)	19.30	GC1	nC14	7877061	
7)	21.18	GC1	iC16	3270482	2.80
8)	22.35	GC1	nC15	7899717	6.76
9)	25.27	GC1	nC16	7206718	6.17
10)	26.61	GC1	iC18	2120074	1.81
11)	28.05	GC1	nC17	6677776	5.71
12)	28.20	GC1	pristane	4047860	3.46
13)	30.70	GC1	nC18	5393665	4.62
14)	30.93	GC1	phytane	2695161	2.31
15)	33.23	GC1	nC19	4887204	4.18
16)	35.65	GC1	nC20	4427534	3.79
17)	37.97	GC1	nC21	4000876	3.42
18)	40.20	GC1	nC22	3589109	3.07
19)	42.35	GC1	nC23	3152913	2.70
20)	44.41	GC1	nC24	3218115	2.75
21)	46.41	GC1	nC25	2720924	2.33
22)	48.35	GC1	nC26	2183972	1.87
23)	50.18	GC1	nC27	1780897	1.52
24)	52.01	GC1	nC28	1793918	1.54
25)	53.76	GC1	nC29	1260644	1.08
26)	55.44	GC1	nC30	1340868	1.15
27)	57.08	GC1	nC31	1090445	0.93
28)	58.66	GC1	nC32	854155	0.73
29)	60.20	GC1	nC33	647494	0.55
30)	61.68	GC1	nC34	875052	0.75
31)	63.28	GC1	nC35	408730	0.35

Data file name: **NSO1_15S.D**
Sample name: **nso1-ref sat**
Data File Path: C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:

Vial no.: 1
Method: MSD_S_E2
Operator: Marian
Date: 7:14:00

Response curve y = ax
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.61	0.61
Ph/nC18	0.50	0.50
(Pr/nC17)/(Ph/nC18)	1.21	1.21
Pr/Ph	1.50	1.50
nC17/(nC17+nC27)	0.79	0.79
CPI-1	0.96	0.96
CPI-2 (2*nC27/(nC26+nC27)	0.90	0.90

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.29	GC1	C12D26	4756869	4.00
6)	24.56	GC1	C16D34	5577569	4.00
2)	9.68	GC1	nC11	10214192	
3)	12.89	GC1	nC12	10539065	
4)	16.14	GC1	nC13	9496015	
5)	19.31	GC1	nC14	8832633	
7)	21.19	GC1	iC16	3859009	2.77
8)	22.37	GC1	nC15	9457925	6.78
9)	25.28	GC1	nC16	8609756	6.17
10)	26.62	GC1	iC18	2820313	2.02
11)	28.06	GC1	nC17	7976265	5.72
12)	28.21	GC1	pristane	4483669	3.22
13)	30.70	GC1	nC18	6575561	4.72
14)	30.93	GC1	phytane	3064925	2.20
15)	33.24	GC1	nC19	5861306	4.20
16)	35.66	GC1	nC20	5217170	3.74
17)	37.98	GC1	nC21	4704330	3.37
18)	40.21	GC1	nC22	4252435	3.05
19)	42.36	GC1	nC23	3714739	2.66
20)	44.42	GC1	nC24	3879624	2.78
21)	46.41	GC1	nC25	3172349	2.28
22)	48.33	GC1	nC26	2556866	1.83
23)	50.21	GC1	nC27	2112821	1.52
24)	52.01	GC1	nC28	1843070	1.32
25)	53.76	GC1	nC29	1410676	1.01
26)	55.44	GC1	nC30	1636811	1.17
27)	57.09	GC1	nC31	1107855	0.79
28)	58.65	GC1	nC32	1001002	0.72
29)	60.20	GC1	nC33	648061	0.46
30)	61.67	GC1	nC34	801757	0.57
31)	63.27	GC1	nC35	460264	0.33

Data file name: **NSO1_28S.D**
Sample name: **nso1-ref sat**
Data File Path: C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:

Vial no.: 1
Method: MSD_S_E2
Operator: Marian
Date: 0:50:00

Response curve y = ax
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.56	0.56
Ph/nC18	0.47	0.47
(Pr/nC17)/(Ph/nC18)	1.21	1.21
Pr/Ph	1.46	1.46
nC17/(nC17+nC27)	0.79	0.79
CPI-1	0.95	0.95
CPI-2 (2*nC27/(nC26+nC27)	0.90	0.90

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

Norsk Hydro E&P Research Centre, Bergen, Norway

Petroleum Geochemistry Laboratories

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.27	GC1	C12D26	1778735	4.00
6)	24.59	GC1	C16D34	14851121	4.00
2)	9.59	GC1	nC11	597	
3)	12.85	GC1	nC12	1905	
4)	16.08	GC1	nC13	20040	
5)	19.24	GC1	nC14	81050	
7)	21.16	GC1	iC16	24901	0.01
8)	22.29	GC1	nC15	57114	0.02
9)	25.21	GC1	nC16	44218	0.01
10)	26.58	GC1	iC18	16659	0.00
11)	27.98	GC1	nC17	41146	0.01
12)	28.14	GC1	pristane	26721	0.01
13)	30.63	GC1	nC18	35716	0.01
14)	30.88	GC1	phytane	21536	0.01
15)	33.17	GC1	nC19	38850	0.01
16)	35.59	GC1	nC20	36787	0.01
17)	37.92	GC1	nC21	32718	0.01
18)	40.15	GC1	nC22	25909	0.01
19)	42.30	GC1	nC23	20230	0.01
20)	44.35	GC1	nC24	22711	0.01
21)	46.34	GC1	nC25	30378	0.01
22)	48.29	GC1	nC26	15938	0.00
23)	50.12	GC1	nC27	16529	0.00
24)	51.91	GC1	nC28	20061	0.01
25)	53.66	GC1	nC29	20697	0.01
26)	55.39	GC1	nC30	21462	0.01
27)	57.00	GC1	nC31	13717	0.00
28)	58.60	GC1	nC32	4916	0.00
29)	60.14	GC1	nC33	4658	0.00
30)	61.59	GC1	nC34	3378	0.00
31)	63.19	GC1	nC35	2890	0.00

Data file name: **2280S.D**
Sample name: **31/5-6 swc, 2280s**
Data File Path: C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:

Vial no.: 12
Method: MSD_S_E2
Operator: Marian
Date: 23:22:00

Response curve y = ax
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.65	0.65
Ph/nC18	0.60	0.60
(Pr/nC17)/(Ph/nC18)	1.08	1.08
Pr/Ph	1.24	1.24
nC17/(nC17+nC27)	0.71	0.71
CPI-1	1.16	1.16
CPI-2 (2*nC27/(nC26+nC27)	1.02	1.02

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.27	GC1	C12D26	600086	4.00
6)	24.59	GC1	C16D34	13814950	4.00
2)	9.61	GC1	nC11	1139	
3)	12.84	GC1	nC12	1859	
4)	16.07	GC1	nC13	3190	
5)	19.24	GC1	nC14	11165	
7)	21.15	GC1	iC16	10641	0.00
8)	22.29	GC1	nC15	21064	0.01
9)	25.21	GC1	nC16	31041	0.01
10)	26.57	GC1	iC18	13272	0.00
11)	27.98	GC1	nC17	29249	0.01
12)	28.14	GC1	pristane	33752	0.01
13)	30.63	GC1	nC18	22375	0.01
14)	30.88	GC1	phytane	14101	0.00
15)	33.17	GC1	nC19	26038	0.01
16)	35.59	GC1	nC20	24890	0.01
17)	37.91	GC1	nC21	22063	0.01
18)	40.15	GC1	nC22	17542	0.01
19)	42.30	GC1	nC23	16715	0.00
20)	44.35	GC1	nC24	11989	0.00
21)	46.35	GC1	nC25	18752	0.01
22)	48.27	GC1	nC26	15025	0.00
23)	50.14	GC1	nC27	11087	0.00
24)	51.92	GC1	nC28	9554	0.00
25)	53.65	GC1	nC29	6351	0.00
26)	55.42	GC1	nC30	8442	0.00
27)	57.03	GC1	nC31	6263	0.00
28)	58.58	GC1	nC32	4368	0.00
29)	60.10	GC1	nC33	4220	0.00
30)	61.64	GC1	nC34	3950	0.00
31)	63.16	GC1	nC35	2636	0.00

Data file name: **2220S.D**
Sample name: **31/5-6 swc, 2220s**
Data File Path: C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:

Vial no.: 11
Method: MSD_S_E2
Operator: Marian
Date: 21:54:00

Response curve y = ax
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	1.15	1.15
Ph/nC18	0.63	0.63
(Pr/nC17)/(Ph/nC18)	1.83	1.83
Pr/Ph	2.39	2.39
nC17/(nC17+nC27)	0.73	0.73
CPI-1	1.04	1.04
CPI-2 (2*nC27/(nC26+nC27)	0.85	0.85

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

HYDRO

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name:	**2180S.D**
Sample name:	**31/5-6 swc, 2180s**
Data File Path:	C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:	
Vial no.:	10
Method:	MSD_S_E2
Operator:	Marian
Date:	20:26:00

Response curve y = ax
Response factors equally 1.0

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.27	GC1	C12D26	145785	3.99
6)	24.53	GC1	C16D34	4176079	3.99
2)	9.54	GC1	nC11	451	
3)	12.85	GC1	nC12	2106	
4)	16.07	GC1	nC13	29596	
5)	19.24	GC1	nC14	151124	
7)	21.15	GC1	iC16	61397	0.06
8)	22.29	GC1	nC15	122314	0.12
9)	25.20	GC1	nC16	96133	0.09
10)	26.57	GC1	iC18	45497	0.04
11)	27.98	GC1	nC17	94377	0.09
12)	28.14	GC1	pristane	128281	0.12
13)	30.63	GC1	nC18	59872	0.06
14)	30.88	GC1	phytane	29484	0.03
15)	33.16	GC1	nC19	62102	0.06
16)	35.59	GC1	nC20	44653	0.04
17)	37.91	GC1	nC21	41052	0.04
18)	40.15	GC1	nC22	29309	0.03
19)	42.29	GC1	nC23	28325	0.03
20)	44.36	GC1	nC24	29561	0.03
21)	46.34	GC1	nC25	21792	0.02
22)	48.27	GC1	nC26	16877	0.02
23)	50.14	GC1	nC27	16484	0.02
24)	51.92	GC1	nC28	16012	0.02
25)	53.66	GC1	nC29	11134	0.01
26)	55.48	GC1	nC30	49742	0.05
27)	57.03	GC1	nC31	15719	0.02
28)	58.60	GC1	nC32	3779	0.00
29)	60.11	GC1	nC33	2897	0.00
30)	61.60	GC1	nC34	2061	0.00
31)	63.18	GC1	nC35	2388	0.00

Ratios:	Area	Amount
Pr/nC17	1.36	1.36
Ph/nC18	0.49	0.49
(Pr/nC17)/(Ph/nC18)	2.76	2.76
Pr/Ph	4.35	4.35
nC17/(nC17+nC27)	0.85	0.85
CPI-1	0.67	0.67
CPI-2 (2*nC27/(nC26+nC27)	0.99	0.99

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: **2015S.D**
Sample name: **31/5-6 swc, 2015s**
Data File Path: C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:

Vial no.: 9
Method: MSD_S_E2
Operator: Marian
Date: 18:58:00

Response curve y = ax
Response factors equally 1.0

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.27	GC1	C12D26	1537525	4.00
6)	24.56	GC1	C16D34	7294423	4.00
2)	9.55	GC1	nC11	529	
3)	12.84	GC1	nC12	8911	
4)	16.07	GC1	nC13	37640	
5)	19.24	GC1	nC14	106925	
7)	21.15	GC1	iC16	75630	0.04
8)	22.28	GC1	nC15	238189	0.13
9)	25.20	GC1	nC16	306919	0.17
10)	26.57	GC1	iC18	102811	0.06
11)	27.98	GC1	nC17	231896	0.13
12)	28.14	GC1	pristane	102725	0.06
13)	30.63	GC1	nC18	151941	0.08
14)	30.87	GC1	phytane	47224	0.03
15)	33.16	GC1	nC19	126545	0.07
16)	35.59	GC1	nC20	101983	0.06
17)	37.91	GC1	nC21	76812	0.04
18)	40.15	GC1	nC22	56737	0.03
19)	42.29	GC1	nC23	35693	0.02
20)	44.36	GC1	nC24	38837	0.02
21)	46.34	GC1	nC25	42365	0.02
22)	48.27	GC1	nC26	22458	0.01
23)	50.12	GC1	nC27	14875	0.01
24)	51.91	GC1	nC28	26658	0.01
25)	53.66	GC1	nC29	14589	0.01
26)	55.38	GC1	nC30	19394	0.01
27)	57.01	GC1	nC31	10515	0.01
28)	58.58	GC1	nC32	6600	0.00
29)	60.11	GC1	nC33	6650	0.00
30)	61.60	GC1	nC34	6515	0.00
31)	63.18	GC1	nC35	4289	0.00

Ratios:	Area	Amount
Pr/nC17	0.44	0.44
Ph/nC18	0.31	0.31
(Pr/nC17)/(Ph/nC18)	1.43	1.43
Pr/Ph	2.18	2.18
nC17/(nC17+nC27)	0.94	0.94
CPI-1	0.93	0.93
CPI-2 (2*nC27/(nC26+nC27)	0.80	0.80

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name:	**1972S.D**
Sample name:	**31/5-6 swc, 1972s**
Data File Path:	C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:	
Vial no.:	8
Method:	MSD_S_E2
Operator:	Marian
Date:	17:30:00

Response curve y = ax
Response factors equally 1.0

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.28	GC1	C12D26	2684412	3.99
6)	24.61	GC1	C16D34	16279822	3.99
2)	9.58	GC1	nC11	946	
3)	12.84	GC1	nC12	12389	
4)	16.08	GC1	nC13	39307	
5)	19.24	GC1	nC14	193316	
7)	21.15	GC1	iC16	254146	0.06
8)	22.30	GC1	nC15	977523	0.24
9)	25.23	GC1	nC16	1990039	0.49
10)	26.59	GC1	iC18	1019474	0.25
11)	28.00	GC1	nC17	1490507	0.37
12)	28.15	GC1	pristane	913593	0.22
13)	30.64	GC1	nC18	485399	0.12
14)	30.88	GC1	phytane	225095	0.06
15)	33.17	GC1	nC19	300852	0.07
16)	35.59	GC1	nC20	195298	0.05
17)	37.92	GC1	nC21	164508	0.04
18)	40.15	GC1	nC22	108834	0.03
19)	42.29	GC1	nC23	87265	0.02
20)	44.36	GC1	nC24	69325	0.02
21)	46.36	GC1	nC25	70163	0.02
22)	48.27	GC1	nC26	54373	0.01
23)	50.13	GC1	nC27	57549	0.01
24)	51.93	GC1	nC28	60985	0.01
25)	53.66	GC1	nC29	87628	0.02
26)	55.37	GC1	nC30	102638	0.03
27)	57.01	GC1	nC31	124205	0.03
28)	58.59	GC1	nC32	91368	0.02
29)	60.13	GC1	nC33	72425	0.02
30)	61.64	GC1	nC34	66089	0.02
31)	63.20	GC1	nC35	43060	0.01

Ratios:	Area	Amount
Pr/nC17	0.61	0.61
Ph/nC18	0.46	0.46
(Pr/nC17)/(Ph/nC18)	1.32	1.32
Pr/Ph	4.06	4.06
nC17/(nC17+nC27)	0.96	0.96
CPI-1	1.14	1.14
CPI-2 (2*nC27/(nC26+nC27)	1.03	1.03

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

Norsk Hydro E&P Research Centre, Bergen, Norway

Petroleum Geochemistry Laboratories

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.28	GC1	C12D26	120911	3.99
6)	24.56	GC1	C16D34	7332630	3.99
2)	24.56	GC1	nC11	7332630	
3)	12.86	GC1	nC12	2503	
4)	16.09	GC1	nC13	3280	
5)	19.24	GC1	nC14	28413	
7)	21.18	GC1	iC16	14604	0.01
8)	22.29	GC1	nC15	39786	0.02
9)	25.20	GC1	nC16	26724	0.01
10)	26.58	GC1	iC18	8359	0.00
11)	27.98	GC1	nC17	25488	0.01
12)	28.15	GC1	pristane	19407	0.01
13)	30.63	GC1	nC18	23895	0.01
14)	30.88	GC1	phytane	12224	0.01
15)	33.17	GC1	nC19	30901	0.02
16)	35.59	GC1	nC20	28369	0.02
17)	37.92	GC1	nC21	34653	0.02
18)	40.15	GC1	nC22	20883	0.01
19)	42.29	GC1	nC23	15608	0.01
20)	44.36	GC1	nC24	14100	0.01
21)	46.36	GC1	nC25	11914	0.01
22)	48.26	GC1	nC26	9627	0.01
23)	50.14	GC1	nC27	4732	0.00
24)	51.91	GC1	nC28	9497	0.01
25)	53.70	GC1	nC29	3284	0.00
26)	55.42	GC1	nC30	5559	0.00
27)	57.01	GC1	nC31	4889	0.00
28)	58.61	GC1	nC32	4347	0.00
29)	60.11	GC1	nC33	3067	0.00
30)	61.56	GC1	nC34	2450	0.00
31)	63.18	GC1	nC35	1336	0.00

Data file name: **1843S.D**

Sample name: **31/5-6 swc, 1843s**

Data File Path: C:\HPCHEM\1\DATA\31_5_6\

Misc. info.:

Vial no.: 7

Method: MSD_S_E2

Operator: Marian

Date: 16:02:00

Response curve y = ax

Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.76	0.76
Ph/nC18	0.51	0.51
(Pr/nC17)/(Ph/nC18)	1.49	1.49
Pr/Ph	1.59	1.59
nC17/(nC17+nC27)	0.84	0.84
CPI-1	0.75	0.75
CPI-2 (2*nC27/(nC26+nC27)	0.66	0.66

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

Norsk Hydro E&P Research Centre, Bergen, Norway

Petroleum Geochemistry Laboratories

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.27	GC1	C12D26	1313564	3.99
6)	24.58	GC1	C16D34	10651472	3.99
2)	9.52	GC1	nC11	365	
3)	12.84	GC1	nC12	10679	
4)	16.08	GC1	nC13	27377	
5)	19.24	GC1	nC14	73842	
7)	21.16	GC1	iC16	56135	0.02
8)	22.29	GC1	nC15	170461	0.06
9)	25.20	GC1	nC16	206744	0.08
10)	26.57	GC1	iC18	68464	0.03
11)	27.98	GC1	nC17	177789	0.07
12)	28.15	GC1	pristane	103634	0.04
13)	30.63	GC1	nC18	142864	0.05
14)	30.88	GC1	phytane	54820	0.02
15)	33.17	GC1	nC19	132113	0.05
16)	35.59	GC1	nC20	110327	0.04
17)	37.91	GC1	nC21	92320	0.03
18)	40.15	GC1	nC22	62729	0.02
19)	42.29	GC1	nC23	59539	0.02
20)	44.36	GC1	nC24	53381	0.02
21)	46.34	GC1	nC25	58061	0.02
22)	48.27	GC1	nC26	46333	0.02
23)	50.12	GC1	nC27	21971	0.01
24)	51.93	GC1	nC28	56899	0.02
25)	53.68	GC1	nC29	30025	0.01
26)	55.46	GC1	nC30	24082	0.01
27)	57.00	GC1	nC31	11544	0.00
28)	58.56	GC1	nC32	8497	0.00
29)	60.15	GC1	nC33	4563	0.00
30)	61.59	GC1	nC34	3807	0.00
31)	63.21	GC1	nC35	3052	0.00

Data file name: **1840S.D**
Sample name: **31/5-6 swc, 1840s**
Data File Path: C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:

Vial no.: 6
Method: MSD_S_E2
Operator: Marian
Date: 14:34:00

Response curve y = ax
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.58	0.58
Ph/nC18	0.38	0.38
(Pr/nC17)/(Ph/nC18)	1.52	1.52
Pr/Ph	1.89	1.89
nC17/(nC17+nC27)	0.89	0.89
CPI-1	0.78	0.78
CPI-2 (2*nC27/(nC26+nC27)	0.64	0.64

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

HYDRO

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.27	GC1	C12D26	218260	4.00
6)	24.55	GC1	C16D34	6071463	4.00
2)	9.60	GC1	nC11	755	
3)	12.85	GC1	nC12	1025	
4)	16.08	GC1	nC13	5315	
5)	19.24	GC1	nC14	22997	
7)	21.16	GC1	iC16	14029	0.01
8)	22.29	GC1	nC15	45638	0.03
9)	25.20	GC1	nC16	47225	0.03
10)	26.57	GC1	iC18	21257	0.01
11)	27.98	GC1	nC17	50170	0.03
12)	28.14	GC1	pristane	24694	0.02
13)	30.63	GC1	nC18	36763	0.02
14)	30.88	GC1	phytane	18410	0.01
15)	33.16	GC1	nC19	43701	0.03
16)	35.59	GC1	nC20	40445	0.03
17)	37.92	GC1	nC21	42680	0.03
18)	40.15	GC1	nC22	26019	0.02
19)	42.29	GC1	nC23	20351	0.01
20)	44.36	GC1	nC24	16843	0.01
21)	46.34	GC1	nC25	17986	0.01
22)	48.27	GC1	nC26	10432	0.01
23)	50.11	GC1	nC27	2757	0.00
24)	51.92	GC1	nC28	4617	0.00
25)	53.63	GC1	nC29	5810	0.00
26)	55.41	GC1	nC30	5368	0.00
27)	57.00	GC1	nC31	3742	0.00
28)	58.56	GC1	nC32	4782	0.00
29)	60.14	GC1	nC33	3925	0.00
30)	61.57	GC1	nC34	2077	0.00
31)	63.15	GC1	nC35	1198	0.00

Data file name: **1814S.D**
Sample name: **31/5-6 swc, 1814s**
Data File Path: C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:

Vial no.: 5
Method: MSD_S_E2
Operator: Marian
Date: 13:06:00

Response curve y = ax
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.49	0.49
Ph/nC18	0.50	0.50
(Pr/nC17)/(Ph/nC18)	0.98	0.98
Pr/Ph	1.34	1.34
nC17/(nC17+nC27)	0.95	0.95
CPI-1	1.01	1.01
CPI-2 (2*nC27/(nC26+nC27)	0.42	0.42

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.27	GC1	C12D26	1301042	4.00
6)	24.56	GC1	C16D34	6583703	4.00
2)	9.56	GC1	nC11	1796	
3)	12.84	GC1	nC12	9669	
4)	16.08	GC1	nC13	46226	
5)	19.24	GC1	nC14	221957	
7)	21.15	GC1	iC16	272251	0.17
8)	22.29	GC1	nC15	1025021	0.62
9)	25.22	GC1	nC16	1849423	1.12
10)	26.58	GC1	iC18	828969	0.50
11)	27.99	GC1	nC17	1209605	0.73
12)	28.15	GC1	pristane	587548	0.36
13)	30.63	GC1	nC18	453760	0.28
14)	30.88	GC1	phytane	143859	0.09
15)	33.17	GC1	nC19	288529	0.18
16)	35.59	GC1	nC20	239346	0.15
17)	37.91	GC1	nC21	193576	0.12
18)	40.15	GC1	nC22	114705	0.07
19)	42.29	GC1	nC23	83185	0.05
20)	44.37	GC1	nC24	68988	0.04
21)	46.34	GC1	nC25	52023	0.03
22)	48.26	GC1	nC26	38550	0.02
23)	50.11	GC1	nC27	5196	0.00
24)	51.93	GC1	nC28	18150	0.01
25)	53.64	GC1	nC29	5973	0.00
26)	55.43	GC1	nC30	16046	0.01
27)	56.99	GC1	nC31	12605	0.01
28)	58.58	GC1	nC32	6098	0.00
29)	60.09	GC1	nC33	3410	0.00
30)	61.52	GC1	nC34	4994	0.00
31)	63.17	GC1	nC35	2192	0.00

Data file name: **1805S.D**
Sample name: **31/5-6 swc, 1805s**
Data File Path: C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:

Vial no.: 4
Method: MSD_S_E2
Operator: Marian
Date: 11:38:00

Response curve y = ax
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.49	0.49
Ph/nC18	0.32	0.32
(Pr/nC17)/(Ph/nC18)	1.53	1.53
Pr/Ph	4.08	4.08
nC17/(nC17+nC27)	1.00	1.00
CPI-1	0.75	0.75
CPI-2 (2*nC27/(nC26+nC27)	0.24	0.24

Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	12.27	GC1	C12D26	615578	4.00
6)	24.56	GC1	C16D34	7584146	4.00
2)	9.63	GC1	nC11	1383	
3)	12.84	GC1	nC12	11586	
4)	16.07	GC1	nC13	58491	
5)	19.24	GC1	nC14	112045	
7)	21.16	GC1	iC16	54157	0.03
8)	22.28	GC1	nC15	129081	0.07
9)	25.20	GC1	nC16	126180	0.07
10)	26.58	GC1	iC18	60851	0.03
11)	27.98	GC1	nC17	109368	0.06
12)	28.14	GC1	pristane	101740	0.05
13)	30.63	GC1	nC18	108558	0.06
14)	30.88	GC1	phytane	79431	0.04
15)	33.16	GC1	nC19	113774	0.06
16)	35.59	GC1	nC20	105620	0.06
17)	37.91	GC1	nC21	90551	0.05
18)	40.15	GC1	nC22	73444	0.04
19)	42.29	GC1	nC23	50894	0.03
20)	44.37	GC1	nC24	59902	0.03
21)	46.34	GC1	nC25	70507	0.04
22)	48.28	GC1	nC26	52683	0.03
23)	50.14	GC1	nC27	23334	0.01
24)	51.93	GC1	nC28	34250	0.02
25)	53.69	GC1	nC29	10934	0.01
26)	55.41	GC1	nC30	18747	0.01
27)	57.01	GC1	nC31	18102	0.01
28)	58.62	GC1	nC32	13489	0.01
29)	60.13	GC1	nC33	7421	0.00
30)	61.61	GC1	nC34	7139	0.00
31)	63.19	GC1	nC35	10640	0.01

Data file name: **1804S.D**
Sample name: **31/5-6 swc, 1804s**
Data File Path: C:\HPCHEM\1\DATA\31_5_6\
Misc. info.:

Vial no.: 3
Method: MSD_S_E2
Operator: Marian
Date: 10:10:00

Response curve y = ax
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.93	0.93
Ph/nC18	0.73	0.73
(Pr/nC17)/(Ph/nC18)	1.27	1.27
Pr/Ph	1.28	1.28
nC17/(nC17+nC27)	0.82	0.82
CPI-1	0.89	0.89
CPI-2 (2*nC27/(nC26+nC27)	0.61	0.61

APPENDIX III

Mass chromatograms, tabulated amounts and peak ratios

saturated hydrocarbons, MSD data

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data

HYDRO

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name:	**1798S.D**
Sample name:	**31/5-6 swc, 1798s**
Data File Path:	C:\HPCHEM\1\DATA\31_5_6_BIO\
Misc. info.:	
Vial no.:	3
Method:	MSD_S_E2
Operator:	Marian
Date:	29 Aug 2000 18:58

Response curve y = ax

Response factor groups: s1...s3, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (ltd3000):						
1)	45,44	217,2	s1	24baa	2434	24
Diterpanes:						
2)	34,07	191,2	s1	19/3	158	1
3)	35,99	191,2	s1	20/3	208	2
4)	38,11	191,2	s1	21/3	65	0
5)	42,08	191,2	s1	23/3	241	2
6)	43,21	191,2	s1	24/3	87	1
7)	45,47	191,2	s1	25/3	45	0
8)	47,03	191,2	s1	24/4	346	3
9)	47,13	191,2	s1	26/3R	33	0
10)	47,26	191,2	s1	26/3S	26	0
11)	50,78	191,2	s1	28/3R	38	0
12)	51,03	191,2	s1	28/3S	25	0
13)	51,81	191,2	s1	29/3R	37	0
14)	52,10	191,2	s1	29/3S	30	0
Triterpanes:						
15)	52,99	191,2	s1	27Ts	250	2
16)	53,23	177,15	s1	25nor28ab	33	0
17)	53,67	191,2	s1	27Tm	589	4
18)	54,05	177,15	s1	25nor29ab	52	0
19)	54,16	191,2	s1	27b	185	1
20)	55,20	191,2	s1	28ab	178	1
21)	55,44	177,15	s1	25nor30ab	27	0
22)	55,93	191,2	s1	29ab	1320	10
23)	56,03	191,2	s1	29Ts	200	1
24)	56,29	191,2	s1	30D	65	0
25)	56,73	191,2	s1	29ba	164	1
26)	57,30	191,2	s2	30ab	1030	5
27)	57,66	191,2	s1	30D13	77	1
28)	57,93	191,2	s2	30ba	111	1
29)	58,90	191,2	s1	31abS	374	3
30)	59,09	191,2	s1	31abR	390	3
31)	59,43	191,2	s1	30G	75	1
32)	59,62	191,2	s1	31ba	111	1
33)	60,13	191,2	s1	32abS	238	2
34)	60,40	191,2	s1	32abR	328	2
35)	61,56	191,2	s1	33abS	172	1
36)	61,93	191,2	s1	33abR	224	2
37)	63,11	191,2	s1	34abS	83	1
38)	63,63	191,2	s1	34abR	131	1
39)	64,89	191,2	s1	35abS	155	1
40)	65,62	191,2	s1	35abR	339	3

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Steranes:						
41)	38,61	217,2	s3	21aa	209	2
42)	40,27	217,2	s3	21bb	207	2
43)	40,40	217,2	s3	22aa	99	1
44)	42,63	217,2	s3	22bb	126	1
45)	48,96	217,2	s3	27dbS	266	3
46)	49,60	217,2	s3	27dbR	210	2
47)	51,95	218,2	s3	27bbR	334	4
48)	52,11	218,2	s3	27bbS	197	2
49)	52,51	217,2	s3	27aaR	537	6
50)	53,71	218,2	s3	28bbR	163	2
51)	53,84	218,2	s3	28bbS	191	2
52)	54,81	217,2	s3	29aaS	124	1
53)	55,13	218,2	s3	29bbR	301	3
54)	55,23	218,2	s3	29bbS	225	2
55)	55,84	217,2	s3	29aaR	644	7
56)	56,34	218,2	s3	30bbR	37	0
57)	56,38	218,2	s3	30bbS	37	0

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data

HYDRO

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: **1804S.D**
Sample name: **31/5-6 swc, 1804s**
Data File Path: C:\HPCHEM\1\DATA\31_5_6_BIO\
Misc. info.:

Vial no.: 4
Method: MSD_S_E2
Operator: Marian
Date: 29 Aug 2000 20:26

Response curve y = ax
Response factor groups: s1...s3, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard(s) added:						
1)	46,44	217,2		24baa	1472	24
Diterpanes:						
2)	34,07	191,2	s1	19/3	51	1
3)	36,07	191,2	s1	20/3	39	0
4)	38,10	191,2	s1	21/3	55	1
5)	42,08	191,2	s1	23/3	270	3
6)	43,21	191,2	s1	24/3	97	1
7)	45,49	191,2	s1	25/3	59	1
8)	47,03	191,2	s1	24/4	420	5
9)	47,13	191,2	s1	26/3R	33	0
10)	47,26	191,2	s1	26/3S	36	0
11)	50,77	191,2	s1	28/3R	51	1
12)	51,04	191,2	s1	28/3S	36	0
13)	51,81	191,2	s1	29/3R	37	0
14)	52,12	191,2	s1	29/3S	46	1
Triterpanes:						
15)	52,99	191,2	s1	27Ts	322	4
16)	53,24	177,15	s1	25nor28ab	20	0
17)	53,66	191,2	s1	27Tm	743	9
18)	54,05	177,15	s1	25nor29ab	26	0
19)	54,15	191,2	s1	27b	218	3
20)	55,19	191,2	s1	28ab	804	10
21)	55,43	177,15	s1	25nor30ab	24	0
22)	55,93	191,2	s1	29ab	1791	22
23)	56,04	191,2	s1	29Ts	293	4
24)	56,26	191,2	s1	30D	36	0
25)	56,73	191,2	s1	29ba	201	2
26)	57,30	191,2	s2	30ab	1175	9
27)	57,66	191,2	s1	30D13	72	1
28)	57,92	191,2	s2	30ba	112	1
29)	58,89	191,2	s1	31abS	461	6
30)	59,09	191,2	s1	31abR	430	5
31)	59,42	191,2	s1	30G	78	1
32)	59,60	191,2	s1	31ba	84	1
33)	60,13	191,2	s1	32abS	251	3
34)	60,39	191,2	s1	32abR	287	4
35)	61,56	191,2	s1	33abS	155	2
36)	61,92	191,2	s1	33abR	186	2
37)	63,11	191,2	s1	34abS	94	1
38)	63,61	191,2	s1	34abR	106	1
39)	64,90	191,2	s1	35abS	131	2
40)	65,61	191,2	s1	35abR	236	3

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Steranes:						
41)	38,61	217,2	s3	21aa	85	2
42)	40,28	217,2	s3	21bb	156	3
43)	40,39	217,2	s3	22aa	49	1
44)	42,64	217,2	s3	22bb	107	2
45)	48,96	217,2	s3	27dbS	179	3
46)	49,59	217,2	s3	27dbR	143	3
47)	51,95	218,2	s3	27bbR	302	5
48)	52,10	218,2	s3	27bbS	221	4
49)	52,50	217,2	s3	27aaR	625	11
50)	53,69	218,2	s3	28bbR	162	3
51)	53,84	218,2	s3	28bbS	153	3
52)	54,82	217,2	s3	29aaS	128	2
53)	55,13	218,2	s3	29bbR	244	4
54)	55,22	218,2	s3	29bbS	205	4
55)	55,85	217,2	s3	29aaR	503	9
56)	56,31	218,2	s3	30bbR	32	1
57)	56,37	218,2	s3	30bbS	37	1

Saturated biomarkers

GC/MS detection HP-6890/5973

Compound data

HYDRO

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: **1805S.D**
Sample name: **31/5-6 swc, 1805s**
Data File Path: C:\HPCHEM\1\DATA\31_5_6_BIO\
Misc. info.:

Vial no.: 5
Method: MSD_S_E2
Operator: Marian
Date: 29 Aug 2000 21:54

Response curve y = ax
Response factor groups: s1...s3, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal Standard (Added)						
1)	36,42	217,2		24baa	1146	24
Diterpanes:						
2)	34,08	191,2	s1	19/3	22	0
3)	36,06	191,2	s1	20/3	37	1
4)	38,10	191,2	s1	21/3	59	1
5)	42,09	191,2	s1	23/3	272	4
6)	43,21	191,2	s1	24/3	103	2
7)	45,49	191,2	s1	25/3	67	1
8)	47,03	191,2	s1	24/4	378	6
9)	47,12	191,2	s1	26/3R	41	1
10)	47,26	191,2	s1	26/3S	43	1
11)	50,78	191,2	s1	28/3R	60	1
12)	51,03	191,2	s1	28/3S	45	1
13)	51,83	191,2	s1	29/3R	56	1
14)	52,11	191,2	s1	29/3S	46	1
Triterpanes:						
15)	52,98	191,2	s1	27Ts	295	5
16)	53,24	177,15	s1	25nor28ab	28	0
17)	53,67	191,2	s1	27Tm	858	14
18)	54,03	177,15	s1	25nor29ab	56	1
19)	54,15	191,2	s1	27b	305	5
20)	55,23	191,2	s1	28ab	42	1
21)	55,44	177,15	s1	25nor30ab	26	0
22)	55,93	191,2	s1	29ab	3026	48
23)	56,03	191,2	s1	29Ts	313	5
24)	56,29	191,2	s1	30D	14	0
25)	56,73	191,2	s1	29ba	179	3
26)	57,30	191,2	s2	30ab	1855	19
27)	57,66	191,2	s1	30D13	90	1
28)	57,93	191,2	s2	30ba	140	1
29)	58,89	191,2	s1	31abS	977	16
30)	59,08	191,2	s1	31abR	752	12
31)	59,43	191,2	s1	30G	171	3
32)	59,62	191,2	s1	31ba	75	1
33)	60,13	191,2	s1	32abS	487	8
34)	60,40	191,2	s1	32abR	347	6
35)	61,56	191,2	s1	33abS	294	5
36)	61,93	191,2	s1	33abR	191	3
37)	63,10	191,2	s1	34abS	167	3
38)	63,62	191,2	s1	34abR	104	2
39)	64,90	191,2	s1	35abS	103	2
40)	65,61	191,2	s1	35abR	77	1

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Steranes:						
41)	38,61	217,2	s3	21aa	25	1
42)	40,28	217,2	s3	21bb	122	3
43)	40,38	217,2	s3	22aa	25	1
44)	42,63	217,2	s3	22bb	89	2
45)	48,96	217,2	s3	27dbS	80	2
46)	49,60	217,2	s3	27dbR	51	1
47)	51,95	218,2	s3	27bbR	263	6
48)	52,11	218,2	s3	27bbS	231	5
49)	52,51	217,2	s3	27aaR	148	3
50)	53,70	218,2	s3	28bbR	146	3
51)	53,85	218,2	s3	28bbS	164	4
52)	54,82	217,2	s3	29aaS	116	3
53)	55,13	218,2	s3	29bbR	282	6
54)	55,22	218,2	s3	29bbS	275	6
55)	55,84	217,2	s3	29aaR	124	3
56)	56,29	218,2	s3	30bbR	31	1
57)	56,36	218,2	s3	30bbS	30	1