

### **7.3 MDT Sampling**

Samples were collected at depth 3211 m RKB. The sampling was performed using low shock sampling technique. Total of 33 litres were pumped before start to filling bottle no. 1 in multisampler number 1.

The rest of the bottles were not filled. The large diameter probe was used for pretest and sampling.

Maximum draw down during pumping was approximately 110 bar and the maximum temperature recorded was 107.5 C°.

Run 1A Test #	Depth (m MD RKB)	Drawdown mobility (mD/cp)	Initial mud Pressure CQG (bar)	Final mud Pressure CQG (bar)	Formation Pressure CQG (bar)	Draw-down Pretest Type
1	3124.0	-	457.99	457.98	-	Tight
2	3125.5	-	458.20	458.33	-	Tight
3	3201.3	-	469.19	469.17	-	Tight
4	3209.8	-	470.49	470.38	-	Tight
5	3211.5	6.3	470.67	-	359.3	Good
6	3211.0	15.2	470.70	470.48	359.23	Good (Sample)

Table 8.7.1: Formation pressure data in well 35/11-12.

#### **8.4 MDT Pressure and Sampling**

One MDT (Modular formation Dynamics Tester) run was carried out in well 35/11-12. This run covered the reservoir sections of the Oxfordian Turbidite. As expected, the reservoir was fairly tight. Of 6 attempted pressure tests, only 2 were successful. The formation pressure quality control is summarised in Table 8.7.1.

To determine the movable fluid, a MDT fluid sample was gathered in the better sand at 3211.0 m MD RKB. This sample contained water with traces of oil.

## DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 35/11-12 PO: 1

Unofficial Data

Hole section : 0.0			WATER BASED SYSTEM																
Date	Depth [m]		Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings							Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]	
	MD	TVD					600	300	200	100	60	30	6						3
2000-04-19	725	725	SPUD MUD	95,0	1,20						0	0							
Hole section : 26"			WATER BASED SYSTEM																
Date	Depth [m]		Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings							Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]	
	MD	TVD					600	300	200	100	60	30	6						3
2000-04-20	460	460	SPUD MUD	95,0	1,20						0	0							
2000-04-21	500	500	SPUD MUD	95,0	1,20						0	0							
Hole section : 17 1/2"			WATER BASED SYSTEM																
Date	Depth [m]		Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings							Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]	
	MD	TVD					600	300	200	100	60	30	6						3
2000-04-22	725	725	SPUD MUD	95,0	1,30						0	0							
2000-04-23	725	725	GLYDRIL	95,0	1,42		65	46	38	26	0	0	9	7	120,0	19,0	13,5	4,0	8,5
2000-04-24	850	850	GLYDRIL	66,0	1,30		69	51	41	31	0	0	12	9	120,0	18,0	16,5	5,0	10,5
2000-04-25	1473	1473	GLYDRIL	69,0	1,40		85	62	50	38	0	0	13	10	120,0	23,0	19,5	5,5	12,0
2000-04-26	1760	1760	GLYDRIL	66,0	1,40		82	60	50	35	0	0	12	10	120,0	22,0	19,0	5,5	13,0
2000-04-27	1760	1760	GLYDRIL	64,0	1,40		80	58	48	35	0	0	12	10	120,0	22,0	18,0	5,0	12,0
2000-04-28	1760	1760	GLYDRIL	64,0	1,40		74	53	44	32	0	0	11	9	50,0	21,0	16,0	5,0	10,0
2000-04-29	1760	1760	GLYDRIL	64,0	1,40		73	53	44	31	0	0	11	9		20,0	16,5	5,0	10,0
2000-04-30	1764	1764	GLYDRIL	64,0	1,30		53	38	28	21	0	0	10	8	50,0	15,0	11,5	4,0	8,0
Hole section : 12 1/4"			WATER BASED SYSTEM																
Date	Depth [m]		Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings							Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]	
	MD	TVD					600	300	200	100	60	30	6						3
2000-05-01	2212	2212	GLYDRIL	66,0	1,30		78	56	45	35	0	0	11	9	50,0	22,0	17,0	5,0	8,0
2000-05-02	2711	2711	GLYDRIL	60,0	1,30		80	60	48	38	0	0	13	10	50,0	20,0	20,0	5,5	9,0
2000-05-03	2822	2822	GLYDRIL	58,0	1,30		80	60	48	38	0	0	13	10	50,0	20,0	20,0	5,5	9,0
2000-05-04	2822	2822	GLYDRIL	56,0	1,30		80	58	46	35	0	0	12	10	50,0	22,0	18,0	5,5	9,0

## DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 35/11-12 PO: 1

Unofficial Data

Hole section : 8 1/2"			WATER BASED SYSTEM																
Date	Depth [m]		Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings							Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]	
	MD	TVD					600	300	200	100	60	30	6						3
2000-05-05 21:00	3050	3050	GLYDRIL	51,0	1,46		71	51	41	31	0	0	10	8	50,0	20,0	15,5	4,0	5,5
2000-05-06 15:00	3140	3140	GLYDRIL	50,0	1,46		71	51	40	30	0	0	10	8	50,0	20,0	15,5	4,0	5,5
2000-05-07 22:45	3291	3290	GLYDRIL	54,0	1,46		84	62	50	37	0	0	12	10	50,0	22,0	20,0	5,5	6,5
2000-05-08 23:15	3378	3377	GLYDRIL	53,0	1,50		86	63	51	38	0	0	12	9	50,0	23,0	20,0	5,0	6,5
2000-05-09 20:00	3378	3377	GLYDRIL	53,0	1,50		82	60	50	36	0	0	12	9	50,0	22,0	19,0	5,0	6,5
Hole section : 12 1/4"			WATER BASED SYSTEM																
Date	Depth [m]		Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings							Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]	
	MD	TVD					600	300	200	100	60	30	6						3
2000-05-10 22:50	2709	2709	GLYDRIL	53,0	1,50		84	62	50	36	0	0	12	10	50,0	22,0	20,0	5,5	6,5
Hole section : 17 1/2"			WATER BASED SYSTEM																
Date	Depth [m]		Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings							Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]	
	MD	TVD					600	300	200	100	60	30	6						3
2000-05-11 22:00	750	750	GLYDRIL	52,0	1,30		78	59	48	33	0	0	10	9	50,0	19,0	20,0	10,0	6,0
Hole section : 26"			WATER BASED SYSTEM																
Date	Depth [m]		Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings							Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]	
	MD	TVD					600	300	200	100	60	30	6						3
2000-05-12	600	600	GLYDRIL	52,0	1,30		78	59	48	33	0	0	10	9	50,0	19,0	20,0	10,0	6,0
Hole section : 12 1/4"			WATER BASED SYSTEM																
Date	Depth [m]		Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp Out [DegC]	Fann Readings							Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel0 [Pa]	Gel10 [Pa]	
	MD	TVD					600	300	200	100	60	30	6						3
2000-05-13	2764	2764	GLYDRIL	52,0	1,30		78	59	48	33	0	0	10	9	120,0	19,0	20,0	10,0	6,0

**DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 35/11-12 PO: 1**

Unofficial Data

Hole section : 0.0			WATER BASED SYSTEM																						
Date	Depth [m]		Mud Type	Dens [sg]	Filtrate		Filtcake		HPHT Press/Temp [bar/DegC]	pH	Alcalinity			Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid Oil Sand			CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	MD	TVD			API [ml]	HPHT [ml]	API [mm]	HPHT [mm]			Pm [ml]	Pf [ml]	Mf [ml]							[%]	[%]	[%]			
2000-04-19	725	725	SPUD MUD	1,20					/																

Hole section : 26"			WATER BASED SYSTEM																						
Date	Depth [m]		Mud Type	Dens [sg]	Filtrate		Filtcake		HPHT Press/Temp [bar/DegC]	pH	Alcalinity			Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid Oil Sand			CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	MD	TVD			API [ml]	HPHT [ml]	API [mm]	HPHT [mm]			Pm [ml]	Pf [ml]	Mf [ml]							[%]	[%]	[%]			
2000-04-20	460	460	SPUD MUD	1,20					/																
2000-04-21	500	500	SPUD MUD	1,20					/																

Hole section : 17 1/2"			WATER BASED SYSTEM																						
Date	Depth [m]		Mud Type	Dens [sg]	Filtrate		Filtcake		HPHT Press/Temp [bar/DegC]	pH	Alcalinity			Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid Oil Sand			CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	MD	TVD			API [ml]	HPHT [ml]	API [mm]	HPHT [mm]			Pm [ml]	Pf [ml]	Mf [ml]							[%]	[%]	[%]			
2000-04-22	725	725	SPUD MUD	1,30					/																
2000-04-23	725	725	GLYDRIL	1,42	4,3		1		/	9,0	0,0	0,8	150		71000	1760			19,0			50		162	
2000-04-24	850	850	GLYDRIL	1,30	2,4		1		/	9,1	0,1	0,4	160		78500	780		840	17,0			50		233	
2000-04-25	1473	1473	GLYDRIL	1,40	2,3		1		/	8,3	0,1	0,3	161		76000	710		800	20,0	1,5		44		240	
2000-04-26	1760	1760	GLYDRIL	1,40	2,4		1		/	8,1	0,1	0,2	160		75000	880		1000	19,0	1,5		56		188	
2000-04-27	1760	1760	GLYDRIL	1,40	2,3		1		/	8,1	0,1	0,2	163		78000	880		1000	19,0	1,5		55		182	
2000-04-28	1760	1760	GLYDRIL	1,40	2,3		1		/		0,1	0,3	168		230000	650	100		18,5			48			
2000-04-29	1760	1760	GLYDRIL	1,40	2,3		1		/		0,1	0,3	168		83000	650	190	840	18,5			48			
2000-04-30	1764	1764	GLYDRIL	1,30	2,4		1		/	9,6	0,2	0,4	168		88000	640	240	880	15,0			38			

Hole section : 12 1/4"			WATER BASED SYSTEM																						
Date	Depth [m]		Mud Type	Dens [sg]	Filtrate		Filtcake		HPHT Press/Temp [bar/DegC]	pH	Alcalinity			Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid Oil Sand			CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	MD	TVD			API [ml]	HPHT [ml]	API [mm]	HPHT [mm]			Pm [ml]	Pf [ml]	Mf [ml]							[%]	[%]	[%]			
2000-05-01	2212	2212	GLYDRIL	1,30	2,3		1		/	8,5	0,1	0,1	80,0	181	86800	800	80	880	16,0	0,4		30		163	
2000-05-02	2711	2711	GLYDRIL	1,30	2,1		1		/	8,5	0,1	0,6	173		86000	800	80	880	16,0	0,2		35		165	
2000-05-03	2822	2822	GLYDRIL	1,30	2,3		1		/	8,3	0,1	0,3	173		85000	200	80	880	16,0			35		167	
2000-05-04	2822	2822	GLYDRIL	1,30	2,3		1		/	8,3	0,1	0,3	173		85000	800	80	880	16,0	0,2		35		167	

**DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 35/11-12 PO: 1**

Hole section : 8 1/2"			WATER BASED SYSTEM																						
Date	Depth [m]		Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC	ASG	LGS
	MD	TVD		API	HPHT	API	HPHT	Press/Temp	Pm		Pf	Mf	[mg/l]							[mg/l]	[mg/l]	Oil			
2000-05-05 21:00	3050	3050	1,46	2,3		1		/		8,3	0,1	0,3	160						800	18,0					46
2000-05-06 15:00	3140	3140	1,46	2,3		1		/		8,3	0,1	0,3	160					660	800	18,0	0,2			8	46
2000-05-07 22:45	3291	3290	1,46	2,3		1		/		8,5	0,1	0,3	158					73	800	18,0				8	46
2000-05-08 23:15	3378	3377	1,50	2,3		1		/		8,2	0,1	0,2	158					73	800	19,0				8	43
2000-05-09 20:00	3378	3377	1,50	2,3		1		/			0,1	0,2	158					73	800	19,0	0,2			8	43
Hole section : 12 1/4"			WATER BASED SYSTEM																						
Date	Depth [m]		Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC	ASG	LGS
	MD	TVD		API	HPHT	API	HPHT	Press/Temp	Pm		Pf	Mf	[mg/l]							[mg/l]	[mg/l]	Oil			
2000-05-10 22:50	2709	2709	1,50	2,3		1		/		8,4	0,1		158					73	800	19,0				8	
Hole section : 17 1/2"			WATER BASED SYSTEM																						
Date	Depth [m]		Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC	ASG	LGS
	MD	TVD		API	HPHT	API	HPHT	Press/Temp	Pm		Pf	Mf	[mg/l]							[mg/l]	[mg/l]	Oil			
2000-05-11 22:00	750	750	1,30	2,3		1		/		8,8	0,1		129					170	1000	0,0				7	
Hole section : 26"			WATER BASED SYSTEM																						
Date	Depth [m]		Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC	ASG	LGS
	MD	TVD		API	HPHT	API	HPHT	Press/Temp	Pm		Pf	Mf	[mg/l]							[mg/l]	[mg/l]	Oil			
2000-05-12	600	600	1,30	2,3		1		/			0,1	0,2	129						1000						
Hole section : 12 1/4"			WATER BASED SYSTEM																						
Date	Depth [m]		Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC	ASG	LGS
	MD	TVD		API	HPHT	API	HPHT	Press/Temp	Pm		Pf	Mf	[mg/l]							[mg/l]	[mg/l]	Oil			
2000-05-13	2764	2764	1,30	2,3		1		/		8,8	0,1	0,2	129						1000	13,0	0,2			7	53



# E&P Division REGISTRERT

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The analyzed samples and analytical program are presented in Table 2.1.

Well	Start- depth, m	End- depth, m	Sample type	Rock Eval	Extrac- tion	latro- scan	13C- isotope	Vitrinite reflec.	SAT HC	SAT- biom.	ARO HC	C5-20 HC
35/11-8 S	2911	2932	OIL		1	1	1		1	1	1	1
35/11-12	1297	1300	DC					1				
35/11-12	1397	1400	DC					1				
35/11-12	1497	1500	DC					1				
35/11-12	1597	1600	DC					1				
35/11-12	1687	1690	DC					1				
35/11-12	1760	1760	MUD		1	1			1	1	1	
35/11-12	1797	1800	DC					1				
35/11-12	1897	1900	DC					1				
35/11-12	1992	1995	DC					1				
35/11-12	2097	2100	DC					1				
35/11-12	2197	2200	DC					1				
35/11-12	2297	2300	DC					1				
35/11-12	2397	2400	DC					1				
35/11-12	2497	2500	DC					1				
35/11-12	2597	2600	DC					1				
35/11-12	2687	2690	DC					1				
35/11-12	2807	2810	DC					1				
35/11-12	2822	2822	MUD		1	1			1	1	1	
35/11-12	2892	2895	DC	1								
35/11-12	2900	2900	MUD		1	1			1	1	1	
35/11-12	2900	2905	DC	1	1	1	1		1	1	1	
35/11-12	2905	2907	DC					1				
35/11-12	2907	2910	DC	1								
35/11-12	2915	2917	DC	1								
35/11-12	2935	2937	DC	1	1	1	1		1	1	1	
35/11-12	2955	2957	DC	1								
35/11-12	2975	2977	DC	1	1	1	1		1	1	1	
35/11-12	2995	2997	DC	1	1	1	1		1	1	1	
35/11-12	3000	3000	MUD		1	1			1	1	1	
35/11-12	2997	3000	DC					1				
35/11-12	3015	3017	DC	1	1	1	1		1	1	1	
35/11-12	3035	3037	DC	1								
35/11-12	3055	3057	DC	1	1	1	1		1	1	1	
35/11-12	3075	3077	DC	1								
35/11-12	3092	3095	DC	1	1	1	1		1	1	1	
35/11-12	3100	3100	MUD	1	1	1			1	1	1	
35/11-12	3080	3100	DC					1				
35/11-12	3120.9	3120.9	COCH	1	1	1	1		1	1	1	
35/11-12	3122.2	3122.2	COCH	1	1	1	1		1	1	1	
35/11-12	3122.9	3122.9	COCH	1								
35/11-12	3123.1	3123.1	COCH	1	1	1	1		1	1	1	
35/11-12	3124.8	3124.8	COCH	1								
35/11-12	3195	3197	DC					1				
35/11-12	3200	3200	MUD		1	1			1	1	1	
35/11-12	3211	3211	OIL		1	1	1		1	1	1	1
35/11-12	3255	3257	DC	1								
35/11-12	3275	3277	DC	1								
35/11-12	3295	3297	DC					1				
35/11-12	3300	3300	MUD		1	1			1	1	1	
35/11-12	3315	3317	DC	1	1	1	1		1	1	1	
35/11-12	3325	3327	DC	1								
35/11-12	3335	3337	DC	1	1	1	1		1	1	1	
35/11-12	3347	3350	DC	1								
35/11-12	3350	3352	DC	1								
35/11-12	3352	3355	DC	1	1	1	1		1	1	1	
35/11-12	3355	3357	DC	1								
35/11-12	3357	3360	DC	1								
35/11-12	3360	3362	DC	1								
35/11-12	3362	3365	DC	1								
35/11-12	3365	3367	DC	1								
35/11-12	3367	3370	DC	1								
35/11-12	3370	3372	DC	1								
35/11-12	3372	3375	DC	1								
35/11-12	3375	3377	DC	1	1	1	1		1	1	1	
Sum				36	23	23	16	21	23	23	23	2

Table 2.1: Selected samples and analytical program. All depths are in m MD RKB.

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Title: Petroleum geochemical study of well 35/11-12

Rev.: 0

Date: 2000-10-02

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### 3 EXPERIMENTAL

The analytical and preparative methods employed in this study comprise geochemical characterization of sediment extracts and depressurized fluids. The analytical program involves:

- ✓ asphaltene precipitation
- ✓ preparative group type separation by MPLC<sup>1</sup>
- ✓ group type distribution by TLC-FID<sup>2</sup> (Iatroscan)
- ✓ Gas chromatography (GC-FID) of saturated C<sub>15+</sub> hydrocarbons
- ✓ Gas chromatography-mass spectrometry (GC-MSD<sup>3</sup>) of the saturated (SAT) and aromatic (ARO) C<sub>15+</sub> hydrocarbon fractions
- ✓ Mass spectrometry of stable carbon isotopes in SAT and ARO fractions
- ✓ Gas chromatography (GC-FID) of C<sub>5-20</sub> hydrocarbons of depressurized fluids.

All chromatographic data are based on quantitative measurements.

The isotope analysis of the hydrocarbon fractions and vitrinite reflectance measurements were carried out by IFE (Kjeller, Norway). All other analytical and interpretative work were carried out at the Norsk Hydro E&P Research Centre in Bergen, Norway.

The analytical methods are based on the guidelines in the Norwegian Industry Guide to Organic Geochemical Analyses (NIGOGA<sup>4</sup>). Major deviations from this guide are:

- Extract and asphaltene workup by centrifugation.
- Internal standard mixture added to the 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.

The data quality control is done according to defined laboratory procedures, available on request.

Samples which are annotated "nso..." or "s..." represent the internal North Sea reference oil and reflect the analytical repeatability.

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1 Medium Pressure/Performance Liquid Chromatography  
2 Thin layer chromatography with Flame Ionisation Detection  
3 Gas Chromatography - Mass Selective Detector  
4 The Norwegian Industry Guide to Organic Geochemical Analyses, 3rd edition, 1993

4 SAMPLE CONTAMINATION AND MUD CONTRIBUTION

The saturated hydrocarbon signatures of the investigated core samples from sandstones show enhanced amounts of C<sub>20+</sub> hydrocarbons, Figure 4.1. This enhanced level of high molecular weight hydrocarbons are not typical for a North Sea hydrocarbon extract. The signature from the MDT-fluid sample at 3211 m is shown in figure 4.2, reflecting a typical hydrocarbon distribution. However, an enhanced amount of C<sub>20+</sub> hydrocarbons is recognized in the well mud sample at 3100 m. Analyses of all available well mud samples show that only the well mud sample at 3100 m has this enhanced C<sub>20+</sub> hydrocarbon profile. The other well mud samples show neglectable background signals.

The detected contamination of C<sub>20+</sub> hydrocarbons is restricted to the investigated core samples and the well mud sample at 3100 m. The well is drilled by a water based mud system. The observation of the C<sub>20+</sub> hydrocarbon contamination in only one well mud sample exclude the mud system as the source of these hydrocarbons. Consequently, is it likely that this contamination is introduced in the process of core drilling. Further details are unknown.

The content of saturated biomarker and aromatic hydrocarbons in all well mud samples are generally low, indicating only minor contributions to the genuine biomarker hydrocarbon signature.

Figure 4.1: Saturated hydrocarbon signatures of core samples from sandstones at 3120.9, 3122.2 and 3123.1 m

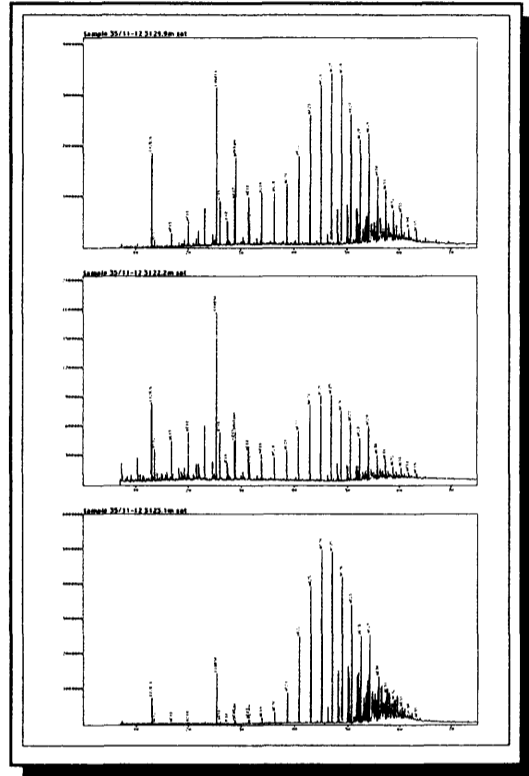
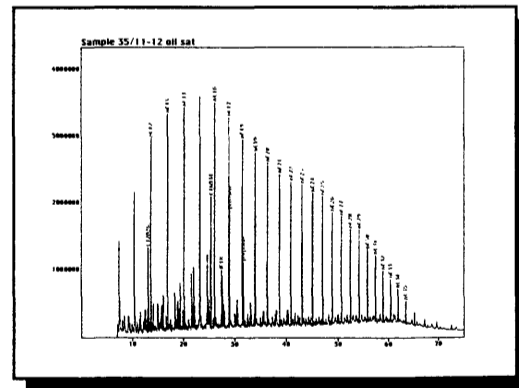


Figure 4.2: Saturated hydrocarbon signature of the MDT fluid sample at 3211 m



# **Appendix 1**

**Bulk data,  
data tables**

## Rock Eval data

Well	Start-depth, m	End-depth, m	Type	Tmax	S1	S2	TOC	HI	PI
'35/11-12	2892.00	2895.00	DC	435	0.54	3.6	1.4	250	0.13
'35/11-12	2902.00	2905.00	DC	433	1.74	13.6	3.6	379	0.11
'35/11-12	2907.00	2910.00	DC	429	2.68	17.7	4.7	380	0.13
'35/11-12	2915.00	2917.00	DC	432	2.57	22.0	5.5	397	0.10
'35/11-12	2935.00	2937.00	DC	433	2.64	22.0	5.3	415	0.11
'35/11-12	2955.00	2957.00	DC	434	2.62	21.9	5.1	433	0.11
'35/11-12	2975.00	2977.00	DC	434	3.46	26.9	6.2	433	0.11
'35/11-12	2995.00	2997.00	DC	433	5.08	36.1	8.4	430	0.12
'35/11-12	3015.00	3017.00	DC	433	4.29	27.5	7.5	367	0.14
'35/11-12	3035.00	3037.00	DC	431	4.43	24.4	6.7	364	0.15
'35/11-12	3055.00	3057.00	DC	433	3.89	25.1	7.0	361	0.13
'35/11-12	3075.00	3077.00	DC	435	3.16	23.0	6.2	373	0.12
'35/11-12	3092.00	3095.00	DC	434	4.68	23.9	6.5	365	0.16
'35/11-12	3120.90	3120.90	core	314	0.12	0.3	0.2	150	0.27
'35/11-12	3122.20	3122.20	core	440	0.09	0.3	0.3	84	0.26
'35/11-12	3122.90	3122.90	core	304	0.05	0.2	0.1	250	0.25
'35/11-12	3123.10	3123.10	core	324	0.05	0.2	0.1	214	0.25
'35/11-12	3124.80	3124.80	core	300	0.05	0.1	0.1	200	0.26
'35/11-12	3255.00	3257.00	DC	440	1.04	5.4	2.8	193	0.16
'35/11-12	3275.00	3277.00	DC	351	2.15	5.9	2.4	244	0.27
'35/11-12	3315.00	3317.00	DC	443	2.20	8.6	2.7	321	0.20
'35/11-12	3325.00	3327.00	DC	441	2.21	7.9	2.6	302	0.22
'35/11-12	3335.00	3337.00	DC	440	2.53	7.5	2.5	300	0.25
'35/11-12	3347.00	3350.00	DC	444	1.42	7.9	2.4	326	0.15
'35/11-12	3350.00	3352.00	DC	444	1.41	7.7	2.4	316	0.15
'35/11-12	3352.00	3355.00	DC	444	1.70	8.3	2.6	322	0.17
'35/11-12	3355.00	3357.00	DC	443	1.54	8.2	2.6	311	0.16
'35/11-12	3357.00	3360.00	DC	442	1.47	7.6	2.5	298	0.16
'35/11-12	3360.00	3362.00	DC	443	1.71	8.0	2.7	298	0.18
'35/11-12	3362.00	3365.00	DC	444	1.61	7.9	2.7	296	0.17
'35/11-12	3365.00	3367.00	DC	442	1.52	7.7	2.6	293	0.17
'35/11-12	3367.00	3370.00	DC	442	1.53	7.7	2.7	283	0.17
'35/11-12	3370.00	3372.00	DC	445	1.60	8.5	2.9	298	0.16
'35/11-12	3372.00	3375.00	DC	443	1.68	8.1	2.8	290	0.17
'35/11-12	3375.00	3377.00	DC	440	2.73	9.3	3.5	265	0.23
'35/11-12	3100.00	3100.00	MUD		0.03	0.1	0.4	15	0.33

## EOM and latroscan data

Well	Start-depth, m	End-depth, m	Type	Name	EOM, mg/g rock	SAT, wt.%	ARO, wt.%	NSO, wt.%	Asph. wt.%
'35/11-12	2902.00	2905.00	DC	2905.00	12.9	14.1	19.9	47.7	18.3
'35/11-12	2935.00	2937.00	DC	2937.00	15.0	18.4	23.1	43.1	15.4
'35/11-12	2975.00	2977.00	DC	2977.00	17.1	19.7	24.5	42.8	13.0
'35/11-12	2995.00	2997.00	DC	2997.00	17.8	21.3	28.6	35.2	14.8
'35/11-12	3015.00	3017.00	DC	3017.00	15.6	21.9	28.4	36.8	12.8
'35/11-12	3055.00	3057.00	DC	3057.00	14.6	21.2	29.6	33.2	15.9
'35/11-12	3092.00	3095.00	DC	3095.00	15.1	22.3	29.7	36.7	11.3
'35/11-12	3120.90	3120.90	core	core_3120.9	0.6	35.6	18.5	37.0	9.0
'35/11-12	3122.20	3122.20	core	core_3122.2	0.3	13.9	35.4	27.0	23.8
'35/11-12	3123.10	3123.10	core	core_3123.1	0.2	61.4	4.8	27.6	6.3
'35/11-12	3211.00	3211.00	MDT-fluid	mdt_3211		57.1	26.4	16.2	0.4
'35/11-12	3315.00	3317.00	DC	3317.00	13.6	11.3	13.2	63.7	11.8
'35/11-12	3335.00	3337.00	DC	3337.00	14.0	8.5	11.0	68.0	12.5
'35/11-12	3352.00	3355.00	DC	3355.00	12.2	12.4	10.0	64.8	12.8
'35/11-12	3375.00	3377.00	DC	3377.00	14.1	20.9	13.6	51.0	14.6
'35/11-12	1760.00	1760.00	mud	mud_1760	11.5	0.0	0.0	97.6	2.4
'35/11-12	2822.00	2822.00	mud	mud_2822	25.8	0.0	0.0	97.4	2.6
'35/11-12	2900.00	2900.00	mud	mud_2900	16.6	0.0	0.0	97.0	3.0
'35/11-12	3000.00	3000.00	mud	mud_3000	15.0	0.0	0.0	96.5	3.5
'35/11-12	3100.00	3100.00	mud	mud_3100	19.6	3.2	0.8	93.9	2.1
'35/11-12	3200.00	3200.00	mud	mud_3200	19.2	0.0	0.0	96.7	3.3
'35/11-12	3300.00	3300.00	mud	mud_3300	17.0	0.0	0.0	96.9	3.1
'35/11-8 S	2911.00	2932.00	DST-fluid	dst1b		72.4	23.5	3.8	0.3
nso1	s1	s1	s1	s1		59.1	29.3	9.6	1.9
nso2	s2	s2	s2	s2		59.1	29.3	9.6	1.9
nso3	s3	s3	s3	s3		59.1	29.3	9.6	1.9
nso4	s4	s4	s4	s4		59.1	29.3	9.6	1.9
nso1	s5	s5	s5	s5		59.1	29.3	9.6	1.9
nso2	s6	s6	s6	s6		59.1	29.3	9.6	1.9
nso3	s7	s7	s7	s7		59.1	29.3	9.6	1.9
nso4	s8	s8	s8	s8		59.1	29.3	9.6	1.9

## Isotopic data

Well	Start-depth, m	End-depth, m	Type	$\delta^{13}\text{C}_{\text{sat}}$	$\delta^{13}\text{C}_{\text{org}}$
'35/11-12	2902.00	2905.00	DC	-31.7	-31.8
'35/11-12	2935.00	2937.00	DC	-32.4	-29.7
'35/11-12	2975.00	2977.00	DC	-32.4	-31.5
'35/11-12	2995.00	2997.00	DC	-31.4	-30.5
'35/11-12	3015.00	3017.00	DC	-30.2	-29.3
'35/11-12	3055.00	3057.00	DC	-29.6	-28.3
'35/11-12	3092.00	3095.00	DC	-28.0	-28.3
'35/11-12	3120.90	3120.90	core	-28.5	-26.1
'35/11-12	3122.20	3122.20	core		-26.1
'35/11-12	3123.10	3123.10	core	-27.6	-26.4
'35/11-12	3211.00	3211.00	MDT-fluid	-29.1	-27.5
'35/11-12	3315.00	3317.00	DC	-27.5	-25.8
'35/11-12	3335.00	3337.00	DC	-28.0	-25.9
'35/11-12	3352.00	3355.00	DC	-27.8	-25.8
'35/11-12	3375.00	3377.00	DC	-27.2	-25.9
'35/11-8 S	2911.00	2932.00	DST1B	-28.8	-27.1

# Appendix 2

## **C<sub>5-20</sub> hydrocarbons,** data tables and reports



File path: C:\HPCHEM\1\DATA\HANS8\  
 File name: 351112.D  
 Misc info:  
 Sample name: 35/11-12,mdt609  
 Date acquired: 7 Aug 2000 18:45  
 Method/Operator: C520D\_B HANS CHRISTIAN  
 Response factor = 1.0 (y=ax)

## C5-20 hydrocarbons GC/FID

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



Name	Area	Amount ug/mg	Rt	Name	Area	Amount ug/mg	Rt
iC8(ISTD)/224tm-C5	68353445	8.53	17.44	phC6(ISTD)	85401076	8.53	106.69
iC5	24026454	3.00	5.40	Benzene	28876875	2.89	12.57
nC5	52418893	6.54	5.79	Toluene/233tm-C5	70071841	7.00	28.11
22dm-C4	540668	0.07	6.55	iC9	8699149	0.87	45.41
cyC5	11190817	1.40	7.37	e-benzene	12830658	1.28	48.28
23dm-C4	2524298	0.32	7.41	m-xylene	33810972	3.38	50.44
2m-C5	27948120	3.49	7.55	p-xylene	13004691	1.30	50.69
3m-C5	16903571	2.11	8.08	4m-C8	7777615	0.78	53.18
nC6	73468023	9.17	8.81	2m-C8	11883402	1.19	53.49
3m-cyC5-ene	44762	0.01	9.54	3m-C8	10671123	1.07	55.29
22dm-C5	880194	0.11	10.09	o-xylene	22225416	2.22	56.25
m-cyC5	45739851	5.71	10.23	nC9	86201929	8.61	63.41
24dm-C5	3197665	0.40	10.47	iC10	10270370	1.03	70.89
223tm-C4	85566	0.01	10.91	nC10	74911154	7.48	81.44
33dm-C5	558734	0.07	13.28	iC11	11302250	1.13	84.58
cyC6	73027366	9.12	13.71	nC11	72621228	7.26	93.25
2m-C6	17524584	2.19	14.75	nC12	74963155	7.49	102.62
23dm-C5	6475852	0.81	14.93	iC13	11762440	1.18	103.93
11dm-cyC5	5359445	0.67	15.23	iC14	10712166	1.07	108.79
3m-C6	19841755	2.48	15.77	nC13	70101331	7.00	110.72
1c.3dm-cyC5	8891736	1.11	16.52	iC15	16566293	1.66	116.55
11.3dm-cyC5	8485917	1.06	16.87	nC14	71341483	7.13	118.02
3e-C5	2045726	0.26	17.05	iC16	24330832	2.43	122.43
11.2dm-cyC5	15735873	1.96	17.22	nC15	76738690	7.67	124.77
nC7	78029374	9.74	19.01	nC16	70574256	7.05	131.09
1c.2dm-cyC5	1443114	0.18	21.74	iC18	18764960	1.87	134.22
m-cyC6	130356989	16.27	21.90	nC17	67294091	6.72	137.04
113tm-cyC5	6339883	0.79	22.40	pristane	38787414	3.88	137.62
e-cyC5	5673876	0.71	23.83	nC18	54619040	5.46	142.66
25dm-C6	2718226	0.34	24.11	phytane	18547578	1.85	143.43
223tm-C5/24dm-C6	3621803	0.45	24.43	nC19	51323147	5.13	148.01
1c.2t.4tm-cyC5	5754840	0.72	25.40	nC20	50570781	5.05	153.11
33dm-C6	522197	0.07	25.66				
11.2c.3tm-cyC5	5383196	0.67	26.78	<b>Parameters</b>	<b>Area</b>	<b>Amount</b>	
234tm-C5	890967	0.11	27.33	(Thompson 1979/1983)	<b>ug/mg</b>		
23dm-C6	4946430	0.62	29.66	Heptane value(1):	20.93	20.93	
2m-C7	21532492	2.69	31.05	Isoheptane value(2)	1.08	1.08	
4m-C7	7904450	0.99	31.35	Paraffinicity(3):	0.60	0.60	
3m-C7	17393489	2.17	32.71	Aromaticity(4):	0.53	0.42	
1c.3dm-cyC6	26766175	3.34	32.77				
11.4dm-cyC6	12600759	1.57	33.16				
11dm-cyC6	5331261	0.67	35.81				
11.2dm-cyC6	16666379	2.08	36.78				
nC8	88482940	11.05	38.42				
e-cyC6	41848680	5.22	44.27				

1: 100\*nC7/C7paraffins, modified after Thompson 1983

2: (2mC6+3mC6)/Dm-cycloC5

3: nC7/m-cycloC6

4: (m+p)xylenes/nC8

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Title: Petroleum geochemical study of well 35/11-12

Rev.: 0

Date: 2000-10-02

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## Appendix 3

### **C<sub>15+</sub> saturated hydrocarbons, data tables and reports**

**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: **3377S.D**  
Sample name: **35/11-12 3377m sat**  
Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\  
Misc. info.:

Vial no.: 17  
Method: MSD\_S\_E2  
Operator: marian  
Date: 17:10:00

Response curve y = ax  
Response factors equally 1.0

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	13.07	GC1	C12D26	8625539	3.64
6)	25.43	GC1	C16D34	16597927	3.64
2)	10.37	GC1	nC11	181434	
3)	13.61	GC1	nC12	497816	
4)	16.88	GC1	nC13	837394	
5)	20.07	GC1	nC14	1853252	
7)	22.00	GC1	iC16	2513548	0.55
8)	23.16	GC1	nC15	5850490	1.28
9)	26.12	GC1	nC16	10804189	2.37
10)	27.46	GC1	iC18	6009480	1.32
11)	28.88	GC1	nC17	9494004	2.08
12)	29.04	GC1	pristane	7073607	1.55
13)	31.49	GC1	nC18	5421923	1.19
14)	31.71	GC1	phytane	2129144	0.47
15)	33.98	GC1	nC19	4116366	0.90
16)	36.37	GC1	nC20	3621042	0.79
17)	38.66	GC1	nC21	3485870	0.76
18)	40.86	GC1	nC22	3261713	0.72
19)	42.97	GC1	nC23	3121083	0.68
20)	45.00	GC1	nC24	2968660	0.65
21)	46.95	GC1	nC25	2781432	0.61
22)	48.84	GC1	nC26	2360856	0.52
23)	50.65	GC1	nC27	2406719	0.53
24)	52.41	GC1	nC28	1970967	0.43
25)	54.11	GC1	nC29	1921041	0.42
26)	55.75	GC1	nC30	1076749	0.24
27)	57.34	GC1	nC31	1116206	0.24
28)	58.88	GC1	nC32	680752	0.15
29)	60.39	GC1	nC33	617812	0.14
30)	61.84	GC1	nC34	555923	0.12
31)	63.36	GC1	nC35	416556	0.09

<b>Ratios:</b>	Area	Amount
Pr/nC17	0.75	0.75
Ph/nC18	0.39	0.39
(Pr/nC17)/(Ph/nC18)	1.90	1.90
Pr/Ph	3.32	3.32
nC17/(nC17+nC27)	0.80	0.80
CPI-1	1.17	1.17
CPI-2 (2*nC27/(nC26+nC27))	1.01	1.01

### 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: **3355S.D**  
Sample name: **35/11-12 3355m sat**  
Data File Path: C:\HPCHEM1\DATA\35\_11\_12\  
Misc. info.:

Vial no.: 16  
Method: MSD\_S\_E2  
Operator: marian  
Date: 15:42:00

Response curve  $y = ax$   
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.76	0.76
Ph/nC18	0.32	0.32
(Pr/nC17)/(Ph/nC18)	2.40	2.40
Pr/Ph	2.63	2.63
nC17/(nC17+nC27)	0.56	0.56
CPI-1	1.17	1.17
CPI-2 (2*nC27/(nC26+nC27))	1.01	1.01

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	13.08	GC1	C12D26	11385581	3.28
6)	25.42	GC1	C16D34	19028191	3.28
2)	10.37	GC1	nC11	296070	
3)	13.62	GC1	nC12	620863	
4)	16.88	GC1	nC13	1060246	
5)	20.07	GC1	nC14	1938406	
7)	21.98	GC1	iC16	1476798	0.25
8)	23.13	GC1	nC15	2956465	0.51
9)	26.04	GC1	nC16	2864849	0.49
10)	27.39	GC1	iC18	1085831	0.19
11)	28.80	GC1	nC17	3316165	0.57
12)	28.96	GC1	pristane	2527327	0.44
13)	31.43	GC1	nC18	3034123	0.52
14)	31.66	GC1	phytane	962294	0.17
15)	33.95	GC1	nC19	3194041	0.55
16)	36.35	GC1	nC20	2987817	0.52
17)	38.65	GC1	nC21	3089875	0.53
18)	40.85	GC1	nC22	3022640	0.52
19)	42.97	GC1	nC23	3176328	0.55
20)	45.00	GC1	nC24	3038382	0.52
21)	46.95	GC1	nC25	2921076	0.50
22)	48.84	GC1	nC26	2561607	0.44
23)	50.66	GC1	nC27	2589478	0.45
24)	52.42	GC1	nC28	2243389	0.39
25)	54.11	GC1	nC29	2283696	0.39
26)	55.75	GC1	nC30	1325909	0.23
27)	57.34	GC1	nC31	1449069	0.25
28)	58.88	GC1	nC32	814804	0.14
29)	60.38	GC1	nC33	735042	0.13
30)	61.84	GC1	nC34	577238	0.10
31)	63.36	GC1	nC35	460596	0.08

#	Rt.min.	Signal	Compound	Area	Amount
FID					
Internal standards (if added):					
1)	13.09	GC1	C12D26	11893055	4.26
6)	25.43	GC1	C16D34	21956137	4.26
2)	10.36	GC1	nC11	414407	
3)	13.61	GC1	nC12	800908	
4)	16.88	GC1	nC13	1189801	
5)	20.06	GC1	nC14	1537710	
7)	21.97	GC1	iC16	870216	0.17
8)	23.12	GC1	nC15	2204369	0.43
9)	26.03	GC1	nC16	2459580	0.48
10)	27.39	GC1	iC18	963922	0.19
11)	28.79	GC1	nC17	2940712	0.57
12)	28.96	GC1	pristane	2627592	0.51
13)	31.43	GC1	nC18	2640976	0.51
14)	31.66	GC1	phytane	942167	0.18
15)	33.94	GC1	nC19	2789874	0.54
16)	36.34	GC1	nC20	2543284	0.49
17)	38.64	GC1	nC21	2556754	0.50
18)	40.84	GC1	nC22	2450917	0.48
19)	42.96	GC1	nC23	2523814	0.49
20)	44.99	GC1	nC24	2382208	0.46
21)	46.95	GC1	nC25	2216628	0.43
22)	48.83	GC1	nC26	1964876	0.38
23)	50.65	GC1	nC27	1944060	0.38
24)	52.40	GC1	nC28	1698398	0.33
25)	54.11	GC1	nC29	1718824	0.33
26)	55.75	GC1	nC30	1003134	0.19
27)	57.34	GC1	nC31	1065940	0.21
28)	58.88	GC1	nC32	645385	0.13
29)	60.38	GC1	nC33	683139	0.13
30)	61.84	GC1	nC34	572788	0.11
31)	63.36	GC1	nC35	365845	0.07

### 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: 3337S.D  
Sample name: 35/11-12 3337m sat  
Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\  
Misc. info.:

Vial no.: 15  
Method: MSD\_S\_E2  
Operator: marian  
Date: 14:13:00

Response curve y = ax  
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.89	0.89
Ph/nC18	0.36	0.36
(Pr/nC17)/(Ph/nC18)	2.50	2.50
Pr/Ph	2.79	2.79
nC17/(nC17+nC27)	0.60	0.60
CPI-1	1.15	1.15
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: **3317S.D**  
 Sample name: **35/11-12 3317m sat**  
 Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\  
 Misc. info.:  
  
 Vial no.: 14  
 Method: MSD\_S\_E2  
 Operator: marian  
 Date: 12:45:00

Response curve y = ax  
 Response factors equally 1.0

#	Rt.min.	Signal	Compound	Area	Amount
		FID			ug/mg
Internal standards (if added):					
1)	13.09	GC1	C12D26	13234057	4.34
6)	25.43	GC1	C16D34	22761294	4.34
2)	10.37	GC1	nC11	424717	
3)	13.62	GC1	nC12	1109518	
4)	16.89	GC1	nC13	1740495	
5)	20.07	GC1	nC14	2236027	
7)	21.97	GC1	iC16	1333836	0.25
8)	23.12	GC1	nC15	3075852	0.59
9)	26.04	GC1	nC16	3298093	0.63
10)	27.39	GC1	iC18	1390738	0.27
11)	28.81	GC1	nC17	3918058	0.75
12)	28.97	GC1	pristane	3782548	0.72
13)	31.44	GC1	nC18	3571783	0.68
14)	31.66	GC1	phytane	1317041	0.25
15)	33.95	GC1	nC19	3592445	0.68
16)	36.35	GC1	nC20	3206242	0.61
17)	38.65	GC1	nC21	3215162	0.61
18)	40.85	GC1	nC22	3118076	0.59
19)	42.97	GC1	nC23	3205580	0.61
20)	45.00	GC1	nC24	3042882	0.58
21)	46.96	GC1	nC25	2915445	0.56
22)	48.84	GC1	nC26	2602961	0.50
23)	50.66	GC1	nC27	2620985	0.50
24)	52.41	GC1	nC28	2324069	0.44
25)	54.11	GC1	nC29	2361611	0.45
26)	55.76	GC1	nC30	1372762	0.26
27)	57.34	GC1	nC31	1450039	0.28
28)	58.88	GC1	nC32	911987	0.17
29)	60.39	GC1	nC33	959277	0.18
30)	61.84	GC1	nC34	878707	0.17
31)	63.36	GC1	nC35	538088	0.10

Ratios:	Area	Amount
Pr/nC17	0.97	0.97
Ph/nC18	0.37	0.37
(Pr/nC17)/(Ph/nC18)	2.62	2.62
Pr/Ph	2.87	2.87
nC17/(nC17+nC27)	0.60	0.60
CPI-1	1.15	1.15
CPI-2 (2*nC27/(nC26+nC27))	1.00	1.00

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	13.06	GC1	C12D26	6273492	3.80
6)	25.38	GC1	C16D34	8470494	3.80
2)	10.39	GC1	nC11	10809082	
3)	13.67	GC1	nC12	12102196	
4)	16.95	GC1	nC13	13163211	
5)	20.15	GC1	nC14	14105899	
7)	22.01	GC1	iC16	4814141	2.16
8)	23.20	GC1	nC15	15530630	6.97
9)	26.11	GC1	nC16	14957562	6.71
10)	27.43	GC1	iC18	4005294	1.80
11)	28.88	GC1	nC17	14557115	6.53
12)	29.02	GC1	pristane	7597192	3.41
13)	31.51	GC1	nC18	11761264	5.28
14)	31.72	GC1	phytane	4478961	2.01
15)	34.02	GC1	nC19	10966364	4.92
16)	36.42	GC1	nC20	10140120	4.55
17)	38.71	GC1	nC21	9457133	4.24
18)	40.92	GC1	nC22	8891842	3.99
19)	43.03	GC1	nC23	8476032	3.80
20)	45.06	GC1	nC24	8457610	3.79
21)	47.01	GC1	nC25	7794595	3.50
22)	48.90	GC1	nC26	6752906	3.03
23)	50.71	GC1	nC27	5992313	2.69
24)	52.47	GC1	nC28	5626814	2.52
25)	54.16	GC1	nC29	5548536	2.49
26)	55.81	GC1	nC30	3894452	1.75
27)	57.40	GC1	nC31	3717915	1.67
28)	58.93	GC1	nC32	2992076	1.34
29)	60.43	GC1	nC33	2420020	1.09
30)	61.88	GC1	nC34	2220223	1.00
31)	63.41	GC1	nC35	1694635	0.76

## 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: 35\_OILS.D  
Sample name: 35/11-12 oil sat  
Data File Path: C:\HPCHEM1\DATA\35\_11\_12\  
Misc. info.:

Vial no.: 34  
Method: MSD\_S\_E2  
Operator: marian  
Date: 23:55:00

Response curve y = ax  
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.52	0.52
Ph/nC18	0.38	0.38
(Pr/nC17)/(Ph/nC18)	1.37	1.37
Pr/Ph	1.70	1.70
nC17/(nC17+nC27)	0.71	0.71
CPI-1	1.06	1.06
CPI-2 (2*nC27/(nC26+nC27))	0.94	0.94

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	13.02	GC1	C12D26	380997	3.75
6)	25.29	GC1	C16D34	769780	3.75
2)	10.36	GC1	nC11	8597	
3)	13.61	GC1	nC12	9572	
4)	16.87	GC1	nC13	9818	
5)	20.04	GC1	nC14	17973	
7)	21.96	GC1	iC16	11936	0.06
8)	23.08	GC1	nC15	25080	0.12
9)	25.99	GC1	nC16	35123	0.17
10)	27.35	GC1	iC18	15761	0.08
11)	28.75	GC1	nC17	44755	0.22
12)	28.91	GC1	pristane	42648	0.21
13)	31.38	GC1	nC18	49365	0.24
14)	31.63	GC1	phytane	29129	0.14
15)	33.90	GC1	nC19	66840	0.33
16)	36.29	GC1	nC20	132516	0.65
17)	38.59	GC1	nC21	377364	1.84
18)	40.81	GC1	nC22	1338650	6.52
19)	42.94	GC1	nC23	3025363	14.74
20)	44.98	GC1	nC24	4222865	20.57
21)	46.94	GC1	nC25	4454280	21.70
22)	48.82	GC1	nC26	3769107	18.36
23)	50.63	GC1	nC27	2687921	13.09
24)	52.37	GC1	nC28	1715281	8.36
25)	54.07	GC1	nC29	1503287	7.32
26)	55.71	GC1	nC30	550348	2.68
27)	57.31	GC1	nC31	625188	3.05
28)	58.84	GC1	nC32	308318	1.50
29)	60.36	GC1	nC33	172174	0.84
30)	61.81	GC1	nC34	49086	0.24
31)	63.31	GC1	nC35	48261	0.24

## 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: 3123\_1S.D  
Sample name: 35/11-12 3123.1m sat  
Data File Path: C:\HPCHEM\1\DATA\351112\

Misc. info.:  
Vial no.: 2  
Method: MSD\_S\_E2  
Operator: marian  
Date: 17:24:00

Response curve y = ax  
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.95	0.95
Ph/nC18	0.59	0.59
(Pr/nC17)/(Ph/nC18)	1.61	1.61
Pr/Ph	1.46	1.46
nC17/(nC17+nC27)	0.02	0.02
CPI-1	1.18	1.18
CPI-2 (2*nC27/(nC26+nC27))	0.83	0.83



#	Rt.min.	Signal	Compound	Area	Amount
FID					
Internal standards (if added):					
1)	13.05	GC1	C12D26	3575561	4.28
6)	25.36	GC1	C16D34	7112195	4.28
2)	10.37	GC1	nC11	1162829	
3)	13.62	GC1	nC12	1378313	
4)	16.89	GC1	nC13	1502720	
5)	20.07	GC1	nC14	1398442	
7)	21.97	GC1	iC16	792774	0.48
8)	23.11	GC1	nC15	1595945	0.96
9)	26.02	GC1	nC16	1323144	0.80
10)	27.38	GC1	iC18	668666	0.40
11)	28.78	GC1	nC17	1197015	0.72
12)	28.95	GC1	pristane	2068471	1.25
13)	31.41	GC1	nC18	881652	0.53
14)	31.66	GC1	phytane	789771	0.48
15)	33.92	GC1	nC19	814230	0.49
16)	36.33	GC1	nC20	728905	0.44
17)	38.63	GC1	nC21	937755	0.56
18)	40.84	GC1	nC22	1602280	0.97
19)	42.96	GC1	nC23	2505635	1.51
20)	45.00	GC1	nC24	2944872	1.77
21)	46.95	GC1	nC25	2925176	1.76
22)	48.84	GC1	nC26	2498246	1.50
23)	50.65	GC1	nC27	2023788	1.22
24)	52.40	GC1	nC28	1552701	0.94
25)	54.11	GC1	nC29	2400648	1.45
26)	55.75	GC1	nC30	893439	0.54
27)	57.34	GC1	nC31	838761	0.51
28)	58.88	GC1	nC32	453354	0.27
29)	60.38	GC1	nC33	365699	0.22
30)	61.84	GC1	nC34	187961	0.11
31)	63.36	GC1	nC35	181355	0.11

## 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: 3122\_2S.D  
Sample name: 35/11-12 3122.2m sat  
Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\

Misc. info.:

Vial no.: 11  
Method: MSD\_S\_E2  
Operator: marian  
Date: 8:21:00

Response curve y = ax  
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	1.73	1.73
Ph/nC18	0.90	0.90
(Pr/nC17)/(Ph/nC18)	1.93	1.93
Pr/Ph	2.62	2.62
nC17/(nC17+nC27)	0.37	0.37
CPI-1	1.28	1.28
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

Data file name: 3120\_9S.D  
Sample name: 35/11-12 3120.9m sat  
Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\  
Misc. info..

Vial no.: 10  
Method: MSD\_S\_E2  
Operator: marian  
Date: 5:25:00

Response curve  $y = ax$   
Response factors equally 1.0

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	13.07	GC1	C12D26	7902624	4.32
6)	25.40	GC1	C16D34	16430554	4.32
2)	10.37	GC1	nC11	250844	
3)	13.62	GC1	nC12	482341	
4)	16.88	GC1	nC13	941137	
5)	20.07	GC1	nC14	1397873	
7)	21.97	GC1	iC16	1289369	0.34
8)	23.12	GC1	nC15	2203735	0.58
9)	26.03	GC1	nC16	2491524	0.66
10)	27.40	GC1	iC18	1888369	0.50
11)	28.80	GC1	nC17	3034820	0.80
12)	29.00	GC1	pristane	7845249	2.06
13)	31.43	GC1	nC18	2966979	0.78
14)	31.68	GC1	phytane	1982978	0.52
15)	33.95	GC1	nC19	3247697	0.85
16)	36.36	GC1	nC20	3189663	0.84
17)	38.66	GC1	nC21	4054102	1.07
18)	40.88	GC1	nC22	6652734	1.75
19)	43.03	GC1	nC23	11827424	3.11
20)	45.09	GC1	nC24	16208546	4.26
21)	47.05	GC1	nC25	17872596	4.70
22)	48.93	GC1	nC26	16044356	4.22
23)	50.74	GC1	nC27	12806263	3.37
24)	52.49	GC1	nC28	9223522	2.43
25)	54.17	GC1	nC29	9254660	2.43
26)	55.81	GC1	nC30	4888707	1.29
27)	57.40	GC1	nC31	3778564	0.99
28)	58.92	GC1	nC32	2452824	0.64
29)	60.42	GC1	nC33	1899082	0.50
30)	61.87	GC1	nC34	1101771	0.29
31)	63.38	GC1	nC35	822414	0.22

Ratios:	Area	Amount
Pr/nC17	2.59	2.59
Ph/nC18	0.67	0.67
(Pr/nC17)/(Ph/nC18)	3.87	3.87
Pr/Ph	3.96	3.96
nC17/(nC17+nC27)	0.19	0.19
CPI-1	1.14	1.14
CPI-2 (2*nC27/(nC26+nC27))	0.89	0.89

#	Rt.min.	Signal FID	Compound	Area	Amount ug/mg
Internal standards (if added):					
1)	13.09	GC1	C12D26	12038007	3.58
6)	25.45	GC1	C16D34	23377676	3.58
2)	10.37	GC1	nC11	1238085	
3)	13.63	GC1	nC12	3031884	
4)	16.92	GC1	nC13	5264818	
5)	20.12	GC1	nC14	8097792	
7)	22.02	GC1	iC16	5119956	0.78
8)	23.19	GC1	nC15	10319065	1.58
9)	26.11	GC1	nC16	10342997	1.58
10)	27.45	GC1	iC18	5897253	0.90
11)	28.87	GC1	nC17	11406290	1.75
12)	29.05	GC1	pristane	13630265	2.09
13)	31.50	GC1	nC18	9330982	1.43
14)	31.75	GC1	phytane	9332509	1.43
15)	34.00	GC1	nC19	8319641	1.27
16)	36.41	GC1	nC20	7602262	1.16
17)	38.70	GC1	nC21	7109815	1.09
18)	40.91	GC1	nC22	7026983	1.08
19)	43.02	GC1	nC23	6751410	1.03
20)	45.05	GC1	nC24	6648214	1.02
21)	47.00	GC1	nC25	5950314	0.91
22)	48.89	GC1	nC26	5023138	0.77
23)	50.71	GC1	nC27	4277634	0.66
24)	52.46	GC1	nC28	3820157	0.59
25)	54.16	GC1	nC29	4830640	0.74
26)	55.80	GC1	nC30	3909964	0.60
27)	57.39	GC1	nC31	3438837	0.53
28)	58.93	GC1	nC32	2721122	0.42
29)	60.43	GC1	nC33	2558308	0.39
30)	61.88	GC1	nC34	2344312	0.36
31)	63.41	GC1	nC35	1948382	0.30

## 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: **3095S.D**  
Sample name: **35/11-12 3095m sat**  
Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\

Misc. info.:

Vial no.: 9  
Method: MSD\_S\_E2  
Operator: marian  
Date: 3:56:00

Response curve y = ax  
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	1.19	1.19
Ph/nC18	1.00	1.00
(Pr/nC17)/(Ph/nC18)	1.19	1.19
Pr/Ph	1.46	1.46
nC17/(nC17+nC27)	0.73	0.73
CPI-1	1.07	1.07
CPI-2 (2*nC27/(nC26+nC27))	0.92	0.92

#	Rt.min.	Signal	Compound	Area	Amount
		FID			ug/mg
Internal standards (if added):					
1)	13.10	GC1	C12D26	17351942	4.01
6)	25.47	GC1	C16D34	33335265	4.01
2)	10.37	GC1	nC11	518075	
3)	13.62	GC1	nC12	1682298	
4)	16.90	GC1	nC13	3691772	
5)	20.11	GC1	nC14	6398664	
7)	22.00	GC1	iC16	4601763	0.55
8)	23.18	GC1	nC15	9932739	1.19
9)	26.11	GC1	nC16	10951687	1.32
10)	27.46	GC1	iC18	6841209	0.82
11)	28.88	GC1	nC17	12923008	1.55
12)	29.07	GC1	pristane	17026274	2.05
13)	31.51	GC1	nC18	10832788	1.30
14)	31.77	GC1	phytane	11895516	1.43
15)	34.02	GC1	nC19	10013220	1.20
16)	36.42	GC1	nC20	8844463	1.06
17)	38.72	GC1	nC21	8361681	1.01
18)	40.92	GC1	nC22	8014594	0.96
19)	43.03	GC1	nC23	7660787	0.92
20)	45.06	GC1	nC24	7879215	0.95
21)	47.01	GC1	nC25	6701833	0.81
22)	48.90	GC1	nC26	5670581	0.68
23)	50.72	GC1	nC27	4430296	0.53
24)	52.48	GC1	nC28	4299032	0.52
25)	54.18	GC1	nC29	4602400	0.55
26)	55.82	GC1	nC30	3849706	0.46
27)	57.40	GC1	nC31	3623636	0.44
28)	58.94	GC1	nC32	3062185	0.37
29)	60.43	GC1	nC33	2407622	0.29
30)	61.89	GC1	nC34	2525084	0.30
31)	63.42	GC1	nC35	1967088	0.24

## 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: 3057S.D  
Sample name: 35/11-12 3057m sat  
Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\

Misc. info.:

Vial no.: 8  
Method: MSD\_S\_E2  
Operator: marian  
Date: 2:28:00

Response curve  $y = ax$   
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	1.32	1.32
Ph/nC18	1.10	1.10
(Pr/nC17)/(Ph/nC18)	1.20	1.20
Pr/Ph	1.43	1.43
nC17/(nC17+nC27)	0.74	0.74
CPI-1	1.02	1.02
CPI-2 (2*nC27/(nC26+nC27))	0.88	0.88

#	Rt.min.	Signal	Compound	Area	Amount
		FID			ug/mg
Internal standards (if added):					
1)	13.09	GC1	C12D26	12325431	4.13
6)	25.43	GC1	C16D34	21862955	4.13
2)	10.37	GC1	nC11	1083634	
3)	13.63	GC1	nC12	2408357	
4)	16.91	GC1	nC13	3898045	
5)	20.10	GC1	nC14	5405674	
7)	22.00	GC1	iC16	4212013	0.80
8)	23.16	GC1	nC15	7246214	1.37
9)	26.08	GC1	nC16	7297755	1.38
10)	27.44	GC1	iC18	5838171	1.10
11)	28.85	GC1	nC17	8372295	1.58
12)	29.04	GC1	pristane	11933804	2.25
13)	31.48	GC1	nC18	6827809	1.29
14)	31.74	GC1	phytane	8545069	1.61
15)	33.99	GC1	nC19	6333192	1.20
16)	36.39	GC1	nC20	5832526	1.10
17)	38.69	GC1	nC21	5306240	1.00
18)	40.89	GC1	nC22	5048267	0.95
19)	43.00	GC1	nC23	4531235	0.86
20)	45.03	GC1	nC24	4560874	0.86
21)	46.97	GC1	nC25	4005976	0.76
22)	48.87	GC1	nC26	3427121	0.65
23)	50.68	GC1	nC27	2467272	0.47
24)	52.43	GC1	nC28	2191763	0.41
25)	54.14	GC1	nC29	2492404	0.47
26)	55.77	GC1	nC30	1727947	0.33
27)	57.37	GC1	nC31	1725203	0.33
28)	58.90	GC1	nC32	1416265	0.27
29)	60.41	GC1	nC33	1300864	0.25
30)	61.87	GC1	nC34	1335739	0.25
31)	63.39	GC1	nC35	1195349	0.23

## 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: 3017S.D  
Sample name: 35/11-12 3017m sat  
Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\

Misc. info.:

Vial no.: 7  
Method: MSD\_S\_E2  
Operator: marian  
Date: 1:00:00

Response curve y = ax  
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	1.43	1.43
Ph/nC18	1.25	1.25
(Pr/nC17)/(Ph/nC18)	1.14	1.14
Pr/Ph	1.40	1.40
nC17/(nC17+nC27)	0.77	0.77
CPI-1	1.06	1.06
CPI-2 (2*nC27/(nC26+nC27))	0.84	0.84

#	Rt.min.	Signal	Compound	Area	Amount
		FID			ug/mg
Internal standards (if added):					
1)	13.10	GC1	C12D26	14296014	3.70
6)	25.45	GC1	C16D34	27682988	3.70
2)	10.37	GC1	nC11	958437	
3)	13.63	GC1	nC12	2255177	
4)	16.91	GC1	nC13	4041827	
5)	20.10	GC1	nC14	6105175	
7)	22.01	GC1	iC16	4485408	0.60
8)	23.17	GC1	nC15	8541909	1.14
9)	26.10	GC1	nC16	9075926	1.21
10)	27.45	GC1	iC18	6721217	0.90
11)	28.87	GC1	nC17	10830511	1.45
12)	29.06	GC1	pristane	14269330	1.91
13)	31.50	GC1	nC18	9287880	1.24
14)	31.76	GC1	phytane	10892617	1.46
15)	34.01	GC1	nC19	8595589	1.15
16)	36.41	GC1	nC20	8204120	1.10
17)	38.71	GC1	nC21	7164505	0.96
18)	40.91	GC1	nC22	6825782	0.91
19)	43.01	GC1	nC23	6348258	0.85
20)	45.05	GC1	nC24	6395661	0.85
21)	47.00	GC1	nC25	5475758	0.73
22)	48.89	GC1	nC26	4724351	0.63
23)	50.70	GC1	nC27	3368929	0.45
24)	52.45	GC1	nC28	2937925	0.39
25)	54.16	GC1	nC29	3506842	0.47
26)	55.80	GC1	nC30	2769700	0.37
27)	57.38	GC1	nC31	2656027	0.35
28)	58.92	GC1	nC32	2000201	0.27
29)	60.42	GC1	nC33	1870169	0.25
30)	61.87	GC1	nC34	2157738	0.29
31)	63.40	GC1	nC35	1938847	0.26

**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: **2997S.D**  
Sample name: **35/11-12 2997m sat**  
Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\  
Misc. info.:  
  
Vial no.: 6  
Method: MSD\_S\_E2  
Operator: marian  
Date: 23:32:00  
  
Response curve y = ax  
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	1.32	1.32
Ph/nC18	1.17	1.17
(Pr/nC17)/(Ph/nC18)	1.12	1.12
Pr/Ph	1.31	1.31
nC17/(nC17+nC27)	0.76	0.76
CPI-1	1.05	1.05
CPI-2 (2*nC27/(nC26+nC27))	0.83	0.83

### Saturated hydrocarbons

GC/FID detection HP-6890

Compound data and ratios



#	Rt.min.	Signal	Compound	Area	Amount
FID					
Internal standards (if added):					
1)	13.08	GC1	C12D26	10651366	3.84
6)	25.42	GC1	C16D34	19335396	3.84
2)	10.37	GC1	nC11	484869	
3)	13.62	GC1	nC12	1183860	
4)	16.89	GC1	nC13	2212590	
5)	20.08	GC1	nC14	3154236	
7)	21.98	GC1	iC16	2025044	0.40
8)	23.14	GC1	nC15	4753113	0.94
9)	26.06	GC1	nC16	5317547	1.06
10)	27.41	GC1	iC18	3293057	0.65
11)	28.83	GC1	nC17	6368657	1.26
12)	29.01	GC1	pristane	7429210	1.48
13)	31.46	GC1	nC18	5707039	1.13
14)	31.72	GC1	phytane	6031674	1.20
15)	33.97	GC1	nC19	5397874	1.07
16)	36.38	GC1	nC20	5173173	1.03
17)	38.67	GC1	nC21	4602668	0.91
18)	40.87	GC1	nC22	4486414	0.89
19)	42.99	GC1	nC23	4182095	0.83
20)	45.02	GC1	nC24	4327929	0.86
21)	46.97	GC1	nC25	3805188	0.76
22)	48.85	GC1	nC26	3125418	0.62
23)	50.67	GC1	nC27	2418002	0.48
24)	52.43	GC1	nC28	1995134	0.40
25)	54.13	GC1	nC29	2446073	0.49
26)	55.77	GC1	nC30	1783799	0.35
27)	57.36	GC1	nC31	1737449	0.35
28)	58.89	GC1	nC32	1249583	0.25
29)	60.40	GC1	nC33	1184472	0.24
30)	61.85	GC1	nC34	1235673	0.25
31)	63.37	GC1	nC35	1042636	0.21

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

Data file name: 2977S.D  
Sample name: 35/11-12 2977m sat  
Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\

Misc. info.:

Vial no.: 5  
Method: MSD\_S\_E2  
Operator: marian  
Date: 22:04:00

Response curve y = ax  
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	1.17	1.17
Ph/nC18	1.06	1.06
(Pr/nC17)/(Ph/nC18)	1.10	1.10
Pr/Ph	1.23	1.23
nC17/(nC17+nC27)	0.72	0.72
CPI-1	1.10	1.10
CPI-2 (2*nC27/(nC26+nC27))	0.87	0.87

### Saturated hydrocarbons

GC/FID detection HP-6890  
Compound data and ratios



#	Rt.min.	Signal	Compound	Area	Amount
		FID			ug/mg
Internal standards (if added):					
1)	13.08	GC1	C12D26	11112661	3.84
6)	25.42	GC1	C16D34	20212941	3.84
2)	10.37	GC1	nC11	681219	
3)	13.62	GC1	nC12	1449680	
4)	16.89	GC1	nC13	2393535	
5)	20.08	GC1	nC14	3122409	
7)	21.98	GC1	iC16	2080568	0.40
8)	23.14	GC1	nC15	4573943	0.87
9)	26.05	GC1	nC16	4813366	0.91
10)	27.41	GC1	iC18	3128676	0.59
11)	28.82	GC1	nC17	5496340	1.04
12)	29.00	GC1	pristane	7945007	1.51
13)	31.45	GC1	nC18	4706951	0.89
14)	31.71	GC1	phytane	5304283	1.01
15)	33.96	GC1	nC19	4459915	0.85
16)	36.36	GC1	nC20	4077810	0.77
17)	38.66	GC1	nC21	3903168	0.74
18)	40.87	GC1	nC22	3943691	0.75
19)	42.98	GC1	nC23	3908399	0.74
20)	45.01	GC1	nC24	4074007	0.77
21)	46.96	GC1	nC25	3705023	0.70
22)	48.85	GC1	nC26	3178502	0.60
23)	50.67	GC1	nC27	2507173	0.48
24)	52.42	GC1	nC28	1952691	0.37
25)	54.12	GC1	nC29	2410171	0.46
26)	55.76	GC1	nC30	1479200	0.28
27)	57.35	GC1	nC31	1442496	0.27
28)	58.89	GC1	nC32	954562	0.18
29)	60.39	GC1	nC33	948113	0.18
30)	61.84	GC1	nC34	774407	0.15
31)	63.36	GC1	nC35	602713	0.11

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

Data file name: 2937S.D  
Sample name: 35/11-12 2937m sat  
Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\  
Misc. info.:

Vial no.: 4  
Method: MSD\_S\_E2  
Operator: marian  
Date: 20:36:00

Response curve y = ax  
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	1.45	1.45
Ph/nC18	1.13	1.13
(Pr/nC17)/(Ph/nC18)	1.28	1.28
Pr/Ph	1.50	1.50
nC17/(nC17+nC27)	0.69	0.69
CPI-1	1.14	1.14
CPI-2 (2*nC27/(nC26+nC27))	0.88	0.88



#	Rt.min.	Signal	Compound	Area	Amount
		FID		ug/mg	
Internal standards (if added):					
1)	13.09	GC1	C12D26	12072981	3.92
6)	25.42	GC1	C16D34	20696455	3.92
2)	10.37	GC1	nC11	1492702	
3)	13.62	GC1	nC12	1990566	
4)	16.89	GC1	nC13	2376351	
5)	20.07	GC1	nC14	2609069	
7)	21.98	GC1	iC16	1720511	0.33
8)	23.13	GC1	nC15	3660626	0.69
9)	26.04	GC1	nC16	3652179	0.69
10)	27.40	GC1	iC18	2544182	0.48
11)	28.81	GC1	nC17	4407478	0.83
12)	28.99	GC1	pristane	7044005	1.33
13)	31.44	GC1	nC18	3738851	0.71
14)	31.69	GC1	phytane	3663120	0.69
15)	33.95	GC1	nC19	3769862	0.71
16)	36.36	GC1	nC20	3559727	0.67
17)	38.65	GC1	nC21	3392691	0.64
18)	40.86	GC1	nC22	3436289	0.65
19)	42.97	GC1	nC23	3209994	0.61
20)	45.00	GC1	nC24	3206823	0.61
21)	46.96	GC1	nC25	2986395	0.57
22)	48.84	GC1	nC26	2365928	0.45
23)	50.66	GC1	nC27	2056610	0.39
24)	52.41	GC1	nC28	1529478	0.29
25)	54.11	GC1	nC29	1965131	0.37
26)	55.75	GC1	nC30	1064000	0.20
27)	57.34	GC1	nC31	1194446	0.23
28)	58.88	GC1	nC32	831470	0.16
29)	60.39	GC1	nC33	728427	0.14
30)	61.85	GC1	nC34	778850	0.15
31)	63.37	GC1	nC35	593270	0.11

**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: **2905S.D**  
Sample name: **35/11-12 2905m sat**  
Data File Path: C:\HPCHEM\1\DATA\35\_11\_12\  
Misc. info.:  
  
Vial no.: 3  
Method: MSD\_S\_E2  
Operator: marian  
Date: 19:08:00  
  
Response curve y = ax  
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	1.60	1.60
Ph/nC18	0.98	0.98
(Pr/nC17)/(Ph/nC18)	1.63	1.63
Pr/Ph	1.92	1.92
nC17/(nC17+nC27)	0.68	0.68
CPI-1	1.21	1.21
CPI-2 (2*nC27)/(nC26+nC27)	0.93	0.93

#	Rt.min.	Signal	Compound	Area	Amount
		FID		ug/mg	
Internal standards (if added):					
1)	13.05	GC1	C12D26	7593467	3.72
6)	25.36	GC1	C16D34	12015261	3.72
2)	10.33	GC1	nC11	180	
3)	13.60	GC1	nC12	3984	
4)	16.86	GC1	nC13	9089	
5)	20.03	GC1	nC14	48703	
7)	21.96	GC1	iC16	45788	0.01
8)	23.08	GC1	nC15	109357	0.03
9)	25.98	GC1	nC16	130976	0.04
10)	27.34	GC1	iC18	42004	0.01
11)	28.74	GC1	nC17	75906	0.02
12)	28.91	GC1	pristane	40614	0.01
13)	31.37	GC1	nC18	28639	0.01
14)	31.62	GC1	phytane	8375	0.00
15)	33.89	GC1	nC19	20590	0.01
16)	36.29	GC1	nC20	15422	0.00
17)	38.59	GC1	nC21	12718	0.00
18)	40.79	GC1	nC22	7577	0.00
19)	42.91	GC1	nC23	6380	0.00
20)	44.94	GC1	nC24	4339	0.00
21)	46.89	GC1	nC25	3716	0.00
22)	48.78	GC1	nC26	2960	0.00
23)	50.60	GC1	nC27	3133	0.00
24)	52.35	GC1	nC28	1747	0.00
25)	54.05	GC1	nC29	2704	0.00
26)	55.68	GC1	nC30	2049	0.00
27)	57.30	GC1	nC31	1161	0.00
28)	58.84	GC1	nC32	1192	0.00
29)	60.34	GC1	nC33	1770	0.00
30)	61.80	GC1	nC34	2043	0.00
31)	63.32	GC1	nC35	3617	0.00

### 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: 1760S.D  
Sample name: 35/11-12 1760m mud sat  
Data File Path: C:\HPCHEM\1\DATA\3511\MUD\  
Misc. info.:

Vial no.: 2  
Method: MSD\_S\_E2  
Operator: marian  
Date: 17:31:00

Response curve y = ax  
Response factors equally 1.0

Ratios:	Area	Amount
Pr/nC17	0.54	0.54
Ph/nC18	0.29	0.29
(Pr/nC17)/(Ph/nC18)	1.83	1.83
Pr/Ph	4.85	4.85
nC17/(nC17+nC27)	0.96	0.96
CPI-1	1.16	1.16
CPI-2 (2*nC27/(nC26+nC27))	1.03	1.03