HYDRO

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1. INTRODUCTION.

Well 34/8-10S is located in the A North segment of the Visund Field of Block 34/8 in the Tampen High Area, Northern Viking Graben. The well was spudded late September 1993 and reached T.D. at 3476 m MD RKB in sediments of Triassic age. Well location map and well summary are given in Figure 1.1.

This report comprises the results from petroleum geochemical analysis of 125 samples. Of these samples 120 were sediments from the reservoir section, four were oils and one was gas.
Based on screening results (RockEval pyrolysis) on the 120 sediment samples,18 were selected for solvent extraction and further geochemical analysis, Table 1.2.

The isotope analyses on oil fractions were carried out by GeolabNor, Norway whilst molecular and isotope compositions of the gas sample were out by IFE, Kjeller, Norway. All other analytical work, interpretation of data and compilation of this report was done at Norsk Hydro Research Center, Bergen, Norway.

Depths referred to in the texst are in m MD RKB cor depth which are generally about three meters shallower than log depth.

Table 1.2. Geochemical analysis on 34/8-10S

St.Depth	EndDepth	Type	Code	RE	Ex	MPLC	Iatro-scan	C5-20	FID-SAT	MSD-SAT	FID-ARO	MSD-ARO	MS-MRM1	Isotope
2880.00	2880.00	COCH	4	1										
2881.00	2881.00	COCH	4	1	1	1	1		1	1	1	1		
2884.70	2884.70	COCH	4	1	1	1	1		1	1	1	1	1	
2885.00	2885.00	COCH	5	1										
2887.00	2887.00	COCH	5	1										
2888.00	2888.00	COCH	5	1										
2889.00	2889.00	COCH	5	1										
2890.00	2890.00	COCH	5	1										
2891.00	2891.00	COCH	5	1										
2891.50	2891.50	OIL	RFT			1	1	1	1	1	1	1	1	1
2892.00	2892.00	COCH	5	1	1	1	1		1	1	1	1		
2896.53	2896.53	COCH	6	1										
2996.00	2996.00	COCH	10	1	1	1	1		1	1	1	1		
2997.00	2997.00	COCH	10	1										
2998.00	2998.00	COCH	10	1										
2999.00	2999.00	COCH	10	1										
3000.00	3000.00	COCH	10	1										
3001.00	3001.00	COCH	10	1										
3002.50	3002.50	OIL	RFT			1	1	1	1	1	1	1	1	1
3002.60	3002.60	COCH	11	1	1	1	1		1	1	1	1		
3003.60	3003.60	COCH	11	1										
3004.60	3004.60	COCH	11	1										
3005.60	3005.60	COCH	11	1										
3006.60	3006.60	COCH	11	1										
3007.60	3007.60	COCH	11	1										
3008.60	3008.60	COCH	11	1										
3009.60	3009.60	COCH	11	1										
3010.60	3010.60	COCH	11	1										
3011.60	3011.60	COCH	11	1										
3012.60	3012.60	COCH	11	1										
3013.60	3013.60	COCH	11	1										
3014.60	3014.60	COCH	11	1										
3015.60	3015.60	COCH	11	1										
3016.60	3016.60	COCH	11	1										
3017.60	3017.60	COCH	11	1										
3018.60	3018.60	COCH	11	1										
3019.60	3019.60	COCH	11	1										
3020.30	3020.30	COCH	11	1										
3021.30	3021.30	COCH	11	1										
3022.30	3022.30	COCH	11	1										
3023.30	3023.30	COCH	11	1										
3024.30	3024.30	COCH	11	1										
3025.30	3025.30	COCH	11	1										
3026.30	3026.30	COCH	11	1										
3027.30	3027.30	COCH	11	1										
3028.30	3028.30	COCH	11	1										
3030.00	3030.00	COCH	12	1										
3031.00	3031.00	COCH	12	1										
3032.00	3032.00	COCH	12	1										
3033.00	3033.00	COCH	12	1										
3034.00	3034.00	COCH	12	1										
3035.00	3035.00	COCH	12	1										
3036.00	3036.00	COCH	12	1	1	1	1		1	1	1	1		
3037.00	3037.00	COCH	12	1										
3038.00	3038.00	COCH	12	1										
3039.00	3039.00	COCH	12	1										
3040.00	3040.00	COCH	12	1										
3042.00	3042.00	COCH	13	1										
3043.00	3043.00	COCH	13	1	1	1	1		1	1	1	1	1	
3044.00	3044.00	COCH	13	1										

Table 1.2. Geochemical analysis on 34/8-10S

St.Depth	EndDepth	Type	Code	RE	Ex	MPLC	Iatro-scan	C5-20	FID-SAT	MSD-SAT	FID-ARO	MSD-ARO	MS-MRM1	Isotope
3045.00	3045.00	COCH	13	1										
3046.00	3046.00	COCH	13	1										
3047.00	3047.00	COCH	13	1										
3048.00	3048.00	COCH	13	1	1	1	1		1	1	1	1		
3059.00	3059.00	COCH	15	1										
3060.00	3060.00	COCH	15	1										
3061.00	3061.00	COCH	15	1										
3062.00	3062.00	COCH	15	1										
3063.00	3063.00	COCH	15	1	1	1	1		1	1	1	1		
3064.00	3064.00	COCH	15	1										
3065.00	3065.00	COCH	15	1										
3066.00	3066.00	COCH	15	1										
3067.00	3067.00	COCH	15	1										
3068.00	3068.00	COCH	15	1										
3069.00	3069.00	COCH	15	1										
3070.00	3070.00	COCH	15	1	1	1	1		1	1	1	1		
3071.00	3071.00	COCH	15	1										
3072.00	3072.00	COCH	15	1										
3073.00	3073.00	COCH	15	1										
3074.00	3074.00	COCH	15	1										
3075.00	3075.00	COCH	15	1										
3076.00	3076.00	COCH	15	1										
3077.00	3077.00	COCH	15	1										
3078.00	3078.00	COCH	15	1										
3079.00	3079.00	COCH	15	1										
3080.00	3080.00	COCH	15	1	1	1	1		1	1	1	1		
3081.00	3081.00	COCH	15	1										
3038.50	3087.50	GAS	DST1											1
3038.50	3087.50	OIL	DST1			1	1	1	1	1	1	1	1	1
3090.00	3090.00	COCH	17	1										
3091.00	3091.00	COCH	17	1										
3092.00	3092.00	COCH	17	1										
3093.00	3093.00	COCH	17	1										
3094.00	3094.00	COCH	17	1	1	1	1		1	1	1	1		
3095.00	3095.00	COCH	17	1										
3096.00	3096.00	COCH	17	1										
3098.00	3098.00	COCH	18	1										
3099.00	3099.00	COCH	18	1										
3100.00	3100.00	COCH	18	1										
3101.00	3101.00	COCH	18	1	1	1	1		1	1	1	1	1	
3102.00	3102.00	COCH	18	1										
3103.00	3103.00	COCH	18	1										
3105.00	3105.00	COCH	18	1										
3106.00	3106.00	COCH	18	1										
3107.00	3107.00	COCH	18	1										
3108.00	3108.00	COCH	18	1	1	1	1		1	1	1	1		
3115.00	3115.00	COCH	18	1	1	1	1		1	1	1	1		
3116.00	3116.00	COCH	19	1										
3117.00	3117.00	COCH	19	1										
3118.00	3118.00	COCH	19	1										
3119.00	3119.00	COCH	19	1										
3120.00	3120.00	COCH	19	1										
3121.00	3121.00	COCH	19	1										
3126.00	3126.00	COCH	21	1										
3127.00	3127.00	COCH	21	1										
3128.00	3128.00	COCH	21	1										
3139.00	3139.00	COCH	22	1										
3140.00	3140.00	COCH	22	1										
3141.00	3141.00	COCH	22	1										
3143.00	3143.00	COCH	22	1										

Table 1.2. Geochemical analysis on 34/8-10S

St.Depth	EndDepth	Type	Code	RE	Ex	MPLC	Iatro-scan	C5-20	FID-SAT	MSD-SAT	FID-ARO	MSD-ARO	MS-MRM1	Isotope
3144.00	3144.00	COCH	22	1	1	1	1		1	1	1	1		
3255.00	3255.00	OIL	RFT			1	1	1	1	1	1	1	1	1
3270.07	3270.07	COCH	23	1	1	1	1		1	1	1	1	1	
3271.07	3271.07	COCH	23	1										
3272.07	3272.07	COCH	23	1										
3273.07	3273.07	COCH	23	1										
3274.07	3274.07	COCH	23	1										
3275.07	3275.07	COCH	23	1										
3276.07	3276.07	COCH	23	1										
3277.07	3277.07	COCH	23	1	1	1	1		1	1	1	1		
Total	of number	analysis		125	18	22	22	4	22	22	22	22	8	5

TABLE: 2.1

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ROCK EVAL SCREENING DATA, WELL NOR:34/8-10S

Depth (m)	Lithology	Type	Tmax DegC	S1 kg/t	S2 kg/t	TOC %	HI	PI	Analysing Company
2880.00		COCH	347	0.3	0.4	0.2	226	0.45	NORSK HYDRO
2881.00		COCH	414	7.0	0.9	0.8	109	0.89	NORSK HYDRO
2884.70		COCH	407	20.4	2.7	2.1	126	0.88	NORSK HYDRO
2885.00		COCH	408	22.4	3.1	2.3	134	0.88	NORSK HYDRO
2887.00		COCH	343	20.1	2.9	2.1	142	0.87	NORSK HYDRO
2888.00		COCH	400	17.8	2.5	1.9	134	0.88	NORSK HYDRO
2889.00		COCH	415	9.5	2.0	1.1	183	0.83	NORSK HYDRO
2890.00		COCH	387	12.1	1.1	1.2	87	0.92	NORSK HYDRO
2891.00		COCH	372	16.3	1.7	1.6	102	0.91	NORSK HYDRO
2892.00		COCH	408	17.1	2.0	1.8	113	0.90	NORSK HYDRO
2896.53		COCH	442	0.4	1.6	1.7	95	0.21	NORSK HYDRO
2996.00		COCH	417	3.5	0.5	0.5	92	0.88	NORSK HYDRO
2997.00		COCH	420	3.9	0.4	0.5	84	0.90	NORSK HYDRO
2998.00		COCH	417	12.0	1.3	1.3	98	0.91	NORSK HYDRO
2999.00		COCH	417	14.9	1.6	1.6	101	0.90	NORSK HYDRO
3000.00		COCH	423	9.0	19.0	7.1	268	0.32	NORSK HYDRO
3001.00		COCH	420	4.5	0.9	0.8	110	0.83	NORSK HYDRO
3002.60		COCH	417	1.5	0.5	0.6	85	0.76	NORSK HYDRO
3003.60		COCH	433	1.0	0.6	0.6	95	0.63	NORSK HYDRO
3004.60		COCH	427	1.0	0.5	0.4	112	0.68	NORSK HYDRO
3005.60		COCH	429	0.9	0.3	0.3	97	0.74	NORSK HYDRO
3006.60		COCH	426	1.3	0.4	0.4	100	0.77	NORSK HYDRO
3007.60		COCH	433	0.9	0.3	0.3	74	0.78	NORSK HYDRO
3008.60		COCH	420	1.5	0.3	0.3	106	0.81	NORSK HYDRO
3009.60		COCH	418	1.7	0.3	0.4	97	0.83	NORSK HYDRO
3010.60		COCH	419	1.6	0.4	0.3	109	0.81	NORSK HYDRO
3011.60		COCH	420	0.0	0.1	0.2	25	0.17	NORSK HYDRO
3012.60		COCH	425	1.3	0.4	0.3	111	0.77	NORSK HYDRO
3013.60		COCH	434	0.5	0.2	0.3	73	0.72	NORSK HYDRO
3014.60		COCH	434	0.5	0.3	0.4	84	0.63	NORSK HYDRO
3015.60		COCH	428	0.9	0.2	0.3	59	0.84	NORSK HYDRO
3016.60		COCH	437	0.0	0.1	0.2	45	0.10	NORSK HYDRO
3017.60		COCH	440	0.0	0.2	0.2	100	0.12	NORSK HYDRO

TABLE: 2.1

ROCK EVAL SCREENING DATA, WELL NOR:34/8-10S (cont'd)

Depth (m)	Lithology	Type	Tmax DegC	S1 kg/t	S2 kg/t	TOC %	HI	PI	Analysing Company
3018.60		COCH	435	0.0	0.1	0.2	29	0.17	NORSK HYDRO
3019.60		COCH	437	0.1	0.3	0.4	66	0.17	NORSK HYDRO
3020.30		COCH	433	0.1	0.2	0.3	70	0.18	NORSK HYDRO
3021.30		COCH	435	0.1	0.2	0.4	59	0.18	NORSK HYDRO
3022.30		COCH	436	0.1	0.3	0.5	53	0.26	NORSK HYDRO
3023.30		COCH	438	0.1	0.2	0.4	53	0.23	NORSK HYDRO
3024.30		COCH	437	0.1	0.2	0.4	55	0.23	NORSK HYDRO
3025.30		COCH	436	0.1	0.3	0.5	59	0.21	NORSK HYDRO
3026.30		COCH	436	0.1	0.3	0.5	58	0.20	NORSK HYDRO
3027.30		COCH	438	0.1	0.3	0.5	76	0.17	NORSK HYDRO
3028.30		COCH	434	0.0	0.1	0.3	41	0.21	NORSK HYDRO
3030.00		COCH	435	0.0	0.1	0.2	58	0.22	NORSK HYDRO
3031.00		COCH	435	0.2	0.6	0.6	98	0.21	NORSK HYDRO
3032.00		COCH	436	0.1	0.2	0.5	33	0.25	NORSK HYDRO
3033.00		COCH	441	0.2	0.8	0.8	91	0.20	NORSK HYDRO
3034.00		COCH	437	0.3	0.8	0.8	101	0.24	NORSK HYDRO
3035.00		COCH	437	0.1	0.4	0.4	96	0.23	NORSK HYDRO
3036.00		COCH	389	15.7	1.3	1.6	82	0.92	NORSK HYDRO
3037.00		COCH	339	16.9	1.4	1.8	79	0.92	NORSK HYDRO
3038.00		COCH	342	22.1	2.0	2.2	91	0.92	NORSK HYDRO
3039.00		COCH	338	23.2	1.8	2.3	79	0.93	NORSK HYDRO
3040.00		COCH	415	17.9	2.5	2.2	115	0.88	NORSK HYDRO
3042.00		COCH		12.7	1.7	1.3	133	0.88	NORSK HYDRO
3043.00	3	COCH	373	15.8	1.6	1.6	103	0.91	NORSK HYDRO
3044.00		COCH	341	18.6	1.7	1.8	93	0.92	NORSK HYDRO
3045.00		COCH	341	19.7	2.0	2.0	102	0.91	NORSK HYDRO
3046.00		COCH	395	13.8	1.7	1.4	118	0.89	NORSK HYDRO
3047.00		COCH	394	10.1	0.9	1.0	85	0.92	NORSK HYDRO
3048.00		COCH	421	3.5	0.9	0.7	133	0.79	NORSK HYDRO
3059.00		COCH	430	9.4	1.5	1.0	150	0.86	NORSK HYDRO
3060.00		COCH	350	15.0	1.5	1.5	98	0.91	NORSK HYDRO
3061.00		COCH	421	12.3	1.3	1.3	100	0.91	NORSK HYDRO
3062.00		COCH	421	9.6	1.2	1.0	120	0.89	NORSK HYDRO

TABLE: 2.1

ROCK EVAL SCREENING DATA, WELL NOR:34/8-10S (cont'd)

Depth (m)	Lithology	Type	Tmax DegC	S1 kg/t	S2 kg/t	TOC %	HI	PI	Analysing Company
3063.00		COCH	414	13.2	1.3	1.4	98	0.91	NORSK HYDRO
3064.00		COCH	416	12.9	1.5	1.3	115	0.89	NORSK HYDRO
3065.00		COCH	396	14.6	1.7	1.5	110	0.90	NORSK HYDRO
3066.00		COCH	429	9.9	1.9	1.5	125	0.84	NORSK HYDRO
3067.00		COCH	373	14.9	1.8	1.5	117	0.89	NORSK HYDRO
3068.00		COCH	368	16.1	1.6	1.7	98	0.91	NORSK HYDRO
3069.00		COCH	368	16.8	2.1	1.7	123	0.89	NORSK HYDRO
3070.00		COCH	404	14.4	1.6	1.5	107	0.90	NORSK HYDRO
3071.00		COCH	389	14.5	1.8	1.5	114	0.89	NORSK HYDRO
3072.00		COCH	340	18.2	1.9	1.8	105	0.91	NORSK HYDRO
3073.00		COCH	341	18.2	1.9	1.8	105	0.91	NORSK HYDRO
3074.00		COCH	341	21.5	2.0	2.1	93	0.92	NORSK HYDRO
3075.00		COCH	342	21.1	2.2	2.1	106	0.91	NORSK HYDRO
3076.00		COCH	415	8.8	1.2	1.0	120	0.88	NORSK HYDRO
3077.00		COCH	342	15.2	1.5	1.5	99	0.91	NORSK HYDRO
3078.00		COCH	349	12.3	1.1	1.2	87	0.92	NORSK HYDRO
3079.00		COCH	372	13.7	1.4	1.4	104	0.90	NORSK HYDRO
3080.00		COCH	473	5.1	0.8	0.6	137	0.86	NORSK HYDRO
3081.00		COCH	424	9.9	1.3	1.0	127	0.88	NORSK HYDRO
3090.00		COCH	349	0.0	0.0	0.1	60		NORSK HYDRO
3091.00		COCH	361	0.0	0.0	0.1	20		NORSK HYDRO
3092.00		COCH	313	0.0	0.1	0.0	125	0.00	NORSK HYDRO
3093.00		COCH	429	3.6	0.4	0.4	98	0.90	NORSK HYDRO
3094.00		COCH	419	6.1	0.9	0.7	140	0.87	NORSK HYDRO
3095.00		COCH	432	1.7	0.2	0.2	95	0.89	NORSK HYDRO
3096.00		COCH	418	1.2	0.2	0.2	124	0.85	NORSK HYDRO
3098.00		COCH	435	0.0	0.1	0.0	125	0.00	NORSK HYDRO
3099.00		COCH	323	0.0	0.0	0.1	17		NORSK HYDRO
3100.00		COCH		0.0	0.0	0.1	17		NORSK HYDRO
3101.00		COCH	414	4.2	0.4	0.5	82	0.91	NORSK HYDRO
3102.00		COCH	410	6.2	0.5	0.7	80	0.92	NORSK HYDRO
3103.00		COCH	415	8.5	0.6	0.9	66	0.94	NORSK HYDRO
3105.00		COCH	414	8.7	1.1	1.0	110	0.89	NORSK HYDRO

TABLE: 2.1

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ROCK EVAL SCREENING DATA, WELL NOR:34/8-10S (cont'd)

Depth (m)	Lithology	Type	Tmax DegC	S1 kg/t	S2 kg/t	TOC %	HI	PI	Analysing Company
3106.00		COCH	414	7.0	0.8	0.8	99	0.90	NORSK HYDRO
3107.00		COCH	458	0.0	0.1	0.2	52	0.21	NORSK HYDRO
3108.00		COCH	426	6.3	0.8	0.7	116	0.89	NORSK HYDRO
3115.00		COCH	426	5.2	0.7	0.6	117	0.88	NORSK HYDRO
3116.00		COCH	410	6.0	0.8	0.7	113	0.89	NORSK HYDRO
3117.00		COCH	414	8.7	1.0	0.9	109	0.90	NORSK HYDRO
3118.00		COCH	411	10.8	1.0	1.1	91	0.91	NORSK HYDRO
3119.00		COCH	410	5.8	0.8	0.8	103	0.88	NORSK HYDRO
3120.00		COCH	407	4.7	0.7	0.6	120	0.87	NORSK HYDRO
3121.00		COCH	409	6.5	0.8	0.8	104	0.89	NORSK HYDRO
3126.00		COCH	418	0.0	0.1	0.1	100	0.13	NORSK HYDRO
3127.00		COCH	330	0.0	0.1	0.1	83	0.00	NORSK HYDRO
3128.00		COCH	427	0.0	0.0	0.1	8		NORSK HYDRO
3139.00		COCH			0.0	0.1	13		NORSK HYDRO
3140.00		COCH		0.0	0.0	0.1	14		NORSK HYDRO
3141.00		COCH	348	0.0	0.1	0.1	71	0.17	NORSK HYDRO
3143.00		COCH	418	1.8	0.3	0.3	93	0.88	NORSK HYDRO
3144.00		COCH	411	4.5	0.5	0.5	94	0.90	NORSK HYDRO
3270.07		COCH	423	3.5	0.3	0.4	69	0.92	NORSK HYDRO
3271.07		COCH	405	6.7	0.5	0.7	68	0.93	NORSK HYDRO
3272.07		COCH	416	6.9	0.8	0.8	100	0.90	NORSK HYDRO
3273.07		COCH	416	5.3	0.7	0.6	108	0.89	NORSK HYDRO
3274.07		COCH	412	6.3	0.7	0.7	94	0.90	NORSK HYDRO
3275.07		COCH	413	5.7	0.5	0.6	83	0.91	NORSK HYDRO
3276.07		COCH	412	5.7	0.6	0.6	97	0.90	NORSK HYDRO
3277.07		COCH	410	4.5	0.7	0.6	120	0.87	NORSK HYDRO

Table 2.2. Calculated heavy hydrocarbon saturations, SHre and associated porosities

Depth	Ø	SHre
2880.50	15.8	1.37
2881.00	19.9	10.62
2884.75	25.5	23.32
2885.00	27.2	23.90
2887.25	29.4	19.52
2888.00	25.0	20.96
2889.00	21.7	14.14
2890.00	26.8	12.52
2890.50	26.0	17.74
2892.00	23.8	20.99
2892.50	13.9	4.10
2996.25	25.1	4.08
2997.00	24.8	4.47
2998.00	28.9	11.49
2999.00	28.0	14.90
3000.00	24.2	30.10
3001.00	26.3	5.21
3002.50	15.5	3.49
3003.50	17.5	2.45
3004.50	16.8	2.40
3005.50	18.0	1.90
3006.50	20.9	2.20
3007.50	16.2	1.92
3008.50	15.6	3.27
3009.50	18.8	2.95
3010.50	20.2	2.62
3011.50	5.6	0.32
3012.50	19.1	2.36
3013.50	17.4	1.09
3014.50	17.9	1.32
3015.50	16.8	1.76
3016.50	13.2	0.22
3017.50	9.4	0.81
3018.50	12.1	0.14
3019.50	11.5	0.75
3020.18	10.6	0.76
3021.25	9.2	0.89
3022.25	10.1	1.01
3023.25	10.8	0.80
3024.25	6.5	1.41
3025.25	8.9	1.13
3026.25	10.8	0.94
3027.25	10.8	1.12
3028.25	11.1	0.36
3030.00	12.6	0.41
3031.00	8.8	2.33
3032.00	8.3	0.71
3033.00	11.6	2.33
3034.00	8.4	3.60
3035.00	9.7	1.67
3036.00	27.2	15.90

Table 2.2. Calculated heavy hydrocarbon saturations, SHre and associated porosities

3037.00		27.5	16.88
3038.00		27.6	22.06
3039.00		-999.0	-999.00
3040.00		-999.0	-999.00
3042.00		-999.0	-999.00
3043.00		22.6	20.39
3044.00		26.9	19.20
3045.00		24.2	23.34
3046.00		27.7	14.17
3047.00		21.8	13.43
3048.00		17.4	6.97
3059.00		24.4	11.69
3060.00		28.3	14.67
3061.00		25.3	13.88
3062.00		26.6	10.42
3062.89		23.5	16.23
3064.00		26.9	13.64
3064.88		25.6	16.40
3066.00		25.3	12.07
3067.00		25.2	17.03
3068.00		28.2	15.86
3069.00		23.7	20.87
3070.00		19.6	21.98
3071.00		20.5	21.26
3072.00		23.7	22.22
3072.94		23.5	22.35
3074.00		29.4	19.88
3075.00		25.8	23.22
3076.00		21.3	12.53
3077.00		23.8	18.28
3078.00		20.3	17.68
3079.00		21.7	18.56
3080.00		15.1	10.88
3081.00		17.9	17.15
3090.25		7.7	0.23
3091.00		7.6	0.04
3092.00		7.2	0.21
3093.00		17.2	6.37
3094.00		19.5	9.79
3095.00		15.0	3.53
3096.00		12.1	3.36
3098.00		-999.0	-999.00
3099.00		6.5	0.05
3100.00		8.7	0.03
3101.00		20.1	6.12
3102.00		16.9	10.96
3103.00		15.7	16.11
3105.00		-999.0	-999.00
3106.00		21.7	9.49
3107.00		8.4	0.49
3108.00		20.2	9.49
3115.25		22.3	6.94

Table 2.2. Calculated heavy hydrocarbon saturations, SHre and associated porosities

3116.00			22.1	8.09
3117.00			20.9	12.48
3118.00			21.0	15.10
3119.00			25.9	6.58
3120.00			26.0	5.36
3121.00			21.4	9.03
3126.00			11.6	0.20
3127.00			10.6	0.14
3128.00			7.8	0.08
3139.00			7.7	0.00
3140.00			9.8	0.06
3141.00			15.6	0.11
3143.00			15.1	3.78
3144.00			15.3	9.11
3270.25			24.4	4.06
3271.00			26.6	6.88
3272.00			25.4	7.83
3273.00			26.8	5.70
3274.00			27.1	6.53
3275.00			27.0	5.87
3276.00			26.4	6.13
3277.00			22.9	5.94

Table 2.5. Molecular ratios calculated from alkane distributions.

Depth	Type	n-C17	Pr.	n-C18	Ph.	Pr./n-C17	Pr/n-C18	Pr./Ph.
2881.00	COCH	13.4	7.6	12.2	4.7	0.57	0.62	1.62
2884.70	COCH	12.8	8.1	11.9	5.0	0.63	0.68	1.62
2891.50	RFT	11.6	6.0	9.8	3.4	0.52	0.61	1.76
2892.00	COCH	12.3	7.8	11.2	4.8	0.63	0.70	1.63
2996.00	COCH	13.2	7.5	11.6	4.5	0.57	0.65	1.67
3002.50	RFT	11.6	6.4	9.8	3.7	0.55	0.65	1.73
3002.60	COCH	13.2	7.8	11.7	4.7	0.59	0.67	1.66
3036.00	COCH	12.2	6.7	10.6	3.7	0.55	0.63	1.81
3043.00	COCH	12.5	7.3	11.1	4.3	0.58	0.66	1.70
3048.00	COCH	13.4	7.5	12.0	4.6	0.56	0.63	1.63
3063.00	COCH	11.9	7.1	10.5	4.2	0.60	0.68	1.69
3070.00	COCH	12.1	7.3	10.5	4.2	0.60	0.70	1.74
3080.00	COCH	13.5	7.5	11.7	4.6	0.56	0.64	1.63
3087.50	DST1	12.5	6.8	10.5	4.0	0.54	0.65	1.70
3094.00	COCH	11.4	7.1	10.5	4.0	0.62	0.68	1.78
3101.00	COCH	12.3	7.5	11.3	4.7	0.61	0.66	1.60
3108.00	COCH	13.5	7.3	12.0	4.3	0.54	0.61	1.70
3115.00	COCH	13.4	7.4	11.1	4.3	0.55	0.67	1.72
3144.00	COCH	13.4	7.4	11.7	4.4	0.55	0.63	1.68
3255.00	RFT	10.8	5.2	9.2	3.0	0.48	0.57	1.73
3270.07	COCH	11.8	7.6	10.7	4.7	0.64	0.71	1.62
3277.07	COCH	12.6	7.6	11.0	4.3	0.60	0.69	1.77

TABLE: 2.3

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HYDRO

EXTRACTION/DEASPHALTING DATA (SEDIMENTS), WELL NOR:34/8-10S

Depth (m)	Lithology	Type	Rock (g)	EOM (mg)	ASP (mg)	EOM (%)	ASP (%)	EOM (ppm)	TOC (%)	EOM/TOC (%)	Analysing Company
2881.00		COCH	5.6	48.5	0.7	0.86	1.4	8600	0.8	1.1	NORSK HYD
2884.70		COCH	5.3	97.5	2.1	1.85	2.2	18500	2.1	0.9	NORSK HYD
2892.00		COCH	5.9	118.0	0.9	2.00	0.8	20000	1.8	1.1	NORSK HYD
2996.00		COCH	7.2	34.7	1.5	0.48	4.3	4800	0.5	0.9	NORSK HYD
3002.60		COCH	7.1	22.8	1.5	0.32	6.6	3200	0.6	0.6	NORSK HYD
3036.00		COCH	5.8	110.0	0.8	1.89	0.7	18900	1.6	1.2	NORSK HYD
3043.00		COCH	5.0	92.3	1.8	1.83	2.0	18300	1.6	1.2	NORSK HYD
3048.00		COCH	6.3	30.5	1.8	0.49	5.9	4900	0.7	0.7	NORSK HYD
3063.00		COCH	6.1	88.8	1.3	1.45	1.5	14500	1.4	1.1	NORSK HYD
3070.00		COCH	5.1	81.3	1.8	1.60	2.2	16000	1.5	1.1	NORSK HYD
3080.00		COCH	5.5	35.8	0.3	0.65	0.8	6500	0.6	1.1	NORSK HYD
3094.00		COCH	7.0	66.3	1.7	0.95	2.6	9500	0.7	1.4	NORSK HYD
3101.00		COCH	6.8	38.5	0.7	0.57	1.8	5700	0.5	1.1	NORSK HYD
3108.00		COCH	2.7	22.3	0.3	0.82	1.3	8200	0.7	1.2	NORSK HYD
3115.00		COCH	5.2	34.0	0.9	0.66	2.6	6600	0.6	1.1	NORSK HYD
3144.00		COCH	6.7	23.3	0.7	0.35	3.0	3500	0.5	0.7	NORSK HYD
3270.07		COCH	6.9	51.2	0.8	0.74	1.6	7400	0.4	1.8	NORSK HYD
3277.07		COCH	6.2	33.0	0.7	0.54	2.1	5400	0.6	1.0	NORSK HYD

TABLE: 2.4

Petroleum Geochemistry Group
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HYDRO

COMPOSITION OF DEASPHALTED EXTRACT (IATROSCAN), WELL NOR:34/8-10S (all values in %)

Depth (m)	Lithology	Type	Hydrocarbons SAT	ARO	TOTAL	SAT/ARO	Non-HC TOTAL	TOTAL HC/Non-HC	Analysing Company
2881.00		COCH	58.5	20.5	79.0	2.9	21.0	3.8	NORSK HYDRO
2884.70		COCH	56.0	30.5	86.5	1.8	13.5	6.4	NORSK HYDRO
2892.00		COCH	55.0	33.5	88.5	1.6	11.5	7.7	NORSK HYDRO
2996.00		COCH	63.5	20.0	83.5	3.2	16.5	5.1	NORSK HYDRO
3002.60		COCH	61.0	29.0	90.0	2.1	10.0	9.0	NORSK HYDRO
3036.00		COCH	63.0	27.5	90.5	2.3	9.5	9.5	NORSK HYDRO
3043.00		COCH	59.0	34.0	93.0	1.7	7.0	13.3	NORSK HYDRO
3048.00		COCH	63.5	28.5	92.0	2.2	8.0	11.5	NORSK HYDRO
3063.00		COCH	63.5	28.0	91.5	2.3	8.5	10.8	NORSK HYDRO
3070.00		COCH	62.5	29.0	91.5	2.2	8.5	10.8	NORSK HYDRO
3080.00		COCH	61.5	29.5	91.0	2.1	9.0	10.1	NORSK HYDRO
3094.00		COCH	58.5	32.0	90.5	1.8	9.5	9.5	NORSK HYDRO
3101.00		COCH	56.5	33.5	90.0	1.7	10.0	9.0	NORSK HYDRO
3108.00		COCH	64.5	18.0	82.5	3.6	17.5	4.7	NORSK HYDRO
3115.00		COCH	58.5	31.5	90.0	1.9	10.0	9.0	NORSK HYDRO
3144.00		COCH	62.5	28.0	90.5	2.2	9.5	9.5	NORSK HYDRO
3270.07		COCH	58.0	34.0	92.0	1.7	8.0	11.5	NORSK HYDRO
3277.07		COCH	57.5	34.5	92.0	1.7	8.0	11.5	NORSK HYDRO

Table 2.5 Molecular ratios calculated from alkane distributions

Depth	Type	n-C17	Pr.	n-C18	Ph.	Pr./n-C17	Pr/n-C18	Pr./Ph.
2881.00	COCH	13.4	7.6	12.2	4.7	0.57	0.62	1.62
2884.70	COCH	12.8	8.1	11.9	5.0	0.63	0.68	1.62
2891.50	RFT	11.6	6.0	9.8	3.4	0.52	0.61	1.76
2892.00	COCH	12.3	7.8	11.2	4.8	0.63	0.70	1.63
2996.00	COCH	13.2	7.5	11.6	4.5	0.57	0.65	1.67
3002.50	RFT	11.6	6.4	9.8	3.7	0.55	0.65	1.73
3002.60	COCH	13.2	7.8	11.7	4.7	0.59	0.67	1.66
3036.00	COCH	12.2	6.7	10.6	3.7	0.55	0.63	1.81
3043.00	COCH	12.5	7.3	11.1	4.3	0.58	0.66	1.70
3048.00	COCH	13.4	7.5	12.0	4.6	0.56	0.63	1.63
3063.00	COCH	11.9	7.1	10.5	4.2	0.60	0.68	1.69
3070.00	COCH	12.1	7.3	10.5	4.2	0.60	0.70	1.74
3080.00	COCH	13.5	7.5	11.7	4.6	0.56	0.64	1.63
3087.50	DST1	12.5	6.8	10.5	4.0	0.54	0.65	1.70
3094.00	COCH	11.4	7.1	10.5	4.0	0.62	0.68	1.78
3101.00	COCH	12.3	7.5	11.3	4.7	0.61	0.66	1.60
3108.00	COCH	13.5	7.3	12.0	4.3	0.54	0.61	1.70
3115.00	COCH	13.4	7.4	11.1	4.3	0.55	0.67	1.72
3144.00	COCH	13.4	7.4	11.7	4.4	0.55	0.63	1.68
3255.00	RFT	10.8	5.2	9.2	3.0	0.48	0.57	1.73
3270.07	COCH	11.8	7.6	10.7	4.7	0.64	0.71	1.62
3277.07	COCH	12.6	7.6	11.0	4.3	0.60	0.69	1.77

Table 2.6 Selected saturated biomarker ratios

Depth	Type	%28ab	%27Ts	%29Ts	%27dia	Terpane/Sterane
2881.00	COCH	19	72	40	55	1.9
2884.70	COCH	18	73	37	55	2.1
2891.50	RFT	18	71	39	55	1.9
2892.00	COCH	19	74	37	57	2.0
2996.00	COCH	18	71	39	56	1.9
3002.50	RFT	22	71	40	57	1.9
3002.60	COCH	20	73	37	57	1.9
3036.00	COCH	19	73	37	56	1.9
3043.00	COCH	20	72	35	58	2.0
3048.00	COCH	20	72	39	58	1.9
3063.00	COCH	20	73	37	56	1.9
3070.00	COCH	19	73	39	57	2.0
3080.00	COCH	20	73	38	55	1.9
3087.50	DST1	19	73	39	57	1.9
3094.00	COCH	20	73	37	55	1.9
3101.00	COCH	22	73	37	55	1.9
3108.00	COCH	22	73	36	55	1.9
3115.00	COCH	19	73	36	55	2.0
3144.00	COCH	20	73	38	56	2.0
3255.00	RFT	24	53	28	56	3.3
3270.07	COCH	21	73	39	57	1.9
3277.07	COCH	21	71	39	56	1.9

Table 2.7 Selected molecular ratios from aromatic hydrocarbons

Depth	Type		Phenanthrene	MPI 1	4MDBT/1DMBT
2881.00	COCH		197	0.6	4.3
2884.70	COCH		226	0.6	4.4
2891.50	RFT		221	0.6	4.8
2892.00	COCH		293	0.5	4.3
2996.00	COCH		376	0.3	4.4
3002.50	RFT		176	0.3	4.1
3002.60	COCH		301	0.3	5.0
3036.00	COCH		238	0.3	3.9
3043.00	COCH		262	0.3	5.1
3048.00	COCH		326	0.3	4.7
3063.00	COCH		279	0.3	3.6
3070.00	COCH		262	0.3	4.1
3080.00	COCH		240	0.3	4.0
3087.50	DST1		198	0.3	4.1
3094.00	COCH		244	0.4	4.0
3101.00	COCH		254	0.4	4.0
3108.00	COCH		240	0.4	3.7
3115.00	COCH		256	0.3	3.9
3144.00	COCH		235	0.2	3.3
3255.00	RFT		185	0.9	3.3
3270.07	COCH		294	0.3	3.6
3277.07	COCH		297	0.3	4.1

Table 3.1 Molecular parameters from light hydrocarbons

Sample:	Name:	Analysis:	Instrument:	Seq.#	Project		Amount Abs:	methane	ethane	propane	iso-butane
30/6-13 dst1		o340810s	c4c19	3				0.00	0.00	0.21	0.60
34/8-10s rft2891.5		o340810s	c4c19	4				0.00	0.00	0.46	0.67
34/8-10s rft3002.8		o340810s	c4c19	5				0.00	0.00	1.73	1.21
34/8-10s rft3255		o340810s	c4c19	6				0.00	0.00	1.17	1.13
34/8-10s dst1 3038.5-87.5		o340810s	c4c19	7				0.00	0.00	1.95	1.67

Sample:	n-butane	iso-pentane	n-pentane	cyclopentane	2.3dm-butane	2m-pentane	3m-pentane	n-hexane	2.2dm-pentane	m-cyclopentane
30/6-13 dst1	2.99	4.01	6.78	0.21	1.48	4.05	2.46	8.45	0.20	4.39
34/8-10s rft2891.5	3.02	3.41	6.12	0.18	1.40	3.87	2.49	8.72	0.19	3.94
34/8-10s rft3002.8	4.88	4.79	8.84	0.25	1.81	5.24	3.39	12.27	0.28	4.51
34/8-10s rft3255	5.44	5.21	9.68	0.15	1.87	5.02	3.26	11.61	0.19	4.96
34/8-10s dst1 3038.5-87.5	7.23	7.11	12.87	0.31	2.33	6.61	4.17	14.69	0.32	5.53

Sample:	2.4dm-pentane	2.2.3tm-butane	benzene	3.3dm.pentane	cyclohexane	2m-hexane	2.3dm-pentane	1.1dm-cyclopentane	3m-hexane
30/6-13 dst1	0.47	0.04	2.86	0.14	7.48	2.92	1.00	0.73	3.28
34/8-10s rft2891.5	0.44	0.04	3.04	0.13	7.65	2.94	1.00	0.84	3.55
34/8-10s rft3002.8	0.60	0.06	3.99	0.19	10.21	4.31	1.36	1.14	5.12
34/8-10s rft3255	0.52	0.03	3.19	0.12	8.99	3.54	1.20	1.08	4.30
34/8-10s dst1 3038.5-87.5	0.70	0.06	4.32	0.20	10.98	4.66	1.44	1.23	5.38

Sample:	C1.3dm-cyclopentane	T1.3dm-cyclopentane	T1.2dm-cyclopentane	Iso-octane	n-heptane	m-cyclohexane	2.2dm-hexane
30/6-13 dst1	1.06	0.99	1.82	8.68	9.62	13.42	0.80
34/8-10s rft2891.5	1.05	0.98	2.00	5.96	10.72	14.34	0.95
34/8-10s rft3002.8	1.22	1.13	2.49	5.57	15.48	18.07	1.23
34/8-10s rft3255	1.28	1.20	2.56	6.55	12.83	16.87	1.17
34/8-10s dst1 3038.5-87.5	1.33	1.23	2.75	5.99	15.64	19.15	1.32

Table 3.1 Molecular parameters from light hydrocarbons (cont'd)

Sample:	e-cyclopentane	2,4dm-hexane	1T.2C.4tm-cyclopentane	1.T2.C3tm-cyclopentane	toluene	2m-heptane	3.4dm-hexane
30/6-13 dst1	0.81	0.58	0.68	0.71	7.01	3.59	5.32
34/8-10s rft2891.5	0.71	0.61	0.72	0.77	6.45	4.00	5.98
34/8-10s rft3002.8	0.87	0.86	0.89	1.01	7.44	5.76	8.01
34/8-10s rft3255	0.92	0.70	0.91	1.02	3.49	4.90	6.82
34/8-10s dst1 3038.5-87.5	0.93	0.88	0.94	1.04	6.85	5.74	7.90

Sample:	T1.3dm-cyclohexane	n-oktane	e-cyclohexane	J-C9	e-benzene	metha xylene	para xylene	ortho xylene	n-nonane	J-C10	n-decane
30/6-13 dst1	1.54	10.46	3.54	1.23	1.35	4.36	1.11	2.49	9.09	1.71	7.78
34/8-10s rft2891.5	1.82	11.83	4.04	1.32	0.95	3.69	0.77	2.80	10.38	1.96	8.99
34/8-10s rft3002.8	2.27	16.61	5.14	1.75	0.81	3.49	0.55	3.46	13.73	2.66	11.46
34/8-10s rft3255	2.17	13.53	4.82	1.70	0.44	1.97	0.32	2.27	11.44	2.29	9.40
34/8-10s dst1 3038.5-87.5	2.29	15.71	4.88	1.68	0.72	3.20	0.52	3.19	12.77	2.43	10.40

Sample:	I-C11	n-C11	n-C12	i-C13	phenylhexane	i-C14	n-C13	i-C15	n-C14	i-C16	n-C15	n-C16	i-C18	n-C17	pristane	n-C18
30/6-13 dst1	1.93	7.21	7.35	1.77	8.68	1.95	6.98	2.06	6.09	2.43	5.89	5.07	1.84	5.01	2.94	3.66
34/8-10s rft2891.5	2.07	8.34	8.49	2.19	5.96	1.88	8.31	2.39	7.76	3.16	7.93	6.57	2.54	6.50	4.48	5.25
34/8-10s rft3002.8	2.68	10.43	10.09	2.61	5.57	2.20	9.50	2.49	8.55	3.38	8.35	6.81	2.59	6.37	4.82	5.40
34/8-10s rft3255	2.38	8.71	8.65	2.31	6.55	1.97	8.36	2.21	7.68	3.15	7.72	6.38	2.51	6.18	4.81	5.20
34/8-10s dst1 3038.5-87.5	2.46	9.46	9.24	2.42	5.99	2.05	8.80	2.37	8.00	3.19	7.91	6.51	2.51	6.69	4.75	5.27

Sample:	2.6.10tm-7-(3mb)-dodecane	phytane	n-C19	n-C20
30/6-13 dst1	0.26	1.65	3.10	2.62
34/8-10s rft2891.5	0.48	2.76	4.75	4.28
34/8-10s rft3002.8	0.46	3.15	5.06	3.72
34/8-10s rft3255	0.43	2.86	4.95	3.69
34/8-10s dst1 3038.5-87.5	0.47	2.80	4.97	3.47

TABLE: 3.2

DEASPHALTING DATA (OILS), WELL NOR:34/8-10S

St.Depth (m)	En.Depth (m)	Name	OIL (mg)	ASP (mg)	ASP (%)	Analysing Company
2891.50	2891.50	RFT	54.80	0.3	0.5	NORSK HYDRO
3002.50	3002.50	RFT	52.80	0.2	0.4	NORSK HYDRO
3038.50	3087.50	DST # 1	57.70	0.2	0.3	NORSK HYDRO
3255.00	3255.00	RFT	52.50	0.8	1.5	NORSK HYDRO

TABLE: 3.3

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COMPOSITION OF DEASPHALTED OIL (IATROSCAN), WELL NOR:34/8-10S (all values in %)

St.Depth (m)	En.Depth (m)	Name	Hydrocarbons SAT	ARO	TOTAL	SAT/ARO	Non-HC TOTAL	TOTAL HC/Non-HC	Analysing Company
2891.50	2891.50	RFT	61.0	30.5	91.5	2.0	8.5	10.8	NORSK HYDRO
3002.50	3002.50	RFT	65.5	29.0	94.5	2.3	5.5	17.2	NORSK HYDRO
3038.50	3087.50	DST # 1	64.5	30.0	94.5	2.2	5.5	17.2	NORSK HYDRO
3255.00	3255.00	RFT	47.5	37.0	84.5	1.3	15.5	5.5	NORSK HYDRO

TABLE: 3.4

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HYDRO

ISOTOPE ANALYSIS RESULTS (OIL SAMPLES), WELL NOR:34/8-10S

St.Depth (m)	En.Depth (m)	Name	d13C OIL	d13C SAT	d13C ARO	d13C POL	d13C ASP	Analysing Company
2891.50	2891.50	RFT		-29.57	-29.11	-28.57	0.00	GEOLABNOR
3002.50	3002.50	RFT		-29.60	-29.18	-29.50	0.00	GEOLABNOR
3038.50	3087.50	DST # 1		-29.54	-29.07	-29.03	0.00	GEOLABNOR
3255.00	3255.00	RFT		-28.91	-28.10	-27.82	-29.16	GEOLABNOR

Table 4.1 Molecular and isotopical compositions of the DST-1 gas

Isotope analysis results

Well Name	St.Depth	EndDepth
34/8-10S	3038.5	3087.5

Type	Name	d13C C1	d13C C2	d13C C3	d13C nC4	d13C iC4
GAS	DST # 1	-42.80	-30.10	-27.60	-27.80	-28.60

d2H C1	d18O CO2	d13C COs
-190.00	-10.20	-15.00

Gas volume composition

Well Name	St.Depth	EndDepth
34/8-10S	3038.5	3087.5

Type	Name	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	iC5 (%)	nC5 (%)
GAS	DST # 1	76.7	10.2	7.2	1.0	2.4	0.3	0.4

CO2 (%)	C1-C5(%)	Total (%)	Wetness (%)	iC4/nC4 (%)
1.9	98.1	100.0	21.31	0.42