((((ooo) Norsk Hydro	Mud consumption System : BORE	Date 15/4-1992 13
	Well: 34/8-6 Mud company:	

		Actual used
Drilling of 36 " hole		
BARITE	Kg	116000
BENTONITE	Kg	51000
CAUSTIC SODA	Kg	525
SODA ASH	Kg	989
Drilling of 24 " hole		
BARITE	Kg	157000
BENTONITE	Kg	45000
CAUSTIC SODA	Kg	750
CMC HV	Kg	3420
PROSTARCH	Kg	825
SODA ASH	Kg	1045
SODIUM BICARB	Kg	400
Drilling of 17 1/2" hole		
BARITE	Kg	341000
BENTONITE	Kg	9000
CLAYCAP	Kg	11680
KCL POWDER	Kg	15150
KOH	Kg	475
PACSEAL LV	Kg	11502
SODA ASH	Kg	1873
SODIUM BICARB	Kg	627
XC POLYMER	Kg	4142
KCL BRINE	l	713000
Drilling of 12 1/4" hole		
BARITE	Kg	371129
CITRIC ACID	Kg	1750
CLAYCAP	Kg	4802
KCL POWDER	Kg	39000
KOH	Kg	400
LIGSEAL	Kg	5501
PACSEAL LV	Kg	5818
PACSEAL REG	Kg	1519
SODA ASH	Kg	913
SODIUM BICARB	Kg	2802
TEMPTROL	Kg	1150
THERMOPOL	Kg	5157
XC POLYMER	Kg	2914
DEFOAMER	l	100
DRLG DETERGENT	l	832
KCL BRINE	l	345000

7. MUD REPORT

36" section

The 36" section was drilled utilizing seawater - viscous pills as drilling fluid. Prehydrated bentonite pills was pumped on connections to clean the hole. Prior to running casing a 1.20 rd bentonite was displaced in hole to stabilize the hole.

24" section

The 24" section was drilled riserless and seawater - viscous pills was used as drilling fluid. Initially a 8 1/2" pilot hole was drilled to check for shallow gas. During this operation a 1.20 rd bentonite mud was used, with returns to seabed. Prior to running casing, the hole was displaced to a 1.20 rd bentonite mud. The mud covering the Utsira sand was treated with 10 kg/m3 starch to reduce the filterkake build up and thus reduce the potential of differential sticking in this section.

17 1/2" section

The 17 1/2" section was drilled utilizing KCL/PHPA/Polymer mud as drilling fluid. The KCl concentration was maintained at 115-120 kg/m3. This fluid composition proved to be successful in drilling this section and no significant problems was observed during the drilling. Tight hole was experienced at two occations. After reaming the hole and increasing the mud weight, the problems were solved. Excessive mud losses were experienced due to the fact that the shakers did not handle the amount of cuttings produced with drilling rates in the 40-60 meters/hr range.

12 1/4" section

The same KCL/PHPA/Polymers mud as used in the 17 1/2" section was used for drilling 12 1/4" section. The YP was increased from 8 Pa to 10 Pa to increase the hole cleaning. Due to highly reactive formation, the KCl content of the mud dropped to a 95-100 kg/m3 range. This drastically changed the texture of the cuttings. The KCL level was increased to 120 kg/m3, and an improvement of the cuttings appearance was evident on the shakers. From approximately 3200 meters the thermal stability of the mud was improved by introducing HT-polymers to the system. Some tight hole was observed on trips but after one wipertrip the hole stabilized.

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(ooo)
Norsk Hydro

Daily mud properties — Date 31/3-1992

System : BORE

Well: 34/8-6
Mud Contractor:
Data: "Mid depth" from table 3, otherwise from table 14. 4

Date 31/3-1992

14. 4

Date	Mid. depth m,MD	Mud Dens. (SG)	PV cp	YP Pa	GEL 0 Pa	GEL 10 Pa	pH	100 psi (cc)	HP/HT (cc)	Cl- inn/out mg/l	Alkalinity Pf	Alkalinity Pm	Alkalinity Mf	Ca++ inn/out mg/l	Oil %	Sol %	H2O %	V.G. meter at 115 gr. F 600 rpm	300 rpm	200 rpm	100 rpm	6 rpm	3 rpm	Mud Type
910920	0	1.05	23	8														62	46	33	24	3	2	SPUD
910921	416	1.05	22	17	11	20	9.7											78	56	48	41	31	27	SPUD
910922	487	1.20	16	9	2	4	9.7											50	34	27	37	5	4	SPUD
910923	487	1.20	16	9	2	4	9.7											50	34	27	17	5	4	SPUD
910924	988	1.20	17	9														51	34	28	17	5	4	SPUD
910925	1207	1.20	17	9	2	5	9.6											52	35	29	18	5	4	SPUD
910926	1235	1.20	17	9	2	5	9.7											51	34	29	17	5	4	SPUD
910927	1235	1.20	16	9	2	5												49	33	28	16	5	4	SPUD
910928	1235	1.20	16	8	2	5	9.5																	SPUD
910929	1235	1.20	8	8	2	5	9.6											48	32	24	15	4	3	SPUD
910930	1674	1.20	12	9	2	5	8.3	5.0		64000/64000	0.20	0.20	0.40	480/480		4		42	30	24	17	4	2	KCL
911001	2164	1.30	15	13	2	4	8.1	4.0		74000/74000	0.10	0.10	0.50	680/680		7		55	40	32	23	6	4	KCL
911002	2231	1.30	14	13	3	4	8.0	4.0		66000/66000			0.30	620/620		7		54	40	33	24	7	3	KCL
911003	2423	1.35	17	14	4	8	8.1	5.6		64000/64000	0.20	0.20	0.60	420/420		10		61	44	36	26	8	6	KCL
911004	2423	1.35	18	12	3	7	8.0	5.8		62000/62000	0.10		0.60	440/440		10		60	42	33	23	6	4	KCL
911005	2423	1.35	16	10	3	8	8.1	5.5		65000/65000	0.10		0.60	560/560		10		51	35	26	18	5	4	KCL
911006	2423	1.35	16	9	3	7	8.1	5.6		66000/66000	0.10		0.60	520/520		10		50	34	26	18	5	3	KCL
911007	2423	1.35	16	9	3	6	8.0	5.5		65000/65000	0.10		0.60	560/560		10		49	33	24	16	6	3	KCL
911008	2439	1.35	14	9	3	4	8.6	6.0		65000/65000	0.10	0.50	0.30	520/520		11		46	32	22	15	6	3	KCL
911009	2527	1.41	16	10	3	6	8.7	5.6		65000/65000	0.10	0.10	1.00	520/520		12		51	35	22	18	5	3	KCL
911010	2780	1.40	17	10	3	9	8.5	4.6		73000/73000	0.10	0.40	1.40	560/560		12		53	36	26	18	5	3	KCL
911011	3045	1.40	17	9	2	13	8.5	5.4	17.6	83000/83000	0.10	0.40	1.50	580/580		12		52	35	24	16	6	4	KCL
911012	3166	1.40	17	9	5	22	8.3	5.0	18.0	80000/80000	0.10	0.30	1.50	580/580		12		50	34	26	18	8	6	KCL
911013	3223	1.45	19	10	4	19	8.0	4.0	14.0	85000/85000			1.50	560/560		14		58	39	29	19	6	5	KCL
911014	3278	1.45	19	10	4	21	8.0	4.0	14.2	102000/102000			1.40	520/520		15		58	39	29	20	6	5	KCL
911015	3362	1.45	18	10	5	16	8.6	3.6	15.5	96000/96000	0.07	0.35	1.80	400/400		14		55	37	30	20	7	6	KCL
911016	3365	1.45	19	10	5	16	8.5	3.6	16.0	95000/95000	0.07	0.35	1.60	440/440		14		58	39	29	19	7	6	KCL
911017	3372	1.50	20	11	4	16	8.5	3.4	14.0	95000/95000	0.10	0.10	1.50	300/300		15		61	41	31	21	7	6	KCL
911018	3372	1.49	17	9	5	14	8.0	3.7	13.6	95000/95000		0.10	1.40	280/280		15		51	34	26	17	5	4	KCL
911019	3372	1.49	17	9	5	14	8.0	3.7	13.6	95000/95000		0.10	1.40	280/280		15		51	34	26	17	5	4	KCL
911020	3422	1.51	19	10	4	9	8.4	3.6	16.5	92000/92000		0.10	1.60	400/400		15		57	38	30	20	6	4	KCL
911021	3524	1.60	25	10	4	10	8.2	3.3	10.8	103000/103000			1.60	420/420		20		69	44	35	24	6	5	KCL
911022	3576	1.60	25	11	3	14	8.0	2.8	10.2	105000/105000			1.50	420/420		20		71	46	36	25	7	5	KCL
911023	3606	1.60	24	9	3	13	8.3	2.9	9.8	105000/105000	0.10	0.10	1.30	420/420		20		66	42	35	24	6	5	KCL
911024	3690	1.61	25	9	3	14	8.1	3.1	9.9	107000/107000			1.00	440/440		20		68	43	34	23	5	4	KCL
911025	3795	1.61	25	10	3	15	8.0	3.3	9.8	106000/106000			1.20	400/400		20		69	44	34	22	6	5	KCL
911026	3950	1.60	23	8	3	13	8.1	3.1	9.7	106000/106000			1.30	460/460		20		62	39	31	20	5	4	KCL
911027	3950	1.60	23	8	3	14	8.1	3.0	9.8	105000/105000			1.20	460/460		20		61	38	30	19	5	4	KCL
911028	3950	1.60	23	8	3	13	8.1	3.1	9.9	106000/106000			1.20	440/440		20		62	39	31	19	5	4	KCL
911029	3950	1.60	23	8	3	13	8.1	3.2	9.7	105000/105000			1.20	420/420		20		61	38	30	19	5	4	KCL
911030	3950	1.60	25	10	3	13	10.9	3.6	11.5	102000/102000	1.00		3.00	500/500		20		69	44	34	23	6	5	KCL
911031	3950	1.50	17	4	2	4	9.5	4.5	15.0	83000/83000	0.10		1.40	850/850		14		42	24	20	14	4	3	KCL
911101	1089	1.50	19	6	1	1	8.8	4.0	15.0	83000/83000	0.10		1.40	900/900		14		49	30	23	15	3	2	KCL

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Norsk Hydro

Daily mud properties

Date 31/3-1992

Date 31/3-1992

System : BORE

Well: 34/8-6
Mud Contractor:
Data: "Mid depth" from table 3, otherwise from table 14.

14. 4

Date	Mid. depth m,MD	Mud Dens. (SG)	PV cp	YP Pa	GEL 0 Pa	GEL 10 Pa	pH	100 psi (cc)	HP/HT (cc)	Cl- inn/out mg/l	Alkalinity Pf	Alkalinity Pm	Alkalinity Mf	Ca++ inn/out mg/l	Oil %	Sol %	H2O %	V.G. meter at 115 gr. F 600 rpm	300 rpm	200 rpm	100 rpm	6 rpm	3 rpm	Mud Type
911102	415	1.46	18	6	3	4	8.6	4.8	16.0	80000/80000	0.10		1.40	900/900		13		47	29	22	15	3	2	KCL
911103	415	1.36	14	5	3	5	8.9	4.5	18.0	55000/55000	0.15		0.90	850/850		10		47	34	27	19	6	5	KCL
911104	0	1.36	14	10	3	5	8.9	4.8	18.0	55000/55000	0.15		0.90	850/850		10		47	33	27	18	6	5	KCL
911105	0	1.36	14	10	3	5	8.9	4.8	18.0	55000/55000	0.15		0.90	850/850		10		47	33	27	18	8	5	KCL/PHPA

HYDRO

Norsk Hydro a.s Bergen
E&P Research Centre

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Title

PETROLEUM GEOCHEMISTRY

WELL 34/8-6

Summary/Conclusion/Recommendation

Keywords
Source rocks, maturity
Rock Eval, biological markers, vitrinite reflectance, SCI

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1. INTRODUCTION.

The vitrinite reflectance is determined by GeoOptics, the visual kerogen description and Spore Colour Indices by Simon-Robertson and the isotopic composition by GeolabNor. All other analyses and compilation of this report are done at Norsk Hydro Research Center in Bergen.

TABLE 1.2

LIST OF SAMPLES ANALYSED - WELL 34/8-6

Depth (m) (end depth)	Sample Type	Lith.	Vitr. Refl.	Rock Eval/ TOC	Extr. Deasph.	Group Sep. (IATRO)	Group Sep. (MLPC)	GC-HSD SAT	GC-MSD ARO	Stable Isotope δ 13 C	PyGC	Vis. Kerogen
3477-3572	DC	Bulk		X (38)								
3585-3677	DC	Bulk		X (10)								
3687	DC	Bulk		X								
1240-3950	DC	Bulk	* (26)									# (28)
3485	DC	Bulk			X	X	X	X	X	0	X	
3497	"	"			X	X	X	X	X	0	X	
3505	"	"			X	X	X	X	X	0	X	
3517	"	"			X	X	X	X	X	0	X	
3532	"	"			X	X	X	X	X	0	X	
3552	"	"			X	X	X	X	X	0	X	
3567	"	"			X	X	X	X	X	0	X	
3595	"	"			X	X	X	X	X	0	X	
3625	"	"			X	X	X	X	X	0	X	
3677	"	"			X	X	X	X	X	0	0	

* = GeoOptics, Newcastle, UK
X = Norsk Hydro, Research Centre, Bergen, Norway
0 = Geolab Nor A/S Trondheim, Norway
# = Simon-Robertson, UK

Table 2.1 **VITRINITE REFLECTANCE DATA WELL 34/8-6**
Average values

Petroleum Geochemistry Group
Research Centre Bergen
HYDR

Depth	%	Lithology	Type	Population I	Population II	Population III	SCI
1240.00	100	CMT	DC	0.33 (1)			
1340.00	100	CALC.CLYST	DC	0.34 (20)			
1440.00	100	CALC.CLYST	DC	0.39 (9)			
1540.00	100	SH	DC	0.42 (5)			
1740.00	100	SH	DC	0.44 (3)			
1840.00	100	SH	DC	0.46 (2)			
1940.00	100	SH	DC	0.42 (4)			
2040.00	100	SLTY.SH	DC	0.42 (14)			
2140.00	100	SLTY.SH	DC	0.38 (3)			
2240.00	100	SH	DC	0.43 (7)			
2340.00	100	SH	DC	0.41 (6)			
2440.00	80	SH	DC	0.43 (7)			
2540.00	100	SH	DC	0.43 (2)			
2640.00	70	SH	DC	0.44 (9)			
2740.00	70	SLST	DC	0.49 (12)			
2840.00	80	SH	DC	0.46 (7)			
2945.00	100	SH	DC	0.52 (5)	0.73 (3)		
3045.00	90	SH	DC	0.58 (6)			

Table 2.1 **VITRINITE REFLECTANCE DATA WELL 34/8-6** (cont'd)
Average values

Depth	%	Lithology	Type	Population I	Population II	Population III	SCI
3145.00	100	SH	DC	0.45 (2)			
3245.00	100	SH	DC	0.51 (3)			
3345.00	100	SH	DC	0.59 (8)			
3545.00	100	SH	DC	0.41 (10)			
3645.00	100	SH	DC	0.46 (8)			
3745.00	70	SST	DC	0.65 (20)			
3845.00	100	SLTY.SST	DC	0.50 (13)			
3945.00	70	SLST	DC	0.65 (6)			

TABLE 2.2

COMPANY: NORSK HYDRO WELL: 34/8-6 LOCATION: OFFSHORE NORWAY

GENERAL DATA			MATURITY DATA		KEROGEN COMPOSITION DATA						
SAMPLE DEPTH (Metres)	SAMPLE TYPE	ANALYSED LITHOLOGY	SPORE COLOUR INDEX	VITR. REFL. R oil av %	% (Visual, from microscopy)			% (Calculated)			
					INERTINITE	VITRINITE	SAPROPEL	INERT	VIT	ALG SAP	WXY SAP
1250	Ctgs	No liths available	2.5 5.0 R		5	95	Mnr				
1350	Ctgs	No liths available	3.0 5.0 R		Prt	95	5				
1450	Ctgs	No liths available	3.0 5.0 R		Prt	95	5				
1550	Ctgs	No liths available	3.0 5.5 R		Mnr	100	Prt				
1650	Ctgs	No liths available	3.0 6.0 R		Mnr	100	Mnr				
1750	Ctgs	No liths available	3.0 6.0 R		10	65	25				
1850	Ctgs	No liths available	2.5 4.5 R		5	70	25				
1950	Ctgs	No liths available	3.0 5.0 R		5	70	25				
2050	Ctgs	No liths available	3.0 5.0 R		40	20	40				
2150	Ctgs	No liths available	3.5		30	50	20				
2250	Ctgs	No liths available	3.0 5.5 R		10	70	20				
2350	Ctgs	No liths available	3.5		30	70	Mnr				
2450	Ctgs	No liths available	4.0 6.0 R 2.5 C		20	65	15				
2550	Ctgs	No liths available	4.0 7.5 R		20	80	Mnr				
2650	Ctgs	No liths available	3.5 6.0 R		10	80	10				
2750	Ctgs	No liths available	3.5		10	80	10				
2850	Ctgs	No liths available	3.5		10	90	Mnr				
2950	Ctgs	No liths available	4.0		5	95	Mnr				
3050	Ctgs	No liths available	3.5 5.5 R		10	90	Mnr				
3150	Ctgs	No liths available	3.5 7.0 R		10	85	5				
3250	Ctgs	No liths available	4.5 7.5 R		40	50	10				
3350	Ctgs	No liths available	4.0 7.0 R		5	80	15				
3450	Ctgs	No liths available	3.5 ? 6.5 R 2.5 C		30	70	Mnr				

MATURITY AND KEROGEN COMPOSITION DATA

TABLE : 2.2

COMPANY: NORSK HYDRO WELL: 34/8-6 LOCATION: OFFSHORE NORWAY

GENERAL DATA			MATURITY DATA		KEROGEN COMPOSITION DATA						
SAMPLE DEPTH (Metres)	SAMPLE TYPE	ANALYSED LITHOLOGY	SPORE COLOUR INDEX	VITR. REFL. R oil av %	% (Visual, from microscopy)			% (Calculated)			
					INERTINITE	VITRINITE	SAPROPEL	INERT	VIT	ALG SAP	WXY SAP
3550	Ctgs	No liths available	4.0 ? 3.0 C		10	20	70				
3650	Ctgs	No liths available	3.5 6.5 R		5	45	50				
3750	Ctgs	No liths available	4.0 7.0 R		20	40	40				
3850	Ctgs	No liths available	4.5 7.0 R		20	70	10				
3950	Ctgs	No liths available	5.0 ?		5	80	15				

MATURITY AND KEROGEN COMPOSITION DATA

TABLE : 2.2

Table 3.1 **SOURCE ROCK SCREENING DATA WELL 34/8-6**

Petroleum Geochemistry Group
Research Centre Bergen

HYDRO

Depth (m)	%	Lithology	Type	S1 kg/t	S2 kg/t	TOC %	HI	PI	Tmax DegC	Company
3477.00		BULK	DCD	0.07	0.19	0.5	40	0.27		F-BERGEN
3480.00		BULK	DCD	0.74	5.87	2.3	259	0.11	436	F-BERGEN
3482.00		BULK	DCD	1.02	7.80	2.7	291	0.12	434	F-BERGEN
3485.00		BULK	DCD	2.05	16.08	3.9	414	0.11	435	F-BERGEN
3487.00		BULK	DCD	2.10	18.16	4.2	434	0.10	434	F-BERGEN
3490.00		BULK	DCD	2.44	22.46	4.7	475	0.10	434	F-BERGEN
3492.00		BULK	DCD	2.64	21.73	4.9	445	0.11	433	F-BERGEN
3495.00		BULK	DCD	2.97	22.95	5.2	446	0.11	435	F-BERGEN
3497.00		BULK	DCD	1.60	11.90	3.2	374	0.12	435	F-BERGEN
3500.00		BULK	DCD	2.17	15.75	4.0	398	0.12	435	F-BERGEN
3502.00		BULK	DCD	3.17	22.67	5.1	445	0.12	436	F-BERGEN
3502.00		BULK	DCD	3.17	22.67	5.1	445	0.12	436	F-BERGEN
3505.00		BULK	DCD	3.34	21.91	5.0	438	0.13	436	F-BERGEN
3507.00		BULK	DCD	3.35	22.62	5.2	435	0.13	436	F-BERGEN
3510.00		BULK	DCD	3.33	21.47	5.1	421	0.13	437	F-BERGEN
3512.00		BULK	DCD	3.18	23.62	5.5	428	0.12	432	F-BERGEN
3515.00		BULK	DCD	3.12	21.55	5.4	401	0.13	436	F-BERGEN
3517.00		BULK	DCD	2.78	22.49	5.5	411	0.11	435	F-BERGEN

Table 3.1 **SOURCE ROCK SCREENING DATA WELL 34/8-6** (cont'd)

Depth (m)	%	Lithology	Type	S1 kg/t	S2 kg/t	TOC %	HI	PI	Tmax DegC	Company
3520.00		BULK	DCD	2.73	21.74	5.4	406	0.11	436	F-BERGEN
3522.00		BULK	DCD	2.77	21.10	5.4	390	0.12	437	F-BERGEN
3525.00		BULK	DCD	2.93	21.07	5.2	409	0.12	437	F-BERGEN
3527.00		BULK	DCD	3.14	20.60	5.1	406	0.13	437	F-BERGEN
3530.00		BULK	DCD	3.03	21.26	5.3	404	0.12	436	F-BERGEN
3532.00		BULK	DCD	3.20	21.95	5.3	417	0.13	437	F-BERGEN
3535.00		BULK	DCD	2.40	22.15	5.3	420	0.10	433	F-BERGEN
3537.00		BULK	DCD	2.97	23.96	5.5	439	0.11	435	F-BERGEN
3540.00		BULK	DCD	3.35	23.65	5.4	440	0.12	435	F-BERGEN
3542.00		BULK	DCD	3.28	22.40	5.3	419	0.13	435	F-BERGEN
3547.00		BULK	DCD	3.60	21.81	5.3	413	0.14	434	F-BERGEN
3552.00		BULK	DCD	3.28	19.21	4.8	398	0.15	434	F-BERGEN
3555.00		BULK	DCD	3.13	19.41	4.8	405	0.14	435	F-BERGEN
3557.00		BULK	DCD	3.80	20.73	5.4	387	0.15	430	F-BERGEN
3560.00		BULK	DCD	4.01	22.13	5.4	408	0.15	433	F-BERGEN
3562.00		BULK	DCD	4.15	21.70	5.5	393	0.16	434	F-BERGEN
3565.00		BULK	DCD	3.75	20.05	5.0	398	0.16	432	F-BERGEN
3567.00		BULK	DCD	3.37	22.79	5.5	414	0.13	433	F-BERGEN
3570.00		BULK	DCD	3.67	24.21	6.0	405	0.13	431	F-BERGEN

Table 3.1 **SOURCE ROCK SCREENING DATA WELL 34/8-6** (cont'd)

Petroleum Geochemistry Group
Research Centre Bergen
HYDRO

Depth (m)	%	Lithology	Type	S1 kg/t	S2 kg/t	TOC %	HI	PI	Tmax DegC	Company
3572.00		BULK	DCD	2.41	20.05	5.1	390	0.11	430	F-BERGEN
3585.00		BULK	DCD	4.27	23.71	6.5	365	0.15	431	F-BERGEN
3595.00		BULK	DCD	1.45	9.86	4.7	212	0.13	435	F-BERGEN
3605.00		BULK	DCD	0.78	7.00	2.8	247	0.10	438	F-BERGEN
3615.00		BULK	DCD	0.86	11.15	3.3	335	0.07	438	F-BERGEN
3625.00		BULK	DCD	1.40	15.93	3.8	418	0.08	436	F-BERGEN
3635.00		BULK	DCD	0.70	6.59	2.1	314	0.10	442	F-BERGEN
3647.00		BULK	DCD	0.36	3.71	2.1	175	0.09	437	F-BERGEN
3657.00		BULK	DCD	0.45	3.91	2.4	163	0.10	437	F-BERGEN
3667.00		BULK	DCD	0.35	3.41	2.9	119	0.09	434	F-BERGEN
3677.00		BULK	DCD	0.38	3.32	3.3	102	0.10	438	F-BERGEN
3687.00		BULK	DCD	0.47	3.73	3.5	105	0.11	435	F-BERGEN

Table 3.2.1 **SOURCE ROCK EXTRACTION DATA WELL 34/8-6**

Petroleum Geochemistry Group
Research Centre Bergen

HYDRO

Depth (m)	%	Lithology	Type	EOM(mg)	EOM(%)	Hydrocarbons SAT(%)	Hydrocarbons ARO(%)	Hydrocarbons TOTAL(%)	Non Hydrocarbons NSO(%)	Non Hydrocarbons ASPH(%)	Non Hydrocarbons TOTAL(%)
3215.00		MUDOIL	DCG			61.10	20.60	81.70	7.50	10.80	18.30
3485.00		BULK	DCD	60.0	0.58	16.00	35.00	51.00	40.50	8.50	49.00
3497.00		BULK	DCD	63.0	0.52	16.50	28.00	44.50	46.50	9.00	55.50
3505.00		BULK	DCD	41.6	0.83	15.50	31.50	47.00	41.50	11.50	53.00
3517.00		BULK	DCD	81.8	0.82	12.00	27.50	39.50	52.50	8.00	60.50
3532.00		BULK	DCD	47.8	0.94	13.50	38.00	51.50	37.00	11.50	48.50
3552.00		BULK	DCD	52.2	0.87	15.50	38.50	54.00	38.50	7.50	46.00
3567.00		BULK	DCD	54.1	0.95	15.50	35.50	51.00	41.50	7.50	49.00
3595.00		BULK	DCD	45.7	0.42	9.00	28.50	37.50	53.00	9.50	62.50
3625.00		BULK	DCD	51.7	0.48	12.50	34.00	46.50	44.00	9.50	53.50
3677.00		BULK	DCD	25.5	0.21	3.50	30.00	33.50	58.00	8.50	66.50

IATROSCAN GROUPTYPE DATA

Table 3.2.2 **SOURCE ROCK EXTRACTION DATA WELL 34/8-6**

Petroleum Geochemistry Group
Research Centre Bergen
HYDRO

Depth	%	Lithology	Type	TOC (%)	EOM(%)/TOC(%)	SAT(%)/TOC(%)	SAT(%)/ARO(%)	HC/Non HC
3215.00		MUDOIL	DCG				2.97	4.46
3485.00		BULK	DCD	3.88	0.15	4.12	0.46	1.04
3497.00		BULK	DCD	3.18	0.16	5.19	0.59	0.80
3505.00		BULK	DCD	5.00	0.17	3.10	0.49	0.89
3517.00		BULK	DCD	5.47	0.15	2.19	0.44	0.65
3532.00		BULK	DCD	5.26	0.18	2.57	0.36	1.06
3552.00		BULK	DCD	4.83	0.18	3.21	0.40	1.17
3567.00		BULK	DCD	5.51	0.17	2.81	0.44	1.04
3595.00		BULK	DCD	4.65	0.09	1.94	0.32	0.60
3625.00		BULK	DCD	3.81	0.13	3.28	0.37	0.87
3677.00		BULK	DCD	3.27	0.06	1.07	0.12	0.50

IATROSCAN GROUPTYPE DATA

Table 3.3 **SATURATED FRACTION MOLECULAR RATIOS WELL 34/8-6**

Petroleum Geochemistry Group
Research Centre Bergen
HYDR

Depth	%	Lithology	Type	Pristane / nC17	Pristane / Phytane	CPI-I	CPI-II	nC15+ / Total	nC20 / nC25
3215.00		MUDOIL	DCG	1.10	1.28	1.00	0.94		
3485.00		BULK	DCD	1.24	1.56	1.18	0.92		
3497.00		BULK	DCD	1.22	1.44	1.11	0.87		
3505.00		BULK	DCD	1.20	1.50	1.18	0.93		
3517.00		BULK	DCD	1.27	1.48	1.13	0.89		
3532.00		BULK	DCD	1.16	1.48	1.12	0.84		
3552.00		BULK	DCD	1.04	1.34	1.13	0.94		
3567.00		BULK	DCD	0.98	1.25	1.09	0.90		
3595.00		BULK	DCD	1.07	1.92	1.20	1.04		
3625.00		BULK	DCD	0.78	2.74	1.21	1.07		
3677.00		BULK	DCD	2.01	3.67	1.31	1.19		

TABLE 3.4

BIOMARKER RATIOS AND ISOMERISATION

WELL 34/8-6, VIKING GROUP

				TRITERPANES MZ 191						STERANES MZ 217	
DEPTH m		TYPE	LITHOLOGY	Ts/ Tm	NOR/ NOR+HOP	BNOR/ BNOR+NOR	MORETAN/ HOPAN	% 22S BISHOMOHOP	25-NORHOP/ HOPAN	20S % aaa	20S+R % abb
3485		DC 1-2mm	Bulk	1.2	0.27		0.10	59		52	50
3497		"	"	1.0	0.27		0.14	59		51	50
3505		"	"	1.1	0.28		0.14	59		55	52
3517		"	"	1.1	0.28		0.13	58		57	52
3532		"	"	1.1	0.27		0.14	58		56	52
3552		"	"	1.2	0.26		0.13	60		54	54
3567		"	"	1.3	0.29		0.13	61		58	54
3595		"	"	0.6	0.30		0.15	59		51	53
3625		"	"	1.1	0.29		0.14	61		52	55
3677		"	"	0.1	0.39		0.28	57		49	43
Biom.std.		Oil (30/6-13)		1.2	0.28	0.20	0.13	58	0.11	54	53
" "		" "		1.1	0.30	0.20	0.13	60	0.10	52	54
" "		" "		1.1	0.29	0.20	0.13	58	0.10	54	51

T A B L E 3.5

W E L L 34/8-6 V I K I N G G R.

Carbon Isotope Values in the SAT and ARO Fraction

Depth m MD RKB	Lithology		Saturated	Aromatic
3485	DC Bulk		-31.40	-30.50
3497	"		-31.26	-30.39
3505	"		-31.70	-30.59
3517	"		-32.00	-31.03
3532	"		-31.69	-31.13
3552	"		-32.16	-31.45
3567	"		-31.93	-31.17
3595	"		-28.89	-26.89
3625	"		-29.99	-28.61
3677	"		-27.40	-24.17

COMPANY: NORSK HYDRO WELL: 34/8-6 LOCATION: NORWEGIAN NORTH SEA

Depth (m)	SCI	Kerogen Type (%)				
		Inertinite	Vitrinite (struct.)	Amorphous (non-fluor.)	Amorphous (fluor)	Liptinite (Struct.)
1250	2.5 5.0R	5	5	90	Tr	Mnr Di, Sp
1350	3.0 5.0R	Tr	5	90	Mnr	5 Di, Sp
1450	3.0 5.0R	Tr	10	85	Tr	5 Di, Sp
1550	3.0 5.5R	Mnr	Mnr	100	Tr	Tr, Di, Sp
1650	3.0 6.0R	Mnr	Mnr	100	0	Mnr Di, Sp
1750	3.0 6.0R	10	Mnr	65	10	15 Di, Sp
1850	2.5 4.5R	5	5	65	15	10 Di, Sp
1950	3.0 5.0R	5	5	55	20	5 Di, Sp
2050	3.0 5.0R	40	5	15	15	25 Di, Sp
2150	3.5	30	Mnr	50	10	10 Di, Sp
2250	3.0 5.5R	10	Mnr	70	10	10 Di, Sp
2350	3.5	30	10	60	Mnr	Mnr Di, Sp
2450	4.0 6.0R 2.5C	20	10	55	10	5 Di, Sp
2550	4.0 7.5R	20	20	60	0	Mnr Di, Sp
2650	3.5 6.0R	10	10	70	0	10, Di, Sp
2750	3.5	10	25	55	0	10 Di, Sp

DETAILED KEROGEN TYPING DATA

COMPANY: NORSK HYDRO WELL: 34/8-6 LOCATION: NORWEGIAN NORTH SEA

Depth (m)	SCI	Kerogen Type (%)				
		Inertinite	Vitrinite (struct.)	Amorphous (non-fluor.)	Amorphous (fluor.)	Liptinite (struct.)
2850	3.5	10	25	75	0	Mnr Di, Sp
2950	4.0	5	10	85	0	Mnr Di, Sp
3050	3.5 5.5R	10	10	80	0	Mnr Di, Sp
3150	3.5 7.0R	10	15	80	0	5 Di, Sp
3250	4.5 7.5R	40	35	15	0	10 Di, Sp
3350	4.0 7.0R	5	10	70	0	15 Sp, Al, Di
3450	3.5? 6.5R 2.5C	30	30	40	0	Mnr Sp Al,
3550	4.0? 3.0C	10	10	10	60	10 Sp
3650	3.5 6.5R	5	15	30	30	20 Di, Sp
3750	4.0 7.0R	20	40	0	20	20 Sp
3850	4.5? 7.0R	20	40	30	0	10 Sp, Al
3950	5.0?	5	10	70	10	5 Sp, Al

Di - Dinoflagellate cycts
Sp - Spores and pollen grains
Al - Algal debris

DETAILED KEROGEN TYPING DATA