FORMATION PRESSURE WORKSHEET

Well Name :	24/6-2				**Rig :**	Transocean Leader								**Date :**	19.6.98			
Pressure Units :	Bars				**RKB-MSL :**	23,5 m.	**MSL-SBed:**	m.						**Witnessed by :**	S. Vik / I. Ahmed			
Run No./ Test No.	**Depth**	**Depth**	**Initial Hydrostatic Pressure**		**Formation Pressure**		**Final Hydrostatic Pressure**		**Time hh:mm**		**Formation Pressure**	**Test Temp**	**Good Data?**	**Sample Information**			**Remarks**
1A/	**mMD RKB**	**mTVD RKB**	**Strain**	**Qtz**	**Strain**	**Qtz**	**Strain**	**Qtz**	**Set**	**Retract**	**sg EMD**	**degC**	**Y/N**	**Main Fluid Type**	**HC Gravity g/cc**	**Sample Vol, cc**	
1	2 102,0		263,54	263,360	203,40	203,282	263,55	263,345	16:25	16:28	0,986	58,0	Y				1750 Md/Cp
2	2 105,0		263,94	263,727	203,48	203,327	263,93	263,733	16:35	16:42	0,985	58,6	Y				4523 mD/cP
3	2 108,0		264,35	264,117	203,57	203,396	264,34	264,090	16:45	16:53	0,984	58,9	Y				3229 mD/cP
4	2 112,0		264,80	264,629	203,59	203,457	264,80	264,629	16:57	17:04	0,982	59,3	Y				2508 mD/cP
5	2 114,0		265,09	264,904	203,63	203,491	265,09	264,907	17:10	17:16	0,981	59,6	Y				3076 mD/cP
6	2 120,0		265,82	265,660					17:20	17:27	0,000	59,9	N				No seal
7	2 123,0		266,22	266,034	203,76	203,633	266,21	266,034	17:35	17:39	0,978	60,0	Y				1386 mD/cP
8	2 124,0		266,40	266,238					17:45	17:50	0,000	60,4	N				Tight
9	2 126,0		266,64	266,445	203,79	203,674	266,60	266,642	17:56	18:02	0,977	60,6	Y				2545 mD/cP
10	2 127,0		266,66	266,495	203,79	203,680	266,71	266,520	18:05	18:10	0,976	60,6	Y				899 mD/cP
11	2 134,0		267,50	267,352	203,90	203,793	267,50	267,350	18:15	18:22	0,973	61,1	Y				1158 mD/cP
12	2 136,0		267,76	267,650	203,93	203,825	267,77	267,597	18:29	18:32	0,973	61,3	Y				1735 mD/cP
13	2 139,0		268,12	267,963	203,98	203,871	268,11	267,971	18:36	18:41	0,972	61,4	Y				1093 mD/cP
14	2 140,0		268,25	268,102	204,02	203,916	268,23	268,103	18:49	18:56	0,971	61,6	N				168 mD/cP (not stable pressures)
15	2 140,0		268,25	268,105	203,98	203,888	268,25	268,115	19:01	19:05	0,971	61,7	Y				2168 mD/cP
16	2 144,0		268,77	268,646	204,05	203,951	268,75	268,610	19:14	19:18	0,970	61,9	Y				2373.1 mD/cP
17	2 147,0		269,11	268,975	204,09	203,990	269,12	268,970	19:26	19:30	0,969	62,0	Y				1474 mD/cP
18	2 148,0		269,24	269,097					19:39	19:41	0,000		N				No response

NB: Fmtn Press sg calculated from RKB

FORMATION PRESSURE WORKSHEET

Well Nam: 24/6-2 | Rig : Transocean Leader | Date : 19.6.98

Pressure Units : Bars | RKB-MSL : 23,5 m. | MSL-SBed: m. | Witnessed by : S. Vik / I. Ahmed

Run No./ Test No.	Depth	Depth	itial Hydrostatic Pressure		Formation Pressure		Final Hydrostatic Pressure		Time hh:mm		Formation Pressure	Test Temp	Good Data?	Sample Information			Remarks
1A	mMD RKB	mTVD RKB	Strain	Qtz	Strain	Qtz	Strain	Qtz	Set	Retract	sg EMD	degC	Y/N	Main Fluid Type	HC Gravity g/cc	Sample Vol, cc	
19	2 148,0		269,24	269,087	204,11	204,008	269,26	269,104	19:44	19:47	0,968	62,2	Y				2562 mD/cP
20	2 151,0		269,62	269,471	204,14	204,035	269,64	269,477	19:54	20:00	0,967	62,3	Y				165 mD/cP
21	2 152,0		269,74	269,606	204,19	204,090	269,75	269,599	20:05	20:11	0,967	62,4	Y				202 mD/cP
22	2 153,0		269,87	269,713					20:19	20:25	0,000	62,6	N				Tight/dry
23	2 154,0		272,00	269,847	204,33	204,250	270,01	269,856	20:34	20:37	0,967	62,6	Y				215 mD/cP
24	2 159,0		270,60	270,467					20:46	20:52	0,000		N				Tight/dry
25	2 160,0		270,71	270,548	204,87	204,790	270,73	270,564	20:55	20:59	0,966	63,0	Y				292 mD/cP
26	2 161,0		270,85	270,696	204,96	204,882	270,82	270,695	21:03	21:08	0,966	63,2	Y				171 mD/cP
27	2 162,0		270,97	270,812	205,00	204,924	270,98	270,852	21:14	21:19	0,966	63,3	Y				91 mD/cP
28	2 163,0		271,09	270,945					21:25	21:32	0,000	63,4	N				Supercharged
29	2 164,0		271,22	271,067	205,17	205,090	271,21	271,054	21:38	21:42	0,966	63,5	Y				449 mD/cP
30	2 165,0		271,33	271,175	205,24	205,165	271,33	271,177	21:47	21:50	0,966	63,7	Y				315.4 mD/cP
31	2 166,0		271,45	271,296	205,31	205,227	271,46	271,308	21:56	22:00	0,966	63,7	Y				294 mD/cP
32	2 167,0		271,57	271,432	205,38	205,299	271,60	271,431	22:07	22:11	0,966	63,8	Y				498 mD/cP
33	2 171,0		271,07	271,911	205,77	205,683	272,10	271,908	22:17	22:24	0,966	64,0	Y				147 mD/cP
34	2 175,0		272,54	272,398	206,23	206,155	272,53	272,386	22:30	22:34	0,966	64,0	Y				358 mD/cP
35	2 181,0		273,26	273,120	206,90	206,816	273,26	273,119	22:40	22:45	0,967	64,2	Y				234 mD/cP
36	2 182,0		273,37	273,220	207,00	206,919	273,37	273,220	23:18	23:23	0,967	64,7	Y				7 mD/cP

FORMATION PRESSURE WORKSHEET

Well Nam: 24/6-2 | Rig : Transocean Leader | Date : 19.6.98

Pressure Units : Bars | RKB-MSL : 23,5 m. | MSL-SBed: m. | Witnessed by : S. Vik / I. Ahmed

Run No./ Test No.	Depth	Depth	Initial Hydrostatic Pressure		Formation Pressure		Final Hydrostatic Pressure		Time hh:mm		Formation Pressure	Test Temp	Good Data?	Sample Information			Remarks
1A	mMD RKB	mTVD RKB	Strain	Qtz	Strain	Qtz	Strain	Qtz	Set	Retract	sg EMD	degC	Y/N	Main Fluid Type	HC Gravity g/cc	Sample Vol, cc	
37	2 187,0		273,97	273,821	207,50	207,408	273,95	273,820	23:30	23:35	0,967	64,8	Y				275 mD/cP
38	2 195,0		274,97	274,815	208,33	208,252	274,96	274,816	23:44	23:47	0,967	65,0	Y				258 mD/cP
39	2 200,0		275,57	275,392	208,83	208,751	275,56	275,390	23:50	23:55	0,967	65,2	Y				328 mD/cP
40	2 205,0		276,17	276,020	209,33	209,253	276,17	276,019	00:00	00:05	0,967	65,4	Y				387 mD/cP
The following points are measured using the other probe and hence a different pressure gauge. Should be used with care if combined with the above data!																	
41	2 205,0		275,25	275,900	208,51	209,124	275,18	275,863	00:50	00:55	0,967	65,4	N				Martineau probe
42	2 167,0		270,37	271,221	204,60	205,198			02:38	04:10	0,965	63,4	N				Martineau probe
43	2 164,0		270,15	270,837	204,38	205,042			04:24	06:10	0,966	63,2	N				Martineau probe
44	2 144,0		268,68	268,355	203,71	204,965			06:16	06:22	0,975	63,1	N				Martineau probe
45	2 144,5		267,77	268,435	203,85	204,494			06:25	07:35	0,972	63,0	N				Martineau probe
46	2 126,0		265,45	266,145					07:46	07:53	0,000	62,8	N				Martineau probe
47	2 126,5		265,45	266,140					07:54		0,000	62,8	N				Martineau probe
48	2 105,0		262,89	263,351							0,000		N				Martineau probe

NB: Fmtn Press sg calculated from RKB

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 24/6-2

Hole section : 0.0 **WATER BASED SYSTEM**

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Dens [sg]	Filtrate API [ml]	Filtrate HPHT [ml]	Filtcake API [mm]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Alcalinity Pf [ml]	Alcalinity Mf [ml]	Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++	Tot hard [mg/l]	Percentage Solid [%]	Percentage Oil [%]	Percentage Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
1998-05-25 23:00	0	0	BENTONITE MUD	1.03					34 / 120																

Hole section : 36" **WATER BASED SYSTEM**

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Dens [sg]	Filtrate API [ml]	Filtrate HPHT [ml]	Filtcake API [mm]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Alcalinity Pf [ml]	Alcalinity Mf [ml]	Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++	Tot hard [mg/l]	Percentage Solid [%]	Percentage Oil [%]	Percentage Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
1998-05-26 23:00	221	221	BENTONITE MUD	1.03					34 / 120																
1998-05-27 23:00	221	221	BENTONITE MUD	1.03					34 / 120																
1998-05-28 00:23	374	374	BENTONITE MUD	1.05					34 / 120																

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

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Dens [sg]	Filtrate API [ml]	Filtrate HPHT [ml]	Filtcake API [mm]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Alcalinity Pf [ml]	Alcalinity Mf [ml]	Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++	Tot hard [mg/l]	Percentage Solid [%]	Percentage Oil [%]	Percentage Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
1998-05-29 23:00	488	488	BENTONITE MUD	1.05					/																
1998-05-30 23:59	1285	1285	BENTONITE MUD	1.05					/																
1998-05-31 23:59	1331	1331	BENTONITE MUD	1.05					/																
1998-06-01 23:59	1331	1331	BENTONITE MUD	1.05					/																
1998-06-02 23:59	1331	1331	BENTONITE MUD	1.05					/																
1998-06-03 23:59	1331	1331	BENTONITE MUD	1.05					/																

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

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Dens [sg]	Filtrate API [ml]	Filtrate HPHT [ml]	Filtcake API [mm]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Alcalinity Pf [ml]	Alcalinity Mf [ml]	Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++	Tot hard [mg/l]	Percentage Solid [%]	Percentage Oil [%]	Percentage Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
1998-06-04 23:59	1429	1429	KCL/POLYMER	1.36	2.4		1		/			0.2	0.5	168		81000	400		440	15.0		0.3			17
1998-06-05 23:59	1802	1801	KCL/POLYMER	1.36	2.4		1		/	8.1	0.1	0.1	0.8	165		81500	400		400	15.5		0.4			43
1998-06-06 23:59	1802	1801	KCL/POLYMER	1.36	25.0		1		/		0.1	0.1	0.7	165		81000	480		480	15.5		0.3			44

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

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Dens [sg]	Filtrate API [ml]	Filtrate HPHT [ml]	Filtcake API [mm]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Alcalinity Pf [ml]	Alcalinity Mf [ml]	Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++	Tot hard [mg/l]	Percentage Solid [%]	Percentage Oil [%]	Percentage Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
1998-06-07 23:59	1822	1821	KCL/POLYMER	1.25	2.4		1		/		0.1	0.1	0.7	166		82000	360		400	12.5		0.2	10		58
1998-06-08 23:59	2010	2009	KCL/POLYMER	1.25	2.5		1		/	8.5	0.2	0.1	0.7	170		83000	520		520	12.5		0.2	14		55
1998-06-09 23:59	2021	2020	KCL/POLYMER	1.26	2.6		1		/		0.1	0.1	0.6	170		83000	520		520	12.5		0.2	25		39

Norsk Hy.

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 24/6-2

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

Date	Depth [m] MD	Depth [m] TVD	Mud Type	Dens [sg]	Filtrate API [ml]	Filtrate HPHT [ml]	Filtcake API [mm]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	pH	Alcalinity Pm [ml]	Alcalinity Pf [ml]	Alcalinity Mf [ml]	Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++	Tot hard [mg/l]	Percentage Solid [%]	Percentage Oil [%]	Percentage Sand [%]	CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
1998-06-10 23:59	2056	2054	KCL/POLYMER	1.26	2.6		1		/	8.5	0.1	0.1	0.6	169		83000	520		520	13.0		0.2	25		66
1998-06-11 23:59	2076	2074	KCL/POLYMER	1.26	2.4		1		/	8.7	0.1	0.1	0.6	169		82000	560		560	12.5		0.2	25		41
1998-06-12 23:59	2102	2100	KCL/POLYMER	1.26	2.4		1		/	8.6	0.1	0.1		170		83000	560		560	13.0		0.2	25		66
1998-06-13 23:59	2138	2136	KCL/POLYMER	1.25	2.4		1		/	9.1	0.2	0.1	0.8	172		84000	360		360	12.5		0.2	25		53
1998-06-14 23:59	2174	2172	KCL/POLYMER	1.25	2.2		1		/	8.7	0.1	0.1	0.8	169		83000	360		360	12.5		0.2	20		55
1998-06-15 23:59	2192	2190	KCL/POLYMER	1.25	2.3		1		/	8.6	0.1	0.1	0.8	169		83000	360		360	12.5		0.3	20		55
1998-06-16 23:59	2593	2579	KCL/POLYMER	1.25	2.4		1		/	8.5	0.1	0.1	1.1	166		82000	420		420	12.5		0.4	25		58
1998-06-17 23:59	2660	2645	KCL/POLYMER	1.25	2.4		1		/	8.5	0.1	0.2	0.8	163	84000	80000	380		380	6.4		0.4	25		63
1998-06-18 23:59	2722	2706	KCL/POLYMER	1.25	2.4		1		/	8.3	0.1	0.1	1.2	165		81000	400	40	440	6.3	0.0	0.2	32		60
1998-06-19 23:59	2722	2706	KCL/POLYMER	1.25	2.6		1		/	8.3	0.1	0.1	1.3	166		82000	380	60	440	6.2	0.0	0.2	28		58
1998-06-20 23:59	2772	2755	KCL/POLYMER	1.25	2.6		1		/	8.3	0.1	0.1	1.3	166		82000	380	60	440	6.2	0.0	0.2	28		58
1998-06-21 23:59	2722	2706	KCL/POLYMER	1.25	1.0		1		/	8.3	0.1	0.1	1.5	164		82000	380	60	440	6.2	0.0	0.2	28	3.5	58
1998-06-22 23:59	2772	2755	KCL/POLYMER	1.25	2.4		1		/	8.3	0.1	0.1	1.5	164		82000	380	60	440	6.2	0.0	0.2	28	3.5	58
1998-06-23 23:59	2300	2296	KCL/POLYMER	1.25	2.6		1		/	10.8	3.8	0.7	1.4	160		80000	440	60	500	6.1	0.0	0.2	28		62
1998-06-24 23:59	2306	2302	KCL/POLYMER	1.25	2.5		1		/	10.0	2.0	0.2	1.0	158		77000	420	60	480	6.7	0.0	0.2	28		70
1998-06-25 23:59	2303	2299	KCL/POLYMER	1.25	2.4		1		/	10.0	1.8	0.2	0.7	160		78000	480	80	560	6.6	0.0	0.2	42		68
1998-06-26 23:59	2304	2300	KCL/POLYMER	1.25	2.4		1		/	8.4	0.4	0.1	0.4	159		78000	460	80	540	6.9	0.0	0.2	42		84
1998-06-27 23:59	2304	2300	KCL/POLYMER	1.25	2.4		1		/	8.4	0.4	0.1	0.4	159		78000	460	80	540	6.9		0.2	42		84
1998-06-28 23:59	2303	2299	KCL/POLYMER	1.25	2.4		1		/	8.4	0.4	0.1	0.4	159		78000	460	80	540	6.9	0.0	0.2	42		84
1998-06-29 23:59	2303	2299	KCL/POLYMER	1.25	2.4		1		/	8.4	0.4	0.1	0.4	159		78000	460	80	540	6.9	0.0	0.2	42		84
1998-06-30 23:59	2303	2299	KCL/POLYMER	1.25	2.6		1		/	8.4	0.3	0.1	0.4	150		72000	420	80	500	7.0	0.0	0.2	42		82
1998-07-01 23:59	2304	2300	KCL BRINE	1.25	2.6		1		/	8.4	0.3	0.1	0.0	150		72000	420	80	520	7.0		0.2	42		82
1998-07-02 23:59	2304	2300	KCL/POLYMER	1.25	2.5		1		/	8.4	0.2	0.1	0.3	146		71000	460	80	540	7.1	0.0	0.2	42		85
1998-07-03 23:59	2304	2300	KCL/POLYMER	1.25	2.5		1		/	8.4	0.2	0.1	0.1	144		71000	460	80	540	7.1	0.0	0.2	42		85
1998-07-04 23:59	2130	2128	KCL/POLYMER	1.27	2.5		1		/	8.3	0.2	0.1	0.5	150		73000	440	60	520	7.5	0.0	0.3	42		74

TOTAL CONSUMPTION OF MUD ADDITIVES ON WELL 24/6-2

Section	Product/ Additive	Unit	Total Amount Used
36"	BARITE	kg	25000,00
	BENTONITE	kg	23000,00
	CITRIC ACID	kg	200,00
	LIME	kg	60,00
	SODA ASH	kg	75,00
	XANTHAN GUM	kg	150,00
17 1/2"	BARITE	kg	112000,00
	BENTONITE	kg	52000,00
	CITRIC ACID	kg	175,00
	LIME	kg	220,00
	SODA ASH	kg	175,00
	SODIUM BICARBONATE	kg	375,00
	XANTHAN GUM	kg	375,00
12 1/4"	BARITE	kg	130000,00
	KCL BRINE	l	240000,00
	XANTHAN GUM	kg	625,00
8 1/2"	AQUAPAC REG/LV	kg	200,00
	BARITE	kg	131000,00
	BP DCP 208 (POLYALC. GLYCO)	kg	1100,00
	CITRIC ACID	kg	1300,00
	FLOWZAN	kg	1325,00
	KCL	kg	2000,00
	KCL BRINE	l	233000,00
	SODA ASH	kg	350,00
	SODIUM BICARBONATE	kg	200,00
	XANTHAN GUM	kg	275,00
0.0	BARITE	kg	14000,00
	FLOWZAN	kg	50,00

8.3 Test results

The following intervals were production tested:

Test No.	Fluid	Perforation m MD RKB	Perforation m TVD MSL
1	Oil	2156.75 - 2165.75	2154.56-2163.49

The Formation tested oil during the production test. The test objectives in prioritised sequence were:

Obtain large volume of representative fluid samples
Determine the productivity.
Determine reservoir properties.
Investigate fluid processing by use of MTU.
Determine initial reservoir conditions.
Establish rock mechanical properties.
Determine whether saturated water is mobile or not.
Evaluate possible influence of layering and boundary conditions

Table 8.3 summarises consistent datasets measured during Test 1. The table also includes the results from the transient analysis performed.

The obtained data clearly indicates a formation with high permeability and good lateral extent.

Parameters Test 1		Main Flow
Flow Measurements		
Choke size	(inch)	48/64
Oil rate	(Sm3/d)	550
Gas rate	(1000 Sm3/d)	44
GOR	(Sm3/Sm3)	80
Water rate	(Sm3/d)	<50
FBHP (1)	(bar)	186.8
FBHT (1)	(deg C)	69
FWHP	(bar)	48
FWHT	(deg C)	26
Psep	(bar)	11
Tsep	(deg C)	59
Maximum H2S	(ppm)	0
Maximum CO2	(%)	0.6
Maximum solids	(%)	Bursts
Oil density at 15 degrees C	(g/cm3)	0,86
Gas gravity	(air=1)	0,69

E&P Division

Access	Internal
Downgrading	
Retention	Unlimited

B4??-603-1

Title	Reservoir geochemistry of well 24/6-2

Keywords	Petroleum geochemistry, reservoir geochemistry, migrated hydrocarbons, oil characterisation, gas characterisation, biodegradation, maturity, origin

Document category	Report	Document ID	R-085994	Amendment no.	
Area code	24/6	System code		Procurement ref./Package no.	
SCM reference				Tag no.	
Quadrant/Block/Well	24/6-2	Licence no.	PL 203	Project	2008576
Pages/appendices/volume(s)	22 + tables /4 / 1			Replaces	

	Name(s)	Org. unit	Date	Signed
Author(s)	Elin Rein, Marian Våge, Anne Karin Syversen, Reidun A. Myklebust	NH Research Centre	17.12.98	
Controlled	Nils Telnæs	NH Research Centre	17.12.98	
Verified	Swinder Gahlla	NH Exploration	22.12.98	
Approved	Tore L. Grønvold	NH Exploration	8/2-99	

Rev./ status	Date	Reason for issue	Author	Contr.	Disc. appr.	Proj. appr.	Hydro appr.

Norsk Hydro a.s F.nr. 914 778 271

Postal address: N-5020 BERGEN NORWAY
Office address: Sandsliveien 90 5049 Sandsli
Phone: National: 55 99 50 00 Internat.: +47 55 99 50 00
Telefax: National: 55 99 66 00 Internat.: +47 55 99 66 00
Telex: 40632 hydro n

6 ANALYSIS OF DRILLING MUD

Well 24/6-2 was drilled using Aquadrill, a water based glycol containing mud. A mud sample was taken at 2096m, just above the reservoir. The mud sample was analysed using the same methods as the well samples, and the results are tabulated and enclosed together with the rest of the data, per method. The effects of the mud on the various sample types and data types are summarised in Figures 6.1. and 6.2 .

Figure 6.1: Mud effects on geochemical samples

Sample Type	Mud Invation in sample
Oil MDT	X
Gas MDT	O
DC	XXX
SWC	XXX
COCH	XX

XXX = high, XX = medium, X = low, O = none

Figure 6.2: Mud effects on geochemical data types

Analytical Method	Effect by Mud
Rock Eval	XXX
Extraction	XXX
Bulk separation	XXX
GC Whole oil	X*
GC saturates	X*
GCMS aromatics	X*
GCMS biomarkers	X*
Isotopes	X
Gas volume data	O
Gas isotopes	O

XXX = high, XX = medium, X = low, O = none

* Quantitative data are erroneous, ratios are OK.

The mud contains mostly polar components (60%), but this sample also shows a high content (37%) of components detected as saturated hydrocarbons using the Iatroscan method. The chromatography data on the saturated fraction however shows that it contains only trace amount of hydrocarbon compounds. Alkanes and steranes are visible in the m/z 85 and m/z 217 and 218 mass chromatograms respectively. trace amounts of aromatic hydrocarbon compounds were also seen in the aromatic hydrocarbon fraction of the mud sample.

The mud content in the evaluated samples has not reduced the certainty of data interpretation in this study.

Table 2.2: List of samples, well 24/6-2

ANALYSIS PROGRAMME, WELL NOR : 24/6-2

Petroleum Geochemistry Group
Research Centre Bergen
17-Dec-1998 12:08

HYDRO

Depth (m)	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
2096.00		MUD			1		1	1			1		1	
2098.50		COCH	1		1		1	1		1	1		1	
2109.30		COCH	1											
2114.70		COCH	1											
2117.25		COCH	1											
2124.50		COCH	1		1		1	1		1	1		1	
2129.60		COCH	1											
2138.20		COCH	1											
2140.40		COCH	1											
2144.50		GAS								1				
2146.50		COCH	1											
2147.25		COCH	1		1		1	1		1	1		1	
2149.25		COCH	1											
2150.25		COCH	1											
2152.75		COCH	1		1		1	1		1	1		1	
2153.25		COCH	1											
2156.40		COCH	1											
2157.75		COCH	1											
2159.25		COCH	1											
2162.10		COCH	1											
2163.60		COCH	1											
2164.00		OIL			1		1	1		1	1	1	1	
2164.00		GAS								1				
2165.75		GAS								1				
2165.75		OIL			1		1	1		1	1	1	1	

Table 2.2: List of samples, well 24/6-2

ANALYSIS PROGRAMME, WELL NOR : 24/6-2

Petroleum Geochemistry Group
Research Centre Bergen
17-Dec-1998 12:08

HYDRO

Depth (m)	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
2167.00		OIL			1		1	1		1	1	1	1	
2169.20		COCH	1											
2170.40		COCH	1											
2173.30		COCH	1		1		1	1			1		1	
2175.25		COCH	1											
2179.50		COCH	1		1		1	1			1		1	
2673.00		SWC	1		1		1	1		1	1		1	

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

Table 3.1: Rock Eval screening data

Petroleum Geochemistry Group
Research Centre Bergen

ROCK EVAL SCREENING DATA

17-Dec-1998 12:08

HYDRO

Well	Depth (m)	Lithology	Type	Tmax (C)	S1(kg/t)	S2 (kg/t)	TOC (%)	HI	PI	Analysing Company
NOR : 24/6-2	2098,50		COCH	424	0,4	0,5	0,2	224	0,47	NORSK HYDRO
NOR : 24/6-2	2109,30		COCH	321	0,3	0,3	0,1	255	0,55	NORSK HYDRO
NOR : 24/6-2	2114,70		COCH	334	0,3	0,3	0,1	311	0,52	NORSK HYDRO
NOR : 24/6-2	2117,25		COCH	355	0,2	0,9	0,2	425	0,17	NORSK HYDRO
NOR : 24/6-2	2124,50		COCH	319	0,5	0,5	0,1	386	0,45	NORSK HYDRO
NOR : 24/6-2	2129,60		COCH	314	0,2	0,4	0,1	550	0,34	NORSK HYDRO
NOR : 24/6-2	2138,20		COCH	320	0,2	0,3	0,1	278	0,48	NORSK HYDRO
NOR : 24/6-2	2140,40		COCH	316	0,4	0,5	0,1	383	0,45	NORSK HYDRO
NOR : 24/6-2	2146,50		COCH	316	0,6	0,5	0,1	442	0,51	NORSK HYDRO
NOR : 24/6-2	2147,25		COCH	415	1,5	1,2	0,3	378	0,55	NORSK HYDRO
NOR : 24/6-2	2149,25		COCH	321	0,9	0,5	0,2	240	0,64	NORSK HYDRO
NOR : 24/6-2	2150,25		COCH	298	6,9	1,9	0,9	204	0,79	NORSK HYDRO
NOR : 24/6-2	2152,75		COCH	289	11,2	3,1	1,3	233	0,78	NORSK HYDRO
NOR : 24/6-2	2153,25		COCH	287	9,8	3,1	1,2	265	0,76	NORSK HYDRO
NOR : 24/6-2	2156,40		COCH	289	8,7	2,7	1,1	261	0,76	NORSK HYDRO
NOR : 24/6-2	2157,75		COCH	288	14,0	3,7	1,6	233	0,79	NORSK HYDRO
NOR : 24/6-2	2159,25		COCH	287	11,3	2,7	1,3	201	0,81	NORSK HYDRO
NOR : 24/6-2	2162,10		COCH	288	12,2	3,3	1,4	234	0,79	NORSK HYDRO
NOR : 24/6-2	2163,60		COCH	291	10,2	3,0	1,2	253	0,77	NORSK HYDRO
NOR : 24/6-2	2169,20		COCH	286	7,1	1,4	0,8	177	0,83	NORSK HYDRO
NOR : 24/6-2	2170,40		COCH	410	3,8	1,1	0,5	224	0,77	NORSK HYDRO
NOR : 24/6-2	2173,30		COCH	340	0,2	0,4	0,1	400	0,33	NORSK HYDRO
NOR : 24/6-2	2175,25		COCH	349	0,1	1,4	0,2	604	0,05	NORSK HYDRO
NOR : 24/6-2	2179,50		COCH	312	0,3	0,7	0,2	444	0,27	NORSK HYDRO
NOR : 24/6-2	2673,00		SWC	331	3,9	1,2	0,7	184	0,76	NORSK HYDRO

IATROSCAN - Calculated Weight% / SARA

Table 3.2: Bulk separation data on deasphaltened extracts and oils

COMPOSITION OF EXTRACTS/OILS WELL

Petroleum Geochemistry Group
Research Centre Bergen

17-Dec-1998

HYDRO

Well	St.Depth (m)	En.Depth (m)	Type	Lithology	Name	Calculated Weight % SAT	ARO	NSO	HC TOTA	ASPH%	Non-HC TOTAL	TOT HC /Non-HC	Analysing Company
NOR 24/6-2	2096,00	2096,00	MUD			37,0	2,2	58,4	39,1	2,5	60,9	0,6	NORSK HYDRO
NOR 24/6-2	2098,50	2098,50	COCH			41,9	9,0	39,1	50,9	10,0	49,1	1,0	NORSK HYDRO
NOR 24/6-2	2124,50	2124,50	COCH			15,3	2,9	72,2	18,3	9,6	81,7	0,2	NORSK HYDRO
NOR 24/6-2	2147,25	2147,25	COCH			63,2	10,4	20,7	73,6	5,8	26,4	2,8	NORSK HYDRO
NOR 24/6-2	2152,75	2152,75	COCH			76,5	13,0	6,9	89,4	3,7	10,6	8,5	NORSK HYDRO
NOR 24/6-2	2164,00	2164,00	OIL		MDT	80,6	15,9	3,6	96,4	0,0	3,6	27,1	NORSK HYDRO
NOR 24/6-2	2156,75	2165,75	OIL		DST1	81,0	14,5	4,2	95,5	0,2	4,5	21,4	NORSK HYDRO
NOR 24/6-2	2167,00	2167,00	OIL		MDT609	81,1	14,6	4,2	95,7	0,1	4,3	22,0	NORSK HYDRO
NOR 24/6-2	2173,30	2173,30	COCH			5,7	0,0	83,5	5,7	10,8	94,3	0,1	NORSK HYDRO
NOR 24/6-2	2179,50	2179,50	COCH			5,5	0,7	79,8	6,2	14,0	93,8	0,1	NORSK HYDRO
NOR 24/6-2	2673,00	2673,00	SWC			59,2	6,8	28,1	66,0	5,9	34,0	1,9	NORSK HYDRO

Table 4.1: Ratios from whole oil analysis

Petroleum Geochemistry Group
Research Centre Bergen

17-Dec-1998 12:10

HYDRO

C5-20 hc ord. samples - Amount

S-Depth (m)	E-Depth (m)	Well	Type	Lithology	Name	Orgid	Project	Seq.#	File name	File path	Instrument	Setup	Method
2164,00	2164,00	24/6-2	OIL		MDT	656442	98030	2	24_6_2.D	DIV_OIL2	AC/HP6890	C5_20	C520D_B.M
2156,75	2165,75	24/6-2	OIL		DST1	653604	98030	6	2462_DST.D	SLEIPN3	AC/HP6890	C5_20	C520D_B.M
2167,00	2167,00	24/6-2	OIL		MDT609	649997	98030	7	2463_MDT.D	SLEIPN3	AC/HP6890	C5_20	C520D_B.M

HYDRO

Ratios - amounts:

E-Depth (m)	Operator	Company	Aquired date	Misc.info.	Country	Status	Data Type	Heptane V	Isoheptane V	Paraffinicit	Aroma Nh	Pr Nc7
2164,00	Reidun	NORSK HYDRO	1998-11-18		NOR	OK	AM	1,9	0,8	0,0	10,1	3,9
2165,75	Reidun	NORSK HYDRO	1998-10-20		NOR	OK	AM	2,0	0,8	0,0	10,2	9,3
2167,00	Reidun	NORSK HYDRO	1998-10-20		NOR	OK	AM	2,0	0,8	0,0	10,6	7,9

HYDRO

Ratios - amounts:

E-Depth (m)	Phy Nc18	Nc6 Benzene	Nc7 Toluene	M P1%wt	M P23%wt	M P33%wt	M N16%wt	M N15%wt	M N25%wt	M 6rp%norm	M 5rp%norm
2164,00	10,5	1,1	0,1	0,1	0,5	0,4	2,8	0,3	0,4	64	17
2165,75	7,1	1,1	0,1	0,1	0,4	0,3	2,6	0,3	0,4	65	17
2167,00	6,1	1,0	0,1	0,1	0,4	0,3	2,6	0,3	0,4	65	17

HYDRO

Ratios - amounts:

E-Depth (m)	M 3rp%norm	M P2n2%wt	M N2 P3	M P3n2 P2	Sum C7 Nc7	Aromaticity	Pr Phy	Sum Nc6 19	M P1%nc619	M P23%nc619	M P33%nc619
2164,00	19	0,9	1,1	1,8	42,6	12,33	1,27	11,7	7,0	39,6	32,9
2165,75	18	0,8	1,2	1,7	40,6	12,26	1,37	10,9	7,0	37,7	29,5
2167,00	19	0,8	1,2	1,7	40,5	12,63	1,25	10,9	7,0	37,7	29,9

Ratios - amounts:

E-Depth (m)	M N16%nc619	M N15%nc619	M N25%nc619	M P2n2%nc619
2164,00	240,5	27,5	36,8	76,4
2165,75	236,3	26,3	34,9	72,6
2167,00	235,2	25,4	35,5	73,3

Table 4.2: Stable carbon isotope data

ISOTOPE ANALYSIS RESULTS (SEDIMENT SAMPLES) :

Petroleum Geochemistry Group
Research Centre Bergen
17-Dec-1998 12:11

HYDRO

Well	St.Depth (m)	En.Depth (m)	Name	Lithology	Type	d13C EXTR	d13C SAT	d13C ARO	d13C POL	d13C ASP	d13C KERO	Analysing Compa
NOR 24/6-2	2098,50	2098,50			COCH		-30,50	-29,30				IFE
NOR 24/6-2	2124,50	2124,50			COCH		-29,70	-29,30				IFE
NOR 24/6-2	2147,25	2147,25			COCH		-30,30	-29,30				IFE
NOR 24/6-2	2152,75	2152,75			COCH		-30,20	-29,70				IFE
NOR 24/6-2	2673,00	2673,00			SWC		-30,40	-29,30				IFE
NOR 24/6-2	2164,00	2164,00	MDT		OIL		-30,00	-29,30				IFE
NOR 24/6-2	2156,75	2165,75	DST1		OIL		-29,90	-29,20				IFE
NOR 24/6-2	2167,00	2167,00	MDT609		OIL		-30,10	-29,10				IFE

Table 5.1: Volume composition, gas samples

GAS VOLUME COMPOSITION DATA NOR : 24/6-2

Petroleum Geochemistry Group
Research Centre Bergen

17-Dec-1998 12:12

HYDRO

Well	Name	Type	TOP (m)	BOTTOM (m)	C1(%)	C2(%)	C3(%)	iC4(%)	nC4(%)	iC5(%)	nC5(%)	CO2(%)	C1-C5(%)	Total(%)	Wetness(%)	iC4/nC4(%)
24/6-2	MDT	GAS	2144,50	2144,50	91,60	5,40	1,40	0,70	0,30	0,12	0,09	0,40	99,61	100,01	7,85	2,33
24/6-2	DST1	GAS	2156,75	2165,75	85,10	8,40	3,70	1,46	0,50	0,23	0,12	0,40	99,51	99,91	14,18	2,92
24/6-2	MDT	GAS	2164,00	2164,00	79,10	9,80	5,70	3,00	1,20	0,13	0,06	1,00	98,99	99,99	19,94	2,50

Table 5.2: Isotope results, gas samples

ISOTOPE ANALYSIS NOR : 24/6-2

Petroleum Geochemistry Group
Research Centre Bergen

17-Dec-1998 12:12

HYDRO

Well	Name	Type	TOP (m)	BOTTOM (m)	Meth	dDC1	Etha	Prop	Buta	IBut	13CO2	18CO2
24/6-2	MDT	GAS	2144,50	2144,50	-44,5	-195,0	-25,5	-19,4	-21,2	-29,0	3,5	-13,3
24/6-2	DST1	GAS	2156,75	2165,75	-44,4	-227,0	-25,6	-19,6	-21,1	-28,4	4,9	-6,5
24/6-2	MDT	GAS	2164,00	2164,00	-44,7	-198,0	-25,6	-19,4	-20,6	-29,5	6,0	-9,4

Appendix I

Whole oil chromatograms and tabulated results of the light hydrocarbons

C5-20 hydrocarbons GC/FID

Norsk Hydro E&P Research Centre, Bergen

Petroleum Geochemistry Laboratories

File path: C:\HPCHEM\1\DATA\DIV_OIL2\
File name: 24_6_2.D
Misc info:
Sample name: 24/6-2, mdt, 2164.00m
Date acquired: 16 Nov 1998 17:16
Method/Operator: C520D_B Reidun
Response factor = 1.0 (y=ax)

Name	Area	Amount ug/mg	Rt
iC8(ISTD)/224tm-C5	44860697	9.50	20.33
iC5	7977993	1.69	6.51
nC5	4729396	1.00	7.04
22dm-C4	1761704	0.37	8.03
cyC5	4936190	1.05	9.08
23dm-C4	4229469	0.90	9.14
2m-C5	13664572	2.89	9.31
3m-C5	6775918	1.44	9.99
nC6	7866170	1.67	11.03
3m-cyC5-ene	2468	0.00	11.99
22dm-C5	1852510	0.39	13.28
m-cyC5	25153501	5.33	13.50
24dm-C5	4477721	0.95	13.85
223tm-C4	357058	0.08	14.32
33dm-C5	1439844	0.31	16.25
cyC6	46802208	9.92	16.64
2m-C6	6997724	1.48	17.64
23dm-C5	7939547	1.68	17 82
11dm-cyC5	6480307	1.37	18.14
3m-C6	14923593	3.16	18.65
1c.3dm-cyC5	7315812	1.55	19.42
1t.3dm-cyC5	6601537	1.40	19.77
3e-C5	2482509	0.53	19.92
1t.2dm-cyC5	12161770	2.58	20.12
nC7	3859133	0.82	21 88
1c.2dm-cyC5	1080728	0.23	24.70
m-cyC6	85423914	18.10	24 86
113tm-cyC5	7938560	1.68	25.36
e-cyC5	1977989	0.42	26.83
25dm-C6	2765305	0.59	27.10
223tm-C5/24dm-C6	5413485	1.15	27.44
1c.2t.4tm-cyC5	5273135	1 12	28.46
33dm-C6	1831942	0.39	28.73
1t.2c.3tm-cyC5	4826862	1.02	29.86
234tm-C5	1133113	0.24	30.42
23dm-C6	6609438	1.40	32.65
2m-C7	2080193	0.44	33 91
4m-C7	7709098	1.63	34 20
3m-C7	4058047	0.86	35.46
1c.3dm-cyC6	21403224	4.53	35.58
1t.4dm-cyC6	7818696	1.66	35.95
11dm-cyC6	2885591	0.61	38.48
1t.2dm-cyC6	8545767	1 81	39.41
nC8	5609585	1.19	40.87
e-cyC6	25901400	5.49	46.71

Name	Area	Amount ug/mg	Rt.
phC6(ISTD)	48495558	9.50	107.42
Benzene	7837032	1.54	15.68
Toluene/233tm-C5	51612430	10.11	31.14
iC9	10729877	2.10	47.89
e-benzene	7797028	1.53	50.82
m-xylene	44191099	8.66	53.06
p-xylene	17221372	3.37	53.32
4m-C8	2337553	0.46	55.88
2m-C8	874633	0.17	56.19
3m-C8	1840730	0.36	58.06
o-xylene	22951050	4.50	59.11
nC9	6426036	1.26	65.73
iC10	6644037	1.30	72.51
nC10	1145948	0.22	82.67
iC11	6791860	1.33	85.65
nC11	4805435	0.94	94 41
nC12	4861891	0.95	103 33
iC13	8444281	1.65	104.69
iC14	9577360	1.88	109.72
nC13	2079039	0.41	111.55
iC15	14822227	2.90	117.22
nC14	2562230	0.50	118.81
iC16	17756117	3.48	123.08
nC15	2621267	0 51	125.54
nC16	3421959	0.67	131.64
iC18	14324380	2.81	134.80
nC17	5846794	1.15	137.81
pristane	22589520	4.43	138.19
nC18	1701557	0.33	143.48
phytane	17780110	3.48	143.99
nC19	5662739	1.11	148 40
nC20	588813	0.12	153.63

C5-20 hydrocarbons GC/FID

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

HYDRO

File path: C:\HPCHEM\1\DATA\SLEIPN3\
File name: 2462_DST.D
Misc info:
Sample name: 24/6-2, DST1, 2165.75
Date acquired: 10 Oct 1998 11:20
Method/Operator: C520D_B Reidun
Response factor = 1.0 (y=ax)

Name	Area	Amount ug/mg	Rt
iC8(ISTD)/224tm-C5	61770302	11.73	20.30
iC5	6573497	1.25	6.51
nC5	4012046	0.76	7.03
22dm-C4	1517275	0.29	8.02
cyC5	4442118	0.84	9.07
23dm-C4	3617313	0.69	9.13
2m-C5	12091533	2.30	9.30
3m-C5	6204486	1.18	9.98
nC6	7468456	1.42	11.01
3m-cyC5-ene	1608	0.00	11.94
22dm-C5	1776205	0.34	13.25
m-cyC5	23730026	4.51	13.48
24dm-C5	4237298	0.80	13.82
223tm-C4	346624	0.07	14.30
33dm-C5	1389335	0.26	16.22
cyC6	45652578	8.67	16.61
2m-C6	7005768	1.33	17.60
23dm-C5	7725450	1.47	17.79
11dm-cyC5	6350792	1.21	18.10
3m-C6	14768528	2.80	18.62
1c.3dm-cyC5	7178230	1.36	19.39
1t.3dm-cyC5	6588666	1.25	19.73
3e-C5	1918867	0.36	19.89
1t.2dm-cyC5	11923154	2.26	20.08
nC7	4031633	0.77	21.84
1c.2dm-cyC5	1222227	0.23	24.66
m-cyC6	86586453	16.44	24.81
113tm-cyC5	8317902	1.58	25.32
e-cyC5	2048656	0.39	26.78
25dm-C6	2867641	0.54	27.06
223tm-C5/24dm-C6	5506692	1.05	27.41
1c.2t.4tm-cyC5	5404379	1.03	28.41
33dm-C6	1894936	0.36	28.69
1t.2c.3tm-cyC5	4963944	0.94	29.81
234tm-C5	1160155	0.22	30.37
23dm-C6	6835681	1.30	32.59
2m-C7	2270125	0.43	33.87
4m-C7	5765101	1.09	34.15
3m-C7	3460152	0.66	35.39
1c.3dm-cyC6	22956120	4.36	35.51
1t.4dm-cyC6	8213215	1.56	35.90
11dm-cyC6	3013303	0.57	38.42
1t.2dm-cyC6	8962111	1.70	39.36
nC8	6006277	1.14	40.81
e-cyC6	28393540	5.39	46.64

Name	Area	Amount ug/mg	Rt
phC6(ISTD)	66390191	11.73	107.39
Benzene	7512423	1.33	15.65
Toluene/233tm-C5	53442480	9.44	31.08
iC9	11390785	2.01	47.83
e-benzene	8324816	1.47	50.75
m-xylene	47047347	8.31	52.98
p-xylene	18654947	3.30	53.25
4m-C8	2583252	0.46	55.81
2m-C8	969567	0.17	56.13
3m-C8	2027068	0.36	57.99
o-xylene	23862502	4.22	59.01
nC9	6679493	1.18	65.66
iC10	7306171	1.29	72.47
nC10	1294697	0.23	82.62
iC11	7070795	1.25	85.61
nC11	1033327	0.18	93.97
nC12	5772609	1.02	103.30
iC13	9331540	1.65	104.66
iC14	10881758	1.92	109.67
nC13	2178982	0.38	111.34
iC15	16713580	2.95	117.19
nC14	4623949	0.82	118.60
iC16	24051091	4.25	123.05
nC15	4049457	0.72	125.30
nC16	3645850	0.64	131.60
iC18	15173442	2.68	134.77
nC17	2694430	0.48	137.52
pristane	25242847	4.46	138.15
nC18	2587567	0.46	143.15
phytane	18435646	3.26	143.95
nC19	8531532	1.51	148.35
nC20	3582257	0.63	153.57

C5-20 hydrocarbons GC/FID

Norsk Hydro E&P Research Centre, Bergen

Petroleum Geochemistry Laboratories

HYDRO

File path: C:\HPCHEM\1\DATA\SLEIPN3\
File name: 2463_MDT.D
Misc info:
Sample name: 24/6-2, MDT609, 2167.00
Date acquired: 10 Oct 1998 14:42
Method/Operator: C520D_B Reidun
Response factor = 1 0 (y=ax)

Name	Area	Amount ug/mg	Rt
iC8(ISTD)/224tm-C5	60746786	11 59	20 30
iC5	6032827	1 15	6 51
nC5	3688648	0.70	7.03
22dm-C4	1442389	0.28	8.02
cyC5	4339341	0.83	9.07
23dm-C4	3688780	0.70	9.13
2m-C5	12030016	2.30	9.30
3m-C5	5658972	1.08	9.98
nC6	7166042	1.37	11.01
3m-cyC5-ene	2687	0.00	11.93
22dm-C5	1719046	0.33	13.25
m-cyC5	23753118	4.53	13.48
24dm-C5	4263948	0.81	13.82
223tm-C4	290451	0.06	14.30
33dm-C5	1398564	0.27	16.23
cyC6	45805996	8.74	16.61
2m-C6	6807612	1.30	17.61
23dm-C5	7764453	1.48	17.79
11dm-cyC5	6423193	1.23	18.11
3m-C6	14723942	2.81	18.62
1c.3dm-cyC5	7213180	1.38	19.39
1t.3dm-cyC5	6582320	1.26	19.74
3e-C5	1954296	0.37	19.89
1t.2dm-cyC5	11756296	2.24	20.08
nC7	3970163	0.76	21.85
1c.2dm-cyC5	812073	0.15	24.66
m-cyC6	83914138	16.01	24.81
113tm-cyC5	8229760	1.57	25.32
e-cyC5	2001890	0.38	26.80
25dm-C6	2824269	0.54	27.07
223tm-C5/24dm-C6	5455768	1.04	27.41
1c.2t.4tm-cyC5	5319506	1.01	28.41
33dm-C6	1878679	0.36	28.69
1t.2c.3tm-cyC5	4882294	0.93	29.82
234tm-C5	1129000	0.22	30.38
23dm-C6	6655459	1.27	32.60
2m-C7	2091884	0.40	33.87
4m-C7	6482486	1.24	34.16
3m-C7	366738	0.07	35.29
1c.3dm-cyC6	366738	0.07	35.29
1t.4dm-cyC6	8091244	1.54	35.90
11dm-cyC6	2950847	0.56	38.43
1t.2dm-cyC6	8760257	1.67	39.36
nC8	5789739	1.10	40.82
e-cyC6	27786034	5.30	46.65

Name	Area	Amount ug/mg	Rt
phC6(ISTD)	63704078	11 59	107 39
Benzene	7632499	1 39	15 65
Toluene/233tm-C5	52748404	9.60	31.09
iC9	11143190	2.03	47.83
e-benzene	8114804	1.48	50.75
m-xylene	45922658	8.35	52.98
p-xylene	18266971	3.32	53.24
4m-C8	2417424	0.44	55.81
2m-C8	916077	0.17	56.13
3m-C8	1913410	0.35	58.00
o-xylene	24020057	4.37	59.02
nC9	6440099	1.17	65.65
iC10	6979456	1.27	72.47
nC10	1252590	0.23	82.62
iC11	7048398	1.28	85.62
nC11	977600	0.18	93.97
nC12	4375814	0.80	103.30
iC13	8483713	1.54	104.66
iC14	10451192	1.90	109.67
nC13	3556024	0.65	111.34
iC15	15781081	2.87	117.19
nC14	3722159	0.68	118.59
iC16	23116862	4.21	123.05
nC15	3564539	0.65	125.30
nC16	3915470	0.71	131.60
iC18	14660343	2.67	134.76
nC17	3138489	0.57	137.53
pristane	24679198	4.49	138.17
nC18	3224379	0.59	143.15
phytane	19675480	3.58	143.96
nC19	7864863	1.43	148.37
nC20	3026820	0.55	153.59

C5-20 hydrocarbons GC/FID

Norsk Hydro E&P Research Centre, Bergen

Petroleum Geochemistry Laboratories

HYDRO

File path: C:\HPCHEM\1\DATA\DIV_OIL2\
File name: NSO1_01.D
Misc info:
Sample name: NSO1 std.ref.oil # 1
Date acquired: 16 Nov 1998 13:54
Method/Operator: C520D_B Reidun
Response factor = 1.0 (y=ax)

Name	Area	Amount ug/mg	Rt
iC8(ISTD)/224tm-C5	45139223	9.85	20.33
iC5	16942456	3.70	6.51
nC5	28983425	6.33	7.04
22dm-C4	908049	0.20	8.03
cyC5	4502355	0.98	9.08
23dm-C4	2561846	0.56	9.14
2m-C5	18779194	4.10	9.31
3m-C5	12420657	2.71	9.99
nC6	40889996	8.93	11.03
3m-cyC5-ene	2261	0.00	11.93
22dm-C5	912956	0.20	13.27
m-cyC5	20351401	4.44	13.50
24dm-C5	2308364	0.50	13.85
223tm-C4	197904	0.04	14.32
33dm-C5	738626	0.16	16.25
cyC6	36280147	7.92	16.64
2m-C6	13160314	2.87	17.63
23dm-C5	5049385	1.10	17.82
11dm-cyC5	3743360	0.82	18.13
3m-C6	15625636	3.41	18.65
1c.3dm-cyC5	5140229	1.12	19.42
1t.3dm-cyC5	4807457	1.05	19.77
3e-C5	1325985	0.29	19.92
1t.2dm-cyC5	8784126	1.92	20.12
nC7	44654231	9.75	21.89
1c.2dm-cyC5	716677	0.16	24.69
m-cyC6	64091907	13.99	24.85
113tm-cyC5	4365896	1.02	25.36
e-cyC5	3760023	0.82	26.84
25dm-C6	2224476	0.49	27.10
223tm-C5/24dm-C6	2991644	0.65	27.45
1c.2t.4tm-cyC5	3281727	0.72	28.46
33dm-C6	849003	0.19	28.73
1t.2c.3tm-cyC5	3423225	0.75	29.87
234tm-C5	761686	0.17	30.42
23dm-C6	3702741	0.81	32.65
2m-C7	15801063	3.45	33.92
4m-C7	7319265	1.60	34.20
3m-C7	9774232	2.13	35.42
1c.3dm-cyC6	16517334	3.61	35.58
1t.4dm-cyC6	6203741	1.35	35.95
11dm-cyC6	3971849	0.87	38.47
1t.2dm-cyC6	7614559	1.66	39.42
nC8	52082660	11.37	40.91
e-cyC6	21106863	4.61	46.70

Name	Area	Amount ug/mg	Rt
phC6(ISTD)	51460124	9.85	107.42
Benzene	16078496	3.08	15.68
Toluene/233tm-C5	40171637	7.69	31.14
iC9	7407725	1.42	47.89
e-benzene	7182231	1.38	50.82
m-xylene	22850012	4.38	53.05
p-xylene	7840061	1.50	53.32
4m-C8	6196199	1.19	55.88
2m-C8	9245575	1.77	56.21
3m-C8	9208299	1.76	58.07
o-xylene	14415131	2.76	59.11
nC9	52154621	9.99	65.56
iC10	9478180	1.81	72.52
nC10	46986119	9.00	82.58
iC11	9961502	1.91	85.65
nC11	42546193	8.15	94.12
nC12	42427802	8.12	103.37
iC13	9517846	1.82	104.69
iC14	9535435	1.83	109.72
nC13	37393321	7.16	111.40
iC15	10434827	2.00	117.22
nC14	34903320	6.68	118.67
iC16	13699840	2.62	123.08
nC15	32152564	6.16	125.38
nC16	28747002	5.50	131.66
iC18	9258081	1.77	134.81
nC17	26801100	5.13	137.59
pristane	14867088	2.85	138.20
nC18	22329685	4.28	143.20
phytane	9852264	1.89	143.99
nC19	14985278	2.87	148.53
nC20	4300067	0.82	153.60

C5-20 hydrocarbons GC/FID

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

HYDRO

File path: C:\HPCHEM\1\DATA\SLEIPN3\
File name: NSO1_2.D
Misc info:
Sample name: NSO1 std.ref.oil #2
Date acquired: 9 Oct 1998 18:33
Method/Operator: C520D_B Reidun
Response factor = 1.0 (y=ax)

Name	Area	Amount ug/mg	Rt
iC8(ISTD)/224tm-C5	64042872	11.96	20.30
iC5	17223284	3.22	6.51
nC5	28461065	5.32	7.03
22dm-C4	901894	0.17	8.02
cyC5	4574719	0.85	9.07
23dm-C4	2681305	0.50	9.13
2m-C5	18316890	3.42	9.30
3m-C5	11560002	2.16	9.98
nC6	38867723	7.26	11.01
3m-cyC5-ene	2110	0.00	11.95
22dm-C5	927919	0.17	13.25
m-cyC5	20297472	3.79	13.48
24dm-C5	1799217	0.34	13.82
223tm-C4	219073	0.04	14.30
33dm-C5	679998	0.13	16.23
cyC6	38377555	7.17	16.61
2m-C6	13778681	2.57	17.61
23dm-C5	5297146	0.99	17.79
11dm-cyC5	3952649	0.74	18.11
3m-C6	15721776	2.94	18.62
1c.3dm-cyC5	5428375	1.01	19.39
1t.3dm-cyC5	5065750	0.95	19.74
3e-C5	1529490	0.29	19.89
1t.2dm-cyC5	9286695	1.73	20.08
nC7	48608482	9.08	21.86
1c.2dm-cyC5	1716150	0.32	24.67
m-cyC6	66300136	12.39	24.81
113tm-cyC5	3955239	0.74	25.32
e-cyC5	4071119	0.76	26.79
25dm-C6	2325393	0.43	27.05
223tm-C5/24dm-C6	3069098	0.57	27.40
1c.2t.4tm-cyC5	3461203	0.65	28.41
33dm-C6	905752	0.17	28.68
1t.2c.3tm-cyC5	3596479	0.67	29.81
234tm-C5	752879	0.14	30.38
23dm-C6	3849531	0.72	32.60
2m-C7	16700756	3.12	33.87
4m-C7	6849879	1.28	34.15
3m-C7	10295253	1.92	35.38
1c.3dm-cyC6	17565561	3.28	35.52
1t.4dm-cyC6	5962026	1.11	35.89
11dm-cyC6	4299514	0.80	38.42
1t.2dm-cyC6	8031468	1.50	39.35
nC8	55690283	10.40	40.85
e-cyC6	22590049	4.22	46.63

Name	Area	Amount ug/mg	Rt
phC6(ISTD)	71000891	11.96	107.39
Benzene	16713339	2.82	15.65
Toluene/233tm-C5	41723123	7.03	31.08
iC9	7813797	1.32	47.82
e-benzene	7759792	1.31	50.73
m-xylene	24565375	4.14	52.95
p-xylene	8295711	1.40	53.22
4m-C8	6535098	1.10	55.80
2m-C8	8425425	1.42	56.11
3m-C8	9264124	1.56	58.00
o-xylene	15023889	2.53	58.99
nC9	54031082	9.10	65.49
iC10	10128348	1.71	72.46
nC10	48092918	8.10	82.53
iC11	9264105	1.56	85.60
nC11	43629215	7.35	94.07
nC12	44239108	7.45	103.33
iC13	10091133	1.70	104.65
iC14	10046636	1.69	109.66
nC13	39758000	6.70	111.36
iC15	10831954	1.83	117.18
nC14	36538076	6.16	118.62
iC16	16520315	2.78	123.03
nC15	35777987	6.03	125.34
nC16	29939644	5.04	131.62
iC18	9146190	1.54	134.76
nC17	28073598	4.73	137.55
pristane	15937704	2.69	138.16
nC18	23319245	3.93	143.16
phytane	10658531	1.80	143.94
nC19	21508200	3.62	148.48
nC20	19849833	3.34	153.56

C5-20 hydrocarbons GC/FID

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

HYDRO

File path: C:\HPCHEM\1\DATA\SLEIPN3\
File name: NSO1_12.D
Misc info:
Sample name: NSO1 std.ref.oil #12
Date acquired: 11 Oct 1998 4:10
Method/Operator: C520D_B Reidun
Response factor = 1.0 (y=ax)

Name	Area	Amount ug/mg	Rt
iC8(ISTD)/224tm-C5	61666578	11.96	20.30
iC5	17275716	3.35	6.51
nC5	28497210	5.53	7.03
22dm-C4	910691	0.18	8.02
cyC5	4406703	0.85	9.08
23dm-C4	2652260	0.51	9.13
2m-C5	19132243	3.71	9.30
3m-C5	11839624	2.30	9.98
nC6	41564906	8.06	11.02
3m-cyC5-ene	2704	0.00	11.99
22dm-C5	895109	0.17	13.26
m-cyC5	20592614	4.00	13.48
24dm-C5	2500244	0.49	13.83
223tm-C4	194106	0.04	14.30
33dm-C5	729009	0.14	16.23
cyC6	36957829	7.17	16.61
2m-C6	13191951	2.56	17.61
23dm-C5	5263344	1.02	17.79
11dm-cyC5	3841722	0.75	18.11
3m-C6	15864950	3.08	18.62
1c.3dm-cyC5	5157616	1.00	19.39
1t.3dm-cyC5	4843548	0.94	19.74
3e-C5	1348854	0.26	19.89
1t.2dm-cyC5	8736670	1.70	20.08
nC7	47614054	9.24	21.86
1c.2dm-cyC5	1912535	0.37	24.68
m-cyC6	63541515	12.33	24.81
113tm-cyC5	4835833	0.94	25.31
e-cyC5	3803437	0.74	26.79
25dm-C6	2274364	0.44	27.06
223tm-C5/24dm-C6	3056418	0.59	27 40
1c.2t.4tm-cyC5	3290329	0.64	28.41
33dm-C6	874737	0.17	28.69
1t.2c.3tm-cyC5	3459927	0.67	29.82
234tm-C5	756612	0.15	30.38
23dm-C6	3556307	0.69	32.60
2m-C7	15914737	3.09	33.88
4m-C7	8418946	1.63	34.16
3m-C7	9795902	1.90	35.39
1c.3dm-cyC6	16809574	3.26	35.52
1t.4dm-cyC6	6301291	1.22	35.90
11dm-cyC6	4000387	0.78	38.42
1t.2dm-cyC6	7729599	1.50	39.36
nC8	53087201	10.30	40.86
e-cyC6	21464755	4.16	46.64

Name	Area	Amount ug/mg	Rt
phC6(ISTD)	66662520	11.96	107.39
Benzene	16283501	2.92	15.65
Toluene/233tm-C5	40644681	7.29	31.08
iC9	7567372	1.36	47.83
e-benzene	7364947	1.32	50.75
m-xylene	23356120	4.19	52.96
p-xylene	7950963	1.43	53.23
4m-C8	6294726	1.13	55.82
2m-C8	9452939	1.70	56.14
3m-C8	9341680	1.68	58.00
o-xylene	14446213	2.59	59.02
nC9	53151151	9.54	65.50
iC10	9676664	1.74	72.47
nC10	47868960	8.59	82.54
iC11	9564094	1.72	85.61
nC11	44052974	7.91	94.08
nC12	44139771	7.92	103.33
iC13	9589204	1.72	104.65
iC14	9589546	1.72	109.67
nC13	36802640	6 61	111.37
iC15	10269806	1 84	117.18
nC14	33150807	5.95	118.63
iC16	15659243	2 81	123.04
nC15	31847431	5 72	125.34
nC16	28918918	5.19	131.62
iC18	8869916	1 59	134.77
nC17	26872798	4 82	137.55
pristane	14653013	2.63	138.15
nC18	23152808	4.16	143.15
phytane	10447882	1 88	143.94
nC19	20161548	3 62	148.49
nC20	19555387	3.51	153.57