



Title: WELL 30/9-20S
FINAL WELL REPORT

No. :
Rev. : 0
Page : 34 OF 79
Date : 2002-09-09

7.3.2 MDT Fluid Sampling

As the formations tested are consolidated and of relatively low permeability, the large diameter probe was used for all of the fluid sample operations. A total of 13 bottles were filled with reservoir fluid.

During the first sample operation at 2766.5 m MD RKB, the lower seal valve failed on the lowest MRMS-module (MRMS #3). Consequently the remaining 5 bottles in multi-bottle module #3 became unavailable for sampling purposes, so that no spare bottles were available on the tool. However, all the remaining bottles were successfully filled and the sampling program was completed.

Also the upper seal valve on the same MRMS-module (MRMS #3) failed during filling of the first bottle at 2807 m MD RKB. This did not prevent completion of the sampling operations, since the lower seal valve on MRMS #2 could be closed in order to fill the remaining bottles. A 14th bottle (MPSR 036) was used during the ‘trouble shooting’ of this valve failure. A summary of the sampling operations is given in Table 7.3.2.

Depth	Comments
2766.5m	3 x 250cc and 2 x 450cc bottles Max. drawdown 72 bar Total time 7:18 hrs, 147.4 litre 5 out of 5 captured
2807m	3 x 250cc, 1 x 450cc bottles Max. drawdown 6 bar Total time 3:15 hrs, 264.4 litre 4 out of 4 captured
2868m	5 x 450cc bottles Max. drawdown 101 bar Total time 2:12 hrs, 79.5 litre 4 out of 5 captured

7.3.2: Summary of the MDT formation sampling jobs

The offshore fluid transfer was performed by Oilphase. The opening pressures were measured on all samples. The single phase multi-sample chambers (250cc SPMC) were heated to reservoir temperature at above reservoir pressure for a minimum of 1 hour before sample transfer to single phase sample bottles (SSB). All SSB were pressurised to ensure monophasic transportation and analysis of the samples. Three multi-phase sample retainers (450cc MPSR) that contained hydrocarbons were repressurised above reservoir pressure, agitated and heated to 80 °C for a minimum of six hours prior to transfer into Oilphase conventional sample bottles (CSB).



Title: WELL 30/9-20S
FINAL WELL REPORT

No. :
Rev. : 0
Page : 35 OF 79
Date : 2002-09-09

The four MPSR which contained formation water had very low opening pressures and were only pressurised above reservoir pressure and agitated before transfer into CSB's.

The transfer procedures are detailed further in Field Operation Report, Well 30/9-20S (Oilphase). The sample bottle conditions are summarised in Table 7.3.3.

MDT Bottle	Opening Pressure	Transfer Conditions	Transfer Bottle
Oil zone @ 2766.5m			
MPSR* 803	180bar @ 12 °C	620.5bar @ 80 °C	CSB*** 7077-MA
MPSR 773	180bar @ 12 °C	620.5bar @ 80 °C	CSB 7127-MA
SPMC** 135	510.2bar @ 12 °C	620.5bar @ 107 °C	SSB**** 9278-MA
SPMC 120	510.2bar @ 12 °C	620.5bar @ 107 °C	SSB 3904-MA
SPMC 150	510.2bar @ 12 °C	620.5bar @ 107 °C	SSB 9686-MA
Oil zone @ 2807m			
MPSR 771	180bar @ 12 °C	620.5bar @ 80 °C	CSB 7092-MA
SPMC 154	503.3bar @ 12 °C	620.5bar @ 108 °C	SSB 9280-MA
SPMC 136	499.9bar @ 12 °C	620.5bar @ 108 °C	SSB 9671-MA
SPMC 152	499.9bar @ 12 °C	620.5bar @ 107 °C	SSB 9684-MA
Water zone @ 2868m			
MPSR 800	atm. @ 12 °C	620.5bar @ 12 °C	CSB 7099-MA
MPSR 1006	atm. @ 12 °C	620.5bar @ 12 °C	CSB 7128-MA
MPSR 086	atm. @ 12 °C	620.5bar @ 12 °C	CSB 7078-MA
MPSR 643	atm. @ 12 °C	620.5bar @ 12 °C	CSB 7103-MA

Table 7.3.3: Overview of sample bottle transfer conditions

^{d)} Sample not monophasic at surface

- *MPSR - MultiPhase Sample Retainer, Schlumberger 450cc MDT-bottle
- **SPMC - SinglePhase Multi sample Chamber, Oilphase 250cc MDT-bottle
- ***CSB - Conventional Sample Bottle, Oilphase (700cc)
- ****SSB - Singlephase Sample Bottle, Oilphase (820cc)

A small amount of sample from SPMC's 120 and 152 was removed for estimation of base oil contamination levels by using the C₃₆⁺ method. The contamination level was found to be 4.9 wt-% and 3.2 wt-%, respectively. No other fluid analysis were performed offshore.

All the samples were shipped to the Oilphase base before they were sent to the Norsk Hydro fluid storage facility at ResLab in Stavanger.

DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 30/9-20 S PO: 1

Hole section : 36"			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					
2002-01-09	198	198	SPUD MUD	107.0	1.03		0	0	0	0	0	0	0	0					

Hole section : 9 7/8"			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					
2002-01-10 22:00	484	484	SPUD MUD	115.0	1.03		0	0	0	0	0	0	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					
2002-01-11 18:00	484	484	SPUD MUD	110.0	1.03		0	0	0	0	0	0	0	0					
2002-01-12 06:00	400	400	SPUD MUD	80.0	1.50		0	0	0	0	0	0	0	0					
2002-01-13 20:00	400	400	SPUD MUD	80.0	1.50		0	0	0	0	0	0	0	0					
2002-01-14	600	600	KCL/POLYMER	68.0	1.30		71	51	42	32	0	0	11	9	50.0	20.0	15.5	5.0	12.0

Hole section : 20"			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					
2002-01-15 23:00	623	623	KCL/POLYMER	71.0	1.30	31.0	70	50	40	32	0	0	12	10	50.0	20.0	15.0	5.0	11.0
2002-01-16 20:00	623	623	KCL/POLYMER	70.0	1.31		76	54	44	37	0	0	13	11	50.0	22.0	16.0	6.0	14.0

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					
2002-01-17 22:30	870	869	KCL/POLYMER	64.0	1.22		56	39	33	25	0	0	11	10	50.0	17.0	11.0	5.0	6.0
2002-01-18 23:00	1297	1292	KCL/POLYMER	62.0	1.21		56	41	35	27	0	0	10	9	50.0	15.0	13.0	5.0	7.5
2002-01-19 12:00	1297	1292	KCL/POLYMER	62.0	1.21		56	41	35	27	0	0	10	9	50.0	15.0	13.0	5.0	8.0

DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 30/9-20 S PO: 1

Hole section : 17 1/2"			OIL 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
2002-01-20	1304	1299	VERSAVERT		1.20		68	42	32	21	0	0	9	8	50.0	26.0	8.0	6.0	8.0

Hole section : 12 1/4"			OIL 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
2002-01-21 23:00	1585	1571	VERSAVERT	66.0	1.45		98	62	48	34	0	0	13	12	50.0	36.0	13.0	7.0	9.0
2002-01-22 22:00	1596	1582	VERSAVERT		1.45		95	60	48	33	0	0	13	12	50.0	35.0	12.5	7.0	9.0
2002-01-23 22:00	2128	2101	VERSAVERT	84.0	1.45	49.0	99	62	48	33	0	0	12	11	50.0	37.0	12.5	7.0	9.5
2002-01-24 21:30	2369	2342	VERSAVERT	89.0	1.45	50.0	96	59	45	31	0	0	11	10	50.0	37.0	11.0	6.5	9.0
2002-01-25 21:30	2369	2342	VERSAVERT	89.0	1.45	50.0	96	59	45	31	0	0	11	10	50.0	37.0	11.0	7.0	9.0

Hole section : 8 1/2"			OIL 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
2002-01-26 23:00	2370	2343	VERSAVERT	80.0	1.30	32.0	74	43	32	21	0	0	7	6	50.0	31.0	6.0	5.0	7.0
2002-01-27 21:00	2790	2763	VERSAVERT		1.30	42.0	76	47	36	25	0	0	10	9	50.0	29.0	9.0	6.0	7.5
2002-01-28 22:00	2827	2800	VERSAVERT		1.30	29.0	76	48	37	25	0	0	10	9	50.0	28.0	10.0	5.8	7.3
2002-01-29 22:00	2864	2836	VERSAVERT		1.30	29.0	73	45	35	24	0	0	10	9	50.0	28.0	8.5	6.0	7.5
2002-01-30 22:30	3124	3096	VERSAVERT	90.0	1.30	32.0	78	50	39	28	0	0	12	11	50.0	28.0	11.0	7.0	8.5
2002-01-31 22:00	3124	3096	VERSAVERT	99.0	1.30	30.0	75	48	37	25	0	0	12	11	50.0	27.0	10.5	6.5	9.0
2002-02-01 23:59	3124	3096	VERSAVERT	100.0	1.30	10.0	80	50	41	28	0	0	12	11	50.0	30.0	10.0	7.0	9.0

Hole section : P&A			OIL 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
2002-02-02 23:59	3124	3096	VERSAVERT	100.0	1.30	10.0	81	50	42	28	0	0	12	10	50.0	31.0	9.5	8.0	10.0
2002-02-03 23:59	1000	999	VERSAVERT	100.0	1.30	10.0	82	51	42	29	0	0	12	10	50.0	31.0	10.0	10.0	8.0
2002-02-05		0	VERSAVERT				0	0	0	0	0	0	0	0					

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 30/9-20 S PO: 1

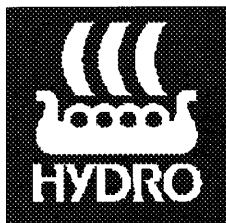
Hole section : 36"		WATER BASED SYSTEM																							
Date	Depth [m]		Mud Type	Dens [sg]	Filtrate		Filtcake		HPHT Press/Temp [bar/DegC]	pH	Alcalinity			Inhib Chem [Kg/m3]	K+ [mg/l]	CL- [mg/l]	Ca++ [mg/l]	Mg++ [mg/l]	Tot hard [mg/l]	Percentage Solid Oil Sand			CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	MD	TVD			API [ml]	HPHT [ml]	API [mm]	HPHT [mm]			Pm [ml]	Pf [ml]	Mf [ml]							[%]	[%]	[%]			
2002-01-09	198	198	SPUD MUD	1.03					/																
Hole section : 9 7/8"		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]							[%]	[%]	[%]			
2002-01-10 22:00	484	484	SPUD MUD	1.03					/																
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]							[%]	[%]	[%]			
2002-01-11 18:00	484	484	SPUD MUD	1.03					/																
2002-01-12 06:00	400	400	SPUD MUD	1.50					/																
2002-01-13 20:00	400	400	SPUD MUD	1.50					/																
2002-01-14	600	600	KCL/POLYMER	1.30	3.2		1		/	8.4	0.0	1.7			95000	600		600	15.0	4.0	0.3	14	3.4	137	
Hole section : 20"		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]							[%]	[%]	[%]			
2002-01-15 23:00	623	623	KCL/POLYMER	1.30	3.2		1		/	8.7	0.1	1.8		94	94000	560		560	15.0	3.2		21	3.3	151	
2002-01-16 20:00	623	623	KCL/POLYMER	1.31	3.8		1		/	10.2	0.3	2.2		94	94000	1200		1200	16.0	3.2	0.3	21	3.2	188	
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]							[%]	[%]	[%]			
2002-01-17 22:30	870	869	KCL/POLYMER	1.22	3.4		1		/	9.1	0.2	1.8		93	94000	960		960	13.5	4.0	1.0	10	2.9	190	
2002-01-18 23:00	1297	1292	KCL/POLYMER	1.21	3.4		1		/	8.3	0.0	1.4		992	92000	600		600	14.0	4.0	1.0		2.7	235	
2002-01-19 12:00	1297	1292	KCL/POLYMER	1.21	3.4		1		/	8.3	0.0	1.4		992	92000	600		600	14.0	4.0	1.0	10	2.7	235	

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 30/9-20 S PO: 1

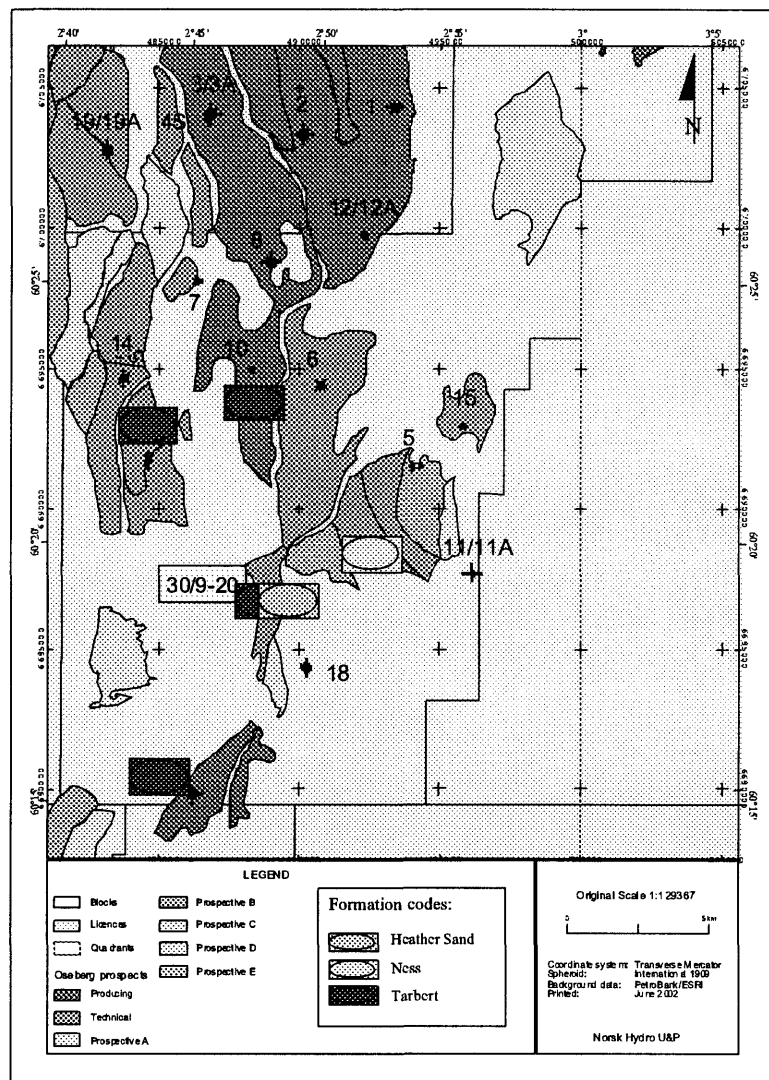
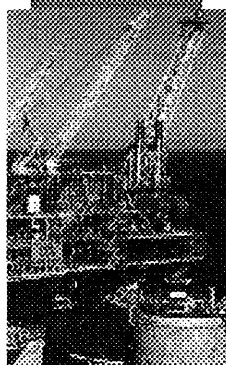
Hole section : 17 1/2"			OIL BASED SYSTEM													
Date	Depth [m]		Mud Type	Density [sg]	Filtrate HPHT [ml]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	Electrical stability [V]	Alcalinity Pm [ml]	CaCl2 [mg/l]	Oil/Water Ratio	Percentage			ASG [sg]	LGS [Kg/m3]
	MD	TVD										Solid [%]	Oil [%]	Sand [%]		
2002-01-20	1304	1299	VERSAVERT	1.20	4.0	2	/ 150	400		122	70/ 30	12.0	62.0	0.0	3.6	89
Hole section : 12 1/4"			OIL BASED SYSTEM													
Date	Depth [m]		Mud Type	Density [sg]	Filtrate HPHT [ml]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	Electrical stability [V]	Alcalinity Pm [ml]	CaCl2 [mg/l]	Oil/Water Ratio	Percentage			ASG [sg]	LGS [Kg/m3]
	MD	TVD										Solid [%]	Oil [%]	Sand [%]		
2002-01-21 23:00	1585	1571	VERSAVERT	1.45	2.8	2	/	829		200	71/ 29	20.0	57.0	0.3	3.8	107
2002-01-22 22:00	1596	1582	VERSAVERT	1.45	3.0	1	/	945		200	71/ 29	20.0	57.0	0.3	3.8	107
2002-01-23 22:00	2128	2101	VERSAVERT	1.45	2.8	1	/	888		203	72/ 28	22.0	56.0	0.5	3.5	194
2002-01-24 21:30	2369	2342	VERSAVERT	1.45	2.4	1	/	832		209	72/ 28	22.0	56.0	0.5	3.5	194
2002-01-25 21:30	2369	2342	VERSAVERT	1.45	2.4	1	/	832		209	72/ 28	22.0	56.0	0.5	3.5	194
Hole section : 8 1/2"			OIL BASED SYSTEM													
Date	Depth [m]		Mud Type	Density [sg]	Filtrate HPHT [ml]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	Electrical stability [V]	Alcalinity Pm [ml]	CaCl2 [mg/l]	Oil/Water Ratio	Percentage			ASG [sg]	LGS [Kg/m3]
	MD	TVD										Solid [%]	Oil [%]	Sand [%]		
2002-01-26 23:00	2370	2343	VERSAVERT	1.30	3.2	2	/	523		166	69/ 31	14.0	59.0	0.5	3.9	48
2002-01-27 21:00	2790	2763	VERSAVERT	1.30	1.8	2	/	778		209	73/ 27	17.4	60.6	0.5	3.3	186
2002-01-28 22:00	2827	2800	VERSAVERT	1.30	2.4	1	/	727		204	71/ 29	16.0	60.0	0.5	3.5	128
2002-01-29 22:00	2864	2836	VERSAVERT	1.30	2.6	1	/	1773		205	75/ 25	16.2	62.8	0.5	3.6	130
2002-01-30 22:30	3124	3096	VERSAVERT	1.30	3.8	2	/	837		210	75/ 25	17.5	62.0	0.5	3.3	187
2002-01-31 22:00	3124	3096	VERSAVERT	1.30	2.6	1	/	837		206	76/ 24	17.5	62.0	0.3	3.3	187
2002-02-01 23:59	3124	3096	VERSAVERT	1.30	2.4	1	/ 100	850		787	75/ 25	17.5	62.0	0.2	3.6	90
Hole section : P&A			OIL BASED SYSTEM													
Date	Depth [m]		Mud Type	Density [sg]	Filtrate HPHT [ml]	Filtcake HPHT [mm]	HPHT Press/Temp [bar/DegC]	Electrical stability [V]	Alcalinity Pm [ml]	CaCl2 [mg/l]	Oil/Water Ratio	Percentage			ASG [sg]	LGS [Kg/m3]
	MD	TVD										Solid [%]	Oil [%]	Sand [%]		
2002-02-02 23:59	3124	3096	VERSAVERT	1.30	2.5	1	/ 100	850		802	75/ 25	17.5	62.0	0.2	3.6	85
2002-02-03 23:59	1000	999	VERSAVERT	1.30	3.0	18	/ 100	750		796	76/ 24	18.0	62.0	0.3	3.4	111
2002-02-05		0	VERSAVERT				/				/					

TOTAL CONSUMPTION OF MUD ADDITIVES ON WELL 30/9-20 S PO: 1

Section	Product/ Additive	Unit	Total Amount Used
36"	BENTONITE	kg	1000.00
	CMC EHV	kg	25.00
26"	BARITE	kg	125000.00
	BENTONITE	kg	15000.00
	CMC EHV	kg	675.00
	DEFOAMER	l	50.00
	SODA ASH	kg	100.00
20"	BARITE	kg	15000.00
	DUOTEC NS	kg	100.00
17 1/2"	CELPOL ESL	kg	5950.00
	CITRIC ACID	kg	1175.00
	DEFOAMER	l	25.00
	DUOTEC NS	kg	1925.00
	GLYCOL	l	4500.00
	KCL	kg	4000.00
	KCL BRINE	l	312000.00
	POTASSIUM CARBONATE	kg	250.00
	SODIUM BICARBONATE	kg	500.00
17"	BARITE	kg	55000.00
	CITRIC ACID	kg	700.00
	DUOTEC NS	kg	100.00
	SODIUM BICARBONATE	kg	700.00
12 1/4"	BARITE	kg	100000.00
	CACL2 BRINE (1.38 SG)	l	13000.00
	CALCIUM CHLORIDE	kg	500.00
	EDC 95/11	l	97000.00
	LIME	kg	5400.00
	VERSAVERT F	l	500.00
	VERSAVERT PE	l	6000.00
	VERSAVERT SE	l	4690.00
	VERSAVERT VIS	kg	2500.00
9 7/8"	BARITE	kg	127000.00
	BENTONITE	kg	12000.00
	CMC EHV	kg	325.00
	DUOTEC NS	kg	450.00
	KCL BRINE	l	76000.00
	SODA ASH	kg	100.00
8 1/2"	BARITE	kg	55000.00
	CMC EHV	kg	575.00
	DEFOAMER	l	50.00
	DUOTEC NS	kg	50.00
	EDC 95/11	l	41000.00
	LIME	kg	220.00
	NUTPLUG M	kg	75.00
	POTASSIUM CARBONATE	kg	550.00
	SODA ASH	kg	25.00
VERSAVERT F	l	500.00	



GEOCHEMICAL CHARACTERIZATION AND CORRELATION, WELL 30/9-20 S AND OSEBERG FLUIDS



E&P
 Research Centre Bergen



REPORT

Title: **GEOCHEMICAL CHARACTERIZATION AND CORRELATION, WELL 30/9-20 S AND OSEBERG FLUIDS**

No. : NH-00049577
Rev. : 0
Page : 4 of 19
Date : 2002-06-11

Well	Sample type	Start-depth, MD RKB	End-depth, MD RKB	Sample info	Extr. info scan	CS-20 HC%	SAT HC's	SAT diam.	ARO HC's	S13C isotope	Gas volume	Org-ID	Notes
'30/9-20 S	GASBAG	2740.00	2740.00							1	1	2154811.00	lean gas volumes...
'30/9-20 S	GASBAG	2760.00	2760.00							1	1	2154810.00	
'30/9-20 S	MUD	2760.00	2760.00		1	1	1	1	1	1		2154983.00	
'30/9-20 S	GAS	2765.50	2765.50	MDT						1	1	2159260.00	
'30/9-20 S	OIL	2765.50	2765.50	MDT	1	1	1	1	1	1		2159261.00	
'30/9-20 S	GASBAG	2780.00	2780.00							1	1	2154809.00	
'30/9-20 S	GASBAG	2800.00	2800.00							1	1	2154807.00	
'30/9-20 S	GAS	2807.00	2807.00	MDT						1	1	2159259.00	
'30/9-20 S	OIL	2807.00	2807.00	MDT	1	1	1	1	1	1		2159262.00	
'30/9-20 S	GASBAG	2820.00	2820.00							1	1	2154808.00	
'30/9-20 S	MUD	2820.00	2820.00		1	1	1	1	1	1		2154987.00	
'30/9-20 S	GASBAG	2840.00	2840.00							1	1	2154806.00	lean gas volumes...
'30/9-13 S	OIL	3023.90	3072.90	DST2	1	1	1	1	1	1		979982755.00	
'30/9-16	OIL	2722.00	2753.00	DST1	1	1	1	1	1	1		337289.00	
'30/9-9	OIL	2294.60	2310.60	DST2	1	1	1	1	1	1		979996456.00	
'30/9-9	OIL	2394.40	2409.40	DST1	1	1	1	1	1	1		979996457.00	
'30/9-F-19	OIL	3438.00	3438.00	MDT203	1	1	1	1	1	1		689255.00	

Table 2.1: Sample list and analytical plan.



Title: **GEOCHEMICAL CHARACTERIZATION AND
CORRELATION, WELL 30/9-20 S AND
OSEBERG FLUIDS**

No. : NH-00049577
Rev. : 0
Page : 5 of 19
Date : 2002-06-11

3 Experimental and sample list

The analytical and preparative methods involves:

- ✓ Asphaltene precipitation
- ✓ Preparative group type separation by MPLC¹
- ✓ Group type distribution by TLC-FID² (Iatroscan)
- ✓ Gas chromatography (GC-FID) of saturated hydrocarbon fraction
- ✓ Gas chromatography-mass spectrometry (GC-MSD³) of the saturated (SAT) and aromatic (ARO) C₁₅₊ hydrocarbon fractions
- ✓ Carbon isotope measurements

All analytical and interpretative works are carried out at the Norsk Hydro O&E Research Centre in Bergen. Isotope measurements are performed by IFE, Kjeller.

All chromatographic data are based on quantitative measurements. The analytical methods are based on the guidelines in the Norwegian Industry Guide to Organic Geochemical Analyses (NIGOGA⁴). Major deviations from this guide are:

- ✓ Extract and asphaltene workup by centrifugation.
- ✓ Internal standard mixture added for quality control and quantitative measurements.
- ✓ 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 according to defined laboratory procedures and NIGOGA, available on request.

Samples which are annotated "s1, s2 ..." represent the internal North Sea reference oil (NSO1) and reflect the analytical repeatability.

-
- 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, edition 4.0, 2000

Group type distribution

Well	End-depth, m	SAT, wt%	ARO, wt%	NSO, wt%	Asph, wt%	
30/9-20 S	2765.5	65.3	25.5	8.6	0.7	
30/9-20 S	2807.0	64.4	25.6	9.4	0.6	
30/9-20 S	2760.0	94.0	0.2	1.9	3.9	
30/9-20 S	2820.0	97.3	0.1	2.0	0.7	
30/9-F-19	3438.0	68.9	21.6	9.2	0.3	
30/9-16	2753.0	75.6	17.6	6.6	0.2	
30/9-9	2310.6	74.0	19.7	5.9	0.4	
30/9-9	2409.4	74.7	18.3	6.6	0.5	
30/9-13 S	3072.9	76.3	18.1	5.1	0.6	
NSO-1	s1	0.0	59.1	29.3	9.6	1.9
NSO-1	s2	0.0	59.1	29.3	9.6	1.9


Gas, isotope and volume data

Well	End depth, m	Sample	dC13 C1	dD.C1	dC13 C2	dC13 C3	dC13 IC2	dC13 nC4	dC13 IC3	dC13 nC5	dC13 CO2	dO18CO2	Comments	OrgID
30/9-20 S	2740.00	Mud gas	-33.6		-24.1	-25.3	-24.3	-26.0			-13.8		lean gas volumes	2154811
30/9-20 S	2760.00	Mud gas	-38.7		-27.3	-27.0	-27.6	-27.3			-16.1			2154810
30/9-20 S	2765.50	GAS	-43.7	-202.0	-29.4	-28.0	-28.5	-28.2			-13.1	-14.2		2159260
30/9-20 S	2780.00	Mud gas	-37.3		-27.0	-26.9	-28.8	-27.2			-14.3			2154809
30/9-20 S	2800.00	Mud gas	-40.6		-28.4	-27.3	-27.9	-26.8			-16.1			2154807
30/9-20 S	2807.00	GAS	-43.8	-204.0	-29.5	-28.0	-27.6	-28.3			-16.0	-13.0		2159259
30/9-20 S	2820.00	Mud gas	-40.9		-27.9	-28.1		-27.2			-11.5			2154808
30/9-20 S	2840.00	Mud gas	-41.1		-27.2	-26.6		-29.1			-11.2		lean gas volumes	2154806

Well	End depth, m	Sample	C1 %	C2 %	C3 %	IC4 %	nC4 %	IC5 %	nC5 %	CO2 %	C1-C5	Witness	IC4/nC4	Comments	OrgID
30/9-20 S	2740.00	Mud gas	79.5	7.5	3.3	0.0	0.8	0.0	0.0	8.8	91.1	0.1	0.0	lean gas volumes	2154811
30/9-20 S	2760.00	Mud gas	90.5	5.8	2.1	0.1	0.3	0.0	0.0	1.2	98.8	0.1	0.3		2154810
30/9-20 S	2765.50	GAS	69.2	11.5	10.2	1.6	3.6	1.0	1.2	1.7	98.3	0.3	0.4		2159260
30/9-20 S	2780.00	Mud gas	86.3	6.9	3.0	0.2	0.5	0.0	0.0	3.1	96.9	0.1	0.4		2154809
30/9-20 S	2800.00	Mud gas	90.6	6.1	2.2	0.2	0.4	0.0	0.0	0.5	99.5	0.1	0.5		2154807
30/9-20 S	2807.00	GAS	68.0	11.5	10.7	1.7	3.9	1.1	1.3	1.9	98.2	0.3	0.4		2159259
30/9-20 S	2820.00	Mud gas	82.0	6.8	3.3	0.3	0.8	0.0	0.0	6.8	93.2	0.1	0.4		2154808
30/9-20 S	2840.00	Mud gas	80.4	5.2	3.0	0.0	1.2	0.0	0.0	10.2	89.8	0.1	0.0	lean gas volumes	2154806

SAT- and ARO-fractions, isotope data

Well	End depth, m	Sample	c13ext, dd	c13sat	c13aro	c13nso	c13asph	c13kero	name	orgid	Notes
30/9-20 S	2760.00	MUD		-28.5						2154983.0	
30/9-20 S	2765.50	OIL		-29.5	-28.4					2159261.0	
30/9-20 S	2807.00	OIL		-29.5	-28.3					2159262.0	
30/9-20 S	2820.00	MUD		-28.4						2154987.0	
30/9-F-19	3438.00	OIL		-29.2	-28.2				MDT203	669255.0	
30/9-16	2753.00	OIL		-29.1	-27.7				DST1	337289.0	
30/9-9	2409.40	OIL		-28.8	-27.4				DST1	979996457.0	
30/9-9	2310.60	OIL		-28.8	-27.3				DST2	979996456.0	
30/9-13 S	3072.90	OIL		-29.2	-27.6				DST2	979982755.0	

Country, well/location: NOR 30/9-20 S	Fluid sample	 E&P Research Centre, Bergen, Norway
Sample type, depth (m): OIL, 2765.5-2765.5 m		
Stratigraphy (Gr./Fm.):		
Remarks:		
OrgID: , PlanID:		

Saturated HC's, GC/FID			cont...	Height	ng/mgEOM	cont...	Height	ng/mgEOM
	Area	ng/mgEOM						
nC11	669234	0	27b	821	5			
nC12	733667	0	25nor28ab	3644	24	Aromatic HC's, GC/MS		
nC13	796131	0	28ab	9732	65			
nC14	888867	0	25nor29ab	3556	24			
iC16	411257	2620	29ab	15010	100			
nC15	908663	5780	29ba	3396	23			
nC16	870532	5540	29Ts	7200	48			
iC18	372686	2370	25nor30ab	3581	24			
nC17	860715	5470	30ab	42334	181			
Prinstane	447291	2840	30ba	5166	22			
nC18	692824	4410	30D	3894	26			
Phytane	269451	1710	30G	2503	17			
nC19	618636	3930	30O	0	0			
nC20	536506	3410	30D13	2171	14			
nC21	457314	2910	31abS	16719	111			
nC22	408572	2600	31abR	12265	82			
nC23	370385	2360	31ba	1688	11			
nC24	339962	2160	32abS	12036	80			
nC25	282034	1790	32abR	9437	63			
nC26	256867	1630	33abS	10671	71			
nC27	212004	1350	33abR	7128	47			
nC28	212522	1350	34abS	6587	44			
nC29	177304	1130	34abR	4159	28			
nC30	157073	1000	35abS	6292	42			
nC31	129235	820	35abR	4566	30			
nC32	96463	610	21aa	3267	31			
nC33	97888	620	21bb	3625	35			
nC34	57400	370	22aa	2163	21			
nC35	60235	380	22bb	2271	22			
Saturated HC biomarkers, GC/MS			27dbS	7986	77	23XDMBP	8334	11
			27dbR	5301	51	25DMBP	3705	5
			27bbR	5345	51	2424XDMBP	7385	10
			27bbS	4079	39	23DMBP	14691	19
			27aaR	2087	20	3EBP	20831	27
			28bbR	3257	31	35DMBP	28378	37
			28bbS	4356	42	33XDMBP	75341	99
			29aaS	3262	31	4EBP	6758	9
			29bbR	4511	43	34XDMBP	56226	74
			29bbS	4524	43	44XDMBP	10625	14
			29aaR	2385	23	34DMBP	27591	36
			30bbR	1902	18	DBF	44023	40
			30bbS	1589	15	DBF1	59700	79
						MDBF2	33563	44
						MDBF3	31775	42
						F	76178	84
						C1F1	32012	35
						C1F2	101637	112
			1MF	17561	19			
			DBT	44736	15			
			4MDBT	53277	18			
			3MDBT	0	0			
			1MDBT	18965	7			

Country, well/location: **NOR 30/9-20 S**
 Sample type, depth (m): **OIL, 2765.5-2765.5 m**
 Stratigraphy (Gr./Fm.):
 Remarks:

Fluid sample



E&P Research Centre,
Bergen, Norway

OrgID: , PlanID:

Aromatic HC's, GC/MS cont...			cont... Area ng/mgEOM		
	Height	ng/mgEOM			
P	251283	248	1C2DMCYC5	962239	80
3MP	98716	114	MCYC6	140761146	12090
2MP	110440	128	113TMCYC5	8224824	710
9MP	166331	193	ECYC5	9494321	820
1MP	135054	157	25DMC6	4646357	400
2EP9EP36DMP	31024	34	223TMC524DM	6287049	540
1EP	29221	32	1C2T4TMCYC5	7562708	650
262735DMP	15747	17	33DMC6	1681927	140
13210393DMP	118016	131	1T2C3TMCYC5	8014174	690
162529DMP	58657	65	234TMC5	1767720	150
17DMP	67009	74	TOLUENE	76994285	5040
23DMP	18983	21	23DMC6	8173269	700
194941DMP	42203	47	2MC7	38096044	3270
18DMP	15906	18	4MC7	13189920	1130
RETENE	86088	85	3MC7	27374427	2350
20TA	13517	5	1C3DMCYC6	28658534	2460
21TA	15432	6	1T4DMCYC6	12377142	1060
S26TA	18012	7	11DMCYC6	8376053	720
R26TAS27TA	46769	18	1T2DMCYC6	16756198	1440
S28TA	22934	9	NC8	110370726	9480
R27TA	23900	9	ECYC6	46140419	3960
R28TA	22680	9	IC9	16545164	1080
C5-20 HC's, GC/FID			EBENZENE	16843333	1100
	Area	ng/mgEOM	MXYLENE	50942307	3330
IC5	42638675	3660	PXYLENE	13446955	880
NC5	70215014	6030	4MC8	14742516	960
22DMC4	2095599	180	2MC8	21279360	1390
CYC5	11138732	960	3MC8	20311555	1330
23DMC4	5239076	450	OXYLENE	29518658	1930
2MC5	44260364	3800	NC9	111662889	7310
3MC5	27014835	2320	IC10	25243350	1650
NC6	91299568	7840	NC10	97276532	6360
3MCYC5ENE	134711	10	IC11	22034164	1440
22DMC5	2141195	180	NC11	103998583	6800
MCYC5	47726690	4100	NC12	95871877	6270
24DMC5	4634825	400	IC13	22330302	1460
223TMC4	465147	40	PHC6	139861194	9150
BENZENE	28009182	1830	IC14	20611267	1350
33DMC5	1411455	120	NC13	94542572	6190
CYC6	78210352	6720	IC15	23133902	1510
2MC6	31813981	2730	NC14	112188680	7340
23DMC5	10111432	870	IC16	40327363	2640
11DMCYC5	7507346	640	NC15	106916946	7000
3MC6	35225493	3030	NC16	112047752	7330
1C3DMCYC5	12096805	1040	IC18	33346418	2180
1T3DMCYC5	11304697	970	NC17	115322432	7550
3EC5	2772006	240	PRISTANE	71864827	4700
1T2DMCYC5	21080706	1810	NC18	118726609	7770
IC8	#####	9150	PHYTANE	47633191	3120
NC7	#####	8830	NC19	136887935	8960
			NC20	156681014	10250

Country, well/location: **NOR 30/9-20 S**
 Sample type, depth (m): **OIL, 2807-2807 m**
 Stratigraphy (Gr./Fm.):
 Remarks:

Fluid sample



E&P Research Centre,
Bergen, Norway

OrgID: , PlanID:

Aromatic HC's, GC/MS cont...			cont...		
	Height	ng/mgEOM	Area	ng/mgEOM	
P	165400	222	1C2DMCYC5	1316325	110
3MP	68047	107	MCYC6	146945982	12480
2MP	72629	115	113TMCYC5	8608005	730
9MP	105658	167	ECYC5	9852993	840
1MP	82203	130	25DMC6	4918181	420
2EP9EP36DMP	21896	33	223TMC524DM	6628463	560
1EP	19563	30	1C2T4TMCYC5	7919053	670
262735DMP	9800	15	33DMC6	1772136	150
13210393DMP	76165	115	1T2C3TMCYC5	8328659	710
162529DMP	37741	57	234TMC5	1794578	150
17DMP	42213	64	TOLUENE	71328150	4800
23DMP	11680	18	23DMC6	8476634	720
194941DMP	25653	39	2MC7	40269217	3420
18DMP	10028	15	4MC7	13949316	1180
RETENE	59933	81	3MC7	29631391	2520
20TA	8894	5	1C3DMCYC6	30851511	2620
21TA	10284	6	1T4DMCYC6	12643069	1070
S26TA	10941	6	11DMCYC6	8604784	730
R26TAS27TA	26537	15	1T2DMCYC6	17179680	1460
S28TA	15526	9	NC8	115978174	9850
R27TA	15382	9	ECYC6	47430011	4030
R28TA	14973	8	IC9	16614377	1120
C5-20 HC's, GC/FID			EBENZENE	16450574	1110
	Area	ng/mgEOM	MYXYLENE	49047061	3300
IC5	46931914	3990	PXYLENE	12851078	860
NC5	77468337	6580	4MC8	15316587	1030
22DMC4	2269217	190	2MC8	21950111	1480
CYC5	11909408	1010	3MC8	21056770	1420
23DMC4	5643747	480	OXYLENE	27984522	1880
2MC5	47908732	4070	NC9	115237550	7750
3MC5	29221700	2480	IC10	25552780	1720
NC6	98989184	8410	NC10	99243649	6670
3MCYC5ENE	162658	10	IC11	22111538	1490
22DMC5	2306397	200	NC11	105861274	7120
MCYC5	50919621	4320	NC12	95743192	6440
24DMC5	4969725	420	IC13	22437610	1510
223TMC4	484168	40	PHC6	141785733	9540
BENZENE	23979558	1610	IC14	20831294	1400
33DMC5	1505197	130	NC13	94952143	6390
CYC6	82158723	6980	IC15	22809802	1530
2MC6	34136640	2900	NC14	105374569	7090
23DMC5	10713264	910	IC16	34062522	2290
11DMCYC5	7878154	670	NC15	89300342	6010
3MC6	37722944	3200	NC16	85960797	5780
1C3DMCYC5	12741733	1080	IC18	25463940	1710
1T3DMCYC5	11898225	1010	NC17	76654513	5150
3EC5	2956343	250	PRISTANE	46116284	3100
1T2DMCYC5	22205060	1890	NC18	63929514	4300
IC8	#####	9540	PHYTANE	27083206	1820
NC7	#####	9340	NC19	66970379	4500
			NC20	72907982	4900

Country, well/location: **NOR 30/9-20 S**
 Sample type, depth (m): **MUD, 2760-2760 m**
 Stratigraphy (Gr./Fm.):
 Remarks:

**Fluid
sample**



E&P Research Centre,
Bergen, Norway

OrgID: , PlanID:

Saturated HC's, GC/FID			cont...		Height ng/mgEOM		cont...		Height ng/mgEOM	
	Area	ng/mgEOM								
nC11	4126	0	27b	36	0					
nC12	32923	0	25nor28ab	45	0					
nC13	244171	0	28ab	93	1	Aromatic HC's, GC/MS				
nC14	689084	0	25nor29ab	44	0		Height	ng/mgEOM		
iC16	703547	5470	29ab	389	2	N	2744	6		
nC15	1300810	10120	29ba	78	0	2MN	4085	5		
nC16	1259208	9800	29Ts	162	1	1MN	3519	4		
iC18	600798	4670	25nor30ab	28	0	2EN	509	1		
nC17	1238127	9630	30ab	681	3	1EN	266	0		
Prinstane	235168	1830	30ba	161	1	2627DMN	1593	2		
nC18	920146	7160	30D	76	0	1317DMN	2909	3		
Phytane	227546	1770	30G	129	1	16DMN	2399	3		
nC19	740938	5760	30O	0	0	2314DMN	1008	1		
nC20	493360	3840	30D13	162	1	15DMN	660	1		
nC21	249602	1940	31abS	253	2	12DMN	529	1		
nC22	105001	820	31abR	159	1	C3N1	224	0		
nC23	45925	360	31ba	137	1	C3N2	229	0		
nC24	20536	160	32abS	219	1	137TMN	812	1		
nC25	6954	50	32abR	146	1	136TMN	1188	1		
nC26	2418	20	33abS	153	1	135146TMN	1125	1		
nC27	2131	20	33abR	149	1	236TMN	669	1		
nC28	126	0	34abS	208	1	167127TMN	626	1		
nC29	429	0	34abR	220	1	126TMN	385	0		
nC30	188	0	35abS	242	1	124TMN	174	0		
nC31	311	0	35abR	206	1	125TMN	530	1		
nC32	302	0	21aa	88	1	BP	1298	1		
nC33	339	0	21bb	44	0	3MBP	895	1		
nC34	150	0	22aa	40	0	4MBP	291	0		
nC35	380	0	22bb	23	0	23XDMBP	142	0		
			27dbS	97	1	25DMBP	117	0		
			27dbR	49	0	2424XDMBP	72	0		
			27bbR	69	1	23DMBP	98	0		
			27bbS	54	0	3EBP	74	0		
			27aaR	153	1	35DMBP	166	0		
			28bbR	57	1	33XDMBP	331	0		
			28bbS	55	0	4EBP	71	0		
			29aaS	40	0	34XDMBP	236	0		
			29bbR	68	1	44XDMBP	66	0		
			29bbS	72	1	34DMBP	98	0		
			29aaR	71	1	DBF	264	0		
			30bbR	7	0	DBF1	269	0		
			30bbS	19	0	MDBF2	481	1		
						MDBF3	143	0		
						F	441	0		
						C1F1	141	0		
						C1F2	400	0		
						1MF	84	0		
						DBT	154	0		
						4MDBT	149	0		
						3MDBT	0	0		
						1MDBT	49	0		
Saturated HC biomarkers, GC/MS										
	Height	ng/mgEOM								
19/3	77	0								
20/3	57	0								
21/3	187	1								
23/3	201	1								
24/3	90	1								
25/3	0	0								
25/3R	30	0								
25/3S	0	0								
26/3R	48	0								
26/3S	45	0								
28/3R	48	0								
28/3S	29	0								
29/3R	49	0								
29/3S	65	0								
24/4	68	0								
27Ts	72	0								
27Tm	196	1								


Country, well/location: **NOR 30/9-20 S**
 Sample type, depth (m): **MUD, 2760-2760 m**
 Stratigraphy (Gr./Fm.):
 Remarks:
 OrgID: , PlanID:

**Fluid
sample**



E&P Research Centre,
Bergen, Norway

Aromatic HC's, GC/MS cont...			cont...		
	Height	ng/mgEOM	Area	ng/mgEOM	
P	1442	1	1C2DMCYC5	2544	0
3MP	398	0	MCYC6	106021	10
2MP	408	0	113TMCYC5	85739	10
9MP	531	1	ECYC5	15952	0
1MP	435	1	25DMC6	10927	0
2EP9EP36DMP	112	0	223TMC524DM	9004	0
1EP	122	0	1C2T4TMCYC5	9287	0
262735DMP	65	0	33DMC6	4562	0
13210393DMP	388	0	1T2C3TMCYC5	10061	0
162529DMP	185	0	234TMC5	3052	0
17DMP	183	0	TOLUENE	78528	10
23DMP	70	0	23DMC6	7593	0
194941DMP	124	0	2MC7	38389	0
18DMP	54	0	4MC7	18127	0
RETENE	238	0	3MC7	23271	0
20TA	43	0	1C3DMCYC6	24387	0
21TA	43	0	1T4DMCYC6	65493	10
S26TA	33	0	11DMCYC6	15717	0
R26TAS27TA	90	0	1T2DMCYC6	20385	0
S28TA	61	0	NC8	112141	10
R27TA	51	0	ECYC6	60429	10
R28TA	57	0	IC9	31783	0
C5-20 HC's, GC/FID			EBENZENE	30811	0
IC5	43870	0	MXYLENE	65830	10
NC5	99618	10	PXYLENE	25788	0
22DMC4	34345	0	4MC8	25028	0
CYC5	8671	0	2MC8	35215	0
23DMC4	6919	0	3MC8	39711	0
2MC5	28631	0	OXYLENE	52993	0
3MC5	19537	0	NC9	196759	20
NC6	54217	0	IC10	78130	10
3MCYC5ENE	1933	0	NC10	344626	30
22DMC5	5895	0	IC11	107710	10
MCYC5	31972	0	NC11	997514	90
24DMC5	2613	0	NC12	4420446	420
223TMC4	3430	0	IC13	2261816	210
BENZENE	22199	0	PHC6	79925989	7530
33DMC5	5309	0	IC14	9343946	880
CYC6	50898	0	NC13	33502177	3160
2MC6	25211	0	IC15	97560344	9190
23DMC5	23185	0	NC14	95310421	8980
11DMCYC5	11356	0	IC16	114968531	10830
3MC6	34812	0	NC15	157461418	14830
1C3DMCYC5	6872	0	NC16	172496857	16250
1T3DMCYC5	21153	0	IC18	54222799	5110
3EC5	236010	20	NC17	147140482	13860
1T2DMCYC5	249679	20	PRISTANE	32396300	3050
IC8	88331200	7530	NC18	137270155	12930
NC7	68667	10	PHYTANE	26121959	2460
			NC19	168053951	15830
			NC20	195137839	18380

Country, well/location: NOR 30/9-20 S	Fluid sample	 E&P Research Centre, Bergen, Norway
Sample type, depth (m): MUD, 2820-2820 m		
Stratigraphy (Gr./Fm.):		
Remarks:		
OrgID: , PlanID:		


Saturated HC's, GC/FID			cont... Height ng/mgEOM			cont... Height ng/mgEOM		
	Area	ng/mgEOM						
nC11	3601	0	27b	92	1	Aromatic HC's, GC/MS		
nC12	30891	0	25nor28ab	28	0			
nC13	217211	0	28ab	111	1			
nC14	598604	0	25nor29ab	52	0			
iC16	638660	6630	29ab	360	3			
nC15	1160630	12050	29ba	91	1			
nC16	1163573	12080	29Ts	80	1			
iC18	496442	5150	25nor30ab	32	0			
nC17	1172773	12170	30ab	474	2			
Prinstane	192425	2000	30ba	117	1			
nC18	846900	8790	30D	68	1	N	3594	5
Phytane	168199	1750	30G	113	1	2MN	6089	5
nC19	672150	6980	30O	0	0	1MN	5151	4
nC20	443644	4600	30D13	140	1	2EN	760	1
nC21	218862	2270	31abS	145	1	1EN	413	0
nC22	91992	950	31abR	204	2	2627DMN	2438	2
nC23	41175	430	31ba	155	1	1317DMN	4281	3
nC24	21210	220	32abS	165	1	16DMN	3702	3
nC25	4122	40	32abR	229	2	2314DMN	1715	1
nC26	1843	20	33abS	163	1	15DMN	1014	1
nC27	1341	10	33abR	226	2	12DMN	812	1
nC28	570	10	34abS	203	2	C3N1	424	0
nC29	254	0	34abR	207	2	C3N2	402	0
nC30	212	0	35abS	187	1	137TMN	1398	1
nC31	144	0	35abR	178	1	136TMN	2169	2
nC32	347	0	21aa	91	1	135146TMN	1832	1
nC33	147	0	21bb	43	0	236TMN	1211	1
nC34	524	10	22aa	25	0	167127TMN	1096	1
nC35	766	10	22bb	13	0	126TMN	661	0
			27dbS	72	1	124TMN	302	0
			27dbR	44	0	125TMN	944	1
			27bbR	56	1	BP	1993	1
			27bbS	50	1	3MBP	1475	1
			27aaR	103	1	4MBP	522	0
			28bbR	41	0	23XDMBP	746	1
			28bbS	43	0	25DMBP	547	0
			29aaS	46	1	2424XDMBP	214	0
			29bbR	43	0	23DMBP	212	0
			29bbS	55	1	3EBP	165	0
			29aaR	34	0	35DMBP	415	0
			30bbR	15	0	33XDMBP	816	1
			30bbS	8	0	4EBP	373	0
						34XDMBP	537	0
						44XDMBP	238	0
						34DMBP	278	0
						DBF	512	0
						DBF1	440	0
						MDBF2	2201	2
						MDBF3	376	0
						F	771	0
						C1F1	290	0
						C1F2	859	1
						1MF	194	0
						DBT	222	0
						4MDBT	229	0
						3MDBT	0	0
						1MDBT	74	0
Saturated HC biomarkers, GC/MS			Height ng/mgEOM					
	Height	ng/mgEOM						
19/3	70	1						
20/3	59	0						
21/3	175	1						
23/3	174	1						
24/3	56	0						
25/3	0	0						
25/3R	24	0						
25/3S	0	0						
26/3R	20	0						
26/3S	22	0						
28/3R	35	0						
28/3S	79	1						
29/3R	41	0						
29/3S	47	0						
24/4	78	1						
27Ts	75	1						
27Tm	195	1						

Country, well/location: **NOR 30/9-20 S**
 Sample type, depth (m): **MUD, 2820-2820 m**
 Stratigraphy (Gr./Fm.):
 Remarks:
 OrgID: , PlanID:

Fluid sample



Aromatic HC's, GC/MS cont...			cont...		
	Height	ng/mgEOM		Area	ng/mgEOM
P	2703	2	1C2DMCYC5	4078	0
3MP	807	1	MCYC6	170875	40
2MP	894	1	113TMCYC5	51309	10
9MP	1155	1	ECYC5	17942	0
1MP	867	1	25DMC6	7679	0
2EP9EP36DMP	241	0	223TMC524DM	12807	0
1EP	256	0	1C2T4TMCYC5	15939	0
262735DMP	155	0	33DMC6	4486	0
13210393DMP	861	1	1T2C3TMCYC5	20149	0
162529DMP	405	0	234TMC5	1632	0
17DMP	390	0	TOLUENE	89949	20
23DMP	152	0	23DMC6	18478	0
194941DMP	261	0	2MC7	50802	10
18DMP	111	0	4MC7	20983	0
RETENE	544	0	3MC7	39160	10
20TA	76	0	1C3DMCYC6	41673	10
21TA	71	0	1T4DMCYC6	56463	10
S26TA	59	0	11DMCYC6	14576	0
R26TAS27TA	172	0	1T2DMCYC6	34573	10
S28TA	99	0	NC8	156430	30
R27TA	91	0	ECYC6	76371	20
R28TA	95	0	IC9	39549	10
			EBENZENE	34468	10
			MXYLENE	91036	20
			PXYLENE	39725	10
			4MC8	32035	10
			2MC8	45763	10
			3MC8	48126	10
			OXYLENE	58246	10
			NC9	241885	60
			IC10	81043	20
			NC10	384615	100
			IC11	115543	30
			NC11	1094611	270
			NC12	4524783	1130
			IC13	2398432	600
			PHC6	37790905	9470
			IC14	8648121	2170
			NC13	33995882	8520
			IC15	18939083	4750
			NC14	99899547	25040
			IC16	120203366	30120
			NC15	175028600	43860
			NC16	226415779	56740
			IC18	70190693	17590
			NC17	170846870	42820
			PRISTANE	36279262	9090
			NC18	151377194	37940
			PHYTANE	30933087	7750
			NC19	191458979	47980
			NC20	205452255	51490
C5-20 HC's, GC/FID					
	Area	ng/mgEOM			
IC5	64399	10			
NC5	89231	20			
22DMC4	42392	10			
CYC5	15775	0			
23DMC4	9876	0			
2MC5	47013	10			
3MC5	32465	10			
NC6	90160	20			
3MCYC5ENE	1276	0			
22DMC5	4772	0			
MCYC5	53074	10			
24DMC5	8340	0			
223TMC4	1250	0			
BENZENE	26007	10			
33DMC5	5877	0			
CYC6	83552	20			
2MC6	36190	10			
23DMC5	25669	10			
11DMCYC5	11321	0			
3MC6	44361	10			
1C3DMCYC5	49044	10			
1T3DMCYC5	74390	20			
3EC5	32062	10			
1T2DMCYC5	87696	20			
IC8	42653644	9470			
NC7	121270	30			

Country, well/location: NOR 30/9-16	Fluid sample	 E&P Research Centre, Bergen, Norway
Sample type, depth (m): OIL, 2722-2753 m		
Stratigraphy (Gr./Fm.):		
Remarks:		
OrgID: , PlanID:		

Saturated HC's, GC/FID			cont...	Height	ng/mgEOM	cont...	Height	ng/mgEOM
	Area	ng/mgEOM						
nC11	878554	0	27b	559	5			
nC12	1075528	0	25nor28ab	607	5			
nC13	1171931	0	28ab	2859	24	Aromatic HC's, GC/MS		
nC14	1263114	0	25nor29ab	285	2		Height	ng/mgEOM
iC16	582183	3740	29ab	8253	68	N	561919	1737
nC15	1280090	8220	29ba	1143	9	2MN	1158219	2477
nC16	1292853	8300	29Ts	2675	22	1MN	711070	1521
iC18	551039	3540	25nor30ab	122	1	2EN	91453	183
nC17	1341840	8620	30ab	17810	95	1EN	43755	88
Prinstane	1267037	8140	30ba	2323	12	2627DMN	338691	679
nC18	1179331	7570	30D	2199	18	1317DMN	452934	908
Phytane	434496	2790	30G	1403	12	16DMN	449783	902
nC19	1153825	7410	30O	0	0	2314DMN	157109	315
nC20	1098927	7060	30D13	684	6	15DMN	90925	182
nC21	1036355	6660	31abS	9165	76	12DMN	81892	164
nC22	989346	6350	31abR	6050	50	C3N1	29626	60
nC23	960497	6170	31ba	615	5	C3N2	36993	75
nC24	887112	5700	32abS	5442	45	137TMN	142719	291
nC25	810626	5210	32abR	4130	34	136TMN	209765	428
nC26	700575	4500	33abS	4310	36	135146TMN	164426	335
nC27	591439	3800	33abR	3039	25	236TMN	129521	264
nC28	503340	3230	34abS	2519	21	167127TMN	103951	212
nC29	444735	2860	34abR	1758	15	126TMN	60506	123
nC30	357761	2300	35abS	2358	20	124TMN	22507	46
nC31	309726	1990	35abR	1556	13	125TMN	95826	195
nC32	230286	1480	21aa	1522	18	BP	243963	343
nC33	220874	1420	21bb	1714	21	3MBP	274574	386
nC34	139137	890	22aa	972	12	4MBP	86047	121
nC35	119538	770	22bb	963	12	23XDMBP	5556	11
			27dbS	3772	45	25DMBP	2958	6
			27dbR	2369	28	2424XDMBP	5013	10
			27bbR	4032	48	23DMBP	19564	40
			27bbS	3516	42	3EBP	16929	35
			27aaR	1581	19	35DMBP	37435	76
			28bbR	2761	33	33XDMBP	94038	192
			28bbS	3597	43	4EBP	6199	13
			29aaS	2382	29	34XDMBP	65244	133
			29bbR	4415	53	44XDMBP	12188	25
			29bbS	4602	55	34DMBP	27917	57
			29aaR	2033	24	DBF	70799	99
			30bbR	1396	17	DBF1	70358	143
			30bbS	1048	13	MDBF2	44955	92
						MDBF3	33829	69
						F	97209	166
						C1F1	28318	48
						C1F2	85849	146
						1MF	14778	25
						DBT	25824	14
						4MDBT	28113	15
						3MDBT	0	0
						1MDBT	7761	4

Country, well/location: NOR 30/9-16
 Sample type, depth (m): OIL, 2722-2753 m
 Stratigraphy (Gr./Fm.):
 Remarks:
 OrgID: , PlanID:

Fluid
sample



E&P Research Centre,
Bergen, Norway

Aromatic HC's, GC/MS cont...			cont...		
	Height	ng/mgEOM	Area	ng/mgEOM	
P	193902	299	1C2DMCYC5	2197285	210
3MP	74645	135	MCYC6	193103049	18130
2MP	80384	145	113TMCYC5	6179493	580
9MP	98883	179	ECYC5	10151420	950
1MP	77409	140	25DMC6	4121680	390
2EP9EP36DMP	20861	36	223TMC524DM	4845818	460
1EP	20698	36	1C2T4TMCYC5	5946021	560
262735DMP	11040	19	33DMC6	1415348	130
13210393DMP	66249	115	1T2C3TMCYC5	5759336	540
162529DMP	32493	56	234TMC5	812607	80
17DMP	32093	56	TOLUENE	130765924	8430
23DMP	12128	21	23DMC6	6346924	600
194941DMP	20595	36	2MC7	31679578	2980
18DMP	7383	13	4MC7	11313195	1060
RETENE	37216	57	3MC7	22381912	2100
20TA	3670	2	1C3DMCYC6	29547979	2770
21TA	4253	3	1T4DMCYC6	14349864	1350
S26TA	2370	2	11DMCYC6	6093199	570
R26TAS27TA	8883	6	1T2DMCYC6	17411730	1640
S28TA	5474	4	NC8	100139028	9400
R27TA	4942	3	ECYC6	45995875	4320
R28TA	5040	3	IC9	9791734	630
			EBENZENE	25553833	1650
			MXYLENE	85703718	5530
			PXYLENE	24160486	1560
			4MC8	11530761	740
			2MC8	17901841	1150
			3MC8	16930298	1090
			OXYLENE	37791502	2440
			NC9	103428103	6670
			IC10	19245129	1240
			NC10	97639468	6300
			IC11	20178233	1300
			NC11	112303541	7240
			NC12	111906387	7220
			IC13	25136558	1620
			PHC6	138288670	8920
			IC14	29716931	1920
			NC13	116805219	7530
			IC15	27774726	1790
			NC14	139077888	8970
			IC16	51641443	3330
			NC15	117684276	7590
			NC16	119981746	7740
			IC18	36727258	2370
			NC17	114648573	7390
			PRISTANE	110432141	7120
			NC18	107500300	6930
			PHYTANE	42002597	2710
			NC19	117330693	7570
			NC20	147369236	9500



Country, well/location: **NOR 30/9-9**
 Sample type, depth (m): **OIL, 2294.6-2310.6 m**
 Stratigraphy (Gr./Fm.):
 Remarks:
 OrgID: , PlanID:

**Fluid
sample**



E&P Research Centre,
Bergen, Norway

Aromatic HC's, GC/MS cont...		cont...	Area	ng/mgEOM
	Height			
P	218248			196
3MP	91278			96
2MP	93882			99
9MP	120125			127
1MP	94214			99
2EP9EP36DMP	26569			27
1EP	25876			26
262735DMP	13108			13
13210393DMP	85229			86
162529DMP	44198			45
17DMP	41998			42
23DMP	15308			15
194941DMP	26377			27
18DMP	9823			10
RETENE	53255			48
20TA	4709			2
21TA	5318			2
S26TA	3656			1
R26TAS27TA	11721			4
S28TA	7573			3
R27TA	6563			2
R28TA	7556			3
C5-20 HC's, GC/FID				
	Area			ng/mgEOM
IC5	70749705			7350
NC5	#####			10830
22DMC4	2879954			300
CYC5	16283924			1690
23DMC4	8367759			870
2MC5	57090519			5930
3MC5	33134244			3440
NC6	#####			11260
3MCYC5ENE	96293			10
22DMC5	2390985			250
MCYC5	68786261			7150
24DMC5	4947925			510
223TMC4	785698			80
BENZENE	37235875			2570
33DMC5	1486115			150
CYC6	#####			13320
2MC6	32919303			3420
23DMC5	10275677			1070
11DMCYC5	6957357			720
3MC6	33955502			3530
1C3DMCYC5	14404632			1500
1T3DMCYC5	13356776			1390
3EC5	2402799			250
1T2DMCYC5	23280074			2420
IC8	87842587			9130
NC7	#####			11780
1C2DMCYC5	2230183			230
MCYC6	230663748			23970
113TMCYC5	7628345			790
ECYC5	11218539			1170
25DMC6	4740737			490
223TMC524DM	5569915			580
1C2T4TMCYC5	7085851			740
33DMC6	1616040			170
1T2C3TMCYC5	6555315			680
234TMC5	898685			90
TOLUENE	124132656			8560
23DMC6	7305511			760
2MC7	36821741			3830
4MC7	11871119			1230
3MC7	32952606			3420
1C3DMCYC6	34313850			3570
1T4DMCYC6	18059799			1880
11DMCYC6	6298820			650
1T2DMCYC6	21823935			2270
NC8	123476070			12830
ECYC6	56459976			5870
IC9	10537198			730
EBENZENE	24456804			1690
MXYLENE	84588850			5840
PXYLENE	24252091			1670
4MC8	13135918			910
2MC8	20538553			1420
3MC8	18858163			1300
OXYLENE	37087324			2560
NC9	128934683			8900
IC10	21370060			1470
NC10	122204841			8430
IC11	23279964			1610
NC11	140494960			9690
NC12	143115565			9870
IC13	28312334			1950
PHC6	132311575			9130
IC14	37685705			2600
NC13	145224329			10020
IC15	31242171			2160
NC14	159026042			10970
IC16	58228471			4020
NC15	141016239			9730
NC16	134884367			9310
IC18	37675224			2600
NC17	123866040			8550
PRISTANE	121342180			8370
NC18	106479511			7350
PHYTANE	34799471			2400
NC19	111355700			7680
NC20	125294933			8640

Country, well/location: NOR 30/9-9	 sample	 E&P Research Centre, Bergen, Norway
Sample type, depth (m): OIL, 2394.4-2409.4 m		
Stratigraphy (Gr./Fm.):		
Remarks:		
OrgID: , PlanID:		

Saturated HC's, GC/FID			cont... Height ng/mgEOM			cont... Height ng/mgEOM																																																																																																																																																		
	Area	ng/mgEOM																																																																																																																																																						
nC11	650509	0	27b	178	2	Aromatic HC's, GC/MS <table border="1"> <thead> <tr> <th></th> <th>Height</th> <th>ng/mgEOM</th> </tr> </thead> <tbody> <tr><td>N</td><td>259862</td><td>1452</td></tr> <tr><td>2MN</td><td>545467</td><td>2128</td></tr> <tr><td>1MN</td><td>330764</td><td>1290</td></tr> <tr><td>2EN</td><td>49957</td><td>183</td></tr> <tr><td>1EN</td><td>22808</td><td>83</td></tr> <tr><td>2627DMN</td><td>170720</td><td>625</td></tr> <tr><td>1317DMN</td><td>254228</td><td>930</td></tr> <tr><td>16DMN</td><td>222604</td><td>814</td></tr> <tr><td>2314DMN</td><td>75553</td><td>276</td></tr> <tr><td>15DMN</td><td>43170</td><td>158</td></tr> <tr><td>12DMN</td><td>40601</td><td>149</td></tr> <tr><td>C3N1</td><td>15223</td><td>57</td></tr> <tr><td>C3N2</td><td>19104</td><td>71</td></tr> <tr><td>137TMN</td><td>80378</td><td>299</td></tr> <tr><td>136TMN</td><td>104151</td><td>388</td></tr> <tr><td>135146TMN</td><td>83314</td><td>310</td></tr> <tr><td>236TMN</td><td>65353</td><td>243</td></tr> <tr><td>167127TMN</td><td>52057</td><td>194</td></tr> <tr><td>126TMN</td><td>28684</td><td>107</td></tr> <tr><td>124TMN</td><td>10592</td><td>39</td></tr> <tr><td>125TMN</td><td>42769</td><td>159</td></tr> <tr><td>BP</td><td>93037</td><td>238</td></tr> <tr><td>3MBP</td><td>121362</td><td>311</td></tr> <tr><td>4MBP</td><td>34683</td><td>89</td></tr> <tr><td>23XDMBP</td><td>2668</td><td>10</td></tr> <tr><td>25DMBP</td><td>1455</td><td>5</td></tr> <tr><td>2424XDMBP</td><td>2377</td><td>9</td></tr> <tr><td>23DMBP</td><td>8062</td><td>30</td></tr> <tr><td>3EBP</td><td>8464</td><td>31</td></tr> <tr><td>35DMBP</td><td>16600</td><td>62</td></tr> <tr><td>33XDMBP</td><td>42926</td><td>160</td></tr> <tr><td>4EBP</td><td>2731</td><td>10</td></tr> <tr><td>34XDMBP</td><td>27699</td><td>103</td></tr> <tr><td>44XDMBP</td><td>5080</td><td>19</td></tr> <tr><td>34DMBP</td><td>12505</td><td>47</td></tr> <tr><td>DBF</td><td>22537</td><td>58</td></tr> <tr><td>DBF1</td><td>25650</td><td>95</td></tr> <tr><td>MDBF2</td><td>16833</td><td>63</td></tr> <tr><td>MDBF3</td><td>12521</td><td>47</td></tr> <tr><td>F</td><td>30750</td><td>96</td></tr> <tr><td>C1F1</td><td>10591</td><td>33</td></tr> <tr><td>C1F2</td><td>35618</td><td>111</td></tr> <tr><td>1MF</td><td>5235</td><td>16</td></tr> <tr><td>DBT</td><td>5101</td><td>5</td></tr> <tr><td>4MDBT</td><td>6405</td><td>6</td></tr> <tr><td>3MDBT</td><td>0</td><td>0</td></tr> <tr><td>1MDBT</td><td>1729</td><td>2</td></tr> </tbody> </table>				Height	ng/mgEOM	N	259862	1452	2MN	545467	2128	1MN	330764	1290	2EN	49957	183	1EN	22808	83	2627DMN	170720	625	1317DMN	254228	930	16DMN	222604	814	2314DMN	75553	276	15DMN	43170	158	12DMN	40601	149	C3N1	15223	57	C3N2	19104	71	137TMN	80378	299	136TMN	104151	388	135146TMN	83314	310	236TMN	65353	243	167127TMN	52057	194	126TMN	28684	107	124TMN	10592	39	125TMN	42769	159	BP	93037	238	3MBP	121362	311	4MBP	34683	89	23XDMBP	2668	10	25DMBP	1455	5	2424XDMBP	2377	9	23DMBP	8062	30	3EBP	8464	31	35DMBP	16600	62	33XDMBP	42926	160	4EBP	2731	10	34XDMBP	27699	103	44XDMBP	5080	19	34DMBP	12505	47	DBF	22537	58	DBF1	25650	95	MDBF2	16833	63	MDBF3	12521	47	F	30750	96	C1F1	10591	33	C1F2	35618	111	1MF	5235	16	DBT	5101	5	4MDBT	6405	6	3MDBT	0	0	1MDBT	1729	2
	Height	ng/mgEOM																																																																																																																																																						
N	259862	1452																																																																																																																																																						
2MN	545467	2128																																																																																																																																																						
1MN	330764	1290																																																																																																																																																						
2EN	49957	183																																																																																																																																																						
1EN	22808	83																																																																																																																																																						
2627DMN	170720	625																																																																																																																																																						
1317DMN	254228	930																																																																																																																																																						
16DMN	222604	814																																																																																																																																																						
2314DMN	75553	276																																																																																																																																																						
15DMN	43170	158																																																																																																																																																						
12DMN	40601	149																																																																																																																																																						
C3N1	15223	57																																																																																																																																																						
C3N2	19104	71																																																																																																																																																						
137TMN	80378	299																																																																																																																																																						
136TMN	104151	388																																																																																																																																																						
135146TMN	83314	310																																																																																																																																																						
236TMN	65353	243																																																																																																																																																						
167127TMN	52057	194																																																																																																																																																						
126TMN	28684	107																																																																																																																																																						
124TMN	10592	39																																																																																																																																																						
125TMN	42769	159																																																																																																																																																						
BP	93037	238																																																																																																																																																						
3MBP	121362	311																																																																																																																																																						
4MBP	34683	89																																																																																																																																																						
23XDMBP	2668	10																																																																																																																																																						
25DMBP	1455	5																																																																																																																																																						
2424XDMBP	2377	9																																																																																																																																																						
23DMBP	8062	30																																																																																																																																																						
3EBP	8464	31																																																																																																																																																						
35DMBP	16600	62																																																																																																																																																						
33XDMBP	42926	160																																																																																																																																																						
4EBP	2731	10																																																																																																																																																						
34XDMBP	27699	103																																																																																																																																																						
44XDMBP	5080	19																																																																																																																																																						
34DMBP	12505	47																																																																																																																																																						
DBF	22537	58																																																																																																																																																						
DBF1	25650	95																																																																																																																																																						
MDBF2	16833	63																																																																																																																																																						
MDBF3	12521	47																																																																																																																																																						
F	30750	96																																																																																																																																																						
C1F1	10591	33																																																																																																																																																						
C1F2	35618	111																																																																																																																																																						
1MF	5235	16																																																																																																																																																						
DBT	5101	5																																																																																																																																																						
4MDBT	6405	6																																																																																																																																																						
3MDBT	0	0																																																																																																																																																						
1MDBT	1729	2																																																																																																																																																						
nC12	785121	0	25nor28ab	204	2																																																																																																																																																			
nC13	898346	0	28ab	1359	15																																																																																																																																																			
nC14	998241	0	25nor29ab	215	2																																																																																																																																																			
iC16	473967	4600	29ab	5234	58																																																																																																																																																			
nC15	1044789	10140	29ba	770	9																																																																																																																																																			
nC16	1040262	10090	29Ts	2185	24																																																																																																																																																			
iC18	433552	4210	25nor30ab	172	2																																																																																																																																																			
nC17	1058588	10270	30ab	12595	90																																																																																																																																																			
Prinstane	1019035	9890	30ba	1632	12																																																																																																																																																			
nC18	880143	8540	30D	1968	22																																																																																																																																																			
Phytane	269407	2610	30G	911	10																																																																																																																																																			
nC19	827038	8030	30O	0	0																																																																																																																																																			
nC20	742882	7210	30D13	578	6																																																																																																																																																			
nC21	685174	6650	31abS	5871	65																																																																																																																																																			
nC22	635785	6170	31abR	4165	46																																																																																																																																																			
nC23	599408	5820	31ba	423	5																																																																																																																																																			
nC24	539215	5230	32abS	3714	41																																																																																																																																																			
nC25	479881	4660	32abR	2872	32																																																																																																																																																			
nC26	404381	3920	33abS	2690	30																																																																																																																																																			
nC27	341509	3310	33abR	1889	21																																																																																																																																																			
nC28	284348	2760	34abS	1674	19																																																																																																																																																			
nC29	236943	2300	34abR	1162	13																																																																																																																																																			
nC30	176326	1710	35abS	1289	14																																																																																																																																																			
nC31	147118	1430	35abR	962	11																																																																																																																																																			
nC32	99619	970	21aa	890	14																																																																																																																																																			
nC33	89120	860	21bb	859	14																																																																																																																																																			
nC34	43440	420	22aa	628	10																																																																																																																																																			
nC35	39534	380	22bb	486	8																																																																																																																																																			
			27dbS	2408	39																																																																																																																																																			
			27dbR	1599	26																																																																																																																																																			
			27bbR	2308	37																																																																																																																																																			
			27bbS	1788	29																																																																																																																																																			
			27aaR	959	15																																																																																																																																																			
			28bbR	1373	22																																																																																																																																																			
			28bbS	1734	28																																																																																																																																																			
			29aaS	1414	23																																																																																																																																																			
			29bbR	2554	41																																																																																																																																																			
			29bbS	2469	40																																																																																																																																																			
			29aaR	1158	19																																																																																																																																																			
			30bbR	664	11																																																																																																																																																			
			30bbS	554	9																																																																																																																																																			
Saturated HC biomarkers, GC/MS			Height ng/mgEOM																																																																																																																																																					
	Height	ng/mgEOM																																																																																																																																																						
19/3	651	7																																																																																																																																																						
20/3	501	6																																																																																																																																																						
21/3	458	5																																																																																																																																																						
23/3	707	8																																																																																																																																																						
24/3	530	6																																																																																																																																																						
25/3	0	0																																																																																																																																																						
25/3R	225	3																																																																																																																																																						
25/3S	0	3																																																																																																																																																						
26/3R	270	3																																																																																																																																																						
26/3S	264	3																																																																																																																																																						
28/3R	250	3																																																																																																																																																						
28/3S	234	3																																																																																																																																																						
29/3R	224	2																																																																																																																																																						
29/3S	374	4																																																																																																																																																						
24/4	755	8																																																																																																																																																						
27Ts	2320	26																																																																																																																																																						
27Tm	2483	28																																																																																																																																																						

Country, well/location: NOR 30/9-9
 Sample type, depth (m): OIL, 2394.4-2409.4 m
 Stratigraphy (Gr./Fm.):
 Remarks:

Fluid
sample



E&P Research Centre,
Bergen, Norway

OrgID: , PlanID:

Aromatic HC's, GC/MS cont...			cont...		
	Height	ng/mgEOM	Area	ng/mgEOM	
P	67728	191	1C2DMCYC5	2739647	270
3MP	27281	90	MCYC6	244596022	23700
2MP	29517	98	113TMCYC5	7907085	770
9MP	39001	129	ECYC5	11778616	1140
1MP	29073	96	25DMC6	4997680	480
2EP9EP36DMP	8574	27	223TMC524DM	5873224	570
1EP	8708	28	1C2T4TMCYC5	7465285	720
262735DMP	4276	14	33DMC6	1710212	170
13210393DMP	27412	87	1T2C3TMCYC5	6913210	670
162529DMP	13953	44	234TMC5	940828	90
17DMP	12523	40	TOLUENE	129778566	8990
23DMP	4816	15	23DMC6	7714657	750
194941DMP	8983	28	2MC7	39030014	3780
18DMP	3144	10	4MC7	12304174	1190
RETENE	17284	49	3MC7	31515930	3050
20TA	1478	2	1C3DMCYC6	33314844	3230
21TA	1812	2	1T4DMCYC6	19045378	1850
S26TA	1158	2	11DMCYC6	6539424	630
R26TAS27TA	3722	5	1T2DMCYC6	23046200	2230
S28TA	2359	3	NC8	130884724	12680
R27TA	1937	3	ECYC6	59510673	5770
R28TA	2260	3	IC9	11118815	770
			EBENZENE	25625470	1780
			MXYLENE	88694620	6140
			PXYLENE	25270682	1750
			4MC8	13930053	970
			2MC8	21757237	1510
			3MC8	19979238	1380
			OXYLENE	38693176	2680
			NC9	135773008	9410
			IC10	22460395	1560
			NC10	126780787	8780
			IC11	24132938	1670
			NC11	143510166	9940
			NC12	144940092	10040
			IC13	28593510	1980
			PHC6	134255962	9300
			IC14	37328936	2590
			NC13	148620671	10300
			IC15	32874787	2280
			NC14	165635754	11470
			IC16	60075720	4160
			NC15	147419410	10210
			NC16	141817057	9820
			IC18	38870013	2690
			NC17	129889540	9000
			PRISTANE	126650291	8770
			NC18	112118188	7770
			PHYTANE	37741514	2610
			NC19	114511089	7930
			NC20	132019869	9150

Country, well/location: **NOR 30/9-13 S**
 Sample type, depth (m): **OIL, 3023.9-3072.9 m**
 Stratigraphy (Gr./Fm.):
 Remarks:
 OrgID: , PlanID:

**Fluid
sample**



E&P Research Centre,
Bergen, Norway

Saturated HC's, GC/FID			cont... Height ng/mgEOM		cont... Height ng/mgEOM		
	Area	ng/mgEOM				Height	ng/mgEOM
nC11	581944	0	27b	382	4		
nC12	730100	0	25nor28ab	549	6		
nC13	848799	0	28ab	3115	32	Aromatic HC's, GC/MS	
nC14	977414	0	25nor29ab	101	1		
iC16	431174	3510	29ab	7799	80	N	626131 1818
nC15	1036066	8430	29ba	1140	12	2MN	1289282 2698
nC16	1078020	8770	29Ts	2928	30	1MN	822205 1721
iC18	449646	3660	25nor30ab	141	1	2EN	95488 187
nC17	1152295	9370	30ab	19092	127	1EN	44393 87
Prinstane	881878	7170	30ba	2344	16	2627DMN	407809 800
nC18	1037371	8440	30D	2291	24	1317DMN	537631 1055
Phytane	394980	3210	30G	1341	14	16DMN	527718 1036
nC19	1032186	8400	30O	0	0	2314DMN	193793 380
nC20	1006017	8180	30D13	406	4	15DMN	120901 237
nC21	978435	7960	31abS	8579	89	12DMN	95278 187
nC22	962121	7830	31abR	5511	57	C3N1	32183 64
nC23	949055	7720	31ba	819	8	C3N2	39825 79
nC24	918963	7470	32abS	5041	52	137TMN	193840 387
nC25	847147	6890	32abR	3986	41	136TMN	259234 517
nC26	752316	6120	33abS	4188	43	135146TMN	206049 411
nC27	642718	5230	33abR	2710	28	236TMN	171078 341
nC28	553329	4500	34abS	2411	25	167127TMN	128216 256
nC29	489503	3980	34abR	1662	17	126TMN	75544 151
nC30	392722	3190	35abS	2055	21	124TMN	25282 50
nC31	342496	2790	35abR	1440	15	125TMN	108270 216
nC32	252443	2050	21aa	1699	25	BP	296567 408
nC33	228563	1860	21bb	1865	28	3MBP	355022 488
nC34	135740	1100	22aa	1082	16	4MBP	116347 160
nC35	133486	1090	22bb	1071	16	23XDMBP	6500 13
			27dbS	3908	58	25DMBP	3362 7
			27dbR	2522	38	2424XDMBP	5766 12
			27bbR	4547	68	23DMBP	24322 49
			27bbS	3848	57	3EBP	21391 43
			27aaR	1711	25	35DMBP	50392 101
			28bbR	2882	43	33XDMBP	130135 260
			28bbS	3836	57	4EBP	7775 16
			29aaS	2511	37	34XDMBP	94001 188
			29bbR	5011	75	44XDMBP	17546 35
			29bbS	4842	72	34DMBP	38207 76
			29aaR	2004	30	DBF	87017 120
			30bbR	1601	24	DBF1	89694 179
			30bbS	1229	18	MDBF2	58575 117
						MDBF3	46215 92
						F	129511 216
						C1F1	38220 64
						C1F2	122451 204
						1MF	18527 31
						DBT	31121 16
						4MDBT	38303 19
						3MDBT	0 0
						1MDBT	8088 4
Saturated HC biomarkers, GC/MS							
		Height ng/mgEOM					
19/3	907	9					
20/3	772	8					
21/3	816	8					
23/3	1304	13					
24/3	1118	12					
25/3	0	0					
25/3R	455	5					
25/3S	0	5					
26/3R	484	5					
26/3S	577	6					
28/3R	531	5					
28/3S	457	5					
29/3R	574	6					
29/3S	848	9					
24/4	1101	11					
27Ts	3490	36					
27Tm	3385	35					

Country, well/location: **NOR 30/9-13 S**
 Sample type, depth (m): **OIL, 3023.9-3072.9 m**
 Stratigraphy (Gr./Fm.):
 Remarks:
 OrgID: , PlanID:

Fluid sample



E&P Research Centre,
Bergen, Norway

Aromatic HC's, GC/MS cont...			cont... Area ng/mgEOM		
	Height	ng/mgEOM		Area	ng/mgEOM
P	274200	396	1C2DMCYC5	784262	60
3MP	107091	181	MCYC6	74242547	5260
2MP	121171	205	113TMCYC5	3049889	220
9MP	137817	233	ECYC5	3922668	280
1MP	108762	184	25DMC6	1950366	140
2EP9EP36DMP	30030	49	223TMC524DM	2475254	180
1EP	31538	51	1C2T4TMCYC5	2992115	210
262735DMP	17043	28	33DMC6	797363	60
13210393DMP	94234	153	1T2C3TMCYC5	3245714	230
162529DMP	47506	77	234TMC5	585314	40
17DMP	50818	82	TOLUENE	57431477	3760
23DMP	16773	27	23DMC6	3794314	270
194941DMP	28938	47	2MC7	17497456	1240
18DMP	11107	18	4MC7	5830800	410
RETENE	44565	64	3MC7	13305574	940
20TA	5089	3	1C3DMCYC6	15904698	1130
21TA	5658	3	1T4DMCYC6	7169604	510
S26TA	2807	2	11DMCYC6	4027495	290
R26TAS27TA	11197	7	1T2DMCYC6	10240102	730
S28TA	7010	4	NC8	57706038	4090
R27TA	5845	4	ECYC6	29806500	2110
R28TA	6119	4	IC9	8427409	550
C5-20 HC's, GC/FID			EBENZENE	15307318	1000
	Area	ng/mgEOM	MXYLENE	62565745	4100
IC5	4552727	320	PXYLENE	17025502	1110
NC5	3731415	260	4MC8	9802935	640
22DMC4	547377	40	2MC8	14858715	970
CYC5	1758730	120	3MC8	14338146	940
23DMC4	1332543	90	OXYLENE	30280896	1980
2MC5	6605968	470	NC9	84310492	5520
3MC5	4700679	330	IC10	18429849	1210
NC6	9772817	690	NC10	91030175	5960
3MCYC5ENE	12610	0	IC11	19700597	1290
22DMC5	628704	40	NC11	110382834	7230
MCYC5	11363480	810	NC12	114607747	7500
24DMC5	1109195	80	IC13	24169188	1580
223TMC4	227179	20	PHC6	137452267	9000
BENZENE	8760139	570	IC14	26767408	1750
33DMC5	505183	40	NC13	120724357	7900
CYC6	31883838	2260	IC15	27676022	1810
2MC6	8206114	580	NC14	151902810	9950
23DMC5	3166515	220	IC16	47791517	3130
11DMCYC5	2330619	170	NC15	133944160	8770
3MC6	9533958	680	NC16	138302299	9050
1C3DMCYC5	3611911	260	IC18	41316986	2710
1T3DMCYC5	3444447	240	NC17	141914077	9290
3EC5	815236	60	PRISTANE	110757020	7250
1T2DMCYC5	7194184	510	NC18	133263926	8720
IC8	#####	9000	PHYTANE	54839245	3590
NC7	26387216	1870	NC19	156220188	10230
			NC20	218352160	14300