

Sample bottle	MPSR 152	MPSR 173	MPSR 750	GA 142	GA 148
Sample depth (m MD)	3 748	3 748	3 748	3 748	3 748
Formation pressure (bar)	561	561	561	561	561
Mobility (md/cP)	1.2	1.2	1.2	1.2	1.2
Dead space fluid	Water	Water	Water	Water	Water
Filling technique	Direct	Direct	Direct	Direct	Direct
Time opened	10:43	11:31	11:59	12:06	12:44
Volume pumped (litres)	5	9	13	13.7	18.7
Pump-out load (rpm)	300	200	200	200	200
Observed fluid on OFA	Oil	Oil	Oil	Oil	Oil
Sampling temp (deg. C)	135.6	135.6	135.7	135.8	135.9
Flowing pressure (bar)	443.5	490.3	476.5	475.2	477.5
Draw-down (bar)	106	68	75	74	74
Shut in pressure (bar)	693	693	693	693	693
Filling time (minutes)	4	5	7	38	39

Table 8.9.1: MDT sampling overview.

The large diameter probe was used due to the tight formation, but still a relatively high draw-down was experienced. For the first sample the draw-down was 106 bar, and between 68 and 75 bar for the next four. The reason for this was a higher pump speed on the first sample.

In spite of the high draw-down, the sampling pressure was above the dew point of the reservoir gas, and good samples could have been taken. However, the time spent for cleaning up was very short in order to save time, as flow was proven, and samples would be collected in the succeeding DST. The first sample was taken after 10 minutes (5 litres) of pumping, and the last sample was filled two hours later. The short clean-up time caused the samples to be highly contaminated with base oil from the drilling mud. The contamination results can be seen in .

Sample	Contamination (%)
MPSR 152	60 +/- 6
MPSR 173	45 +/- 5
MPSR 750	Not analysed
GA 142	36 +/- 4
GA 148	32 +/- 4

Table 8.9.2: Contamination of MDT fluid samples. (Ref. /8-10-5/)

APT did all contamination measurements with the use of a gas chromatograph (GC).
clearly indicates that a longer clean-up time would have resulted in less contaminated samples.

Due to the high contamination level, all the MDT samples are regarded to be worthless with regards to PVT fluid analysis.

DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 6407/7-6 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					
2000-10-18 23:00	392	392	BENTONITE MUD	0,0	1,05						0	0							
2000-10-19	386	386	BENTONITE MUD	0,0	1,05	20,0					0	0							
2000-10-20	448	448	BENTONITE MUD	0,0	1,05	20,0					0	0							
2000-10-21	448	448	BENTONITE MUD		1,05	20,0					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					
2000-10-22	935	935	BENTONITE MUD	0,0	1,05	20,0					0	0							
2000-10-23	1229	1229	BENTONITE MUD	70,0	1,40	20,0					0	0							
2000-10-24	1229	1229	BENTONITE MUD	0,0	1,05	20,0					0	0							
2000-10-25	1229	1229	BENTONITE MUD	0,0	1,05	20,0					0	0							
2000-10-26	1229	1229	BENTONITE MUD	0,0	1,05	20,0					0	0							
2000-10-27	1231	1231	BENTONITE MUD		1,05	20,0					0	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					
2000-10-28	1232	1232	VERSAVERT	115,0	1,60	20,0	169	97	71	43	0	0	12	10	50,0	72,0	12,5	8,0	24,0
2000-10-29	1842	1842	VERSAVERT	117,0	1,60	26,0	108	66	50	34	0	0	14	12	50,0	42,0	12,0	11,0	18,0
2000-10-30	2541	2541	VERSAVERT	113,0	1,60	20,0	98	60	46	32	0	0	14	12	50,0	38,0	11,0	10,5	17,5
2000-10-31 22:30	3083	3083	VERSAVERT	102,0	1,60	35,0	110	66	48	31	0	0	12	11	50,0	44,0	11,0	10,0	19,0
2000-11-01	3100	3100	VERSAVERT		1,60	20,0	106	63	48	32	0	0	13	12	50,0	43,0	10,0	11,0	16,0
2000-11-02 18:00	3100	3100	VERSAVERT	118,0	1,60	24,0	101	61	48	31	0	0	18	10	50,0	40,0	10,5	10,0	16,0

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					
2000-11-03 23:00	3100	3100	VERSAVERT	118,0	1,60	25,0	109	64	48	32	0	0	13	12	50,0	45,0	9,5	10,0	16,0
2000-11-04	3205	3205	VERSAVERT	94,0	1,60	40,0	110	66	49	32	0	0	12	10	50,0	44,0	11,0	9,0	14,0
2000-11-05 22:00	3377	3377	VERSAVERT	85,0	1,61	38,0	107	65	49	33	0	0	12	11	50,0	42,0	11,5	8,5	14,5

DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 6407/7-6 PO: 1

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					
2000-11-06 23:00	3558	3557	VERSAVERT	66,0	1,60	40,0	87	54	41	28	0	0	11	10	50,0	33,0	10,5	8,5	13,0
2000-11-07 17:00	3700	3699	VERSAVERT	66,0	1,60	38,0	88	55	41	28	0	0	11	10	50,0	33,0	11,0	8,0	13,0
2000-11-08 22:00	3709	3707	VERSAVERT	80,0	1,62	30,0	89	56	42	29	0	0	12	10	50,0	33,0	11,5	8,0	13,0
2000-11-09 21:00	3720	3718	VERSAVERT	98,0	1,60	1,6	88	54	40	27	0	0	9	8	50,0	34,0	10,0	6,0	11,0
2000-11-10 20:00	3743	3741	VERSAVERT	98,0	1,61	1,6	89	55	40	27	0	0	10	9	50,0	34,0	10,5	6,0	11,0
2000-11-11 17:00	3771	3768	VERSAVERT	99,0	1,61	1,6	87	54	39	27	0	0	9	8	50,0	33,0	10,5	6,5	11,0
2000-11-12 21:00	3786	3784	VERSAVERT	101,0	1,61	30,0	95	58	45	28	0	0	9	8	50,0	37,0	10,5	7,0	11,0
2000-11-13 15:00	3809	3807	VERSAVERT	102,0	1,61	30,0	94	58	43	28	0	0	9	8	50,0	36,0	11,0	7,0	10,5
2000-11-14 21:00	3852	3849	VERSAVERT	109,0	1,61	28,0	93	57	41	25	0	0	9	8	50,0	36,0	10,5	6,0	11,0
2000-11-15 21:00	3864	3861	VERSAVERT	99,0	1,61	39,0	88	54	40	24	0	0	9	8	50,0	34,0	10,0	6,0	11,0
2000-11-16 21:00	3930	3926	VERSAVERT	101,0	1,60	40,0	92	58	44	39	0	0	9	8	50,0	34,0	12,0	6,0	11,0
2000-11-17	3930	3926	VERSAVERT	99,0	1,60	38,0	92	58	43	39	0	0	9	8	50,0	36,0	11,0	7,0	10,0
2000-11-18 14:00	3930	3926	VERSAVERT	99,0	1,60	28,0	92	57	43	39	0	0	9	8	50,0	35,0	11,0	6,0	11,0
2000-11-19 20:00	3930	3926	VERSAVERT	101,0	1,60	24,0	91	57	43	39	0	0	9	8	50,0	34,0	11,5	6,0	11,0
2000-11-20 03:30	3930	3926	VERSAVERT	102,0	1,60	19,0	92	58	43	39	0	0	9	8	50,0	34,0	12,0	6,0	11,0
2000-11-21	3930	3926	VERSAVERT	101,0	1,61	20,0	92	58	43	39	0	0	9	8	50,0	34,0	12,0	6,0	11,0
2000-11-22	3975	3970	VERSAVERT	102,0	1,61	35,0	92	58	43	39	0	0	9	8	50,0	50,0	12,0	6,0	11,0
2000-11-23	3975	3970	VERSAVERT	102,0	1,61	36,0	92	58	43	39	0	0	9	8	50,0	34,0	12,0	6,0	11,0
2000-11-24	3975	3970	VERSAVERT	102,0	1,61	36,0	92	58	43	39	0	0	9	8	50,0	34,0	12,0	6,0	12,0
2000-11-25	3975	3970	VERSAVERT	101,0	1,61	38,0	92	58	43	39	0	0	9	8	50,0	34,0	12,0	6,0	11,0
2000-11-26	3975	3970	VERSAVERT	102,0	1,61	38,0	92	58	43	39	0	0	9	8	50,0	34,0	12,0	6,0	11,0
2000-11-27	3975	3970	VERSAVERT	102,0	1,61	39,0	92	58	43	39	0	0	9	8	50,0	34,0	12,0	6,0	11,0
2000-11-28	3975	3970	VERSAVERT	102,0	1,61	29,0	92	58	43	39	0	0	9	8	50,0	34,0	12,0	6,0	11,0
2000-11-29	3975	3970	VERSAVERT	102,0	1,61	26,0	92	58	43	39	0	0	9	8	50,0	34,0	12,0	6,0	11,0
2000-11-30 11:15	3975	3970	VERSAVERT	102,0	1,61	20,0	106	60	43	26	0	0	7	6	50,0	46,0	7,0	4,5	9,0
2000-12-01 18:00	3975	3970	VERSAVERT	101,0	1,61	20,0	106	60	43	26	0	0	7	6	50,0	46,0	7,0	5,0	9,0
2000-12-02 20:00	3975	3970	VERSAVERT	101,0	1,61	20,0	106	61	43	26	0	0	7	6	50,0	45,0	8,0	4,5	9,0
2000-12-03 16:00	3975	3970	VERSAVERT	102,0	1,61	20,0	106	60	43	26	0	0	7	6	50,0	46,0	7,0	5,0	9,0
2000-12-04 15:00	3975	3970	VERSAVERT	102,0	1,61	20,0	106	60	43	26	0	0	7	6	50,0	46,0	7,0	5,0	9,0
2000-12-05 15:00	3975	3970	VERSAVERT	102,0	1,61	20,0	106	61	44	26	0	0	7	6	50,0	45,0	8,0	4,5	9,0
2000-12-07	3975	3970	VERSAVERT	102,0	1,61	34,0	111	61	44	26	0	0	7	5	50,0	50,0	5,5	4,5	9,0
2000-12-08	3975	3970	VERSAVERT	102,0	1,61	30,0	110	60	44	26	0	0	7	5	50,0	50,0	5,0	5,0	9,0
2000-12-09	3975	3970	VERSAVERT	102,0	1,61	30,0	110	60	44	26	0	0	7	5	50,0	50,0	5,0	5,0	9,0
2000-12-11	3975	3970	VERSAVERT	102,0	1,60	18,0	110	60	44	26	0	0	7	5	50,0	50,0	5,0	5,0	9,0
2000-12-12	3975	3970	VERSAVERT	102,0	1,60	20,0	110	60	44	26	0	0	7	5	50,0	42,0	12,0	9,0	15,0
2000-12-13	3975	3970	VERSAVERT	101,0	1,60	35,0	110	60	44	26	0	0	7	5	50,0	50,0	5,0	5,0	9,0

DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 6407/7-6 PO: 1

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					
2000-12-14	3975	3970	VERSAVERT	101,0	1,60	34,0	110	60	44	26	0	0	7	5	50,0	50,0	5,0	5,0	9,0
2000-12-15	3975	3970	VERSAVERT	102,0	1,60	34,0	110	60	44	26	0	0	7	5	50,0	50,0	5,0	5,0	9,0

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 6407/7-6 PO: 1

Hole section : 36"			WATER BASED SYSTEM															
Date	Depth [m]	Mud Type	Dens [sg]	Filtrate API	Filtcake API	HPHT	pH	Alcalinity Pm	Inhib Mf	K+	CL-	Ca++	Mg++	Tot hard	Percentage Solid Oil Sand	CEC	ASG	LGS
	MD	TVD		[ml]	[mm]	[bar/DegC]		[ml]	[Kg/m3]	[mg/l]	[mg/l]	[mg/l]	[mg/l]	[mg/l]	[%] [%] [%]	[Kg/m3]	[sg]	[Kg/m3]
2000-10-18 23:00	392	392	BENTONITE MUD	1,05			/											
2000-10-19	386	386	BENTONITE MUD	1,05			/											
2000-10-20	448	448	BENTONITE MUD	1,05			/											
2000-10-21	448	448	BENTONITE MUD	1,05			/											
Hole section : 26"			WATER BASED SYSTEM															
Date	Depth [m]	Mud Type	Dens [sg]	Filtrate API	Filtcake API	HPHT	pH	Alcalinity Pm	Inhib Mf	K+	CL-	Ca++	Mg++	Tot hard	Percentage Solid Oil Sand	CEC	ASG	LGS
	MD	TVD		[ml]	[mm]	[bar/DegC]		[ml]	[Kg/m3]	[mg/l]	[mg/l]	[mg/l]	[mg/l]	[mg/l]	[%] [%] [%]	[Kg/m3]	[sg]	[Kg/m3]
2000-10-22	935	935	BENTONITE MUD	1,05			/											
2000-10-23	1229	1229	BENTONITE MUD	1,40			/											
2000-10-24	1229	1229	BENTONITE MUD	1,05			/											
2000-10-25	1229	1229	BENTONITE MUD	1,05			/											
2000-10-26	1229	1229	BENTONITE MUD	1,05			/											
2000-10-27	1231	1231	BENTONITE MUD	1,05			/											
Hole section : 12 1/4"			OIL BASED SYSTEM															
Date	Depth [m]	Mud Type	Density [sg]	Filtrate HPHT	Filtcake HPHT	HPHT	Electrical stability [V]	Alcalinity Pm [ml]	CaCl2 [mg/l]	Oil/Water Ratio	Percentage Solid Oil Sand	ASG [sg]	LGS [Kg/m3]					
	MD	TVD		[ml]	[mm]	[bar/DegC]					[%] [%] [%]							
2000-10-28	1232	1232	VERSAVERT	1,60	10,4	3	/ 150	346	89	64/ 36	24,0 48,5 2,5	3,9	123					
2000-10-29	1842	1842	VERSAVERT	1,60	3,6	2	/ 150	777	181	75/ 25	23,5 57,5 1,5	4,0	67					
2000-10-30	2541	2541	VERSAVERT	1,60	4,6	2	/ 150	974	176	78/ 22	23,5 59,5 1,2	4,0	60					
2000-10-31 22:30	3083	3083	VERSAVERT	1,60	6,8	2	/ 150	767	172	74/ 26	23,0 57,0 0,8	4,1	43					
2000-11-01	3100	3100	VERSAVERT	1,60	3,9	2	/ 150	817	150	74/ 26	23,0 57,0 0,8	4,1	43					
2000-11-02 18:00	3100	3100	VERSAVERT	1,60	4,0	2	/ 121	846	176	74/ 26	23,0 57,0 0,3	4,1	43					
Hole section : 8 1/2"			OIL BASED SYSTEM															
Date	Depth [m]	Mud Type	Density [sg]	Filtrate HPHT	Filtcake HPHT	HPHT	Electrical stability [V]	Alcalinity Pm [ml]	CaCl2 [mg/l]	Oil/Water Ratio	Percentage Solid Oil Sand	ASG [sg]	LGS [Kg/m3]					
	MD	TVD		[ml]	[mm]	[bar/DegC]					[%] [%] [%]							
2000-11-03 23:00	3100	3100	VERSAVERT	1,60	4,0	2	/ 121	901	177	74/ 26	23,0 58,0 0,3	4,1	43					
2000-11-04	3205	3205	VERSAVERT	1,60	3,2	2	/ 135	988	168	74/ 26	23,0 57,0 0,3	4,1	46					
2000-11-05 22:00	3377	3377	VERSAVERT	1,61	3,2	2	/ 138	1051	173	75/ 25	24,0 57,0 0,3	4,0	75					
2000-11-06 23:00	3558	3557	VERSAVERT	1,60	3,0	2	/ 135	1156	170	80/ 20	24,0 61,0 0,0	4,0	86					

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 6407/7-6 PO: 1

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 [%]		
2000-11-07 17:00	3700	3699	VERSAVERT	1,60	4,0	2	500 / 121	1180		159	79/ 21	24,0	60,0	0,0	4,0	89
2000-11-08 22:00	3709	3707	VERSAVERT	1,62	4,0	2	500 / 121	1131		164	79/ 21	24,5	60,0	0,0	4,0	82
2000-11-09 21:00	3720	3718	VERSAVERT	1,60		4	500 /	810		155	79/ 21	24,0	60,0	0,0	4,1	57
2000-11-10 20:00	3743	3741	VERSAVERT	1,61	3,9	1	500 / 121	875		150	79/ 21	24,0	60,0	0,0	4,0	81
2000-11-11 17:00	3771	3768	VERSAVERT	1,61	4,0	1	500 / 121	795		155	79/ 21	24,0	60,0	0,0	4,0	81
2000-11-12 21:00	3786	3784	VERSAVERT	1,61	3,5	1	500 / 121	805		159	79/ 21	24,0	60,0	0,0	4,0	81
2000-11-13 15:00	3809	3807	VERSAVERT	1,61	3,9	1	500 / 121	775		159	79/ 21	24,0	60,0	0,0	4,0	81
2000-11-14 21:00	3852	3849	VERSAVERT	1,61	3,8	1	500 / 121	670		159	79/ 21	24,0	60,0	0,0	4,0	81
2000-11-15 21:00	3864	3861	VERSAVERT	1,61	3,6	1	500 / 121	710		158	79/ 21	24,0	60,0	0,0	4,0	81
2000-11-16 21:00	3930	3926	VERSAVERT	1,60	3,8	1	500 / 121	702		150	79/ 21	23,5	60,5	0,0	4,0	71
2000-11-17	3930	3926	VERSAVERT	1,60	3,8	2	500 / 121	665		142	79/ 21	24,0	60,0	0,0	4,0	120
2000-11-18 14:00	3930	3926	VERSAVERT	1,60	3,8	1	500 / 121	655		141	79/ 21	24,0	60,0	0,0	4,0	95
2000-11-19 20:00	3930	3926	VERSAVERT	1,60	3,8	2	/ 150	642		141	79/ 21	24,0	60,0	0,0	4,0	95
2000-11-20 03:30	3930	3926	VERSAVERT	1,60	3,8	2	500 / 150	661		146	79/ 21	24,5	60,0	0,3	3,9	118
2000-11-21	3930	3926	VERSAVERT	1,61	4,0	2	500 / 130	665		135	79/ 21	24,5	60,0	0,0	4,0	120
2000-11-22	3975	3970	VERSAVERT	1,61	4,0	2	150 / 130	750		132	78/ 22	25,0	60,0	0,0	4,0	54
2000-11-23	3975	3970	VERSAVERT	1,61	4,0	2	150 / 130	800		135	79/ 21	25,0	60,0	0,0	4,0	30
2000-11-24	3975	3970	VERSAVERT	1,61	4,0	2	150 / 134	800		129	79/ 21	25,0	60,0	0,0	4,0	28
2000-11-25	3975	3970	VERSAVERT	1,61	4,0	2	150 / 130	801		133	78/ 22	24,0	60,0	0,0	4,0	32
2000-11-26	3975	3970	VERSAVERT	1,61	4,0	2	150 / 121	900		133	78/ 22	23,0	60,0	0,0	4,0	24
2000-11-27	3975	3970	VERSAVERT	1,61	4,0	2	150 / 121	900		133	78/ 22	25,0	60,0	0,0	4,0	21
2000-11-28	3975	3970	VERSAVERT	1,61	4,0	2	150 / 121	901		133	78/ 22	24,0	60,0	0,0	4,0	21
2000-11-29	3975	3970	VERSAVERT	1,61	4,0	2	150 / 121	900		133	78/ 22	24,0	60,0	0,0	4,0	21
2000-11-30 11:15	3975	3970	VERSAVERT	1,61	4,0	2	150 / 121	944		133	78/ 22	24,0	60,0	0,0	4,0	21
2000-12-01 18:00	3975	3970	VERSAVERT	1,61	4,0	2	150 / 121	938		133	78/ 22	24,0	60,0	0,0	4,0	24
2000-12-02 20:00	3975	3970	VERSAVERT	1,61	4,4	2	150 / 121	935		133	78/ 22	23,0	60,0	0,0	4,1	21
2000-12-03 16:00	3975	3970	VERSAVERT	1,61	4,4	2	150 / 121	942		133	78/ 22	23,0	60,0	0,0	4,1	21
2000-12-04 15:00	3975	3970	VERSAVERT	1,61	4,0	2	150 / 121	937		133	78/ 22	23,0	60,0	0,0	4,1	21
2000-12-05 15:00	3975	3970	VERSAVERT	1,61	4,0	2	150 / 121	595		140	82/ 18	24,0	62,0	0,0	4,0	67
2000-12-07	3975	3970	VERSAVERT	1,61	4,0	2	150 / 121	445		181	82/ 18	24,0	62,0	0,0	4,0	66
2000-12-08	3975	3970	VERSAVERT	1,61	2,0	2	150 / 121	479		181	82/ 18	24,0	62,0	0,0	4,0	66
2000-12-09	3975	3970	VERSAVERT	1,61	4,0	2	150 / 121	460		181	82/ 18	24,0	62,0	0,0	4,0	66
2000-12-11	3975	3970	VERSAVERT	1,60	4,0	2	150 / 121	420		181	82/ 18	24,0	62,0	0,0	4,0	82
2000-12-12	3975	3970	VERSAVERT	1,60	4,0	2	150 / 121	400		180	82/ 18	24,0	62,0	0,0	4,0	82

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 6407/7-6 PO: 1

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 [%]		
2000-12-13	3975	3970	VERSAVERT	1,60	4,0	2	150 / 121	400		181	82/ 18	24,0	62,0	0,0	4,0	80
2000-12-14	3975	3970	VERSAVERT	1,60	4,0	2	150 / 121	401		181	82/ 18	24,0	62,0	0,0	4,0	82
2000-12-15	3975	3970	VERSAVERT	1,60	4,0	2	150 / 121	420		181	82/ 18	24,0	62,0	0,0	4,0	82

TOTAL CONSUMPTION OF MUD ADDITIVES ON WELL 6407/7-6

Section	Product/ Additive	Unit	Total Amount Used
36"	BARITE	kg	237000,00
	BENTONITE	kg	44800,00
	CMC EHV	kg	325,00
	DUOTEC NS	kg	50,00
	SODA ASH	kg	575,00
26"	BARITE	kg	182000,00
	BENTONITE	kg	52000,00
	CMC EHV	kg	375,00
	MICA FINE	kg	1150,00
	SODA ASH	kg	825,00
17 1/2"	BARITE	kg	12000,00
	BENTONE 128	kg	75,00
12 1/4"	BARITE	kg	247000,00
	BENTONE 128	kg	4125,00
	CALCIUM CHLORIDE	kg	16100,00
	EDC 95/11	l	167982,00
	LIME	kg	8750,00
	VERSAMOD	kg	1842,00
	VERSAVERT F	l	2860,00
	VERSAVERT PE	l	8000,00
	VERSAVERT SE	l	4100,00
8 1/2"	BARITE	kg	276000,00
	BENTONE 128	kg	2023,00
	DUOTEC NS	kg	125,00
	EDC 95/11	l	102991,00
	LIME	kg	3000,00
	MICA FINE	kg	375,00
	NOVATEC B	l	11839,00
	SAFE SOLV OE	L	600,00
	VERSAMOD	kg	564,00
	VERSAVERT F	l	1930,00
	VERSAVERT PE	l	7000,00
	VERSAVERT SE	l	2000,00

01/2780



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Research Centre, Bergen

Classific.: INTERNAL E&P

REPORT

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PL 107 / PL 132

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Rev. : 0
Page: 1 of 24
Date : 2001-04-03

Prepared by : Arne Steen, FSB
Verified by : Arnd Wilhelms, FSB
Approved by : Else Grandal, E&P

Sign. : *Sign.*
Sign. : *Sign.*
Sign. : *Sign.*

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**REGISTRERT
OLJEDIREKTORATET**

20 SEPT. 2001

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BA 01-4769-1

APPENDICES:

- Appendix 1 Data tables on bulk data
- Appendix 2 Summary sheets

OLJEDIREKTORATET

06 AUG 2001

 Sak/Dok. nr. 012786-2

DISTRIBUTION:

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Well	Type	Start- depth, m	End- depth, m	Name	Sample annotation	RockEval	Extraction	Introscon	Saturated HC's	Saturated biomarker HC's	Aromatic HC's
6407/7-6	DC	3187.00	3190.00		L3190dc	X	X	X			
6407/7-6	MUD	3200.00	3200.00		mud3200		X	X	X	X	X
6407/7-6	SWC	3213.00	3213.00	54	L3213swc	X	X	X	X	X	X
6407/7-6	DC	3217.00	3220.00		L3220dc	X	X	X	X	X	X
6407/7-6	DC	3227.00	3230.00		L3230dc	X	X	X			
6407/7-6	SWC	3449.00	3449.00	31	I3449swc	X	X	X			
6407/7-6	SWC	3466.00	3466.00	24	I3466swc	X	X	X	X	X	X
6407/7-6	SWC	3484.00	3484.00	21	I3484swc	X	X	X			
6407/7-6	MUD	3500.00	3500.00		mud3500		X	X	X	X	X
6407/7-6	SWC	3550.00	3550.00	15	I3550swc	X	X	X	X	X	X
6407/7-6	COCH	3701.05	3701.05		I3701.05	X	X	X	X	X	X
6407/7-6	DC	3710.00	3712.00		I3712dc	X	X	X			
6407/7-6	MUD	3725.00	3725.00		mud3725		X	X	X	X	X
6407/7-6	COCH	3743.01	3743.01		I3743.01	X	X	X	X	X	X
6407/7-6	COCH	3750.02	3750.02		I3750.02	X	X	X			
6407/7-6	COCH	3759.90	3759.90		I3759.9	X	X	X			
6407/7-6	COCH	3765.01	3765.01		I3765.01	X	X	X			
6407/7-6	COCH	3767.80	3767.80		I3767.8	X	X	X			
6407/7-6	OIL/GAS	3680.00	3768.00	DST1	dst1	X	X	X	X	X	X
6407/7-6	COCH	3770.50	3770.50		I3770.5	X	X	X	X	X	X
6407/7-6	COCH	3772.01	3772.01		I3772.01	X	X	X			
6407/7-6	COCH	3773.90	3773.90		I3773.9	X	X	X	X	X	X
6407/7-6	COCH	3775.03	3775.03		I3775.03	X	X	X	X	X	X
6407/7-6	COCH	3775.95	3775.95		I3775.95	X	X	X	X	X	X
6407/7-6	COCH	3777.90	3777.90		I3777.9	X	X	X	X	X	X
6407/7-6	COCH	3779.98	3779.98		I3779.98	X	X	X			
6407/7-6	COCH	3782.03	3782.03		I3782.03	X	X	X	X	X	X
6407/7-6	COCH	3784.30	3784.30		I3784.3	X	X	X			
6407/7-6	COCH	3788.30	3788.30		I3788.3	X	X	X	X	X	X
6407/7-6	COCH	3789.98	3789.98		I3822.98	X	X	X			
6407/7-6	COCH	3801.97	3801.97		I3801.97	X	X	X	X	X	X
6407/7-6	COCH	3810.45	3810.45		I3810.45	X	X	X			
6407/7-6	COCH	3822.98	3822.98		I3822.98	X	X	X			
6407/7-6	COCH	3850.01	3850.01		I3850.1	X	X	X	X	X	X
6407/7-6	COCH	3862.02	3862.02		I3862.02	X	X	X			
6407/7-6	MUD	3875.00	3875.00		mud3875		X	X	X	X	X

Table 1.1. Sample list, annotation codes and analytical plan



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3 Experimental

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

- ✓ Rock Eval screening
 - ✓ asphaltene precipitation
 - ✓ preparative group type separation by MPLC¹
 - ✓ group type distribution by TLC-FID² (Iatroscan)
 - ✓ Gas chromatography (GC-FID) of saturated C₁₅₊ hydrocarbons
 - ✓ Gas chromatography-mass spectrometry (GC-MSD³) of the saturated (SAT) and aromatic (ARO) C₁₅₊ hydrocarbon fractions
 - ✓ Mass spectrometry of stable carbon isotopes in SAT and ARO fractions
 - ✓ Gas chromatography (GC-FID) of C₅₋₂₀ hydrocarbons of depressurized fluids.
- All chromatographic data are based on quantitative measurements.

All analytical and interpretative work were carried out at the Norsk Hydro O&E Research Centre in Bergen, Norway.

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 to the fluid, for quality control and quantitative reports.
- GC analysis of SAT and ARO fractions by 5% phenyl methyl-silicone stationary phase.
- GC-MSD detection of the aromatic hydrocarbons (not FID).
- Report of a restricted number of compounds relative to the NIGOGA guide, due to known co-elutions or disputable identities.

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

Samples which are annotated "nso..." or "s..." represent the internal North Sea reference oil (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, 3rd edition, 1993



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4 Effects from the Oil Based Mud (OBM)

The oil based mud system used in this well is characterised by analysis of four well mud samples at:
3200 m
3550 m
3725 m and 3875 m

The hydrocarbons in these samples are characterised by the high contents of saturated hydrocarbons, typically more than 90 wt%.

The samples are enriched in the boiling point range of nC₁₂ to nC₂₂ hydrocarbons, as illustrated in Figure 4.1. Both high molecular weight saturated hydrocarbon biomarkers and aromatic hydrocarbons are detected in the samples. Figures 4.2 and 4.3 show the fragmentograms of terpane biomarkers and triaromatic steroids, respectively. The nC₁₂ to nC₂₂ hydrocarbon signal of the mud will probably mask the genuine hydrocarbon signature in the case of mud infiltration of a sample. The concentration of high molecular weight hydrocarbon biomarkers in the mud are relatively low and may only contribute to the overall signature. The relatively low contents of compounds Ts and low molecular weight Tri-aromatic steroids indicate low maturity for the mud hydrocarbons.

Overall the chosen mud system has serious negative effects for the detection of shows.

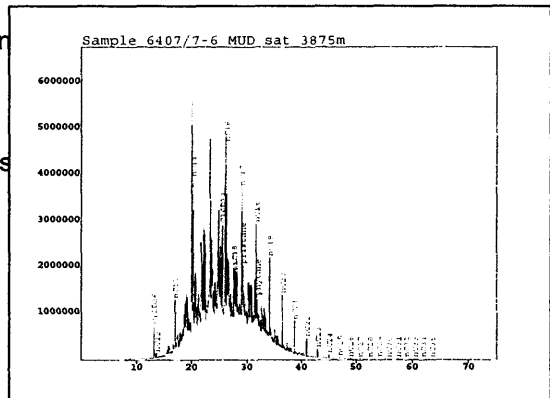


Figure 4.1 Saturated HC's, GC/FID

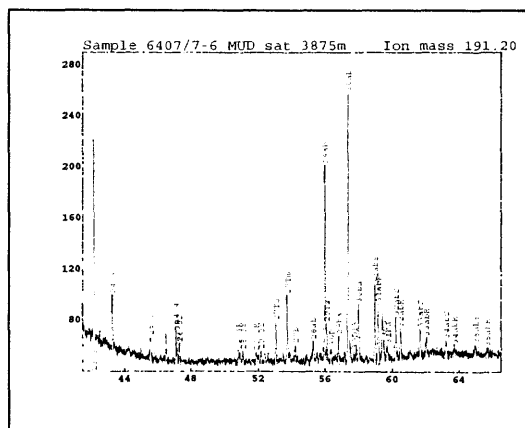


Figure 4.2 Saturated biomarker HC's, m/z 191

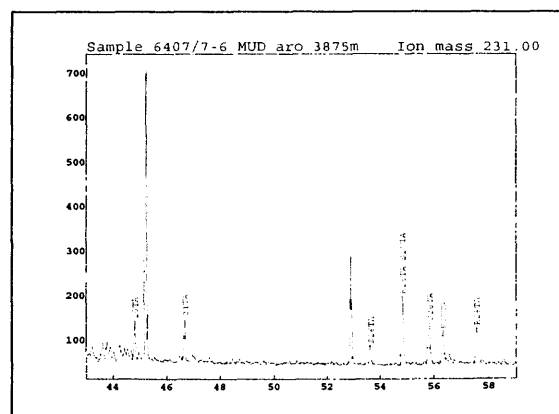


Figure 4.3 Aromatic HC's, m/z 231

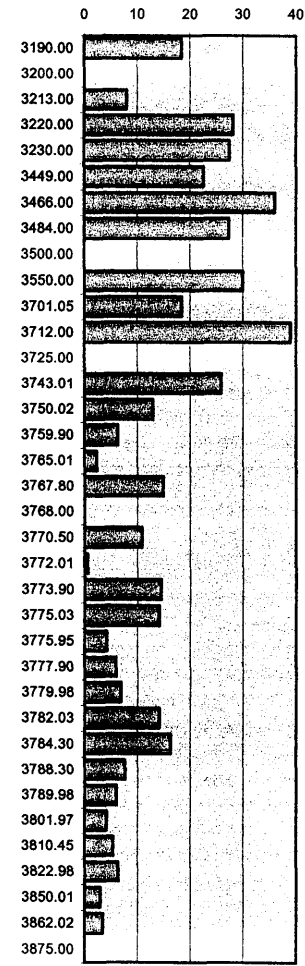
Appendix 1

Bulk data

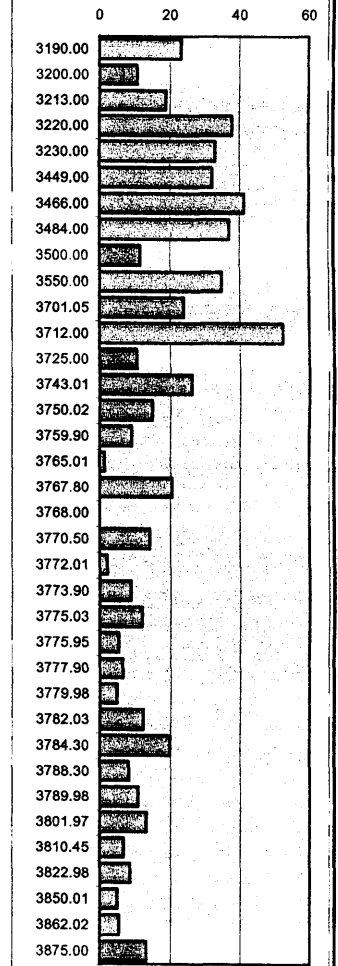
Rock Eval and EOM data

Name	End-depth, m	EOM, mg/g rock	SAT, wt.%	ARO, wt.%	NSO, wt.%	Asph. wt.%	RockEval, S1	S2	HI	Tmax	TOC
L3190dc	3190.00	23.3	85.6	0.6	12.4	1.5	18.5	4.2	153	425	2.8
mud3200	3200.00	10.6	91.8	0.5	5.6	2.1					
L3213swc	3213.00	18.8	87.4	0.5	8.1	4.0	8.0	2.3	104	434	2.2
L3220dc	3220.00	37.9	84.8	0.6	11.5	3.1	28.2	5.5	128	435	4.3
L3230dc	3230.00	33.0	86.3	1.1	11.0	1.6	27.5	5.6	141	428	4.0
i3449swc	3449.00	32.0	82.8	0.0	3.8	13.4	22.6	2.8	109	424	2.6
i3466swc	3466.00	41.2	89.3	0.0	3.5	7.2	36.0	2.4	66	426	3.5
i3484swc	3484.00	36.9	89.1	0.5	3.5	6.9	27.4	2.7	96	436	2.8
mud3500	3500.00	11.6	92.3	0.5	4.3	2.9					
i3550swc	3550.00	34.7	85.6	0.0	3.3	11.1	30.0	2.5	88	425	2.8
t3701.05	3701.05	23.8	90.6	2.2	5.0	2.2	18.5	2.3	97	450	2.4
t3712dc	3712.00	52.3	85.6	0.6	12.4	1.5	38.9	8.2	167	369	4.9
mud3725	3725.00	10.6	92.7	0.5	4.3	2.4					
t3743.01	3743.01	26.1	91.8	0.5	3.6	4.1	25.8	1.1	45	360	2.3
t3750.02	3750.02	14.9	88.7	2.1	5.6	3.6	13.0	1.8	97	447	1.8
t3759.9	3759.90	9.0	87.2	3.2	5.6	4.0	6.3	0.8	94	447	0.9
t3765.01	3765.01	1.4	46.7	19.6	9.1	24.4	2.3	2.2	125	448	1.7
t3767.8	3767.80	20.5	95.6	2.1	1.2	1.0	14.9	0.8	56	407	1.4
dst1	3768.00		81.2	15.8	2.8	0.2					
t3770.5	3770.50	14.2	93.0	1.6	3.7	1.7	10.9	2.8	131	456	2.1
t3772.01	3772.01	2.1	85.6	3.3	8.4	2.7	0.6	0.1	81	458	0.2
t3773.9	3773.90	8.8	84.5	0.5	3.9	11.1	14.5	1.7	116	420	1.5
t3775.03	3775.03	12.0	92.0	1.0	2.4	4.6	14.2	1.1	77	292	1.5
t3775.95	3775.95	5.4	93.5	2.1	1.8	2.5	4.2	5.2	215	454	2.4
t3777.9	3777.90	6.5	75.4	6.9	3.4	14.3	5.9	0.8	121	311	0.7
t3779.98	3779.98	4.8	78.3	6.2	4.8	10.8	6.9	2.1	145	447	1.4
t3782.03	3782.03	12.3	89.4	3.1	2.4	5.1	14.2	1.5	106	311	1.4
t3784.3	3784.30	19.9	88.6	1.0	2.9	7.5	16.3	2.3	107	443	2.1
t3788.3	3788.30	8.1	84.4	4.2	4.2	7.2	7.6	1.5	89	442	1.7
t3822.98	3789.98	10.8	77.8	2.9	5.0	14.3	6.0	4.0	149	456	2.7
t3789.98	3801.97	13.1	88.6	1.5	2.9	6.9	4.1	0.5	106	340	0.5
t3810.45	3810.45	6.7	75.5	3.7	3.2	17.6	5.4	0.7	103	344	0.6
t3822.98	3822.98	8.5	85.1	0.5	3.3	11.1	6.3	0.6	76	445	0.8
t3850.1	3850.01	4.9	87.8	2.2	6.9	3.1	2.9	0.6	141	431	0.4
t3862.02	3862.02	5.5	71.0	0.4	2.8	25.8	3.4	1.1	98	442	1.1
mud3875	3875.00	3.1	93.4	0.0	4.3	2.3					

RockEval, S1

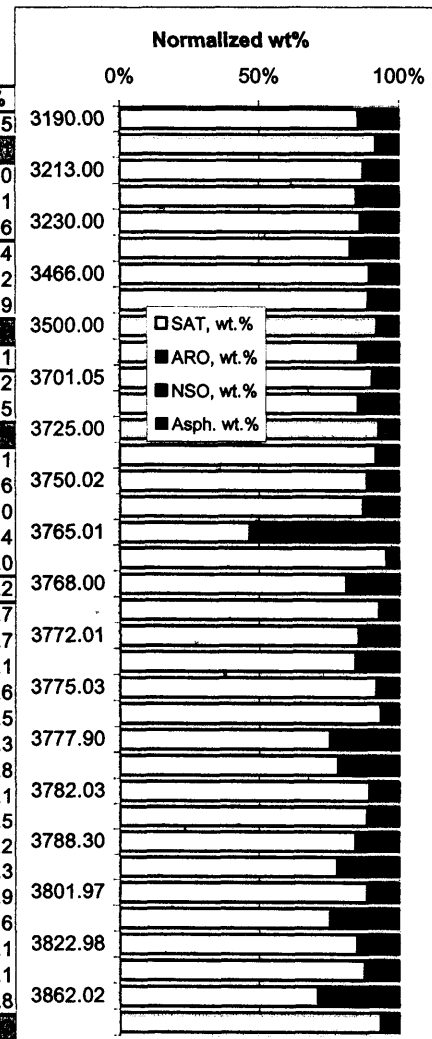


EOM, mg/g rock



Group type distribution

Name	End-depth, m	EOM, mg/g rock	SAT, wt. %	ARO, wt. %	NSO, wt. %	Asph. wt. %
L3190dc	3190.00	23.3	85.6	0.6	12.4	1.5
L3213swc	3213.00	18.8	87.4	0.5	8.1	4.0
L3220dc	3220.00	37.9	84.8	0.6	11.5	3.1
L3230dc	3230.00	33.0	86.3	1.1	11.0	1.6
i3449swc	3449.00	32.0	82.8	0.0	3.8	13.4
i3466swc	3466.00	41.2	89.3	0.0	3.5	7.2
i3484swc	3484.00	36.9	89.1	0.5	3.5	6.9
i3550swc	3550.00	34.7	85.6	0.0	3.3	11.1
t3701.05	3701.05	23.8	90.6	2.2	5.0	2.2
t3712dc	3712.00	52.3	85.6	0.6	12.4	1.5
t3743.01	3743.01	26.1	91.8	0.5	3.6	4.1
t3750.02	3750.02	14.9	88.7	2.1	5.6	3.6
t3759.9	3759.90	9.0	87.2	3.2	5.6	4.0
t3765.01	3765.01	1.4	46.7	19.8	9.1	24.4
t3767.8	3767.80	20.5	95.6	2.1	1.2	1.0
dst1	3768.00		81.2	15.8	2.8	0.2
t3770.5	3770.50	14.2	93.0	1.6	3.7	1.7
t3772.01	3772.01	2.1	85.6	3.3	8.4	2.7
t3773.9	3773.90	8.8	84.5	0.5	3.9	11.1
t3775.03	3775.03	12.0	92.0	1.0	2.4	4.6
t3775.95	3775.95	5.4	93.5	2.1	1.8	2.5
t3777.9	3777.90	6.5	75.4	6.9	3.4	14.3
t3779.98	3779.98	4.8	78.3	6.2	4.8	10.8
t3782.03	3782.03	12.3	89.4	3.1	2.4	5.1
t3784.3	3784.30	19.9	88.6	1.0	2.9	7.5
t3788.3	3788.30	8.1	84.4	4.2	4.2	7.2
t3822.98	3789.98	10.8	77.8	2.9	5.0	14.3
t3789.98	3801.97	13.1	88.6	1.5	2.9	6.9
t3810.45	3810.45	6.7	75.5	3.7	3.2	17.6
t3822.98	3822.98	8.5	85.1	0.5	3.3	11.1
t3850.1	3850.01	4.9	87.8	2.2	6.9	3.1
t3862.02	3862.02	5.5	71.0	0.4	2.8	25.8



Gas isotope and volume data

Sample	End-depth, m	Name	c13meth	dmeth	c13etha	c13prop	c13ibut	c13buta	c13ipent	c13pent	c13co2	o18co2
GAS	3768	DST1	-42.7	-21.3	-30.4	-29.1	-27.9	-29.3			-6.9	-14.1

Sample	End-depth, m	Name	c1	c2	c3	ic4	nc4	ic5	nc5	co2	c1c5	total_pct	wetness	ic4nc4
GAS	3768	DST1	78.1	10.9	5.1	0.6	1.3	0.2	0.3	3.6	96.5	100.1	0.19	0.46

Appendix 2

Summary sheets

Country, well/location: NOR 6407/7-6
 Sample type, depth (m): MUD, 3200-3200 m
 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							
nC11	135678	0	28ab	13	0	2314DMN	2218	1	
nC12	502454	0	25nor29ab	11	0	15DMN	1111	1	
nC13	3179949	0	29ab	145	2	12DMN	915	1	
nC14	30020118	0	29ba	21	0	C3N1	427	0	
iC16	7207549	4590	29Ts	26	0	C3N2	602	0	
nC15	12230477	7790	25nor30ab	8	0	137TMN	2023	1	
nC16	20211352	12880	30ab	209	2	136TMN	2818	2	
iC18	3728853	2380	30ba	46	1	135146TMN	2263	1	
nC17	8128920	5180	30D	12	0	236TMN	1811	1	
Prinstane	3435984	2190	30G	20	0	167127TMN	1376	1	
nC18	5520517	3520	30O	0	0	126TMN	914	1	
Phytane	2154167	1370	30D13	13	0	124TMN	219	0	
nC19	3851123	2450	31abS	63	1	125TMN	916	1	
nC20	2573269	1640	31abR	45	1	BP	4461	2	
nC21	1545793	990	31ba	14	0	3MBP	2923	1	
nC22	837683	530	32abS	34	1	4MBP	1196	1	
nC23	413658	260	32abR	27	0	23XDMBP	363	0	
nC24	182380	120	33abS	30	1	25DMBP	744	0	
nC25	63207	40	33abR	21	0	2424XDMBP	419	0	
nC26	22358	10	34abS	15	0	23DMBP	481	0	
nC27	10572	10	34abR	16	0	3EBP	141	0	
nC28	6154	0	35abS	15	0	35DMBP	1360	1	
nC29	4049	0	35abR	12	0	33XDMBP	2699	2	
nC30	5307	0	21aa	37	1	4EBP	545	0	
nC31	3941	0	21bb	17	0	34XDMBP	1162	1	
nC32	2331	0	22aa	11	0	44XDMBP	370	0	
nC33	4070	0	22bb	12	0	34DMBP	466	0	
nC34	2545	0	27dbS	32	1	DBF	1602	1	
nC35	771	0	27dbR	18	0	DBF1	753	0	
			27bbR	24	1	MDBF2	688	0	
			27bbS	20	1	MDBF3	567	0	
			27aaR	13	0	F	1410	1	
			28bbR	17	0	C1F1	465	0	
			28bbS	17	0	C1F2	1236	1	
			29aaS	16	0	1MF	265	0	
			29bbR	22	1	DBT	296	0	
			29bbS	19	0	4MDBT	379	0	
			29aaR	19	0	3MDBT	109	0	
			30bbR	6	0	1MDBT	83	0	
			30bbS	7	0	P	4458	2	
			Aromatic HC's, GC/MS				3MP	1693	1
				Height	ng/mgEOM		2MP	1961	1
			N	6147	6		9MP	1968	1
			2MN	9696	6		1MP	1529	1
			1MN	6271	4		2EP9EP36DMP	361	0
			2EN	991	1		1EP	634	0
			1EN	398	0		262735DMP	362	0
			2627DMN	3793	2		13210393DMP	1565	1
			1317DMN	5148	3		162529DMP	900	0
			16DMN	4277	3		17DMP	746	0
							23DMP	338	0

Country, well/location: NOR 6407/7-6
 Sample type, depth (m): MUD, 3200-3200 m
 Remarks:
 OrgID: , PlanID:

**Fluid
sample**



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Bergen, Norway

Aromatic HC's, GC/MS cont...			cont...		
	Height	ng/mgEOM		Area	ng/mgEOM
194941DMP	401	0	2MC7	F280	0
18DMP	202	0	4MC7	F281	0
RETENE	498	0	3MC7	F282	0
20TA	85	0	1C3DMCYC6	F283	0
21TA	89	0	1T4DMCYC6	F284	0
S26TA	41	0	11DMCYC6	F285	0
R26TAS27TA	138	0	1T2DMCYC6	F286	0
S28TA	89	0	NC8	F287	0
R27TA	68	0	ECYC6	F288	0
R28TA	92	0	IC9	F289	0
C5-20 HC's, GC/FID			EBENZENE	F290	0
	Area	ng/mgEOM	MXYLENE	F291	0
IC5	F242	0	PXYLENE	F292	0
NC5	F243	0	4MC8	F293	0
22DMC4	F244	0	2MC8	F294	0
CYC5	F245	0	3MC8	F295	0
23DMC4	F246	0	OXYLENE	F296	0
2MC5	F247	0	NC9	F297	0
3MC5	F248	0	IC10	F298	0
NC6	F249	0	NC10	F299	0
3MCYC5ENE	F250	0	IC11	F300	0
22DMC5	F251	0	NC11	F301	0
MCYC5	F252	0	NC12	F302	0
24DMC5	F253	0	IC13	F303	0
223TMC4	F254	0	PHC6	F304	0
BENZENE	F255	0	IC14	F305	0
33DMC5	F256	0	NC13	F306	0
CYC6	F257	0	IC15	F307	0
2MC6	F258	0	NC14	F308	0
23DMC5	F259	0	IC16	F309	0
11DMCYC5	F260	0	NC15	F310	0
3MC6	F261	0	NC16	F311	0
1C3DMCYC5	F262	0	IC18	F312	0
1T3DMCYC5	F263	0	NC17	F313	0
3EC5	F264	0	PRISTANE	F314	0
1T2DMCYC5	F265	0	NC18	F315	0
IC8	F266	0	PHYTANE	F316	0
NC7	F267	0	NC19	F317	0
1C2DMCYC5	F268	0	NC20	F318	0
MCYC6	F269	0			
113TMCYC5	F270	0			
ECYC5	F271	0			
25DMC6	F272	0			
223TMC524DMC6	F273	0			
1C2T4TMCYC5	F274	0			
33DMC6	F275	0			
1T2C3TMCYC5	F276	0			
234TMC5	F277	0			
TOLUENE	F278	0			
23DMC6	F279	0			

Country, well/location: NOR 6407/7-6
 Sample type, depth (m): SWC, 3213-3213m

**Sediment
sample**



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Bergen, Norway

Remarks:

OrgID: , PlanID:

Saturated HC's, GC/FID			cont...	Height	ng/mgEOM	cont...	Height	ng/mgEOM
	Area	ng/mgEOM						
nC11	19912	0	28ab	37	1	2314DMN	30142	13
nC12	44929	0	25nor29ab	23	1	15DMN	14023	6
nC13	296853	0	29ab	269	6	12DMN	7031	3
nC14	1691901	0	29ba	40	1	C3N1	5086	2
iC16	2546141	2100	29Ts	63	1	C3N2	6315	3
nC15	5334790	4400	25nor30ab	17	0	137TMN	24126	10
nC16	9295282	7660	30ab	377	6	136TMN	30993	13
iC18	4193577	3460	30ba	70	1	135146TMN	22420	10
nC17	9306185	7670	30D	26	1	236TMN	25695	11
Prinstane	4459537	3680	30G	32	1	167127TMN	19681	8
nC18	7325852	6040	30O	0	0	126TMN	9005	4
Phytane	2215380	1830	30D13	17	0	124TMN	1737	1
nC19	5805381	4790	31abS	140	3	125TMN	7759	3
nC20	4102436	3380	31abR	103	2	BP	33321	10
nC21	2618342	2160	31ba	25	1	3MBP	38928	12
nC22	1408723	1160	32abS	75	2	4MBP	13533	4
nC23	715336	590	32abR	60	1	23XDMBP	341	0
nC24	333386	270	33abS	64	1	25DMBP	479	0
nC25	122819	100	33abR	41	1	2424XDMBP	485	0
nC26	54580	40	34abS	38	1	23DMBP	599	0
nC27	32090	30	34abR	21	0	3EBP	2485	1
nC28	26133	20	35abS	27	1	35DMBP	4004	2
nC29	16799	10	35abR	22	1	33XDMBP	12457	5
nC30	17214	10	21aa	56	2	4EBP	4216	2
nC31	11900	10	21bb	24	1	34XDMBP	9072	4
nC32	12644	10	22aa	25	1	44XDMBP	1938	1
nC33	12884	10	22bb	20	1	34DMBP	3917	2
nC34	7063	10	27dbS	59	2	DBF	10884	3
nC35	4320	0	27dbR	35	1	DBF1	7581	3
			27bbR	58	2	MDBF2	7302	3
			27bbS	36	1	MDBF3	4793	2
			27aaR	28	1	F	27242	10
			28bbR	33	1	C1F1	6152	2
			28bbS	37	1	C1F2	15668	6
			29aaS	24	1	1MF	2728	1
			29bbR	47	2	DBT	2503	0
			29bbS	46	2	4MDBT	3113	0
			29aaR	35	1	3MDBT	768	0
			30bbR	13	0	1MDBT	558	0
			30bbS	13	0	P	67042	19
						3MP	17962	6
						2MP	21861	7
						9MP	23068	8
						1MP	19292	6
						2EP9EP36DMP	3497	1
						1EP	6214	2
						262735DMP	3868	1
						13210393DMP	18501	6
						162529DMP	10937	3
						17DMP	9294	3
						23DMP	3826	1

Saturated HC biomarkers, GC/MS			Aromatic HC's, GC/MS		
	Height	ng/mgEOM		Height	ng/mgEOM
19/3	83	2	N	17092	13
20/3	86	2	2MN	79258	36
21/3	144	3	1MN	46444	21
23/3	191	4	2EN	12149	5
24/3	47	1	1EN	2450	1
25/3	24	1	2627DMN	62099	26
26/3R	19	0	1317DMN	80522	34
26/3S	25	1	16DMN	59256	25
28/3R	22	1			
28/3S	20	0			
29/3R	18	0			
29/3S	20	0			
24/4	40	1			
27Ts	58	1			
27Tm	87	2			
27b	21	0			
25nor28ab	25	1			

Country, well/location: NOR 6407/7-6
Sample type, depth (m): SWC, 3213-3213m

**Sediment
sample**



E&P Reserach Centre,
Bergen, Norway

Remarks:

OrgID: , PlanID:

Aromatic HC's, GC/MS cont...

	Height	ng/mgEOM
194941DMP	5714	2
18DMP	2548	1
RETENE	2828	1
20TA	1288	0
21TA	1023	0
S26TA	296	0
R26TAS27TA	903	0
S28TA	490	0
R27TA	428	0
R28TA	482	0

Country, well/location: NOR 6407/7-6
 Sample type, depth (m): DC, 3217-3220m

**Sediment
sample**



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Bergen, Norway

Remarks:

OrgID: . PlanID:

Saturated HC's, GC/FID			cont...	Height	ng/mgEOM	cont...	Height	ng/mgEOM
	Area	ng/mgEOM						
nC11	21742	0	28ab	41	1	2314DMN	9846	11
nC12	24135	0	25nor29ab	13	0	15DMN	5751	6
nC13	621667	0	29ab	235	4	12DMN	4015	4
nC14	4082403	0	29ba	42	1	C3N1	1148	1
iC16	4213192	2790	29Ts	49	1	C3N2	1602	2
nC15	8342393	5530	25nor30ab	19	0	137TMN	8129	9
nC16	10686311	7080	30ab	365	4	136TMN	11733	13
iC18	3879367	2570	30ba	95	1	135146TMN	10425	12
nC17	8771334	5810	30D	40	1	236TMN	8897	10
Prinstane	2785224	1850	30G	37	1	167127TMN	7188	8
nC18	7028641	4660	30O	0	0	126TMN	4413	5
Phytane	2035456	1350	30D13	27	0	124TMN	1037	1
nC19	5442018	3610	31abS	150	3	125TMN	5545	6
nC20	3823550	2530	31abR	129	2	BP	12303	9
nC21	2459685	1630	31ba	42	1	3MBP	13519	10
nC22	1367133	910	32abS	86	1	4MBP	5428	4
nC23	709628	470	32abR	68	1	23XDMBP	138	0
nC24	369635	240	33abS	66	1	25DMBP	291	0
nC25	160069	110	33abR	51	1	2424XDMBP	264	0
nC26	85388	60	34abS	44	1	23DMBP	248	0
nC27	59106	40	34abR	35	1	3EBP	865	1
nC28	55428	40	35abS	39	1	35DMBP	1699	2
nC29	37659	20	35abR	28	0	33XDMBP	5204	6
nC30	36513	20	21aa	55	1	4EBP	509	1
nC31	25736	20	21bb	24	1	34XDMBP	3817	4
nC32	35815	20	22aa	21	1	44XDMBP	847	1
nC33	26508	20	22bb	16	0	34DMBP	2228	2
nC34	15993	10	27dbS	54	1	DBF	9405	7
nC35	10883	10	27dbR	36	1	DBF1	5417	6
			27bbR	49	1	MDBF2	5783	6
			27bbS	29	1	MDBF3	3686	4
			27aaR	24	1	F	1711	2
			28bbR	26	1	C1F1	595	1
			28bbS	29	1	C1F2	2680	2
			29aaS	24	1	1MF	292	0
			29bbR	42	1	DBT	2117	1
			29bbS	32	1	4MDBT	3150	1
			29aaR	32	1	3MDBT	651	0
			30bbR	13	0	1MDBT	535	0
			30bbS	13	0	P	46216	36
						3MP	14361	13
						2MP	17145	16
						9MP	22162	20
						1MP	21420	20
						2EP9EP36DMP	2381	2
						1EP	3367	3
						262735DMP	1934	2
						13210393DMP	13126	11
						162529DMP	8725	8
						17DMP	8810	8
						23DMP	2768	2
Saturated HC biomarkers, GC/MS			Aromatic HC's, GC/MS					
	Height	ng/mgEOM		Height	ng/mgEOM		Height	ng/mgEOM
19/3	84	1	N	13087	27			
20/3	98	2	2MN	29740	34			
21/3	121	2	1MN	22492	26			
23/3	185	3	2EN	2524	3			
24/3	48	1	1EN	1180	1			
25/3	20	0	2627DMN	15967	17			
26/3R	14	0	1317DMN	25655	28			
26/3S	11	0	16DMN	20579	22			
28/3R	24	0						
28/3S	18	0						
29/3R	23	0						
29/3S	20	0						
24/4	36	1						
27Ts	57	1						
27Tm	123	2						
27b	20	0						
25nor28ab	20	0						

Country, well/location: NOR 6407/7-6
Sample type, depth (m): DC, 3217-3220m

**Sediment
sample**



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Bergen, Norway

Remarks:

OrgID: , PlanID:

Aromatic HC's, GC/MS cont...

	Height	ng/mgEOM
194941DMP	5331	5
18DMP	2488	2
RETENE	3401	3
20TA	958	0
21TA	640	0
S26TA	311	0
R26TAS27TA	1028	0
S28TA	377	0
R27TA	499	0
R28TA	397	0

Country, well/location: NOR 6407/7-6
 Sample type, depth (m): SWC, 3466-3466m

**Sediment
 sample**



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Remarks:

OrgID: , PlanID:

Saturated HC's, GC/FID			cont...	Height	ng/mgEOM	cont...	Height	ng/mgEOM
	Area	ng/mgEOM	28ab	13	0	2314DMN	81780	27
nC11	23248	0	25nor29ab	13	0	15DMN	39830	13
nC12	112272	0	29ab	125	3	12DMN	16502	5
nC13	892286	0	29ba	15	0	C3N1	13575	5
nC14	4366011	0	29Ts	24	1	C3N2	15062	5
iC16	3945464	3250	25nor30ab	8	0	137TMN	66464	22
nC15	7527778	6200	30ab	187	3	136TMN	84120	28
nC16	8171293	6730	30ba	37	1	135146TMN	57205	19
iC18	3336520	2750	30D	11	0	236TMN	77945	26
nC17	6296501	5180	30G	15	0	167127TMN	47824	16
Prinstane	2608458	2150	30O	0	0	126TMN	20232	7
nC18	5225078	4300	30D13	9	0	124TMN	3615	1
Phytane	1854824	1530	31abS	58	1	125TMN	14737	5
nC19	3701991	3050	31abR	45	1	BP	91643	21
nC20	2507707	2060	31ba	10	0	3MBP	107992	25
nC21	1507296	1240	32abS	37	1	4MBP	45818	10
nC22	803791	660	32abR	27	1	23XDMBP	2369	1
nC23	393835	320	33abS	26	1	25DMBP	1364	0
nC24	179444	150	33abR	18	0	2424XDMBP	1380	0
nC25	60075	50	34abS	16	0	23DMBP	1023	0
nC26	24349	20	34abR	10	0	3EBP	6270	2
nC27	12908	10	35abS	14	0	35DMBP	9617	3
nC28	9931	10	35abR	8	0	33XDMBP	34968	12
nC29	7044	10	21aa	31	1	4EBP	6542	2
nC30	7154	10	21bb	11	0	34XDMBP	24788	8
nC31	5006	0	22aa	12	0	44XDMBP	5373	2
nC32	3686	0	22bb	9	0	34DMBP	10334	3
nC33	4987	0	27dbS	26	1	DBF	23824	5
nC34	2495	0	27dbR	16	1	DBF1	19432	6
nC35	2201	0	27bbR	24	1	MDBF2	17644	6
			27bbS	26	1	MDBF3	10095	3
			27aaR	14	0	F	73416	20
			28bbR	15	1	C1F1	15618	4
			28bbS	17	1	C1F2	42032	12
			29aaS	12	0	1MF	6721	2
			29bbR	22	1	DBT	4789	0
			29bbS	20	1	4MDBT	4606	0
			29aaR	16	1	3MDBT	1211	0
			30bbR	6	0	1MDBT	559	0
			30bbS	5	0	P	114120	22
						3MP	28053	6
						2MP	32393	7
						9MP	30199	7
						1MP	26230	6
						2EP9EP36DMP	4036	1
						1EP	7273	2
						262735DMP	4264	1
						13210393DMP	18243	4
						162529DMP	10640	2
						17DMP	8967	2
						23DMP	4197	1

Saturated HC biomarkers, GC/MS			Height	ng/mgEOM
19/3	51	1		
20/3	54	1		
21/3	79	2		
23/3	107	3		
24/3	29	1		
25/3	14	0		
26/3R	9	0		
26/3S	11	0		
28/3R	8	0		
28/3S	12	0		
29/3R	10	0		
29/3S	10	0		
24/4	24	1		
27Ts	25	1		
27Tm	43	1		
27b	13	0		
25nor28ab	12	0		

Aromatic HC's, GC/MS			Height	ng/mgEOM
N	29837	17		
2MN	189303	66		
1MN	114421	40		
2EN	28095	9		
1EN	5618	2		
2627DMN	160510	52		
1317DMN	180424	59		
16DMN	142042	46		

Country, well/location: NOR 6407/7-6
Sample type, depth (m): SWC, 3466-3466m

Remarks:
OrgID: . PlanID:

**Sediment
sample**



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Aromatic HC's, GC/MS cont...	Height	ng/mgEOM
194941DMP	4589	1
18DMP	2216	0
RETENE	2017	0
20TA	407	0
21TA	325	0
S26TA	130	0
R26TAS27TA	455	0
S28TA	279	0
R27TA	237	0
R28TA	261	0

Country, well/location: NOR 6407/7-6
 Sample type, depth (m): MUD, 3500-3500 m

Fluid
sample




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Bergen, Norway

Remarks:

OrgID: , PlanID:

Saturated HC's, GC/FID			cont...	Height	ng/mgEOM	cont...	Height	ng/mgEOM
	Area	ng/mgEOM						
nC11	109300	0	28ab	11	0	2314DMN	2192	1
nC12	431299	0	25nor29ab	9	0	15DMN	1121	1
nC13	3211676	0	29ab	104	2	12DMN	981	0
nC14	9721100	0	29ba	16	0	C3N1	496	0
iC16	6901440	4560	29Ts	22	0	C3N2	668	0
nC15	12092903	7980	25nor30ab	7	0	137TMN	1994	1
nC16	11237322	7420	30ab	150	2	136TMN	2714	1
iC18	2870116	1890	30ba	35	0	135146TMN	2278	1
nC17	8701746	5740	30D	10	0	236TMN	1888	1
Prinstane	3135373	2070	30G	9	0	167127TMN	1398	1
nC18	6077377	4010	30O	0	0	126TMN	957	0
Phytane	1682966	1110	30D13	6	0	124TMN	263	0
nC19	4292037	2830	31abS	46	1	125TMN	1054	1
nC20	2997540	1980	31abR	42	1	BP	4409	2
nC21	1749748	1150	31ba	8	0	3MBP	2826	1
nC22	925499	610	32abS	26	1	4MBP	2293	1
nC23	452931	300	32abR	20	0	23XDMBP	659	0
nC24	197547	130	33abS	21	0	25DMBP	1266	1
nC25	64707	40	33abR	16	0	2424XDMBP	741	0
nC26	21876	10	34abS	12	0	23DMBP	903	0
nC27	11046	10	34abR	12	0	3EBP	401	0
nC28	6414	0	35abS	10	0	35DMBP	1507	1
nC29	3425	0	35abR	10	0	33XDMBP	3107	2
nC30	3907	0	21aa	37	1	4EBP	626	0
nC31	4767	0	21bb	12	0	34XDMBP	1574	1
nC32	2727	0	22aa	13	0	44XDMBP	599	0
nC33	10003	10	22bb	7	0	34DMBP	536	0
nC34	8984	10	27dbS	24	1	DBF	2442	1
nC35	1381	0	27dbR	17	0	DBF1	893	0
			27bbR	23	1	MDBF2	950	0
			27bbS	16	0	MDBF3	792	0
			27aaR	13	0	F	1616	1
			28bbR	15	0	C1F1	501	0
			28bbS	16	0	C1F2	1293	1
			29aaS	11	0	1MF	280	0
			29bbR	17	0	DBT	339	0
			29bbS	17	0	4MDBT	449	0
			29aaR	14	0	3MDBT	125	0
			30bbR	4	0	1MDBT	99	0
			30bbS	5	0	P	4540	1
						3MP	1721	1
						2MP	2056	1
						9MP	2029	1
						1MP	1664	1
						2EP9EP36DMP	367	0
						1EP	644	0
						262735DMP	374	0
						13210393DMP	1619	1
						162529DMP	917	0
						17DMP	791	0
						23DMP	342	0
Saturated HC biomarkers, GC/MS			Aromatic HC's, GC/MS					
	Height	ng/mgEOM		Height	ng/mgEOM			
19/3	69	1	N	5751	5			
20/3	74	1	2MN	8801	5			
21/3	88	2	1MN	6101	3			
23/3	111	2	2EN	936	0			
24/3	33	1	1EN	436	0			
25/3	17	0	2627DMN	3344	2			
26/3R	10	0	1317DMN	4974	2			
26/3S	11	0	16DMN	3988	2			
28/3R	10	0						
28/3S	9	0						
29/3R	9	0						
29/3S	9	0						
24/4	23	0						
27Ts	23	0						
27Tm	43	1						
27b	12	0						
25nor28ab	14	0						

Country, well/location: NOR 6407/7-6	Fluid sample	 E&P Research Centre, Bergen, Norway
Sample type, depth (m): MUD, 3500-3500 m		
Remarks:		
OrgID: , PlanID:		

Aromatic HC's, GC/MS cont...			cont...		
	Height	ng/mgEOM		Area	ng/mgEOM
194941DMP	425	0	2MC7	F280	0
18DMP	216	0	4MC7	F281	0
RETENE	524	0	3MC7	F282	0
20TA	101	0	1C3DMCYC6	F283	0
21TA	95	0	1T4DMCYC6	F284	0
S26TA	50	0	11DMCYC6	F285	0
R26TAS27TA	186	0	1T2DMCYC6	F286	0
S28TA	108	0	NC8	F287	0
R27TA	85	0	ECYC6	F288	0
R28TA	98	0	IC9	F289	0
C5-20 HC's, GC/FID			EBENZENE	F290	0
	Area	ng/mgEOM	MXYLENE	F291	0
IC5	F242	0	PXYLENE	F292	0
NC5	F243	0	4MC8	F293	0
22DMC4	F244	0	2MC8	F294	0
CYC5	F245	0	3MC8	F295	0
23DMC4	F246	0	OXYLENE	F296	0
2MC5	F247	0	NC9	F297	0
3MC5	F248	0	IC10	F298	0
NC6	F249	0	NC10	F299	0
3MCYC5ENE	F250	0	IC11	F300	0
22DMC5	F251	0	NC11	F301	0
MCYC5	F252	0	NC12	F302	0
24DMC5	F253	0	IC13	F303	0
223TMC4	F254	0	PHC6	F304	0
BENZENE	F255	0	IC14	F305	0
33DMC5	F256	0	NC13	F306	0
CYC6	F257	0	IC15	F307	0
2MC6	F258	0	NC14	F308	0
23DMC5	F259	0	IC16	F309	0
11DMCYC5	F260	0	NC15	F310	0
3MC6	F261	0	NC16	F311	0
1C3DMCYC5	F262	0	IC18	F312	0
1T3DMCYC5	F263	0	NC17	F313	0
3EC5	F264	0	PRISTANE	F314	0
1T2DMCYC5	F265	0	NC18	F315	0
IC8	F266	0	PHYTANE	F316	0
NC7	F267	0	NC19	F317	0
1C2DMCYC5	F268	0	NC20	F318	0
MCYC6	F269	0			
113TMCYC5	F270	0			
ECYC5	F271	0			
25DMC6	F272	0			
223TMC524DMC6	F273	0			
1C2T4TMCYC5	F274	0			
33DMC6	F275	0			
1T2C3TMCYC5	F276	0			
234TMC5	F277	0			
TOLUENE	F278	0			
23DMC6	F279	0			

Country, well/location: NOR 6407/7-6
 Sample type, depth (m): SWC. 3550-3550m

**Sediment
sample**



E&P Research Centre,
Bergen, Norway

Remarks:

OrgID: , PlantID:

Saturated HC's, GC/FID			cont...	Height	ng/mgEOM	cont...	Height	ng/mgEOM
	Area	ng/mgEOM						
nC11	31647	0	28ab	30	0	2314DMN	4445	1
nC12	70700	0	25nor29ab	30	0	15DMN	2235	1
nC13	962447	0	29ab	290	3	12DMN	1802	1
nC14	7425105	0	29ba	38	0	C3N1	1178	0
iC16	8155290	3450	29Ts	55	1	C3N2	1421	0
nC15	16899723	7150	25nor30ab	17	0	137TMN	4568	1
nC16	19782213	8380	30ab	400	3	136TMN	6291	2
iC18	7248276	3070	30ba	76	1	135146TMN	5343	2
nC17	13853465	5870	30D	21	0	236TMN	4655	1
Prinstane	6952008	2940	30G	25	0	167127TMN	3566	1
nC18	9907164	4190	30O	0	0	126TMN	2697	1
Phytane	3756778	1590	30D13	17	0	124TMN	673	0
nC19	7342822	3110	31abS	130	2	125TMN	2648	1
nC20	5497318	2330	31abR	95	1	BP	4599	1
nC21	3150206	1330	31ba	23	0	3MBP	5262	1
nC22	1666644	710	32abS	79	1	4MBP	3636	1
nC23	803757	340	32abR	57	1	23XDMBP	948	0
nC24	348533	150	33abS	56	1	25DMBP	1673	1
nC25	121884	50	33abR	46	1	2424XDMBP	2621	1
nC26	47896	20	34abS	32	0	23DMBP	1751	1
nC27	29301	10	34abR	29	0	3EBP	520	0
nC28	20410	10	35abS	25	0	35DMBP	1480	0
nC29	14274	10	35abR	17	0	33XDMBP	3244	1
nC30	11861	10	21aa	64	1	4EBP	1252	0
nC31	11233	0	21bb	27	0	34XDMBP	3520	1
nC32	6829	0	22aa	24	0	44XDMBP	1492	0
nC33	10996	0	22bb	18	0	34DMBP	1403	0
nC34	5993	0	27dbS	57	1	DBF	4752	1
nC35	1638	0	27dbR	41	1	DBF1	2332	1
			27bbR	59	1	MDBF2	2849	1
			27bbS	42	1	MDBF3	2057	1
			27aaR	30	1	F	6465	2
			28bbR	34	1	C1F1	2320	1
			28bbS	34	1	C1F2	5537	1
			29aaS	30	1	1MF	1183	0
			29bbR	54	1	DBT	1167	0
			29bbS	46	1	4MDBT	1465	0
			29aaR	37	1	3MDBT	520	0
			30bbR	12	0	1MDBT	323	0
			30bbS	10	0	P	32578	5
						3MP	12306	2
						2MP	13631	3
						9MP	12662	2
						1MP	11584	2
						2EP9EP36DMP	2796	1
						1EP	5339	1
						262735DMP	2962	1
						13210393DMP	10570	2
						162529DMP	6226	1
						17DMP	4887	1
						23DMP	2867	1
Saturated HC biomarkers, GC/MS			Aromatic HC's, GC/MS					
	Height	ng/mgEOM			Height		ng/mgEOM	
19/3	88	1	N	5170	3	2MN	16698	5
20/3	119	1	1MN	11338	4	1MN	11338	4
21/3	162	2	2EN	2010	1	2EN	2010	1
23/3	243	3	1EN	634	0	1EN	634	0
24/3	60	1	2627DMN	8025	2	2627DMN	8025	2
25/3	30	0	1317DMN	10976	3	1317DMN	10976	3
26/3R	16	0	16DMN	9539	3	16DMN	9539	3
26/3S	21	0						
28/3R	19	0						
28/3S	14	0						
29/3R	23	0						
29/3S	17	0						
24/4	43	1						
27Ts	66	1						
27Tm	95	1						
27b	21	0						
25nor28ab	23	0						

Country, well/location: NOR 6407/7-6
Sample type, depth (m): SWC, 3550-3550m

**Sediment
sample**



E&P Research Centre,
Bergen, Norway

Remarks:

OrgID: . PlanID:

Aromatic HC's, GC/MS cont...	Height	ng/mgEOM
194941DMP	2583	0
18DMP	1361	0
RETENE	2030	0
20TA	462	0
21TA	393	0
S26TA	251	0
R26TAS27TA	879	0
S28TA	470	0
R27TA	448	0
R28TA	492	0