

FORMATION PRESSURE WORKSHEET

RUN-3G

Water sampling

Well:		8305/8-1		Rig:		Scarabeo 5		Date:		29 Aug 2000									
Pressure Units:		Bara		RKB-MSL:		25 m		MSL-SBed:		837 m									
Toolstring:		PC-HY-SP(Mart-20)-OFA-PO-IO-PO-SCZ-SC1-MS1(6x450cc)										Conveyance:		Wireline					
Test No.	Depth	Depth	Initial Hydrostatic Pressure		Formation Pressure		Final Hydrostatic Pressure			Time		Formation Pressure	Fluid Gradient	Mud Pressure	Test Temp	Good Data?	Quartz Mobility	Remarks	Pre Test Vol.
	mMD	mTVD	Quartz	Strain	Quartz	Strain	Quartz	Strain	Diff	Set	Retract	sg EMD	g/cc	sg EMD	degC	Y/N	rod/cp		
1	2 980.0	2 979.9	383.85	382.45			382.83		1.021	16.48	16.54	0.000		1.313				Tight	4.8
2	2 980.5	2 980.4	382.88	382.5	295.345	295.16			382.88	16.58		1.010	6.021.305	1.309	81.0	Y	40.9	Good for sample depth 1	19.2
									0			#DIV/0!	1.010	#DIV/0!				Sampling at 2980.5	
3	2 930.5	2 930.4	376.10	375.64	290.298	290			376.099	09.07		1.010	1.010	1.308	86.4	Y	14.3	Good for sample depth 2	20
									0			#DIV/0!	1.010	#DIV/0!				Start pumping at 09.12	
4	2 926.0	2 925.9	375.68	375.22	289.856	289.57			375.68	13.40		1.010	1.010	1.309	84.7	Y	8.5	Attempt to mover down 0.5 m	20
5	2 926.5	2 926.4	375.73	375.27	289.902	289.63			375.73	13.52		1.010	0.938	1.309	84.9	Y	10.4	Aborted attempt to pump	19.7
	2 926.5	2 926.4	375.74	375.43					375.74	14.20		0.000	#DIV/0!	1.309				Aborted attempt to pump	
	2 926.5	2 926.4	375.76	375.45	289.926	289.7			375.76	14.30		1.010	#DIV/0!	1.309	84.2			Begin pumping 14.50 for last sample depth	20
									0			#DIV/0!	1.010	#DIV/0!					
									0			#DIV/0!	#DIV/0!	#DIV/0!					
AVERAGE		NB Fmtn Press sg calculated from RKB										#DIV/0!		Page 1 of 1					

DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 6305/8-1 PO: 1

Hole section : 0.0			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					
2000-07-10	867	867	BENTONITE MUD		1.30						0	0							
2000-07-11	867	867	BENTONITE MUD		1.30						0	0							
2000-07-12	867	867	BENTONITE MUD		1.30						0	0							
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					
2000-07-13 22:00	890	890	BENTONITE MUD		1.30						0	0							
2000-07-14 22:00	942	942	BENTONITE MUD	0.0	1.50		0	0	0	0	0	0	0	0	50.0				
2000-07-15 22:00	942	942	BENTONITE MUD	0.0	1.50		0	0	0	0	0	0	0	0	50.0				
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					
2000-07-16 22:00	942	942	BENTONITE MUD	0.0	1.50		0	0	0	0	0	0	0	0	50.0				
2000-07-17 22:00	942	942	BENTONITE MUD	0.0	1.30		0	0	0	0	0	0	0	0	50.0				
2000-07-18 22:00	942	942	BENTONITE MUD	0.0	1.30		0	0	0	0	0	0	0	0	50.0				
2000-07-22 18:00	1550	1550	NACL BRINE	65.0	1.30	17.0	66	46	37	26	0	0	10	8	50.0	20.0	13.0	4.0	5.0
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					
2000-07-23 20:00	1553	1553	NACL BRINE	63.0	1.30	18.0	67	47	38	27	0	0	10	9	50.0	20.0	13.5	5.0	8.0
Hole section : 12 1/4"			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					
2000-07-24 22:00	1850	1850	NACL BRINE	55.0	1.30	14.0	63	38	31	23	0	0	8	7	50.0	25.0	6.5	4.0	5.0
2000-07-25 22:00	1850	1850	NACL BRINE	63.0	1.30	15.0	62	46	34	25	0	0	10	9	50.0	16.0	15.0	5.0	8.0

DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 6305/8-1 PO: 1

Hole section : 12 1/4"			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					
2000-07-26 22:30	2120	2120	NACL BRINE	60.0	1.30	13.0	55	41	35	25	0	0	10	9	50.0	14.0	13.5	5.0	8.0
2000-07-27 22:30	2836	2836	NACL BRINE	65.0	1.30	14.0	61	47	39	30	0	0	12	10	50.0	14.0	16.5	5.0	7.0
2000-07-28 22:30	2857	2857	NACL BRINE	67.0	1.30	1.3	60	46	38	30	0	0	12	10	50.0	14.0	16.0	5.0	7.0
2000-07-29 22:30	2857	2857	NACL BRINE	67.0	1.30	16.0	60	46	38	30	0	0	12	10	50.0	14.0	16.0	5.0	7.0
Hole section : 8 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					
2000-07-30 22:30	2857	2857	NACL BRINE	67.0	1.30	18.0	60	46	38	30	0	0	12	10	50.0	14.0	16.0	5.0	7.0
2000-07-31 22:30	2862	2862	NACL BRINE	67.0	1.30	16.0	59	44	37	29	0	0	11	9	50.0	15.0	14.5	5.0	7.0
2000-08-01 22:00	2862	2862	NACL BRINE	67.0	1.30	16.0	59	44	37	29	0	0	11	9	50.0	15.0	14.5	5.0	7.0
2000-08-02 20:45	2868	2868	NACL BRINE	59.0	1.30	24.0	56	42	35	27	0	0	10	9	50.0	14.0	14.0	7.0	12.0
Hole section : 12 1/4"			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					
2000-08-03 22:30	2840	2840	NACL BRINE	58.0	1.30	18.0	66	50	42	32	0	0	12	10	50.0	16.0	17.0	8.0	13.0
Hole section : 8 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					
2000-08-04 23:00	2895	2895	NACL BRINE	58.0	1.30	1.3	66	50	42	32	0	0	11	9	50.0	16.0	17.0	8.0	13.0
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					
2000-08-05 21:00	1500	1500	NACL BRINE	59.0	1.30	14.0	71	52	44	33	0	0	10	8	50.0	19.0	16.5	4.0	6.0

DAILY MUD PROPERTIES:RHEOLOGY PARAMETERS FOR WELL 6305/8-1 PO: 1

Hole section : 8 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					
2000-08-06 21:00	2943	2943	NACL BRINE	59.0	1.30	12.0	64	48	40	30	0	0	10	8	50.0	16.0	16.0	4.0	8.0
2000-08-07 21:00	2970	2970	NACL BRINE	59.0	1.30	13.0	70	51	43	33	0	0	10	8	50.0	19.0	16.0	4.0	6.0
2000-08-08 21:00	2982	2982	NACL BRINE	59.0	1.30	12.0	66	48	41	31	0	0	10	8	50.0	18.0	15.0	4.0	6.0
2000-08-09 21:00	2982	2982	NACL BRINE	59.0	1.30	12.0	66	48	41	31	0	0	10	8	50.0	18.0	15.0	4.0	6.0
2000-08-10 21:00	2982	2982	NACL BRINE	59.0	1.30	12.0	66	48	41	31	0	0	10	8	50.0	18.0	15.0	4.0	6.0
2000-08-11 21:00	2982	2982	NACL BRINE	59.0	1.30	12.0	66	48	41	31	0	0	10	8	50.0	18.0	15.0	4.0	6.0
2000-08-12 21:00	2982	2982	NACL BRINE	59.0	1.30	12.0	66	48	41	31	0	0	10	8	50.0	18.0	15.0	4.0	6.0
2000-08-13 21:00	2981	2981	NACL BRINE	72.0	1.30	7.5	70	51	43	32	0	0	10	8	50.0	19.0	16.0	4.0	6.0
2000-08-14 21:30	2981	2981	NACL BRINE	78.0	1.30	8.0	68	49	42	32	0	0	11	9	50.0	19.0	15.0	4.0	6.0
2000-08-15 22:00	2989	2989	NACL BRINE	89.0	1.30	11.0	70	52	44	33	0	0	11	9	50.0	18.0	17.0	4.0	6.0
2000-08-16 22:30	3013	3013	NACL BRINE	89.0	1.30	16.0	71	52	44	33	0	0	10	8	50.0	19.0	16.5	4.0	6.0
2000-08-17 22:00	3175	3175	NACL BRINE	79.0	1.30	1.3	76	53	44	33	0	0	10	8	50.0	23.0	15.0	4.0	6.0
2000-08-18 22:00	3175	3175	NACL BRINE	83.0	1.30	16.0	76	53	44	33	0	0	10	8	50.0	23.0	15.0	4.0	6.0
2000-08-19 21:00	3175	3175	NACL BRINE	82.0	1.30	14.0	76	53	44	33	0	0	10	8	50.0	23.0	15.0	4.0	6.0
2000-08-20 21:30	3175	3175	NACL BRINE	82.0	1.30	1.3	76	53	44	33	0	0	10	8	50.0	23.0	15.0	4.0	6.0
2000-08-21 22:00	3175	3175	NACL BRINE	82.0	1.30	14.0	76	53	44	33	0	0	10	8	50.0	23.0	15.0	4.0	6.0

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 6305/8-1 PO: 1

Hole section : 0.0				WATER BASED SYSTEM																						
Date	Depth [m]		Mud Type	Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib Chem	K+	CL-	Ca++	Mg++	Tot hard	Percentage Solid Oil Sand			CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	MD	TVD			API [ml]	HPHT [ml]	API [mm]	HPHT [mm]	Press/Temp [bar/DegC]	Pm [ml]		Pf [ml]	Mf [ml]	[mg/l]							[mg/l]	[mg/l]	[%]			
2000-07-10	867	867	BENTONITE MUD	1.30						/																
2000-07-11	867	867	BENTONITE MUD	1.30						/																
2000-07-12	867	867	BENTONITE MUD	1.30						/																
Hole section : 36"				WATER BASED SYSTEM																						
Date	Depth [m]		Mud Type	Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib Chem	K+	CL-	Ca++	Mg++	Tot hard	Percentage Solid Oil Sand			CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	MD	TVD			API [ml]	HPHT [ml]	API [mm]	HPHT [mm]	Press/Temp [bar/DegC]	Pm [ml]		Pf [ml]	Mf [ml]	[mg/l]							[mg/l]	[mg/l]	[%]			
2000-07-13 22:00	890	890	BENTONITE MUD	1.30						/																
2000-07-14 22:00	942	942	BENTONITE MUD	1.50						500 / 121																
2000-07-15 22:00	942	942	BENTONITE MUD	1.50						500 / 121																
Hole section : 26"				WATER BASED SYSTEM																						
Date	Depth [m]		Mud Type	Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib Chem	K+	CL-	Ca++	Mg++	Tot hard	Percentage Solid Oil Sand			CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	MD	TVD			API [ml]	HPHT [ml]	API [mm]	HPHT [mm]	Press/Temp [bar/DegC]	Pm [ml]		Pf [ml]	Mf [ml]	[mg/l]							[mg/l]	[mg/l]	[%]			
2000-07-16 22:00	942	942	BENTONITE MUD	1.50						500 / 121																
2000-07-17 22:00	942	942	BENTONITE MUD	1.30						500 / 121																
2000-07-18 22:00	942	942	BENTONITE MUD	1.30						500 / 121																
2000-07-22 18:00	1550	1550	NACL BRINE	1.30	3.0	5.8	1	2	500 / 121	8.7	11.0					155000	120			17.0	0.0	0	4.0	19		
Hole section : 17 1/2"				WATER BASED SYSTEM																						
Date	Depth [m]		Mud Type	Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib Chem	K+	CL-	Ca++	Mg++	Tot hard	Percentage Solid Oil Sand			CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	MD	TVD			API [ml]	HPHT [ml]	API [mm]	HPHT [mm]	Press/Temp [bar/DegC]	Pm [ml]		Pf [ml]	Mf [ml]	[mg/l]							[mg/l]	[mg/l]	[%]			
2000-07-23 20:00	1553	1553	NACL BRINE	1.30	3.0	5.8	1	2	34 / 121	8.5	0.0	0.0	1.2	40000	204000	240			240	14.0	20.0	0.1	15	3.5	53	
Hole section : 12 1/4"				WATER BASED SYSTEM																						
Date	Depth [m]		Mud Type	Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib Chem	K+	CL-	Ca++	Mg++	Tot hard	Percentage Solid Oil Sand			CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	MD	TVD			API [ml]	HPHT [ml]	API [mm]	HPHT [mm]	Press/Temp [bar/DegC]	Pm [ml]		Pf [ml]	Mf [ml]	[mg/l]							[mg/l]	[mg/l]	[%]			
2000-07-24 22:00	1850	1850	NACL BRINE	1.30	2.4	4.8	1	1	34 / 121	8.5		0.1	0.7	29000	148000	120			120	13.4	15.3	0.2	7	3.4	77	
2000-07-25 22:00	1850	1850	NACL BRINE	1.30	3.0	5.7	1	1	/ 121	8.5	0.8	0.1	7.0	29000	151000	160	40	160	15.5		0.3	7	3.1	126		
2000-07-26 22:30	2120	2120	NACL BRINE	1.30	2.3	5.7	1	1	/ 121	8.4		0.1	0.7	29000	157000	120			120	15.0	13.5	0.3	9	3.0	141	
2000-07-27 22:30	2836	2836	NACL BRINE	1.30	2.7	5.5	1	1	500 / 121	8.5		0.1	0.8	29000	151000	320			320	15.5	14.0	0.3	7	2.9	176	

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 6305/8-1 PO: 1

Hole section : 12 1/4"			WATER BASED SYSTEM																						
Date	Depth [m]		Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC	ASG	LGS
	MD	TVD		API	HPHT	API	HPHT	Press/Temp	Pm		Pf	Mf	Chem							[%]	[%]	[%]			
2000-07-28 22:30	2857	2857	1.30	2.6	5.6	1	1	500/ 121	8.4	0.1	0.8	29000	150000	280	80	280	15.0	13.6	0.3	10	3.0	150			
2000-07-29 22:30	2857	2857	1.30	2.6	5.6	1	1	500/ 121	8.4	0.1	0.8	29000	150000	280	80	280	15.0	13.6	0.3	10	3.0	150			
Hole section : 8 1/2"			WATER BASED SYSTEM																						
Date	Depth [m]		Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC	ASG	LGS
	MD	TVD		API	HPHT	API	HPHT	Press/Temp	Pm		Pf	Mf	Chem							[%]	[%]	[%]			
2000-07-30 22:30	2857	2857	1.30	2.6	5.6	1	1	500/ 121	8.4	0.1	0.8	29000	150000	280	80	280	15.0	13.6	0.3	10	3.0	150			
2000-07-31 22:30	2862	2862	1.30	2.5	5.1	1	1	500/ 121	8.7	0.1	0.8	29000	149000	160	60	160	15.0	14.0	0.3	10	3.0	153			
2000-08-01 22:00	2862	2862	1.30	2.5	5.1	1	1	500/ 121	8.7	0.1	0.8	29000	149000	160	80	160	14.8	14.0	0.3	12	3.0	143			
2000-08-02 20:45	2868	2868	1.30	2.9	5.8	1	1	121/ 121	10.2	1.8	0.0	1.0	29000	151000	80	120	80	15.0	14.2	0.2	12	3.0	151		
Hole section : 12 1/4"			WATER BASED SYSTEM																						
Date	Depth [m]		Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC	ASG	LGS
	MD	TVD		API	HPHT	API	HPHT	Press/Temp	Pm		Pf	Mf	Chem							[%]	[%]	[%]			
2000-08-03 22:30	2840	2840	1.30	2.2	4.8	1	1	121/ 121	9.6	1.2	0.0	0.3	29000	151000	40	160	40	15.0	14.0	0.3	12	3.0	150		
Hole section : 8 1/2"			WATER BASED SYSTEM																						
Date	Depth [m]		Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC	ASG	LGS
	MD	TVD		API	HPHT	API	HPHT	Press/Temp	Pm		Pf	Mf	Chem							[%]	[%]	[%]			
2000-08-04 23:00	2895	2895	1.30	2.0	4.5	1	1	121/ 121	9.9	1.2	0.0	0.3	29000	151000	200	160	200	15.0	14.0	0.3	12	3.0	150		
Hole section : 26"			WATER BASED SYSTEM																						
Date	Depth [m]		Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC	ASG	LGS
	MD	TVD		API	HPHT	API	HPHT	Press/Temp	Pm		Pf	Mf	Chem							[%]	[%]	[%]			
2000-08-05 21:00	1500	1500	1.30	1.6	4.0	1	1	121/ 121	9.7	1.0	0.0	0.3	29000	151000	40	120	40	15.0	14.0	0.3	12	3.0	150		
Hole section : 8 1/2"			WATER BASED SYSTEM																						
Date	Depth [m]		Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC	ASG	LGS
	MD	TVD		API	HPHT	API	HPHT	Press/Temp	Pm		Pf	Mf	Chem							[%]	[%]	[%]			
2000-08-06 21:00	2943	2943	1.30	1.7	6.0	1	1	500/ 121	9.7	1.0	0.1	0.9	29000	147500	40	40	40	15.0	14.0	0.3	12	3.0	154		
2000-08-07 21:00	2970	2970	1.30	1.8	6.0	1	1	6/ 121	9.7	1.0	0.1	0.9	29000	147500	40	40	40	15.0	13.8	0.3	12	3.0	154		

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 6305/8-1 PO: 1

Hole section : 8 1/2"			WATER BASED SYSTEM																							
Date	Depth [m]		Mud Type	Dens [sg]	Filtrate		Filtcake		HPHT		pH	Alcalinity			Inhib Chem	K+	CL-	Ca++	Mg++	Tot hard	Percentage			CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	MD	TVD			API [ml]	HPHT [ml]	API [mm]	HPHT [mm]	Press/Temp [bar/DegC]	Pm [ml]		Pf [ml]	Mf [ml]	[%]							Oil [%]	Sand [%]				
2000-08-08 21:00	2982	2982	NACL BRINE	1.30	1.6	6.0	1	1	34 / 121	9.9	1.0	0.1	0.9	29000	147500	80	160	80	16.5	14.2	0.3	12	2.7	231		
2000-08-09 21:00	2982	2982	NACL BRINE	1.30	1.6	6.0	1	1	/ 121	9.9	1.0	0.1	0.3	29000	147500	80	160	80	16.0		0.3	12	2.9	157		
2000-08-10 21:00	2982	2982	NACL BRINE	1.30	1.6	6.0	1	1	34 / 121	9.9	1.0	0.1	0.3	29000	148000	80	160	80	16.0	0.0	0.3	12	2.9	156		
2000-08-11 21:00	2982	2982	NACL BRINE	1.30	1.6	6.0	1	1	34 / 121	9.9	0.9	0.1	0.3	29000	148000	80	60	80	16.0	0.0	0.3	12	2.9	156		
2000-08-12 21:00	2982	2982	NACL BRINE	1.30	1.6	6.0	1	1	34 / 121	9.9	0.9	0.1	0.3	29000	144000	20	60	20	16.5	0.0	0.3	12	2.8	187		
2000-08-13 21:00	2981	2981	NACL BRINE	1.30	1.8	6.0	1	1	34 / 121	9.8	0.9	0.1	0.3	29000	138000	80	60	80	16.0	0.0	0.3	12	2.9	170		
2000-08-14 21:30	2981	2981	NACL BRINE	1.30	1.8	6.0	1	1	34 / 121	9.9	0.9	0.1	0.3	29000	139000	80	60	80	16.0	0.0	0.3	12	2.9	169		
2000-08-15 22:00	2989	2989	NACL BRINE	1.30	1.9	6.0	1	1	34 / 121	9.3	0.9	0.1	0.3	29000	133000	80	60	80	15.5	0.0	0.3	12	3.0	150		
2000-08-16 22:30	3013	3013	NACL BRINE	1.30	1.5	5.4	1	1	34 / 121	9.2		0.1	0.3	29000	130000	200	40	200	15.6	0.0	0.3	11	3.0	161		
2000-08-17 22:00	3175	3175	NACL BRINE	1.30	1.6	5.2	1	1	500 / 121	8.5		0.1	0.5	33550	152000	360	40	360	16.2	0.0	0.3	11	2.9	159		
2000-08-18 22:00	3175	3175	NACL BRINE	1.30	1.6	5.2	1	1	500 / 121	8.5		0.0	0.3	33550	152000	360	40	360	15.5	0.0	0.3	11	3.1	123		
2000-08-19 21:00	3175	3175	NACL BRINE	1.30	1.6	5.2	1	1	500 / 121	8.5		0.1	0.3	33550	152000	360	40	360	15.5	0.0	0.3	11	3.1	123		
2000-08-20 21:30	3175	3175	NACL BRINE	1.30	1.6	5.2	1	1	500 / 50	8.5		0.0	0.3	33550	152000	360	40	360	15.5	0.0	0.3	11	3.1	123		
2000-08-21 22:00	3175	3175	NACL BRINE	1.30	1.6	5.2	1	1	500 / 50	8.5		0.0	0.3	33550	152000	360	40	360	15.5	0.0	0.3	11	3.1	123		

TOTAL CONSUMPTION OF MUD ADDITIVES ON WELL 6305/8-1

Section	Product/ Additive	Unit	Total Amount Used
36"	LIME	kg	125.00
	M-I BAR	kg	111000.00
	SODA ASH	kg	50.00
	WYOMING BENTONITE	kg	24000.00
26"	BARITE	kg	16000.00
	BENTONITE	kg	7000.00
	CMC EHV	kg	400.00
	M-I BAR	kg	143000.00
	SODA ASH	kg	725.00
	WYOMING BENTONITE	kg	33000.00
12 1/4"	BARITE	kg	110000.00
	CELPOL ESL	kg	3125.00
	CITRIC ACID	kg	100.00
	FLO-TROL	kg	5450.00
	GLYDRIL MC	l	52856.00
	KCL	kg	9000.00
	KCL BRINE	l	152993.00
	M-I BAR	kg	75000.00
	METHANOL	l	62000.00
	NACL BRINE	l	565974.00
	RHODOPOL 23P	kg	4125.00
	SODA ASH	kg	700.00
	SODIUM BICARBONATE	kg	300.00
8 1/2"	BACL2	l	980.00
	BARITE	kg	96000.00
	CELPOL ESL	kg	675.00
	CITRIC ACID	kg	1800.00
	FLO-TROL	kg	2600.00
	GLYCOL	l	2000.00
	GLYDRIL MC	l	3000.00
	KCL	kg	2050.00
	KCL BRINE	l	6000.00
	KCL POWDER	kg	2100.00
	METHANOL	l	5.00
	NACL BRINE	l	25998.00
	PREMPAC EX	kg	1075.00
	RHODOPOL 23P	kg	950.00
	SODA ASH	kg	350.00
	SODIUM BICARBONATE	kg	1375.00
	SODIUM CHLORIDE	kg	6250.00
VACUUM SALT	kg	8000.00	
INDEFINITE	BARITE	kg	125000.00
	SODA ASH	kg	350.00
	WYOMING BENTONITE	kg	56000.00



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Title: PETROLEUM GEOCHEMICAL EVALUATION
OF WELL 6305/8-1

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2.1 Analytical methods

A list of all analysed samples is presented in Table 2.1. All depth in this report are m MD RKB, with core and drill cuttings samples related to driller's depth and fluid samples and side wall cores (SWC) related to logger's depth.

The analytical and preparative methods employed in this study comprised scanning fluorescence measurements, geochemical screening, source rock characterisation, gas characterisation and bitumen characterisation. Screening consisted of Rock Eval pyrolysis and vitrinite reflectance measurements. Source rock and bitumen characterisation included solvent extraction of sediments, and the following analyses were performed on sediment extracts and oils; asphaltene precipitation, preparative group type separation by MPLC¹ and analytical group type separation by TLC-FID² (Iatroscan). The rock extracts and oils were further analysed by gas chromatography (GC-FID) of saturated hydrocarbons, analysis of the saturated and aromatic

¹ Medium Pressure/Performance Liquid Chromatography

² Thin layer chromatography with Flame Ionisation Detection



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hydrocarbon fractions by gas chromatography-mass spectrometry (GC-MSD³) and analysis of stable carbon isotopes of aromatic and saturated hydrocarbon fractions. The oil samples were also analysed by gas chromatography of the C₅ to C₂₀ region. Gas characterisation included gas volumetric and stable isotope analyses.

The analytical methods are based upon the guidelines in the Norwegian Industry Guide to Organic Geochemical Analyses (NIGOGA⁴). Major deviations from this guide are:

- TOC measurement by Rock Eval (no decarbonisation by acid).
- Extract and asphaltene workup by centrifugation (no filtering).
- Internal standard mixture added to the EOM or whole oil, 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.

Vitrinite reflectance measurements, gas analysis and stable carbon isotope analysis of the gaseous compounds and hydrocarbon fractions were undertaken by Applied Petroleum Technology (APT, Kjeller, Norway). All other analytical and interpretative work was carried out at the Norsk Hydro E&P Research Centre in Bergen, Norway.

3 Mass-Selective Detector

4 The Norwegian Industry Guide to Organic Geochemical Analyses, 3rd edition, 1993

Tables

Table 2.1: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/8-1



Depth (m)	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
1620.00		DC												1
1640.00		GASV								1				
1700.00		GASV								1				
1740.00		GASV								1				
1750.00		DC												1
1800.00		GASV								1				
1840.00		GASV								1				
1850.00		DC												1
1900.00		GASV								1				
1940.00		GASV								1				
1950.00		DC												1
2000.00		GASV								1				
2040.00		GASV								1				
2050.00		DC												1
2100.00		GASV								1				
2150.00		DC												1
2160.00		GASV								1				
2200.00		GASV								1				
2240.00		GASV								1				
2250.00		DC												1
2300.00		GASV								1				
2340.00		GASV								1				
2350.00		DC												1
2400.00		GASV								1				
2440.00		GASV								1				

Table 2.1: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/8-1



Depth (m)	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
2460.00		DC												1
2500.00		GASV								1				
2540.00		GASV								1				
2560.00		DC												1
2600.00		GASV								1				
2640.00		GASV								1				
2660.00		DC												1
2700.00		GASV								1				
2760.00		DC												1
2780.00		GASV								1				
2800.00		GASV								1				
2840.00		GASV								1				
2850.00		DC												1
2860.00	CLYST	SWC	1											
2862.00	CLYST	SWC	1											
2865.00	CLYST	SWC	1											
2867.50	CLYST	SWC	1	1	1		1	1			1		1	
2870.00	CLYST	SWC	1											
2874.00	CLYST	SWC	1											
2879.00	CLYST	SWC	1	1	1		1	1		1	1		1	
2881.00	CLYST	SWC	1											
2888.50	CLYST	SWC	1											
2890.00	CLYST	SWC	1											
2893.00	CLYST	SWC	1	1	1		1	1			1		1	
2895.00	CLYST	SWC	1											

Table 2.1: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/8-1



Depth (m)	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
2896.70	SST	COCH	1		1		1	1			1		1	
2900.60	SST	COCH	1		1		1	1			1		1	
2908.00		OIL			1		1	1		1	1	1	1	
2908.00		GAS								1				
2910.53	SST	COCH	1											
2914.00		OIL			1		1	1		1	1	1	1	
2914.00		GAS								1				
2916.00	MD	MUD	1		1		1	1			1		1	
2919.50	SST	COCH	1											
2919.60		GAS								1				
2919.60		OIL			1		1	1		1	1	1	1	
2920.00		GASV								2				
2922.00		OIL			1		1	1		1	1	1	1	
2922.00		GAS								1				
2922.40	SST	COCH	1		1		1	1		1	1		1	
2923.60		GAS								1				
2923.60		OIL			1		1	1		1	1	1	1	
2924.30	SST	COCH	1		1		1	1		1	1		1	
2926.30	SST	COCH	1											
2930.00		GASV								1				
2932.50	SST	COCH	1		1		1	1		1	1		1	
2933.75	SST	COCH	1											
2937.50	SST	COCH	1											
2940.00		GASV								1				
2943.30	SST	COCH	1		1		1	1			1		1	

Table 2.1: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/8-1



Depth (m)	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
2959.80	SST	COCH	1											
2963.40	SST	COCH	1		1		1	1			1		1	
2967.00	SST	COCH	1		1		1	1			1		1	
2991.00	CLYST	SWC	1											
2992.00	CLYST	SWC	1											
2996.50	CLYST	SWC	1											
3000.00		GASV								1				
3021.00	CLYST	SWC	1											
3025.00	CLYST	SWC	1	1	1		1	1			1		1	
3030.00	CLYST	SWC	1											
3050.00		GASV								1				
3051.00	CLYST	DC	1					1			1		1	
3051.00	CLYST	DC		1	1		1							
3057.00	CLYST	DC	1											1
3063.00	CLYST	DC	1											
3069.00	CLYST	DC	1											
3075.00	CLYST	DC	1											
3080.00		GASV								1				
3081.00	CLYST	DC		1	1		1			1				
3081.00	CLYST	DC	1					1			1		1	
3087.00	CLYST	DC	1											
3093.00	CLYST	DC	1											
3099.00	MD	MUD	1		1		1	1		1	1		1	
3099.00	CLYST	DC	1											
3105.00	CLYST	DC	1											

Table 2.1: List of samples analysed

ANALYSIS PROGRAMME, WELL NOR : 6305/8-1



Depth (m)	Lithology	Type	RockEval	RE/EXT	Extr	MPLC	Iatr	SatHC	Pyrolyse	Isot	Sat-biom	c5-20hc	Aro-hc	Vitr
3110.00		GASV								1				
3114.00	CLYST	DC	1											
3120.00	CLYST	DC	1											
3123.00	CLYST	DC	1											
3129.00	CLYST	DC	1											
3135.00	CLYST	DC		1	1		1							
3135.00	CLYST	DC	1					1			1		1	
3140.00		GASV								1				
3141.00	CLYST	DC	1											
3147.00	CLYST	DC	1											
3153.00	CLYST	DC	1											1
3159.00	CLYST	DC	1											
3165.00	CLYST	DC	1											
3171.00	CLYST	DC	1					1			1		1	
3171.00	CLYST	DC		1	1		1			1				

MPLC = Separation

SatGC = Saturated HC

Isot = Isotope data

Vitr = VR0 (ave) %

Extr = Extraction

Iatr = Iatrosan

Sat-biom = Biomarker data

RE/EXT = Rock Eval on extracted Seciment

Table 5.1: Vitrinite reflectance measurements



VITRINITE REFLECTANCE Ro (average values), WELL NOR : 6305/8-1

Depth (m)	Lithology	Type	Population I		Population II		Analysing Company
			%Ro	n	%Ro	n	
1620,00		DC	0,24	(21)		()	APT
1750,00		DC	0,29	(23)		()	APT
1850,00		DC	0,25	(23)		()	APT
1950,00		DC	0,23	(22)		()	APT
2050,00		DC	0,25	(21)		()	APT
2150,00		DC	0,25	(22)		()	APT
2250,00		DC	0,31	(23)		()	APT
2350,00		DC	0,31	(22)		()	APT
2460,00		DC	0,31	(21)		()	APT
2560,00		DC	0,30	(8)		()	APT
2660,00		DC	0,33	(20)		()	APT
2760,00		DC	0,36	(22)		()	APT
2850,00		DC	0,40	(24)		()	APT
3057,00	CLYST	DC	0,42	(20)		()	APT
3153,00	CLYST	DC	0,44	(21)		()	APT