



FORMATION PRESSURE WORKSHEET

Well Name : 31/4-10

Rig : West Vanguard

Date : 95-12-08

Pressure Units : Bars

RKB-MSL : 22 m.

MSL-SBed: 234 m.

Witnessed by : Bang, Hedmark

Run No./ Test No.	Depth		Initial Hydrostatic Pressure		Formation Pressure		Final Hydrostatic Pressure		Time		Formation Pressure sg EMD	Test Temp degC	Good Data? Y/N	Sample Information			Remarks
	mMD RKB	mTVD RKB	Quartz	Strain	Quartz	Strain	Quartz	Strain	hh:mm					Main	HC Gravity	Sample	
									Set	Retract				Fluid Type	g/cc	Vol, cc	
1	2025		238,06				238,06					67	N				DRY
2	2027,5		238,3		207,3		238,3		05:19	05:26	1,042		N				Mob= 1
3	2030		238,6	238,9	205,5	205,8	238,6	238,83	05:30	05:47	1,032	71,6	N				mob=3,4
4	2032,5		238,88	239,15			238,87		05:52	05:53			N				Tight
5	2038,5		239,59	239,82	204,88	205,19	239,56	239,83	05:58	06:01	1,025	72,7	Y				mob=397
6	2040		239,75	240	204,97	205,27	239,76	240	06:05	06:07	1,024	73,3	Y				mob=28
7	2041		239,86	240,11	205,06	205,35	239,86	240,1	06:12	06:15	1,024		Y				mob=23,8
8	2043,5		240,14	240,39	205,24	205,54	240,14	240,41	06:20	06:24	1,024	74,4	Y				mob=168
9	2048		240,66	240,9	205,71	205,99	240,66	240,91	06:26	06:31	1,024	74,6	Y				mob=53
10	2061		242,17	242,41	206,95	207,25	242,16	242,42	06:40	06:44	1,025	75,2	Y				mob=5155
11	2063,5		242,48	242,7	207,2	207,49	242,46	242,69	06:47	06:50	1,025	76	Y				mob=3955
12	2065		242,63	242,88	207,34	207,63	242,66	242,86	06:58	07:00	1,025	76,4	Y				mob=5365
13	2071		243,33	243,56	207,93	208,22	243,36	243,5	07:07	07:11	1,023	76,8	Y				mob=2246
14	2073		243,58	243,82	208,14	208,42	243,56	243,85	07:15	07:18	1,023	77,1	Y				mob=640
15	2168,5		254,69	254,23	217,41	217,7	254,71		07:31	07:36	1,022	79,2	Y				mob=160,8
16	2170,5		254,91	256,14	217,52	217,8	254,91	256,15	07:39	07:43	1,021	80,4	Y				mob=395
17	2199,5		258,32	258,53	220,48	220,75	258,31	258,53	07:49	07:52	1,022	81,4	Y				
18	2275		267,12	267,34	228,38	228,66	267,12	267,33	08:05	08:10	1,023	84,5	Y				mob=1734

NB: form pres calculated from TVD RKB

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Witnessed by : Hedmark, Bang

Run No./ Test No.	Depth		Initial Hydrostatic Pressure		Formation Pressure		Final Hydrostatic Pressure		Time		Formation Pressure sg EMD	Test Temp degC	Good Data? Y/N	Sample Information			Remarks
	mMD RKB	mTVD RKB	Quartz	Strain	Quartz	Strain	Quartz	Strain	Set	Retract				Main Fluid Type	HC Gravity g/cc	Sample Vol, cc	
19	2038,5		239,52	239,72	204,81	205,05			08:36	08:51			N				Plugging
20	2041		239,87		205,06								N				Sampling aborted
21	2038,5		239,58	238,76	204,84	205,09							N				Sampling aborted
22	2063,5																Pumped 30 liters
	2063,5				201								Y	WATER		1gal	27min
	2063,5				201								Y	WATER		2 3/4 gal	1hr 17min
	2063,5				207								Y	WATER		1gal	30min
23	2167,6		254,54	254,8	217,34	217,58	254,47	254,76	14:04	14:08	1.024						mob'11,9.
24	2169,5		254,73	254,92	217,47	217,72	254,7	254,9	14:13	14:17	1.023						
25	2168,7				217,39	217,62											
					217	217,17							Y	OIL		1gal	54min
					217,1	217,25							Y	OIL		450cc	no 1
					217,2	217,37							Y	OIL		450cc	no2
					217,21	217,38	254,58	254,78		1611	1.022		Y	OIL		450cc	no3
26	2044,5		240	240,14	205,3	205,48	240,1	240,22	16:31	16:34	1.025		Y				
27	2046		240,2	240,4	205,48	205,69	240,2	240,4	16:39	16:43	1.025		Y				
28	2056		241,4	241,6	206,7	206,9	241,4	241,6	16:47	16:55			N				Dry

NB: form pres calculated from TVD RKB

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FORMATION PRESSURE WORKSHEET

Well Name : 31/4-10

Rig : West Vanguard

Date : 08.12.95

Pressure Units : Bars

RKB-MSL : 22m m.

MSL-SBed: 234m m.

Witnessed by : Hedmark, Bang

Run No./ Test No.	Depth	Depth	Initial Hydrostatic Pressure		Formation Pressure		Final Hydrostatic Pressure		Time		Formation Pressure sg EMD	Test Temp degC	Good Data? Y/N	Sample Information			Remarks	
			Quartz	Strain	Quartz	Strain	Quartz	Strain	hh:mm					Main	HC Gravity g/cc	Sample Vol, cc		
									Set	Retract								Fluid Type
2B	mMD RKB	mTVD RKB																
1	2038.5				205.17				23:15		1.027		Y	OIL		6gal		
													Y	OIL		1gal		
													Y	OIL		450cc		
													Y	OIL		450cc		
								240.73		23:45			Y	OIL		450cc		
																		Pumped 65l befor first shows of oil on fluid analyser
																		Pumped 150l before start sampling

NB: form pres calculated from TVD RKB

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Norsk Hydro

DAILY MUD PROPERTIES : RHEOLOGY PARAMETERS FOR WELL 31/4-10

Hole section: WATER BASED SYSTEM

Date	Depth		Mud Type	Funnel	Dens	Mudtmp	Fann Readings						Rheo	PV	YP	Gel0	Gel10		
	[m]			Visc	Out							Test							
	MD	TVD		[sec]	[sq]	[DegC]	600	300	200	100	60	30	6	3	[DegC]	[mPas]	[Pa]	[Pa]	[Pa]
11-nov-1995 23:59	0	0	SPUD MUD	100.0	1.05	0.0									0.0	0.0	0.0	0.0	0.0

Hole section: 36" WATER BASED SYSTEM

Date	Depth		Mud Type	Funnel	Dens	Mudtmp	Fann Readings						Rheo	PV	YP	Gel0	Gel10		
	[m]			Visc	Out							Test							
	MD	TVD		[sec]	[sq]	[DegC]	600	300	200	100	60	30	6	3	[DegC]	[mPas]	[Pa]	[Pa]	[Pa]
14-nov-1995 23:59	330	330	SPUD MUD	100.0	1.10	0.0									0.0	0.0	0.0	0.0	0.0

Hole section: 17 1/2" WATER BASED SYSTEM

Date	Depth		Mud Type	Funnel	Dens	Mudtmp	Fann Readings						Rheo	PV	YP	Gel0	Gel10		
	[m]			Visc	Out							Test							
	MD	TVD		[sec]	[sq]	[DegC]	600	300	200	100	60	30	6	3	[DegC]	[mPas]	[Pa]	[Pa]	[Pa]
15-nov-1995 23:59	330	330	SPUD MUD	100.0	1.10	0.0									0.0	0.0	0.0	0.0	0.0
16-nov-1995 23:59	585	585	SPUD MUD	100.0	1.10	0.0									0.0	0.0	0.0	0.0	0.0
17-nov-1995 23:59	1010	1010	SPUD MUD	110.0	1.10	0.0									0.0	0.0	0.0	0.0	0.0
18-nov-1995 23:58	1010	1010	SPUD MUD	100.0	1.10	0.0									0.0	0.0	0.0	0.0	0.0
19-nov-1995 23:59	1010	1010	SPUD MUD	100.0	1.10	0.0									0.0	0.0	0.0	0.0	0.0
20-nov-1995 23:00	0		KCL/POLYME	100.0	1.10	0.0									0.0	0.0	0.0	0.0	0.0

See also the report 'DAILY MUD PROPERTIES : OTHER PARAMETERS'

Norsk Hydro

DAILY MUD PROPERTIES : RHEOLOGY PARAMETERS FOR WELL 31/4-10

Hole section: 12 1/4"

WATER BASED SYSTEM

Date	Depth [m]	Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp [DegC]	Fann Readings								Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel10 [Pa]	Gel10 [Pa]
	MD TVD					600	300	200	100	60	30	6	3					
21-nov-1995 23:00	0	KCL/POLYME	100.0	1.25	0.0									0.0	0.0	0.0	0.0	0.0
22-nov-1995 10:30	1030 1030	KCL/POLYME	56.0	1.25	0.0	56	40	33	23			7	4	50.0	16.0	12.0	3.0	3.5
22-nov-1995 22:00	1488 1488	KCL/POLYME	67.0	1.25	0.0	84	57	48	34			8	4	50.0	27.0	15.0	3.0	3.5
23-nov-1995 23:59	1659 1659	KCL/POLYME	68.0	1.40	0.0	78	54	44	30			8	4	50.0	25.0	14.0	3.5	4.5
24-nov-1995 16:00	1990 1990	KCL/POLYME	65.0	1.41	0.0	81	55	44	30			7	5	50.0	26.0	14.5	3.0	5.0
25-nov-1995 16:00	1990 1990	KCL/POLYME	65.0	1.45	0.0	74	51	40	28			7	5	50.0	23.0	14.0	3.0	5.0
26-nov-1995 20:10	1990 1990	KCL/POLYME	58.0	1.45	0.0	86	56	44	31			8	6	50.0	30.0	13.0	3.0	4.5
27-nov-1995 17:00	1990 1990	KCL/POLYME	0.0	1.18	0.0	33	23	17	12			3	2	50.0	10.0	6.5	2.0	2.0

Hole section: 8 1/2"

WATER BASED SYSTEM

Date	Depth [m]	Mud Type	Funnel Visc [sec]	Dens [sg]	Mudtmp [DegC]	Fann Readings								Rheo Test [DegC]	PV [mPas]	YP [Pa]	Gel10 [Pa]	Gel10 [Pa]
	MD TVD					600	300	200	100	60	30	6	3					
27-nov-1995 23:00	2004 2004	KCL/POLYME	44.0	1.18	0.0	36	26	19	13			4	3	50.0	10.0	8.0	2.0	3.0
28-nov-1995 23:00	2004 2004	KCL/POLYME	44.0	1.18	0.0									50.0	10.0	8.0	2.0	3.0
29-nov-1995 13:00	2023 2023	KCL/POLYME	46.0	1.18	0.0	34	24	17	12			2	1	50.0	10.0	7.0	1.0	2.0
30-nov-1995 14:20	2055 2055	KCL/POLYME	54.0	1.18	0.0	40	28	20	14			3	2	50.0	13.0	7.0	2.0	3.0
01-dec-1995 15:30	2090 2090	KCL/POLYME	52.0	1.18	0.0	45	31	23	16			4	3	50.0	14.0	8.5	2.0	3.0
02-dec-1995 23:25	2162 2162	KCL/POLYME	52.0	1.18	0.0	45	31	22	14			3	2	50.0	14.0	8.5	1.0	3.0
03-dec-1995 10:30	2178 2178	KCL/POLYME	56.0	1.18	0.0	44	30	22	15			3	2	50.0	14.0	8.0	1.5	1.5
04-dec-1995 15:50	2220 2220	KCL/POLYME	22.0	1.18	0.0	44	30	22	15			3	2	50.0	14.0	8.0	1.5	1.5
05-dec-1995 08:30	2251 2251	KCL/POLYME	54.0	1.18	0.0	45	31	22	15			3	2	50.0	14.0	8.5	1.5	1.5
06-dec-1995 23:59	2350 2350	KCL/POLYME	56.0	1.18	0.0	46	31	22	15			3	2	50.0	15.0	8.0	2.0	2.0
07-dec-1995 23:59	2350 2350	KCL/POLYME	63.0	1.18	0.0	46	31	22	15			3	2	50.0	15.0	8.0	2.0	2.0
08-dec-1995 23:59	2350 2350	KCL/POLYME	64.0	1.18	0.0	46	31	22	15			3	2	50.0	15.0	8.0	2.0	2.0
09-dec-1995 23:59	2350 2350	KCL/POLYME	61.0	1.18	0.0	45	31	22	15			3	2	50.0	14.0	8.5	2.0	2.0
10-dec-1995 23:59	1831 1831	KCL/POLYME	62.0	1.18	0.0									50.0	15.0	7.5	2.0	2.0

See also the report 'DAILY MUD PROPERTIES : OTHER PARAMETERS'

Norsk Hydro

DAILY MUD PROPERTIES : RHEOLOGY PARAMETERS FOR WELL 31/4-10

Hole section: 8 1/2"

WATER BASED SYSTEM

Date	Depth		Mud Type	Funnel	Dens	Mudtmp	Fann Readings							Rheo	PV	YP	Gel0	Gel10			
	[m]	MD		TVS	Visc	[sg]	Out	[sec]	[DegC]	600	300	200	100	60	30	6	3	[DegC]	[mPas]	[Pa]	[Pa]
11-dec-1995 23:59	1831	1831	KCL/POLYME	62.0	1.18	0.0											50.0	15.0	7.5	2.0	2.0
12-dec-1995 23:59	1831	1831	KCL/POLYME	62.0	1.18	0.0											50.0	15.0	7.5	2.0	2.0

See also the report 'DAILY MUD PROPERTIES : OTHER PARAMETERS'

TOTAL CONSUMPTION OF MUD ADDITIVES ON WELL 31/4-10

Section Size	Product/Additive	Total	Total	Unit	Difference		Difference in cost	
		Amount Planned	Amount Used		Amount	%	%	[kNOK]
36"	BARITE		65000.0	kg				
	BENTONITE		17000.0	kg				
	SODA ASH		200.0	kg				
17 1/2"	BARITE		65000.0	kg				
	BENTONITE		38000.0	kg				
	SODA ASH		300.0	kg				
12 1/4"	ANCO ZAN		1575.0	kg				
	ANTISOL FLT		4900.0	kg				
	BARITE		196000.0	kg				
	BICARBONATE		375.0	kg				
	CMC EHV		1000.0	kg				
	KCL BRINE		268000.0	l				
	KCL POWDER		3000.0	kg				
	PHPA		1575.0	kg				
8 1/2"	SODA ASH		300.0	kg				
	ANCO ZAN		825.0	kg				
	ANTISOL FLT		4475.0	kg				
	BARITE		68500.0	kg				
	BICARBONATE		375.0	kg				
	CITRIC ACID		50.0	kg				
	KCL BRINE		117000.0	l				
	LIME		225.0	kg				
PHPA		1025.0	kg					
SODA ASH		100.0	kg					