Run 3A: MDT-MS-PS-GR-ACTS

Depth m MD RT	Depth m TVD RT	Formation Pressure kPa	Hydr. before kPa	Hydr. after kPa	Mobility md/cp	Pore Pres. g/cm³	Temp °C	Comments
2 287.1	2286,9	24 380.7	28 304	28 306	17,94	1,09	42,7	Good
2 289.61	2289,41	19 263.3	28 339	28 333	0,94	0,86	42,9	Dry test
2 288.99	2288,79	24 399.4	28 334	28 331	7,96	1,09	43	Good
2 292.03	2291,83	24 426.9	28 367	2 837	51,71	1,09	43,4	Good
2 294.07	2293,87	24 446.3	2 8390	28 391	49,51	0	43,6	Good
2 298.09	2297,89	24 486.9	28 443	28 443	11,53	1,09	43,8	Good
2 301.02	2300,82	24 516.3	28 473	28 469	6,82	1,09	44	Good
2 314.98	2314,77	24 651.6	28 645	28 645	25,99	1,09	44,2	Good
2 330.14	2329,93	24 801.6	2 8830	28 833	3,9	1,09	44,4	Good
2 354	2353,78	25 036.6	29 124	29 117	19,41	1,08	44,8	Good
2 373.03	2372,81	25 238.4	2 9350	29 345	0,97	1,08	45,9	Three attemts. Slight incr.
2 387.07	2386,84	25 388.3	29 512	29 513	10,99	1,08	46,5	Good
2 402	2401,77	25 506.6	29 700	29 692	9,97	1,08	46,9	Good
2 414.07	2413,83	25 624.9	29 843	29 843	15,34	1,08	47,2	Good
2 453.11	2452,86	25 992.7	30 268	30 322	2,18	1,08	47,7	Good
2 480.08	2479,81	26 278.9	30 641	30 642	16,91	1,08	49	Slight incr.
2 508.08	2507,8	26 549.2	30 986	30 990	3,94	1,08	49,3	Good
2 562.06	2561,74	27 079.7	31 638	31 643	5,08	1,08	49,8	Good
2 596.07	2595,73	27 410.3	32 056	32 050	6,63	1,08	50,8	Good
2 620.07	2619,71	27 662	32 339	32 345	1,15	1,08	51,8	Slight incr.
2 645.08	2644,7	27 888.1	32 644	32 648	2,51	1,08	52,4	Good
2 705.05	2704,6	28 476	33 367	33 370	2,35	1,07	52,9	Good
2 755.03	2754,52	28 986.7	33 967	33 980	8,62	1,07	53,7	Good
2 803.04	2802,46	29 456.1	34 565	34 564	5,82	1,07	54,8	Slight incr.
2 879.02	2878,31	30 193.6	35 476	35 482	9,31	1,07	55,8	Good
2 886.02	2885,3	-	35 561	35 571	-	-		Dry test
2 886.53	2885,81	30 280.7	35 568	35 577	0,5	1,07	57	Good
2 918.04	2917,25	30 576.2	35 941	35 955	2,31	1,07	57,6	Good
2 947.07	2946,22	30 910.6	26 306	36 296	0,14	1,07	58,5	Good
2 999.03	2998,06	30 161.5	36 926	36 920	2,5	1,02	59,2	Good
3 005.02	3004,04	-	37 002	37 006	-	-	59,6	Dry test

Depth m MD RT	Depth m TVD RT	Formation Pressure kPa	Hydr before kPa	Hydr after kPa	Mobility md/cp	Pore Pres. g/cm³	Temp °C	Comments
3 026.06	3025,02	-	37 247	37 262	-	-	60,1	Dry test
3 091.56	3090,33	-	38 047	38 041	-	-	60,7	Dry test
3 102.04	3100,78	32 266.2	38 165	29 162	8,92	1,06	61,4	Good
3 106.02	3104,74	32 329.8	38 227	38 212	1,67	1,06	62,4	S.incr
3 108.03	3106,75	32 333	38 240	38 246	3,93	1,06	63,1	Good
3 120.03	3118,71	32 438.7	38 388	38 387	3,13	1,06	63,6	Good
3 189.09	3187,54	33 107.5	39 223	39 224	6,8	1,06	64,2	Good
3 193.02	3191,46	33 153.5	39 273	39 275	2,64	1,06	65,1	Good
3 103.09	3101,8	32 265	38 183	38 181	-	-	66,1	Sample 1
2 891.9	2891,1	30 220	25 654	25 656	-	-	61,1	Sample 2
2 289.6	2289,4	21 873	28 329	28 327	-	-	46,8	Sample 3

Table 3.3.1

Run 5B: MDT-MS-PS-GR-ACTS

Depth m MD RT	Depth m TVD RT	Formation Pressure kPa	Hydr. before kPa	Hydr. after kPa	Mobility md/cp	Pore Pressure g/cm³	Temp °C	Comments
3102,07	3 100.88	32 262.99	38 647	38 641	81,94	1,06	66,5	very good
3 189.17	3 187.7	33 105.18	39 740	39 723	16,36	1,06	67,5	very good
3 235.39	3 233.77	34 057.3	40 317	40 289	0,37	-	68,4	not stable
3 246.68	3 245.02	33 661.94	40 441	40 423	15,38	1,06	69,4	very good
3 324.56	3 322.67	34 417.33	41 408	41 386	17,43	1,06	71,2	very good
3 379.07	3 376.98	22 744.87	42 074	42 059	0,74	-	72,6	tight
3 395.07	3 392.91	18 112.46	42 274	42 256	1,81	-	73,5	tight
3 425	3 422.71	35 514.61	42 594	42 589	0,4	-	76,1	two attempts,
3 426.09	3 423.78	35 401.54	42 603	42 599	2,55	1,05	76,3	good
3 427.09	3 424.78	35 504.45	42 613	42 609	0,55	1,06	76,8	two attempts
3 429.04	3 426.73	35 493.43	42 639	42 633	0,76	1,06	77	good
3 428.05	3 425.74	35 524.75	42 620	42 624	0,38	-	76,9	not stable, incr.
3 431.04	3 428.71	35 637.99	42 668	42 662	0,23	-	77,1	not stable, incr.
3 463.54	3 461.04	17 683.1	43 103	43 083	8,4	-	76,7	tight
3 486.05	3 483.43	18 284.15	43 368	43 353	5,75	-	76,8	tight
3 737.51	3 732.97	30 075.23	46 401	46 394	0,51	-	74,1	tight
3 738.07	3 733.52	38 669.12	46 401	46 395	1,04	1,06	87	not stable, slow incr.
3 740.07	3 735.51	38 666.47	46 428	46 422	1,85	1,06	87,6	not stable, slow incr.
3 741.05	3 736.49	38 816.46	46 438	46 429	0,16	1,06	88	not stable, incr. superch.
3 743.55	3 738.96	38 823.25	46 465	46 463	0,22	1,06	88,1	not stable, incr. superch.
3 745.25	3 740.65	38 728.37	46 488	46 483	0,94	1,06	88,5	not stable, slow incr.
3 747.65	3 743.03	39 765.71	46 517	46 512	0,27	1,08	88,5	not stable, incr.
3 749.85	3 745.21	23 660.42	46 545	46 540	7,55	-	88,5	tight
4 140.06	4 131.09	25 085.89	51 313	51 298	5,43	-	100,1	tight
4 170.07	4 160.68	24 552.96	41 685	51 668	7,6	-	102,4	tight
4 209.06	4 199.16	24 384.45	52 144	52 130	6,83	-	104,2	tight
4 215.05	4 205.08	25 037.03	52 195	52 183	5,59	-	105,6	tight
3 738.05	3 733.51	38 493.81	46 382	46 379	1,03	1,05		Sample
3 740.05								Sample
3 740.05								Sample

Table 3.3.2

MDT Sampling

Run	Depth m RT	Chamber	Volume	Content and Laboratory measurements
3A	3103	MPSR_BA 750	450cm³	450 cm³. Laboratory measurements indicates formation water contaminated with mud and mdfiltrate. The density is measured to 1.075 g/cm³ at 15 °C and the Cl^- to 59000 mg/l. No traces of hydrocarbon.
		MPSR_BA 751	450cm³	425cm³ .Contained mud / mudfiltrate and water No traces of hydrocarbon.
3A	2891,9	MPSR_BA 783	450cm³	440 cm³ . Mud / formation water. No traces of hydrocarbon.
		MPSR_BA 784	450cm³	Empty
3A	2289,5	MPSR_BA 787	450cm³	50 cm³. Mud / mudfiltrate
		MPSR_BA 795	450cm³	15 cm³ . Mud /mudfiltrate
		MRSC_BA 13	1 Gallon	Bled off at rigsite. Laboratory measurements indicates formation water contaminated with mud and mudfiltrate. The density is measured to 1.048 g/cm³ at 15 °C and the Cl^- to 31400 mg/l. No traces of hydrocarbon.
5B	3740	MPRS_BA 55	1 Gallon	Bled off at rigsite. Laboratory measurements indicates formation water highly contaminated with mud and mdfiltrate. The density is measured to 1.147 g/cm³ at 15 °C and the Cl^- to 94900 mg/l.
		MRSC_BA 143	450cm³	Bled off at rigsite
		MPSR_BA 606	450cm³	Laboratory measurements indicates formation water highly contaminated with mud and mudfiltrate. Small amount of very dry gas. The composition of the gas is (in vol %) C1=98.3 , C2= 1.0, C3=0.3, iC4=0.07,nC4=0.17, iC5= 0.04 ,nC5=0.04.

Table 3.3.3

3.4 Well Testing

No DST test was done in this well.

Company: Statoil
Well Name: 6706/11-1
Contractor: Diamond Offshore Drilling
Rig: Ocean Alliance

Country: NORWAY
Geo Area: NORWEGIAN SEA
Field: PL 217 Vema Dome
Region: Europe

Mud Property Recap:Water-Based Mud

DATE	DEPTH	F/L TEMP	DENSITY	FUN VIS	RHEOLOGY @ 120°F				pH	FILTRATION				FILTRATE ANALYSIS					SAND	RETORT ANALYSIS				MBT	RHEOMETER DIAL READINGS		
					PV	YP	GELS			API	HTHP	Cake	Temp	Pm	Pf	Mf	Cl	Total Hardness		Corr Solids	LGS	Oil	Water				
	meters	Deg C	SG	sec/L	mPa.s	Pa				ml/30 mi	ml/30 min	32nd in	Deg C	ml	ml	ml	mg/L	mg/L	% by vol	% by vol	% by vol	% by vol	% by vol	me/ml mud	600/300	200/100	6/3
01-12-97	1341		1.02	28	1.0		/		10.50				121												/	/	/
02-12-97	1341		1.02	28	1.0		/						121												/	/	/
03-12-97	1341		1.02	28	1.0		/						121												/	/	/
04-12-97	1575		1.05	100	1.0		/		9.20			2/0	121												/	/	/
05-12-97	1645		1.05	100	1.0		/		9.00			2/0	121												/	/	/
06-12-97	1645		1.05	100	1.0		/					2/0	121												/	/	/
07-12-97	1645		1.05	30	1.0		/					2/0	121												/	/	/
08-12-97	1645		1.05	30	1.0		/					2/0	121												/	/	/
09-12-97	1645		1.05	30	1.0		/					2/0	121												/	/	/
10-12-97	1645		1.12	45	1.0		/					2/0	121												/	/	/
11-12-97	1661		1.12	47	1.0		/		11.90	3.0		1/0	121	45.00	45.00	47.50									/	/	/
12-12-97	1735	8	1.13	54	20.0	6.0	3.0/	3.0	12.20	1.0		1/0		23.00	17.50	18.75	70,000		1.5	1.88	0.21		94.00	7.00	56 / 36	8 / 18	6 / 5
13-12-97	1924	8	1.11	40	12.0	2.0	2.0/	2.0																7.00	28 / 16	12 / 9	4 / 3
14-12-97	1924	13	1.11	42	12.0	5.0	2.0/	2.0	11.90	1.4		1/0		17.20	12.50	13.75	56,000		1	1.70	0.13		95.00	7.00	34 / 22	18 / 12	4 / 3
15-12-97	1924		1.11	42	12.0	5.0	2.0/	2.0	11.90	1.4		1/0		17.20	12.50	13.70	56,000		1	1.70	0.13		95.00	7.00	34 / 22	18 / 12	4 / 3
16-12-97	1924		1.11	42	12.0	5.0	2.0/	2.0	11.90	1.4		1/0		17.20	12.50	13.70	56,000		1	1.70	0.13		95.00	7.00	34 / 22	18 / 12	4 / 3
17-12-97	1924		1.06	38	1.0		/					2/0													/	/	/
18-12-97	1924		1.06	35	1.0		/																		/	/	/
19-12-97	1924		1.09	35	1.0		/					2/0													/	/	/
20-12-97	1924	9	1.08	37	5.0	4.0	/																		18 / 13	10 / 9	6 / 5
21-12-97	1924	9	1.08	36	5.0	5.0	5.0/	5.0																	19 / 14	9 / 8	6 / 5
22-12-97	1924	10	1.12	40	6.0	4.0	6.0/	6.0				2/0													20 / 14	11 / 10	7 / 6
23-12-97	1924		1.12	40	6.0	4.0	6.0/	6.0																	20 / 14	11 / 10	7 / 6

Company: Statoil
Well Name: 6706/11-1
Contractor: Diamond Offshore Drilling
Rig: Ocean Alliance

Country: NORWAY
Geo Area: NORWEGIAN SEA
Field: PL 217 Vema Dome
Region: Europe

Mud Property Recap:Water-Based Mud

DATE	DEPTH	F/L TEMP	DENSITY	FUN VIS	RHEOLOGY @ 120°F				pH	FILTRATION				FILTRATE ANALYSIS					SAND	RETORT ANALYSIS				MBT	RHEOMETER DIAL READINGS		
					PV	YP	GELS			API	HTHP	Cake	Temp	Pm	Pf	Mf	Cl	Total Hardness		Corr Solids	LGS	Oil	Water				
	meters	Deg C	SG	sec/L	mPa.s	Pa				ml/30 mi	ml/30 min	32nd in	Deg C	ml	ml	ml	mg/L	mg/L	% by vol	% by vol	% by vol	% by vol	% by vol	me/ml mud	600/300	200/100	6/3
24-12-97	1879		1.12	42	6.0	5.0	7.0/ 6.0																		21 / 15	11 / 10	7 / 6
25-12-97	1879		1.12	42	6.0	5.0	7.0/ 6.0																		21 / 15	11 / 10	7 / 6
26-12-97	2024		1.20	60	22.0	9.0	3.0/ 3.0		12.20	2.4	7.00	1/0	40	35.00	27.50	28.80	100,000		0.1	5.82	5.41		88.50	14.00	62 / 40	30 / 19	5 / 4
27-12-97	2024	10	1.20	71	11.0	9.0	3.0/ 3.0		12.20	2.5	7.00	1/1	40	35.00	27.00	28.00	100,000		0	5.82	5.41		88.50	14.00	62 / 40	31 / 20	5 / 4
28-12-97	2024		1.21	75	28.0	10.0	3.0/ 4.0		12.20	2.5	7.00	1/1	40	37.00	28.00	34.00	112,000		0	3.47	1.06		90.00	14.00	76 / 48	37 / 24	7 / 5
29-12-97	2024		1.20		22.0	11.0	3.0/ 6.0		12.20	2.5	7.00	1/1	40	37.00	27.50	30.00	104,000		0	4.30	2.75		89.70	14.00	66 / 44	34 / 23	8 / 6
30-12-97	2048	8	1.21	103	24.0	13.0	6.0/ 8.0		12.20	2.4	6.60	1/1	40	35.00	28.00	30.00	108,000		0.1	4.05	1.90		89.70	14.00	76 / 50	39 / 26	8 / 6
31-12-97	2197		1.21	69	24.0	10.0	4.0/ 7.0		12.20	2.3	5.40	1/1	40	35.00	26.30	29.00	109,000			3.66	1.23		90.00	14.00	67 / 43	34 / 23	7 / 6
01-01-98	2197		1.21	69	25.0	10.0	4.0/ 6.0		12.20	2.2	5.40	1/1	40	33.00	26.30	28.75	110,000			3.60	1.17		90.00	14.00	73 / 46	37 / 24	8 / 7
02-01-98	2255		1.21	71	24.0	11.0	4.0/ 6.0		12.20	2.2	5.20	1/1	40	33.00	26.30	30.00	110,000			3.60	1.17		90.00	14.00	70 / 46	36 / 24	8 / 7
03-01-98	2255	11	1.21	69	25.0	10.0	3.0/ 6.0		12.20	2.0	5.00	1/1	40	33.00	25.00	26.30	104,000			3.98	1.51		90.00	14.00	71 / 46	36 / 24	8 / 6
04-01-98	2255		1.21	73	26.0	11.0	4.0/ 6.0		12.20	2.0	5.00	1/1	40	33.00	25.00	26.30	104,000			3.98	1.51		90.00	14.00	74 / 48	37 / 24	8 / 7
05-01-98	2255		1.21	73	26.0	11.0	4.0/ 6.0		12.20	2.0	5.00	1/1	40	33.00	25.00	26.30	104,000			3.98	1.51		90.00	14.00	74 / 48	37 / 24	8 / 7
06-01-98	2260	11	1.28	64	29.0	10.0	3.0/ 4.0		12.20	2.4	6.00	1/1	40	33.00	27.50	30.00	104,000			6.64	2.30		87.50	14.00	78 / 49	38 / 25	7 / 6
07-01-98	2297	9	1.26	76	26.0	10.0	3.0/ 4.0		12.20	2.2	4.60	1/1	40	31.00	26.50	29.00	104,000		0.4	6.11	2.47		88.00	14.00	72 / 46	35 / 24	7 / 6
08-01-98	2307	8	1.25	67	30.0	10.0	4.0/ 6.0		12.20	2.0	4.80	1/1	40	33.00	29.00	30.00	119,000		.25	5.18	2.30		88.00	14.00	80 / 50	33 / 22	8 / 7
09-01-98	2324	9	1.25	68	28.0	10.0	4.0/ 5.0		12.20	2.2	4.60	1/1	40	31.00	29.00	30.00	124,000		0.3	4.87	2.05		88.00	14.00	76 / 48	32 / 22	7 / 6
10-01-98	2614	6	1.25	67	25.0	10.0	3.0/ 4.0		12.20	2.0	5.00	1/1	40	33.80	31.00	33.80	131,651		.4	4.38	1.61		88.00	21.00	70 / 45	35 / 24	8 / 6
11-01-98	2811	7	1.25	66	26.0	11.0	4.0/ 5.0		12.20	2.0	5.00	1/1	40	33.00	29.00	31.00	137,669		.3	4.14	1.44		88.50	21.00	74 / 48	38 / 26	8 / 7
12-01-98	2961	6	1.24	63	27.0	10.0	4.0/ 5.0		12.20	2.0	5.00	1/1	40	33.00	29.00	31.00	123,382		.3	4.37	1.64		88.50	17.00	75 / 48	36 / 26	8 / 7
13-01-98	3107		1.24	76	26.0	13.0	4.0/ 5.0		12.20	2.0	5.00	1/1	40	30.00	29.00	30.00	130,873		.3	3.89	1.22		88.50	17.00	78 / 52	41 / 27	9 / 7
14-01-98	3111		1.24	77	26.0	13.0	4.0/ 5.0		12.20	2.2	5.00	1/1	40	30.00	29.00	30.00	130,800		.3	3.89	1.22		88.50	21.00	78 / 52	41 / 27	9 / 7
15-01-98	3138	6	1.24	88	27.0	14.0	4.0/ 5.0		12.10	2.0	5.00	1/1	40	30.00	29.00	30.00	130,800		.3	4.44	2.26		88.00	21.00	82 / 55	43 / 30	8 / 7

Company: Statoil
Well Name: 6706/11-1
Contractor: Diamond Offshore Drilling
Rig: Ocean Alliance

Country: NORWAY
Geo Area: NORWEGIAN SEA
Field: PL 217 Vema Dome
Region: Europe

Mud Property Recap:Water-Based Mud

DATE	DEPTH	F/L TEMP	DENSITY	FUN VIS	RHEOLOGY @ 120°F				pH	FILTRATION				FILTRATE ANALYSIS					SAND	RETORT ANALYSIS				MBT	RHEOMETER DIAL READINGS		
					PV	YP	GELS			API	HTHP	Cake	Temp	Pm	Pf	Mf	Cl	Total Hardness		Corr Solids	LGS	Oil	Water				
	meters	Deg C	SG	sec/L	mPa.s	Pa				ml/30 mi	ml/30 min	32nd in	Deg C	ml	ml	ml	mg/L	mg/L	% by vol	% by vol	% by vol	% by vol	% by vol	me/ml mud	600/300	200/100	6/3
16-01-98	3163	9	1.25	67	28.0	15.0	4.0/	4.0	12.00	2.3	7.00	1/ 1	100	30.00	32.50	35.00	148,800		.3	4.37	2.71		87.00	21.00	88 / 60	47 / 32	9 / 7
17-01-98	3164		1.24	67	28.0	15.0	4.0/	5.0	12.00	2.3	7.00	1/ 1	100	30.00	32.50	35.00	148,800		0.3	3.82	2.26		87.50	21.00	88 / 60	47 / 32	9 / 7
18-01-98	3170		1.24	68	28.0	15.0	4.0/	4.0	12.00	2.3	7.20	1/ 1	100	32.00	32.00	35.00	152,000		.2	3.61	2.08		87.50	21.00	88 / 60	47 / 32	8 / 7
19-01-98	3180		1.25	86	26.0	14.0	4.0/	5.0	12.00	2.2	7.20	1/ 1	100	30.00	30.00	32.50	165,000		.2	3.30	1.72		87.00	21.00	80 / 54	42 / 29	8 / 7
20-01-98	3217	10	1.26	75	28.0	12.0	4.0/	4.0	12.10	2.2	7.00	1/ 1	100	32.50	31.25	33.75	165,000		0.1	3.86	2.14		86.50	25.00	80 / 52	41 / 27	9 / 7
21-01-98	3241	11	1.26	67	28.0	11.0	4.0/	4.0	12.10	2.0	7.00	1/ 1	100	32.50	31.25	32.50	165,000		0.1	3.86	2.12		86.50	25.00	79 / 51	40 / 27	8 / 7
22-01-98	3241		1.26	77	28.0	12.0	4.0/	4.0	12.10	2.2	7.20	1/ 1	100	32.00	31.25	32.75	165,000		0.1	3.86	2.12		86.50	25.00	80 / 52	41 / 27	9 / 7
23-01-98	3241		1.26	75	28.0	12.0	4.0/	4.0	12.10	2.2	7.20	1/ 1	100	32.00	31.25	32.70	165,000			3.86	2.12		86.50	25.00	81 / 53	43 / 29	9 / 8
24-01-98	3241		1.26	70	23.0	11.0	3.0/	6.0	12.10	2.5	7.00	3/ 3	100	32.00	28.00	30.50	140,000			4.94	2.54		87.00	32.00	67 / 44	34 / 23	8 / 6
25-01-98	3241		1.26	65	21.0	10.0	3.0/	4.0	12.10	3.0	7.50	1/ 1	100	32.00	28.00	31.00	140,000			4.94	2.54		87.00	32.00	62 / 41	33 / 21	7 / 6
26-01-98	3260	9	1.26	68	22.0	12.0	3.0/	5.0	12.10	2.7	7.50	1/ 1	100	30.00	27.50	29.00	128,040		tr	5.15	2.18		87.50	25.00	69 / 47	38 / 26	8 / 7
27-01-98	3307	9	1.26	76	22.0	11.0	5.0/	6.0	12.20	2.6	7.00	1/ 1	100	30.00	25.00	27.50	132,000		tr	4.36	0.92		88.00	18.00	66 / 44	34 / 23	7 / 6
28-01-98	3330		1.25	62	24.0	12.0	5.0/	6.0	12.10	2.5	7.00	1/ 1	100	28.75	25.00	27.50	125,000		tr	4.26	0.95		88.50	25.00	72 / 48	37 / 24	7 / 6
29-01-98	3330		1.25	67	24.0	12.0	4.0/	6.0	12.00	2.5	7.00	1/ 1	100	28.00	23.75	26.25	125,000		Tr	4.26	0.95		88.50	25.00	72 / 48	37 / 24	8 / 7
30-01-98	3330		1.25	69	24.0	12.0	4.0/	6.0	12.00	2.5	7.00	1/ 1	100	27.00	23.80	26.20	125,000		Tr	4.26	0.95		88.50	25.00	72 / 48	37 / 24	8 / 7
31-01-98	3381	9	1.25	69	23.0	12.0	4.0/	6.0	11.90	2.6	7.00	1/ 1	100	26.00	22.00	25.00	130,000		Tr	3.94	0.67		88.50	21.00	71 / 48	38 / 27	8 / 7
01-02-98	3407	10	1.25	67	25.0	11.0	4.0/	6.0	12.00	2.6	7.00	1/ 1	100	26.00	22.50	25.00	128,000		Tr	4.07	0.78		88.50	21.00	73 / 48	38 / 27	9 / 8
02-02-98	3476	10	1.26	69	24.0	11.0	4.0/	5.0	12.00	2.8	7.60	1/ 3	100	25.00	22.50	25.00	128,500		Tr	4.58	1.14		88.00	28.50	70 / 46	37 / 26	8 / 7
03-02-98	3529	11	1.26	75	28.0	12.0	4.0/	6.0	11.90	2.5	6.60	1/ 1	100	25.00	20.00	25.00	132,000		Tr	4.58	1.33		87.80	26.70	80 / 52	41 / 28	8 / 7
04-02-98	3585	10	1.25	76	27.0	12.0	4.0/	5.0	11.80	2.8	8.40	1/ 3	100	24.00	20.00	25.00	127,700		Tr	4.42	1.39		88.20	28.50	80 / 53	42 / 28	10 / 9
05-02-98	3621	9	1.25	71	27.0	12.0	3.0/	5.0	11.90	1.8	8.00	1/ 3	100	25.00	20.00	23.75	122,300		tr	4.76	1.73		88.20	25.00	78 / 51	40 / 27	9 / 8
06-02-98	3636	9	1.26	81	29.0	12.0	4.0/	6.0	11.80	2.2	8.00	1/ 3	100	25.00	20.00	23.70	122,300		tr	5.51	2.52		87.50	27.50	82 / 53	42 / 29	9 / 8
07-02-98	3685	8	1.25	78	31.0	13.0	3.0/	4.0	11.90	3.2	9.00	1/ 3	100	22.50	17.50	20.00	128,400		tr	4.59	1.80		88.00	25.00	89 / 58	44 / 29	7 / 6

13-05-98
BAROID a Division of Baroid Corp AS

Company:	Statoil	Country:	NORWAY
Well Name:	6706/11-1	Geo Area:	NORWEGIAN SEA
Contractor:	Diamond Offshore Drilling	Field:	PL 217 Vema Dome
Rig:	Ocean Alliance	Region:	Europe

Mud Property Recap:Water-Based Mud

DATE	DEPTH	F/L TEMP	DENSITY	FUN VIS	RHEOLOGY @ 120°F				pH	FILTRATION				FILTRATE ANALYSIS					SAND	RETORT ANALYSIS				MBT	RHEOMETER DIAL READINGS		
					PV	YP	GELS			API	HTHP	Cake	Temp	Pm	Pf	Mf	Cl	Total Hardness		Corr Solids	LGS	Oil	Water				
	meters	Deg C	SG	sec/L	mPa s	Pa				ml/30 mi	ml/30 min	32nd in	Deg C	ml	ml	ml	mg/L	mg/L	% by vol	% by vol	% by vol	% by vol	% by vol	me/ml mud	600/300	200/100	6/3
08-02-98	3705	11	1.26	88	29.0	13.0	3.0/ 6.0		11.70	3.2	8.40	1/ 3	100	22.00	18.80	22.30	128,460		tr	4.59	1.14		88.00	30.00	85 / 56	44 / 30	9 / 8
09-02-98	3733	8	1.25	82	30.0	12.0	3.0/ 5.0		11.80	3.2	8.40	1/ 3	100	22.50	17.50	20.00	128,400		tr	4.59	1.77		88.00	25.00	85 / 55	42 / 27	8 / 7
10-02-98	3744		1.26	74	29.0	13.0	3.0/ 4.0		11.80	2.8	8.40	1/ 3	100	22.50	18.75	21.25	128,400		tr	5.13	2.16		87.50	27.50	84 / 55	44 / 30	8 / 7
11-02-98	3750	10	1.26	80	30.0	13.0	4.0/ 7.0		11.80	2.3	8.00	1/ 3	100	23.50	20.00	22.50	123,000		tr	4.71	1.01		88.20	28.50	87 / 57	45 / 30	9 / 7
12-02-98	3764	10	1.26	86	30.0	14.0	4.0/ 6.0		11.70	2.5	8.10	1/ 3	100	22.00	16.25	20.00	123,050		tr	4.93	1.43		88.00	28.50	88 / 58	45 / 30	9 / 7
13-02-98	3786	10	1.26	83	30.0	12.0	3.0/ 5.0		11.80	3.2	8.60	1/ 3	100	22.00	18.25	20.00	123,000		tr	4.93	1.43		88.00	27.50	83 / 53	42 / 28	9 / 7
14-02-98	3861	9	1.26	84	32.0	12.0	3.0/ 5.0		11.90	2.8	8.40	1/ 3	100	21.50	17.50	22.50	123,000		Tr	4.93	1.43		88.00	28.00	89 / 57	46 / 30	9 / 7
15-02-98	3917	9	1.27	85	31.0	13.0	3.0/ 6.0		11.90	3.0	8.80	1/ 3	100		18.25	20.00	124,000		Tr	5.41	1.80		87.50	27.50	89 / 58	47 / 32	9 / 8
16-02-98	3990	9	1.27	84	32.0	12.0	3.0/ 6.0		11.90	2.6	8.60	1/ 3	100		16.25	20.00	127,000		Tr	5.22	1.64		87.50	27.00	89 / 57	44 / 29	8 / 7
17-02-98	4066	9	1.26	88	32.0	11.0	3.0/ 5.0		11.90	2.6	8.80	1/ 3	100		12.50	15.00	127,000		Tr	5.22	2.26		87.50	27.00	86 / 54	43 / 28	8 / 7
18-02-98	4106	9	1.26	82	30.0	13.0	3.0/ 5.0		11.80	2.2	7.80	1/ 3	100	22.00	17.50	20.00	128,000		TR	5.16	2.18		87.50	27.00	86 / 56	44 / 29	8 / 7
19-02-98	4114	9	1.26	88	32.0	11.0	3.0/ 5.0		11.80	2.2	7.80	2/ 3	100		17.50	20.00	127,000		Tr	5.22	2.24		87.50	27.00	86 / 54	43 / 28	8 / 7
20-02-98	4148	9	1.26	89	30.0	11.0	3.0/ 5.0		11.80	2.2	7.80	1/ 3	100		18.50	20.50	127,000		tr	5.22	2.24		87.50	27.00	82 / 52	42 / 27	8 / 7
21-02-98	4217	9	1.26	88	30.0	12.0	3.0/ 5.0		11.70	2.2	8.00	1/ 3	100		16.00	20.00	128,000		TR	5.16	2.18		87.50	27.00	85 / 54	43 / 29	9 / 7
22-02-98	4230	9	1.26	87	31.0	15.0	3.0/ 5.0		11.80	2.2	7.80	1/ 3	100		15.00	19.00	128,000		tr	5.16	2.18		87.50	28.00	92 / 61	45 / 31	8 / 7
23-02-98	4230		1.27	87	29.0	15.0	3.0/ 5.0		11.80	2.2	8.00	1/ 3	100		15.00	19.00	128,000		tr	5.16	1.58		87.50	28.00	89 / 60	46 / 32	8 / 7
24-02-98	4230		1.27	88	32.0	12.0	3.0/ 5.0		11.80	2.2	8.00	1/ 3	100		15.00	19.00	127,000		tr	5.22	1.64		87.50	27.00	89 / 57	42 / 30	8 / 7
25-02-98	4230		1.27	89	31.0	14.0	3.0/ 5.0		11.80	2.2	8.00	1/ 3	100		15.00	19.00	127,000		tr	5.22	1.64		87.50	28.00	88 / 57	45 / 31	8 / 7
26-02-98	4230		1.27	88	32.0	14.0	3.0/ 5.0		11.80	2.2	8.00	1/ 3	100		15.00	19.00	127,000		tr	5.22	1.64		87.50	27.00	89 / 57	42 / 31	8 / 7
27-02-98	4308	9	1.26	88	31.0	13.0	3.0/ 5.0		11.80	2.2	8.00	1/ 3	100		16.00	20.00	123,000		tr	5.47	2.48		87.50	26.00	88 / 57	43 / 28	7 / 6
28-02-98	4317		1.26	89	32.0	14.0	3.0/ 5.0		11.80	2.2	8.00	1/ 3	100		15.00	19.00	120,000		tr	5.66	2.63		87.50	26.00	89 / 57	42 / 31	7 / 6
01-03-98	4317		1.26	89	32.0	14.0	3.0/ 5.0		11.80	2.2	8.00	1/ 3	100		15.00	19.00	122,000		tr	5.53	2.52		87.50	26.00	89 / 57	42 / 31	7 / 6
02-03-98	4317		1.26	93	31.0	11.0	3.0/ 5.0		11.80	2.2	11.80	1/ 3	100		15.00	20.00	123,000		tr	5.15	1.84		87.80	24.00	83 / 52	41 / 25	7 / 6

Company:	Statoil	**Country:**	NORWAY
Well Name:	6706/11-1	**Geo Area:**	NORWEGIAN SEA
Contractor:	Diamond Offshore Drilling	**Field:**	PL 217 Vema Dome
Rig:	Ocean Alliance	**Region:**	Europe

Mud Property Recap:Water-Based Mud

DATE	DEPTH	F/L TEMP	DENSITY	FUN VIS	RHEOLOGY @ 120°F				pH	FILTRATION				FILTRATE ANALYSIS					SAND	RETORT ANALYSIS				MBT	RHEOMETER DIAL READINGS		
					PV	YP	GELS			API	HTHP	Cake	Temp	Pm	Pf	Mf	Cl	Total Hardness		Corr Solids	LGS	Oil	Water				
	meters	Deg C	SG	sec/L	mPa s	Pa				ml/30 mi	ml/30 min	32nd in	Deg C	ml	ml	ml	mg/L	mg/L	% by vol	% by vol	% by vol	% by vol	% by vol	me/ml mud	600/300	200/100	6/3
03-03-98	4317		1.26	60	22.0	8.0	4.0/	5.0	11.70	3.6	8.80	1/ 1	100	16.25	16.25	25.00	121,400			4.49	0.48		88.50	7.00	60 / 38	30 / 21	6 / 5
04-03-98	4317		1.26	60	22.0	8.0	4.0/	5.0	11.70	3.6	8.80	1/ 1	100	16.25	16.25	25.00	121,400			4.49	0.48		88.50	7.00	60 / 38	20 / 21	6 / 5
05-03-98	4317		1.26	62	21.0	9.0	4.0/	5.0	11.70	3.6	8.80	1/ 1	100	16.25	16.25	25.00	121,400			4.49	0.48		88.50	7.00	61 / 40	22 / 20	6 / 6
06-03-98	4317		1.26	62	21.0	9.0	4.0/	5.0	11.70	3.6	8.80	1/ 1	100	16.25	16.25	25.00	121,400			4.49	0.48		88.50	7.00	61 / 40	30 / 20	6 / 6
07-03-98	4317		1.26	60	21.0	10.0	4.0/	5.0	11.70	3.6	8.80	1/ 1	100	16.00	16.25	23.75	121,400			4.49	0.48		88.50	7.00	63 / 42	31 / 22	7 / 6
08-03-98	4317		1.26	63	22.0	9.0	4.0/	5.0	11.70	3.4	8.00	1/ 1	100	15.00	15.00	23.25	21,400			10.36	5.62		88.50	7.00	63 / 41	32 / 22	7 / 6
09-03-98	4317	10	1.26	80	32.0	13.0	5.0/	6.0	11.70	3.0	8.40	1/ 1	100	16.25	15.00	22.50	123,000			5.47	2.46		87.50	20.00	90 / 58	44 / 28	9 / 8
10-03-98	4317	10	1.26	75	23.0	13.0	3.0/	4.0	11.70	4.0	9.00	1/ 1	100	16.25	15.00	22.50	124,000		tr	4.33	0.34		88.50	20.00	73 / 50	41 / 28	8 / 7
11-03-98	4317		1.26	75	23.0	13.0	3.0/	4.0	11.70	4.0	9.00		100	16.25	15.00	22.50	124,000			4.33	0.34		88.50	20.00	73 / 50	41 / 28	8 / 7

Company:	Statoil	Country:	NORWAY
Well Name:	6706/11-1	Geo Area:	NORWEGIAN SEA
Contractor:	Diamond Offshore Drilling	Field:	PL 217 Vema Dome
Rig:	Ocean Alliance	Region:	Europe

Interval Discussion

Interval # 01 42 x 36 in. Hole Section

Objective : Drill 42"/36" top hole sections and set 30" conductor pipe.

Summary : Well 6706/11-1 was spudded for the third time at 2200 hours on 1 December 1997. A 17 1/2" bit and 26"/36" hole opener were run and spudded in at 1264 meters RKB. The hole was drilled to 1341 meters while pumping seawater and 5 cubic meters high viscosity sweeps every stand. At TD the hole was swept with a 20 cubic meters sweep and the hole was then displaced to 1.20 SG spud mud. A second run was then made with the same assembly but with a 42" hole opener 65 meters above the bit. The hole was opened to 42" and was swept as before and displaced to 1.20 SG spud mud prior to pulling out to run the 30" conductor.

Density : Seawater-1.03 SG Sweeps-1.07 SG Displacements-1.20 SG

Rheology and hole cleaning : All returns were to the seabed. No significant drag was observed when tripping the pipe.

Mud properties : None recorded.

Solids control : No returns

Variances from mud program : Operationally there were no variances from the mud program. However there was a cost variance (NOK 95,466 actual vs NOK 64,056 programmed) resulting from the use of contingency materials: 7 sacks BARAZAN D PLUS and 8 sacks N-VIS HI.

Company:	Statoil	Country:	NORWAY
Well Name:	6706/11-1	Geo Area:	NORWEGIAN SEA
Contractor:	Diamond Offshore Drilling	Field:	PL 217 Vema Dome
Rig:	Ocean Alliance	Region:	Europe

Interval Discussion

Interval # 02 26 in. Hole Section

Objective : Drill 26" hole to +/-1650 meters; set and cement 20" casing.

Summary : After cementing the 36"/30" casing, a 26" bit was picked up and run in. Cement was tagged at 1338 meters and after drilling out the shoe at 1341 meters, the section was drilled to a TD of 1645 meters. The hole was displaced to 1.20 SG spud mud and a wiper trip was performed to the 30" shoe. A tight spot was reamed from 1450 to 1480 meters which corresponded with a dogleg section of 3 degrees/100 meters. When back at TD, the well was once again displaced to 1.20 SG spud mud and the bit was pulled to run the 20" casing. The casing took weight at 1462 meters in the dogleg section and had to be pumped down from this depth. The casing was then cemented to a shoe depth of 1640 meters.

Density : The section was drilled with seawater and high viscosity sweeps at 1.07 SG. The density of the displacement mud was 1.20 SG.

Rheology and hole cleaning : All returns were to the seabed. The condition of the hole suggests that the sweeps were effective in cleaning the hole. The only drag and tight spots encountered were due to the dogleg section mentioned above.

Mud Properties : The sweeps were built with prehydrated bentonite at 100 kg/cubic meters and then were diluted 50:50 with seawater and then viscosified to 100+ sec/l funnel viscosity with guar gum and BARAZAN D PLUS. The displacement mud was built in the same manner but with a funnel viscosity of 45-50 sec to allow for weighting material.

Solids control : None used.

Variances from mud program : The original programmed section TD was 1950 meters and the mud program reflected this; however, owing to the experience of the first two attempts to drill on this location, the section TD was reduced to +/- 1650 meters. There were no other operational variances. The original programmed mud cost was NOK 233,855; the actual section mud cost was NOK 209,364, including NOK 163,245 for 342 cubic meters mud built during the 36"/42" section but used for the 26" section.

Company:	Statoil	Country:	NORWAY
Well Name:	6706/11-1	Geo Area:	NORWEGIAN SEA
Contractor:	Diamond Offshore Drilling	Field:	PL 217 Vema Dome
Rig:	Ocean Alliance	Region:	Europe

Interval Discussion

Interval # 03 20 in. Hole Section

Objective : Drill and under-ream the hole to 20" to +/- 1950 meters and set 16" liner.

Summary :
This section was drilled with BARASILC/NaCl/KCl/Polymer mud. The full strength brine (at 1.22 SG) designed for the next hole section was diluted with drill water to 1.12 SG. BARAZAN D PLUS, PAC-L and N-DRIL HT were added in the programmed concentrations to provide rheological and filtration control.

The cement, float equipment, casing shoe and 3 meters of new formation were drilled with a 17 1/2"" bit using seawater, dumping returns at the shakers. A leak-off Test was conducted and obtained an equivalent mud weight 1.15 SG. The hole was then displaced to the 1.12 SG BARASILC mud system (preceded by 10 cubic meters high viscosity pill).

Following the displacement a round trip was made to pick up the new 12 1/4"" bit and 20" reaming while drilling tool (RWD). This was run in the hole and drilling proceeded with out incidents to 1740 meters at which time the hole was back-reamed to the 20" casing shoe without difficulty.

Drilling continued to 1924 meters when, following a connection, there was an entire loss of returns. An attempt was made to fill the riser with mud but this was not successful. The bit was pulled to the 20" shoe (tight at 1862-1807 meters), and sea water was pumped down the choke line in an attempt to fill the riser. The mud level came up to 15 meters below RKB but started to drop as soon as the pumps were switched off. Pumping sea water continued until 70 cubic meters had been pumped. The static loss rate at this time was 0.08 cubic meters/min. A further 50 cubic meters sea water was pumped down the choke, and a gain of 0.9 cubic meters was recorded over 25 min. The well was shut in with 40 psi on the choke but this was felt to be due to the hydrostatic difference of the mud in the riser and the seawater in the choke line.

The well was opened up and the bit run back to 1690 meters where a 22 cubic meters LCM pill was spotted (22.5 kg/cubic meter BAROFIBRE, 30 kg/cubic meter each WALL-NUT F & C, and 59 kg/cubic meter BARASIL-S). The bit was pulled to 1545 meters and the well was displaced to 1.11 SG BARASILC mud.

Company:	Statoil	Country:	NORWAY
Well Name:	6706/11-1	Geo Area:	NORWEGIAN SEA
Contractor:	Diamond Offshore Drilling	Field:	PL 217 Vema Dome
Rig:	Ocean Alliance	Region:	Europe

Interval Discussion

Solids control : The four Derrick shakers were dressed with 80 and 100 mesh pyramid lower deck screens and performed well.

It was necessary to run the mud cleaner from time to time to control mud weight. Although a larger pump impeller was fitted to this piece of equipment, it still does not put out sufficient pressure for efficient operation, even when only using half the cones. Pump charts supplied by Thule United, the mud cleaner manufacturer, indicate that a different motor, running at higher RPM, is required. This information was passed on to Diamond Drilling but has yet to be acted upon.

Variances from mud program : This section was programmed to have utilized 1.24 SG BARASILC mud. Due to the shallower depth of the 20" casing and a lower than expected leak-off test, this section was, in effect, a new one. The mud properties therefore do not all conform to the original programmed values. The properties which vary are the chemical concentrations, which were lower than specified due to the required dilution of the base brine.

Company:	Statoil	Country:	NORWAY
Well Name:	6706/11-1	Geo Area:	NORWEGIAN SEA
Contractor:	Diamond Offshore Drilling	Field:	PL 217 Vema Dome
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Interval Discussion

Interval # 04 17.5" X 14.75" in. Hole Secti

Objective : The objective was to drill and under-ream 17 1/2" hole to TD, but due to problems with running the string through the 16" liner, the plan was changed to drilling a 12 1/4" hole and setting 9 5/8" casing.

Summary : After having drilled the previous section to 1870 meters, a formation integrity test was performed to 1.26 SG equivalent mud weight. The 16" liner depth was revised to 1844 meters. The BOP was tested and a 14 3/4" drilling assembly was made up and was run in the hole and drilled to 1879 meters. It was impossible to get the assembly past the window section and a new milling assembly was run. The following drilling assembly drilled to 1925 meters and the hole was displaced to BARASILC mud at 1.20 SG. Drilling continued to 2024 meters and the string was pulled due to MWD failure. As one of the cones on the bit was left in the hole it was decided to run another milling assembly.

A considerable amount of mud was lost on the shakers during drilling from 1925 to 2024 meters due to blinded screens. With a flow line temperature of 8-10 degrees celsius and a freshly mixed mud with unsheared polymers, this was only to be expected. For the rest of the section no abnormal mud losses were recorded.

The milling assembly washed and reamed to 2024 meters and drilled a further 2 meters to 2026 meters. A 12 1/4" taper mill was run and worked over the window section without circulation. Then 2 joints of 13 3/8" casing were run but could not get past 1856 meters. Another taper mill was run to clean up. At this point it was decided to continue to TD with a 12 1/4" bit and set 9 5/8" casing. The new 12 1/4" assembly was run and drilled successfully to 2197 meters. The hole was circulated clean and preparations were made to run the Vertical Seismic Profile (VSP) Log on wire line.

Based on the VSP log results the section was drilled without problems to 9 5/8" casing point at 2255 meters. Two further wire line logs were run and as the tools could not get past 2243.5 meters, obstructed by either fill or a ledge, it was decided to perform a wiper trip before running the 9 5/8" casing. The wiper trip confirmed that the obstruction was a ledge; the hole being in excellent shape with no drag or fill.

Density : Originally the section was planned with a mud weight of 1.24 SG increasing to 1.28 SG at TD. Due to the rather low formation integrity test of 1.26 SG this was obviously not possible. The brine itself was 1.22 SG and it was decided to dilute with drill water to 1.18 SG to leave some room for the ECD effect. Most of the section was drilled with mud weights ranging from 1.19 SG to 1.21 SG and no down hole losses were recorded.

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Well Name:	6706/11-1	Geo Area:	NORWEGIAN SEA
Contractor:	Diamond Offshore Drilling	Field:	PL 217 Vema Dome
Rig:	Ocean Alliance	Region:	Europe

Interval Discussion

Interval # 04 17.5" X 14.75" in. Hole Secti

Rheology and hole cleaning : Due to predicted problems with unsheared polymers, the full concentration of BARAZAN D PLUS was not mixed initially, which was clearly reflected by the low end readings. This never developed into a hole cleaning problem as the rheology was slowly brought up to specification by adding BARAZAN D PLUS to the active system.

Mud properties : By diluting the brine with drill water to 1.18 SG it was inevitable that some mud properties and concentrations would be impossible to achieve. As a result the priority was focused on mud weight rather than concentrations the mud had to be run with KCl, BARASIL-S, GEM GP and NaCl concentrations below specifications. This did not seem to have any apparent ill effects on the hole conditions while drilling, judged by the well-defined and reasonably hard cuttings observed on the shakers. It is clear that this mud possessed adequate inhibiting properties.

Solids control : Two shakers were run with 100 mesh screens and two with 80 mesh screens throughout the section. This setup in conjunction with one active centrifuge provided effective solids removal and never allowed any build up of low gravity solids. The second of the two Swaco centrifuges was inoperable due to bearing failure.

Variances from mud program : The lower mud weight achieved through dilution, as a result of the formation integrity test being lower than expected caused all the concentrations originally present in the brine to be reduced. The mud weight constraints left no room to increase the KCl, NaCl or BARASIL-S concentrations as these products would have increased the mud weight. All physical mud properties were within specifications.

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Interval Discussion

Interval # 05 8.5 in. Hole Section

Objective : Drill a 8 1/2 " hole from 2255 meters to a section TD of 4317 meters.

Summary : The BARASILC mud used on the 12 1/4" interval was transferred and utilized on this interval. After running in hole with a 8 1/2" bit, the drilling started from top of the cement at 2215 meters. The cement, shoe track and 5 meters of new formation were drilled and a LOT was performed to 1.38 SG equivalent mud weight.

The active mud weight was then increased to 1.28 SG with Barite additions. The drilling then proceeded to 2279 meters where the pump rate was reduced due to a steady increase of mud loss down hole. (4.5 cubic meters/30 min) After pump shut down and a following flow check, a rapid increase of 1.6 cubic meters in trip tank volume was observed. The well was shut in and the pressure was bled off in stages. The well was then opened again and remained static after a 15 minute flow check. Drilling then continued, but after another 8 meters drilled, the mud loss down hole started increasing. The pump rate was again reduced. At 1590 l/min the mud loss to the hole was negligible. The mud weight in the active system was reduced from 1.28 SG to 1.25 SG. Both centrifuges were run and premix was added to the active system while reducing the mud weight. Then drilling continued to 2297 meters.

The cuttings samples collected at the shale shakers showed evidence of sand and it was decided to pull the bit to surface and to replace it with a core barrel. Core number 1 was cut from 2297 meters to 2306 meters of which 7 meters were recovered. A 60 foot core barrel was then picked up and run in hole and core number 2 was cut from 2306 meters to 2324 meters. The formation between 2324 meters and 3107 meters was drilled. Core no 3 was then cut from 3107 meters to 3411.5 meters at where the core barrel jammed off. A fourth core barrel was run in and core number 4 was cut to 3138 meters.

Two bit runs were then made but the ROP was considered to be too low at less than 2 meters per hour and so the bits were pulled. A motor assembly was then run in and made better progress to 3241 meters at which depth it was pulled because of bad weather. After displacing the riser to seawater, a rig power failure necessitated the emergency unlatching of the riser. The bad weather lasted two days, after which the riser was re-latched and displaced to BARASILC mud. The following stack test was inadequate and again the riser was displaced to seawater and un-latched. A gasket was replaced on the BOP and the riser was re-latched and displaced back to BARASILC mud.

Interval Discussion

Interval # 05 8.5 in. Hole Section

The mud had been aerated while drilling and although this did not cause problems with the pump suction the Sperry Sun MWD engineers reported some problems with their tool's pulses. With no defoamer available at the rig all precautions were taken to limit potential sources of air entrapment; the active pits were kept as full as possible, all mixing was made into reserve pits and additions were made by premix additions rather than through the hoppers. A test was carried out with the addition of GEM GP glycol direct to the active pit. This did not eliminate the entrapped air but the real-time ECD from the MWD tool increased by 0.01 SG and the surface foam in the active pit was observed to have been reduced.

The hole was then drilled to 3330 meters and pulled out. With the bit 50 meters below the wellhead a 50 bbl MEG pill was spotted to suppress any potential hydrates. Wire line logs were then run. A new bottom hole assembly including a turbine and a new bit was made up and was run in the hole. At 3381 meters the bit was pulled. Continued drilling to 3621 meters. A second similar bit then drilled to 3705 meters before being pulled to run a PDC with a motor. A Hycalog bit was picked up and run in hole and drilling proceeded. After experiencing a drilling break at 3740 meters, another 4 meters were drilled before pulling out to pick up a core barrel. 6 meters of core was recovered and drilling then proceeded from 3750 meters to 3764 meters. Due to a sudden drop in pump pressure and suspected wash out or damage to the mud motor, the string was pulled to surface. New drill collars were picked up and the string was run back in hole. Again problems with aerated mud was experienced when circulating bottoms up. This caused some fluctuations in pump pressure up to 400 psi and it was at times impossible to monitor the pit levels accurately. However, after receiving a new supply of defoamer and mixing this in a higher concentration in the active system (1.5 l/cubic meters - i.e. 15 times higher concentration than previously used) the problem with aerated mud was greatly reduced. The drilling operations did not suffer any down-time after this treatment and drilling continued trouble free to 4230 meters. The hole was than logged. The caliper log showed gauge hole from the 9 5/8" casing shoe at 2246 meters down to 4140 meters and a slight wash out from the formation change at 4140 meters down to 4230 meters (1/2" to 1") Due to a chain failure on the wire line winch, the logging tool was left static for two hours at 4125 meters and got differential stuck. By strapping in with drill pipe the fish was recovered, without any problems.

A new 8 1/2" assembly with a new bit and jar was made up and was run in hole to 4230 m. This assembly drilled to 4317 m where the riser was displaced to seawater and disconnected due to excessive heave. This operation was aborted after having displaced approximately 500 bbl and the remaining 1100 bbl were lost. A few days later the riser was displaced back to mud on the second attempt and more mud was lost. A plug and abandonment program was performed.

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Interval Discussion

Density :The initial mud weight was 1.21 SG. The mud weight was increased to 1.28 SG after the LOT. Due to down hole losses, the weight was reduced to 1.25 SG. The mud weight was then maintained between 1.24 SG and 1.26 SG all the way to TD at 4317 m.

Rheology and hole cleaning : With a more or less vertical hole and fairly low penetration rates, hole cleaning problems was never a issue on this section. The rheology was kept within specification at all times.

Mud properties : Mud parameters were kept very much constant and in line with specifications throughout the section. The silicate level was allowed to drop towards the end of the well by diluting with silicate free premix without any apparent effect on the hole condition. All the trouble free trips and logging runs on this section reflects the excellent inhibiting qualities of this mud.

Solids control : The Derrick shakers were initially dressed with 2x80 mesh and 2x100 mesh as bottom screens and 4x14 mesh on top. The screens were changed up to a combination of 200 mesh and 180 mesh bottom screens as soon as possible. After reducing the mud weight from 1.28 SG to 1.25 SG, both the SWACO centrifuges were run continuously at the highest speed possible - 3400 rpm - and all the solids were discarded. This was the primary method of controlling the mud weight, because the unweighted premix was too close to the active mud weight for it to be used as dilution. Both centrifuges were run trouble-free until 3700 meters at which point the number 1 machine was shut down due to suspected bearing wear. From 4000 m to TD, 3 shakers were dressed with 230 mesh screens and the last shaker with 200 mesh screens on bottom to compensate for centrifuges which were shut down for most of this period as they seemed to increase air entrapment in the mud.

Variances from mud program : The interval drilled was originally planned as a 12 1/4" section.

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Total Material Consumption

Material	Unit size	Quantity	Total cost (Kr)
BARASIL-S	1000 L.	185.160	1,193,171.04
BARAZAN-D PLUS	25 KG. BAG	284	444,176.00
barite	1000 KG. TON	358.000	366,950.00
BAROFIBRE	25 LB. BAG	50	14,400.00
BAROFIBRE COARSE	40 LB. BAG	70	24,850.00
GEM GP	1000 L. BULK	54.720	674,259.84
GEM GP	220 KG. DRUM	176	501,600.00
lime	25 KG. BAG	2	172.00
mica coarse	25 KG. BAG	40	4,480.00
mica fine	25 KG. BAG	40	4,480.00
Mono Ethylene Glycol	1000 L. BULK	3.000	24,918.33
N-DRIL HT	25 KG. BAG	855	562,632.75
N-VIS HI	50 LB. BAG	81	234,827.10
Nacl brine	1000 L. BULK	1,143.750	718,275.00
PAC-L	25 KG. BAG	343	223,979.00
potassium chloride	1000 KG. BAG	10	17,900.00
potassium chloride brine	1000 L.	505.910	335,924.24
salt	25 KG. BAG	304	16,416.00
soda ash	25 KG. BAG	103	10,197.00
WALL-NUT COARSE	25 KG. BAG	30	3,090.00
WALL-NUT FINE	25 KG. BAG	65	6,695.00
wyoming bentonite	1000 KG. TON	56.000	151,760.00
Haliburton NF-5 Defoamer	US gallon	415	?
Miscellaneous Items			
barite, cement			13,325.00

Total mud cost	Kr5,535,153.30
Total miscellaneous cost	Kr 13,325.00
Total cost	Kr5,548,478.30
Programmed mud cost	Kr4,892,028.00
Variance	Kr 643,125.30