

Formation pressures

DEPTH (mRKB)	HYDROSTATIC MUD PRESSURE		DRAWDOWN PRESSURE (psia)	FORMATION PRESSURE TEMPERATURE CORRECTED	
	Before (psia)	After (psia)		(psia)	(bar)
Run 3A					
	HP gauge				
2276.0	5788.8	5789.8	5108.8	5124.1	353.29
2283.0	5805.3	5805.3	5020.8	5131.9	353.83
2303.0	5852.7	5849.8	4013.8	5159.3	355.72
2322.0	5909.8	5907.2	4021.0	5173.9	356.73
2330.0	5926.9	5922.1	5120.8	5182.3	357.31
2333.0	5932.1	5932.2	5020.9	5186.9	357.62
2343.0	5957.8	5959.8	2129.2	tight	
Tool failure. The sand sleeve was broken.					
Run 3B					
	HP gauge				
2283.0	5685.0	5682.3	4419.8	5132.4	353.87
2303.0	5737.7	5733.7	5050.7	5158.7	355.68
2322.0	5792.7	5789.1	4842.0	5174.2	356.75
2367.5	5917.8	5710.3	2611.0	tight	
2372.5	5925.1	5920.3	1311.7	tight	
2398.2	5993.9	5988.1	4439.8	5265.8	360.06
2528.0	6290.4	6290.3	5492.9	5514.0	380.18
2546.0	6339.1	6334.1	5065.7	5538.8	381.89
2559.0	6368.9	6364.8	5545.9	5556.0	383.07
2617.0	6530.9	6527.4	5352.9	5644.9	389.20
2687.0	6713.0	6707.1	5561.8	5751.3	396.54
2398.2*	5961.8	-	4651.9	lost seal	

* Tried to sample lost seal when opening tank.

Table 5.4: Formation Pressure, 34/7-8

Date 8/86	Auth. JB	Appr. PS
Drawn by		

Formation pressures

DEPTH (mRKB)	HYDROSTATIC MUD PRESSURE		DRAWDOWN PRESSURE (psia)	FORMATION PRESSURE TEMPERATURE PRESSURE	
	Before	After		(psia)	(bar)
	(psia)	(psia)			

Run 3C HP gauge

2402.2	5970.9	5967.9	2431.8	tight	
2322.0*	5768.3	5769.4	4951.0	5174.1	356.74

* Tried to sample, plugging when opening tank.

Run 3D HP gauge

2322.0*	5774.3	-	5124.3	5175.4	356.83
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* Tried to sample, plugging when opening tank.

Run 3E HP gauge

2398.5*	5968.9	5961.5	5838.2	5260.3	362.68
2360.9	5864.4	5864.4	4720.8	5229.2	360.54
2372.2	5886.9	-	1269.9	tight	
2354.7	5851.0	5753.6	3039.8	5209.7	359.20

* Tried to sample, lost seal when opening tank.

Run 3F HP gauge

2322.0*	5799.8	-	4490.9	5186.1	357.57
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* Tried to sample, plugging when opening tank.
Tool was stuck in hole, fished out.

Table 5.4 cont.: Formation Pressure, 34/7-8

Date	8/86	Auth.	JB	Appr.	PS
Drawn by		Plot			

Formation pressures

DEPTH (mRKB)	HYDROSTATIC MUD PRESSURE (psig)	MEASURED FORMATION PRESSURE (psig)	FORMATION PRESSURE TEMPERATURE CORRECTED (psia)
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<u>Run G</u>	VPC strain gauge		
2381	5369	5120	5128

Tried to sample, lost seal while sampling.

<u>Run H</u>	VPC strain gauge		
2380	5347	5112	5120

Tried to sample, lost seal while sampling

<u>Run I</u>	VPC strain gauge		
2398.2	5637	5249	5257

Sample
Recovered 0.2 l of oil and 2.2 l of mudfiltrate.
(before plugging)

<u>Run J</u>	VPC strain gauge		
2302	5372	5136	5144

Sample
Recovered 1.2 l of oil and 2.8 l of mudfiltrate.
(before plugging)

Date	8/86	Auth	JB	Appr	PS
Drawn by		Rev			

Table 5.4 Cont.: Formation Pressure, 34/7-8

Formation pressures



DEPTH (mRKB)	HYDROSTATIC MUD PRESSURE		DRAWDOWN PRESSURE (psia)	FORMATION PRESSURE TEMPERATURE CORRECTED	
	Before	After		(psia)	(bar)
	(psia)	(psia)			
Run 3K HP gauge					
2277.0	5333.3	5332.5	5040.0	5129.5	353.67
2301.0	5389.7	5388.0	5139.0	5159.3	355.72
Run 3L HP gauge					
2402.2	5636.4	5633.9	5129.7	5277.3	363.86
2546.0	5972.9	5971.5	5304.9	5541.1	382.04
2559.0	6004.3	6004.4	5538.7	5538.7	383.11
2529.0	5937.2	5938.8	5496.6	5512.7	380.09
2402.3	5632.3	5633.9	5155.7	5269.1	363.29

Went out of hole due to tool failure.

Dresser Atlas
HP Crystal gauge

Table 5.4 cont.: Formation Pressure, 34/7-8

Date	8/86	Auth.	JB	Appr.	PS
Drawn by		Rev.			

Testing



MAIN TEST DATA, WELL 34/7-8, TEST 1A And 1B

Date	Clocktime (hrs:min)	Event	Choke (mm)	Flowrate (Sm ³ /D)	Bottom hole pressure (bar)	Wellhead pressure (bar)	Remarks
19/03	16:43	Perforate well	-	-	234.3	-	Approx. 122 bar underbalance
	18:00-18:15	Flow 1	50.4	avg. 67	245	1	Initial flow
20/03	18:15-02:05	Shutin	-	-	350.5	116.2	Pressure at 02:05 hrs
	02:05	Open well, Flow 2					
	02:05-03:45		19.1	48.3	228.5	1	
	03:45-05:05		19.1	83.6	190.8	1.8	Oil to surface
	05:05-06:30		19.1	139.5	141.7	5.3	
	06:30-07:00		3.2	53.6	175.0	17.4	Slugging
	07:00-07:15		Varying	75.3	175.1	16.7	Slugging
	07:15-08:35		Varying	146.3	145.5	10.0	Slugging
21/03	08:35-18:38	Shut-in					Kill well after pressure build-up Latch off EZ - tree
	18:38	Open PCT for Flow 3				97.8 at 18:45 hrs	Open choke manifold at 18:45 hrs. Bottom hole and separator sampling

Table 5.9: Flow Data Test 1A and 1B, 34/7-8

Date	8/86	Auth	JHE	Appr	RNY
Drawn by		Ref.			

Testing



Date	Clocktime (hrs:min)	Event	Choke (mm)	Flowrate (Sm ³ /D)	Bottom hole pressure 1) (bar)	Wellhead pressure (bar)	Remarks
	18:38-22:30		12.7 to 20:35 then 19.1	28.1	229.6	1.3	
	22:30-23:45		Varying	104.2	144.2	6.7	Oil to surface, Bsw=97% at 23:00 hrs.
	23:45-24:00		Varying	164.2	153.9	6.6	Bsw=2% at 23:45 hrs.
22/03	00:00-01:45		3.2	33.1	221.5	38.7	
	01:45-03:00		6.4	83.3	189.5	16.9	To separator
	03:00-05:00		6.4	45.6	189.1	18.2	GOR= 48-50 Sm ³ /Sm ³ at separator conditions
	05:00						
23/03	09:40	Shutin	-	-	335.2	150.3	Pressure build-up. Prepare for temperature logging
	09:40-10:25	Flow 4a	50.4	304.0	130.5	7.0	Temperature logging
	10:25-11:28	Shutin	-	-	265.1	78.2	
	11:28-12:45	Flow 4b	37.8	231.9	110.9	2.5	
	12:45-13:05	Shutin	-	-	156.0	11.3	
	13:05-13:25	Flow 4c	from 13:13 hrs	151.2	149.7	11.3	
	13:25-		11.1				
24/3	18:11	Shutin	-	-	339.6		Prepare Test 1B. Wait on weather
	18:11-18:13	Open PCT Flow 5a	-	36 est.	206.9		Choke manifold closed

Table 5.9 cont.: Flow Data Test 1A and 1B, 34/7-8

Date	8/86	Auth.	JHE	Appr.	RNY
Drawn by		Ref			

Testing



Date	Clocktime (hrs:min)	Event	Choke (mm)	Flowrate (Sm 3/D)	Bottom hole pressure 1) (bar)	Wellhead pressure (bar)	Remarks
	18:13-18:21	Shutin	-	-	225.4		
	18:21-18:23	Flow 5b	-	94.2	230.8		Flow well to get down with Dresser perforation gun
	18:23-19:42	Shutin	-	-	305.5		
	19:42-20:14	Flow 5c	7.9	72.1	227.0		
	20:14-20:30	Shutin	-	-	283.0		
	20:30-21:10	Flow 5d	4.8	102.7	208.3		
	21:10-21:36	Shutin	-	-	237.6		
	21:36-21:49	Flow 5e	4.8	88.6	216.9		
25/03	21:49-00:26	Shutin	-	-	310.1	128.8	
	00:26-00:29	Open well Flow 6	4.8	85	234.8	53.3	Bleed off pressure prior to perforation
	00:29-09:38	Shutin	-	-	320.5	137.9	Perf. guns failed. Prepare for new attempt
	09:38-09:45	Open well Flow 7	15.9	109.8	178.5	16.9	Bleed off pressure as in Flow 6 Perforate well at 09:47 hrs. (approx. 173 bar underbalanced)
	09:45-11:50	Shutin	-	-	317.4	-	
	11:50-12:06	Open well Flow 8	50.4	486	131.4	5.5	Initial flow, both perforation intervals

Table 5.9 cont.: Flow Data Test 1A and 1B, 34/7-8

Date	8/86	Auth.	JHE	Appr.	RNY
Draw by		Ref.			

Testing

Date	Clocktime (hrs:min)	Event	Choke (mm)	Flowrate (Sm ³ /D)	Bottom hole pressure 1) (bar)	Wellhead pressure (bar)	Remarks
	12:06-15:05	Shutin	-	-	317.3		
	15:05-	Open well Flow 9	-	-	317.3		Test 1B, Main flow
	15:05-17:00	to tank	19.1	151.5	123.5	6.1	
	17:00-19:05	through separator	19.1	101.4	123.8	6.4	
26/03	19:05-02:06	Shutin	-	-	260.2		
	02:06	Open well Flow 10	-	-	-	-	Bottom hole sampling
	02:06-04:00	-	19.1	87.9	132.2	5.1	
	04:00-06:05	-	19.1	96.0	128.9	5.6	
	16:05-19:05	Shutin	-	-	-	127.0	
	19:05	Open well Flow 11	-	-	-	-	Temperature and density logging survey
	19:05-21:15	-	50.4	163.9	118.0	2.7	
	21:15-23:15	-	50.4	94.8	116.5	2.6	
27/03	23:15-01:15	-	50.4	74.4	115.5	2.6	
	01:15-03:15	-	50.4	67.2	117.5	2.5	

Table 5.9 cont.: Flow Data Test 1A and 1B, 34/7-8

Date	8/86	Auth.	JHE	Appr.	RNy
Draw by		Plot.			

Testing

Date	Clocktime (hrs:min)	Event	Choke (mm)	Flowrate (Sm ³ /D)	Bottom hole pressure 1) (bar)	Wellhead pressure (bar)	Remarks
	03:15-07:30	Shutin	-	-	-	42.8	
	07:30	Open well Flow 12	-	-	-	-	Bottom hole sampling
	07:30-09:30		50.4	114	110.6	3.4	
	09:30-10:45		50.4	118	113.3	2.8	
	10:45	Shutin	-	-			

1) Bottom hole pressure measured at depth 2332.8 m RKB

Table 5.9 cont.: Flow Data Test 1A and 1B, 34/7-8

Date	8/86	Auth.	JHE	Appr.	RNy
Draw by		Ref.			

Testing



MAIN TEST DATA, WELL 34/7-8, TEST 2

Date	Clocktime (hrs:min)	Event	Choke (mm)	Flowrate (Sm ³ /D)	Bottom hole pressure 1) (bar)	Wellhead pressure (bar)	Remarks
30/03	14:15	Perforate well	-	-	287.5	-	Approx. 67 bar underbalanced
	16:29-16:45	Flow well	-	465	267.3	1.5	Initial flow
	16:45-19:16	Shutin	-	-	353.0	11.5	Pressure build-up
	19:16	Open well Flow 2	-	-	-	-	Main flow
	19:16-21:00		7.9	45.0	321.2	39.5	Clean up well
	21:00-22:30		7.9	169.6	286.8	82.1	
	22:30-24:00		7.9	344	279.3	81.6	
31/03	20:00-01:07		7.9	328.8	280.1	89.0	
	01:07-03:00		6.4	272.4	287.0	98.5	
	03:00-05:00		6.4	274.8	286.6	98.7	
	05:00-07:00		6.4	273.6	286.3	98.7	
	07:00-09:00		6.4	273.6	286.2	98.8	
	09:00-11:00		6.4	271.2	286.1	98.8	
	11:00-13:00		6.4	273.6	286.0	99.0	

Table 5.10: Flow Data Test 2, 34/7-8

Date	8/86	Auth.	JHE	Appr.	RNY
Draw by		Plot			

Testing



Date	Clocktime (hrs:min)	Event	Choke (mm)	Flowrate (Sm 3/D)	Bottom hole pressure 1) (bar)	Wellhead pressure (bar)	Remarks
	13:00-15:00		6.4	272.2	285.9	99.0	
	15:00-17:00		6.4	270.0	285.7	98.6	
	17:00-19:16		6.4	272.4	285.6	98.6	
	19:16	Shutin	-	-	-	-	Pressure build-up

1) Bottom hole pressure measured at depth 2293.7 m RKB

Testing



MAIN TEST DATA, WELL 34/7-8, TEST 3

Date	Clocktime (hrs:min)	Event	Choke (mm)	Flowrate (Sm ³ /D)	Bottom hole pressure 1) (bar)	Wellhead pressure (bar)	Remarks
03/04	18:22	Perforate	-	-	282.6	-	Approx. 72 bar underbalance
	18:22-18:26	Flow well	50.4	1140.	343.7	10	Backsurge
	18:26-20:40	Shutin	-	-	351.0	96	
	20:40-20:50	Flow	12.7	792	343.6	121.8	Initial flow
04/04	20:50-02:33	Shutin	-	-	351.0	151	
	02:33-	Open PCT	-	-	-	-	
	02:38	Open choke	11.1	-	351.0	152.5	Main flow
	02:38-04:00		11.1	131.1	345.8	153.5	
	04:50-04:45		11.1	588.8	340.1	91.0	
	04:45-06:00		17.5	1313.3	339.1	95.5	
	06:00-08:00		17.5	1330.8	338.1	93.5	
	08:00-10:54		17.5	1323.6	337.1	est. 95.0	
	10:54-12:05	Shutin	-	-	347.5	-	Accidental shutin
	12:05-14:00		17.5	1369.9	337.3	94.0	

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Table 5.11: Flow Data Test 3, 34/7-8

Date	8/86	Auth.	JHE	Appr.	RNY
Drawn by		Ref.			

Testing



Date	Clocktime (hrs:min)	Event	Choke (mm)	Flowrate (Sm ³ /D)	Bottom hole pressure 1) (bar)	Wellhead pressure (bar)	Remarks
	14:00-16:00		17.5	1318.8	336.6	92.0	
	16:00-18:00		17.5	1320.0	336.1	90.0	
	18:00-20:00		17.5	1318.8	335.7	96.1	
	20:00-22:00		17.5	1315.2	335.3	95.7	
	22:00-24:00		17.5	1311.6	334.9	95.8	
05/04	00:00-02:00		17.5	1310.4	334.6	95.8	
	02:00-04:00		17.5	1305.6	334.3	96.1	
	04:00-06:00		17.5	1304.4	334.0	95.8	
	06:00-08:00		17.5	1303.2	333.7	95.8	
	08:00-09:19		17.5	1299.6	333.5	95.5	
	09:19	Shutin	-	-	-	-	Pressure build-up

1) Bottom hole pressure measured at depth 2240.3 m RKB

Table 5.11 cont.: Flow Data Test 3, 34/7-8

Date	8/86	Auth.	JHE	Appr.	RNY
Draw by		Plot.			

Fluid Analyses

BOTTOM HOLE SAMPLE

ANALYSIS OF FLUID FROM PRODUCTION TEST 1A

PRODUCING ZONE (MRKB)	: 2359 - 2374
RESERVOIR TEMPERATURE (°C)	: 85.0
RESERVOIR PRESSURE (BAR)	: 361
BUBBLE POINT PRESSURE (BAR)	: 86.0
OIL FORMATION VOLUME FACTOR (RM ³ /SM ³ , ¹)	: 1.260
GAS OIL RATIO (SM ³ /SM ³ , ¹)	: 55.0
STOCK TANK OIL DENSITY (KG/M ³ , ¹)	: 855.0

1) Data taken from a single stage flash from saturation pressure to one atmosphere and 15°C.

Table 5.12: Analysis of Fluid from Test 1A, 34/7-8

Date	8/86	Auth.	B&B	Appr.	JMH
Draw by		Plot.			

Fluid Analyses



BOTTOM HOLE SAMPLE

ANALYSIS OF FLUID FROM PRODUCTION TEST 1B

PRODUCING ZONE (MRKB)	:2359 - 2374
	:2397 - 2405
RESERVOIR TEMPERATURE (°C)	: 85.0
RESERVOIR PRESSURE (BAR)	: 363
BUBBLE POINT PRESSURE (BAR)	: 81.3
OIL FORMATION VOLUME FACTOR (RM^3/SM^3) ¹⁾	: 1.201 ¹⁾
GAS OIL RATIO (SM^3/SM^3) ¹⁾	: 45.6
STOCK TANK OIL DENSITY (KG/M^3) ¹⁾	: 851.3

1) Data taken from a single stage flash from saturation pressure to one atmosphere and 15°C.

Table 5.13: Analysis of Fluid from Test 1B, 34/7-8

Date	8/86	Auth.	B&B	Appr.	JMH
Drawn by		Ref.			

Fluid Analyses

WELLHEAD SAMPLE

ANALYSIS OF FLUID FROM PRODUCTION TEST 2

PRODUCING ZONE (MRKB)	:2329 - 2334
RESERVOIR TEMPERATURE (°C)	: 86.2
RESERVOIR PRESSURE (BAR)	: 354.8
BUBBLE POINT PRESSURE (BAR)	: 119.3
OIL FORMATION VOLUME FACTOR (RM ³ /SM ³) ¹⁾	:1.317
GAS OIL RATIO (SM ³ /SM ³) ¹⁾	: 84.1
STOCK TANK OIL DENSITY (KG/M ³) ¹⁾	: 842.5

1) Data taken from a single stage flash from saturation pressure to one atmosphere and 15°C.

Table 5.14: Analysis of Fluid from Test 2, 34/7-8

Date	8/86	Auth.	B&B	Appr.	JMH
Drawn by		Rev.			

Fluid Analyses

WELLHEAD SAMPLE

ANALYSIS OF FLUID FROM PRODUCTION TEST 3

PRODUCING ZONE (MRKB)	: 2276 - 2284
RESERVOIR TEMPERATURE (°C)	: 85.3
RESERVOIR PRESSURE (BAR)	: 353.5
BUBBLE POINT PRESSURE (BAR)	: 110.5
OIL FORMATION VOLUME FACTOR (RM ³ /SM ³) ¹⁾	: 1.218 ¹⁾
GAS OIL RATIO (SM ³ /SM ³) ¹⁾	: 69.1
STOCK TANK OIL DENSITY (KG/M ³) ²⁾	: 843.0
RESERVOIR FLUID DENSITY (KG/M ³) ³⁾	: 744.6
RESERVOIR FLUID VISCOSITY (MPA ·S)	: 0.997

SUBSKRIPTS:

- 1). Corrected for a four stage flash where the separator conditions were:

Stage no.	Sep. pressure (bar)	Sep. temperature (°C)
1.	63	66
2.	31	60
3.	11	54
4.	1	15

- 2). Stock tank oil density after a single stage flash.

- 3). From DV analysis.

Table 5.15: Analysis of Fluid from Test 3, 34/7-8.

Date	8/86	Auth.	B&B	Appr.	JMH
Drawn by		Ref.			

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf / Mf	Ca++ mg/L	Cl- mg/L	Sand %	Solids %	Mudtype
860203		.0	1.03										SPUD MUD
860204		.0	1.03										SPUD MUD
860205	36	439.0	1.03										SPUD MUD
860206	36	439.0	1.04	11	15	11/14	10.5	0.2/0.6		1000		3.0	GEL MUD
860207	17-1/2	747.0	1.12	10	38	24/32	9.7	0.1/0.4	800	7500		5.0	GEL MUD
860208	17-1/2	870.0	1.11	9	44	20/25	9.7	0.1/0.4	320	15000	0.3	6.0	GEL MUD
860209	17-1/2	870.0	1.13	9	65	25/31	9.6	0.1/0.3	380	13000	0.3	6.0	GEL MUD
860210	26	870.0	1.03										GYP/POLYMER MUD
860211	26	870.0	1.10	15	19	3/4	10.0	0.1/0.2	1600	20000		4.0	GYP/POLYMER MUD
860212	17-1/2	1229.0	1.12	16	19	3/5	10.0	0.1/0.3	2800	19000		6.0	GYP/POLYMER MUD
860213	17-1/2	1562.0	1.30	18	23	4/8	9.8	0.1/0.3	2200	19000	0.5	10.0	GYP/POLYMER MUD
860214	17-1/2	1860.0	1.50	20	20	8/24	9.8	0.1/0.4	2300	12000	2.0	20.0	GYP/POLYMER MUD
860215	17-1/2	1875.0	1.50	20	17	5/25	9.5	0.1/0.3	2080	13500	1.0	18.0	GYP/POLYMER MUD
860216	17-1/2	1875.0	1.50	13	13	4/16	9.9	0.1/0.3	1600	14000	1.0	17.0	GYP/POLYMER MUD
860217	17-1/2	1875.0	1.50	19	13	4/16	9.8	0.1/0.3	1600	14000	1.0	17.0	GYP/POLYMER MUD
860218	12-1/4	2039.0	1.66	25	18	5/29	10.7	0.2/0.7	1700	13000	1.0	22.0	GYP/POLYMER MUD
860219	12-1/4	2201.0	1.73	29	20	6/37	10.0	0.2/0.7	2000	14000	0.8	25.0	GYP/POLYMER MUD
860220	12-1/4	2250.0	1.77	27	20	10/45	9.6	0.2/0.8	1600	12000	1.5	23.0	GYP/POLYMER MUD
860221	12-1/4	2280.0	1.77	28	18	3/20	10.4	0.2/1.0	1160	13000	0.8	26.0	GYP/POLYMER MUD
860222	12-1/4	2275.0	1.78	30	17	3/24	10.5	0.1/0.8	1160	13000	0.8	26.0	GEL MUD
860223	12-1/4	2350.0	1.78	27	17	4/30	10.0	0.1/0.7	1160	12000	0.5	26.0	GEL MUD
860224	12-1/4	2400.0	1.78	28	19	6/36	10.2	0.1/0.7	1040	11500	0.5	26.0	GEL MUD
860225	12-1/4	2442.0	1.78	28	21	5/32	10.2	0.1/0.9	960	11000	0.5	27.0	GEL MUD
860226	12-1/4	2760.0	1.78	29	20	7/40	10.4	0.2/1.0	800	11000	0.3	27.0	GEL MUD
860227	12-1/4	2275.0	1.78	27	19	6/36	10.4	1.2/1.2	700	10000	0.3	27.0	GEL MUD
860228	12-1/4	2275.0	1.78	27	19	7/41	10.5	0.2/1.3	760	11000	0.3	27.0	GEL MUD
860301	12-1/4	2275.0	1.78	25	15	5/25	10.3	0.2/1.3	640	11000	0.3	27.0	GEL MUD
860302	12-1/4	2275.0	1.78	26	16	6/39	10.3	0.2/1.3	640	11000	0.3	27.0	GEL MUD
860303	12-1/4	2275.0	1.74	24	15	5/32	10.4	0.2/1.2	600	11500	0.3	25.0	GEL MUD
860304	12-1/4	2766.0	1.74	25	15	6/38	10.3	0.2/1.2	600	11500	0.3	25.0	GEL MUD

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf / Mf	Ca++ mg/L	Cl- mg/L	Sand %	Solids %	Mudtype
860305	12-1/4	2766.0	1.74	23	15	5/32	10.3	0.2/1.2	580	11500	0.3	25.0	GEL MUD
860306	12-1/4	2766.0	1.74	23	14	5/30	10.2	0.2/1.1	560	11500	0.3	25.0	GEL MUD
860307	12-1/4	.0	1.74	19	10	5/37	11.5	0.4/1.5	800	11500	0.2	25.0	GEL MUD
860308	8-1/2	.0	1.74	19	10	5/38	11.5	0.4/1.4	760	11500	0.3	25.0	GEL MUD
860309	8-1/2	.0	1.74	19	10	5/38	11.5	0.4/1.4	760	11500	0.3	25.0	GEL MUD
860310		.0	1.74	19	9	4/32	11.4	0.4/1.4	760	11500	0.3	25.0	GEL MUD
860311		.0	1.74	19	9	4/34	11.4	0.4/1.5	800	11500	0.3	25.0	GEL MUD
860312	8-1/2	.0	1.74	18	9	4/34	11.4	0.4/1.5	800	11500	0.3	25.0	GEL MUD
860313	8-1/2	.0	1.74	17	9	4/34	11.4	0.4/1.5	800	11500	0.3	25.0	GEL MUD
860314	8-1/2	.0	1.74	17	12	6/40	11.6	0.5/1.5	800	11500	0.2	25.0	GEL MUD
860315	8-1/2	.0	1.74	18	9	6/40	11.6	0.5/1.5	800	11500	0.2	25.0	GEL MUD
860316	8-1/2	.0	1.74	18	9	6/40	11.6	0.5/1.5	800	11500	0.2	25.0	GEL MUD
860317	8-1/2	.0	1.74	17	10	5/38	11.6	0.5/1.5	800	11500	0.3	25.0	GEL MUD
860318	8-1/2	.0	1.74	17	9	3/40	10.6	0.6/1.6	640	12000	0.3	25.0	GEL MUD
860319	8-1/2	.0	1.74	17	9	5/40	11.6	0.6/1.6	640	12000	0.3	25.0	GEL MUD
860320	8-1/2	.0	1.74	17	10	5/40	11.6	0.6/1.6	640	12000	0.3	25.0	GEL MUD
860321	8-1/2	.0	1.74	17	11	5/40	11.6	0.6/1.6	640	12000	0.3	25.0	GEL MUD
860322	8-1/2	.0	1.74	17	9	5/40	11.6	0.5/1.6	640	12000	0.3	25.0	GEL MUD
860323	8-1/2	.0	1.74	16	11	5/38	11.6	0.6/1.6	640	12000	0.3	25.0	GEL MUD
860324		.0	1.74	16	10	6/38	11.6	0.6/1.6	640	12000	0.3	25.0	GEL MUD
860325		.0	1.74	17	10	6/38	11.6	0.6/1.6	640	12000		25.0	GEL MUD
860326		.0	1.74	16	10	6/38	11.6	0.6/1.6	640	12000		25.0	GEL MUD
860327		.0	1.74	15	10	5/35	11.5	0.6/1.6	640	12000		25.0	GEL MUD
860328		.0	1.74	15	10	5/35	11.5	0.6/1.6	640	12000		25.0	GEL MUD
860329		.0	1.74	15	10	5/35	11.5	0.6/1.6	640	12000		25.0	GEL MUD
860330		.0	1.74	15	10	5/35	11.2	0.5/1.4	640	12000		25.0	GEL MUD
860331	8-1/2	.0	1.74	15	10	5/35	11.2	0.6/1.6	640	12000	0.3	25.0	GEL MUD
860401	8-1/2	.0	1.74	15	12	6/40	11.2	0.5/1.4	640	12000	0.3	25.0	GEL MUD
860402	8-1/2	.0	1.74	15	12	6/40	11.2	0.5/1.4	640	12000	0.3	25.0	GEL MUD
860403	8-1/2	.0	1.74	14	12	6/40	11.2	0.5/1.4	640	12000	0.3	25.0	GEL MUD

SAGA PETROLEUM A.S.

6.2.1 MUD PROPERTIES, DAILY REPORT
Well no: 34/7-8

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf / Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
860404		.0	1.74	14	12	6/40	11.2	0.5/1.4	640	12000		25.0	GEL MUD
860405		.0	1.74	15	13	6/40	11.2	0.5/1.4	640	12000		25.0	GEL MUD
860406		.0	1.74	15	12	8/46	10.8	1.5/1.0	2000	16000		25.0	GEL MUD
860407		.0	1.74	14	12	8/45	11.0	1.5/1.0	2000	16000		25.0	GEL MUD
860408		.0	1.74	14	12	8/45	11.0	1.5/1.0	2000	16000		25.0	GEL MUD
860409		.0	1.03										GEL MUD
860410		.0	1.03										GEL MUD

SAGA PETROLEUM A.S.

6.2.2 MUD MATERIALS USED

Well no: 34/7-8

Materials	Unit	36 in hole	26 in hole	17-1/2 hole	12-1/4 hole	8-1/2 hole	Total
BARITE	M/T	0	45	436	1041	0	1522
BICARBONATE	50 KG	0	0	0	24	0	24
CAUSTIC SODA	25 KG	2	11	10	81	0	104
DRISPAC REG	50 LB	0	0	90	13	0	103
DRISPAC S/L	50 LB	0	0	43	77	0	120
GYP SUM	50 KG	0	0	525	62	0	587
LIGCON	50 LB	0	0	0	100	0	100
LIME	40 KG	13	0	0	0	0	13
MICA C/F	SXS	0	0	0	20	0	20
MILBIO	55 GA	0	0	7	0	0	7
PROPLUG F/V	SXS	0	0	0	45	0	45
MILPOL 302	25 KG	0	0	164	18	0	182
KwickSeal F/M	40 lb	0	0	0	81	0	81
PERMALOSE	25 KG	0	0	280	0	0	280
PRO-DEFOAMER	25 L	0	0	5	8	0	13
SODA ASH	50 KG	0	3	0	0	0	3
W.O.21	25 KG	0	0	0	1	0	1
Lubrisal	55 ga	0	0	0	3	0	3
BENTONITE	M/T	8	40	2	12	0	62
PRO-THIN	25 KG	0	0	0	463	0	463
CACL2	25 KG	0	0	0	452	0	452