

Formation Pressures



DEPTH		HYDROSTATIC MUD PRESSURES		FORMATION PRESSURES		COMMENTS
mRKB	TVDmMSL	(before) psia	(after) psia	(HP-gauge) psia	bar	
<u>RUN 2A</u>						
2392.0	2365.4	5814	5811	5239.2	361.2	
2406.0	2379.4	5844	5842	5254.4	362.3	
2423.0	2396.4	5886	5884	5272.5	363.5	
2440.0	2413.4	5931	5927	5290.3	364.8	
2455.0	2428.4	5963	5960	5306.6	365.9	
2467.0	2440.4	5988	5986	5319.2	366.7	
2477.0	2450.4	6009	6006	5329.8	367.5	
2482.0	2455.4	6018	6016	5337.0	368.0	
2486.0	2459.4	6028	6027	5339.7	368.2	
2488.0	2461.4	6034	6033	5341.9	368.3	
2489.8	2463.2	6038	6039	5352.0	369.0	
2490.0	2463.4	6039	6038	5347.0	368.7	
2494.5	2467.9	6050	6049	5353.2	369.1	
2611.8	2585.2	6334	6333	-	-	tight formation
2612.0	2585.4	6332	-	-	-	tight formation
2616.0	2589.4	6345	6350	5971.8	411.7	
2621.0	2594.4	6361	6360	-	-	tight formation
2488.0	2461.4	6044	6041	5342.1	368.3	segregated sample
<u>RUN 2B</u>						
2486.0	2459.4	6055	6031	5340.0	368.2	segregated sample
<u>RUN 2C</u>						
2467.1	2440.5	6002	6988?	5319.3	366.8	segregated sample
<u>RUN 2D</u>						
2392.0	2365.4	5822	5806	5236.5	361.0	segregated sample
<u>RUN 3E</u>						
2832.0	2804.1	6412	6411	5896.7	406.6	
2855.5	2827.5	6464	6463	5929.3	408.8	
2862.0	2834.0	6478	6478	5938.2	409.4	
2876.0	2845.0	6509	6509	5957.5	410.7	
2920.0	2891.9	6611	6610	6020.2	415.1	
2943.0	2914.9	6664	6664	6057.9	417.7	doubtful

REMARKS:

The pressures are temperature corrected

RKB : 25 m

Formation Fluid Samples (FMT)



RUN NO.	DEPTH mRKB		2 3/4 gallon chamber	1 gallon chamber
2A	2488.0	Opening pressure :	450 psia	600 psia
		Gas :		Sent to
		Oil :		Geco
		Mud/Water :	9000 cc	
2B	2486.0	Opening pressure :	1000 psia	1000 psia
		Gas :		Sent to
		Oil :	300 cc	Geco
		Mud/Water :	9200 cc	
2C	2467.0	Opening pressure :	0	700 psia
		Gas :		Sent to
		Oil :	200 cc	Geco
		Mud/Water :	6500 cc	
2D	2392.0	Opening pressure :	1600 psia	1800 psia
		Gas :	11.5 cuft	Sent to
		Oil :	8000 cc	Geco
		Mud/Water :		

Remarks: 2 3/4 gallon chamber opened at rig floor.
RKB : 25 m



TEST NO.	1	2	3
FLUID	WATER	OIL	OIL
PERFORATION INTERVAL (mRKB)	2821-2837	2454-2458	2401-2414
MAIN FLOW:			
LAST FLOWING RATE (sm ³ /d)	1450	950	1315
LAST FLOWING WELLHEAD PRESSURE (bar)	105	132	159
LAST FLOWING BOTTOMHOLE PRESSURE (bar)	396.6	318.8	346.1
- at DEPTH (mRKB)	2779.4	2403.6	2368
CHOKE SIZE (mm)	NA	11.1	12.7
DEAD WATER/OIL DENSITY (g/cm ³)	1.02	0.84	0.84
GAS GRAVITY (air = 1)	0.64	0.75	0.71
GOR (sm ³ /sm ³)	0	55	47
- at SEPARATOR PRESSURE (bar)	33	26	32
- at SEPARATOR TEMPERATURE (degC)	76	62	47
RESERVOIR TEMPERATURE (degC)	102	90	88
RESERVOIR PRESSURE (bar)	401.2	366.0	359.5
- at DEPTH (mRKB)	2779.4	2453.6	2368

Table 5.5 34/7-16R Test results

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf /Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
900628	12 1/4"	380.0	1.03			/		/					SPUD MUD
900629	12 1/4"	778.0	1.03			/		/					SPUD MUD
900630	12 1/4"	915.0	1.03			/		/					SPUD MUD
900701	36"	915.0	1.03			/		/					SPUD MUD
900702	26"	915.0	1.03			/		/					SPUD MUD
900703	26"	915.0	1.03			/		/					SPUD MUD
900704	26"	922.0	1.03			/		/					SPUD MUD
900705	17 1/2"	922.0	1.03			/		/					SPUD MUD
900706	17 1/2"	922.0	1.03			/		/					SPUD MUD
900707	17 1/2"	922.0	1.03			/		/					SPUD MUD
900708	17 1/2"	922.0	1.03			/		/					SPUD MUD
900709	17 1/2"	922.0	1.03			/		/					SPUD MUD
900710	17 1/2"	1056.0	1.09	13.0	5.0	3/4	8.0	/	320	44000		2.4	KCL MUD
900711	17 1/2"	1464.0	1.12	16.0	9.0	4/5	8.0	/	440	46000	1.5	4.4	KCL MUD
900712	17 1/2"	1649.0	1.30	21.0	14.0	4/6	8.0	/	360	44000	1.5	8.6	KCL MUD
900713	17 1/2"	1815.0	1.48	26.0	14.0	4/6	8.0	/	360	45000	2.0	17.0	KCL MUD
900714	17 1/2"	1928.0	1.55	27.0	16.0	4/6	8.0	/	360	45000	2.0	20.0	KCL MUD
900715	17 1/2"	1928.0	1.53	24.0	14.0	4/6	7.8	/	400	44000	2.0	19.0	KCL MUD
900716	17 1/2"	1928.0	1.53	25.0	16.0	4/6	8.0	/	400	45000	2.0	19.0	KCL MUD
900717	17 1/2"	1928.0	1.53	25.0	15.0	4/5	8.0	/	360	44000	2.0	19.0	KCL MUD
900718	17 1/2"	1928.0	1.53	25.0	15.0	4/5	8.0	/	400	44000	2.0	19.0	KCL MUD
900719	17 1/2"	1928.0	1.53	25.0	14.0	4/5	7.8	/	400	45000	1.5	19.0	KCL MUD
900720	12 1/4"	1928.0	1.53	25.0	13.0	4/5	8.8	/	400	44000	1.5	19.0	KCL MUD
900721	12 1/4"	1935.0	1.53	23.0	14.0	4/5	8.4	/	160	44000	1.5	20.0	KCL MUD
900722	12 1/4"	1951.0	1.53	23.0	15.0	3/4	7.7	/	160	41000	1.5	19.0	KCL MUD
900723	12 1/4"	2030.0	1.55	24.0	10.0	3/4	7.5	/	220	43000	1.5	20.0	KCL MUD
900724	12 1/4"	2199.0	1.62	25.0	12.0	4/5	7.3	/	400	44000	1.0	19.0	KCL MUD

Well: 34/7-16

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf /Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
900725	12 1/4"	2351.0	1.70	31.0	17.0	5/25	7.8	/	400	54000	.8	24.0	KCL MUD
900726	12 1/4"	2389.0	1.71	31.0	17.0	5/25	7.8	/	400	54000	.8	24.0	KCL MUD
900727	12 1/4"	2389.0	1.71	33.0	16.0	4/18	7.8	/ .9	400	52000	.7	24.0	KCL MUD
900728	12 1/4"	2389.0	1.71	32.0	16.0	4/17	7.8	/ .9	440	52000	1.0	25.0	KCL MUD
900729	12 1/4"	2389.0	1.71	36.0	17.0	5/21	7.5	/ .9	440	51500	1.0	25.0	KCL MUD
900730	12 1/4"	2389.0	1.71	31.0	14.0	4/12	7.5	/ .9	440	52000	1.0	24.0	KCL MUD
900731	12 1/4"	2389.0	1.71	36.0	15.0	6/12	7.5	/ .9	440	52000	1.0	24.0	KCL MUD
900801	12 1/4"	2389.0	1.71	34.0	15.0	5/10	8.0	/ .9	400	52000	1.0	24.0	KCL MUD
900802	12 1/4"	2389.0	1.71	34.0	18.0	4/22	7.5	/	400	51500	.8	24.0	KCL MUD
900803	12 1/4"	2389.0	1.71	34.0	16.0	5/19	8.0	/1.1	360	52000	.8	24.0	KCL MUD
900804	12 1/4"	2389.0	1.71	34.0	15.0	4/19	7.8	/1.1	360	52000	.8	24.0	KCL MUD
900805	12 1/4"	2389.0	1.71	34.0	15.0	4/20	7.5	/	400	52000	.8	24.0	KCL MUD
900806	12 1/4"	2389.0	1.71	34.0	15.0	4/20	7.5	/	400	52000	.8	24.0	KCL MUD
900807	12 1/4"	2389.0	1.71	27.0	11.0	3/11	7.5	/	400	52000	.8	24.0	KCL MUD
900808	12 1/4"	2389.0	1.71	27.0	11.0	3/12	7.5	/	400	52000	.8	24.0	KCL MUD
900809	12 1/4"	2389.0	1.71	25.0	11.0	3/11	7.5	/	520	45000	1.0	24.0	KCL MUD
900810	12 1/4"	2389.0	1.71	25.0	14.0	4/36	8.9	/	520	45000	1.0	24.0	KCL MUD
900811	12 1/4"	2389.0	1.71			/		/					KCL MUD
900812	12 1/4"					/		/					KCL MUD
900813	12 1/4"					/		/					KCL MUD

Well: 34/7-16R

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf /Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
900905	8 1/2"	362.0	1.55	21.0	9.0	5/30	10.5	.4/2.5	520	10000		20.0	KCL MUD
900906	8 1/2"	2632.0	1.65	24.0	12.0	6/31	9.5	.1/1.7	200	40000		24.0	KCL MUD
900907	8 1/2"	2686.0	1.65	34.0	12.0	3/21	8.7	.1/1.7	360	40000	.3	24.0	KCL MUD
900908	8 1/2"	2686.0	1.65	37.0	14.0	3/26	8.4	/2.2	400	38000		24.0	KCL MUD
900909	8 1/2"	2885.0	1.65	54.0	14.0	3/20	8.8	.1/2.1	300	36000		24.0	KCL MUD
900910	8 1/2"	2686.0	1.65	34.0	14.0	3/19	8.8	.1/2.0	300	36000		24.0	KCL MUD
900911	8 1/2"	2686.0	1.65	36.0	12.0	3/19	10.1	.3/2.1	220	35000		24.0	KCL MUD
900912	8 1/2"	2686.0	1.65	35.0	13.0	3/18	9.8	.2/1.8	260	35000		24.0	KCL MUD
900913	8 1/2"	2686.0	1.65	35.0	12.0	3/18	9.6	.2/1.7	280	35000		24.0	KCL MUD
900914	8 1/2"	2686.0	1.65	34.0	13.0	4/18	9.5	.1/1.7	280	35000		24.0	KCL MUD
900915	8 1/2"	2686.0	1.65	39.0	20.0	6/27	10.5	.4/2.3	320	34000		24.0	KCL MUD
900916	8 1/2"	2686.0	1.65	39.0	18.0	6/29	10.3	.4/2.2	340	34000		24.0	KCL MUD
900917	8 1/2"	2686.0	1.65	36.0	17.0	6/29	10.3	.4/2.1	360	33000		24.0	KCL MUD
900918	8 1/2"	2686.0	1.65	36.0	17.0	6/29	10.2	.3/2.0	360	33000		24.0	KCL MUD
900919	8 1/2"	2686.0	1.65	36.0	17.0	6/29	10.2	.3/2.0	360	33000		24.0	KCL MUD
900920	8 1/2"	2686.0	1.65	36.0	17.0	6/29	10.2	.3/2.0	360	33000		24.0	KCL MUD
900921	8 1/2"	2686.0	1.65	33.0	13.0	4/24	10.5	.2/2.0	40	32000		24.0	KCL MUD
900922	8 1/2"	2686.0	1.65	42.0	22.0	6/35	11.5	.6/2.1	40	33000		24.0	KCL MUD
900923	8 1/2"	2686.0	1.65	34.0	12.0	4/25	11.5	.6/2.1	20	33000		24.0	KCL MUD
900924	8 1/2"	2686.0	1.65	33.0	18.0	5/27	11.2	.5/2.0	80	33000			KCL MUD
900925	8 1/2"	2686.0	1.65	33.0	18.0	5/27	11.2	.5/2.0	100	33000		24.0	KCL MUD
900926	8 1/2"	2686.0	1.65	36.0	21.0	9/45	10.7	.3/1.6	400	31000		24.0	KCL MUD
900927	8 1/2"	2686.0	1.65	36.0	21.0	9/45	10.7	.3/1.6	400	31000		24.0	KCL MUD
900928	8 1/2"	2686.0	1.65	36.0	21.0	9/45	10.7	.3/1.6	400	31000		24.0	KCL MUD
900929	8 1/2"	2686.0	1.65	36.0	21.0	9/45	10.7	.3/1.6	400	31000		24.0	KCL MUD
900930	8 1/2"	2686.0	1.65	36.0	19.0	6/40	10.6	.3/1.8	400	31000		24.0	KCL MUD
901001	8 1/2"	2686.0	1.65	36.0	17.0	6/43	10.8	.3/1.8	400	31000		24.0	KCL MUD

Well: 34/7-16R

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf /Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
901002	8 1/2"	2686.0	1.65	29.0	14.0	4/34	10.2	.2/1.2	480	28000		24.0	KCL MUD
901003	8 1/2"	2686.0	1.65	29.0	14.0	4/34	10.2	.2/1.2	480	28000		24.0	KCL MUD
901004	8 1/2"	2686.0	1.65	28.0	16.0	4/32	10.1	.2/1.2	480	28000		24.0	KCL MUD
901005	8 1/2"	2686.0	1.65	29.0	14.0	4/33	9.9	.2/1.4	460	28000		24.0	KCL MUD
901006	8 1/2"	2686.0	1.65	28.0	15.0	4/30	9.9	.2/1.4	460	28000		24.0	KCL MUD
901007	8 1/2"	2686.0	1.65	28.0	15.0	4/28	9.7	.2/1.4	460	28000		24.0	KCL MUD
901008	8 1/2"	2686.0	1.65	28.0	14.0	4/27	9.6	.1/1.4	480	28000		24.0	KCL MUD
901009	8 1/2"	2686.0	1.65	28.0	14.0	4/27	9.6	.1/1.4	480	28000		24.0	KCL MUD
901010	8 1/2"	2686.0	1.65	28.0	14.0	4/27	9.6	.1/1.4	480	28000		24.0	KCL MUD
901011	8 1/2"	2686.0	1.67	29.0	15.0	4/29	9.4	.1/2.1	440	28000		24.0	KCL MUD
901012		2686.0	1.65	26.0	20.0	4/37	8.0	/3.8	80	28000		24.0	KCL MUD
901013		2686.0	1.67			/		/					KCL MUD
901014		2686.0	1.67			/		/					KCL MUD
901015						/		/					SPUD MUD

MUD MATERIALS USED - 34/7-16

MATERIALS	UNIT	36" HOLE	26" HOLE	17 1/2" HOLE	12 1/4" HOLE	TOTAL
Barite	m/t	65	57	518	364	1004
Bentonite	m/t	43	42	2	4	91
Bentonite	25 kg	0	0	52	0	52
Caustic Soda	25 kg	9	9	1	0	19
Soda Ash	25 kg	9	11	1	21	42
Lampac. SL.	25 kg	0	0	602	118	720
PHPA Polymer	25 kg	0	0	316	171	487
KCl Brine	m ³	0	0	438	30	468
KCl	25 kg	0	0	500	200	700
Xanthan Gum	25 kg	0	0	70	15	85
Mica Fine	25 kg	0	0	11	0	11
Nutplug Fine	25 kg	0	0	11	0	11
Propac	55 gal	0	0	2	0	2
Propac	200 l	0	0	0	8	8
Permalose	25 kg	0	0	0	141	141
Probio II	25 l	0	0	0	4	4
Potassium Bicarb.	50 kg	0	0	0	99	99
Gypsum	40 kg	0	0	0	36	36
NaOH	25 kg	0	0	0	4	4
KOH	50 kg	0	0	0	10	10

SAGA PETROLEUM A/S 6.2.2 MUD MATERIALS USED

Well : 34/7-16R

Materials	Unit	8 1/2" Hole	Total
BARITE	M/T	354	354
BENTONITE	M/T	15	15
BICARBONATE	50 k	85	85
BORREWELL C	25 k	32	32
CAUSTIC SODA	25 k	16	16
CF DESCO	25 l	26	26
Congor 404	55 g	1	1
GYPSUM	50 k	102	102
KCL - brine	bb1	383	383
LIME	40 k	5	5
Lampac Lv		2950	2950
Lampac Reg		375	375
OS-1L	55 g	1	1
Oilex	55 g	2	2
POT. BICARBONAT	50 k	111	111
Polyacrylamide		125	125
Polysal	25 k	40	40
SODA ASH	50 k	1	1
Xantum gum	25 k	13	13