

WELL TEST RESULTS				
WELL 15/5-5				
Parameter		Cleanup Flow/BU No. 1	Cleanup Flow/BU No. 2	Main Flow/BU
Flow Measurements				
Choke size	(inch)	44/64	60/64	60/64
Oil rate	(Sm ³ /d)	360	525	575
Gas rate	(Sm ³ /d)	N/A	34 000	36 000
GOR	(Sm ³ /Sm ³)	N/A	65	63
FBHP ⁽¹⁾	(bar)	167.6	167.7	177.7
FBHT ⁽¹⁾	(°C)	78.2	79.5	79.7
FWHP	(bar)	18.6	16.0	19.2
FWHT	(°C)	28.8	37.6	41.3
P _{sep}	(bar)	6.6	6.8	5.4
T _{sep}	(°C)	72.1	94.4	67.1
Maximum H ₂ S	(ppm)	0	0	0
Maximum CO ₂	(%)	0.2	0.3	0.3
Maximum solids	(%)	0	0	0
Oil density	(g/cm ³ / °C)	0.867 at 25.0	0.867 at 25.0	0.864 at 25.0
Gas gravity	(air=1)	0.868	0.868	0.8680
Pressure Transient Analysis Results				
Initial reservoir pressure	(bar)	218.18 at mid perforation (2170.5 m mD RKB)		
Initial reservoir temperature	(°C)	79.7 (max temp. during flow at gauge depth)		
Analysis model		IARF ⁽²⁾	IARF ⁽²⁾	Wedge
Permeability thickness	(mD m)	21 720	23 490	23 490
Permeability	(mD)	832	900	900
Skin (gauge)		81	57	38
Dist. to 1. boundary	(m)	---	---	260
Dist. to 2. boundary	(m)	---	---	550
Wedge angle	(deg)	---	---	90
Radius/depth of Investigation	(m)	280	390	1 150
Productivity	(Sm ³ /d/bar)	7.4	10.8	14.8
Minifracure Data				
Fracture pressure/gradient at mid reservoir (2143.6 m TVD MSL): 360 bar / 1.71 r.d.				

(1) Bottomhole data from gauge LMR 9306 with its sensor at 2145.17 m MD RKB.

(2) IARF = Infinite Acting Radial Flow.

The pressure quoted above refer to the measurements at the end of the flow periods. The rates are average values.

NORSK
HYDRO

FORMATION PRESSURE WORKSHEET

Well name: 15/5-5		Rig: TREASURE SAGA						Date : 13.09.95									
Pressure BARS		RKB-MSL : 26m						Witnessed by: GAHLLA/HINDERAKER/WALDUM/NYBY									
Run No./ Test No.	Depth	Depth	Initial Hydrostatic Pressure		Formation Pressure		Final Hydrostatic Pressure		Time		Formation Pressure	Test Temp	Good Data?	Sample information			Remarks
	mMD RKB	mTVD RKB	Strain	HP	Strain	HP	Strain	HP	Set	Retract	Sg EMD	degC	Y/N	Main Fluid type	HC gravity g/cc	Sample Vol, cc	
17	2193.5	2192.5	272.46	272.46	220.06	220.03			19:30		1.024	76.6	Y	Water	1.03	5*450	542.7mD/cP
					219.88	219.82	272.38	272.39		20:28	1.024	76.1					
18	2157.5	2156.6	217.28	217.30	217.26	27.26			20:54		1.033	75.6	N	mf/o	?	1 gal	37.4mD/cP
					217.07	217.14	267.90	267.87		21:13	1.033	74.6					
19	2177.0	2176.1	270.32	720.35	218.73	218.70			21:22		1.025	74.1	Y	oil	0.74	2.75ga	633 mD/cP
					218.68	218.70	269.95	270.16		21:48	1.025	73.9					
20	2186.5	2185.6	271.53	271.53	219.50	219.66			22:09		1.024	75.1	Y	oil	0.74	6 gal	328 mD/cP
					219.27	219.30	271.44	271.45		22:27	1.024	75.5					

NORSK HYDRO	FORMATION FLUID SAMPLING			WELL: 15/5-5
				RIG: Treasure Saga

Test No : 17	Sample depth: 2193.5 m	Run No: 1A	Sample No: 1-5	Witness: Waldum / Gahlla
	1st Chamber	2nd Chamber	3rd Chamber	
Chamber volume (litres)	0.45 / 0.45	0.45 / 0.45	0.45	
Chamber No.	MRMS1 btl.1 / MRMS1 btl.3	MRMS1 btl.4 / MRMS1 btl.5	MRMS1 btl.5	
Filling time (minutes)	3 / 3	2 / 2	2	
Shut in pressure (bar) / (°C)	219.83(76.0) / 219.88(76.0)	219.81(76.0) / 219.84(76.1)	219.85(76.1)	
Chamber pressure (surf. bar)/(°C)				
Gas volume (Sm ³)				
Oil volume (litres)				
Oil gravity (g/cc)				
Water / Filtrate (litres)				
Water / Filtrate (ppm Cl ⁻)				
Water filtrate (pH) / (pF) / (Ca ⁺⁺)				
Mud filtrate (ppm CL ⁻)				
Mud filtrate (pH) / (pF) / (Ca ⁺⁺)				
Gas composition (%) C1				
C2				
C3				
iC4				
nC4				
H2S				
C02				

In the first column data from bottles #1 and #3 are listed. In the second column bottles #4 and #5 are reported, and the third contain info from sampling of bottle #6.

All chambers are filled with formation water, and are being sent to F-Bg for analysis.

30.4 liters were pumped before filling bottles #1 and #3.
Another 15.2 liters were pumped before filling bottles #4, #5 and #6.

The resistivity cell read stable values of 0.06 ohmm after sampling began. This agrees with the apparent formation water resistivity.

Max drawdown while sampling: Bottle #1: 209.4 bar
Bottle #3: 209.9 bar
Bottle #4: 212.2 bar
Bottle #5: 212.0 bar
Bottle #6: 211.9 bar

NORSK HYDRO	FORMATION FLUID SAMPLING	WELL: 15/5-5
		RIG: Treasure Saga

Test No : 18	Sample depth: 2157.5 m	Run No: 1A	Sample No: 6	Witness: Gahlla / Waldum
	1st Chamber	2nd Chamber	3rd Chamber	
Chamber volume (litres)	1 gallon			
Chamber No.	MRSC 01			
Filling time (minutes)	9			
Shut in pressure (bar) / (°C)	23.64 / 74.6			
Chamber pressure (surf. bar)/(°C)				
Gas volume (Sm ³)				
Oil volume (litres)				
Oil gravity (g/cc)				
Water / Filtrate (litres)				
Water / Filtrate (ppm Cl ⁻)				
Water filtrate (pH) / (pF) / (Ca ⁺⁺)				
Mud filtrate (ppm CL ⁻)				
Mud filtrate (pH) / (pF) / (Ca ⁺⁺)				
Gas composition (%) C1				
C2				
C3				
iC4				
nC4				
H2S				
C02				

Pumped 5.8 liter at 10 bar.

During sampling pressure built up from 13 to 23 bar.

Drawdown mobility is 37.4 mD/cP.

Test No : 19	Sample depth: 2177.0 m	Run No: 1A	Sample No: 7	Witness: Gahlla / Waldum
	1st Chamber	2nd Chamber	3rd Chamber	
Chamber volume (litres)	2.75 gallon			
Chamber No.	MRSC 02			
Filling time (minutes)	40 seconds			
Shut in pressure (bar) / (°C)	218.66 / 74.2			
Chamber pressure (surf. bar)/(°C)				
Gas volume (Sm ³)				
Oil volume (litres)				
Oil gravity (g/cc)				
Water / Filtrate (litres)				
Water / Filtrate (ppm Cl ⁻)				
Water filtrate (pH) / (pF) / (Ca ⁺⁺)				
Mud filtrate (ppm CL ⁻)				
Mud filtrate (pH) / (pF) / (Ca ⁺⁺)				
Gas composition (%)	C1			
	C2			
	C3			
	iC4			
	nC4			
	H2S			
	C02			

Pumped 26 litres of through pump-out.
At that time the OFA showed a stable 90% oil cut.

The chambre was opened and filled within 40 seconds. Sampling performed around 193 bars.

Computed mobility ratio is 633.3 mD/cP.

NORSK HYDRO	FORMATION FLUID SAMPLING				WELL: 15/5-5
					RIG: Treasure Saga

Test No : 20	Sample depth: 2186.5 m	Run No: 1A	Sample No: 8	Witness: Gahlla / Waldum
	1st Chamber		2nd Chamber	3rd Chamber
Chamber volume (litres)	6 gallon			
Chamber No.	MRSC 01			
Filling time (minutes)	4			
Shut in pressure (bar) / (°C)	218.2 / 75.4			
Chamber pressure (surf. bar)/(°C)	34 / 10			
Gas volume (Sm ³)	20 cuft			
Oil volume (litres)	23			
Oil gravity (g/cc)	Dead oil: 36API / 0.85 g/cc			
Water / Filtrate (litres)	trace			
Water / Filtrate (ppm Cl ⁻)	78600			
Water filtrate (pH) / (pF) / (Ca ^{**})	7.6 / 0 / 620			
Mud filtrate (ppm CL ⁻)	77000			
Mud filtrate (pH) / (pF) / (Ca ^{**})	7.7 / 0 / <1000			
Gas composition (%) C1	14.3451			
C2	5.9251			
C3	5.5108			
iC4	1.0280			
nC4	2.3594			
H2S	-			
C02	-			

Pumping out 7.0 litres.

Sampling pressure instable. Varies between 85 bar and 140 bar.

Draw down mobility 358.2 mD/cP.

Oil looks dirty but remain in one phase. Possibly mixed with mud filtrate or water. Few ml (10-20ml) of filtrate / water were decanted from the separator and Cl⁻ / pH / pF / Ca analysis run. It resembles to the mud filtrate data.

Norsk Hydro

DAILY MUD PROPERTIES : RHEOLOGY PARAMETERS FOR WELL 15/5-5

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]	[sg]	[DegC]	600	300	200	100	60	30	6	3	[DegC]	[mPas]	[Pa]	[Pa]	[Pa]
30-aug-1995 20:00	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]	[sg]	[DegC]	600	300	200	100	60	30	6	3	[DegC]	[mPas]	[Pa]	[Pa]	[Pa]
31-aug-1995 20:00	210	210	SPUD MUD	100.0	1.05	0.0									0.0	0.0	0.0	0.0	0.0
01-sep-1995 20:00	210	210	SPUD MUD	100.0	1.08	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]	[sg]	[DegC]	600	300	200	100	60	30	6	3	[DegC]	[mPas]	[Pa]	[Pa]	[Pa]
02-sep-1995 22:00	826	826	SPUD MUD	100.0	1.05	0.0									0.0	0.0	0.0	0.0	0.0
03-sep-1995 22:00	1000	1000	SPUD MUD	65.0	1.25	0.0									0.0	0.0	0.0	0.0	0.0
04-sep-1995 22:00	1000	1000	KCL/POLYME	140.0	1.25	0.0	70	49	40	29			9	7	50.0	21.0	14.0	4.0	6.0

Hole section: 12 1/4" WATER BASED SYSTEM

Date	Depth		Mud Type	Funnel	Dens	Mudtmp	Fann Readings						Rheo	PV	YP	Gel0	Gel10		
	[m]			Visc		Out							Test						
	MD	TVD		[sec]	[sg]	[DegC]	600	300	200	100	60	30	6	3	[DegC]	[mPas]	[Pa]	[Pa]	[Pa]
05-sep-1995 23:59	1166	1166	KCL/POLYME	63.0	1.25	0.0	72	51	43	32			9	7	50.0	21.0	15.0	5.0	6.0
06-sep-1995 23:59	1549	1549	KCL/POLYME	62.0	1.25	0.0	79	57	46	33			10	8	50.0	22.0	17.5	4.5	7.0

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

Norsk Hydro

DAILY MUD PROPERTIES : RHEOLOGY PARAMETERS FOR WELL 15/5-5

Hole section: 12 1/4"				WATER BASED SYSTEM																
Date	Depth		Mud Type	Funnel	Dens	Mudtmp	Fann Readings							Rheo	PV	YP	Ge10	Ge110		
	[m]			Visc		Out	600	300	200	100	60	30	6	3	Test					
	MD	TVD		[sec]	[sg]	[DegC]								[DegC]	[mPas]	[Pa]	[Pa]	[Pa]		
07-sep-1995	23:59	1911	1911	KCL/POLYME	72.0	1.25	0.0	81	58	48	34			10	8	50.0	23.0	17.5	5.0	7.5
08-sep-1995	23:59	2157	2156	KCL/POLYME	72.0	1.25	0.0	84	60	50	35			12	9	50.0	24.0	18.0	5.5	8.0
09-sep-1995	23:59	2182	2181	KCL/POLYME	84.0	1.25	0.0	86	62	50	35			12	9	50.0	24.0	19.0	5.0	9.0
10-sep-1995	23:59	2477	2476	KCL/POLYME	64.0	1.25	0.0	74	52	43	30			9	7	50.0	22.0	15.0	4.0	6.0
11-sep-1995	23:59	2645	2644	KCL/POLYME	78.0	1.25	0.0	85	61	51	37			12	9	50.0	24.0	18.5	5.5	7.0
12-sep-1995	23:59	2645	2644	KCL/POLYME	78.0	1.25	0.0	85	61	51	37			12	9	50.0	24.0	18.5	5.5	7.0
13-sep-1995	23:59	2645	2644	KCL/POLYME	78.0	1.25	0.0	85	61	51	37			12	9	50.0	24.0	18.5	5.5	7.0
14-sep-1995	23:59	2645	2644	KCL/POLYME	72.0	1.25	0.0	81	59	49	36			11	8	50.0	22.0	18.5	5.5	7.5
15-sep-1995	23:59	2645	2644	KCL/POLYME	72.0	1.25	0.0									50.0	22.0	18.5	5.5	7.5
16-sep-1995	23:59	2645	2644	KCL/POLYME	54.0	1.20	0.0									50.0	12.0	13.5	2.5	3.5
17-sep-1995	23:59	2593	2592	KCL/POLYME	54.0	1.20	0.0	51	39	31	26			7	5	50.0	12.0	13.5	2.5	3.5
18-sep-1995	23:59	2593	2592	KCL/POLYME	51.0	1.20	0.0	57	42	32	25			12	7	50.0	15.0	13.5	3.5	4.5
19-sep-1995	18:00	2593	2592	KCL/POLYME	52.0	1.20	0.0									50.0	14.0	13.5	3.5	5.5
20-sep-1995	18:00	2593	2592	KCL/POLYME	52.0	1.20	0.0									50.0	12.0	13.0	3.0	4.5
21-sep-1995	18:00	2593	2592	KCL/POLYME	56.0	1.20	0.0									50.0	13.0	14.0	3.5	5.5
22-sep-1995	18:00	2593	2592	KCL/POLYME	56.0	1.20	0.0									50.0	13.0	14.0	3.5	5.5
23-sep-1995	18:00	2593	2592	KCL/POLYME	54.0	1.20	0.0									50.0	14.0	12.5	3.0	5.5
24-sep-1995	18:00	2593	2592	KCL/POLYME	58.0	1.20	0.0									50.0	14.0	14.5	3.0	5.5
25-sep-1995	18:00	2593	2592	KCL/POLYME	56.0	1.20	0.0									50.0	13.0	14.0	3.0	5.5
26-sep-1995	20:00	2228	2227	KCL/POLYME	58.0	1.20	0.0	55	42	36	27			9	6	50.0	13.0	14.5	3.0	5.5
27-sep-1995	20:00	2218	2217	KCL/POLYME	58.0	1.20	0.0	55	42	36	27			9	6	50.0	13.0	14.5	3.0	5.5
28-sep-1995	20:00	2228	2227	KCL/POLYME	58.0	1.20	0.0									50.0	13.0	14.5	3.0	5.5
29-sep-1995	14:00	2218	2217	KCL/POLYME	62.0	1.20	0.0	56	43	36	27			9	6	50.0	13.0	15.0	3.0	5.5
30-sep-1995	22:00	2218	2217	KCL/POLYME	58.0	1.20	0.0	53	39	32	24			9	6	50.0	14.0	12.5	3.5	6.5
01-oct-1995	22:00	2218	2217	KCL/POLYME	58.0	1.20	0.0	53	39	32	24			9	6	50.0	14.0	12.5	3.5	6.5
02-oct-1995	21:00	2105	2104	KCL/POLYME	58.0	1.20	0.0	55	41	33	24			9	6	50.0	14.0	13.5	4.5	6.5
03-oct-1995	20:00	732	732	KCL/POLYME	58.0	1.20	0.0	55	41	33	24			9	6	50.0	14.0	13.5	4.5	6.5

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

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 15/5-5

Hole section:			WATER BASED SYSTEM																					
Date	Depth	Mud Type	Dens	Filtrate	Filt.cake	HPHT	pH	Alcalinity	Inhib	K+	CL-	Ca++	Mg++	Tot	Percentage				CEC	ASG	LGS			
	[m]		[sg]	[ml]	[ml]	[mm]		Pm Pf Mf	Chem	[mg/l]	[mg/l]	[mg/l]	[mg/l]	[mg]	hard	Solid	Oil	Sand	[Kg/m3]	[sg]	[Kg/m3]			
	MD	TVD		[ml]	[mm]	[mm]	[psi/DegC]	[ml]	[ml]	[ml]	[Kg/m3]	[mg/l]	[mg/l]	[mg/l]	[mg]	[%]	[%]	[%]	[Kg/m3]	[sg]	[Kg/m3]			
30-aug-1995 20:00	0	0	SPUD MUD	1.05	0.0	0.0	0	0	0/0	0.0	0.0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	0.0	0

Hole section: 36"			WATER BASED SYSTEM																					
Date	Depth	Mud Type	Dens	Filtrate	Filt.cake	HPHT	pH	Alcalinity	Inhib	K+	CL-	Ca++	Mg++	Tot	Percentage				CEC	ASG	LGS			
	[m]		[sg]	[ml]	[ml]	[mm]		Pm Pf Mf	Chem	[mg/l]	[mg/l]	[mg/l]	[mg/l]	[mg]	hard	Solid	Oil	Sand	[Kg/m3]	[sg]	[Kg/m3]			
	MD	TVD		[ml]	[mm]	[mm]	[psi/DegC]	[ml]	[ml]	[ml]	[Kg/m3]	[mg/l]	[mg/l]	[mg/l]	[mg]	[%]	[%]	[%]	[Kg/m3]	[sg]	[Kg/m3]			
31-aug-1995 20:00	210	210	SPUD MUD	1.05	0.0	0.0	0	0	0/0	0.0	0.0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	0.0	0
01-sep-1995 20:00	210	210	SPUD MUD	1.08	0.0	0.0	0	0	0/0	0.0	0.0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	0.0	0

Hole section: 17 1/2"			WATER BASED SYSTEM																					
Date	Depth	Mud Type	Dens	Filtrate	Filt.cake	HPHT	pH	Alcalinity	Inhib	K+	CL-	Ca++	Mg++	Tot	Percentage				CEC	ASG	LGS			
	[m]		[sg]	[ml]	[ml]	[mm]		Pm Pf Mf	Chem	[mg/l]	[mg/l]	[mg/l]	[mg/l]	[mg]	hard	Solid	Oil	Sand	[Kg/m3]	[sg]	[Kg/m3]			
	MD	TVD		[ml]	[ml]	[mm]	[psi/DegC]	[ml]	[ml]	[ml]	[Kg/m3]	[mg/l]	[mg/l]	[mg/l]	[mg]	[%]	[%]	[%]	[Kg/m3]	[sg]	[Kg/m3]			
02-sep-1995 22:00	826	826	SPUD MUD	1.05	0.0	0.0	0	0	0/0	0.0	0.0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	0.0	0
03-sep-1995 22:00	1000	1000	SPUD MUD	1.25	0.0	0.0	0	0	0/0	0.0	0.0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	0.0	0
04-sep-1995 22:00	1000	1000	KCL/POLYME	1.25	0.0	0.0	0	0	0/0	8.5	0.0	0.0	0.0	0	0	0	0	0	0.0	0.0	0.0	0	0.0	0

Hole section: 12 1/4"			WATER BASED SYSTEM																						
Date	Depth	Mud Type	Dens	Filtrate	Filt.cake	HPHT	pH	Alcalinity	Inhib	K+	CL-	Ca++	Mg++	Tot	Percentage				CEC	ASG	LGS				
	[m]		[sg]	[ml]	[ml]	[mm]		Pm Pf Mf	Chem	[mg/l]	[mg/l]	[mg/l]	[mg/l]	[mg]	hard	Solid	Oil	Sand	[Kg/m3]	[sg]	[Kg/m3]				
	MD	TVD		[ml]	[ml]	[mm]	[psi/DegC]	[ml]	[ml]	[ml]	[Kg/m3]	[mg/l]	[mg/l]	[mg/l]	[mg]	[%]	[%]	[%]	[Kg/m3]	[sg]	[Kg/m3]				
05-sep-1995 23:59	1166	1166	KCL/POLYME	1.25	0.0	0.0	0	0	32/60	8.5	0.0	0.1	0.2	0	0	58000	200	0	320	0.0	0.0	0.3	0	0.0	153
06-sep-1995 23:59	1549	1549	KCL/POLYME	1.25	0.0	0.0	1	0	32/60	8.0	0.0	0.0	0.4	0	62827	69000	520	0	760	13.0	0.0	1.0	0	0.0	153

Hole section: 8 1/2"			WATER BASED SYSTEM																						
Date	Depth	Mud Type	Dens	Filtrate	Filt.cake	HPHT	pH	Alcalinity	Inhib	K+	CL-	Ca++	Mg++	Tot	Percentage				CEC	ASG	LGS				
	[m]		[sg]	[ml]	[ml]	[mm]		Pm Pf Mf	Chem	[mg/l]	[mg/l]	[mg/l]	[mg/l]	[mg]	hard	Solid	Oil	Sand	[Kg/m3]	[sg]	[Kg/m3]				
	MD	TVD		[ml]	[ml]	[mm]	[psi/DegC]	[ml]	[ml]	[ml]	[Kg/m3]	[mg/l]	[mg/l]	[mg/l]	[mg]	[%]	[%]	[%]	[Kg/m3]	[sg]	[Kg/m3]				
07-sep-1995 23:59	1911	1911	KCL/POLYME	1.25	2.7	0.0	1	0	0/0	8.0	0.0	0.0	0.6	0	62827	71000	620	0	860	12.4	0.0	1.3	7	0.0	101
08-sep-1995 23:59	2157	2156	KCL/POLYME	1.25	2.8	0.0	1	0	0/0	8.0	0.0	0.0	0.6	0	62827	71000	580	0	620	13.5	0.0	1.5	7	0.0	101
09-sep-1995 23:59	2182	2181	KCL/POLYME	1.25	2.8	0.0	1	0	0/0	7.9	0.0	0.0	0.9	0	62827	72000	580	0	840	9.1	0.0	1.0	7	0.0	101
10-sep-1995 23:59	2477	2476	KCL/POLYME	1.25	2.6	0.0	1	0	0/0	8.0	0.0	0.0	0.5	130	68063	76000	480	0	720	14.2	0.0	1.0	21	0.0	172
11-sep-1995 23:59	2645	2644	KCL/POLYME	1.25	2.7	0.0	1	0	0/0	7.8	0.0	0.0	0.3	130	68063	77000	500	0	720	14.6	0.0	0.8	21	0.0	195
12-sep-1995 23:59	2645	2644	KCL/POLYME	1.25	2.7	0.0	1	0	0/0	7.8	0.0	0.0	0.3	130	68100	77000	500	0	720	14.2	0.0	0.8	21	0.0	177
13-sep-1995 23:59	2645	2644	KCL/POLYME	1.25	2.7	0.0	1	0	0/0	7.8	0.0	0.0	0.3	130	68063	77000	500	0	720	14.2	0.0	0.8	21	0.0	205
14-sep-1995 23:59	2645	2644	KCL/POLYME	1.25	2.5	0.0	1	0	0/0	7.7	0.0	0.0	0.3	130	68063	78000	500	0	700	14.0	0.0	0.7	21	0.0	166
15-sep-1995 23:59	2645	2644	KCL/POLYME	1.25	2.5	0.0	1	0	0/0	7.7	0.0	0.0	0.3	130	68063	78000	500	0	700	14.0	0.0	0.7	21	0.0	166
16-sep-1995 23:59	2645	2644	KCL/POLYME	1.20	3.4	0.0	1	0	0/0	7.9	0.0	0.0	0.4	135	70681	76000	440	0	600	12.0	0.0	0.4	14	0.0	146

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

DAILY MUD PROPERTIES : OTHER PARAMETERS FOR WELL 15/5-5

Hole section: 8 1/2"

WATER BASED SYSTEM

Date	Depth		Mud Type	Dens [sg]	Filtrate		Filt.cake		HPHT Press/Temp [psi/DegC]	pH	Alcalinity			Inhib Chem [Kg/m3]	K+	CL-	Ca++	Mg++	Tot hard [mg]	Percentage				CEC [Kg/m3]	ASG [sg]	LGS [Kg/m3]
	[m]	MD			TVD	[API]	[HPHT]	[API]			[HPHT]	Pm	Pf							Mf	Oil	Sand				
17-sep-1995 23:59	2593	2592	KCL/POLYME	1.20	3.4	0.0	1	0	0/0	7.9	0.0	0.0	0.4	135	70681	76000	440	0	600	12.0	0.0	0.4	14	0.0	146	
18-sep-1995 23:59	2593	2592	KCL/POLYME	1.20	2.8	0.0	1	0	0/0	8.6	0.0	0.0	0.4	115	60209	79000	600	0	800	12.0	0.0	0.6	15	0.0	143	
19-sep-1995 18:00	2593	2592	KCL/POLYME	1.20	2.8	0.0	1	0	0/0	8.3	0.0	0.0	0.8	120	62827	81000	480	0	720	12.0	0.0	0.4	15	0.0	140	
20-sep-1995 18:00	2593	2592	KCL/POLYME	1.20	3.8	0.0	1	0	0/0	8.3	0.0	0.0	0.7	120	62827	80000	480	0	720	12.0	0.0	0.4	15	0.0	140	
21-sep-1995 18:00	2593	2592	KCL/POLYME	1.20	2.8	0.0	1	0	0/0	8.1	0.0	0.0	0.7	120	62827	80000	480	0	720	12.0	0.0	0.4	15	0.0	140	
22-sep-1995 18:00	2593	2592	KCL/POLYME	1.20	2.8	0.0	1	0	0/0	8.1	0.0	0.0	0.7	120	62827	80000	480	0	720	12.0	0.0	0.4	15	0.0	140	
23-sep-1995 18:00	2593	2592	KCL/POLYME	1.20	3.0	0.0	1	0	0/0	8.0	0.0	0.0	0.7	125	65500	79000	480	0	720	11.8	0.0	0.3	15	0.0	133	
24-sep-1995 18:00	2593	2592	KCL/POLYME	1.20	2.8	0.0	1	0	0/0	8.7	0.0	0.0	0.8	125	65500	79000	460	0	680	11.8	0.0	0.3	15	0.0	133	
25-sep-1995 18:00	2593	2592	KCL/POLYME	1.20	2.8	0.0	1	0	0/0	8.8	0.0	0.0	0.8	125	65500	79000	460	0	680	11.8	0.0	0.3	15	0.0	133	
26-sep-1995 20:00	2228	2227	KCL/POLYME	1.20	2.7	0.0	1	0	0/0	8.6	0.0	0.1	0.8	125	65500	79000	420	0	640	11.8	0.0	0.3	15	0.0	133	
27-sep-1995 20:00	2218	2217	KCL/POLYME	1.20	2.7	0.0	1	0	0/0	8.6	0.0	0.1	0.8	125	65500	79000	420	0	640	11.8	0.0	0.3	15	0.0	133	
28-sep-1995 20:00	2228	2227	KCL/POLYME	1.20	2.7	0.0	1	0	0/0	8.6	0.0	0.1	0.8	125	65500	79000	420	0	640	11.8	0.0	0.3	15	0.0	133	
29-sep-1995 14:00	2218	2217	KCL/POLYME	1.20	2.5	0.0	1	0	0/0	8.5	0.0	0.1	0.7	126	66000	80000	440	0	600	11.8	0.0	0.3	15	0.0	132	
30-sep-1995 22:00	2218	2217	KCL/POLYME	1.20	2.7	0.0	1	0	0/0	8.2	0.0	0.1	0.6	125	65500	79000	400	0	580	11.8	0.0	0.3	12	0.0	133	
01-oct-1995 22:00	2218	2217	KCL/POLYME	1.20	2.7	0.0	1	0	0/0	8.2	0.0	0.1	0.6	125	65500	79000	400	0	580	11.8	0.0	0.3	12	0.0	133	
02-oct-1995 21:00	2105	2104	KCL/POLYME	1.20	2.5	0.0	1	0	0/0	9.2	0.0	0.2	0.9	122	63900	80000	480	0	620	11.8	0.0	0.2	12	0.0	118	
03-oct-1995 20:00	732	732	KCL/POLYME	1.20	2.5	0.0	1	0	0/0	9.2	0.0	0.2	0.9	122	63900	80000	480	0	620	11.8	0.0	0.2	12	0.0	118	

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

TOTAL CONSUMPTION OF MUD ADDITIVES ON WELL 15/5-5

Section Size	Product/Additive	Total Amount Planned	Total Amount Used	Unit	Difference		Difference in cost	
					Amount	%	%	[kNOK]
17 1/2"	BARITE		94000.0	kg				
	BENTONITE		37000.0	kg				
	CMC EHV		575.0	kg				
	LIME		300.0	kg				
	SODA ASH		175.0	kg				
8 1/2"	ANCO ZAN		21075.0	kg				
	BARITE		158000.0	kg				
	CITRIC ACID		175.0	kg				
	FLOWZAN 71006		1325.0	kg				
	KCL BRINE		464000.0	l				
	KCL POWDER		4000.0	kg				
	NUTPLUG F		25.0	kg				
	PHPA		3050.0	kg				
	SODA ASH		200.0	kg				
	SODIUM BICARBONATE		300.0	kg				
UNDEFINED		10425.0	xx					
0.0	BARITE		43000.0	kg				
	BENTONITE		33000.0	kg				
	CMC EHV		500.0	kg				
	SODA ASH		125.0	kg				