

### 5.3 Formation Pressure Measurements

A Dresser-Atlas Formation Multi Tester (FMT) with a Hewlett Packard crystal gauge was used to obtain formation pressure measurements.

The objectives for running the FMT were:

- To determine the oil water contact.
- To verify oil or water in the sand at 2634.5 m RKB.
- To collect segregated samples for fluid analysis.

A total of 6 runs with the FMT tool were made (table 5.3).

The FMT pressure measurements were plotted versus depth (fig. 5.1). In the oil zone a pressure gradient of 0.073 bar/m was found while in the water leg a gradient of 0.099 bar/m was determined.

The oil and water gradients intersect at 2600 m RKB. This indicates that there is no pressure communication between the Statfjord Formation and the upper Lunde as oil is tested down to 2615 m RKB (oil is also tested from an isolated sand at 2634.5 to 2636.5 m RKB).

Assuming pressure communication between the Statfjord Formation in well 34/7-10 and the upper Lunde in 34/7-3 gives a most likely oil water contact at 2621 m RKB (2595 m MSL).

### 5.4 Testing

Four production tests were carried out in the Statfjord Formation. The following intervals were perforated and tested:

- Production test No. 1: 2632.7 - 2636.7 m RKB
- Production test No. 2: 2609.4 - 2614.9 m RKB
- Production test No. 3: 2561.0 - 2570.5 m RKB
- Production test No. 4: 2548.4 - 2551.9 m RKB

The depths refer to the CDL-CNL-GR log run No. 2A of September 24, 1986.

The test objectives were to:

Test No. 1

- Determine the nature of the formation fluid
- Sample the formation fluid
- Investigate formation heterogeneities
- Measure the formation pressure

Test No. 2

- Determine the production behaviour of a sand close to the prognosed OWC with a high water saturation
- Investigate formation heterogeneities
- Estimate the formation properties
- Sample the reservoir fluid
- Investigate cusping behaviour (if test No. 1 produces water)
- Investigate the sealing properties and/or extent of the shale separating the tested sand from the overlaying sand.

Test No. 3

- Investigate formation heterogeneities for a thick sand located in a low net/gross Statfjord unit
- Measure the formation productivity
- Estimate the formation properties
- Sample the reservoir fluid

Test No. 4

- Investigate formation heterogeneities for a thin sand located in a low net/gross Statfjord unit
- Measure the formation productivity
- Estimate the formation properties
- Sample the reservoir fluid

Operations:

Production\_test No. 1

The interval 2632.7 - 2636.7 m RKB was perforated underbalanced with a 5" Schlumberger tubing conveyed perforation gun, 12 shots/ft. The well was opened on a 6.4 mm fixed choke for a twenty minutes long initial flow. A total of 0.17 m<sup>3</sup> cushion water was flowed back. A two hours initial build-up was performed. The well was then opened for an approximately fourteen hours main flow (6.4 mm fixed choke). The last recorded rate was 4 m<sup>3</sup>/D with a corresponding wellhead pressure of 1.4 bar. At surface a mixture of water and oil was produced. The tubing content was reversed out, and the total oil produced was measured after the main build-up. A total of 2.75 m<sup>3</sup> oil was produced during the test. The bottomhole sample taken during the main flow contained clean oil.

The pressures and rates are plotted versus time in fig. 5.2. A summary of flow periods and flow data is presented in table 5.4. The main build-up pressures are listed in table 5.5. The flowrates are listed in table 5.6.

Production\_test No. 2

The interval 2609.4 -2614.9 m RKB was perforated underbalanced with a 5" Schlumberger tubing conveyed perforation gun, 12 shots/ft.

The well was opened for a combined clean-up and main flow with a duration of 26.5 hours. A 12.7 mm fixed choke was used during the major part of the flow. The last flowing rate was 222 Sm<sup>3</sup>/D with a corresponding wellhead pressure of 23 bar. The well was then shut in for the main build-up (approximately 30 hours) followed by a bottomhole sampling flow. Two bottomhole samples were recovered. The last flowing rate during the sampling flow was 73 Sm<sup>3</sup>/D with a corresponding wellhead pressure of 122 bar (3.2 mm fixed choke).

The pressures and rates versus time are shown in fig. 5.3. A summary of the flow periods and the flow data are listed in table 5.7. The main build-up pressures are listed in table 5.8. The flow rates are listed in table 5.9.

#### Production test No. 3

The interval 2561.0 - 2570.5 m RKB was perforated overbalanced with a Dresser 5" perforation gun, 12 shots/ft, run on wireline. The well was opened for an initial flow of 10 minutes duration on a 12.7 mm fixed choke. A total of 5.6 m<sup>3</sup> was produced. An initial build-up of approximately two hours was performed.

The main flow had a duration of approximately 26 hours mainly on a 12.7 mm fixed choke. The last recorded rate was 961 Sm<sup>3</sup>/D with a corresponding wellhead pressure of 105 bar.

It was decided to have a short flow after the main build-up to verify the unexpected high draw down calculated from the main flow. This flow had a duration of approximately one hour.

A final rate of 692 Sm<sup>3</sup>/D was measured while flowing through a 12.7 mm fixed choke. The wellhead pressure was 72 bar.

The pressures and rates versus time are shown in fig. 5.4. A summary of the flow periods and the flow data are listed in table 5.10. The main build-up pressures are listed in table 5.11. The flowrates are given in table 5.12.

#### Production test No. 4

The interval 2548.4 - 2551.9 m RKB was perforated underbalanced with a 5" tubing conveyed perforation gun, 12 shots/ft.

The well was opened for a ten minutes initial flow on a 44.5 mm fixed choke, and 4.9 m<sup>3</sup> of cushion water was produced. The main flow was

started on a 11.1 mm choke which was reduced to 6.4 mm in order to get monophasic flow at the wellhead. The flow had a duration of 30 hours. The final rate was 273 Sm<sup>3</sup>/D with a corresponding wellhead pressure of 114 bar.

After the main build-up a short minifracture test was performed to determine the formation strength.

The pressures and rates versus time are shown in fig. 5.5. A summary of the flow periods and the flow data are presented in table 5.13. The main build-up pressures are listed in table 5.14. The flowrates are given in table 5.15.

## 5.5 Fluid Analyses

### FMT samples

Fluid samples from three FMT-chambers collected at two different depths were analyzed (table 5.16). Analysis of the water indicates that the fluid was mudfiltrate. The pressurized oil samples were analysed and the main results are listed in table 5.16.

### Test samples

During production test No. 1, one bottom hole sample with oil was collected. This sample was, however, damaged during transfer of the fluid from the bottom hole sampler to the storage bottle, and therefore no PVT-analysis is available.

Analyses of water samples collected at surface during the main flow while reversing out the tubing content, show that the water produced in the beginning of the test is mainly sea water from the pressure testing. However, the impact of sea water is rapidly diminishing and is negligible approximately two hours after perforation when the produced water is mainly cushion water.

Analyses of parameters specific for formation water do not indicate that formation water has flowed into the test string.

During production test No. 2 both monophasic wellhead samples and bottomhole samples were collected, while during production tests Nos. 3 and 4 monophasic fluid samples were collected at the wellhead. PVT-analyses have been performed on monophasic oil samples from the three tests and the main results are presented in tables 5.17, 5.18, 5.19 and 5.20.

Trace element analyses were performed on oil and gas produced during production tests Nos. 2, 3 and 4. The results from these analyses are listed in fig. 5.21.

# Formation pressures



Run 2A

mRKB	Hydrostatic mud pressure		Temperature Corrected Formation Pressure	
	before	after	PSIA	BAR
	PSIA	PSIA		
2532.5	5965.2	5964.8	5587.7	385.26
2550.0	6016.6	6015.1	5607.0	386.59
2563.0	6052.1	6050.5	5619.8	387.47
2569.0	6066.5	6065.5	5626.5	387.93
2595.0	6141.1		5656.2	389.98
2601.0	6152.4	6151.4	5660.4	390.27
2613.0	6187.1	6183.2	5675.1	391.28
2614.0	6185.5	6184.4	5675.6	391.32
2628.0	6217.5	-	Tight	-
2628.0	6217.5	6213.4	Tight	-
2634.5	6233.5	6231.5	5731.1	395.14
2644.0	6257.4	6254.1	5732.3	395.23
2644.3	6254.1	-	Tight	-
2671.0	6335.6	-	Tight	-
2670.9	6333.4	6333.8	Tight	-
2684.5	6372.5	6372.5	Tight	-
2532.5*	5951.8	5951.0	5585.8	385.13
2441.0	5732.8	5731.0	5504.0	379.49

**\*Sample**

- 2 3/4 gallon chambre recovered : 8.8 l of oil  
2.8 l of mudfiltrate
- 1 gallon chambre to PVT analysis

Table 5.3 FMT - formation pressures, 34/7-10

Date 1/2/87	Auth JS	Appr Bolt
Draw by	Ref	

# Formation pressures



Depth mRKB	Hydrostatic mud pressure		Temperature Corrected Formation Pressure	
	before PSIA	after PSIA	PSIA	BAR

Run 2E

2634.5	6218.1		5715.9	394.10
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Sample

Before plugging 2 3/4 gallon chambre: 2 l mudfiltrate  
Traces of oil

Run 3F

2532.5	5948.6	5947.9	5588.1	385.29
2569.0	6044.6	6042.6	5626.5	387.93
2613.0	6151.6	6149.8	5672.4	391.10
2634.5	6204.6	6202.8	5728.2	394.94
2726.5	6429.8	6427.8	5840.5	402.69
2783.0	6568.6	6566.4	5921.8	408.29
2815.0	6646.3	6643.7	5967.0	411.41
2837.0	6700.8	6698.2	6003.4	413.93
2845.0	6716.4	6715.0	6010.4	414.40
2857.5	6747.6	6746.2	6028.4	415.64
2874.0	6788.1	6786.1	6051.8	417.26

Table 5.3 FMT - formation pressures, 34/7-10

Date	12-87	Auth	JD	Appr	BWH
Draw by		Plot			



Summary of Flowperiods,  
Production Test no 1

Event	Date	Time	Flowrate	Bottomhole	Wellhead	GOR	Separator	Choke
		(hrs. min)	(SM <sup>3</sup> /day)	(bar) (deg c)	(bar) (deg C)	(SM <sup>3</sup> /SM <sup>3</sup> )	(bar) (deg C)	(mm)
Initial flow (01:38-01:58)	6.10	01:58	40	263.9 / 79.5	1.0 / 12.0	-	-	6.4
Main flow (06:01-19:50)	6.10	10:00	5.4	258.3 / 81.2	1.0 / 11.0	-	-	6.4
		15:00	2.7	257.9 / 81.4	1.5 / 10.0	-	-	6.4
		19:00	4.0	254.6 / 81.8	1.4 / 10.5	-	-	6.4

Remarks: The bottomhole pressures are measured at 2609.8 mRKB.  
The flowrate was measured on the tank. The rig heave in combination with the low flowrate makes these measurements fluctating.

Table 5.4 Flowperiods and flow data, 34/7-10

Date	12-83	Auth	B.H.	Appr	B.H.
Drawn by		Plot			

Summary of Flowperiods,  
Production Test no. 2

Event	Date	Time	Flowrate	Bottomhole pressure/temp	Wellhead pressure/temp	GOR	Separator pressure/temp	Choke
		(hrs. min)	(SM <sup>3</sup> /day)	(bar) (deg c)	(bar) (deg C)	(SM <sup>3</sup> /SM <sup>3</sup> )	(bar) (deg C)	(mm)
Main flow	10.10	15:00	99	284.7 / 84.5	2.0 / 11.0	-	-	22.2
	12:56(10.10)-	19:00	254	153.0 / 91.0	9.7 / 12.5	-	-	22.2
	15:30(11.10)	11.10 01:00	187	195.9 / 93.1	22.6 / 12.0	88.6	5.7 / 48	12.7
	10.10	06:00	212	195.1 / 94.1	22.8 / 14.0	78.6	5.7 / 49	12.7
	11.10	12:00	222	194.4 / 94.8	23.0 / 15.0	77.1	5.8 / 52	12.7
		15:30	222	194.1 / 95.0	23.0 / 15.0	77.1	5.8 / 52	12.7
Bottomhole	13.10	03:00	138	276.0 / 93.0	83.0 / 11.0	-	-	4.8
sampling flow		06:00	81	316.9 / 92.6	122.5 / 11.0	-	-	3.2
	23:55 (12.10)-							
	06:30 (13.10)							
	12.10							
	13.10							

Remarks: The bottomhole pressures are measured at 2583.9 mRKB

Table 5.7 Flowperiods and flow data,  
34/7-10

Date	12.87	Auth	RJA	Appr	RJA
Draw by					

**Summary of Flowperiods,  
Production Test no. 3**

Event	Date	Time	Flowrate	Bottomhole pressure/temp	Wellhead pressure/temp	GOR	Separator pressure/temp	Choke
		(hrs. min)	(SM <sup>3</sup> /day)	(bar) (deg c)	(bar) (deg C)	(SM <sup>3</sup> /SM <sup>3</sup> )	(bar) (deg C)	(mm)
Initial flow (01:18-01:28)	17.10	01:28	847	308.7 / 80.5	52.5 / 11.0	-	-	12.7
Main flow	17.10	10:00	821	277.6 / 94.0	86.7 / 32.5	57	19.0 / 55.6	12.7
03:45(17.10)-		14:00	973	300.9 / 94.0	107.5 / 38.5	38	39.4 / 55.0	12.7
06:10(18.10)		18:00	966	300.2 / 94.0	107.0 / 36.5	39	39.2 / 56.0	12.7
		22:00	965	298.5 / 94.5	105.0 / 36.0	47	30.0 / 54.4	12.7
	18.10	02:00	961	298.0 / 95.0	104.8 / 36.0	48	30.8 / 53.9	12.7
		06:00	961	297.9 / 95.0	104.8 / 36.0	47	31.0 / 55.6	12.7
Verification flow 12:21-13:35	19.10	13:30	692	351.9 / 92.0	72.0 / 19.0	51	26.6 / 59.0	12.7

Remark: The bottomhole pressures are measured at 2533.5 mRKB

Table 5.10 Flowperiods and flow data,  
34/7-10

Date	17-8-87	Drawn	Per
Drawn by		Adm.	Per
		Per	Per
		Per	Per

# Summary of Flowperiods, Production Test no. 4

Event	Date Time		Flowrate (SM <sup>3</sup> /day)	Bottomhole pressure/temp (bar) (deg c)		Wellhead pressure/temp (bar) (deg C)		GOR (SM <sup>3</sup> /SM <sup>3</sup> )	Separator pressure/temp (bar) (deg C)		Choke (mm)
	(hrs. min)										
Initial flow 19:45-19:55	21.10	19:55	565	292.7/80.5		2.9/-		-	-		44.5
Main flow	22.10	05:00	395	250.3 / 91.2		66.2 / 18.0		80	15.2 / 55.6		11.1
01:15(22.10)-		08:00	274	297.0 / 91.2		111.5 / 16.0		68	14.5 / 56.7		6.4
09:04(23.10)		12:00	271	298.1 / 91.6		113.0 / 17.0		67	13.0 / 56.7		6.4
		16:00	273	298.2 / 91.7		113.3 / 18.0		68	13.0 / 56.7		6.4
		20:00	273	298.3 / 92.0		113.5 / 19.0		67	13.0 / 56.1		6.4
	23.10	02:00	273	298.3 / 92.2		113.8 / 19.0		69	13.7 / 56.1		6.4
		09:00	273	298.3 / 92.3		113.8 / 19.0		69	14.3 / 55.0		6.4

Remark: The bottomhole pressures are measured at 2516.8 mRKB.

Table 5.13 Flowperiods and flow data,  
34/7-10

Date	14-82	Auth	RBJ
Drawn by		Appr	RCH

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf / Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
860823		.0	1.03										WATER BASED
860824		.0	1.03										WATER BASED
860825		.0	1.03										WATER BASED
860826	36	428.0	1.07										SPUD MUD
860827	36	326.0	1.07										SPUD MUD
860828	36	428.0	1.07										SPUD MUD
860829	36	430.0	1.07										SPUD MUD
860830	17-1/2	730.0	1.11	7	37	24/27	9.5						GEL MUD
860831	17-1/2	918.0	1.13	8	39	30/34	9.5			10000	0.2	8.0	GEL MUD
860901	26	918.0	1.15	9	52	39/42	9.5		480	12000	0.2	9.0	GEL MUD
860902	26	918.0	1.11										GEL MUD
860903	26	918.0	1.11	21	23	2/2	9.5	0.1/0.6	1460	500		4.0	GYP/POLYMER MUD
860904	17-1/2	1323.0	1.11	18	20	2/2	9.1	0.1/0.5	1680	1900	1.0	4.0	GYP/POLYMER MUD
860905	17-1/2	1665.0	1.30	24	30	3/11	9.0	0.1/0.2	1720	2000	1.5	11.0	GYP/POLYMER MUD
860906	17-1/2	1920.0	1.40	29	24	3/9	8.9	0.1/0.3	1600	2500	1.5	14.0	GYP/POLYMER MUD
860907	17-1/2	1920.0	1.45	20	12	2/6	8.8	0.1/0.2	1720	2700	1.0	15.5	GYP/POLYMER MUD
860908	12-1/4	1920.0	1.45	16	10	2/3	8.8	0.1/0.2	1680	2700	1.0	15.5	GYP/POLYMER MUD
860909	12-1/4	1963.0	1.50	19	14	3/14	11.0	0.3/0.7	1500	2800	0.5	17.0	GYP/POLYMER MUD
860910	12-1/4	2058.0	1.50	20	18	3/30	10.8	0.3/0.5	1000	3000	1.0	18.5	GYP/POLYMER MUD
860911	12-1/4	2300.0	1.65	24	18	5/45	9.2	0.1/0.7	1320	4000	1.0	22.5	GYP/POLYMER MUD
860912	12-1/4	2413.0	1.70	35	18	5/55	9.0	0.1/0.6	1600	4000	1.5	23.0	GYP/POLYMER MUD
860913	12-1/4	2522.0	1.70	28	16	3/10	8.0	0.1/0.4		64000	1.0	25.0	KCL MUD
860914	12-1/4	2552.0	1.70	33	16	4/14	8.9	0.0/0.5		60000	1.0	26.0	KCL MUD
860915	12-1/4	2572.0	1.70	28	14	4/12	8.6	0.1/0.5		60000	1.5	25.0	KCL MUD
860916	12-1/4	2578.0	1.70	29	11	3/10	8.6	0.1/0.4		65000	1.0	26.0	KCL MUD
860917	12-1/4	2596.0	1.70	28	15	3/14	8.8	0.1/0.5		62000	1.0	26.0	KCL MUD
860918	12-1/4	2605.0	1.70	33	16	5/18	8.4	0.0/0.4		66000	1.0	26.0	KCL MUD
860919	12-1/4	2617.5	1.70	29	13	4/17	8.5	0.0/0.6		66000	1.0	26.0	KCL MUD
860920	12-1/4	2635.5	1.70	30	18	5/25	8.6	0.0/0.5		62000	1.0	26.0	KCL MUD
860921	12-1/4	2648.5	1.70	27	14	4/22	8.6	0.1/0.5		60000	1.0	26.0	KCL MUD
860922	12-1/4	2663.0	1.70	27	11	4/15	8.4	0.1/0.6	960	60000	1.0	25.0	KCL 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
860923	12-1/4	2700.0	1.70	32	18	4/28	8.6	0.1/0.5	1120	60000	1.0	25.5	KCL MUD
860924	12-1/4	2700.0	1.70	32	18	4/28	8.6	0.1/0.5	1120	60000	1.0	25.5	KCL MUD
860925	12-1/4	2721.0	1.70	29	18	6/30	8.6	0.1/0.5	1000	59000	1.5	25.0	KCL MUD
860926	12-1/4	2823.0	1.70	27	16	5/32	9.1	0.1/0.6	1000	58000	0.5	25.5	KCL MUD
860927	12-1/4	2973.0	1.70	28	16	5/32	9.6	0.1/0.6	780	53000	1.0	26.0	KCL MUD
860928	12-1/4	3000.0	1.71	26	17	5/29	9.7	0.3/0.7	720	50000	1.0	26.0	KCL MUD
860929	12-1/4	3000.0	1.71	29	14	5/24	10.0	0.1/0.6	680	50000	0.5	26.0	KCL MUD
860930	12-1/4	3000.0	1.71	35	19	7/36	9.6	0.1/0.6	720	49000	1.0	26.0	KCL MUD
861001	PB	2770.0	1.70	25	15	3/25	10.3	0.3/1.1	800	47000	0.8	24.5	KCL MUD
861002	PB	2728.0	1.70	28	17	4/30	11.7	0.4/1.1	880	47000	0.5	24.5	KCL MUD
861003	PB	2728.0	1.70	27	18	4/26	10.8	0.7/1.5	800	55000	0.5	24.5	KCL MUD
861004	PB	2724.0	1.70	29	18	4/27	10.9	0.8/1.5	800	55000	0.5	24.5	KCL MUD
861005	PB	2724.0	1.70	29	18	4/27	10.9	0.8/1.5	800	55000	0.5	24.5	KCL MUD
861006	PB	2724.0	1.70	29	18	4/27	10.9	0.8/1.5	800	55000	0.5	24.5	KCL MUD
861007	PB	2724.0	1.70	27	17	4/25	10.6	0.6/1.4	880	55000	0.5	24.5	KCL MUD
861008	PB	2627.0	1.70	24	15	3/17	11.4	0.9/1.6	420	39000	0.2	24.0	KCL MUD
861009	PB	2627.0	1.70	24	15	3/17	11.4	0.9/1.6	420	39000	0.2	24.0	KCL MUD
861010	PB	2627.0	1.70	24	15	3/17	11.4	0.9/1.6	420	39000	0.2	24.0	KCL MUD
861011	PB	2627.0	1.70	24	15	3/17	11.4	0.9/1.6	420	39000	0.2	24.0	KCL MUD
861012	PB	2627.0	1.70	22	16	3/16	11.4	0.9/1.6	420	39000	0.2	24.0	KCL MUD
861013	PB	2627.0	1.70	26	18	3/19	10.7	0.5/1.2	800	34000	0.2	24.0	KCL MUD
861014	PB	2581.0	1.70	31	18	3/17	9.0	0.3/0.7	880	31000	0.2	24.0	KCL MUD
861015	PB	2581.0	1.70	36	17	3/16	10.5	0.5/1.0	900	33000	0.5	23.0	KCL MUD
861016	PB	2581.0	1.70	35	18	3/18	10.5	0.4/1.0	900	35000	0.5	23.0	KCL MUD
861017	PB	2581.0	1.70	35	19	6/18	10.8	0.3/0.7	900	34000	0.5	23.0	KCL MUD
861018	PB	2581.0	1.70	35	19	6/18	10.8	0.3/0.7	900	34000	0.5	23.0	KCL MUD
861019	PB	2581.0	1.70	35	19	6/18	10.8	0.3/0.7	900	34000	0.5	23.0	KCL MUD
861020	PB	2558.0	1.70	34	18	6/15	10.8	0.3/0.7	1000	34000	0.5	23.0	KCL MUD
861021	PB	2558.0	1.70	34	18	6/15	10.8	0.3/0.7	1000	34000	0.5	23.0	KCL MUD
861022	PB	2558.0	1.70	34	18	6/15	10.7	0.3/0.7	1000	34000	0.5	23.0	KCL MUD
861023	PB	2558.0	1.70	34	18	6/15	10.7	0.3/0.7	1000	34000	0.5	23.0	KCL MUD

SAGA PETROLEUM A.S.

6.2.1 MUD PROPERTIES, DAILY REPORT  
Well no: 34/7-10

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf / Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
861024	PB	2558.0	1.70	34	18	6/15	10.7	0.3/0.7		34000	0.5	23.0	KCL MUD
861025	PB	2558.0	1.70	34	18	6/15	10.7	0.3/0.7		34000	0.5	23.0	KCL MUD
861026	PB	1645.0	1.70	34	18	6/15	10.7	0.3/0.7		34000	0.5	23.0	KCL MUD
861027	PB	365.0	1.03										WATER BASED

SAGA PETROLEUM A.S.

6.2.2 MUD MATERIALS USED

Well no: 34/7-10

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	43	355	986	0	1384
BICARBONATE	50 KG	1	0	0	7	0	8
CAUSTIC SODA	25 KG	8	40	5	0	0	53
GYPSSUM	50 KG	0	0	404	40	0	444
LIME	40 KG	3	0	0	0	0	3
KOH -POTASS.	50KG	0	0	0	6	0	6
SODA ASH	50 KG	7	0	0	16	0	23
BENTONITE	M/T	25	39	0	6	0	70
BENTONITE	50 KG	0	0	40	0	0	40
CACL2	25 KG	0	0	0	630	0	630
ANTISDL FL 10	25 KG	0	0	27	130	0	157
ANTISDL FL 30	25 KG	0	0	256	209	0	465
BORREWELL C	25KG	0	0	0	98	0	98
DOWICIL 75	55GAL	0	0	0	2	0	2
MAGCO 101 INH	55 GA	0	0	0	21	0	21
OS-1L	55GAL	0	0	0	1	0	1
XC-POLYMER	25 KG	0	0	23	32	0	55
KCL - SXS	50 KG	0	0	0	300	0	300
KCL - BRINE	BBL	0	0	0	1200	0	1200