

Porosity, horizontal air permeability and grain density were measured on 4 samples per meter. Vertical air permeability, fluid saturation and summation porosity were measured every meter.

Special core analyses have been requested and are now in progress on 47 samples. An overview of the special core analysis program is given in table 5.3.

5.3 Formation Pressure Measurements

A Schlumberger Repeat Formation Tester (RFT) with a Hewlett Packard crystal gauge was used to obtain pressure measurements.

A total of eleven runs with the RFT-tool were made including the intermediate and the final logging run (no. 4 and 6). The measurements are summarized in table 5.4.

The large number of runs were due to tool failures and sealing problems while sampling. Three segregated samples were recovered, see table 5.9.

As seen from the formation pressure plot versus depth (fig. 5.1) a common oil gradient of 0.073 bar/m has been drawn through the Statfjord and Lunde formations. Assuming pressure communication between the two formations, extrapolation gives an oil/water contact at 2610 m RKB. The pressure in the Statfjord Formation was measured to 377.06 bar at 2418 m RKB.

5.4 Testing

Three drill stem tests were performed, one in the Upper Lunde Formation and two in the Statfjord Formation. All three tests produced clean oil. The tested intervals were:

DST No. 1: 2601.0 - 2607.5 m RKB, Upper Lunde
DST No. 2: 2505.0 - 2513.0 m RKB, Lower Statfjord
DST No. 3: 2440.5 - 2440.0 m RKB, Upper Statfjord

(The depth refers to the LDT-CNL log of 4th November 1984, run no. 5C).

The objectives of the tests were to:

- Sample reservoir fluid, and determine if there are any changes in the hydrocarbon composition with depth.
- Estimate reservoir pressure, and confirm that the sands belong to the same pressure regime.
- Evaluate the reservoir properties of different sands in the oil zone.
- Obtain the productivity of zones with different sand quality.
- Confirm the OWC.
- Detect differences in the lateral heterogeneity of the different sand facies.

The test string was, starting from the bottom, made up of:

- Geovann tubing conveyed perforating system.
- Pressure recorders in a F-nipple above the perforating gun and in an open bundle carrier between the packer and the tester valve.
- A Dowel test assembly with a PCT tester valve, M.O.R.V. and S.S.A.R.V. circulating valves and a Positrieve packer.
- 5 inch tubing.
- Expro subsea test tree, lubricator valve and surface test tree.

A standard Expro 1440 test separator was used for separation of gas and liquids.

DST no. 1 (2601.0 - 2607.5 m RKB)

The well was perforated underbalanced and immediately flowed to the surge tank. The initial flow period lasted for 13 minutes and produced 2.35 m^3 of fluid. The flow period was followed by an initial build-up to obtain the reservoir pressure. The well was then opened for the main flow period. The well had, however, to be shut in after six hours of flow due to problems with the choke manifold. It was reopened after 40 minutes and flowed for another 12.5 hours, of which the last eight hours on a 8 mm choke. This flow period was followed by the main build-up.

A sampling flow was performed after the main build-up period to get bottom hole samples.

The gas oil ratio was measured to $28.5 \text{ Sm}^3/\text{Sm}^3$ at separator conditions of 18.2 bar and 14°C .

The main results of the test are listed in table 5.5. The flowrates and bottom hole pressures are shown in fig. 5.2, and the bottom hole pressure data are listed in table 5.6.

DST no. 2 (2505.0 - 2513.0 m RKB)

The well was perforated underbalanced and immediately flowed to the surge tank. The initial flow period lasted for five minutes and produced 1.83 m^3 of fluid. The well was then shut in at the PCT-valve for the initial build-up to obtain the reservoir pressure.

The well was opened for the main flow period, but had to be closed in again after approximately one hour due to excessive heat from the burners.

The well was reopened on a 9.5 mm choke and flowed for approximately seven hours. The choke size was then increased to 11 mm and the well flowed for an additional 17 hours period. This flow was followed by a main build-up.

Monophasic oil samples were collected at the wellhead during the main flow period.

The gas oil ratio was measured to $26 \text{ Sm}^3/\text{Sm}^3$ at separator conditions of 58 bar and 18°C .

The main results of the test are listed in table 5.5. The flowrates and bottom hole pressures are shown in fig. 5.3, and the bottom hole pressure data are listed in table 5.7.

DST no. 3 (2440.5 - 2440.0 m RKB)

The interval was perforated underbalanced and immediately flowed to the surge tank. 8.3 m^3 of fluid was produced during the nine minutes initial flow period. The well was then closed in at the PCT-valve for the initial build-up period.

The well was opened for the main flow period on an 11.1 mm choke and flowed for four hours. The choke size was then increased to 12.7 mm and the well flowed for an additional 20 hours period. This flow was followed by a main build-up.

Monophasic oil samples were taken at the wellhead during the main flow period.

The gas oil ratio was measured to $32 \text{ Sm}^3/\text{Sm}^3$ at separator conditions of 63 bar and 22°C .

The main results of the test are listed in table 5.5. The flowrates and bottomhole pressures are shown in fig. 5.4, and the bottomhole pressure data are listed in table 5.8.

5.5 Fluid Analyses

Two RFT-chambers containing pressurized reservoir oil and one RFT-chamber containing water were collected. Analyses of the fluid from these three RFT-chambers are presented in table 5.9.

In DST no. 2 and DST no. 3 single phase fluid samples were taken during the main flow. The samples were taken at the wellhead since the bubble point pressure of the fluid was below the wellhead flowing pressure. In DST no. 1 a separate sampling flow was performed to obtain bottom hole and wellhead samples.

PVT-analyses have been requested from all three tests. The reports are not received to date. Preliminary data are presented in tables 5.10 and 5.11.

Fig. 5.5 shows in the bubble point pressure versus depth.

A preliminary determination gave initial oil formation volume factor varying between 1.23 - 1.35 m^3/Sm^3 , with the lowest value from DST no. 1 and the highest from DST no. 3. The solution gas oil ratio varies between 61.2 Sm^3/Sm^3 (DST no. 1) and 106.7 Sm^3/Sm^3 (DST no. 3). These data have been obtained from single stage flashing of reservoir fluid to standard conditions (15°C, 1 bar).

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TABLE 5.1: LOG ANALYSIS RESULTS SUMMARY

WELL: 34/7-3

FORMATION	STATFJORD	UPPER LUNDE		MIDDLE LUNDE
	TOTAL	TOP-OWC	OWC-BOTTOM	
TOP DEPTH	2414	2513	2610	3363
BOTTOM (m RKB)	2513	2610	3363	3410 (td)
GROSS (m)	99	97	753	47
NET SAND (m)	56.7	10.7	406.6	3.8
N/G	0.57	0.11	0.54	0.08
ϕ (AVE) %	25.6	20.8	18.2	17.1
S_w (WEIGHTED AVE) %	22.2	61	100	100
CUTOFFS USED:				
ϕ (%)	12	15	15	15
V_{sh} (RATIO)	0.4	0.4	0.4	0.4

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2396.00	21.5	n.m.p.	
2396.25	6.0	0.03	3.4
2396.50	5.9	0.02	
2396.75	21.5	0.31	
2397.00	22.3	0.95	17.1
2397.25	preserved sample		
2397.50	19.5	0.51	
2397.75	20.0	0.78	
2398.00	9.7	0.11	13.7
2398.25	preserved sample		
2398.50	22.0	0.39	
2398.75	20.7	0.38	
2399.00	12.1	0.23	16.3
2399.25	20.6	1.10	
2399.50	20.9	0.54	
2399.75	20.9	0.52	
2400.00	21.7	0.61	21.2
2400.25	21.6	0.65	
2400.50	20.7	0.55	
2400.75	preserved sample		
2401.00	21.1	1.10	13.7
2401.25	21.2	0.31	
2401.50	21.5	1.10	
2401.75	20.3	0.39	
2402.00	20.1	0.47	14.6
2402.25	19.8	0.53	
2402.50	20.3	0.65	
2402.75	21.1	0.67	
2403.00	21.6	0.60	15.6
2403.25	20.5	0.44	
2403.50	17.4	0.53	
2403.75	18.0	0.50	
2404.00	preserved sample		
2404.25	20.5	0.91	21.5
2404.50	21.1	1.30	
2404.75	18.2	0.46	
2405.00	17.8	0.04	24.6
2405.25	18.5	0.50	
2405.50	20.3	0.52	
2405.75	20.3	0.70	
2406.00	20.4	0.66	20.7
2406.25	preserved sample		
2406.50	19.3	0.40	
2406.75	17.8	0.29	
2407.00	6.1	0.03	1.6

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2407.25	9.6	0.31	
2407.50	19.6	0.56	
2407.75	preserved sample		
2408.00	18.8	0.43	12.6
2408.25	17.9	0.41	
2408.50	17.7	0.27	
2408.75	17.5	0.23	
2409.00	17.4	0.33	17.8
2409.25	17.4	0.31	
2409.50	16.6	0.48	
2409.75	17.7	0.44	
2410.00	17.5	0.43	13.4
2410.25	16.1	0.32	
2410.50	16.2	0.37	
2410.75	16.1	0.33	
2411.00	7.5	0.31	7.6
2411.25	15.2	0.36	
2411.50	14.5	0.23	
2411.75	15.2	0.26	
2412.00	15.5	0.57	21.3
2412.25	n.p.p.		
2412.50	14.9	0.52	
2412.75	6.0	0.28	
2413.00	14.2	0.67	10.1
2413.25	13.1	0.47	
2413.50	n.p.p.		
2413.75	4.0	0.02	
2414.00	16.2	2.00	17.1
2414.25	n.p.p.		
2414.50	n.p.p.		
2414.75	33.6	431.00	
2415.00	31.7	247.00	33.7
2415.25	25.3	37.60	
2415.50	preserved sample		
2415.75	31.5	728.00	
2416.00	33.5	2260.00	27.5
2416.25	30.0	1077.00	
2416.50	n.p.p.		
2416.75	12.4	0.22	
2417.00	29.5	14321.00	20.5
2417.25	28.6	12597.00	
2417.50	29.6	25070.00	
2417.75	28.8	23458.00	
2418.00	30.2	4774.00	11.3
2418.25	30.5	1597.00	

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2418.50	30.7	1539.00	
2418.75	27.8	3599.00	
2419.00	27.3	20714.00	20.1
2419.25	27.0	30849.00	
2419.50	preserved sample		
2419.75	27.4	11201.00	
2420.00	29.3	12248.00	19.4
2420.25	31.1	16397.00	
2420.50	28.5	14595.00	
2420.75	23.8	19917.00	
2421.00	35.1	24346.00	22.7
2421.25	preserved sample		
2421.50	30.3	18059.00	
2421.75	n.p.p.		
2422.00	"		
2422.25	"		
2422.50	"		
2422.75	"		
2423.00	"		
2423.25	20.4	8.10	20.2
2423.50	22.6	9.40	
2423.75	preserved sample		
2424.00	25.0	266.00	
2424.25	29.6	308.00	29.3
2424.50	n.p.p.		
2424.75	"		
2425.00	"		
2425.25	"		
2425.50	"		
2425.75	26.5	186.00	
2426.00	27.0	672.00	27.8
2426.25	26.5	583.00	
2426.50	25.0	449.00	
2426.75	27.6	1554.00	
2427.00	25.9	1066.00	15.7
2427.25	preserved sample		
2427.50	28.2	1767.00	
2427.75	26.4	669.00	
2428.00	25.5	318.00	21.3
2428.25	27.9	440.00	
2428.50	27.8	345.00	
2428.75	24.2	517.00	
2429.00	preserved sample		
2429.25	n.p.p.		
2429.50	"		

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2429.75	n.p.p.		
2430.00	"		
2430.25	"		
2430.50	"		
2430.75	preserved sample		
2431.00	n.p.p.		
2431.25	"		
2431.50	"		
2431.75	"		
2432.00	"		
2432.25	25.1	34.40	27.3
2432.50	27.4	1187.00	
2432.75	26.8	997.00	
2433.00	27.3	1070.00	29.7
2433.25	n.p.p.		
2433.50	"		
2433.75	"		
2434.00	"		
2439.00	6.1	0.05	
2439.25	13.8	0.71	
2439.50	9.0	0.09	
2439.75	11.0	0.53	
2440.00	9.6	0.13	2.3
2440.25	13.2	n.m.p.	
2440.50	2.6	0.04	
2440.75	3.1	0.06	
2441.00	25.2	502.00	6.2
2441.25	28.4	353.00	
2441.50	30.9	408.00	
2441.75	30.8	509.00	
2442.00	28.9	410.00	23.1
2442.25	30.9	551.00	
2442.50	26.4	102.00	
2442.75	preserved sample		
2443.00	29.9	502.00	27.0
2443.25	21.4	49.00	
2443.50	26.4	102.00	
2443.75	26.8	945.00	
2444.00	26.2	70.50	22.7
2444.25	25.7	976.00	
2444.50	preserved sample		
2444.75	27.7	802.00	

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2445.00	27.0	215.00	27.4
2445.25	29.9	659.00	
2445.50	preserved sample		
2445.75	29.8	550.00	
2445.00	n.p.p.		30.6
2446.25	preserved sample		
2446.50	26.2	407.00	
2446.75	31.3	1062.00	
2447.00	27.6	385.00	30.3
2447.25	30.9	772.00	
2447.50	31.1	742.00	
2447.75	30.8	472.00	
2448.00	32.4	722.00	21.1
2448.25	31.3	786.00	
2448.50	31.0	998.00	
2448.75	26.6	783.00	
2449.00	n.p.p.		12.3
2449.25	13.1	0.35	
2449.50	n.m.p.		
2449.75	10.4	0.49	
2450.00	n.p.p.		
2450.25	"		
2450.50	"		
2450.75	"		
2451.00	10.5	0.24	4.5
2451.25	14.5	n.m.p.	
2451.50	12.0	1.60	
2451.75	12.5	0.68	
2452.00	11.5	4.40	1.9
2452.25	n.p.p.		
2452.50	"		
2452.75	"		
2453.00	"		
2453.25	n.m.p.	n.m.p.	6.7
2453.50	"	"	
2453.75	17.5	10.30	
2454.00	n.p.p.		
2454.25	"		
2454.50	"		
2454.75	"		5.6
2455.00	16.1	n.m.p.	
2455.25	n.p.p.		
2455.50	"		
2455.75	12.1	1.90	

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2455.00	22.5	66.80	20.9
2456.25	n.p.p.		
2456.50	"		
2456.75	"		21.6
2457.00	"		
2457.25	30.0	2067.00	
2457.50	31.4	504.00	
2457.75	31.4	370.00	
2458.00	n.p.p.		
2458.25	"		
2458.50	"		
2458.75	"		
2459.50	n.p.p.		
2459.75	31.1	581.00	
2460.00	25.7	275.00	28.6
2460.25	27.4	441.00	
2460.50	14.5	3.50	
2460.75	23.1	84.30	
2461.00	19.0	107.00	21.0
2461.25	20.5	137.00	
2461.50	17.7	68.30	
2461.75	25.9	558.00	
2462.00	n.p.p.		25.2
2462.25	24.4	599.00	
2462.50	20.1	2.90	
2462.75	27.2	376.00	
2463.00	26.4	108.00	19.0
2463.25	preserved sample		
2463.50	26.6	702.00	
2463.75	26.3	378.00	
2464.00	26.9	455.00	32.1
2464.25	27.7	5591.00	
2464.50	29.1	2342.00	
2464.75	26.5	566.00	
2465.00	preserved sample		
2465.25	26.4	603.00	15.9
2465.50	22.4	31.90	
2465.75	25.1	217.00	
2466.00	21.4	10.60	21.7
2466.25	16.7	0.50	
2466.50	27.6	740.00	
2466.75	27.4	524.00	21.9
2467.00	n.p.p.		
2467.25	"		
2467.50	"		
2467.75	preserved sample		

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2469.00	n.p.p.		
2469.25	27.5	280.00	23.9
2469.50	28.4	427.00	
2469.75	24.8	222.00	
2470.00	20.5	68.40	
2470.25	28.6	426.00	21.6
2470.50	28.5	535.00	
2471.00	preserved sample		
2471.25	28.8	1163.00	26.3
2471.50	28.1	527.00	
2471.75	n.p.p.		
2472.00	"		
2472.25	"		
2472.50	"		
2472.75	"		
2473.00	9.0	0.24	0.0
2473.25	20.5	51.50	
2473.50	16.7	3.50	
2473.75	13.4	1.90	
2474.00	25.1	132.00	31.3
2474.25	30.5	350.00	
2474.50	29.6	265.00	
2474.75	28.8	294.00	
2475.00	30.2	342.00	27.1
2475.25	28.9	277.00	
2475.50	30.2	309.00	
2475.75	29.5	313.00	
2476.00	29.7	312.00	26.8
2476.25	29.5	330.00	
2476.50	31.0	527.00	
2476.75	30.2	254.00	
2477.00	29.5	182.00	36.4
2477.25	26.6	58.60	
2477.50	29.3	17.60	
2477.75	29.2	121.00	
2478.00	28.4	205.00	45.4
2478.25	n.p.p.		
2478.50	"		
2478.75	"		
2479.00	"		
2479.25	15.5	3.50	16.5
2479.50	n.m.p.		
2479.75	15.9	1.70	

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2480.00	n.p.p.		
2480.25	"		
2480.50	22.6	6.30	14.8
2480.75	preserved sample		
2481.00	26.0	59.40	
2481.25	n.p.p.		
2481.50	"		
2481.75	27.9	466.00	
2482.00	26.7	655.00	26.8
2482.25	25.3	175.00	
2482.50	20.8	32.70	
2482.75	n.p.p.		
2483.00	"		
2483.25	"		
2483.50	"		
2484.75	n.p.p.		
2485.00	"		
2485.25	"		
2485.50	"		
2485.75	"		
2486.00	n.p.p.		
2486.25	"		
2486.50	"		
2486.75	"		
2487.75	n.p.p.		
2488.00	"		
2488.25	"		
2488.50	8.2	1.30	
2488.75	n.p.p.		
2489.00	"		1.7
2489.25	10.3	5.00	
2489.50	7.2	n.m.p.	
2489.75	8.2	"	
2490.00	n.m.p.	"	0.4
2490.25	10.3	1.70	
2490.50	11.5	2.10	
2490.75	12.2	3.50	
2491.00	11.3	0.98	0.0
2491.25	11.0	1.50	
2491.50	n.p.p.		
2491.75	3.9	1.20	
2492.00	3.9	1.10	0.5
2492.25	7.8	n.m.p.	
2492.50	12.7	1.20	
2492.75	12.7	0.48	
2493.00	11.4	0.82	0.4
2493.25	10.5	0.71	
2493.50	9.8	n.p.p.	
2493.75	7.7	"	

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2494.00	10.9	0.08	7.4
2494.25	9.5	0.20	
2494.50	9.5	0.73	
2494.75	n.p.p.		
2495.00	"		
2495.25	11.3	n.m.p.	0.0
2495.50	n.p.p.		
2495.75	"		
2496.00	"		
2496.25	"		
2496.50	"		
2496.75	"		
2497.00	7.8	0.44	7.4
2497.25	n.p.p.		
2497.50	11.7	0.49	
2497.75	9.4	0.57	
2498.00	11.4	1.10	0.0
2498.25	n.p.p.		
2498.50	12.0	0.47	
2498.75	n.p.p.		
2499.00	"		
2499.25	10.5	2.40	
2499.50	17.7	3.10	
2499.75	11.7	0.64	
2500.00	n.p.p.		
2500.25	10.9	0.49	
2500.50	15.5	2.50	
2500.75	8.7	0.47	
2501.00	22.8	33.40	15.0
2501.25	22.9	33.30	
2501.50	n.p.p.		
2501.75	"		
2502.00	18.7	2.70	0.4
2502.25	15.5	2.20	
2502.50	n.p.p.		
2502.75	"		
2503.00	"		0.5
2503.25	"		
2503.50	"		
2503.75	preserved sample		
2504.00	16.7	6.10	11.0
2504.25	16.1	4.50	
2504.50	n.p.p.		
2504.75	"		
2505.00	"		
2505.25	16.3	2.30	
2505.50	n.p.p.		

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORIZONTAL AIR		OIL
		PERMEABILITY (mD)	SATURATION (%)	
2506.50	n.p.p.			
2506.75	"			
2507.00	29.0	401.00		22.4
2507.25	27.9	292.00		
2507.50	preserved sample			
2507.75	29.4	276.00		
2508.00	30.7	445.00		21.9
2508.25	36.1	625.00		
2508.50	30.5	351.00		
2508.75	28.7	347.00		
2509.00	30.7	578.00		26.4
2509.25	preserved sample			
2509.50	31.6	1016.00		
2509.75	31.5	738.00		
2510.00	33.2	244.00		17.4
2510.25	26.6	183.00		
2510.50	n.p.p.			
2510.75	31.1	440.00		
2511.00	31.4	417.00		13.5
2511.25	30.1	270.00		
2511.50	31.1	466.00		
2511.75	31.7	619.00		
2512.00	30.6	453.00		15.7
2512.25	30.1	429.00		
2512.50	28.9	305.00		
2512.75	19.2	8.20		
2513.00	25.7	304.00		23.4
2513.25	3.9	0.26		
2513.50	2.6	0.08		
2513.75	preserved sample			
2514.00	23.8	83.40		19.5
2514.25	24.4	42.10		
2514.50	14.7	18.60		
2514.75	n.p.p.			
2515.00	"			
2515.25	"			
2515.50	"			
2515.75	10.5	0.58		
2516.00	10.9	1.40		0.0
2516.25	n.p.p.			
2516.50	9.9			
2516.75	9.6	1.30		
2517.00	10.1	0.63		0.0
2517.25	10.6	0.80		
2517.50	7.9	0.91		
2517.75	n.p.p.			
2518.00	10.9	0.55		0.6

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORIZONTAL AIR	OIL
		PERMEABILITY (mD)	SATURATION (%)
2519.00	n.p.p.		
2519.25	9.7	0.14	1.1
2519.50	14.1	n.m.p.	
2519.75	20.3	8.00	
2520.00	13.9	0.69	
2520.25	14.8	n.m.p.	17.6
2520.50	15.3	0.92	
2520.75	16.6	n.m.p.	
2521.00	16.3	1.30	6.4
2521.25	15.6	n.m.p.	
2521.50	9.2	"	
2521.75	10.1	"	
Cored interval 2522.0 - 2527.0 n.p.p.			
2527.50	n.p.p.		
2527.75	"		
2528.00	"		
2528.25	12.6	n.m.p.	
2549.50	8.1	0.68	26.0
2549.75			
2550.00	9.0	1.00	
Cored interval 2550.25 - 2553.75 n.p.p.			
2606.00	n.p.p.		
2606.25	26.0	48.10	13.1
2606.50	30.9	125.00	
2606.75	23.4	46.40	
2607.00	27.5	60.50	15.9
2607.25	26.7	14.60	
2607.50	7.2	0.30	
2607.75	18.3	0.42	
2608.00	n.p.p.		
2608.25	"		0.0
2608.50	11.5	0.15	
2608.75	n.p.p.		
2609.00	"		0.4
2609.25	11.4	n.m.p.	
2609.50	15.6	0.47	
2609.75	15.1	n.m.p.	
2610.00	n.m.p.	"	0.0
2610.25	11.9	0.13	
2610.50	12.1	n.m.p.	
2610.75	13.7	"	
2611.00	16.1	"	0.0
2611.25	15.9	"	
2611.50	n.p.p.		
2611.75	"		
2612.00	14.5	n.m.p.	0.0
2612.25	13.3	0.09	
2612.50	13.2	0.11	
2612.75	13.6	0.17	

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2613.00	13.8	n.m.p.	0.0
2613.25	13.1	0.09	
2613.50	12.6	0.07	
2613.75	7.9	0.02	
2614.00	12.5	0.98	
2614.25	13.9	0.23	0.0
2614.50	n.p.p.		
2614.75	14.8	0.11	
2615.00	15.3	0.09	0.0
2615.25	13.6	0.07	
2615.50	15.5	0.21	
2615.75	n.p.p.		
2616.00	17.7	0.41	0.0
2616.25	15.8	0.14	
2616.50	19.3	0.53	
2616.75	17.4	0.56	
2617.00	17.6	0.56	0.0
2617.25	16.3	0.33	
2617.50	16.0	0.37	
2617.75	17.4	0.30	
2618.00	20.7	0.59	0.0
2618.25	19.0	0.47	
2618.50	20.6	0.74	
2618.75	24.1	1.90	
2619.00	22.1	0.87	0.0
2619.25	22.3	1.40	
2619.50	23.8	1.70	
2619.75	25.2	4.00	
2620.00	25.8	9.70	5.4
2620.25	26.4	17.50	
2620.50	26.2	10.60	
2620.75	27.4	33.00	
2621.00	27.2	20.40	0.5
2621.25	27.8	33.60	
2621.50	27.9	33.60	
2621.75	28.9	43.70	
2622.00	13.4	9.80	8.2
2622.25	28.2	45.90	
2622.50	17.5	1.60	
2622.75	12.1	0.36	
2625.00	n.p.p.		0.0
2625.25	"		
2625.50	"		
2625.75	"		

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2626.00	10.5	n.m.p.	0.0
2626.25	11.5	"	
2626.50	11.1	0.43	
2626.75	10.6	0.53	
2627.00	13.7	1.20	0.0
2627.25	17.2	n.m.p.	
2627.50	26.1	31.10	
2627.75	25.3	48.80	
2628.00	27.5	56.20	9.6
2628.25	27.5	13.50	
2628.50	27.5	7.50	
2628.75	21.5	9.90	
2629.00	13.2	1.40	0.0
2629.25	preserved sample		
2629.50	25.5	2790.00	
2629.75	26.5	2088.00	
2630.00	28.5	20.60	0.0
2630.25	29.7	38.20	
2630.50	28.4	28.90	
2630.75	28.5	30.50	
2631.00	24.1	2.50	0.3
2631.25	25.5	3.70	
2631.50	25.7	3.00	
2631.75	20.8	2.50	
2632.00	24.8	10.30	0.3
2632.25	24.2	5.20	
2632.50	29.3	592.00	
2632.75	28.7	158.00	
2633.00	29.6	90.30	0.3
2633.25	29.1	107.00	
2633.50	25.5	3.10	
2633.75	27.7	104.00	
2634.00	26.4	24.70	0.3
2634.25	27.7	17.80	
2634.50	27.2	11.90	
2634.75	26.5	59.20	
2635.00	5.8	0.04	0.0
2635.25	19.1	5.50	
2635.50	26.7	69.30	
2635.75	24.6	21.00	
2636.00	25.4	40.60	0.4
2636.25	26.0	47.90	
2636.50	27.4	111.00	
2636.75	30.4	553.00	

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TABLE 5.2: CONVENTIONAL CORE ANALYSIS

WELL: 34/7-3

DRILLERS DEPTH (m)	POROSITY (%)	HORISONTAL AIR PERMEABILITY (mD)	OIL SATURATION (%)
2637.00	27.5	579.00	0.3
2637.25	29.8	548.00	
2637.50	20.3	61.60	
2637.75	28.7	396.00	
2638.00	29.0	244.00	0.0
2638.25	27.2	47.50	
2638.50	27.4	79.70	
2638.75	21.4	35.60	
2639.00	17.5	1.60	0.0
2639.25	23.3	15.40	
2639.50	20.1	9.00	
2639.75	22.4	22.30	
2640.00	13.5	0.69	0.0
2640.25	17.6	0.15	
2640.50	11.0	0.07	
2640.75	19.8	0.55	
2641.00	n.p.p.		
2641.25	10.2	n.m.p.	0.0
2641.50	18.9	1.30	
2641.75	9.9	n.m.p.	
2642.00	n.p.p.		
2642.25	"		
2642.50	"		
2642.75	"		
2643.00	"		
2643.25	"		

n.p.p. = no plug possible
n.m.p. = no measurement possible

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TABLE 5.3:

THE SPECIAL CORE
ANALYSIS PROGRAM

WELL:

34/7-3

	number of samples
- Water permeability	36
- Formation factor at room conditions	14
- Resistivity index at room conditions	14
- Confining pressure measurement of porosity, permeability and formation factor	10
- Capillary pressure	
a) porous plate method	21
b) centrifuge method	6
c) mercury injection method	6
- Relative permeability	
a) water/oil, unsteady state at room cond.	21
b) water/oil, unsteady state at reservoir cond.	7
c) water/oil, steady state at room cond.	4
d) gas/oil, unsteady state at room cond.	10
- Trapped gas measurements	14
- Grain size distribution	10

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TABLE 5.4: FORMATION PRESSURE MEASUREMENTS

WELL: 34/7-3

page 1 of 3

DEPTH (m RKB)	HYDROSTATIC MUD PRESSURE (psi)		MEASURED FORMATION PRESSURE (psi)	TEMPERATURE CORRECTED FORMATION PRESSURE (psia) (bar)	
	Run 4A	28. Oct. 84	135°F		
2386.0	5923		lost seal		
2389.5	5933		5597	5597.0	385.89
Run 4B	29. Oct. 84	157°F			
2392.5	5932		5510	5510.0	379.90
2400.0	5952		tight		
2408.0	5971		tight		
2418.0	5996		5468.8	5468.8	377.06
2428.0	6020		5479.0	5479.0	377.76
2442.0	6055		5495.1	5495.1	378.87
2448.0	6070		5499.7	5499.7	379.19
2462.0	6105		5514.3	5514.3	380.20
2470.0	6124		5522.7	5522.7	380.78
2477.0	6142		5529.9	5529.9	381.27
2482.0	6155		5535.0	5535.0	381.62
2506.4	6216		5560.9	5560.6	383.39
2511.0	6228		5565.7	5565.7	383.74
2521.7	6253		tight		
2523.5	6259		tight		
2536.9	6288		tight		
Run 5C	Nov. 84	135°F			
2417.4	5917		5467.7	5467.7	576.98
2427.5	5941		5478.0	5478.0	377.69
2448.0	5994		5500.6	5500.6	379.25
2470.0	6045		5523.6	5523.6	380.84
2506.0	6133		5559.5	5559.5	383.31
2547.9	6233		5610.4	5610.4	386.82
2601.5	6366		tight		
2603.4	6368		5663.6	5663.6	390.49
2604.9	6374		5665.1	5665.1	390.59
2606.9	6378		5667.5	5667.5	390.76
2620.9	6413		5685.7	5685.7	392.01
2626.9	6426		5695.3	5695.3	392.68
2634.9	6445		5703.3	5703.3	393.23

CONVERSIONS

1. bar 14.5038 psi
 1 g/cc 8.34523 ppg
 1 kg/cm² 14.2233 psi

Schlumber RFT
 HP crystal gauge
 KB 25m

DATE 4.6.85	AUTH SKL
DRAW BY ASa	APPR.
REF	

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TABLE 5.4: FORMATION PRESSURE MEASUREMENTS

WELL: 34/7-3

page 2 of 3

DEPTH (m RKB)	HYDROSTATIC MUD PRESSURE (psi)		MEASURED FORMATION PRESSURE (psi)	TEMPERATURE CORRECTED FORMATION PRESSURE (psia) (bar)	
	2644.9	6469	5717.6	5717.6	394.21
2680.9	6555	5775.0	5775.0	398.17	
2687.4	6570	5783.2	5783.2	398.74	
2697.9	6595	5793.8	5793.8	399.47	
2714.9	6635	5818.2	5818.2	401.15	
2721.9	6652	tight			
2734.3	6682	tight			
2605.0	6372	5664.9	5664.9	390.58	
2605.4	6371	5665.8	5665.8	390.64	
2605.3	6372	5665.2	5665.2	390.60	
2606.5	6377	5666.7	5666.7	390.70	
2506.0	6129	5559.9	5559.9	383.34	
2418.1	5913	tight			
Run 5D	6. Nov. 84	146°F			
2604.9	6370	5666.4	5666.4	390.68	
2604.0	6366	5664.8	5664.8	390.57	
Run 5E	6. Nov. 84	164°F			
2605.5	6366	lost seal			
2605.0	6364	5665.2	5665.2	390.60	
2603.2	6359	5664.0	5664.0	390.52	
2568.0	6272	lost seal			
2614.0	6382	tight			
2638.9	6443	lost seal			
2640.9	6449	5712.5	5712.5	393.86	
2706.8	6234	tight			
2708.2	6610	5812.0	5812.0	400.72	
2709.5	6614	5814.9	5814.9	400.92	
2710.5	6615	5818.5	5818.5	401.17	
2506.2	6124	5560.1	5560.1	383.36	
2507.1	6125	5561.3	5561.3	383.44	
Run 5F	7. Nov. 84	170°F			
2605.5	6360	5665.7	5665.7	390.64	
Run 5G	7. nov. 84	165°F			
2506.5	6120	lost seal			
2507.0	6119	tight			
2506.0	6119	tight			
2506.0	6116	5559.0 *		383.28	
Run 5H	7. Nov. 84	165°F			
2418	5905	5469.2		377.09	

* Sample shut in

CONVERSIONS

1. bar 14.5038 psi
 1 g/cc 8.34523 ppg
 1 kg/cm² 14.2233 psi

Schlumber RFT
 HP crystal gauge
 KB 25m

DATE: 14.6.85	AUTH: SKC
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TABLE 5.4: FORMATION PRESSURE MEASUREMENTS

WELL: 34/7-3

page 3 of 3

DEPTH (m RKB)	HYDROSTATIC MUD PRESSURE (psi)	MEASURED FORMATION PRESSURE (psi)	TEMPERATURE CORRECTED FORMATION PRESSURE (psia) (bar)	
Run 5I 7. Nov. 84	165°F			
2475	6041	5526.0 *		381.00
Run 5J 7. Nov. 84	184°F			
2624.2	6396	lost seal		
2620.4	6394	lost seal		
2621.0	6395	lost seal		
2626.5	6435	lost seal		
Run 5K 22. Nov. 84	191°F			
2776.0	6304	5905.7	5905.7	407.18
2812.0	6386	5959.0	5959.0	410.86
2836.0	6437	5993.2	5993.2	413.22
2876.4	6528	6052.2	6052.2	417.28
2901.0	6584	6090.3	6090.3	419.89
2927.0	6642	lost seal		

* Sample shut in

Hydrostatic after is reported
Pretest pressures reported

Hewlett Packard crystal gauge
on Schlumberger repeat formation
tester

Strain gauge values no reported,
but values approx. HP + 10 PSI

CONVERSIONS

1 bar 14.5038 psi
1 g/cc 8.34523 ppg
1 kg/cm² 14.2233 psi

Schlumber RFT
HP crystal gauge
KB 25m

DATE 14.6.85	AUTH. SKL
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TABLE 5.5: MAIN TEST RESULTS

WELL: 34/7-3

	DST no. 1	DST no. 2	DST no.3
Duration (main flow)	18.5	24.0	24.0
Oil Rate (Sm ³ /day)	293	666	1390
Gas Oil Ratio (Sm ³ /Sm ³)	28.5	26.0	32.0
Choke size (mm)	8	11	12.7
Separator Pressure (bar)	18	58	63
Separator Temperatur (°C)	14	18	22
Wellhead Pressure (bar)	91	118	167
Bottom Hole Pressure (bar)	282	300	356
Productivity Index (Sm ³ /bar/day)	2.7	8	59

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TABLE 5.6: BOTTOM HOLE PRESSURE DATA
DST NO. 1
WELL: 34/7-3

MEASURED PRESSURE DATA

GAUGE NUMBER

4.3.

TIME (HRS)	PRESSURE (PSIG)	TIME (HRS)	PRESSURE (PSIG)
12.592	5171.420	22.425	5341.510
13.333	4666.260	1.625	5369.270
16.250	4210.670	4.825	5392.210
16.750	4139.850	8.025	5411.790
17.500	4112.890	11.225	5428.090
18.167	3831.150	14.425	5441.840
18.850	5193.190		
19.767	4230.160		
22.017	4612.210		
23.367	4160.700		
1.500	4160.190		
4.000	4128.690		
7.483	4093.010		
7.483	4093.010		
7.492	4356.090		
7.500	4594.560		
7.508	4657.330		
7.517	4694.790		
7.525	4721.130		
7.533	4741.420		
7.542	4757.740		
7.550	4771.420		
7.558	4783.000		
7.567	4793.130		
7.575	4802.170		
7.583	4810.250		
7.592	4817.570		
7.600	4824.210		
7.608	4830.430		
7.617	4836.170		
7.625	4841.490		
7.642	4851.110		
7.658	4859.740		
7.675	4867.500		
7.725	4886.980		
7.792	4907.280		
7.925	4936.910		
8.025	4953.950		
8.158	4972.450		
8.558	5013.570		
9.092	5052.330		
9.625	5082.240		
10.158	5106.890		
10.692	5128.170		
11.492	5155.620		
12.025	5171.620		
13.358	5206.140		
15.492	5249.970		
18.158	5292.180		
20.292	5318.960		

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TABLE 5.7: BOTTOM HOLE PRESSURE DATA
DST NO. 2
WELL: 34/7-3

MEASURED PRESSURE DATA

GALUGE NUMBER

TIME (HRS)	PRESSURE (PSIG)	TIME (HRS)	PRESSURE (PSIG)	TIME (HRS)	PRESSURE (PSIG)
10.583	4663.000	16.000	4584.690	18.142	4612.000
10.617	4367.000	16.083	4566.690	18.158	4617.090
10.667	4351.000	16.167	4517.790	18.175	4621.750
10.667	4351.000	16.167	4517.790	18.225	4633.910
10.683	4651.000	16.175	5010.240	18.292	4647.420
10.717	5287.000	16.183	5076.570	18.392	4664.240
10.750	5409.800	16.192	5104.120	18.525	4680.590
10.783	5473.700	16.200	5122.840	18.658	4700.840
10.817	5487.000	16.208	5137.460	18.925	4731.380
10.850	5493.400	16.217	5149.490	19.325	4770.210
10.883	5497.000	16.233	5168.820	19.725	4803.350
10.917	5499.200	16.250	5183.860	19.792	4808.890
10.950	5500.000	16.267	5196.100	20.192	4837.400
11.050	5500.500	16.283	5206.300	20.592	4862.630
11.083	5501.400	16.300	5215.010	20.958	4880.570
11.117	5501.900	16.358	5237.490	21.125	4892.440
11.150	5502.300	16.417	5252.750	22.192	4941.670
11.183	5502.700	16.550	5278.330	22.642	4959.370
11.217	5503.070	16.750	5301.260	23.458	4987.760
11.350	5504.160	17.283	5339.740	0.792	5026.170
11.617	5505.690	17.933	5356.760	1.175	5035.650
12.150	5507.720	17.933	5356.760	3.042	5076.030
12.683	5509.130	20.000	4872.430	5.175	5112.370
13.750	5511.030	21.000	4830.190	7.042	5138.650
13.883	5511.240	22.000	4795.510	10.775	5180.600
13.933	5512.160	23.000	4767.920	12.575	5197.330
14.000	5511.380	0.000	4743.430	17.375	5234.600
14.100	5510.400	0.833	4724.260	21.642	5260.120
14.508	5510.780	2.000	4582.520	0.042	5272.200
15.242	5512.170	3.000	4545.500	2.975	5285.550
15.267	5513.360	4.000	4516.140	4.275	5291.100
15.267	5513.360	5.000	4493.010	5.175	5294.690
15.275	5328.340	6.000	4471.750	8.375	5306.340
15.283	5122.060	7.000	4453.000	8.433	5308.080
15.292	5096.080	8.000	4435.000		
15.300	5061.220	9.000	4419.000		
15.308	5049.830	10.000	4405.250		
15.317	5009.460	12.000	4378.000		
15.325	4941.650	14.000	4356.500		
15.333	4919.750	16.000	4334.100		
15.342	4902.950	17.991	4314.130		
15.350	4887.990	17.992	4314.130		
15.417	4775.090	17.993	4327.480		
15.483	4660.150	18.017	4522.830		
15.550	4558.850	18.025	4541.410		
15.583	4857.510	18.033	4552.650		
15.667	4778.040	18.042	4561.070		
15.750	4641.260	18.050	4568.150		
15.833	4631.800	18.058	4574.150		
15.917	4613.460	18.067	4579.470		
		18.075	4584.240		
		18.083	4588.630		
		18.092	4592.710		
		18.108	4599.940		
		18.125	4606.260		

DATE	14.6.85	AUTH	Beh
DRAW BY	Beh	APPR	
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TABLE 5.8: BOTTOM HOLE PRESSURE DATA
DST NO. 3
WELL: 34/7-3

MEASURED PRESSURE DATA

GAUGE NUMBER

TIME (HRS)	PRESSURE (PSTG)	TIME (HRS)	PRESSURE (PSIG)
18.533	5252.650	7.650	5403.700
18.683	5252.650	7.667	5404.330
18.685	5252.650	7.683	5405.140
18.700	5422.290	7.700	5405.960
18.733	5429.960	7.717	5406.920
18.767	5433.300	7.733	5407.890
18.800	5436.030	7.750	5408.080
18.833	5438.100	7.767	5408.280
18.867	5439.850	7.783	5408.970
18.900	5440.500	7.800	5409.660
18.933	5441.250	7.817	5410.430
18.967	5441.860	7.833	5411.200
19.133	5443.420	7.850	5411.560
19.267	5444.220	7.917	5413.030
19.533	5444.770	8.000	5415.370
20.067	5445.720	8.250	5420.880
20.333	5445.980	8.500	5424.470
6.850	5445.980	9.000	5428.670
6.850	5380.070	10.000	5433.620
7.033	5276.410	11.000	5435.790
8.750	5207.400	12.000	5437.100
10.750	5167.340	13.000	5437.470
11.000	5130.650	14.000	5438.220
11.250	5125.780	15.000	5438.540
12.000	5121.940	16.000	5438.620
15.000	5122.380	17.000	5439.430
18.000	5123.320	19.000	5439.710
22.000	5123.390	20.000	5439.760
23.000	5123.140	22.000	5440.100
3.000	5121.930	0.000	5440.980
7.333	5120.760	2.000	5441.120
7.335	5120.760	4.000	5441.440
7.350	5246.650	8.000	5441.530
7.367	5372.570	11.000	5441.940
7.383	5377.310		
7.400	5382.050		
7.417	5384.510		
7.433	5386.960		
7.450	5388.950		
7.467	5390.930		
7.483	5392.520		
7.500	5394.110		
7.517	5395.430		
7.533	5396.760		
7.550	5398.000		
7.567	5399.230		
7.583	5400.000		
7.600	5400.770		
7.617	5401.920		
7.633	5403.070		

DATE	14.6.85	AUTH.	Beh
DRAW. BY	Beh	APPR.	
REF			

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TABLE 5.9. DATA ON FLUID FROM
THE RFT CHAMBERS
WELL: 34/7-3

DEPTH (m RKB)	CONTENT	P _d OF OIL (BAR)	DENSITY OF RESIDUAL OIL AT 15°C (kg/m ³)	GOR (Sm ³ /Sm ³)
2418	oil	107 at 19.8°C	0.833	109
2475	oil/water/mud	95 at 19.7°C	0.840	98
2605	water * with small amount of oil			

* Chemical analysis showed the water to be contaminated with mudfiltrate.

DATE	14.6.85	AUTH.	JMH
DRAW. BY	Asa	APPR.	
REF			

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TABLE 5.10

PRELIMINARY COMPOSITIONAL
ANALYSES OF RESERVOIR FLUID
34/7-3

WELL:

Component	DST no. 1 mol %	DST no. 2 mol %	DST no. 3 mol %
N ₂	1.13	1.49	1.19
CO ₂	0.15	0.14	0.20
C ₁	19.38	26.25	29.29
C ₂	5.33	7.30	7.39
C ₃	8.04	8.62	8.65
i-C ₄	1.44	1.32	1.28
n-C ₄	5.70	5.20	5.00
i-C ₅	2.30	1.92	1.86
n-C ₅	3.22	2.96	2.85
C ₆	4.33	3.99	3.86
C ₇	6.68	5.85	5.74
C ₈	6.56	5.86	5.76
C ₉	4.25	3.83	3.80
C ₁₀₊	31.49	25.27	23.13
Molecular weight stock tank oil	205	204	203
Density stock tank oil (kg/m ³)	840	836	838
* Molecular weight C ₇₊ fraction	241	240	238
* Density C ₇₊ fraction (kg/m ³)	862	857	860
* These values are calculated.			

DATE 14.6.85	AUTH. JMH
DRAW. BY AS	APPR.
REF	

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TABLE 5.11: PRELIMINARY PVT-DATA

WELL: 34/7-3

DST NO.	P_b [BAR]	APPLIED LAB TEMP. [°C]	GOR * [Sm ³ /m ³]	F.V.F. * AT RESV. PRESSURE	GAS GRAVITY [AIR = 1]
1	90	93.7	61.2	1.23	1.059
2	126	90.0	94.3	1.33	1.005
3	138	87.9	106.7	1.35	0.987

* Measured from single stage flash of reservoir fluid to 1 bar and 15°C.

Other properties on stock tank oil

DST NO.	POUR POINT [°C]	CLOUD POINT [°C]	WAX APPEARANCE POINT [°C]	WAX CONTENT [Wt %]
1	9	34	20.5	9.2
2	9	34	21.0	8.0
3	6	28	22.0	9.7

DATE	14.6.85	AUTH	JMH
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REF			

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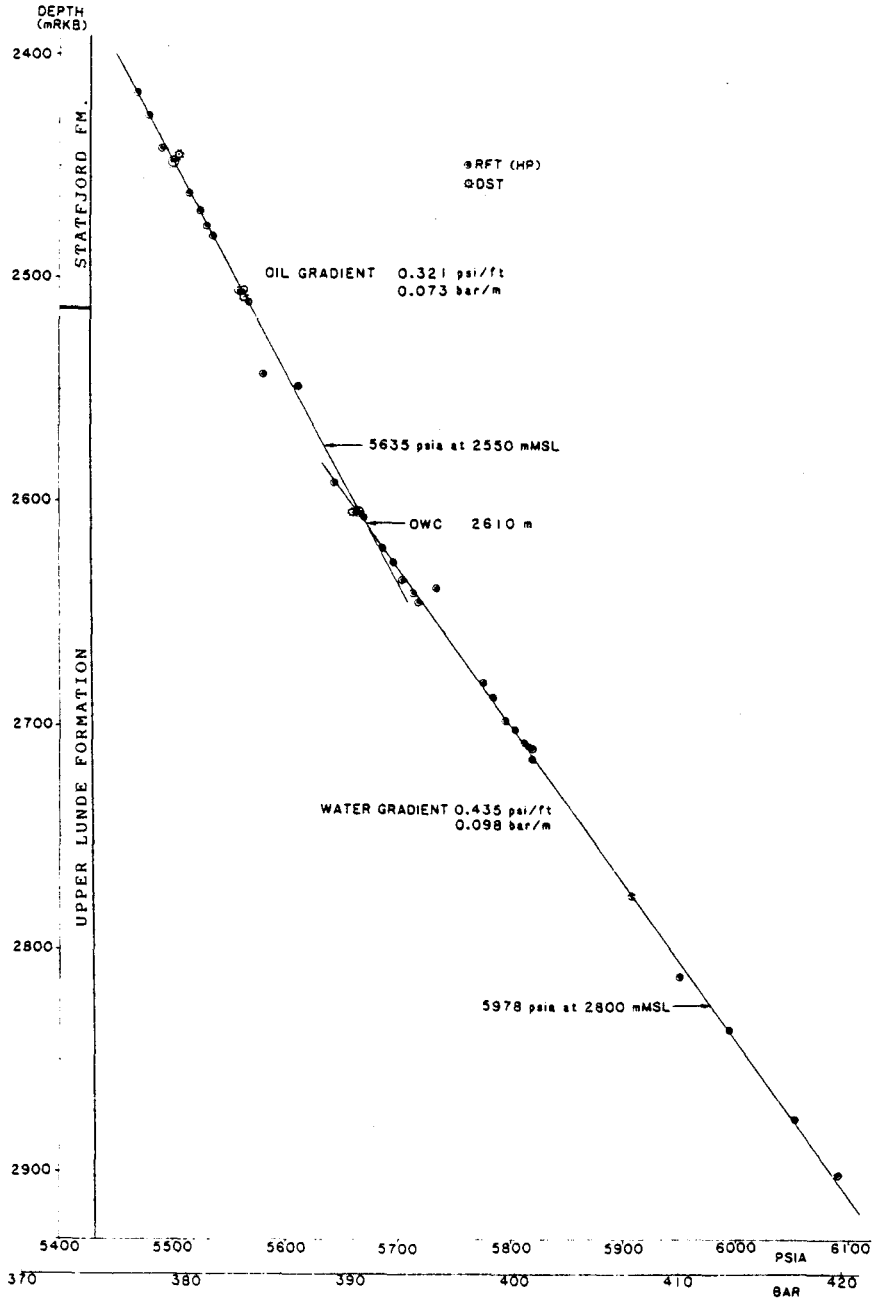


FIG. 5.1:

FORMATION PRESSURE
VERSUS DEPTH

WELL:

34/7-3



DATE	14.6.85	AUTH.	SKL
DRAW. BY	SBN	APPR.	
REF			

6.2.1. Mud Properties, Daily Report

Well no: 34/7-3



DATE	HOLE SIZE INCHES	DEPTH METERS	MUD WEIGHT ppG	P.V.	Y.P.	GEL STRENGTH	n	K	WATER LOSS	pH	ALKALINITY Pf/Mf	Ca+ ppm	CL- ppm	SAND %	SOLIDS %	COMMENTS
13.9.84	36	328	8.8							10.5						Spud mud
14.9.	36	454	8.8							10.5						"
15.9.	36	454	8.7							10.0						Gel mud
16.9.	26	655	8.9	6	32					9.0						"
17.9.	26	1023	9.4	7	31					9.0						"
18.9.	26	1165	9.4	7	32					9.0						"
19.9.	26	1165	9.5	7	31					9.0						"
20.9.	26	1165	9.9	6	30					9.0						"
21.9.	26	1165	10.4	10	34					9.0						"
22.9.	26	1165	10.5	11	35	20/36				8.8						"
23.9.	26	1165	10.5	9	28	16/30				9.0						"
24.9.	26	1165	10.5	8	22	10/21				10.0						"
25.9.	26	1165	10.5	8	22	10/21				10.0						"
26.9.	26	1165	9.4	4	10	2/3			9.3	9.4	0.1/0.4	400	40000		3	KCL-mud
27.9.	26	1165	9.4	4	10	2/3			9.3	9.4	0.1/0.4	400	40000		3	"
28.9.	26	1165	9.4	4	10	2/3			9.3	9.3	0.1/0.4	400	40000		3	"
29.9.	17.5	1165	9.4	7	10	2/2			9.0	9.5	0.1/0.4	400	40000		3	"
30.9.	17.5	1407	9.4	12	19	3/6			6.0	9.6	0.1/0.3	500	45000		6	"
1.10.	17.5	1568	10.4	11	19	3/5			8.0	9.6	0.1/0.3	1100	44000		8	"
2.10.	17.5	1863	11.4	13	20	4/9			11.0	9.2	0.1/0.2	1400	58000	2	10	"
3.10.	17.5	1940	12.2	17	19	4/10			14.6	9.2	0.1/0.2	1460	59000	1	14	"
4.10.	17.5	1940	12.5	18	20	4/13			11.0	9.0	0.1/0.3	1400	65000	.75	16	"
5.10.	17.5	1940	12.5	17	18	4/12			11.8	9.0	0.1/0.3	1420	64000	.75	16	"
6.10.	17.5	1940	12.5	18	20	5/14			12.0	9.0	0.1/0.3	1400	64000	.75	16	"
7.10.	12.25	1940	12.5	19	18	4/12			10.4	9.0	0.1/0.3	1060	60000	.75	16	"
8.10.	12.25	1970	12.5	21	17	4/14			9.9	9.0	0.2/0.6	400	60000	.75	16	"
9.10.	12.25	1988	12.5	20	17	3/16			12.5	11.0	0.3/0.8	540	56000	.75	16	"
10.10.	12.25	2062	12.9	19	20	16/45			17.0	12.1	0.7/1.6	400	58000	.75	18	Squeeze cement
11.10.	12.25	2224	13.9	17	18	10/28			10.0	11.3	0.2/0.7	560	70000	.75	21	
12.10.	12.25	2309	14.0	20	15	5/25			9.8	11.2	0.2/0.6	720	73000	.75	24	
13.10.	12.25	2376	14.4	24	15	6/28			8.6	10.5	0.15/0.4	600	79000	.75	26	
14.10.	12.25	2396	14.4	26	14	6/31			8.5	10.1	0.1/0.4	620	79000	.50	26	

6.2.1.Mud Properties,Daily Report

Well no: 34/7-3

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DATE	HOLE SIZE INCHES	DEPTH METERS	MUD WEIGHT ppg	P.V.	Y.P.	GEL STRENGHT	n	K	WATER LOSS	pH	ALKALINITY PF/MF	Ca+ ppm	CL- ppm	SAND %	SOLIDS %	COMMENTS
15.10.84	12.25	2396	14.4	25	15	7/35			8.5	10.3	0.1/0.4	600	80000	.5	26	
16.10.	12.25	2414	14.4	23	14	5/30			8.8	10.3	0.1/0.4	540	74000	.75	26	Coring
17.10.	12.25	2430	14.4	25	14	4/25			7.8	10.0	0.1/0.4	560	70000	.75	26	"
18.10.	12.25	2447	14.4	24	14	4/27			7.6	9.7	0.1/0.5	580	69000	.5	27	"
19.10.	12.25	2460	14.4	24	14	4/28			7.8	9.8	0.1/0.4	520	69000	.5	27	"
20.10.	12.25	2467	14.4	24	14	4/27			7.2	9.7	0.1/0.5	520	68000	.5	27	"
21.10.	12.25	2471	14.4	24	14	4/28			7.2	9.7	0.1/0.5	520	68000	.5	27	"
22.10.	12.25	2486	14.4	31	16	3/29			5.4	9.8	0.15/1.4	600	64000	.5	26	"
23.10.	12.25	2497	14.4	32	17	3/30			5.2	9.6	0.1/0.9	640	61000	.5	26	"
24.10.	12.25	2506	14.4	30	16	3/32			5.4	9.8	0.1/0.7	480	59000	.5	26	"
25.10.	12.25	2519	14.4	30	16	3/29			5.4	9.8	0.1/1.0	560	59000	.5	26	"
26.10.	12.25	2529	14.4	29	15	3/29			5.4	9.9	0.1/0.9	440	57000	.5	26	"
27.10.	12.25	2547	14.4	29	15	3/30			5.0	10.2	0.2/1.0	340	56000	.25	27	"
28.10.	12.25	2547	14.4	29	15	3/30			5.0	10.1	0.15/0.9	340	56000	.25	27	Logging
29.10.	12.25	2549	14.2	23	14	2/24			5.4	9.5	0.1/0.9	320	52000	.25	27	Drilling
30.10.	12.25	2567	14.2	24	15	3/24			5.4	9.5	0.1/1.5	480	52000	.25	27	"
31.10.	12.25	2610	14.2	24	16	3/26			5.2	9.8	0.1/1.3	480	50000	.25	27	"
1.11.	12.25	2625	14.2	25	15	3/28			5.2	10.0	0.1/1.3	480	50000	1.0	27	Coring
2.11.	12.25	2657	14.2	28	14	4/29			5.2	9.8	0.15/1.1	320	47000	1.0	26	"
3.11.	12.25	2769	14.2	26	12	3/27			5.4	9.5	0.15/1.5	240	40000	1.0	27	Drill to csg. depth
4.11.	12.25	2769	14.2	26	12	3/27			5.4	9.5	0.15/1.5	240	40000	1.0	27	Logging
5.11.	12.25	2769	14.2	26	12	3/27			5.4	9.4	0.15/1.5	300	40000	1.0	27	"
6.11.	12.25	2769	14.2	26	12	3/27			5.4	9.4	0.15/1.5	300	39000	.5	27	"
7.11.	12.25	2769	14.2	26	12	3/27			5.4	9.4	0.15/1.5	300	39000	.5	27	"
8.11.	12.25	2769	14.2	24	12	3/28			5.8	9.0	0.1/1.0	280	37000	.5	27	"
9.11.	12.25	2769	14.2	26	12	3/28			5.8	9.0	0.1/1.0	280	35000	.5	27	Run csg.
10.11.	12.25	2769	14.2	26	12	3/27			5.8	9.0	0.1/1.0	280	35000	.5	27	Cmt. "
11.11.	8.5	2735	14.2	25	12	3/25			5.8	9.1	0.1/0.9	280	34000	.5	27	Drilling
12.11.	8.5	2787	13.6	20	13	4/24			7.4	11.3	0.45/1.6	400	30000	.5	22	"
13.11.	8.5	2846	13.5	20	14	4/22			7.0	11.0	0.4/1.8	280	30000	.5	22	"
14.11.	8.5	2846	13.4	20	14	4/23			6.8	11.0	0.4/1.8	280	30000	.5	22	"
15.11.	8.5	2890	13.4	20	14	3/40			7.0	10.2	0.1/1.2	280	29000	.75	22	"

6.2.1. Mud Properties, Daily Report

Well no: 34/7-3

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DATE	HOLE SIZE INCHES	DEPTH METERS	MUD WEIGHT ppg	P. V.	Y. P.	GEL STRENGHT	n	K	WATER LOSS	pH	ALKALINITY Pf/Mf	Ca+ ppm	CL- ppm	SAND %	SOLIDS %	COMMENTS
16.11.84	8.5	2949	13.4	20	14	3/37			7.2	10.0	0.1/1.0	280	28000	.5	22	Drill
17.11.	8.5	3033	13.4	19	11	3/37			6.2	10.0	0.1/1.1	240	28000	.5	23	"
18.11.	8.5	3102	13.4	22	14	3/37			6.2	9.8	0.1/1.1	240	28000	.5	23	"
19.11.	8.5	3196	13.4	21	14	3/34			6.2	10.1	0.1/1.0	240	27000	.5	23	"
20.11.	8.5	3318	13.4	20	12	3/28			5.8	10.2	0.1/1.3	200	26000	.5	23	"
21.11.	8.5	3368	13.4	20	12	4/31			5.7	9.8	0.1/1.1	200	26000	.5	24	"
22.11.	8.5	3414	13.4	23	12	3/34			5.5	9.8	0.15/1.4	180	26000	.25	24	" , TD
23.11.	8.5	3414	13.4	23	12	3/34			5.5	9.8	0.15/1.4	180	26000	.25	24	Logging
24.11.	8.5	3414	13.4	21	12	3/34			5.5	9.8	0.15/1.4	180	26000	.25	24	"
25.11.	8.5	3414	13.4	20	10	3/28			5.4	9.5	0.15/1.5	180	25000	.25	26	
26.11.	8.5	3414	13.4	20	10	3/29			5.4	9.5	0.1/1.5	180	25000	.25	26	
27.11.	8.5	3414	13.4	20	10	3/29			5.4	9.5	0.1/1.5	180	25000	.25	26	
28.11.	8.5	3414	13.4	24	20	10/40			10.0	12	0.6/1.6	520	25000	.25	26	Plug back
29.11.	-	2737	13.4	23	12	7/39			8.5	11.7	0.5/1.5	540	25000	.25	26	"
30.11.	-	2610	13.5	24	16	7/39			8.5	11.7	0.5/1.5	540	25000	.25	26	"
1.12.	-	2610	13.5	24	16	8/40			8.5	11.0	0.5/1.5	540	25000	.25	26	Test
2.12.	-	2610	13.5	24	16	8/40			8.5	11.0	0.5/1.5	540	25000	.25	26	"
3.12.	-	2610	14.2	26	12	4/15			10.5	10.5	0.2/1.0	540	21000	.25	26	"
4.12.	-	2610	13.4	25	5	4/18			16.0	10.3	0.1/0.8	540	21000	.25	26	"
5.12.	-	2610	14.2	24	3	3/15			16.0	10.2	0.1/0.8	540	21000	.25	26	"
6.12.	-	2610	14.2	24	3	3/16			16.0	10.0	0.1/0.8	540	21000	.25	26	"
7.12.	-	2610	14.2	16	13	9/25			15.0	10.4	0.1/0.8	540	21000	.25	26	"
8.12.	-	2610	14.2	16	13	4/19			13.0	10.4	0.2/1.1	540	21000	.25	26	"
9.12.	-	2585	14.2	16	13	4/18			13.0	10.4	0.2/1.2	550	21000	.25	26	"
10.12.	-	2585	14.2	13	15	5/27			12.0	11.5	0.25/1.0	400	21000	.25	27	"
11.12.	-	2557	14.2	21	12	4/30			11.0	11.5	0.25/1.0	400	21000	.25	27	"
12.12.	-	2557	14.2	16	6	4/35			8.0	10.9	0.25/1.0	400	21000	.25	29	"
13.12.	-	2557	14.2	17	14	3/31			7.0	10.8	0.25/1.0	400	21000	.25	29	"
14.12.	-	2519	14.2	17	14	3/30			6.8	10.8	0.25/1.0	400	21000	.25	29	"
15.12.	-	2519	14.2	17	31	15/50			16.0	10.0	0.1/0.6	2720	18000	.25	29	"
16.12.	-	2519	14.2	18	27	9/37			16.0	10.0	0.1/0.7	1950	18000	.25	29	"
17.12.	-	2519	14.2	23	17	2/25			10.0	10.0	0.1/0.8	1200	18000	.25	29	"

1-127

6.2.2 Mud Materials used

Well no: 34/7-3

Saga
Petroleum a.s.



MATERIAL	UNIT	36" HOLE	26" HOLE	17 1/2" HOLE	12 1/4" HOLE	8 1/2" HOLE	Testing	TOTAL
Barite	m/T		194	397	524	81	412	1608
Bentonite	M/T	26	88			14	14	142
Bicarbonate of Soda	50 kg			4	49	3	11	67
CaI ₂	25 kg						1450	1450
Caustic Soda	25 kg	4	16		80	50	11	161
Drispac reg.	50 lbs			6	50		12	68
Drispac S/L	50 lbs				140	4	36	180
KCL	50 kg			2000	800			2800
LD-8	5 gal		2	3			3	8
Ligcon	25 kg				98	67	10	175
Muddetergent	200 ltrs				2			2
Milpolymer 302	25 kg			157	38		1	196
Permalose	25 kg			302	98			400
Pro. defoamer	25 ltrs			2	4	1	2	9
Pot. Hydroxide	25 kg			11				11
Pro-Pol L/V	25 kg			31			2	33
Pro. Pol reg.	25 kg		8	62			12	82
Soduim Sulfite	25 kg			2				2
Unical	25 kg				249	208	45	502
WD 21	25 kg		4	2			6	12
Bentonite	50 kg			35			1	36
Hydrokem C-150-A	200 ltrs			1				1
Soda Ash	50 kg	5	14	8	13		20	60