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Final Report

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Water permeability, fluid saturations by Dean & Stark.
Formation resistivity factor.

TABLE OF CONTENTS

- 1. WELL INFORMATION , FLOWCHART AND CORE ANALYSIS PROGRAMME**
- 2. ANALYSIS PROCEDURES**
- 3. CONVENTIONAL CORE ANALYSIS DATA TABLE**
- 4. PERMEABILITY VERSUS POROSITY PLOTS**
- 5. WATER PERMEABILITY AND FORMATION RESISTIVITY FACTOR DATA TABLE**
- 6. TRACER CONCENTRATION DATA TABLES**
- 7. PLOTS OF CORE GAMMA, POROSITY, PERMEABILITY AND FLUID SATURATION VERSUS CORE DEPTH**
- 8. CORE GAMMA SPECTRAL LOG PLOTS**
- 9. SEAL PEEL LIST**
- 10. CORING REPORT (COPY OF PARTS OF REPORT MADE BY SECURITY DBS)**

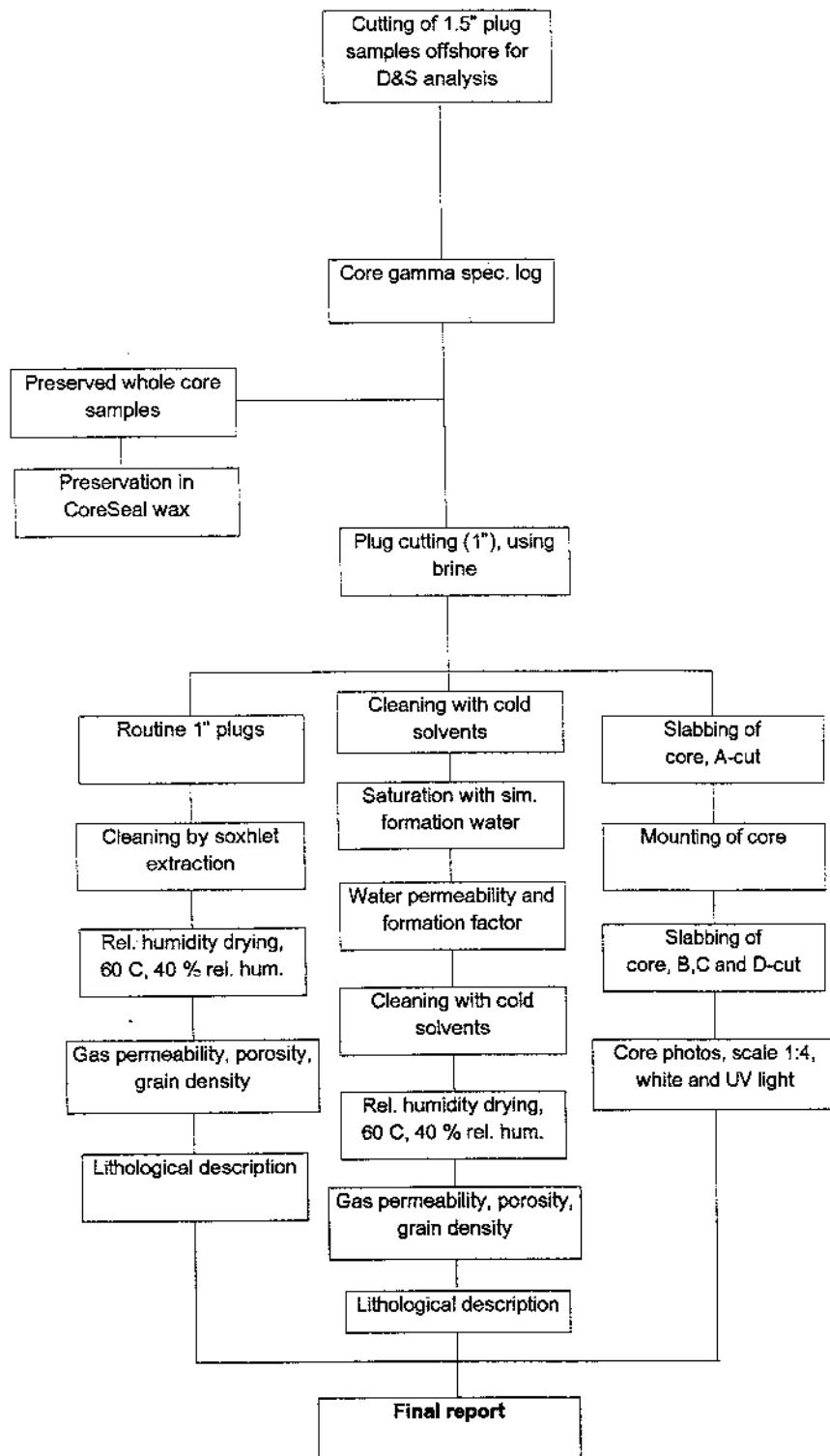
1

WELL INFORMATION

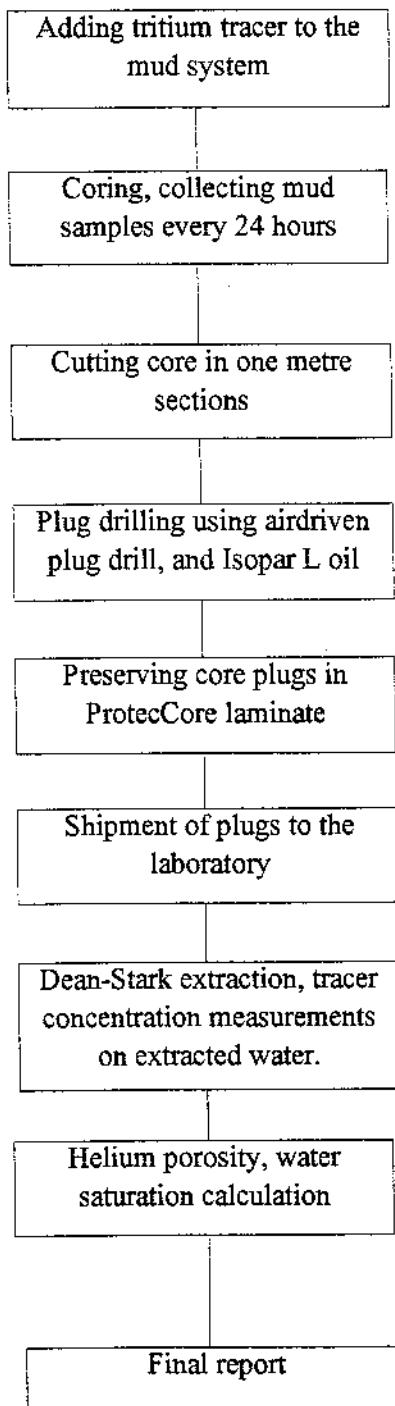
Well : 15/9-19 A
Operator : Statoil
Rig : Byford Dolphin

<u>Cored intervals:</u>	<u>Core no.</u>	<u>Recovered core (MD RKB)</u>
	1	3837.00 - 3852.22 m
	2	3854.00 - 3881.65 m
	3	3881.50 - 3908.40 m
	4	3908.50 - 3934.50 m
	5	3935.50 - 3963.00 m
	6	3963.00 - 3991.00 m
	7	3991.00 - 4016.70 m

Flowchart, 15/9-19 A, conventional core analysis



Flowchart, 15/9-19 A, tracer analysis



CORE ANALYSIS PROGRAMME

Conventional core analysis has been performed on the core material from well 15/9-19 A in accordance with the analysis programme requested by Statoil

Cored intervals: Core no. 1: 3837.00 - 3852.22 m
 2: 3854.00 - 3881.65 m
 3: 3881.50 - 3908.40 m
 4: 3908.50 - 3934.50 m
 5: 3935.50 - 3963.00 m
 6: 3963.00 - 3991.00 m
 7: 3991.00 - 4016.70 m

NOTE: There is an "overlap" between core no. 2 and core no. 3.

Core no.	1	2	3	4	5	6	7
Drilling of 1.5" plugs offshore for Dean & Stark	X	X	X	X	X	X	X
Gamma spec. log	X	X	X	X	X	X	X
Fluid saturation, Dean & Stark	X	X	X	X			
Gas permeability, horizontal	X	X	X	X	X	X	X
Gas permeability, vertical	X	X	X	X	X	X	X
Helium porosity and grain density, horizontal	X	X	X	X	X	X	X
Water permeability and Formation Factor	X	X	X	X	X	X	X
Lithological description	X	X	X	X	X	X	X
Slabbing in 4 parts	X	X	X	X	X	X	X
Core photos, scale 1:4, white and UV light (8 sets)	X	X	X	X	X	X	X
Thin section preparation incl. thin section photos	X	X	X	X	X	X	X

2

ANALYSIS PROCEDURES

OFFSHORE WORK: Mud "tracing"

Tritium tracer was added to the active mud system on the rig prior to coring. To achieve an activity level in the water phase of the mud of approx. 100 Bq/ml, a total of 0.8 Ci of tracer was added to the mud, by dripping slowly into the mud flow line over one full circulation.

During coring, two parallel mud samples (250 - 500 ml) for tracer concentration reference were taken and analysed every 12 hours.

Water was extracted from the mud, and tritium concentration was measured.

Core handling

The cored interval were cut by 4" I.D. core bit and retrieved in aluminium inner core barrels. The core were cut in sections of one metres lengths.

Vertical plug samples of 1.5 inch diameter were drilled from the cores at well site, using an air driven plug drill, and refined oil (Isopar L) as cooling agent during drilling. The plug samples were preserved with cling film, Al-film and ProtecCore laminate immediately after drilling, to prevent any drying of the samples.

The plug samples were collected and sent to the laboratory for analysis.

PREPARATION: Laboratory core handling and sampling.

The plug samples for analyses were collected by drilling with a one inch bore, using brine as a cooling agent.

The samples were cut to one inch lengths and subsequently cleaned in a soxhlet extractor using alternating sequences of methanol and toluene.

Finally the samples were dried under controlled conditions at 60 °C and 40 % relative humidity for at least 48 hours prior to the measurements.

MEASUREMENTS: Spectral core gamma log

A spectral core gamma log of the cores was performed by recording the natural gamma radiation from the cores using a NaI crystal scintillator. The signals were detected and amplified through a photo multiplicator tube, and recorded by a computer connected multi channel analyser.

The different radioactive minerals emit gamma rays of characteristic energy levels, and based on these levels the contributions from the minerals potassium, uranium and thorium are specified.

The quantitative description of the mineral content is based on calibration with standard calibration "cores" supplied by IFE, Institutt For Energiteknikk, Kjeller.

The total and spectral core gamma log are reported in a 1:200 scale, the total gamma is plotted in counts/minute (c/min), the concentration of potassium is plotted in %, and the concentrations of thorium and uranium in ppm.

Fluid saturation

Fluid saturation analyses were performed by Dean-Stark extraction using toluene, giving water volume directly, and oil volume indirectly by weight loss.

The amount of water extracted from each sample was recorded, before the water was used for tracer concentration measurements.

The cleaning of the samples was completed by Soxhlet extraction with methanol, and the plug samples were dried at 60 °C and 40% rel. hum. for min. 48 hours prior to porosity measurements. Water volume was corrected for salt content prior to water saturation calculation.

An oil density of 0.850 g/cc is used for the oil saturation calculation.

NOTE: There is no fluid saturation data from core no. 5-7. The 1.5" vertical samples from core no. 5-7 were drilled offshore, but it was decided by Statoil not to analyse these samples. The plug samples are marked * in the conventional core analysis data table.

Tracer analysis

Water extracted from the core plugs was measured for tritium content, and thereby invasion of water from the mud filtrate could be calculated. The water saturation values were corrected assuming that all water invading the core was displacing oil or gas. The oil saturation values were not corrected.

Gas Permeability

Gas permeability (horizontal and vertical core plugs) was determined flowing nitrogen gas through the samples. At steady state conditions, the gas flow rate, the pressure drop over the plug sample and the upstream pressure were recorded. The confining pressure applied during the measurement was 20 bar. The gas permeability Kn2 was then calculated using Darcy's law.

The Klinkenberg corrected permeability value, K1, was determined empirically.

Empirical Klinkenberg correction:

1. Kn2 range 0-2.0 mD

$$K1 = 0.68 \times Kn2^{1.06}$$

2. Kn2 range 2.0 - x mD

Iteration loop

$$K11 = 0.68 \times Kn2^{1.06}$$

$$m1 = 0.777 \times K11^{0.61}$$

$$K12 = Kn2 - m1/Pm$$

$$m2 = 0.777 \times K12^{0.61}$$

$$K13 = Kn2 - m2/Pm$$

which gives

$$K1n+1 = Kn2 - mn/Pm$$

When $K1n+1 - K1n$ is approx. 0,

then K_{ln+1} is approx. K_l .

Two iterations is found to give proper result, giving

$$K_{l3} = K_l$$

Porosity and grain density

Grain volume was measured by helium injection using a Boyle's law porosimeter.

Bulk volume was determined by immersing the sample in mercury, the weigh balance/ buoyancy technique.

Recording also the weight of the samples, porosity and grain density were calculated.

Liquid permeability

26 horizontal 1" plugs were selected by Statoil for liquid permeability measurements.

The samples were mounted in Hassler holders with a net confining pressure of 20 bar and cleaned with cold solvents.

Alternating sequences of methanol and toluene were gently flushed through the samples at controlled flow-rates.

The samples were saturated with simulated formation water by flushing against back pressure of 5 bar.

A minimum of 10 pore volumes of brine were pumped through each sample at a maximum rate of 0.5 ml/min. Saturation of the samples was controlled by continuous resistivity measurements during flushing. Water permeability was measured by recording the flow rate and the pressure drop over the sample at stable steady state conditions.

Formation resistivity factor, FF

Formation resistivity factor was determined using a two electrode configuration. The steel end pieces in the core holder were used as electrodes and the plug resistivity was determined from measurements of impedance and phase angle. A current frequency of 1 kHz was used in the measurements.

Water resistivity was determined from measurements of the synthetic formation water in a conductivity cell with platinum electrodes, current frequency 1 kHz.

Thin section preparation

Thin sections were prepared from about one horizontal plug trim per metre core. Thin sections and 4 sets of microphotographs of the thin sections are delivered as separate reports.

PRESERVATION: Preserved whole core samples

Whole core samples for preservation ("seal peels") were cut from the cores, immediately after opening the core sleeves, and preserved in CoreSeal wax.

A list over preserved samples is included in section 9 of this report.

Slabbing and mounting of core cuts

When all samples were taken, the cores were slabbed using a long bed saw with water cooled diamond saw blade. The whole core length (except seal peels) was slabbed into four parts.

After slabbing, the B-cut (reference cut) was mounted by casting in epoxy resin in aluminium trays.

Core photos

Core photos in scale 1:4, white light and UV-light (8 sets) were taken of the B-cut of the core, each frame covering up to 5 metres of core.

The core photos are delivered as separate reports.

ABBREVIATIONS :

NMP	- No measurement possible
NPP	- No plug possible
KN2	- Measured nitrogen permeability
K1	- Klinkenberg corrected gas permeability
Pm	- Mean pressure in the sample during permeability meas.

3

Company: Statoil
Well: 15/9-19 A
Field: Sleipner

CONVENTIONAL
CORE ANALYSIS

Date: 20.03.98
Page: 1

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Tlf 51-802290 Fax: 51-802575

Description

Plug no.	(m)		Horizontal				Vertical				Re sum.		Hor. sum.		So		Sw		Hor. Vert.		Saturation(%)		density(g/cm ³)	
	RKB	MD	Kn2	1/Pm	KI	Kn2	1/Pm	KI	Hor.	Vert.	Hor.	Vert.	Hor.	Vert.	Hor.	Vert.	Hor.	Vert.	Hor.	Vert.	Hor.	Vert.	Hor.	Vert.
TOP	3837.00																							
1	3837.00	13.8	0.662	11.5							17.0											2.66		
2	3837.25	NMP	NMP								14.8											2.67	A.A.Fs.C/Mic-lam.w/o frac.w/Dot.Sd.Cl.	
3	3837.55	25.2	0.746	21.4	3.94	0.495	3.16	10.8														2.69	A.A.VW-cmt.w/o fs.C/Mic-lam.incr Dot.	
4	3837.80	1.02	0.495	0.694							12.8											2.70	A.A.F/M-gf.frac.Sly.incr Pyr.	
5	3837.88										18.8											2.68		
6	3838.00	524	0.976	491							16.4											2.69	A.A.SB-ang.Fr-cmt.P-srt.flis.w/o frac.Sly.decr Dot.	
7	3838.25	274	0.968	253							16.5											2.66	A.A.W-cmt.Fr-srt.w/o fls.decr Pyr.	
8	3838.50	1130	0.592	1080	1100	0.989	1040	17.2														2.66	A.A.M-gr.	
9	3838.75	442	0.978	412							16.9											2.66	A.A.F/M-gr.	
10	3838.92										19.5											2.68		
11	3839.00	19.3	0.693	16.3							20.1											2.66	A.A.styl.	
12	3839.20	0.298	0.495	0.189							10.3											2.93	A.A.Pyr-sst.C-lam.w/o styl.	
13	3839.40	6.54	0.540	5.36	1200	0.990	1140	12.7													3.03	A.A.w/o C-lam.		
14	3839.75	593	0.984	557							19.0											2.66	A.A.Sst.M-gr.	
15	3839.92										8.6											2.74		
16	3840.00	0.151	0.495	0.092							9.9											2.91	Sst.Gy,F-gr.Sb-ang.VW-cmt.W-srt.Mtrx.w/Pyr.III.C,Mfc.	
17	3840.20	260	0.989	238							20.6											2.63	A.A.II-Bn,F/M-grstyl.	
18	3840.45	168	0.936	152	17.6	0.693	14.8	21.0													2.66	A.A.		
19	3840.75	317	0.971	293							22.7											2.64	A.A.	
20	3840.94										24.4											2.64		
21	3841.00	44.8	0.808	38.9							61.6											2.69	A.A.Cs-gr.VP-srt.incr Pyr,C,	

Company: Statoil
Well: 15/9-19 A
Field: Sleipner
Core no.: 1

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
Page: 2

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Plug no.	Depth (m)	Permeability (mD)			Porosity (%)			So	Sw	Pore Saturation(%)	Grain density(g/cm ³)	Description
		RKB	MD	Horizontal Kn2	Vertical 1/Pm	KI	Kn2	1/Pm	KI	Hor.	Vert.	
22	3841.20	207	0.969	189					20.0		2.63	A.A.M.gr.Fr.str.decr Pyr.
23	3841.45	65.0	0.880	57.0	19.4	0.893	16.4	22.1			2.62	A.A.F/M.gr.decr C.
24	3841.75	50.4	0.855	43.7					17.7		2.63	A.A.sly.Syl.
25	3841.93						13.9		31.7	43.4	2.63	
26	3842.00	0.994	0.495	0.675			11.6			2.67	A.A.linc Pyr.	
27	3842.25	14.5	0.662	12.1			19.6			2.63	A.A.decr Pyr.	
28	3842.50	171	0.936	156	18.3	0.863	15.5	24.4		2.67	A.A.w/o sly.Syl.incr Dol.	
29	3842.75	136	0.936	122			25.8			2.62	A.A.F-str.decr Dol.	
30	3842.91						26.1		62.2	23.9	2.63	
31	3843.00	131	0.936	118			26.4			2.64	A.A.Gry.W-str	
32	3843.20	125	0.936	112			24.9			2.62	A.A.	
33	3843.45	121	0.936	108	111	0.936	98.9	25.1		2.63	A.A.	
34	3843.75	86.5	0.907	76.6			25.0			2.62	A.A.	
35	3843.94						24.2		59.8	23.3	2.63	
36	3844.00	74.6	0.880	65.8			24.3			2.63	A.A.	
37	3844.25	70.1	0.880	61.6			23.5			2.62	A.A.	
38	3844.50	102	0.936	90.5	92.8	0.907	82.4	36.0		2.63	A.A.	
39	3844.75	94.1	0.907	83.6			24.0			2.63	A.A.	
40	3844.93						25.0		78.4	9.7	2.63	
41	3845.00	138	0.936	124			25.0			2.63	A.A.	
42	3845.25	175	0.971	159			24.9			2.63	A.A.	
43	3845.50	133	0.936	120	61.9	0.855	54.3	23.6		2.63	A.A.	

Company: Statoil
Well: 15/9-19 A
Field: Steipner
Core no.: 1

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
Page: 3

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Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore Saturation(%)			Grain density(g/cm3)			Description				
		RKB	MD	Kn2	1/Pm	KI	Kn2	1/Pm	KI	Hor.	Vert.	He sum.	So	Sw	Hor.	Vert.					
44	3845.75	123	0.936	110	56.6	0.855	49.4	22.6		19.8		67.4	18.1		2.63		A.A.				
45	3845.91									18.3					2.67		A.A. Fr-sit. Incr Calc. Dol.				
46	3846.00	30.4	0.766	26.0						8.7					2.71		A.A. Calc-sst VW-cmt				
47	3846.25	1.06	0.495	0.725											2.68		A.A. Sst.				
48	3846.50	17.8	0.746	14.8	5.70	0.495	4.70	15.0							2.72		A.A. It Brn Incr Pyr. decr Dol.				
49	3846.75	15.9	0.746	13.1						16.9											
50	3846.93											23.5		67.2	18.3		2.64				
51	3847.00	140	0.936	126						24.0					2.63		A.A. W-cmt. decr Pyr.				
52	3847.25	142	0.936	128						24.4					2.62		A.A.				
53	3847.50	111	0.936	99.3	95.3	0.907	84.7	24.1							2.62		A.A.				
54	3847.75	157	0.936	142						24.9					2.62		A.A.				
55	3847.90										25.0		68.1	15.3		2.64					
56	3848.00	138	0.936	124						24.6					2.64		A.A. F/M-gr.				
57	3848.25	57.2	0.855	50.0						22.5					2.62		A.A. W-sst.				
58	3848.50	38.0	0.855	32.5	50.9	0.830	44.4	22.0							2.62		A.A.				
59	3848.75	61.0	0.880	53.3						29.3					2.62		A.A.				
60	3848.90										23.8					2.64					
61	3849.00	53.8	0.830	47.1						23.8					2.64		A.A.				
62	3849.20	67.4	0.855	50.2						23.2					2.64		A.A.				
63	3849.40	53.7	0.855	46.7	37.8	0.786	32.7	23.1							2.63		A.A.				
64	3849.75	44.8	0.855	38.6						23.6					2.63		A.A.				
65	3849.91										23.2		57.2	26.6		2.64					

Company: Statoil

15/9-19 A

Steinherz

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Core no.: 1

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CONVENTIONAL
CORE ANALYSIS

Date: 20.03.98
Page: 4

717.51-802290, Fax. 51-802575

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Description

Company: **Statoil**
 Well: **15/9-19 A**
 Field: **Steipner**
 Core no.: **2**

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
 Page: 1

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Plug no.	Depth (m)	Permeability (mD)						Porosity (%) He sum.	Pore Saturation(%) So	Grain density(g/cm3) Sw	Description Hor. Vert.
		RKB	MD	Kn2	1/Pm	KI	Hor.				
TOP	3854.00										
77	3854.00	0.036	0.495	0.020				4.0		2.74	Sst.Gry/F/M-gr.Slb-ang.VW/cm3:W-sid.mtx,fis.w/Mic,Pyr,Cal
78	3854.20	0.026	0.495	0.014				3.8		2.74	A.A.w/o fis.w/Dol,Std,Cl.
79	3854.40	0.023	0.495	0.012	0.073	0.495	0.043	3.3		2.74	A.A.
80	3854.80	NMP						7.3		2.78	A.A.E/Bm,W/cm3:F-sit,Sty/incr Pyr.
81	3854.90							11.4		33.8	45.8
82	3855.00	21.2	0.710	18.0				19.7		2.69	A.A.w/o Sty,decr Pyr,Std.
83	3855.25	29.9	0.786	26.5				21.1		2.65	A.A.Bm,W-sit,decr Dol.
84	3855.50	0.244	0.495	0.152	0.088	0.495	0.051	8.6		2.73	A.A.incr Pyr,Dol.
85	3855.75	0.022	0.495	0.012				3.2		2.74	A.A.E/Bm,incr Calc.
86	3855.86							27		20.7	62.4
87	3856.00	0.018	0.495	0.010				3.3		2.76	A.A.incr Dol.
88	3856.20	0.584	0.495	0.384				8.5		2.71	A.A.
89	3856.40	20.3	0.746	17.0	20.4	0.710	17.3	18.3		2.66	A.A.P-sit,decr Pyr,Dol.
90	3856.75	38.6	0.855	33.0				21.0		2.64	A.A.Denne pluggen må du Geir ta en lit Pali!!
91	3856.93							19.1		48.5	30.1
92	3857.00	15.0	0.862	12.6				18.2		2.65	A.A.C-Ham.
93	3857.25	214	0.968	195				23.4		2.64	A.A.Sty,l/w/o CHam.
94	3857.50	250	0.967	229	99.3	0.907	88.5	29.1		2.63	A.A.F-sit.
95	3857.75	80.1	0.907	70.6				22.1		2.64	A.A.
96	3857.90	104	0.907	92.5				22.9		66.4	17.0
97	3858.00							21.0		2.65	A.A.

Company: Statoil

Well: 15/9-19 A

Field: Sleipner

Core no.: 2

CONVENTIONAL CORE ANALYSIS

Date: 20.03.98
Page: 2

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Tlf. 51-8022290, Fax. 51-8022575

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore saturation(%)			Grain density(g/cm3)		Description	
		RKB	MD	Kn2	1/Pm	KI	Kn2	1/Pm	KI	Hor.	Vert.	So	Sw	Hör.	Vert.		
98	3858.20	5.92	0.495	4.89						15.8				2.66	AA.		
99	3858.40	21.0	0.746	17.7	48.1	0.830	41.8	18.7						2.71	A.A.incr Pyr.Calc.		
100	3858.75	36.0	0.808	30.9					14.7					2.69	- A.A.F/M-gr.Incr Dot decr Pyr.		
101	3858.91								18.9					67.7	22.3	2.66	
102	3859.00	95.9	0.907	85.3					20.3					2.66	- A.A.decr Dol.		
103	3859.25	40.7	0.830	35.1					19.1					2.66	- A.A.incr Pyr.C.		
104	3859.50	NMP		NMP	26.8	0.746	22.9	18.1						2.65	- A.A.F/gr.Sly.decr Pyr.C.		
105	3859.75	20.6	0.746	17.3					19.9					2.63	- A.A.w/o fis.decr Calc.		
106	3859.89								22.2					68.0	16.6	2.65	
107	3860.00	20800	0.999	20500					23.6					2.64	- A.A.Crs-gr.Sly-mdd Fr-cmt w/o Sly.		
108	3860.15	20400	0.999	20100					22.9					2.64	- A.A.		
109	3861.30	2480	0.996	2390					23.5					2.64	- A.A.M.gr.		
110	3861.70	5230	0.998	5090					33.8					2.64	- A.A.M/Crs.gr.		
111	3861.90								23.3					77.0	8.5	2.63	
112	3862.00	3780	0.996	3660					25.0					2.65	- A.A.M/gr.incr Pyr.		
113	3862.20	6260	0.998	6100					24.4					2.63	- A.A.Slyang.decr Pyr.		
114	3862.40	6930	0.998	6760	3690	0.996	3580	33.1						2.63	- A.A.		
115	3862.65	4950	0.998	4820					24.1					2.64	- A.A.		
116	3862.82								24.6					80.0	5.9	2.65	
117	3863.00	2270	0.994	2180					24.8					2.63	- A.A.		
118	3867.00	6430	0.998	6270					22.9					2.64	- A.A.M/Crs.gr.P-srt.		
119	3867.15	4950	0.997	4810					21.1					2.65	- A.A.Crs.gr.		

Company: Statoil
Well: 15/9-19 A
Field: Sleipner

CONVENTIONAL
CORE ANALYSIS

Well - 15/9-19 A

Steipner

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Date: 20.03.98
Page: 3

Date: 20.03.98
Page: 3

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Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore Saturation(%)			Grain density(g/cm ³)			Description
		Horizontal			Vertical			He	Fluid sum.	So	Sw	Hor.	Vert.	Hor.	Vert.		
	RKB MD	Kn2	1/Pm	KI	Kn2	1/Pm	KI	Hor.	Hor.	Vert.	Vert.	sum.	So	Sw	Hor.	Vert.	
120	3868.00	1540	0.993	1480													2.67 A.A. M/C's-gr.C/tam.incr Pyr.
121	3868.25	5410	0.998	5270													2.64 A.A. M-gr.w/o C/tam.decr Pyr.
122	3868.70	7150	0.999	6980													2.66 A.A.incr Pyr.
123	3869.91							23.4		73.9		6.3					2.65
124	3869.00	6470	0.998	6310				23.3									2.66 A.A.Fr-srt
125	3869.25	9350	0.999	9150				25.0									2.64 A.A.decr Pyr.
126	3869.50	10000	0.999	9810	8050	0.998	7860		33.8								2.65 A.A.
127	3869.75	8290	0.999	8110				23.8									2.64 A.A.
128	3869.91							25.0		83.2		5.4					2.64
129	3870.00	8790	0.998	8600				24.1									2.65 A.A.
130	3870.20	7310	0.999	7140				24.0									2.65 A.A.
131	3870.40	8370	0.999	8190	14800	0.999	14500	23.9									2.65 A.A.
132	3870.75	8570	0.999	8380				23.9									2.65 A.A.
133	3870.92							25.6		79.0		7.4					2.64
134	3871.00	10900	0.999	10600				25.0									2.66 AAP-srt
135	3871.25	11800	0.999	11600				25.1									2.65 A.A.
136	3871.50	11000	0.999	10800	12300	0.999	12000	24.6									2.64 A.A.
137	3871.75	11900	0.999	11600				24.7									2.64 A.A.
138	3871.88							24.9		83.9		4.5					2.65
139	3872.00	13200	0.999	12900				25.9									2.65 A.A.
140	3872.50	11800	0.999	11500	10200	0.998	9980	23.3									2.66 A.A.P-emt.VP-srt
141	3872.80	6520	0.999	6350				24.7									2.64 A.A.Fr-emt.P-srt

Company: Statoil

Well: 15/9-19 A

Field: Sleipner

Core no.: 2

CONVENTIONAL CORE ANALYSIS

Date: 20.03.98
Page: 4

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Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore Saturation(%)			Grain density(g/cm ³)		
		RKB	MD	Kn2	1/Pm	KI	Kn2	1/Pm	KI	He sum.	So	Sw	Hor.	Vert.	Hor.	Vert.
142	3873.00	8660	0.998	6500						23.6			2.65		A.A.incr Pyr.	
143	3873.25	3590	0.997	3480						23.0			2.64		A.A.W-cmt.Fr-srt.	
144	3873.50	4040	0.998	3920	3800	0.996	3680	23.6					2.65		A.A.	
145	3873.75	2580	0.996	2480						22.8			2.65		A.A.	
146	3873.94									22.5			2.65			
147	3874.00			1740	0.993	1670				22.4			2.66		A.A.Ang.	
148	3874.20	2880	0.996	2790						22.8			2.65		A.A.	
149	3874.40	291	0.971	268	564	0.979	529	20.9					2.65		A.A.F/M-gr.sly.	
150	3874.75	142	0.936	128						21.4			2.65		A.A.F/gr.w/o sly.	
151	3874.90									22.4			2.64			
152	3875.00			382	0.970	355				20.0			2.66		A.A.M-gr.P.srt.	
153	3875.25	NMP		NMP						18.9			2.65		A.A.F/M-gr.Fr-srt.C/Mic-Tam.fis.	
154	3875.50	16.3	0.746	13.5	245	0.967	225	15.2					2.64		A.A.w/o fis.	
155	3875.75	1.89	0.495	1.34						12.7			2.65		A.A.sly.w/o C/Mic-lam.	
156	3875.94									6.6			2.71			
157	3876.00	0.328	0.495	0.209						8.2			2.70		A.A.F/gr.W.srt.fis.incr.Sd.	
158	3876.25	NMP		NMP						5.4			2.72		A.A.F/M-gr.Fr-srt.fis.incr.Calc.	
159	3876.55	0.459	0.495	0.298	0.161	0.495	0.098	7.4					2.69		A.A.w/o fis.decr.Calc.	
160	3876.75															
161	3876.85												3.1	25.5	63.1	2.75
162	3877.00	0.052	0.495	0.030									4.0		2.76	
163	3877.25	94.0	0.907	83.5									25.3		2.66	

Company: Statoil
Well: 15/9-19 A
Field: Sleipner

CONVENTIONAL
CORE ANALYSIS

Well: 15/9-19 A

Steipner Field:

Core no.: 2

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Date: 20.03.98
Page: 5

RESLAB

Plug no.	Depht (m)	RK8 MD	Permeability (m/s)		Vertical 1/Pm
			Horizontal	Kn2	
1	100	100	100	100	100
2	100	100	100	100	100
3	100	100	100	100	100
4	100	100	100	100	100
5	100	100	100	100	100
6	100	100	100	100	100
7	100	100	100	100	100
8	100	100	100	100	100
9	100	100	100	100	100
10	100	100	100	100	100
11	100	100	100	100	100
12	100	100	100	100	100
13	100	100	100	100	100
14	100	100	100	100	100
15	100	100	100	100	100
16	100	100	100	100	100
17	100	100	100	100	100
18	100	100	100	100	100
19	100	100	100	100	100
20	100	100	100	100	100
21	100	100	100	100	100
22	100	100	100	100	100
23	100	100	100	100	100
24	100	100	100	100	100
25	100	100	100	100	100
26	100	100	100	100	100
27	100	100	100	100	100
28	100	100	100	100	100
29	100	100	100	100	100
30	100	100	100	100	100
31	100	100	100	100	100
32	100	100	100	100	100
33	100	100	100	100	100
34	100	100	100	100	100
35	100	100	100	100	100
36	100	100	100	100	100
37	100	100	100	100	100
38	100	100	100	100	100
39	100	100	100	100	100
40	100	100	100	100	100
41	100	100	100	100	100
42	100	100	100	100	100
43	100	100	100	100	100
44	100	100	100	100	100
45	100	100	100	100	100
46	100	100	100	100	100
47	100	100	100	100	100
48	100	100	100	100	100
49	100	100	100	100	100
50	100	100	100	100	100
51	100	100	100	100	100
52	100	100	100	100	100
53	100	100	100	100	100
54	100	100	100	100	100
55	100	100	100	100	100
56	100	100	100	100	100
57	100	100	100	100	100
58	100	100	100	100	100
59	100	100	100	100	100
60	100	100	100	100	100
61	100	100	100	100	100
62	100	100	100	100	100
63	100	100	100	100	100
64	100	100	100	100	100
65	100	100	100	100	100
66	100	100	100	100	100
67	100	100	100	100	100
68	100	100	100	100	100
69	100	100	100	100	100
70	100	100	100	100	100
71	100	100	100	100	100
72	100	100	100	100	100
73	100	100	100	100	100
74	100	100	100	100	100
75	100	100	100	100	100
76	100	100	100	100	100
77	100	100	100	100	100
78	100	100	100	100	100
79	100	100	100	100	100
80	100	100	100	100	100
81	100	100	100	100	100
82	100	100	100	100	100
83	100	100	100	100	100
84	100	100	100	100	100
85	100	100	100	100	100
86	100	100	100	100	100
87	100	100	100	100	100
88	100	100	100	100	100
89	100	100	100	100	100
90	100	100	100	100	100
91	100	100	100	100	100
92	100	100	100	100	100
93	100	100	100	100	100
94	100	100	100	100	100
95	100	100	100	100	100
96	100	100	100	100	100
97	100	100	100	100	100
98	100	100	100	100	100
99	100	100	100	100	100
100	100	100	100	100	100

Company: Statoil
Well: 15/9-19 A
Fjeld:

CONVENTIONAL
CORE ANALYSIS

Well 15/9-19 A

Steinruecker et al.

Core no.: 3

Core no.: 3

CONVENTIONAL
CORE ANALYSIS

Well 15/9-19 A

Steinrueck et al.

Core no.: 3

Core no.: 3

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore saturation (%)			Grain density(g/cm3)		Description
		Horizontal		Vertical		He	Fluid sum.	So	Sw	Hor.	Hor.	Vert.	Vert.			
RKB MD	Kn2	1/Pm	KI	Kn2	1/Pm	KI	sum.	So	Sw	Hor.	Hor.	Vert.	Vert.			
TOP	3881.50													2.65	Sst.Brn.F.gr.Sbrang W-omt.Fr-srt.mtnx.w/Mc.Pyr.Calc,Doi.C	
180	3881.50	73.3	0.907	69.0	79.1	0.880	70.0	21.2						2.65	AA,w/C.	
181	3881.80	60.3	0.855	52.8				21.2						2.65	AA,w/C.	
182	3881.92							21.7		57.5	22.8			2.66		
183	3882.00	66.4	0.855	58.4				21.5						2.66	AA,	
184	3882.20	60.3	0.855	52.9				21.1						2.65	AA,	
185	3882.40	77.5	0.907	68.3	73.6	0.880	64.9	29.0						2.65	AA,	
186	3882.65	79.1	0.907	69.7				21.9						2.65	AA,	
187	3882.83							21.4		60.4	21.1			2.66		
188	3882.90	74.4	0.880	65.7				21.9						2.66	AA,fs.	
189	3883.20	65.2	0.907	84.6				21.9						2.65	AA,	
190	3883.50	63.9	0.880	56.0	45.4	0.830	39.3	18.7						2.66	AA,	
191	3883.75	53.8	0.855	51.4				17.0						2.67	AA,	
192	3883.92							17.8		58.1	21.4			2.70		
193	3884.00	56.0	0.855	48.9				17.3						2.69	AA,P-srt,incP-Pyr.	
194	3884.25	62.8	0.855	55.2						17.1				2.67	AA,Fr-srt,decP-Pyr.	
195	3884.50	63.6	0.880	60.3	88.3	0.907	78.2	21.4						2.67	AA,W-srt.	
196	3884.75	103	0.907	92.2						19.3				2.66	AA,	
197	3884.93							18.2		59.6	23.6			2.65		
198	3885.00	77.7	0.880	68.7						19.2				2.65	AA,li-Bn.	
199	3885.25	69.2	0.880	60.8							18.2			2.66	AA,Brn,P-srt.	
200	3885.55	32.8	0.970	30.3	49.8	0.977	46.5	20.7						2.62	AA,Incr.C.	

Company: **Statoil**
 Well: **15/9-19 A**
 Field: **Steipner**
 Core no.: **3**

CONVENTIONAL CORE ANALYSIS

Date: 20.03.98
 Page: 2

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Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore Saturation(%)			Grain			Description
		RKB	MD	Kn2	1/Pm	KI	Kn2	1/Pm	KI	He	Fluid sum.	So	Sw	Hor.	Vert.	A.A.	
201	3885.75	511	0.979	479						21.4				2.63			
202	3885.94									21.2				68.8	18.1		2.63
203	3886.00	350	0.967	324						21.1				2.63			A.A.
204	3886.25	412	0.976	383						21.0				2.63			A.A.
205	3886.50	432	0.975	402						410	0.972	381	21.3	2.63			A.A.
206	3886.75	57.7	0.880	50.3						18.8				2.62			A.A.
207	3886.93										20.5			55.6	22.3		2.63
208	3887.00	130	0.936	117						20.7				2.62			A.A.
209	3887.25	217	0.969	199						21.7				2.63			A.A.
210	3887.55	221	0.968	201						148	0.936	134	21.5	2.62			A.A.
211	3887.75	170	0.936	154						21.3				2.63			
212	3887.94										21.5			67.4	20.1		2.62
213	3888.00	206	0.951	188						21.4				2.63			A.A./FM.gr.
214	3888.25	177	0.969	160						21.2				2.62			A.A.
215	3888.50	109	0.907	97.8						0.936	119	20.9		2.62			A.A./C-jam.
216	3888.75	40.9	0.830	35.2						20.7				2.63			A.A./w/o C-jam.
217	3888.90										21.2			84.5	26.1		2.62
218	3889.00	179	0.936	163						22.2				2.64			A.A.M.gr.
219	3889.25	94.5	0.907	84.0						20.6				2.64			A.A.F.gr.
220	3889.55	193	0.969	175						9.68	0.595	8.02	22.5	2.63			A.A.
221	3889.75	146	0.936	132						21.9				2.63			A.A./FM.gr.
222	3889.92									22.0				65.1	22.3		2.63

Company: Statoil
Well: 15/9-19 A
Field: Sleipner

CONVENTIONAL
CORE ANALYSIS

Date: 20.03.98
Page: 3

Company: Statoil
Well: 15/9-19 A
Field: Steipner
Core no.: 3

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
Page: 5

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Plug no.	Depth (m)	Permeability (mD)						Porosity (%) He	Pore Fluid sum.	Saturation(%) So	Grain density(g/cm3) Hor.	Description
		RKB	MD	Kn2	1/Pm	KI	Kn2	1/Pm	Vertical	Hor.	Vert.	Vert.
267	3899.55	1570	0.992	1500	1440	0.991	1370	213			2.63	A.A.
268	3899.75	2660	0.986	2570				22.8			2.63	A.A.
269	3900.00	1640	0.993	1570				21.2			2.62	A.A.
270	3900.25	1120	0.990	1070				19.7			2.60	A.A.
271	3900.50	1220	0.993	1160	1910	0.994	1830	29.9			2.63	A.A.
272	3900.75	2780	0.986	2690				20.6			2.63	A.A.
273	3900.90							19.3			2.63	
274	3901.00	1280	0.990	1220				19.7			2.65	Sst.Brn.M/Crs-gr.Sb-ang.W-cmt.Fr-srt.Mfr.w/Mic.III-Calc.Py
275	3901.25	473	0.978	442				18.2			2.61	A.A.w/C.Cln.H-Pyr.
276	3901.55	1340	0.993	1280	270	0.967	248	20.3			2.63	A.A.
277	3901.75	1510	0.992	1440				20.9			2.62	A.A.
278	3901.93							19.0			2.62	
279	3902.00	464	0.977	433				20.2			2.66	A.A.F.gr.scat-M.gr.decr-Mic.III-C.scat-Calc.
280	3902.25	305	0.968	282				19.6			2.62	A.A.III-Mic.w/o Calc.
281	3902.50	239	0.969	219	803	0.985	759	26.3			2.64	A.A.M/Crs-gr.Decr-Mic.
282	3902.75	273	0.969	251				19.9			2.63	A.A.w/6-M.gr.scat-Crs-gr.decr-C.
283	3902.92							18.9			2.63	
284	3903.00	724	0.963	683				18.3			2.63	Sst.Brn.M/Crs-VGr-gr.Sb-ang.W-omt.Fr-srt.Mfr.C.II,C.I,Mic.
285	3903.25	244	0.969	223				18.4			2.63	A.A.F.gr.scat-Crs-VGr/gr.Fr/P-srt.Mfr.Ingr-C.C.I,Mic.
286	3903.55	506	0.976	473	490	0.975	459	19.5			2.63	A.A.F.M.gr.Fr-srt.decr-C.
287	3903.75	524	0.979	491				19.3			2.63	A.A.
288	3903.93							19.3			2.63	

Company:	Statoil												
Well:	15/9-19 A												
Field:	Steipner												
Core no.:	3												
Depth (m)		Permeability (mD)		Porosity (%)		Pore Fluid sum.		Saturation(%)		Grain density(g/cm3)		Description	
Plug no.	RKB MD	Kn2	1/Pm	KI	Kn2	1/Pm	KI	Hor.	Vert.	So	Sw	Hor.	Vert.
289	3904.00	346	0.967	320				19.5				2.65	A.A.W-srf w/o-C,decr-Cl,Mic,I(Cl),Calc.
290	3904.25	1200	0.990	1140				20.1				2.63	A.A.M.gr/I(Cl)-C,w/o-Calc.
291	3904.50	743	0.985	702	742	0.984	700	19.6				2.63	A.A.Incr-Mfrx
292	3904.75	1130	0.990	1070				19.2				2.62	A.A.Incr-Cl
293	3904.93							17.9		70.9	20.6	2.62	
294	3905.00	170	0.936	154				17.8				2.64	A.A.F/M-gr,scat-(Crs-gr,Fr-srf,decr- Mfrx,C.
295	3905.25	214	0.967	196				18.1				2.62	A.A.Incr-Mfrx,
296	3905.55	253	0.967	232	162	0.951	147	18.9				2.62	Sst,Bm,F/M-gr,Sb-ang,W-cmt,W-srf,Mfrx,B(Cl)Mic.
297	3905.75	648	0.983	610				19.3				2.62	A.A.M.gr.
298	3905.92							15.7		46.9	35.4	2.63	
299	3906.00	157	0.936	143				19.7				2.65	A.A.F.gr,scat-Pyr.
300	3906.20	NMP		NMP				15.7				2.62	AAAF-gr scat-Crs-gr,W/Fr-srf,Frac.C/C/Mic-lam.
301	3906.50	69.3	0.880	61.4	84.1	0.880	74.6	18.6				2.64	Sst,Bm,F/M-or,scat-Crs-gr,Sb-ang,W-cmt,Fr-srf,Mfrx,B(Cl)
302	3906.75	392	0.978	365				27.7				2.64	A.A.(MCrs-gr,W/Fr-srf,w/o-C,lth-Mic
303	3907.25	2050	0.995	1970				19.9				2.64	A.A.Vif/F-gr,Sky,C/lth-C/Mic-lam,Lth-SId.
304	3907.50	0.921	0.495	0.623				11.4				2.69	A.A.Frac.ScS-Calc,C/w/o-Sid.
305	3907.90	NMP		NMP				15.5				2.64	A.A.F.gr,W-srf,w/o-Frac,Sky,lam,Lth-Cl,Mic.
306	3908.25	52.7	0.855	45.9				22.5				2.63	A.A.F.gr,W-srf,w/o-Frac,Sky,lam,Lth-Cl,Mic.
BTM		3908.40											

CONVENTIONAL CORE ANALYSIS

Date: 20.03.98
Page: 6

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Company: Statoil
Well: 15/9-19 A
Field: Sleipner
Core no.: 4

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
Page: 1

RESLAB
Reservoir Laboratories AS
Tlf. 51-802290, Fax. 51-802575

Description

Permeability (mD)

Porosity (%)

**Pore
Saturation(%)**

**Grain
density(g/cm³)**

**Soil
density(g/cm³)**

**Soil
sum.**

Plug no.	Depth (m)	RKB MD	Horizontal Kn2	Vertical Kn2	1/Pm	K1	Hor.	Vert.	He	Fluid sum.	Saturation(%)	Grain density(g/cm ³)	Description
TOP	3908.50								24.4			2.65	A.A/I-Gry,incr Mic.
307	3908.50	220	0.967	201					23.7	62.3	27.3	2.63	
308	3908.57											2.64	AA
309	3909.00	179	0.936	163					24.0			2.63	A.A/decr Mic.
310	3909.25	163	0.936	148					23.5			2.63	A.A/decr Mic.
311	3909.55	175	0.936	159	152	0.936	137	23.5				2.63	AA
312	3909.75	158	0.936	143				23.2				2.63	AA
313	3909.92								24.3		64.1	23.1	2.64
314	3910.00	213	0.967	194					24.5			2.64	A.A/incr Mic.
315	3910.25	228	0.967	208					23.8			2.63	A.A/incr Mic.
316	3910.50	261	0.967	239	238	0.967	218	24.4				2.64	A.A/incr Mic.
317	3910.75	219	0.967	200				24.1				2.64	AA
318	3910.91								24.3		66.4	23.5	2.64
319	3911.00	243	0.967	223				24.9				2.64	AA
320	3911.25	160.0	0.907	89.1				22.2				2.64	AA
321	3911.55	91.5	0.907	81.2	75.4	0.880	66.6	22.0				2.64	AA
322	3911.75	274	0.967	252				24.3				2.65	Sst/I-Gry,F.gr,Sbang,W/Fr-cmt,W.sst,I-t,Mtx,Mic,Ci,Scs-Py
323	3911.92								24.1		68.7	20.7	2.64
324	3912.00	262	0.967	241					24.0			2.64	A.A/incr-Mtx.
325	3912.25	323	0.967	299					24.7			2.66	A.A/incr-Mic.
326	3912.50	266	0.967	244	185	0.936	168	22.8				2.68	A.A/scat-Pyr.
327	3912.75	218	0.967	199								2.68	AAW-cmt

Company: Statoil
Well: 15/9-19 A
Field: Sleipner
Core no.: 4

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
Page: 2

RESLAB
Reservoir Laboratories AS
Tlf. 51-802290, Fax. 51-802575

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore fluid saturation(%)			Grain density(g/cm3)	Description	
		RKB	MD	Kn2	1/Pm	KI	Kn2	1/Pm	KI	He	Fluid sum.	So	Sw	Hor.	Vert.	
328	3912.93									21.2		73.1	19.1		2.67	
329	3913.00	221	0.967	202						21.0				2.66	A.A.	
330	3913.25	261	0.967	240						21.7				2.66	A.A.	
331	3913.60	76.9	0.880	67.9	75.3	0.880	66.4	0.880	66.4	20.4				2.67	A.A.V/F/F-gr	
332	3913.80	63.6	0.880	55.7						20.4				2.67	A.A.decr-Pyr,scs-Sid.	
333	3913.90									20.8		59.9	28.5		2.67	
334	3914.00	41.7	0.808	36.1						19.4				2.66	A.A.	
335	3914.25	59.9	0.880	52.3						20.8				2.66	A.A.Incr-Pyr,w/o-Sid.	
336	3914.55	85.1	0.907	76.3	51.2	0.830	44.7	0.830	44.7	21.4				2.66	A.A.	
337	3914.75	101	0.907	90.3						22.3				2.66	A.A.	
338	3914.91									22.3		61.3	26.8		2.66	
339	3915.00	129	0.936	116						22.8				2.65	A.A.scS-C.	
340	3915.45	NMP	NMP	NMP						19.7				2.67	A.A.Frac.scS-Sid.	
341	3915.70	139	0.936	125						23.2				2.66	A.A.w/o-Frac,C.Scid.decr-Pyr.	
342	3916.00	306	0.967	282						25.5				2.69	A.A.W/F-cmt,scat-Pyr.	
343	3916.20	248	0.967	227						24.4				2.67	A.A.decr-Pyr.	
344	3916.40	238	0.967	218	169	0.936	153	0.936	153	24.2				2.67	A.A.	
345	3916.75	181	0.936	165						24.4				2.68	A.A.incr-Mic.	
346	3916.90									24.0		62.4	24.0		2.66	
347	3917.00	243	0.967	223						24.0				2.65	Sstl,gr/F.gr,Sb,ang,W/F-cmt,W-sit,ill-Cl,Mic,Scat-Pyr.	
348	3917.25	49.6	0.855	43.1						20.2				2.66	A.A.V/F-gr,W-cmt,ill-Mtrx,scs-Sid.	
349	3917.50	39.8	0.830	34.3	39.0	0.808	33.6	0.808	33.6	24.2				2.65	AA,F-gr,	

Company: Statoil
Well: 15/9-19 A
Field: Sleipner
Core no.: 4

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
Page: 3

RESLAB
Reservoir Laboratories AS
Tlf. 51-802290, Fax 51-8022575

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore saturation(%)			Grain density(g/cm ³)		Description	
		RKB	MD	Kn2	1/Pm	KI	Kn2	Vertical	He	Hor.	Vert.	So	Sw	Hor.	Vert.		
350	3917.75	66.1	0.880	58.0				27.8						2.66		A.A.scs-Pyr.	
351	3917.89								21.4			51.1		34.6		2.66	
352	3918.00	63.3	0.855	55.6				20.8						2.67		A.A.F.gr.w/o-Silt.incr-Pyr.	
353	3918.25	23.6	0.746	20.0				17.3						2.68		A.A.V/F/gr.scat-M.gr.Pyr.	
354	3918.50	67.5	0.880	59.2	59.1	0.855	51.7	21.2						2.68		A.A.w/o-M.gr.	
355	3918.75	8.11	0.595	6.63								15.6		2.75		A.A.k.Gry/Gry.w/o-Mtrx.Cf/Mic.Jam.incr-Pyr.	
356	3918.92											16.9		45.5	38.8	2.81	
357	3919.45	1.46	0.495	1.02	0.195	0.495	0.120	4.3						2.58		A.A.Gry.VW-cmt.Mott.Fis.w/o-Jam.Pyr.w/Cl.incr-Mic.III-C.	
358	3919.70	NMP	NMP									3.9		2.62		A.A.w/o-Mott.Fis.T.Silt.Frac.decr-C.Cl.Mic.scs-Pyr.	
359	3920.00	1.89	0.495	1.33								5.3		2.64		A.A.w/o-Frac.Fis.decr-Silt.scs-C.	
360	3920.20	3.17	0.495	2.49								4.6		2.63		Sst.Gry.F-gr.Sb-ang.Vw-cmt.W-silt.Fis.w/Cl.Mic.Sc-s-	
361	3920.55	NMP	NMP	0.275	0.495	0.173	8.6							2.64			
362	3920.75	1.56	0.495	1.09								5.1		2.64		A.A.V/F/gr.w/o-C.	
363	3920.90											4.4		5.7	78.9	2.67	
364	3921.00	0.053	0.495	0.030								4.6			2.66	A.A.V/F/gr.scat-F-gw/o-Fis.decr-Silt..scat-Pyr.	
365	3921.25	1.07	0.495	0.733								3.8			2.67	A.A.V/F/gr.incr-Pyr.Scal-C.	
366	3921.50	1.23	0.495	0.846	0.365	0.495	0.233	4.3						2.65		A.A.decr-C.Pyr.	
367	3921.75	3.38	0.495	2.67								13.2			2.67	A.A.Ik.Gry/Gry.F-gr.w/o-Silt.LH-Cl.	
368	3921.89											15.1		0.0	83.7	2.67	
369	3922.00	1.49	0.495	1.04								4.7			2.63	A.A.V/F/gr.III-Silt.incr-Cl.	
370	3922.45	NMP	NMP									6.5			2.64	A.A.Gry.Frac.incr-Silt.w/Cl.	
371	3922.70	0.380	0.495	0.244								5.6			2.65	A.A.w/o-Frac.	

Company: Statoil

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Well: Field: Steinperz 13/3-19 A

CONVENTIONAL
CORE ANALYSIS

Date: 20/03/98

Econometrica 18

Reservuari Labourales A.S
Tlf 51-802200 Fax 51-802575

Page: 4

RESLAB

Diagnostic Characteristics 15

Reservuari Labourales A.S
Tlf 51-802200 Fax 51-802575

Sect.	Plug no.	Depth (m)	Permeability (mD)						Porosity (%)						Pore Saturation(%)						Grain density(g/cm ³)		Description		
			RKB	MD	Horizontal		Vertical		H _e	Fluid sum.	Hor.	Vert.	So	Sw	Hor.	Vert.	Hor.	Vert.	A.A.VF-gr.w/o-Pyr.						
	372	3922.87																			2.71				
	373	3923.00	0.100	0.495	0.059																2.64				
	374	3923.25	1.17	0.495	0.800																2.66				
	375	3923.50	NMP	NMP	1.04	0.495	0.708	0.66												2.64					
	376	3923.89																		2.67					
	377	3924.00	0.127	0.495	0.077																2.65				
	378	3924.20	0.655	0.495	0.434																2.65				
	379	3924.40	8.77	0.595	7.22																2.65				
	380	3925.10	0.312	0.495	0.198																2.66				
	381	3925.30	NMP	NMP	0.124	0.495	0.075	4.6												2.64					
	382	3925.50	NMP	NMP																	2.67				
	383	3925.75	NMP	NMP																	2.54				
	384	3925.90																			2.65				
	385	3926.00	6.00	0.495	4.97																2.67				
	386	3926.25	4.57	0.495	3.70																2.65				
	387	3926.55	46.1	0.854	39.8	1.26	0.495	0.868	21.4											2.64					
	388	3926.75	10.6	0.620	8.82																2.63				
	389*	3926.92																							
	390	3927.00	16.8	0.662	14.2																2.65				
	391	3927.25	0.281	0.495	0.177																2.63				
	392	3927.50	1.12	0.495	0.770	2.58	0.495	1.99												2.65					
	393*	3927.89																			2.65				

Company: Statoil
 Well: 15/9-19 A
 Field: Sleipner
 Core no.: 4

CONVENTIONAL CORE ANALYSIS

Date: 20.03.98

Page: 5

RESILAB
 Reservoir Laboratories AS
 Tel: 51-802290, Fax: 51-802575

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore saturation(%)			Grain density(g/cm ³)		Description
		RKB MD	Kn2	1/Pm	K1	Kn2	1/Pm	K1	He sum.	Hor.	Vert.	So	Sw	Hor.	Vert.	
394	3928.00	0.932	0.495	0.634					5.7					2.65		A.A.VF-gr.w/o-MtrxC.Pyr.Llt-C.
395	3928.15	NMP			NMP				10.8					2.67		A.A.VF/F-gr.W/Fr-srt.Frac.Llt-Mtrx.w/C,Mic.scat-Pyr.
396	3928.55	0.306	0.495	0.194	0.138	0.495	0.084	10.0						2.64		A.A/W-srt.w/o-Frac.Llt-C,Mic.Sc-C,Pyr.
397	3928.75	2.91	0.495	2.27					15.3					2.64		A.A.F.gr.incr-C.lw/o-C,Pyr.
398*	3928.92															
399	3929.00	NMP		NMP					8.9					2.65		Sst,Il-Gry,V/F-gr.Sbang,Ww/cmtr.W-srt.Frac.w/C,Mic.Scat-
400	3929.25	NMP		NMP					4.8					2.54		A.A.Gry,V/F-gr.Slln,incr-C,Mic,Llt-C.
401	3929.50	1.20	0.495	0.823	0.277	0.495	0.174	9.5						2.54		A.A.VF/F-gr.W/Fr-srt.w/o-Frac.Mltt-Mtrx.decr-C,Mic.
402	3929.70	1.09	0.495	0.743					11.0					2.54		A.A,w/o-Molt,incr-C,scs-Pyr.
403*	3929.92															
404	3930.00	0.390	0.495	0.250					10.4					2.53		A.A.scat-M-gr.w/o-Pyr.
405	3930.25	1.80	0.495	1.27					15.6					2.64		Sst,Il-Gry,F-gr.Sbang,Ww/cmtr.W-srt.III-Mtrx,C,Mic.
406	3930.55	17.4	0.746	14.4	0.382	0.495	0.245	10.0						2.93		A.A.W/F-srt.decr-MtrxC,Mic.abd-Pyr.Sc-C.
407	3930.75	1.38	0.495	0.953					3.4					2.63		A.A.Gry,V/F-gr.W/srt.Fis,incr-MtrxFic,w/o-Pyr.
408*	3930.93															
409	3931.00	0.281	0.495	0.777					4.9					2.63		A.A.VF-gr.w/o-Fis,decr-Mtrx.
410	3931.30	NMP		NMP										2.25		A.A.Bk/Gry/scat-I-gr,Fr-srt.Frac.decr-C,Mic.abd-C,llt-Pyr
411	3931.55	1.19	0.495	0.815	0.165	0.495	0.101	6.9						2.47		Sst,Gry,V/F-gr.Scatt-F.gr.Sb-angVW/cmtr.W/Fr-srt/w/C,C,Cl,Ilt-M
412	3931.75	0.689	0.495	0.458					6.9					2.51		A.A.W-srt.III-Mtrx,decr-C.
413*	3931.92															
414	3932.00	8.91	0.572	7.40										2.54		A.A.VF/F-Gr.
415	3932.35	NMP		NMP										2.58		A.A.Frac.

Company: **Statoil**
Well: **15/9-19 A**
Field: **Steipner**

CONVENTIONAL
CORE ANALYSIS

Date: 20.03.98
Page: 6

RESLAB

Reservoir Laboratories AS
Tlf. 51-802290, Fax. 51-80257

CONVENTIONAL CORE ANALYSIS		RESLAB		Reservoir Laboratories AS			
Date: 20.03.98	Page: 6	Ref. No.		Phone	Fax		
		Ref. No.		Phone	Fax		
Permeability (mD)	Vertical	Horizontal	Vertical	Horizontal	Vertical	Soil	Grain
	Kn2	1/Pm	Kl	Hor.	Vert.	Sw	Saturation(%)
Porosity (%)	He	Fluid	So	Hor.	Vert.	density(g/cm ³)	Description

Company: Statoil
Well: 15/9-19 A
Field: Sleipner
Core no.: 5

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
Page: 1

RESLAB
Reservoir Laboratories AS
Tlf. 51-802290, Fax: 51-802575

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)	Pore fluid saturation(%)	Grain density(g/cm ³)	Description
		RKB	MD	Horizontal Kn2	Vertical 1/Pm	KI	Kn2 1/Pm				
TOP	3935.50										
427	3935.50	NMP	NMP	0.099	0.495	0.059	4.4		2.71		A.A.Frac.Scat-Pyr.CI/Mic-fam
428	3935.80	NMP	NMP				13.4		2.64		A.A.C-lam.scs-Pyr.
429*	3935.90										
430	3936.00	0.046	0.495	0.026			4.9		2.63		Sst.Ir.Gry/VF/F-gr.VW-cmt.W-srt.Sltt.CII/Mic-lam.Scs-C.
431	3936.20	8.06	0.572	6.65			15.1		2.64		A.A.F.gr.Sb-ang.decr-lam.Incl-C.
432	3936.40	29.2	0.766	24.9	50.2	0.830	43.8	14.3		2.65	A.A.VW/W-cmt.w/o-Sltt.
433	3936.75	102	0.936	90.7				14.5		2.60	A.A.Fis w/o-Lam.decr-CI,Mic.M-C.
434*	3936.91										
435	3937.00	NPP	NPP	NPP	NPP	NPP	NPP	NPP	NPP	NPP	
436	3937.25	NMP	NMP				4.8		2.41		Sst.Ir.Bk.VF-gr.VW-cmt.W-srt.Frac.Add-C.Ir-Ol,Mic.Scs-Pyr.
437	3937.50	0.284	0.495	0.179	0.043	0.795	0.024	3.7	2.42		A.A.Sb-ang.ScatFF-gr.w/o-Frac.
438	3937.75	6.18	0.540	5.05				15.0		2.64	
439*	3937.93										
440	3938.00	68.2	0.880	59.9				17.6		2.63	A.A.F.gr.W-cmt.Irr-Mfrx.
441	3938.20	101	0.907	89.9	262	0.967	240	18.7		2.68	A.A.decr-CI,Mic.w/o-C.scat-Pyr.
442	3938.40	4.43	0.495	3.58	1.30	0.495	0.898	14.2		2.66	A.A.VF/gr.VW-cmt.scs-Pyr.
443	3938.75	50.6	0.856	43.9				20.6		2.66	A.A.W-cmt.
444*	3938.94										
445	3939.00	41.5	0.808	35.9						2.66	A.A.
446	3939.25	39.9	0.830	34.3						2.65	A.A.
447	3939.50	10.5	0.647	8.59	52.5	0.855	45.7	24.4		2.66	A.A.F.gr

Company: **Statoil**
Well: **15/9-19 A**

Field: **Steipner**

Core no.: **5**

CONVENTIONAL CORE ANALYSIS

Date: 20.03.98
Page: 2

RESLAB
Reservoir Laboratories AS
Tlf. 51-802290, Fax: 51-802575

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)	Pore Fluid sum.	Saturation(%)	density(g/cm3)	Grain	Description
		RKB	MD	Kn2	1/Pm	KI	Kn2						
448	3939.75	1.30	0.495	0.894				14.8			2.65	A.A.VF-gr.W-Wcmnt.	
449*	3939.93										2.66	A.A.VFF-gr.WWcmnt.inci-Cl/Mic.	
450	3940.00	0.684	0.595	0.455				12.1					
451	3940.25	0.413	0.495	0.266					7.9		2.65	A.A.scat-M-gr.CII/Mic-fam.incr-Pyf.	
452	3940.50	96.8	0.907	86.1	2.06	0.495	1.55	18.5			2.64	A.A.F.gr.W-cmt.w/o-M-gr.fam.decr-Cl/Mic.Scs-C.	
453	3940.75	135	0.936	122				12.6			2.66	Sst.it.Gry.F/M-gr.Sb-ang.W-cmt.W-srt.Llt-Cl Mic.scs-Pyf.	
454*	3940.90												
455	3941.00	NPP	NPP	NPP					NPP		NPP		
456	3941.25	0.810	0.495	0.544				9.8			2.65	Sst.it.Gry.VF-gr.WWW-cmt.W-srt.Fis.Ilt-Mfrx.Cl/Mic.scs-Pyf	
457	3941.50	0.774	0.495	0.519	1.87	0.495	1.32	10.1			2.65	A.A.VFF-gr.Ilt-Cl/Mic-fam.	
458	3941.75	0.310	0.495	0.197				8.7			2.65	A.A.VWcmnt.	
459*	3941.80												
460	3942.00	0.384	0.495	0.246				7.6			2.65	Sst.it.Gry.Consol.VW-cmt.Sd/gr.w/Cl/B/Mic.scs-C.	
461	3942.20	4.77	0.495	3.88				16.7			2.66	Sst.it.GryVF/F-gr.Sb-ang.W-cmt.W-srt.Llt-Cl/Mic.scs-Pyf.	
462	3942.40	6.56	0.540	5.38	63.9	0.855	5.62	14.6			2.65	A.A.	
463	3942.65	6.24	0.495	5.18				16.9			2.65	A.A.	
464*	3942.90												
465	3943.00	NPP	NPP	NPP					NPP		NPP		
466	3943.25	NMP	NMP	NMP					NMP		NMP		2.67 Sst.it.Gry.Consol.scat-F-gr.W-cmt.Frac.Ilt-Mic.Scs-C.scat-P
467	3943.50												
468	3943.75	NMP	NMP	NMP					NPP		NPP		2.65 Sst.it.Gry.VF-gr.Sb-ang.W-cmt.W-srt.Frac.w/Cl/Mic.scs-C.P
469*	3943.91	NPP	NPP	NPP					NPP		NPP		

Company: Statoil
Well: 15/9-19 A
Field: Sleipner
Core no.: 5

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
Page: 3
Reservoir Laboratories AS
Tlf: 51-802290, Fax: 51-802575

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)	Pore fluid saturation(%)	Grain density(g/cm ³)	Description
		RKB MD	Kn2	Horizontal 1/Pm	Vertical Kn2	KI	He sum.				
470	3944.00	1.17	0.495	0.805				13.3		2.66	A.A.It-Gry.F.gr.VW-cmt.w/o-Frac.Ilt-Mtrx.Cl,Mic,w/o-C.
471	3944.20	8.85	0.572	7.17				16.5		2.65	A.A.W-cmt.decr-C,Mic.
472	3944.55	2.30	0.495	1.75	5.59	0.495	4.61	14.7		2.64	A.A.V/F-gr.Incr-Cl,w/o-Pyr.
473	3944.80	0.309	0.495	0.196				4.7		2.65	A.A.scat-M-gr.W/F-srt.Cl/Mic-Lam.Scat-Pyr,scs-C.
474	3945.00	2.62	0.495	2.03				10.0		2.66	A.A.W-srt.w/o-M-gr.decr-Cl/Mic-Lam.
475	3945.25	7.10	0.540	5.86				13.8		2.65	A.A.
476	3945.55	0.379	0.495	0.243	0.152	0.495	0.092	8.4		2.65	A.A.WW-cmt.w/o-Lam.Incr-Cl,Mic.
477	3945.75	0.874	0.495	0.590				12.3		2.64	A.A.decr-Cl,Mic,scs-Pyr.
478*	3945.88										
479	3946.00	2.40	0.495	1.84				12.4		2.66	A.A.F.gr.W-cml.scat-Pyr.
480	3946.20	0.370	0.495	0.237				9.7		2.63	A.A.Ie-Gry/Gry.VF-gr.VW-cmt.Incr-C,w/o-Pyr.
481	3946.40	0.210	0.495	0.130	0.237	0.495	0.148	6.6		2.61	A.A.It-C.
482	3946.75	2.96	0.495	2.32				10.1		2.61	A.A.Frac.scat-Pyr.
483*	3946.85										
484	3947.00	2.95	0.495	2.31				10.5		2.63	Sst.Gry.VFF/gr.S6-ang.W-cmt.W-srt/w/Cl,Ilt-Mtrx,C,Mic.
485	3947.25	0.333	0.495	0.212				10.2		2.63	A.A.WW-cmt.SltIncr-C.ScatPyr.
486	3947.50	0.239	0.495	0.149	0.299	0.495	0.189	13.3		2.65	A.A.
487	3947.75	85.8	0.907	75.9				17.5		2.65	A.A.I-Gry.W-cmt:scast-M-gr/Fis.Ilt-Cl,Scs-C,decr-Pyr.
488*	3947.87										
489	3948.00	191	0.967	174				14.9		2.69	A.A.F.gr.w/o-M-gr,Pbl,incr-Pyr.
490	3948.20	74.5	0.880	85.7				17.5		2.66	A.A.w/o-Pbl,Fis,scs-Pyr.
491	3948.40	98.0	0.907	87.2	10.6	0.595	8.85	18.4		2.66	A.A.incr-C,Pyr.

Company: Statoil
Well: 15/9-19 A
Field: Steipner

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
Page: 5

RESLAB
Reservoir Laboratories AS
Tlf. 51-802290, Fax. 51-802575

Core no.: 5

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore Saturation(%)			Grain density(g/cm ³)		Description
		RKB	MD	Kn2	1/Pm	KI	Kn2	1/Pm	KI	He sum.	So	Sw	Hor.	Vert.		
514	3953.00	58.9	0.855	51.6						17.3				2.66	Sst:II;Gry,F-gr,Sb-ang,W-cmt,W-srt,C/I/Mic-lam,scs-Mtx,C.	
515	3953.25	627	0.981	589						16.8				2.70	A,A,F/M-gr,w/o-Lam,decr-C,I,Mic,scat-Pyr.	
516	3953.50	33.2	0.854	28.1						25.7				2.64	A,A,F-gr,Lti-Pyr.	
517	3953.75	3.72	0.495	2.97						12.6				2.65	A,A,V/F-gr,VW/W-Cmt,C/I/Mic-lam,Scs-Pyr.	
518	3954.00	243	0.967	222						18.0				2.65	A,A,F-gr,w/o-Lam,C,Pyr,scs-C,I,Mic.	
519	3954.20	145	0.936	130						19.0				2.64	A,A,Itt-C,I,Mic.	
520	3954.50	355	0.968	329	516	0.977	483	18.0					2.64	A,A,scs-C.		
521	3954.75	847	0.985	802						20.1				2.64	A,A,W-cmt,decr-C,I,Mic.	
522	3955.00	949	0.987	900						22.6				2.65	A,A,scat-M-gr,Pyr,l,I,C	
523	3955.25	NMP	NMP	NMP						21.3				2.60	A,A,Frac,w/o-scatt-M-gr,Pyr,l,I,C	
524	3955.50	NMP	NMP	21.6	0.710	18.3	21.4							2.63	A,A,decr-C.	
525	3955.75	787	0.985	744						21.3				2.63	A,A,F/M-gr,w/o-Frac.	
526	3956.25	496	0.976	464						20.9				2.64	A,A,F-gr,scs-C,I,Mic.	
527	3956.45	378	0.979	351	354	0.967	328	19.2					2.64	A,A,		
528	3956.75	678	0.981	639						19.9				2.64	A,A,	
529*	3956.86															
530	3957.00	568	0.978	533						22.1				2.64	A,A,infr-C,I	
531	3957.25	NMP	NMP							6.4				2.66	Sst:VF/F-gr,Sb-ang,VW-cmt,W-srt,Frac,l,I,Mtx,C,I,Mic,scs-	
532	3957.50	59.5	0.855	52.0	21.9	0.710	18.6	18.5			9.5			2.64	A,A,It-Gry,F-gr,Slt,infr-C,I,Mic,scat-Pyr.	
533	3957.75	0.311	0.495	0.197										2.67	A,A,V/F-gr,Slt,infr-C,I,Mic,scat-Pyr.	
534	3958.00	2.98	0.495	2.33										2.65	A,A,V/F-gr,decr-slt,infr-C,I,C	
535	3958.20	799	0.985	765										2.64	A,A,F-gr,W-cmt,w/o-Mtx,Slt,C,Pyr,scs-C,I,Mic.	

Company: Statoil
Well: 15/9-19 A
Field: Sleipner
Core no.: 5

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98

Page: 6

Reservoir Laboratories AS
Tlf: 51-802290, Fax: 51-802575

RESLAB

Plug no.	Depth (m)	Permeability (mD)					
RKB	MD	Kn2	1/Pm	KI	Kn2	1/Pm	KI
536	3958.50	67.7	0.880	59.5	75.3	0.880	66.5
537	3958.75	7.46	0.540	6.17			12.2
538*	3958.87						
539	3959.00	64.6	0.855	56.8			20.7
540	3959.25	1580	0.992	1510			19.5
541	3959.50	146	0.936	132			19.4
542	3959.75	232	0.969	212			19.6
543*	3959.90						
544	3960.00	4.34	0.495	3.51			18.0
545	3960.20	0.224	0.495	0.139			8.1
546	3960.40	NMP	NMP	0.079	0.495	0.046	6.7
547	3960.75	0.155	0.495	0.094			9.9
548*	3960.89						
549	3961.00	0.159	0.495	0.097			10.5
550	3961.25	35.3	0.786	30.4			18.2
551	3961.55	68.2	0.880	59.9	62.7	0.855	55.0
552	3961.75	1.86	0.495	1.31			12.8
553	3962.00	146	0.936	132			22.2
554	3962.25	36.4	0.786	31.4			19.4
555	3962.50	8.92	0.561	7.43			17.2
BTM	3963.00						

Plug no.	Depth (m)	Porosity (%)			Pore		Grain	
		He	Fluid	sum.	So	Sw	Hor.	Vert.
536	3958.50	67.7	0.880	59.5	75.3	0.880	66.5	17.9
537	3958.75	7.46	0.540	6.17			12.2	
538*	3958.87							
539	3959.00	64.6	0.855	56.8			20.7	
540	3959.25	1580	0.992	1510			19.5	
541	3959.50	146	0.936	132			19.4	
542	3959.75	232	0.969	212			19.6	
543*	3959.90							
544	3960.00	4.34	0.495	3.51			18.0	
545	3960.20	0.224	0.495	0.139			8.1	
546	3960.40	NMP	NMP	0.079	0.495	0.046	6.7	
547	3960.75	0.155	0.495	0.094			9.9	
548*	3960.89							
549	3961.00	0.159	0.495	0.097			10.5	
550	3961.25	35.3	0.786	30.4			18.2	
551	3961.55	68.2	0.880	59.9	62.7	0.855	55.0	21.2
552	3961.75	1.86	0.495	1.31			12.8	
553	3962.00	146	0.936	132			22.2	
554	3962.25	36.4	0.786	31.4			19.4	
555	3962.50	8.92	0.561	7.43			17.2	
BTM	3963.00							

Description							
2.64							A.A.VWWcmntCl/Mic-lam.seatC.
2.74							A.A.seat-M.gr.III-Pyr.deci-C.
2.65							Sst,II,Gry,F-gr.IIIang-W-cmt.W-srl.III-Mtx,Cl,Mic,scs,C.
2.66							A.A.w/o-Mtx,C,Scs-Cl,Mic.
2.64							A.A.R-Cl,scs-C,Pyr.
2.64							A.A.
2.79							A.A.VWWcmntIII-Mtx,Mic,Pyr/w/o-C.
2.65							A.A.V/F/F-gr.VW/cmntIncr-C,Mic,w/o-Pyr.
2.65							A.A.Frac.SII,Cl/Mic-lam.Scat-Pyr.
2.64							A.A.V/F-gr.w/o-Frac,Lam,w/CII,Cl/Mic,scs-Pyr.
2.68							AAV/F/F-gr.decr,SII,III-Cl,scat-Pyr.
2.66							A.A.F.gr.W-cmtw/o-SII,decr-C,Cl,Mic,Pyr.
2.64							A.A.Fis,w/o-Pyr.
2.66							AAVF/F-gr.VWWcmntCl/Mic-lam.Sc's-Pyr.
2.64							A.A.F.gr.W-cmtw/o-lam.
2.65							A.A.VWWcmnt
2.65							A.A.VWw/cmntIncr-C,Cl,Mic.

Company: Statoil
Well: 15/9-19 A

Field: Sleipner

Core no.: 6

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
Page: 1

RESLAB

Reservoir Laboratories AS

Tlf. 51-802290, Fax. 51-802575

Permeability (mD)

Horizontal

Vertical

Kn2

1/Pm

KI

Kn2

1/Pm

KI

Hor.

Vert.

sum.

Hor.

Vert.

NMP

0.495

0.116

0.495

0.069

8.3

0.495

1.46

1.46

1.03

15.8

1.03

15.8

1.03

15.8

1.03

15.8

Porosity (%)

He

So

Sw

So

Sw

Hor.

Vert.

sum.

Hor.

Vert.

Hor.

Vert.

Hor.

Vert.

NMP

0.495

0.116

0.495

0.069

8.3

0.495

1.46

1.46

1.03

15.8

1.03

15.8

1.03

15.8

Grain density(g/cm³)

Hor.

Vert.

Description

Hor.

Vert.

Top

RKB MD

Kn2

1/Pm

KI

Kn2

1/Pm

KI

Hor.

Vert.

sum.

Hor.

Vert.

558*

3963.54

122

0.936

110

108

0.907

96.3

22.8

21.9

2.64

A.A.W-cmt.decr-Cl/Mc.

559

3963.60

0.830

39.4

1.06

0.099

0.495

0.495

0.495

0.495

9.5

2.64

A.A.VF/F-gr.Sb-ang.WW-cmt.incr-Cl/Mc.scs-Pyr.

560

3963.85

0.830

39.4

1.06

0.099

0.495

0.495

0.495

0.495

9.5

2.64

A.A.Sit/w/o-Pyr.

561

3964.00

0.830

39.4

1.06

0.099

0.495

0.495

0.495

0.495

10.0

2.64

A.A.Fac.Scs-Pyr.

562

3964.25

0.830

39.4

1.06

0.099

0.495

0.495

0.495

0.495

19.4

2.66

A.Aw/o-Frac.decr-C.

563

3964.50

0.830

39.4

1.06

0.099

0.495

0.495

0.495

0.495

8.3

2.66

A.Aw/o-Frac.decr-C.

564*

3964.57

0.830

39.4

1.06

0.099

0.495

0.495

0.495

0.495

9.7

2.65

A.A.

565

3964.80

0.830

39.4

1.06

0.099

0.495

0.495

0.495

0.495

14.5

2.65

A.A.w/o-Slit,C.Pyr.

566

3965.00

0.830

39.4

1.06

0.099

Company: Statoil

Well: 15/9-19 A

Field: Sleipner

Core no.: 6

CONVENTIONAL CORE ANALYSIS

Date: 20.03.98

Page: 2

RESLAB
Reservoir Laboratories AS
Tel. 51-802290, Fax. 51-802575

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore saturation (%)			Grain density(g/cm3)		Description
		RKB	MD	Horizontal Kn2	Horizontal 1/Pm	Vertical Kn1	Vertical 1/Pm	He sum.	Fluid sum.	So	Sw	Hor.	Vert.	Hor.	Vert.	
577	3967.30	31.7	0.766	27.2				17.0				2.65		A.A.		
578	3967.50	54.9	0.979	514	19.4	0.710	16.4	20.2				2.67		A.A.		
579*	3967.64							3.8				2.75		A.A.		
580	3967.75	0.165	0.495	0.100				4.7				2.79		A.A.		
581	3968.00	0.080	0.495	0.047												
582	3968.35	6.17	0.728	4.71				14.5				2.65		A.A.		
583	3968.50	2.31	0.495	1.76	1.58	0.495	1.10	15.0				2.65		A.A.		
584*	3968.61															
585	3968.70	10.3	0.695	8.59				14.8				2.64		A.A./Mic-lam.scat-Pyr.		
586	3969.00	998	0.987	948				19.3				2.66		A.A./M-gr-W-cmt/wb-Pyr;Cl/Mic-lam.lf-Cl.scs-Mic.		
587	3969.25	958	0.988	909				22.2				2.66		A.A./decr-Cl.scs-Pyr.		
588	3969.50	65.6	0.855	57.8	27.3	0.746	23.3	15.2				2.66		A.A./FM-gr-W/F-srf/M-Mix,Mic.scat-Pyr.		
589*	3969.58															
590	3969.75	77.8	0.880	68.8				17.1				2.64		A.A./W-srf/lncr-Cl.scs-Pyr.		
591	3970.00	8.70	0.595	7.16				13.9				2.67		A.A./F-gr-WW-cmt/decr-Cl.scat-Pyr.		
592	3970.25	0.066	0.495	0.038								2.73		A.A./VF/F-gr-ll-Calc/lncr-Pyr		
593	3970.50	0.040	0.495	0.022	0.067	0.495	0.038	3.3				2.76		A.A./wCalc.ll/Pyr.		
594*	3970.62															
595	3970.70	0.037	0.495	0.021								2.76		A.A.		
596	3971.00	29.7	0.766	25.5								2.66		Sst/l-Gry,F.gr.VWW-cmt/W-srf/lf-Mtrx,Calc,C/Mic.scs-Pyr.		
597	3971.25	94.5	0.907	84.0								2.66		A.A./S6-ang,W-cmt/decr-Mix,Mic.		
598	3971.50	1.67	0.495	1.17	15.8	0.662	13.3	15.2				2.65		A.A./VF/F-gr.WW-cmt.		

Company: Statoil
 Well: 15/9-19 A
 Field: Sleipner
 Core no.: 6

**CONVENTIONAL
 CORE ANALYSIS**

Date: 20.03.98
 Page: 3

RESLAB
 Reservoir Laboratories AS
 Tlf: 51-802290, Fax: 51-802675

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore Saturation(%)			Grain density(g/cm3)		Description
		Horizontal	Vertical	Kn2	1/Pm	K1	Kn2	1/Pm	K1	Hor.	Vert.	So	Sw	Hor.	Vert.	
599*	3971.62															
600	3971.75	2.93	0.495	2.29						17.9				2.66		A.A.scat-Pyr.
601	3972.00	1.77	0.495	1.25						14.3				2.64		A.A.VF-gr.decr-Cl;Incr-Cl;scs-C.
602	3972.25	0.990	0.495	0.673						12.9				2.73		A.A.VF/F-gr.incr-Mtrx;H-Sid.
603*	3972.37															
604	3972.50	4.23	0.495	3.41	0.159	0.495	0.097			14.8				2.65		A.A.decr-Mtrx;Incr-Mic;w/o-C;Sid;scs-Pyr.
605	3972.80	3.76	0.495	3.00						16.3				2.64		A.A.VF-gr.
606	3973.00	0.863	0.495	0.582						12.6				2.64		A.A.
607	3973.25	161	0.936	146						22.7				2.65		A.A.F-gr.W-cmt.
608*	3973.35															
609	3973.50	46.2	0.830	40.1	41.6	0.808	36.0	203						2.64		Sst;H;Gry;VF/F-gr;Sb-ang;VWW-W-cmt;W-srt;H-Mtrx;Cl;Mic.
610	3973.75	15.6	0.746	12.9						25.0				2.64		A.A.
611	3974.00	3.69	0.495	2.94						13.7				2.66		A.A.Incr-Cl;Mic;scat-Pyr;scs-C.
612	3974.25	30.9	0.766	26.5						11.5				2.71		A.A.F-gr;H-Calc;decr-C;Pyr.
613*	3974.32															
614	3974.60	136	0.936	123						14.8				2.68		A.A.W-cmt;decr-Calc;Cl;Mic.
615	3974.80	202	0.967	184						15.7				2.68		A.A.
616	3975.00	165	0.936	150						17.2				2.67		A.A.
617	3975.25	131	0.936	118	8.61	0.572	7.13	16.0						2.65		A.A.VF/F/M-gr;Sb-ang;W-cmt;F-srt;H-Mtrx;Cl;Mic
618*	3975.35															
619	3975.50	213	0.967	194	67.7	0.880	59.4	16.8						2.65		Sst;H;Gry;VF/F/M-gr;Sb-ang;W-cmt;F-srt;H-Mtrx;Cl;Mic
620	3975.75	222	0.967	203										2.66		A.A.w/o-Pbl;scs-Calc;Pyr.

Company: Statoil
Well: 15/9-19 A

Field: Sleipner

Core no.: 6

CONVENTIONAL CORE ANALYSIS

Date: 20.03.98
Page: 4

RESLAB

Reservoir Laboratories AS

Tlf.51-802290,Fax.51-802575

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore fluid saturation(%)			Grain density(g/cm ³)		Description
		RKB	MD	Horizontal		Vertical		He sum.	So	Sw	Hor.	Vert.	Hor.	Vert.		
621	3976.05	238	0.967	218				16.9			2.64				A.A.w/o-Calc.scs-C.	
622	3976.30	NMP						5.9			2.83				Lmsl.Gry.Consol.VW-cmt.Sd.gr.Frac.w/Sd.Cl.Llt-Mic.	
623*	3976.40															
624	3976.80	0.110	0.495	0.066				5.2			2.69				Sst.II-Gry.VF-gr.Sb-ang.VW-cmt.W-sit.Cl/Mic-lam.scs-Si	
625	3977.00	0.060	0.495	0.035				6.2			2.66				A.A.decr-Lam.incr-Mic.w/o-Sid.	
626	3977.25	0.065	0.495	0.038				8.4			2.65				A.A.decr-Cl,Mic.	
627	3977.50	84.5	0.880	75.0	202	0.951	185	18.1			2.64				A.A.F.gr.W-cmt.decr-Sit.III-Mtrx.w/o-Lam.w/Cl,scs-Pyr.	
628	3977.70	1410	0.991	1340				22.8			2.64				A.A.F/M.gr.W/Fr-cmt.w/o-Sif.Pyr.decr-Mtrx.scs-Cl,Mic.	
629	3978.30	4.74	0.495	3.86				13.2			2.65				A.A.V/F-gr.VW-cmt.III-Cl,Mic,scat-Pyr.	
630	3978.45	0.122	0.495	0.073	0.223	0.495	0.139	9.2			2.64				A.A.scs-Pyr.	
631	3978.75	0.193	0.495	0.119				10.3			2.63				A.A.	
632	3979.00	304	0.967	281				21.9			2.63				A.A.F.gr.W-cmt.decr-Cl,Mic.w/o-Pyr.	
633	3979.30	10.7	0.595	8.90				17.3			2.62				A.A.V/F-gr.VW/W-cmt.sus-C	
634	3979.55	1.26	0.495	0.866	0.777	0.595	0.521	14.3			2.64				A.A.V/F-gr.VW-cmt.Cl/Mic-lam.	
635	3979.80	58.1	0.855	50.8				17.8			2.63				A.A.F/M.gr.W-cmt.w/o-Lam.	
636	3980.05	2.70	0.495	2.09				4.6			2.76				A.A.F/gr.VW-cmt.III-Calc.Cl.scs-Std.w/o-C.	
637	3980.15	NPP						NPP			NPP				NPP	
638	3980.23	1.20	0.495	0.824					13.6		2.66				Sst.II-Gry.V/F-gr.VW-cmt.W-sit.III-Mtrx.Cl,Mic.w/o-Pyr.	
639	3980.27	55.3	0.855	48.3					20.9		2.67				A.A.F.gr.Sb-ang.VW-cmt.decr-Mtrx.Cl,Mic.w/o-C.	
640*	3980.32														A.A.M.gr.	
641	3980.40	99.6	0.907	88.7	163	0.936	147	21.6			2.64				A.A.F-cmt.Incr-Mtrx.Cl,Mic.w/o-Pyr.	
642	3980.80	537	0.978	504							2.64					

Company: Statoil
Well: 15/9-19 A

Field: Sleipner

Core no.: 6

CONVENTIONAL CORE ANALYSIS

Date: 20.03.98
Page: 5

RESLAB
Reservoir Laboratories AS
Tlf. 51-802290, Fax. 51-802575

Plug no.	Depth (m)	Permeability (mD)			Porosity (%)			Pore Saturation(%)			Grain density(g/cm3)		
		RKB	MD	Kn2	1/Pm	KI	He sum.	Hor.	Vert.	So	Sw	Hor.	Vert.
643	3981.10	0.071	0.495	0.041				4.8				2.64	A.A.VF/gr. scat.Pbl/gr. VW-cmt.Wf-r-sct decr-Mtr.
644	3981.30	1.26	0.495	0.868				12.9				2.63	A.A.VFF-gr.WWW-cmt.W-sit.w/o-Pbl.
645	3981.50	8.70	0.561	7.23	4.82	0.495	3.93	18.4				2.62	Sst.II-Gry.F.gr.Sb-ang.W-cmt.W-sit.III-Mtrx.CI/Mic.Sc-s-C.
646	3981.70	2.31	0.495	1.76				17.8				2.63	A.A.sc-s-Pyr.
647	3982.35	105	0.907	94.0	47.2	0.830	41.0	21.2				2.64	A.A.WFI-cmt.w/o-CPyr.
648	3982.75	73.3	0.880	64.6				19.8				2.65	A.A.
649	3983.00	9.85	0.572	8.23				13.0				2.68	A.A.VWW-cmt.Lif-Calc.
650	3983.25	0.228	0.495	0.142				5.1				2.71	A.A.VW-cmt.Scat-Pyr.
651*	3983.39												
652	3983.50	NMP	NMP	0.041	0.495	0.023	6.4					2.69	A.A.IrGry/GryVF-gr.Frac.C/Cl/Mic-lam.scs-Sid w/o-Calc.
653	3983.75	0.380	0.495	0.244			6.2					2.72	A.A.IrGry/VFF-gr.w/o-Frac.Lam.C.Sid.III-Calc.Ci,Mic.
654	3984.15	0.583	0.495	0.384			7.7					2.70	A.A.Pbl.scs-C.
655	3984.30	8.99	0.572	7.46				12.6				2.68	A.A.F.gr.w/o-Pbl/decr-Calc.CI/Mic.scs-Pyr.
656	3984.50	0.462	0.495	0.300	0.030	0.495	0.017	4.2				2.69	A.A.Gry.VF-gr.Slt.W-cmt.w/o-Pbl.decr-Cl.
657	3984.80	231	0.967	211				16.9				2.66	A.A.IrGry,F.gr.W-cmt.w/o-Slt.Lam.Sid.III-Mtrx.Mic.Sc-s-Pyr.
658	3985.00	75.5	0.880	66.6				14.0				2.70	A.A.VW-W-cmt.Pbl/decr-Mtrx.Mic.w/o-Pyl.III-Calc.
659	3985.25	3.94	0.495	3.16				7.8				2.71	A.A.VW-cmt.w/o-Pbl.decr-Cl.
660*	3985.35												
661	3985.60	1.12	0.495	0.770	0.537	0.495	0.352	8.9				2.67	A.A.VFF-gr.decr-Calc.
662	3985.80	2.29	0.495	1.75								2.66	A.A.F.gr.
663	3986.00	2.22	0.495	1.69								2.68	A.A.sc-s-Pyr.
664	3986.25	3.20	0.495	2.52								2.68	A.A.w/o-Pyl.

Company:	Statoil
Well:	15/9-19
Field:	Sleipner
Core no.:	6
Plug no.	
Depth (m)	RKB MD

CONVENTIONAL
CORE ANALYSIS

Date: 20.03.98
Page: 6

RESLAB
Reservoir Laboratories AS
Tlf. 61-8022200 Fax 51-8022575

Company:	Statoil	Permeability	
Well:	15/9-19 A	Depth	Horizontal
Field:	Sleipner	(m)	Kn2
Core no.:	6	RKB MD	1/Pm
Plug no.		BTM	Ki
		3991.00	

CONVENTIONAL
CORE ANALYSIS

Well: 15/9-19 A
Field: Sleipner

CONVENTIONAL

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Tlf 51-802299 Fax 51-802575

Date: 20.03.98
Page: 7

Date: 20/03/08

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Description

Company: **Statoil**
Well: **15-9-19 A**
Field: **Sleipner**
Core no.: **7**

CONVENTIONAL
CORE ANALYSIS

Date: 20.03.98
Page: 1

RESLAB
Reservoir Laboratories AS
Tlf. 51-802200, Fax. 51-802575

Company: Statoil
Well: 15/9-19
Field: Sleipner

CONVENTIONAL
CORE ANALYSIS

Date: 20.03.98
Page: 2

RESLAB
Reservoir Laboratories AS

Tlf 51-802280 Fax 51-802575

Porosity (%)	Pore saturation (%)	Grain constituents (cm ²)	Description
10	10	10	Very low porosity, saturated pores.
20	20	20	Low porosity, partially saturated pores.
30	30	30	Medium porosity, mostly saturated pores.
40	40	40	High porosity, mostly saturated pores.
50	50	50	Very high porosity, mostly saturated pores.

Company: Statoil

Well: 15/9-19 A

Field: Steipner

Core no.: 7

CONVENTIONAL CORE ANALYSIS

Date: 20.03.98

Page: 3

RESLAB

Reservoir Laboratories AS

Tlf. 51-802290, Fax. 51-802575

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)			Pore fluid saturation(%)			Grain density(g/cm ³)			Description
		RKB	MD	Kn2	1/Pm	K1	Kn2	1/Pm	K1	Hor.	Vert.	So	Sw	Hor.	Vert.		
730	4000.00	1720	0.995	1650						20.9				2.63		A.A.Fr-cmt,decr-Cl,Mic,w/o-Pyr.	
731	4000.20	0.276	0.495	0.174						10.5				2.64		Sst,Il,Gry,V/F,gf,Sb-ang,VW-cmt,W-srt,Cl/Mic-lam,sos-C.	
732	4000.60	370	0.972	343	1490	0.992	1430	19.0						2.64		A.A.FM-gr/W-F-cmt,w/o-lam,Il-Mtrx,Cl/Mic.	
733	4000.80	810	0.985	766						20.0				2.63		A.A.decr-Mtrx,Cl/Mic.	
734*	4000.91																
735	4001.00	0.245	0.495	0.153						13.0				2.64		A.A.F.gr,VW-W-cmt,incr-Mtrx,Cl/Mic.	
736	4001.25	9.68	0.595	8.03						17.3				2.63		Sst,Il,Gry,F-gr,Sb-ang,W-cmt,W-srt,Il-Mtrx,Cl/Mic,sos-C.	
737	4001.50	0.229	0.495	0.142	0.042	0.495	0.024	6.8						2.64		A.A.VF/F-gr,VW-cmt,w/o-Lam,w/Mic,Il-Cl.	
738	4001.75	21.7	0.710	18.4						13.2				2.66		A.A.FM/gr,VW-cmt,w/o-Lam,w/Mic,Il-Cl.	
739	4002.00	234	0.967	214						15.4				2.64		A.A.W-cmt,decr-Mtrx,Cl,Il-Mic.	
740	4002.35	920	0.907	81.6						14.6				2.65		A.A.F.gr,decr-Mic,sos-Pyr.	
741	4003.00	500	0.979	468						16.7				2.64		A.A.FM/gr,w/o-C,Pyr.	
742	4003.25	45.2	0.830	39.1						16.2				2.64		A.A.F.gr,VW-cmt.	
743	4003.50	819	0.988	774	1130	0.989	1080	17.9						2.64		A.A.FM/gr,W-cmt,sos-C,Pyr.	
744	4003.75	173	0.936	158						16.0							
745*	4003.87																
746	4004.00	504	0.977	472						16.9				2.64		A.A.F.gr,W-srt,w/o-Pbl.	
747	4004.25	2240	0.994	2160										2.63		Sst,Il,Gry,M/Crs-gr,Sb-ang,W-cmt,W-srt,Cl/Mic.	
748	4004.65	170	0.936	154	0.466	0.495	0.303	13.8						2.63		A.A.FM/gr,Il-Mtrx,Cl/Mic,sos-C.	
749	4004.80	25.2	0.746	21.4										2.64		A.A.VF/F/M-gr,P6/F-srt,Incr-Cl.	
750*	4004.89																
751	4005.00	479	0.978	448										2.64		A.A.W/Fr-cmt.	

Company: Statoil
Well: 15/9-19

15/9-19 A
Steiner
Well:
Field:

Core no - 7

CONVENTIONAL
CORE ANALYSIS

Date: 20.03.98
Page: 4

RESLAB

Reservoir Laboratories AS

Tel 51-802290 Fax 51-802575

Company: **Statoil**
 Well: **15/9-19 A**
 Field: **Steipner**
 Core no.: **7**

**CONVENTIONAL
CORE ANALYSIS**

Date: 20.03.98
 Page: 5

RESLAB
 Reservoir Laboratories AS
 Tel. 51-802290, Fax. 51-802575

Plug no.	Depth (m)	Permeability (mD)						Porosity (%)	Pore saturation(%)	Grain density(g/cm ³)	Description
		RKB	MD	Horizontal Kn2	Vertical 1/Pm	KI	Hor. sum.				
774	4010.00	300	0.970	277			15.9			2.64	A.A.M-gr/W/Fr-cmt/W-sit/w/o-Pbi.
775	4010.20	315	0.967	282			17.1			2.64	Sst/I-Gry/M/Crs-gr/Sbang/VWW-cmt/W-sit/B-Cl/scs-Mtx.M
776	4010.45	1490	0.992	1420	107	0.907	96.0	19.8		2.65	A.A.W/Fr-cmt.
777	4010.75	0.283	0.495	0.178			7.8			2.66	A.A.V/Fr-gr/VWW-cmt/Fr-sit/scat-M-gr Cl/Mic-lam.
778*	4010.90										
779	4011.00	1.57	0.495	1.10			10.6			2.65	A.A.W/sit/w/o-scatt-M-gr.
780	4011.40	1.94	0.495	1.37			9.7			2.68	Sst/I-Gry/VF/F-gr/W-cmt/Fr-sit/Scat-M-gr Scs-P
781	4011.60	6.90	0.595	5.58	0.081	0.495	0.048	7.9		2.69	A.A.Sbang/W-sit/w/o-M.gr/Ilt-Mtx.scat-Pyr.
782	4011.80	0.692	0.495	0.460			5.8			2.80	A.A.VF/gr/VWW-cmt/Inc-Mic-lam.III-Calc.scs-Sid.
783	4012.00	0.750	0.495	0.501			8.8			2.68	A.A.V/F-gr/decr-Calc/w/o-lam Pyr.Sid..III-Cl,Mic.
784	4012.25	0.288	0.495	0.182			8.5			2.68	A.A.W/Fr-sit/Scat-M-gr Cl/Mic-lam
785,	4012.60	0.327	0.495	0.208	0.151	0.495	0.092	7.1		2.70	A.A.decr-Cl/Mic-lam.Ilt-Calc.
786	4012.80	0.272	0.495	0.171			6.5			2.68	A.A.incr-Cl/Mic-lam.decr-Calc.
787*	4012.92										
788	4013.00	0.273	0.495	0.172			8.5			2.69	A.A.w/o-Calc.Scgs-Pyr.
789	4013.25	1.94	0.495	1.38			10.2			2.68	Sst/I-Gry/VF/F/M/Crs-gr/W-cmt/Fr-sit/Ilt-Cl/Mic.scat-Pyr.
790	4013.50	12.8	0.620	10.8	0.565	0.495	0.371	13.3		2.67	A.A.VF/F/M-gr/Fr-sit/Pbi.Ilt-Mtx.Calc.w/o-Pyr.
791	4013.75	57.7	0.855	50.5			19.8			2.65	A.A.F-gr/W-sit/scat-M-gr w/o-Pbi,Calc.scgs-Pyr
792*	4013.90										
793	4014.00	0.630	0.495	0.416						2.65	A.A.V/F-gr/w/o-scatt-M-gr.Cl/Mic-lam.
794	4014.20	25.4	0.746	21.6						2.67	Sst/I-Gry/F/M-gr/Sb-ang.W-cmt.W/Fr-sit/Mtx.Cl/Mic-lam.
795	4014.40	49.1	0.830	42.7	0.582	0.495	0.383	15.7		2.66	A.A.W/sit/w/o-Lam.decr-Mtx.Ilt-Cl,Mic.scs-Pyr.

Company: **Statoil**
Well: **15/9-19 A**
Field: **Steipner**
Core no.: **7**

CONVENTIONAL
CORE ANALYSIS

Well: 15/9-19 A

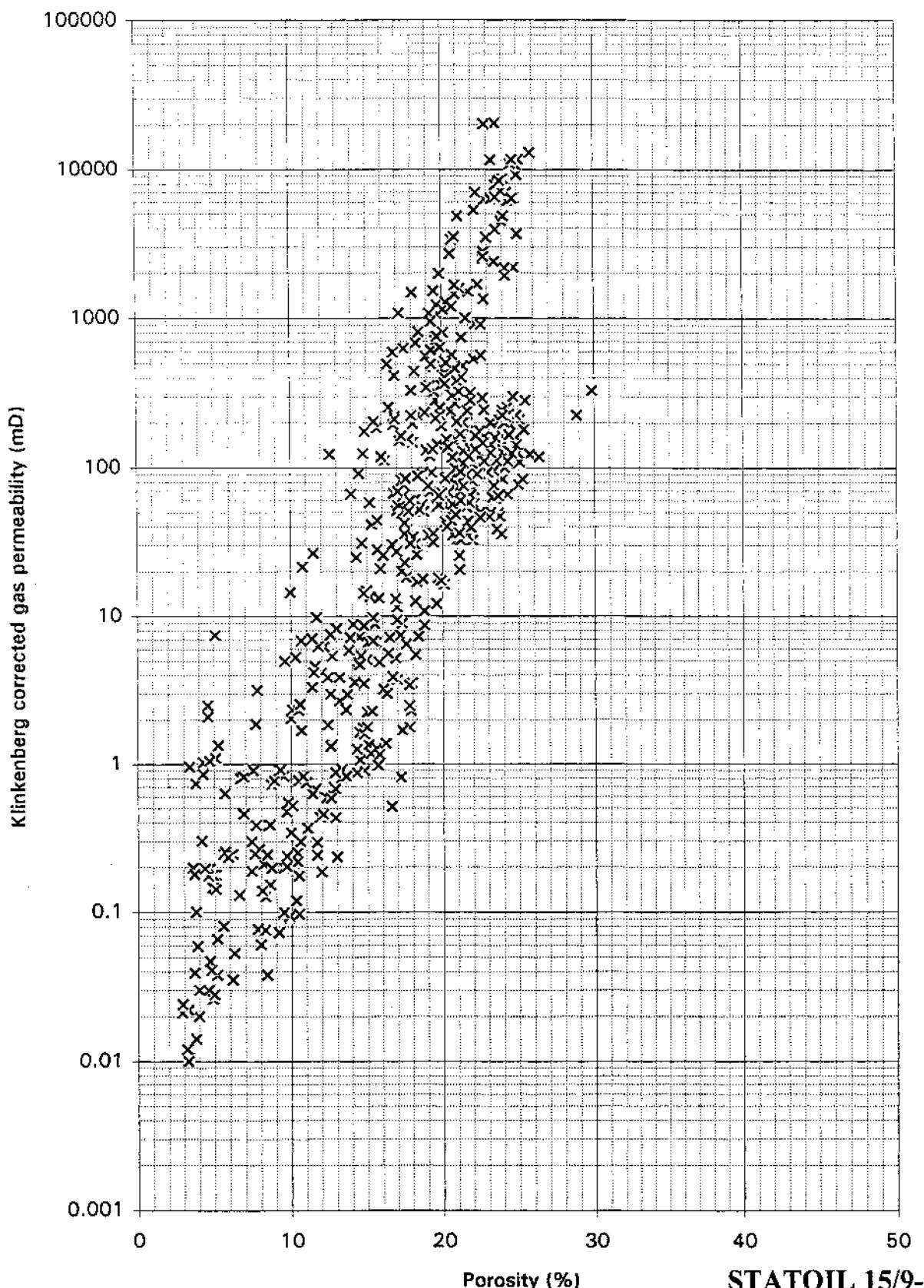
Field: Steipner

Core no.: 7

4

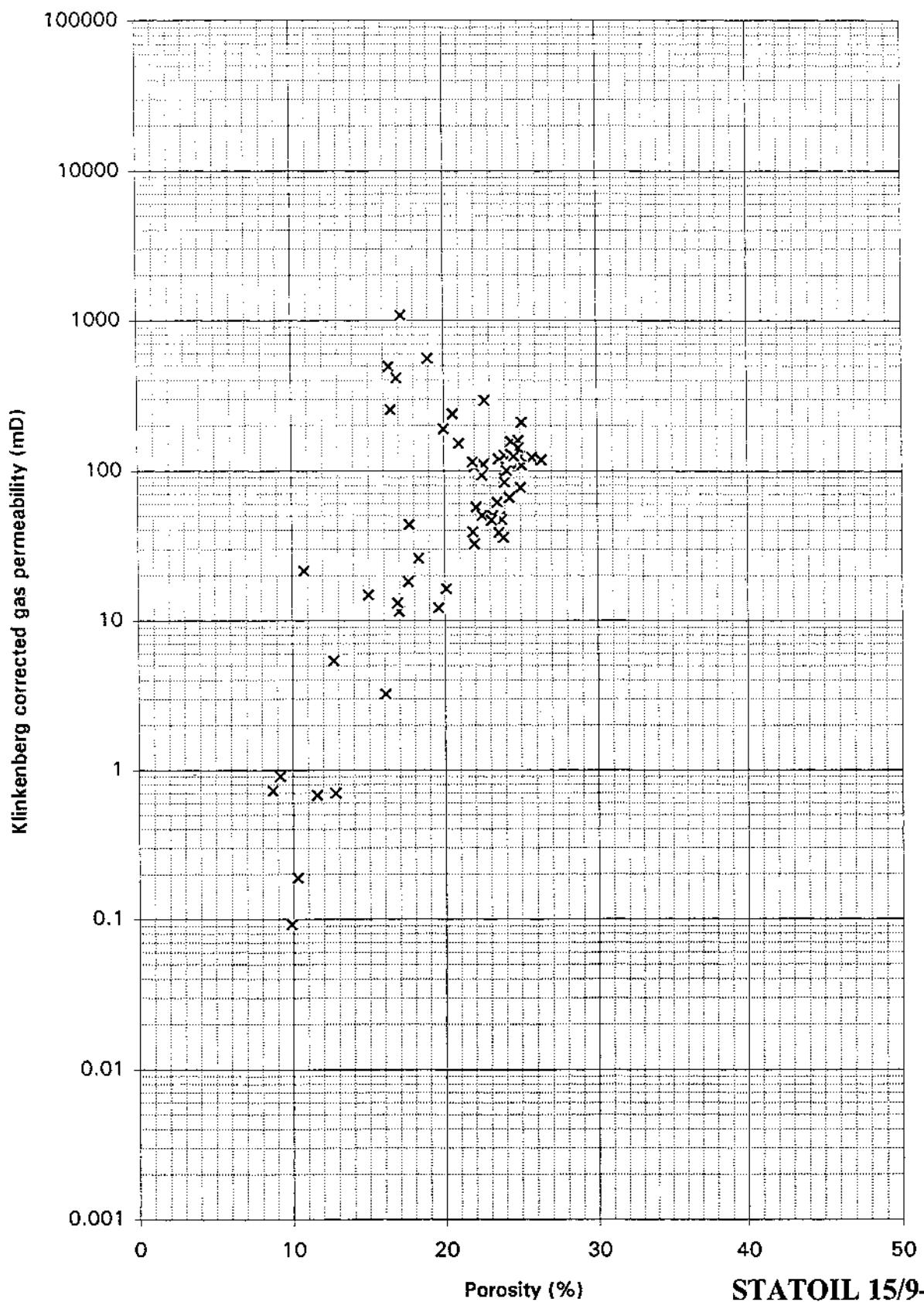
Data for all cores

HORIZONTAL KLINKENBERG CORRECTED GAS
PERMEABILITY VERSUS POROSITY



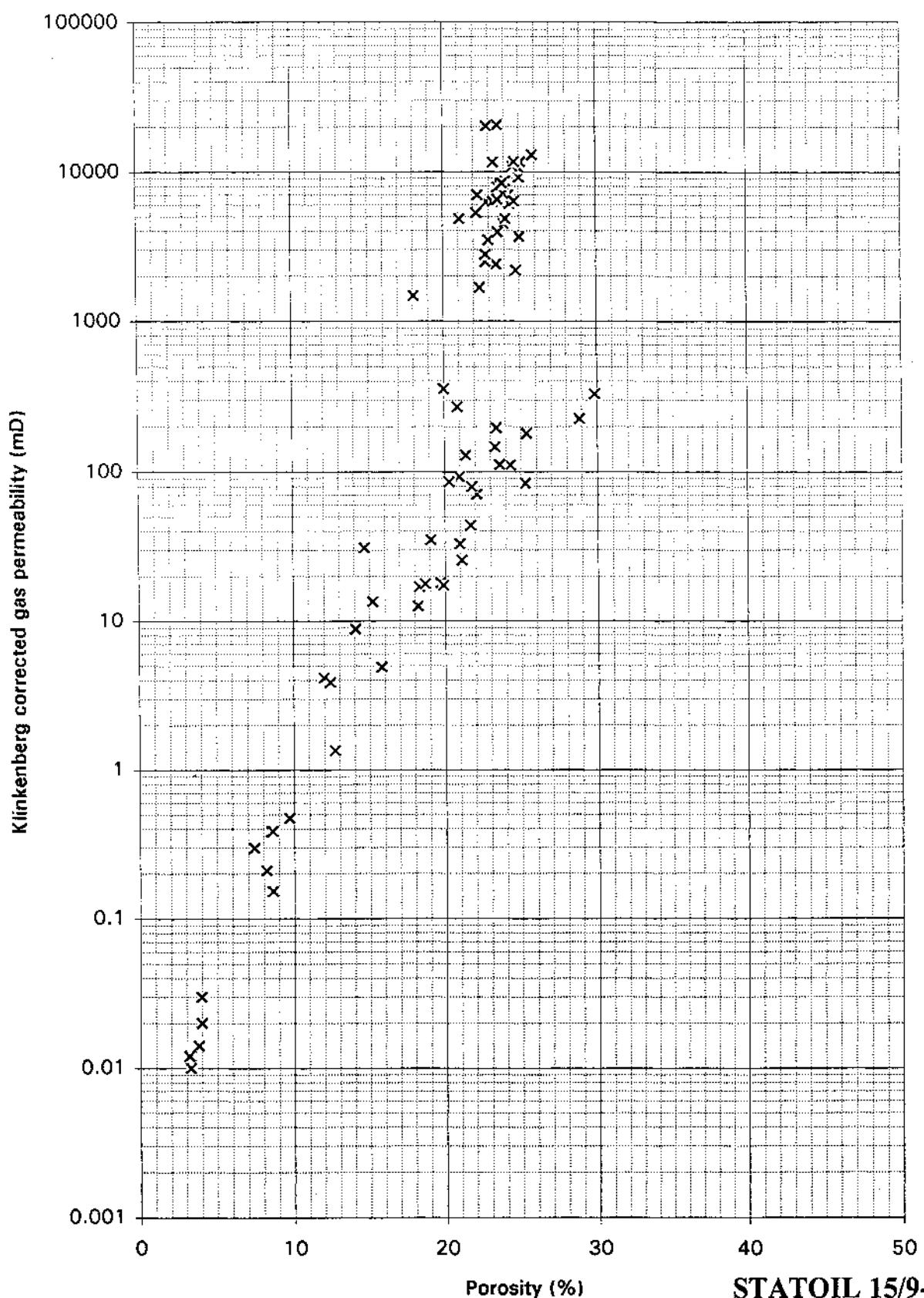
Data for core no. 1

**HORIZONTAL KLINKENBERG CORRECTED GAS
PERMEABILITY VERSUS POROSITY**



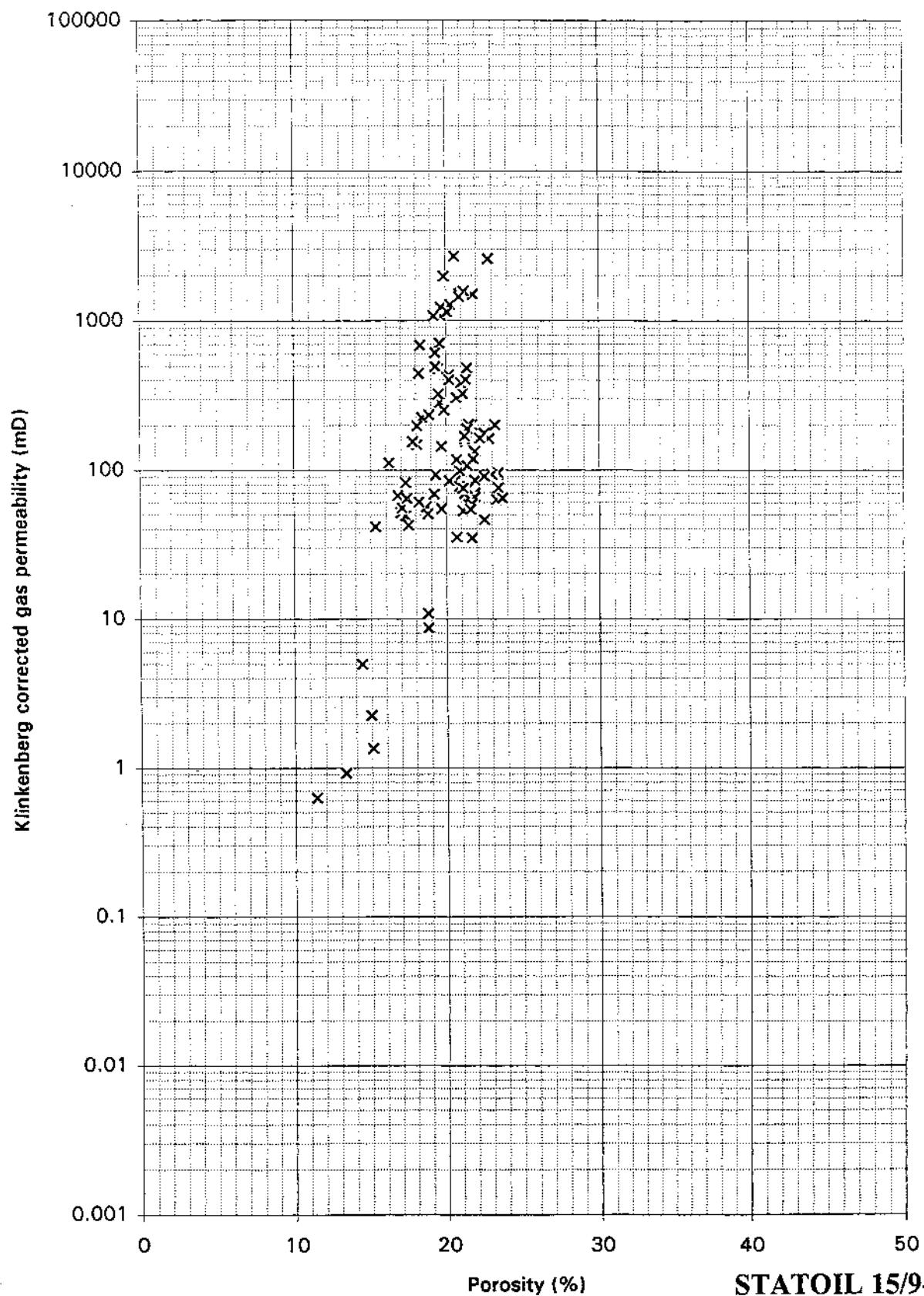
Data for core no. 2

HORIZONTAL KLINKENBERG CORRECTED GAS
PERMEABILITY VERSUS POROSITY



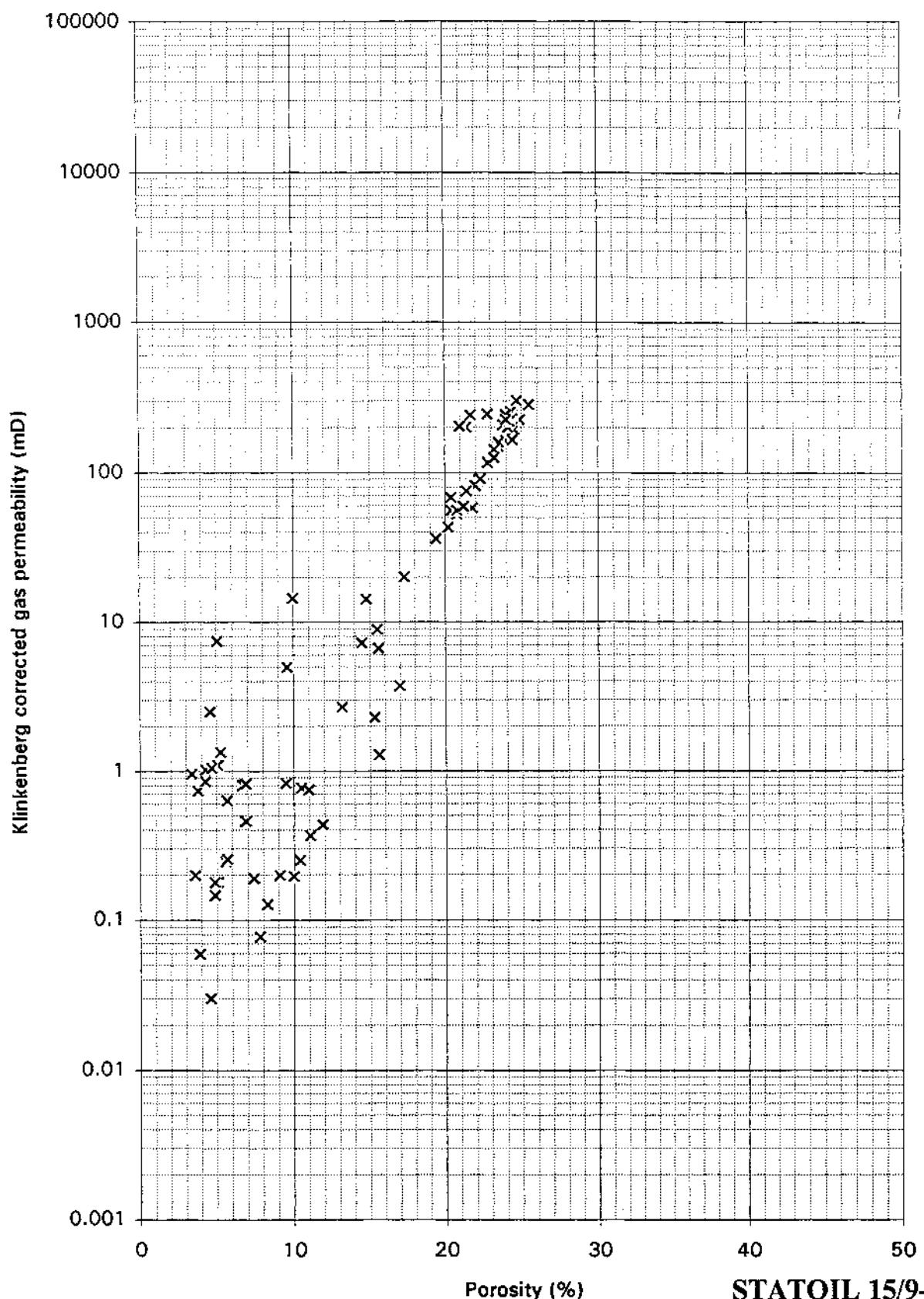
Data for core no. 3

HORIZONTAL KLINKENBERG CORRECTED GAS
PERMEABILITY VERSUS POROSITY



Data for core no. 4

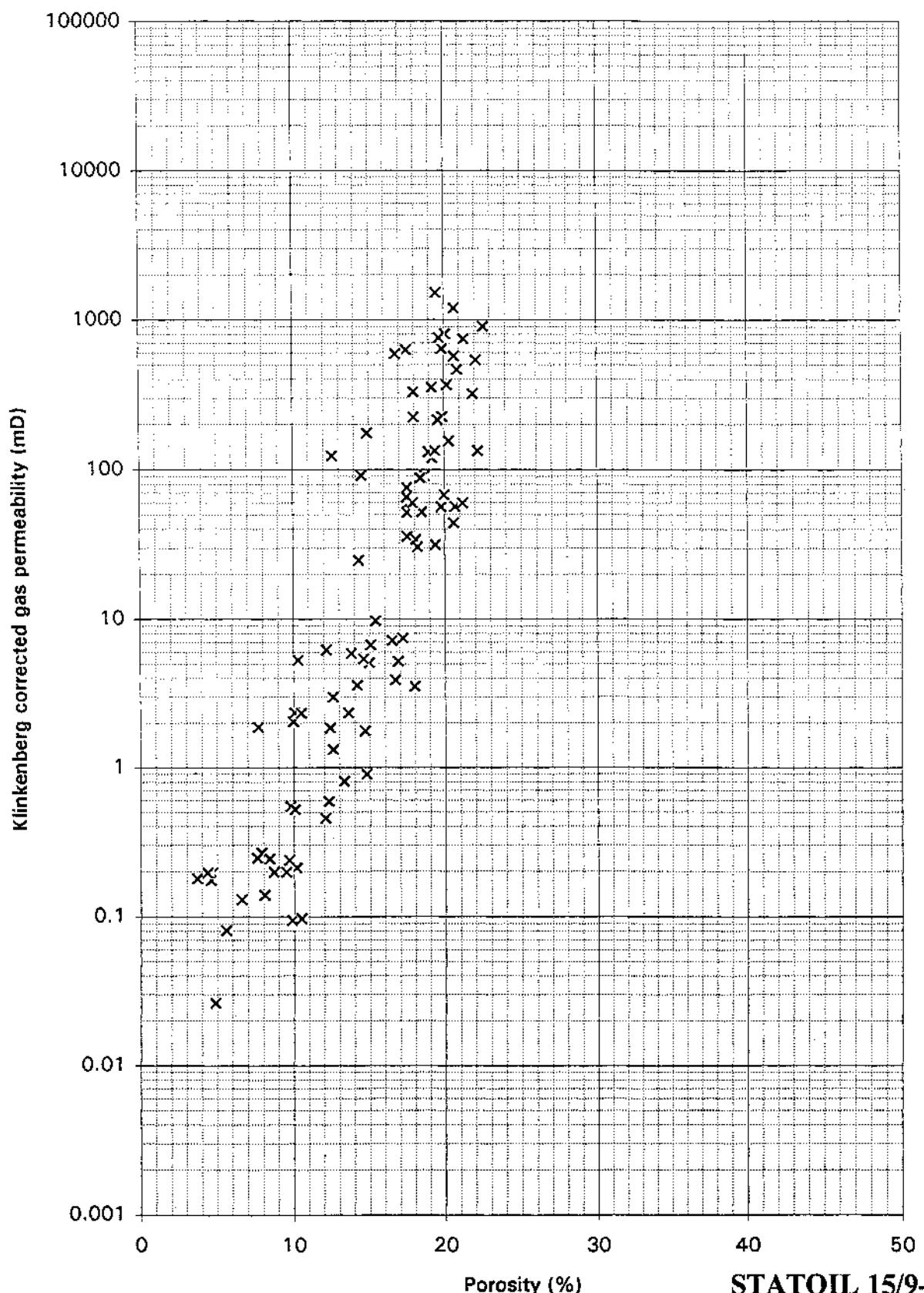
HORIZONTAL KLINKENBERG CORRECTED GAS
PERMEABILITY VERSUS POROSITY



STATOIL 15/9-19 A

Data for core no. 5

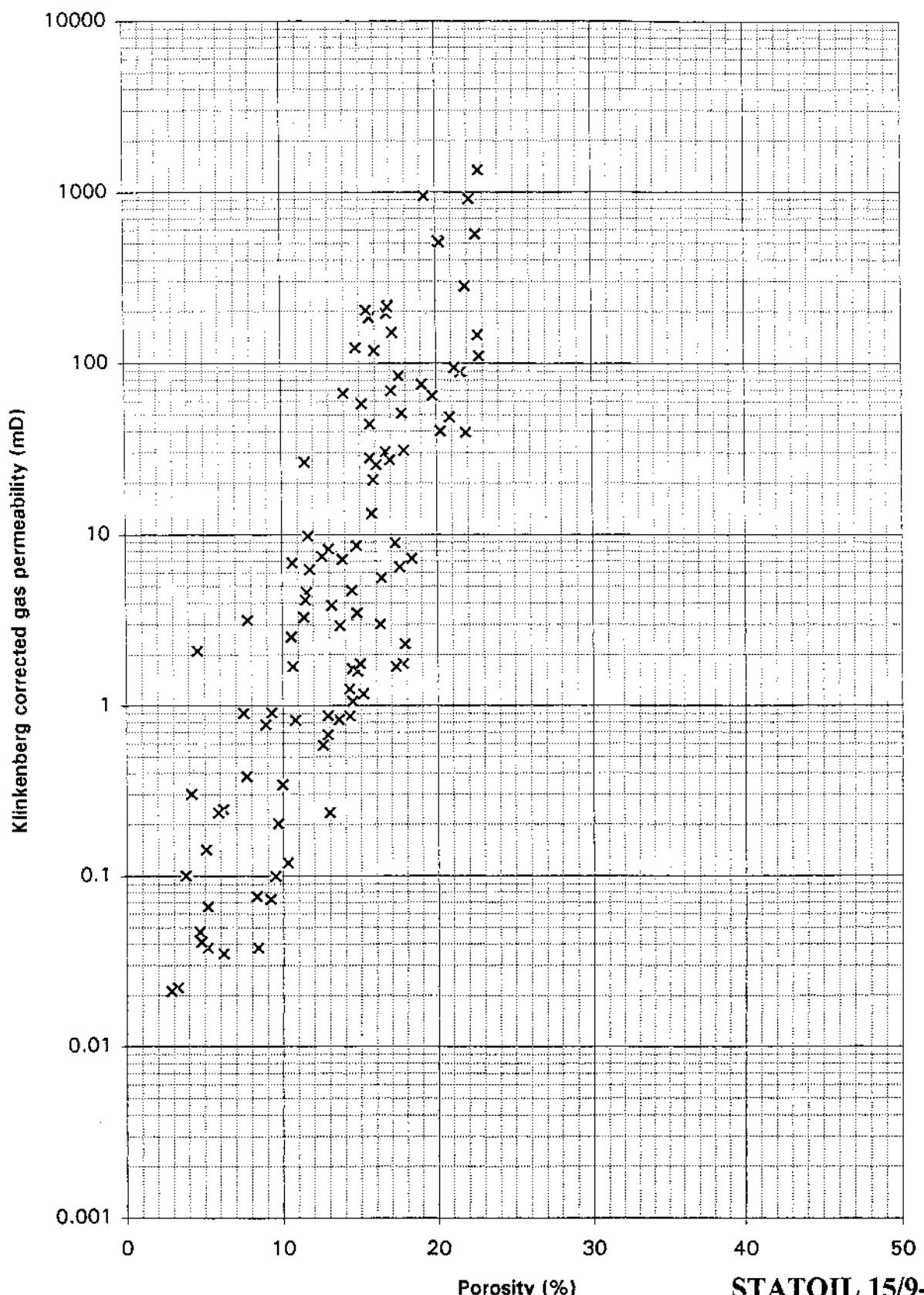
**HORIZONTAL KLINKENBERG CORRECTED GAS
PERMEABILITY VERSUS POROSITY**



STATOIL 15/9-19 A

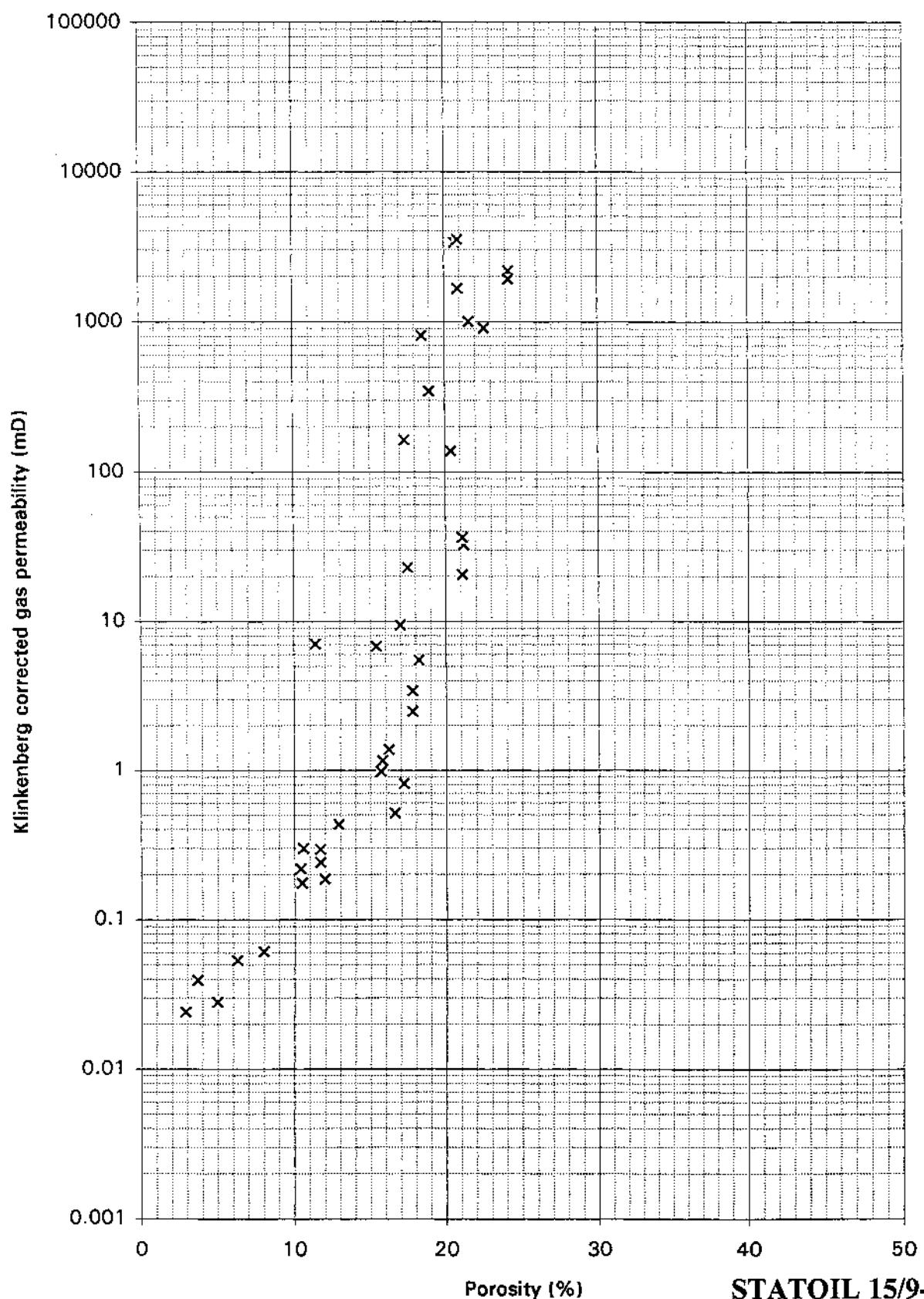
Data for core no. 6

HORIZONTAL KLINKENBERG CORRECTED GAS
PERMEABILITY VERSUS POROSITY



Data for core no. 7

**HORIZONTAL KLINKENBERG CORRECTED GAS
PERMEABILITY VERSUS POROSITY**



5

Water permeability and formation factor, well 15/9-19 A

Plug no.	Depth (m)	Water permeability (mD)	FF (Ro/Rw)
38	3844.50	69.0	12.5
59	3848.75	43.8	13.4
94	3857.50	181	14.1
110	3841.70	1612	10.9
114	3862.40	4747	10.3
126	3869.50	6240	10.0
185	3882.20	54.1	15.0
195	3884.50	52.6	19.3
249	3895.55	62.1	15.2
271	3900.50	729	16.8
281	3902.50	58.2	22.8
302	3906.75	250	14.4
349	3917.50	24.2	18.2
387	3926.55	16.1	16.9
426	3934.35	12.5	54.5
447	3939.50	3.19	20.7
486	3947.50	0.012	NMP
516	3953.50	13.9	20.5
562	3964.25	0.008	NMP
610	3973.75	5.21	20.3
662	3985.80	0.130	79.1
667	3986.80	0.036	167.7
672	3987.75	0.011	NMP
724	3998.85	3096	14.1
753	4005.50	52.5	33.6
800	4015.50	0.035	79.2

6

Tracer concentration, well 15/9-19 A

	Plug sample	Mud sample	
Sample depth (m)	Tritium activity (Bq/ml)	Background activity mud	Invasion (%)
3837.88	11.03	93.5	11.8
3838.92	16.87	93.5	18.0
3839.92	9.47	93.5	10.1
3840.94	11.67	93.5	12.5
3841.93	11.23	93.5	12.0
3842.91	6.97	93.5	7.5
3843.94	5.97	93.5	6.4
3844.93	4.80	93.5	5.1
3845.91	8.20	93.5	8.8
3846.93	4.20	93.5	4.5
3847.90	4.77	93.5	5.1
3848.90	4.73	93.5	5.1
3849.91	4.50	93.5	4.8
3850.91	6.03	93.5	6.4
3851.90	3.00	93.5	3.2
3854.90	6.10	93.5	6.5
3855.86	6.20	93.5	6.5
3856.93	6.40	93.5	6.8
3857.90	6.13	93.5	6.6
3858.91	6.30	93.5	6.7
3859.89	6.20	93.5	6.6
3861.90	6.14	93.5	6.6
3862.82	nmp	93.5	6.6
3868.91	nmp	93.5	6.6
3869.91	nmp	93.5	6.6
3870.92	nmp	93.5	6.6
3871.88	nmp	93.5	6.6
3873.94	3.47	93.5	6.5
3874.90	6.50	93.5	7.0
3875.94	7.33	93.5	7.8
3876.85	5.13	93.5	5.5
3877.91	7.70	93.5	8.2
3878.92	6.87	93.5	7.3
3879.94	4.60	93.5	4.9
3881.92	4.70	84	5.6
3882.83	4.47	84	5.3
3883.92	4.87	84	5.8
3884.93	4.23	84	5.0
3885.94	5.20	84	6.2
3886.93	17.00	84	20.2
3887.94	11.13	84	13.3
3888.90	7.00	84	8.3
3889.92	10.93	84	13.0
3891.91	7.53	84	9.0

	Plug sample	Mud sample	
Sample depth (m)	Tritium activity (Bq/ml)	Background activity mud	Invasion (%)
3892.90	4.83	84	5.8
3893.95	3.77	84	4.5
3894.92	0.60	84	0.7
3895.92	1.57	84	1.9
3896.93	15.73	84	18.7
3897.94	4.73	84	5.6
3900.90	6.03	84	7.2
3901.93	8.73	84	10.4
3902.92	4.70	84	5.6
3903.93	4.23	84	5.0
3904.93	6.00	84	7.1
3905.92	7.93	84	9.4
3908.57	3.43	84	4.1
3909.92	7.60	84	9.0
3910.91	6.33	84	7.5
3911.92	7.17	84	8.5
3912.93	6.90	84	8.2
3913.90	6.03	84	7.2
3914.91	3.82	84	4.5
3916.90	5.62	84	6.7
3917.89	3.23	84	3.8
3918.92	4.20	84	5.0
3920.90	5.10	84	6.1
3921.89	3.97	84	4.7
3922.87	3.96	84	4.7
3923.89	8.10	84	9.6
3925.90	3.73	84	4.4

nmp = no measurement possible due to small water volume extracted

7

Company: Statoil

Well: 15/9-19 A

Field: Sleipner

Core no: 1-2

CONVENTIONAL CORE ANALYSIS

RESLAB

Reservoir Laboratories AS

Tel: 51802290, Fax: 51802575

Date: 25.03.98

No: 00 - 2 m

Core No: 2, 3854.00 - 3881.65 m

GAMMA SURFACE LOG
 (Total GAMMA, 0-6000 c/min)

DEPTH
METRE
 (Scale 1:200)

PERMEABILITY KL mD
 =Hor. _____ =Vert.

POROSITY %
 (Horizontal)

FLUID SATURATION %
 =Oil _____ =Water

2000

4000

10000

1000

100

10

1

40

30

20

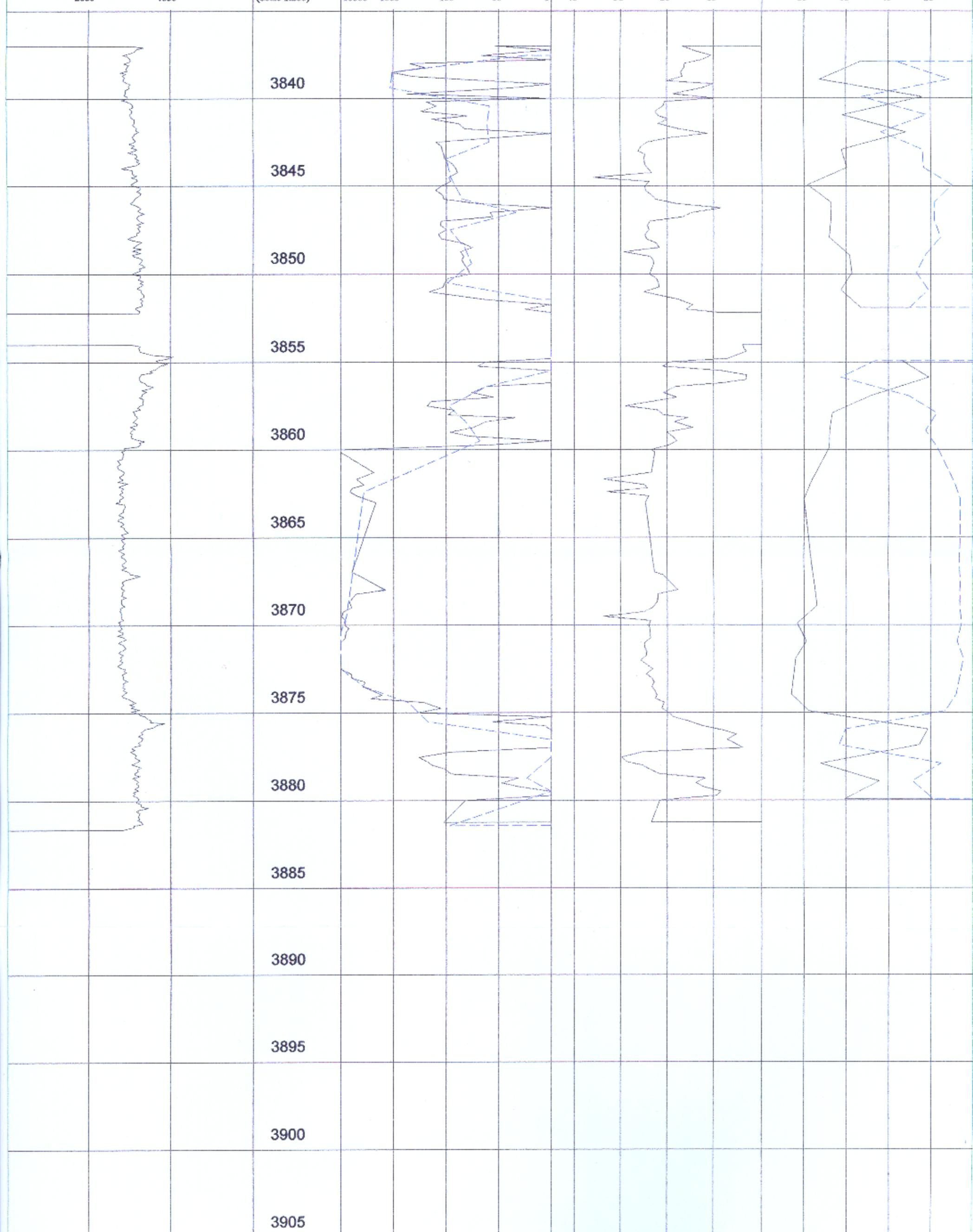
10

80

60

40

20



Company: Statoil
Well: 15/9-19 A
Field: Sleipner
Core no: 3-4

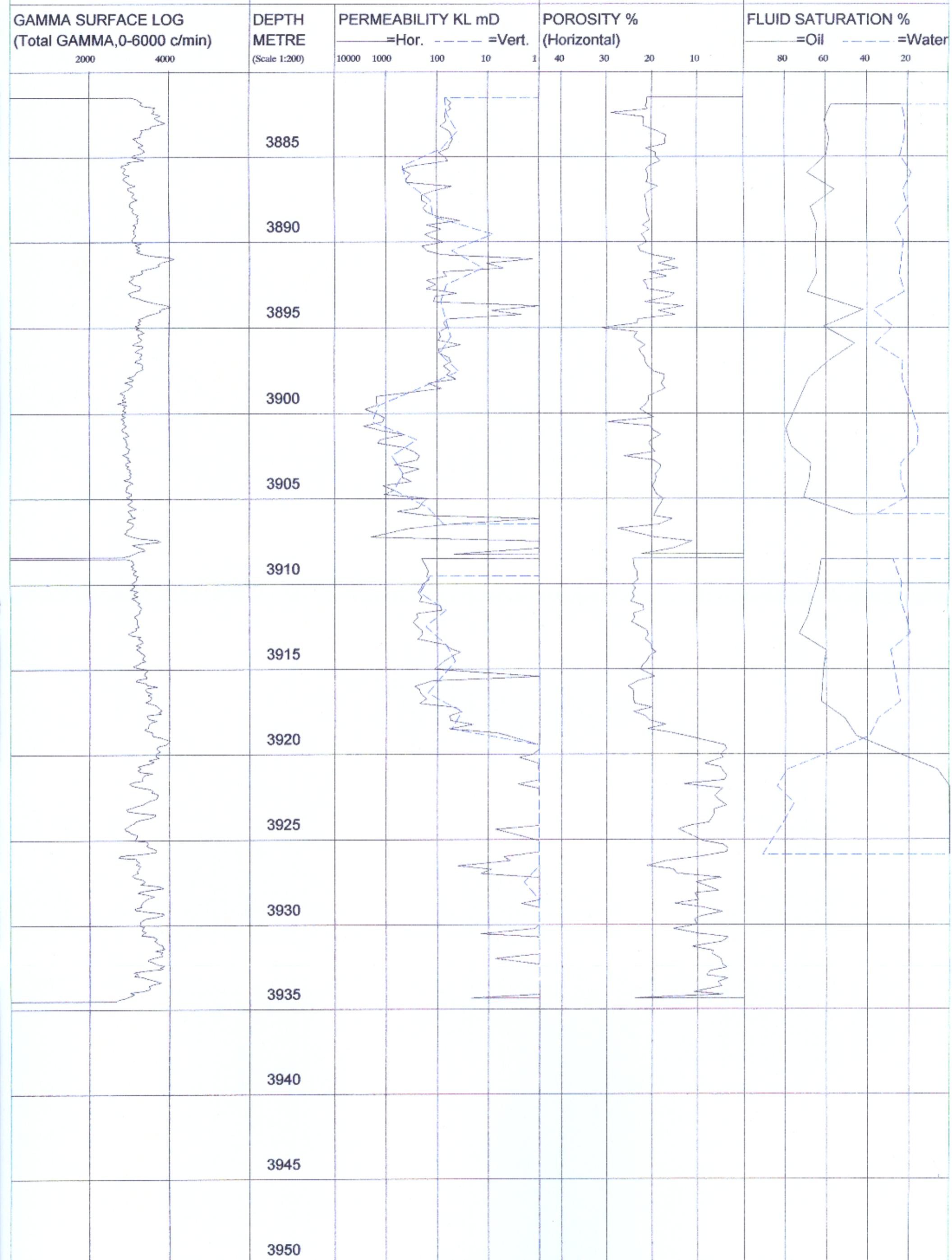
CONVENTIONAL CORE ANALYSIS

RESELAB

Reservoir Laboratories AS
Tlf: 51802290, Fax: 51802575

Core No: 4, 3908.50 - 3934.50 m

Date: 25.03.98



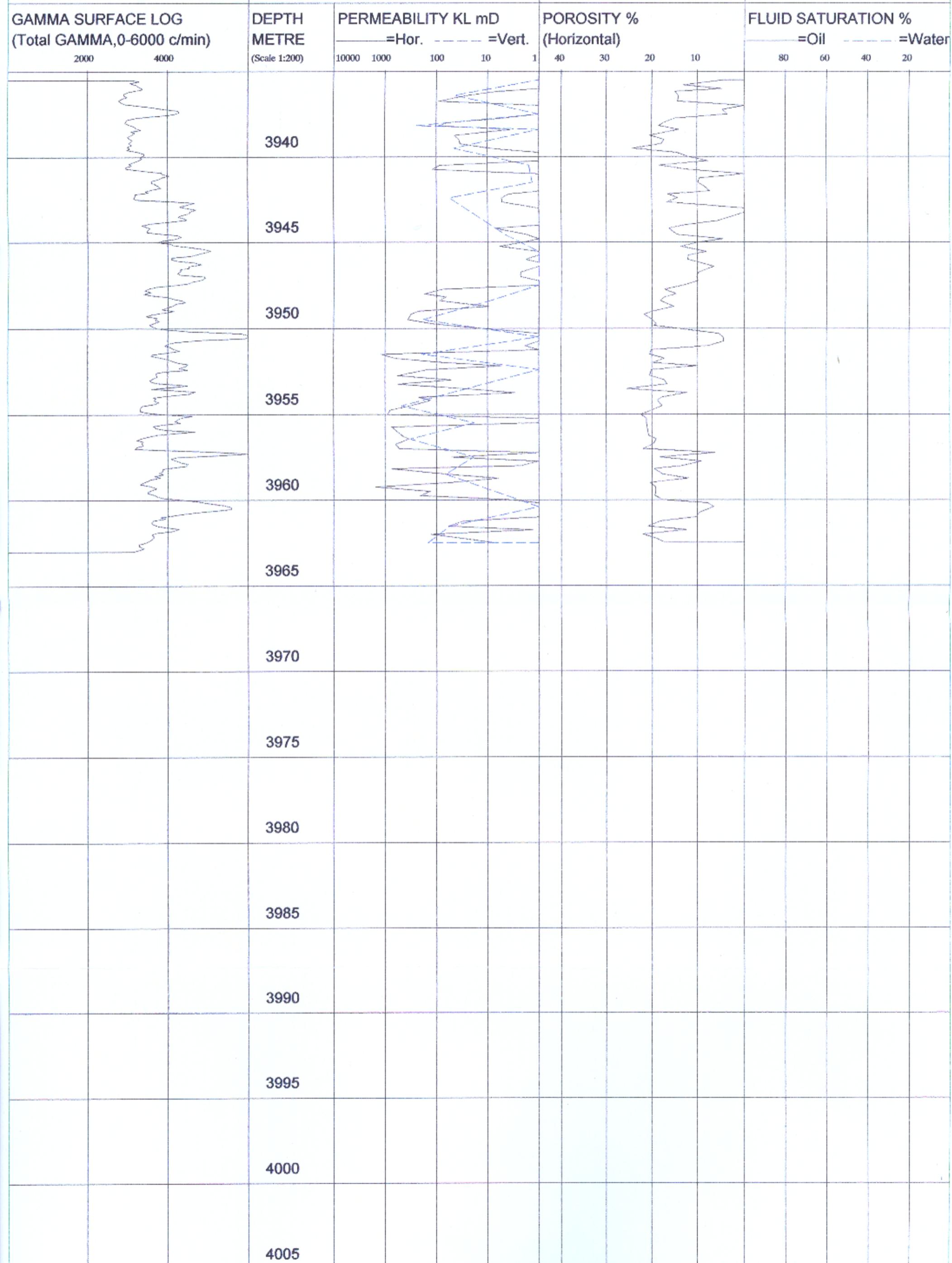
Company: StatOil
Well: 15/9-19 A
Field: Sleipner
Core no: 5

CONVENTIONAL CORE ANALYSIS

RESLAB

Reservoir Laboratories AS
Tel: 51802290, Fax: 51802575

Date: 25.03.98



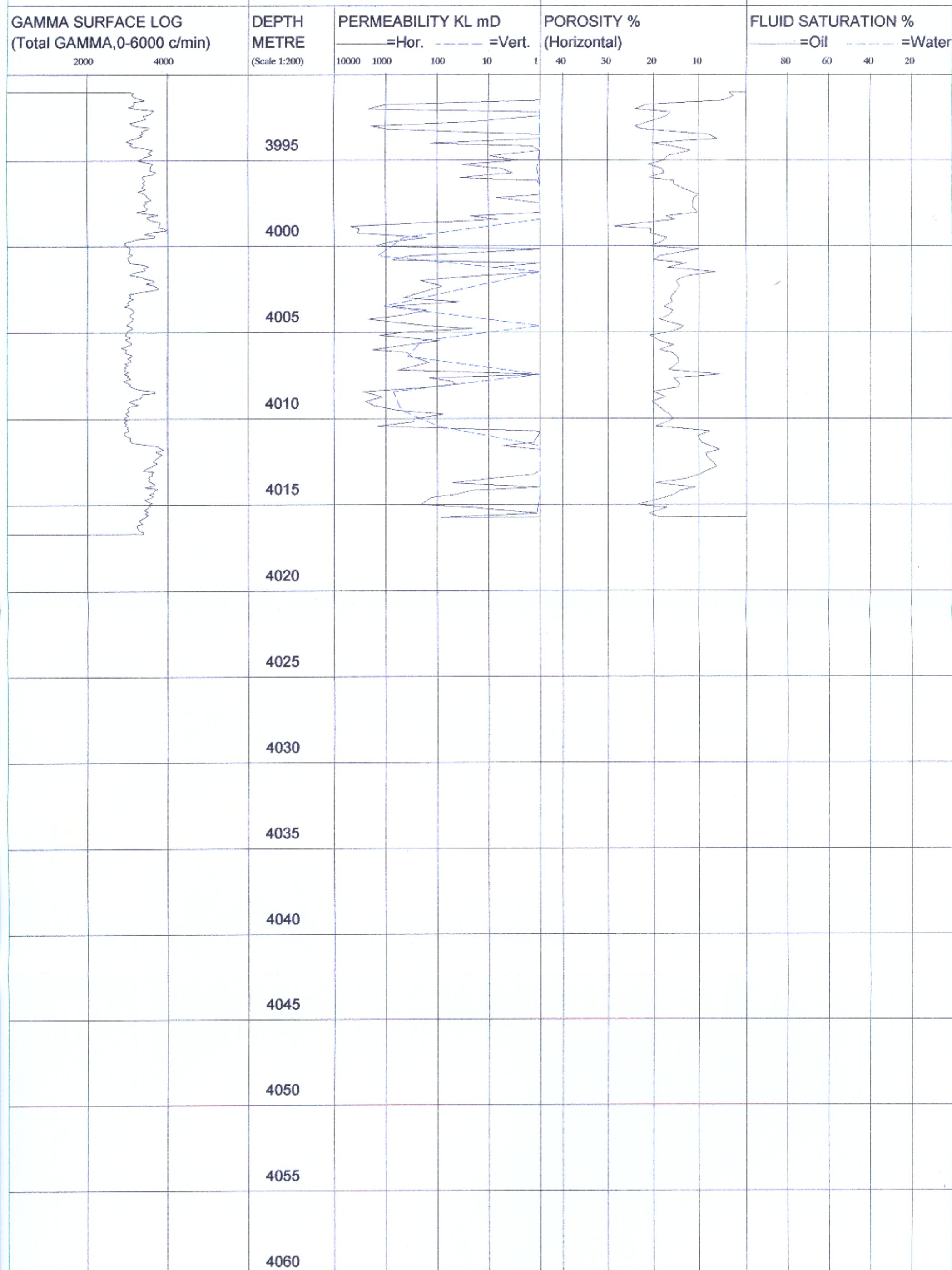
Company: St
Well: 15/9-19 A
Field: Sleipner
Core no: 7

CONVENTIONAL CORE ANALYSIS

RESLAB

Reservoir Laboratories AS
Tel: 51802290, Fax: 51802575

Date: 25.03.98



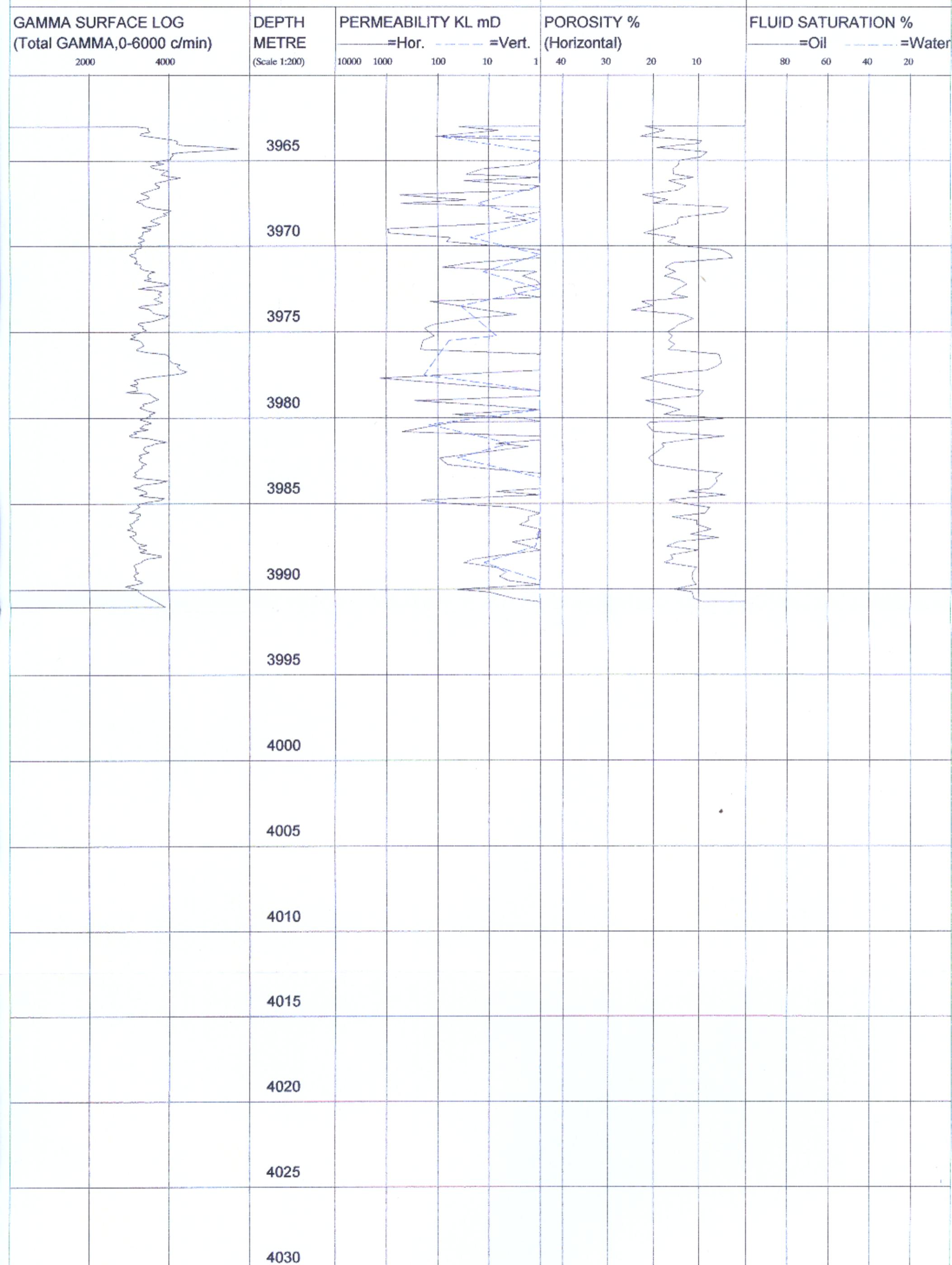
Well: 15/9-19 A
Field: Sleipner
Core no: 6

CONVENTIONAL CORE ANALYSIS

RESUME

Reservoir Laboratories AS
Tlf:51802290,Fax:51802575

Date: 25.03.98



8

Company: Statoil

Well: 15/9-19 A

Field: Steipner

Core no: 1-2

CORE GAMMA SPECTRAL LOG

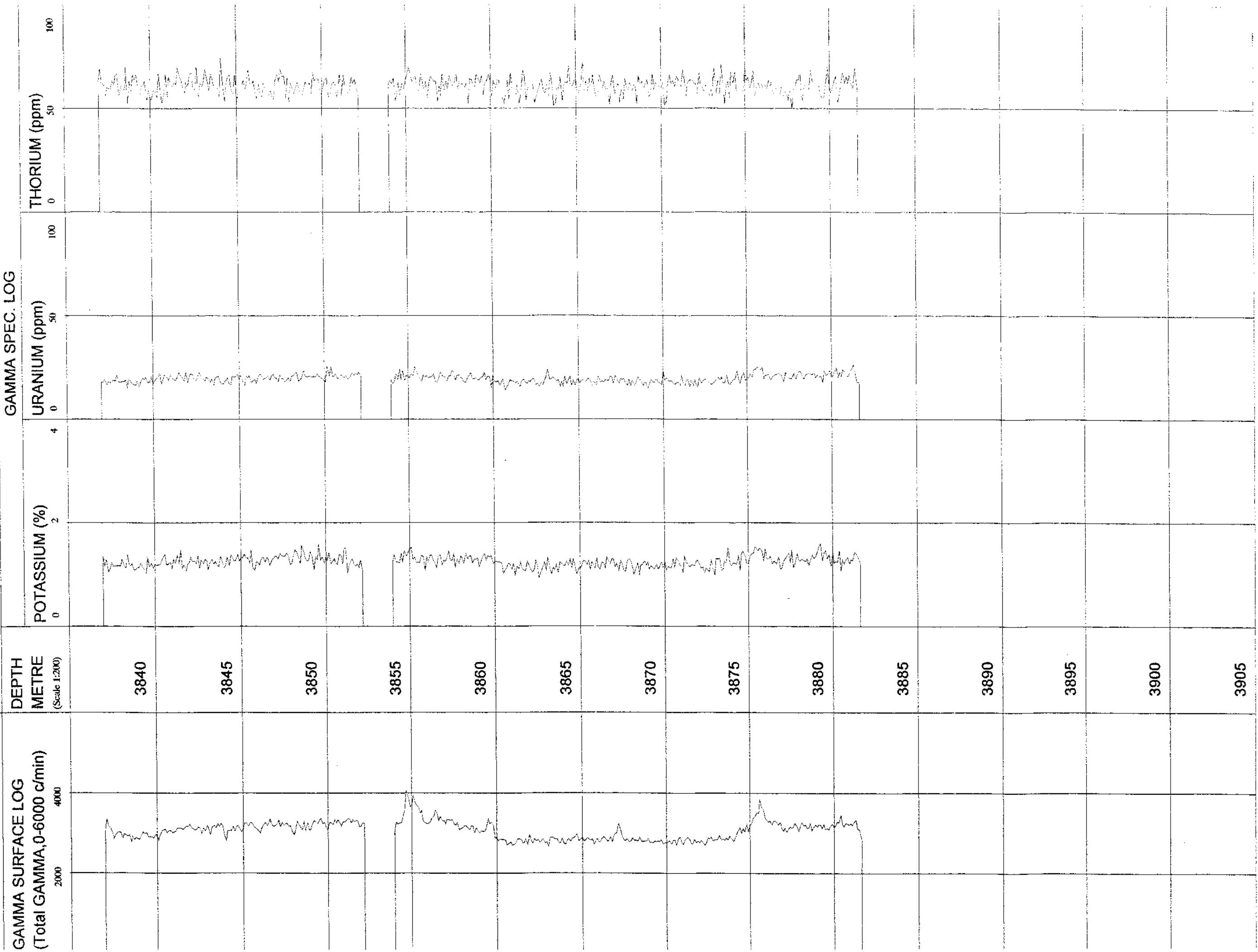
NLOLAU

Reservoir Laboratories AS

TH51802290, Fax: 51802575

Core No: 2, 3854.00 - 388.65 m

Date: 25.03.98



CORE GAMMA SPECTRAL LOG

Well: 15/9-19 A
Field: Sleipner
Core no: 3-4

Reservoir Laboratories AS
Tel: 51802290, Fax: 51802575

Core No: 4, 3908.50 - 3934.50 m

GAMMA SURFACE LOG
Total GAMMA, 0-6000 c/min)

4000
2000

DEPTH
METRE
(Scale 1:200)

3885

3890

3895

3900

3905

3910

3915

3920

3925

3930

3935

3940

3945

3950

Date: 25.03.98

GAMMA SPEC. LOG

POTASSIUM (%)

4 0

URANIUM (ppm)

4 0

THORIUM (ppm)

4 0

100

50

0

100

50

0

100

50

0

100

50

0

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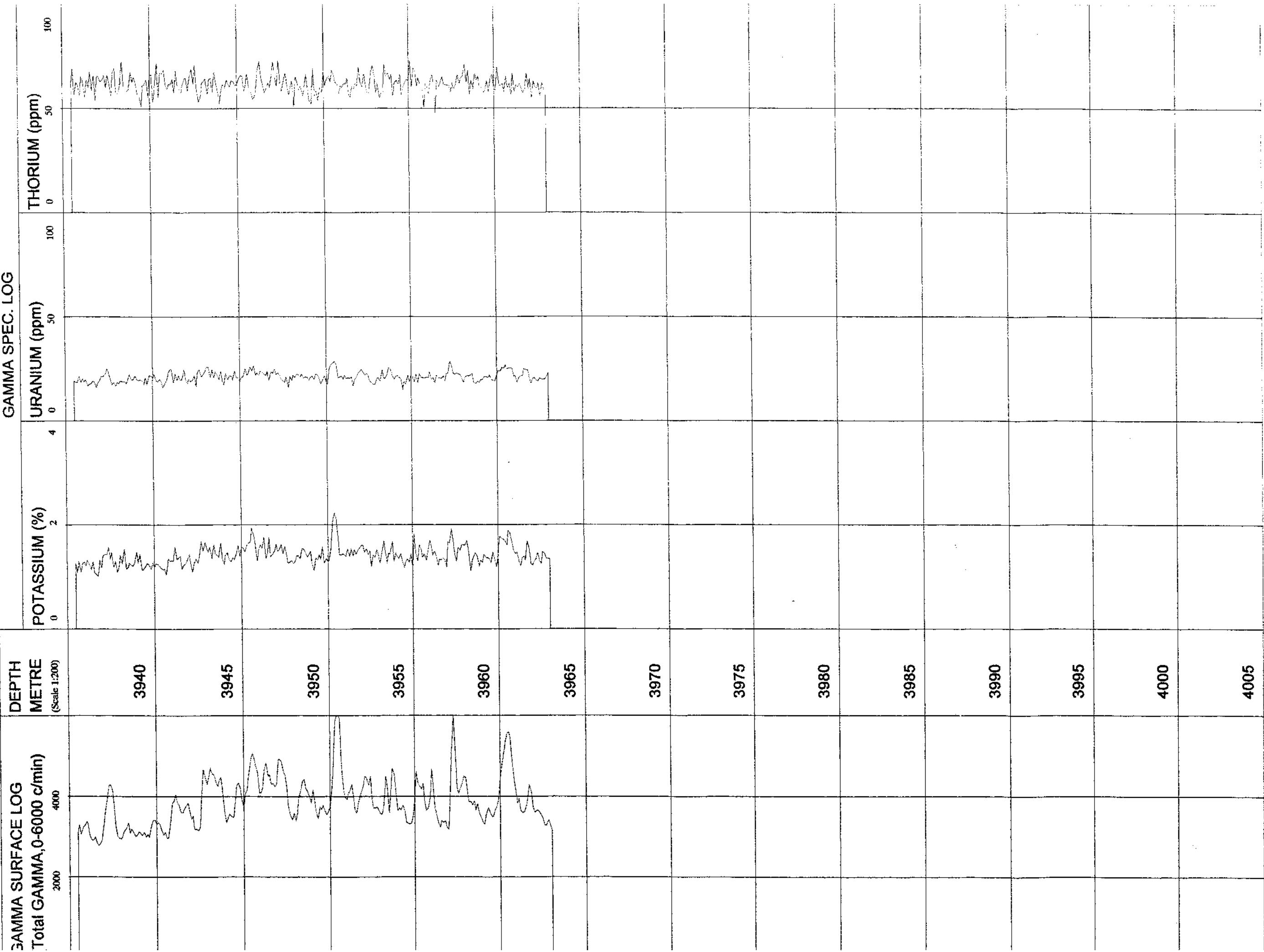
<div data-b

CORE GAMMA SPECTRAL LOG

Well: 15/9-19 A
Field: Steipner
Core no: 5

Reservoir Laboratories AS
Tlf: 51802290, Fax: 51802575

Date: 25.03.98



Well: 15/9-19 A

Reservoir Laboratories AS

CORE GAMMA SPECTRAL LOG

Steipner
field:

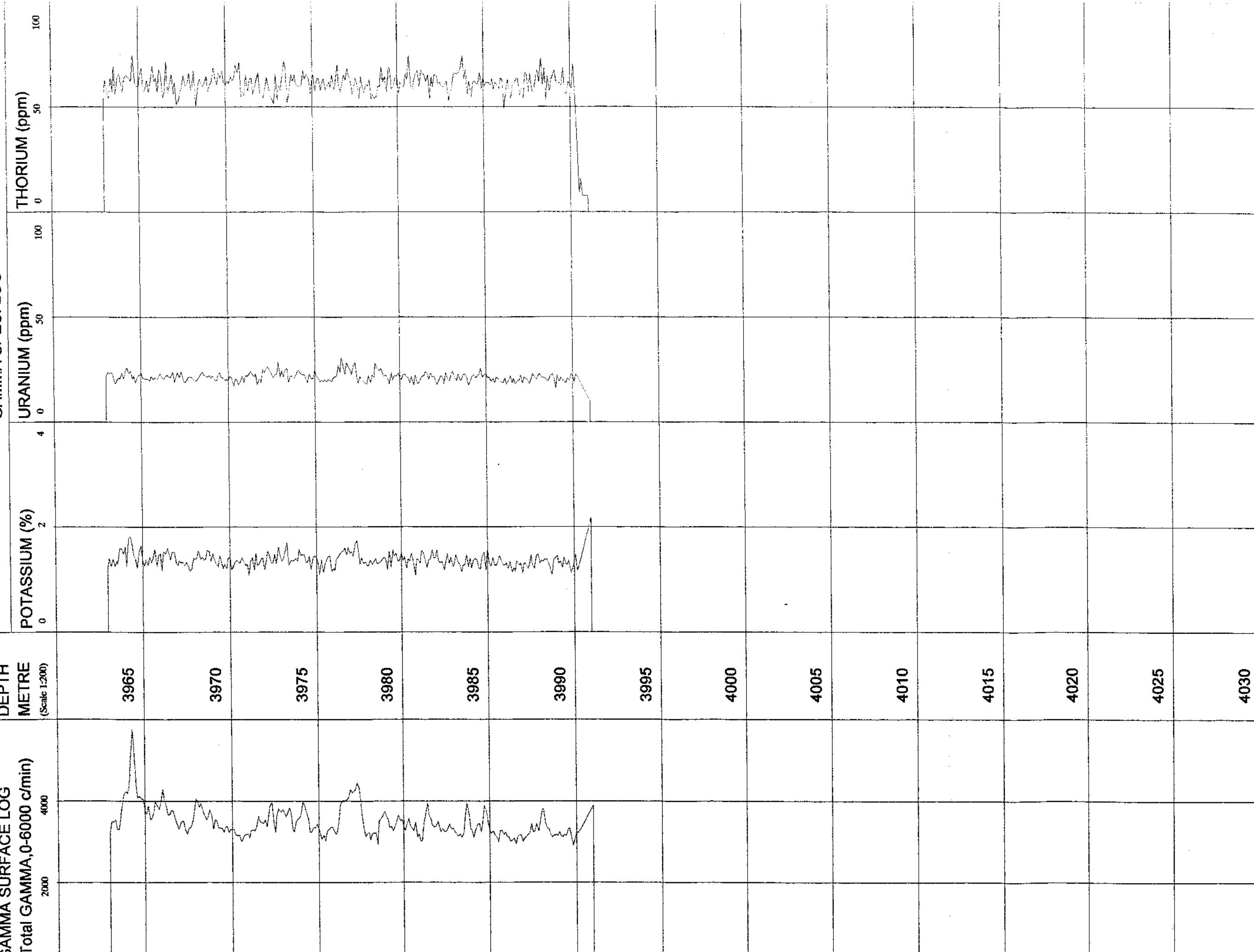
TIN:5118022900, Fax:511802575

Score no: 6

Date: 25.03.98

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GAMMA SPEC. LOG

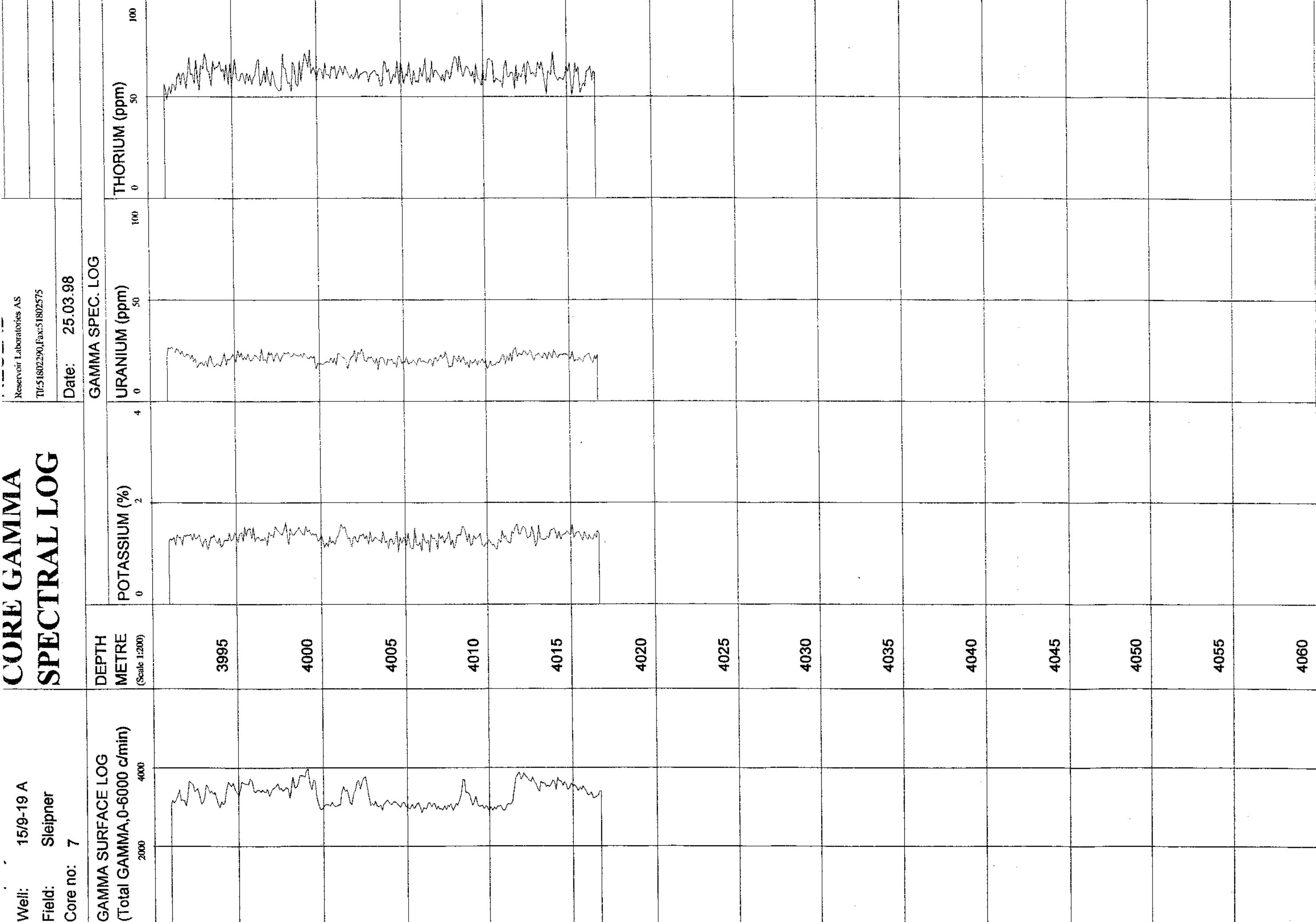


Well: 15/9-19 A
Field: Sleipner
Core no: 7

CORE GAMMA SPECTRAL LOG

Reservoir Laboratories AS
Tel: 51802290, Fax: 51802575

Date: 25.03.98



9

Seal Peel samples

Core no. 1:

Depth (m)

3837.30 - 3837.50
3839.50 - 3839.70
3841.50 - 3841.70
3843.50 - 3843.70
3845.30 - 3845.50
3847.30 - 3847.50
3849.50 - 3849.70
3851.10 - 3851.30

Core no. 2:

Depth (m)

3854.43 - 3854.63
3856.50 - 3856.70
3858.50 - 3858.70
3861.40 - 3861.60
3868.40 - 3868.60
3870.50 - 3870.70
3872.60 - 3872.80
3874.50 - 3874.70
3876.00 - 3876.18
3877.30 - 3877.50
3879.30 - 3879.50
3881.60 - 3881.80

Core no. 3:

Depth (m)

3883.30 - 3883.50
3885.30 - 3885.50
3887.30 - 3887.50
3889.30 - 3889.50
3891.30 - 3891.50
3893.20 - 3893.40
3895.30 - 3895.50
3897.30 - 3897.50
3899.30 - 3899.50
3901.30 - 3901.50
3903.30 - 3903.50
3905.30 - 3905.50

Core no. 4:

Depth (m)

3909.30 - 3909.50
3911.30 - 3911.50
3913.40 - 3913.60
3914.30 - 3914.50
3916.50 - 3916.70
3918.30 - 3918.50
3920.30 - 3920.50
3922.10 - 3922.30
3923.60 - 3923.80
3926.30 - 3926.50
3928.30 - 3928.50
3930.30 - 3930.50
3932.10 - 3932.30
3933.70 - 3933.90

Core no. 5:

Depth (m)

3936.50 - 3936.70
3938.50 - 3938.70
3940.30 - 3940.50
3942.40 - 3942.60
3944.30 - 3944.50
3946.50 - 3946.70
3948.50 - 3948.70
3950.10 - 3950.30
3952.50 - 3952.70
3954.50 - 3954.70
3956.50 - 3956.70
3958.30 - 3958.50
3960.50 - 3960.70
3962.30 - 3962.50

Core no. 6:

Depth (m)

3964.60 - 3964.80
3966.20 - 3966.40
3968.70 - 3968.90
3970.70 - 3970.90
3972.60 - 3972.80
3974.40 - 3974.60

3976.45 - 3976.65
3978.50 - 3978.70
3980.50 - 3980.70
3982.80 - 3983.00
3984.60 - 3984.80
3986.60 - 3986.80
3988.50 - 3988.70

Core no. 7:

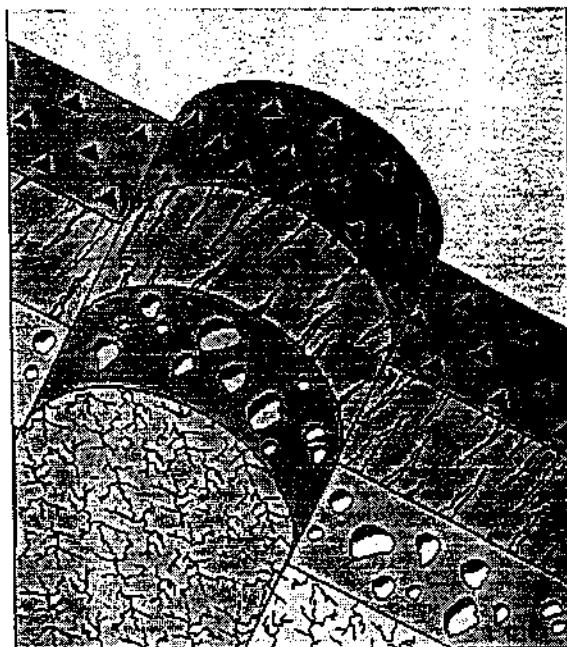
Depth (m)

3990.20 - 3990.40
3992.50 - 3992.70
3994.50 - 3994.70
3996.50 - 3996.70
3998.60 - 3998.80
4000.30 - 4000.50
4002.10 - 4002.30
4004.10 - 4004.60
4006.50 - 4006.70
4008.50 - 4008.70
4010.50 - 4010.70
4012.40 - 4012.60
4014.63 - 4014.83

10

KJERNEBORING RAPPORT

STATOIL
BRØNN 15/5-6 15/9-19A
Byford Dolphin





Torneroseveien 5
4300 Sandnes, Norway
Phone : +47 51 63 30 00
Telefax : +47 51 63 03 75
Enterprise No.: NO 943884870
Reg. No.: 973152068MVA

Statoil B&B L&U
4035 STAVANGER



Attn.: Per Freddy Kristiansen
cc.: John Martin Østby

Deres Ref.:

Vår Ref.: CR970812

Dato: 16.09.97

VEDR.: Kjerneboringsrapport; Brønn 15/9-19A, Byford Dolphin.

12.08.97 startet Security DBS å kjernebore i 8 1/2" seksjonen i brønn 15/9-19A ved bruk av 6 3/4" HDT CBBL utstyr.

I alle runnene ble det brukt en 90' lang CBBL og en kjerneborekrone av typen CD93FDIL, (unntatt idet siste runnet, der det ble brukt en CD193FDIL kjerneborekrone).

Det ble også benyttet Fluted aluminium innerør og teleskopisk sko i alle runnene

Run #1:

Kjernet 16 meter med gjennomsnittlig ROP på 3,76 mtr/t og stabile parametere. Ved 3854 meters dybde fikk en indikasjoner på jamming, og trakk dermed ut av hullet. Unormalt mye reaming kan ha forårsaket avjammingen.

Recovery: 95%

Run #2:

På grunn av problemer med å komme ned i første run, ble det skiftet CBBL stabilisator er. 8 15/32" stabilisatorer ble byttet ut med 8 11/32" stabilisatorer. Kjernet 27 meter med gjennomsnittlig ROP på 12,3 mtr/t og noe ustabile parametere.

Recovery: 102%

Run #3:

Kjernet 27 meter med gjennomsnittlig ROP på 19,3 mtr/t og stabile parametere. Ved 3908,5 meter var CBBL'en full, og en trakk dermed ut av hullet.

Recovery: 99,6%

Run #4:

Skiftet kjerneborekrone da den gamle begynte å bli slitt. Kjernet 27 meter med gjennomsnittlig ROP på 13,5 mtr/t og stabile parametere. Kjernet full CBBL og trakk ut av hullet.

Recovery: 96,3%

Run #5:

Skiftet kjerneborekrone da den foregående begynte å bli slitt. Kjernet 27 meter med gjennomsnittlig ROP på 15 mtr/t og stabile parametere. Kjernet full CBBL og trakk ut av hullet.

Recovery: 100%

Run #6:

Kjernet 27 meter med gjennomsnittlig ROP på 11 mtr/t og stabile parametere. Kjernet full CBBL og trakk ut av hullet.

Recovery: 100,5%

Run #7:

Skiftet kjerneborekrone da den foregående begynte å bli slitt. Kjernet 27 meter med gjennomsnittlig ROP på 8,1 mtr/t og stabile parametere. Kjernet full CBBL og trakk ut av hullet.

Recovery: 98,9%

For mer detaljert informasjon om parameterne se vedlagt "Core log".

Konklusjon

	Offset 15/9-19S (Run1-3)	Offset 15/9-19S (Run 2&3)	Actual 15/9-19A (Run1-7)	Actual 15/9-19A (Run2-7)
Meters Cored	8 1/2", SOBM	8 1/2", SOBM	8 1/2", SOBM	8 1/2", SOBM
Recovery	60m	56m	78m	162m
ROP	4.5m/hr's	4.6m/hr's	10.2m/hr's	12.3m/hr's
Utility CBBL	71.7%	99%	89.4%	96%
Meter Cored per run	19.7m/run (Rec)	27.2m/run	25.7m/run	27.01m/run
Formation	Heimdal & Hugin	Hugin	Hugin	Hugin

Vi ser av resultatene at denne jobben teknisk sett har gått meget bra. Høy recovery, høy utility, høy ROP og mange meter totalt kjernet er et bevis på dette.

I det første runnet ble ikke resultatet like bra som i de andre runnen(grunnet jamming), men dette skyldes trolig mye mer reaming enn normalt.

Vi føler at de målene som ble satt opp i kjerneboringsforslaget er oppnådd på en tilfredsstillende måte. Vi har gjort det vi kan med dagens teknologi for å få så lite invasjon i kjernen som mulig. Det gjenstår nå å se hvordan kvaliteten på kjernen er, for å fastslå hvor vellykket denne jobben har vært totalt sett.

Kjerneborekrone

- Tre CD93FDIL kjerneborekroner ble brukt i denne brønnen. Dette var den typen borekrone som ble anbefalt i tilbudet til Statoil. Denne borekronetypen ga oss også i denne brønnen gode resultater. (Se vedlagte bilder). I det siste runnet ble det brukt en CD193FDIL borekrone. Denne gjorde også en god jobb, men med noe lavere ROP (mindre aggressivt bitt).

Innerrør

- Fluted innerrør fungerte bra i denne jobben. Fluted innerrør reduserer som kjent 60% av kontakt flaten mellom kjerne og innerrøret. Dette vil redusere friksjonskraftene som ofte fører til avjamming.

Teleskopisk sko

- Teleskopisk sko ble benyttet under alle disse runnene. Fordelen med denne skoen, er at den lander i kjerneborekronen og dermed er med å sentralisere nedre del av innerrørene. Teleskopisk sko har HD core catcher som standard, og resultater i den siste tiden viser en viss forbedring av resultatene ved bruk av denne catcher typen.

Vi håper Statoil er tilfreds med resultatene og kjernen kvaliteten levert fra denne brønnen, og ser frem til ett godt samarbeid ved neste brønn.

Med vennlig hilsen
for Security DBS

Stein Erik Moi

CORING SUMMARY IN WELL 15/9-19A

Core No	Serial No	CH ID	CH Type	Date In	Depth in	Mtr Cored	Rec %	CBBL Length	Utility CBBL	ROP	Mud Type	Inner Tube	Incl	Lithology	DULL	Remarks	
1	7940506	8,5	4	CD 93 FDIL	970812	3838	16	95,66%	93	53,62%	3,76	OBM	FLU	26	HUGIN	SST	INDICATION OF JAMMED CORE
2	7940506	8,5	4	CD 93 FDIL	970813	3854	27	102,22%	93	97,37%	12,3	OBM	FLU	26	HUGIN	SST	STAB RAN 9 MTRS ABOVE CBBL WITH NO PROBLEMS
3	7940506	8,5	4	CD 93 FDIL	970814	3881,5	27	99,53%	93	94,90%	19,1	OBM	FLU	26	HUGIN	SST	23WTSXIBTTD
4	7920282	8,5	4	CD 93 QFDIL	970815	3908,5	27	96,10%	93	91,22%	13,5	OBM	FLU	26	HUGIN	SST	23WTSXILIFCBL
5	7941023	8,5	4	CD 93 FDIL	970816	3933,5	27	101,85%	93	97,01%	15	OBM	FLU	26	HUGIN	SST	23WTSXINQFCBBL
6	7941023	8,5	4	CD 93 FDIL	970817	3962,5	27	101,85%	93	97,01%	11	OBM	FLU	26	HUGIN	SST	23WTSXINQFCBBL
7	7960248	8,5	4	D 193 RFDI	970818	3990	27	98,89%	93	94,19%	8,1	OBM	FLU	26	HUGIN	SST	13WTSXILIFCBL
Tot mtr cored		178				Tot mtr recov.	177,4	Tot rec	99,66%	Tot util.	89,40%		Average ROP	10,2			

CORING LOG

CORE NR. ~~24~~ ONE
SHEET NO. 1818 97
DATE 18/8/97

WELL INFORMATION
PARTY STATOIL
FACTORY DOLPHIN DRILLING
IS/9 - 19A
TRY NORWAY
E SIZE 8 1/2"
FORMATION NAME HUGIN

EQUIPMENT
 S.JOINT: ADJ STD VENT MOTOR
 I.T.: FG ALU ST FLU VALVED CQL
 OTHER: CORI COR SPONGE HDT GLIDER
 SIZE: 6 3/4" x 4" x 27m
 BIT NO. 7960248 LENGTH: 0.36m
 TYPE CD 193 SIZE: 8 1/2" x 4"
 PREVIOUS METERS: 27m
 THIS CORE: 27m
 TOTAL METERS: 27m.

PERFORMANCE
 INTERVAL CORED - FINISH 4017
 - START 3990
 METERS CORED 27.0m
 CORE RECOVERED 26.7m
 % RECOVERY 98.9%
 BIT CONDITION 1-2-W7-S-L-NO.
 POCH REASON FULL CUT
 HOLEANGLE START 26° END:

DEPTH METERS	PENETRATION RATE MINUTES PER METER												OPERATING CONDITIONS								
	2	3	4	5	6	7	8	9	10	15	20	30	40	50	60	70	WEIGHT KLB	SPM GPM	TORQUE IPS	FORMATION DESCRIPTION	
3990																	K				
																	6-16	80	290	1600	15-17
																	16	80+16			
																	16-18	120			14-20
																	12-14				16-18
																					18-20
3995																	10-12				
																	10-14				16-20
																					17-19
																	14-16				18-20
4000																	12-14				
																					16-20
																	14-16				18-20
																	12-14				0
4005																					F
																	12-14				V
																					A
4010																	14-15				18-21
																	15				Z
																					16-18
																	12-16				1580 14-22
																	10-12				1600 16-20
4015																					18-20
																	12				1630 14-20
4017																					16-20
0																					

TYPE	API VISC	WT. WGT	W/W	% SAND	% GOL	PRESSURE			CORE TIME		PEN RATE		CORE HEADS	
						ON BOTTOM	OFF BOTTOM	PSI	ACC. METER	ACC. PEN RATE (M/HRT)	ACC. RECOVERY (%)	ACC. HRS	ACC. METER REC	
3BM	58	1.55	1.9	0.1	56	1600	1400	200	3.33	8.1	4			
									179	10.24	99.2	17.48	177.61	

HOLE STRING BHA: TTON HOLE TEMP 100°C STATIC CIRC. SPACED OUT 43mm

MARKS:

REAM FROM 3933' TO TO @ 3990.



CORING LOG

CORE NR.: 518

SHEET NO.: ONE

DATE 17/8/97

WELL INFORMATION

ANY STATOIL
 FACTOR DOLPHIN DRILLING
 1519 - 19A
 TRY NORWAY
 SIZE 8 1/2"
 IATION NAME HUGIN

EQUIPMENT

S.JOINT: ADJ STD EVENT MOTOR
 I.T.: FFG ALU ST FLU VALVED CQL
 OTHER: GRI COR SPONGE HOT GLIDER
 SIZE 6 1/4" x 4" x 27m
 BIT NO. 7941023 LENGTH 0.36
 TYPE CD 93 FOIL SIZE 8 1/2" x 4"
 PREVIOUS METERS 27m
 THIS CORE 27m
 TOTAL METERS 54m

PERFORMANCE

INTERVAL CORED - FINISH 3989.5
 - START 3962.5
 METERS CORED 27.5
 CORE RECOVERED 27.64
 % RECOVERY 100.5
 BIT CONDITION 2-2-A-NF-I-NOF
 POOH REASON FULL CUT
 HOLEANGLE START 26° END

INTERVALS	GENERATION RATE MINUTES PER METER										OPERATING CONDITIONS														
	2	3	4	5	6	7	8	9	10	15	20	30	40	50	60	70	80	90	WEIGHT [KLB]	SPIN [GPM]	PSI	TORQUE [PT]	FORMATION	DESCRIPTION	
3962.5																			K						
																			6-12	70-90	275	1550	17-20		
																			105						
																			12					16-20	
																			10	115					
																								1550	14-20
3967.5																			10-14						
																			14-20	120					
																			10-12					16-18	
																			12-20					1620	
																			14					1650	
3972.5																			12-14					17-20	
																			12						
																			12-14					1600	
																			10-12					1530	
																								1550	
3977.5																			12-14					1520	
																								18-20	
																			12-16					1550	
																			12					1640	
																			10					1620	
3982.5																			10-14					1600	
																			14-20					1620	
																			16					1650	
																			16-22					1630	
																			22-24					1620	
3987.5																			12-16					1600	
																			16-18					16-20	
3989.5																			16-18					16-22	
																								16-20	

SPEC	BHA					PRESSURE			CORED RATE			OPEN RATE [M/H]			NO. CORE HEADS		
	% VISCOSITY	% WT%	% DWT%	% SAND%	% OIL%	ON TOP	OFF BOTTOM	BOTTOM	2.5	11	3	ACC. METER	ACC. OPEN RATE [M/H]	ACC. RECOVERED %	ACC. HRS	ACC. METER REC.	
8H	58	1.55	1.9	0.1	56	1550	1450	100	2.5	11	3	152	10.74	99.28	14.15	150.91	

HOLE TEMP 100°C STATIC CIRC. SPACED OUT 43mm

MARKS:



A. Leslie

COMPANY REP.

P. Fletcher

CORING LOG

EQUIPMENT

CORE NR.: FIVE
 SHEET NO.: ONE
 DATE: 16/8 1997

WELL INFORMATION

PANY SIA OIL
 TRACTOR DOLPHIN DRILLING
15/9-19A.
 NTRY NORWAY
 E SIZE 8 1/2"
 MATION NAME HUGAHL

S.JOINT: ADJ STD EVENT MOTOR
 LT: FG ALU ST FLU VALVED CQL
 OTHER: ORI COR SPONGE HDT GLIDER
 SIZE 6 1/4" X 4" X 27"
 BIT NO. 7941023 LENGTH 0.36
 TYPE CD 93A SIZE 8 1/2" X 4"
 PREVIOUS METERS
 THIS CORE 27"
 TOTAL METERS 27"

PERFORMANCE
 INTERVAL CORED - FINISH 3962.5
 - START 3935.5
 METERS CORED 27"
 CORE RECOVERED 27.5%
 % RECOVERY 100%
 BIT CONDITION 2-2-WT-17-I-NR-FUL
 POOH REASON FULL CUT
 HOLEANGLE START 26° END 26°

INTERVAL	PENETRATION RATE MINUTES PER METER										WEIGHT	RPM	TORQUE	FORMATION	DESCRIPTION		
	2	3	4	5	6	7	8	9	10	15							
<u>3935.5</u>																	
<u>3940.5</u>																	
<u>3945.5</u>																	
<u>3950.5</u>																	
<u>3955.5</u>																	
<u>3960.5</u>																	
<u>3962.5</u>																	

API	EX-VISCO	WT	W/E	% SAND	% OIL	ONE BOTOM	OFF BOTOM	API	1.8	ACC. METER	ACC. PENRATE [M/H]	ACC. RECOVERY [%]	CORE HEADERS			
													SPACED OUT	mm	ACC. HRS	ACC. METER REC
BM	59	155	2.1	1R	56	1850	1700	150	1.8	124.5	10.68	98.6				
ILL STRING BHA:													11.65	123.27		

BTM HOLE TEMP 100°C STATIC CIRC. SPACED OUT 43 mm

MARKS:



CORING LOG

CORE NR.: 1041
SHEET NO.: ONE
DATE: 15/8/97

WELL INFORMATION

COMPANY: STATOIL
TRACTOR: DOLPHIN DRILLING
WELL: 1519 - 19A
COUNTRY: NORWAY
PIPE SIZE: 8 1/2"
OPERATION NAME: HUGIN

EQUIPMENT
S.JOINT: ADJ STD EVENT MOTOR
I.T.: FG ALU ST FLU VALVED CQCL
OTHER: ORI COR SPONGE HDT GLIDER
SIZE: 6 3/4" x 4" x 27m
BIT NO: 7920282 LENGTH: 0.36m
TYPE: CD93 FD1L SIZE: 8 1/2" x 4"
PREVIOUS METERS: m
THIS CORE: 27m
TOTAL METERS: 27m

PERFORMANCE
INTERVAL CORED - FINISH: 3935.5
START: 3908.5
METERS CORED: 27m
CORE RECOVERED: 26m
% RECOVERY: 96.3%
BIT CONDITION: 4-4-WT-A-T-LC-FULL
POCH REASON: FULL CUT
HOLEANGLE START: 26° END:

INTERVAL	TOP	BOT	PENETRATION RATE MINUTES PER METER										WEIGHT	RPM	PRESSURE	TORQUE	FORMATION	DESCRIPTION
			2	3	4	5	6	7	8	9	10	15						
3908.5													10	80	270	1660	16-19	K
													100		1700			
													12		1650			
3913.5													10	110			4)	Z
																	17-19	0
																	1620	V
3918.5													12				1600	A
																	16-18	Z
													10				1650	17-19
													12-20				1600	COAL
													14				18-19	
																	1580	
													14-18				1550	17-19
3923.5													10				16-18	
													12-20				1500	III
													14				18-19	
																	1580	
3928.5													14-16				1550	16-20
													14-16				1500	II
													14-18				1550	14-19
													14-16				1550	16-20
													18				1500	14-20
													18-20				1550	16-18
3933.5													18				14-18	I
													18-22				1500	14-20
3935.5													22				14-18	V
0																		

TYPE	VISCO	MUD	WFC	WFC	% SAND	% S.OIL	ON	OFF	PRESSURE	TIME	CORE TIME	GROSS	PENETRATE	WHR	N.CORE HEADS	ACC. METER	ACC. PEN RATE	ACC. HRS	ACC. METER REC.
3M	75	1.55	2.0	0	56	1650	P	S	1550	100	97.5	2.0	13.5	2					

ILL STRING BHA:
TTOM HOLE TEMP: 100 °C STATIC: CIRC: SPACED OUT: 43 mm
MARKS:



CORING LOG

CORE NR. 714085

SHEET NO. ONE

DATE 14-8-97

WELL INFORMATION

ANY STATOIL
 FACTOR DOLPHIN
15/9 - 19A
 TRY NORWAY
 SIZE 8 1/2"
 LOCATION NAME HUGEN

EQUIPMENT

S.JOINT: ADJ STD EVENT MOTOR
 I.T: FG ALU ST FLU VALVED COOL
 OTHER: ORI COR SPONGE HDT GLIDER
 SIZE 6 3/4" X 4" X 27"
 BIT NO. 79405cb LENGTH 0-36
 TYPE CD 93 SIZE 8 1/2" X 4"
 PREVIOUS METERS 43"
 THIS CORE 27"
 TOTAL METERS 70"

PERFORMANCE

INTERVAL CORED - FINISH 3908.5
 - START 3881.5
 METERS CORED 27m
 CORE RECOVERED 26.9m
 % RECOVERY 99.6%
 BIT CONDITION 3-3-4T-A-I-N-FULL
 POOR REASON FULL CUT
 HOLEANGLE START 26° END:

INTERVAL	PENETRATION RATE MINUTES PER METER										OPERATING CONDITIONS														
	2	3	4	5	6	7	8	9	10	11	12	13	20	30	40	50	60	TO BORE	WEIGHTS	HPM	SPM	BHP	TORQUE	ROTATION	DESCRIPTION
<u>3881.5</u>																		<u>K</u>	<u>10</u>	<u>100</u>	<u>250</u>	<u>1360</u>	<u>16-18</u>		<u>J</u>
<u>3886.5</u>																		<u>J</u>	<u>13</u>	<u>110</u>	<u>250</u>	<u>1400</u>	<u>16/20</u>		<u>J</u>
<u>3891.5</u>																		<u>J</u>	<u>12</u>	<u>110</u>	<u>250</u>	<u>1400</u>	<u>18-20</u>		<u>J</u>
<u>3896.5</u>																		<u>C</u>	<u>13</u>	<u>110</u>	<u>250</u>	<u>1420</u>	<u>18-20</u>		<u>C</u>
<u>3901.5</u>																		<u>M</u>	<u>15</u>	<u>110</u>	<u>250</u>	<u>1450</u>	<u>18-20</u>		<u>M</u>
<u>3906.5</u>																		<u>M</u>	<u>16</u>	<u>110</u>	<u>250</u>	<u>1450</u>	<u>18-20</u>		
<u>3908.5</u>																		<u>M</u>	<u>12</u>	<u>110</u>	<u>250</u>	<u>1420</u>	<u>16-8</u>		

DEC	VISCO	WT%	WL%	% SAND	% CLAY	ON BORE	OFF BORE	ACC	ACC METER	CORE HEADS		PEN RATE METER	CORE HEADS	
										Bottom	Bottom	1.4	19.3	1
SN. 58	1.55	1.9	0.1	56	1400	1350	50.	70.5	ACC PENETRATE METER	8.98	98.9			
LL STRING BHA:									ACC HRS	7.85	69.77			

TOM HOLE TEMP 100 °C STATIC CIRC. SPACED OUT 43 mm

MARKS:

A-L-HR.Christian

CORING LOG

EQUIPMENT

CORE NR.: ONE
SHEET NO.: ONE
DATE 12/8/1997

WELL INFORMATION

COMPANY STATOIL
TRACTOR DOLPHIN DRILLING
IS/9 - 19A
COUNTRY NORWAY
E SIZE 8 1/2"
FORMATION NAME HUGIN

SJNT: ADJ STD EVENT MOTOR
 I.T.: FFG ALU ST FLU VALVED COL
 OTHER: ORI COR SPONGE HOT GLIDE
 SIZE 6^{3/4"} x 4" x 27m
 BIT NO. 79405CB LENGTH 0.36m
 TYPE CD 93 FOIL SIZE 8^{1/2"} x 4"
 PREVIOUS METERS
 THIS CORE 16m
 TOTAL METERS 16m

PERFORMANCE
 INTERVAL CORED - FINISH 3854
 - START 3838
 METERS CORED 16m
 CORE RECOVERED 15.2m
 % RECOVERY 95%
 BIT CONDITION 2-2-WT-A-I-NO-JAW
 POOH REASON SUSPECTED JAMMING
 HOLEANGLE START: 26° END: _____

MOD						PRESSURE			CORE TIME [HRS]		PEN RATE [M/HRS]	N° COREHEADS
TYPE	VISC	WE	WI	% SAND	% OIL	ONE BOTOM	OFF BOTOM	AP		ACC. METER	ACC. PEN RATE [M/HR]	ACC. RECOVERY [%]
BM	59	1.55	1.8	0.1	56	1350	1200	150	16	3.76	3.76	95
FILL STRING BHA:									ACC. HRS	ACC. METER REC.		
									4.25	15.2		

ROLL STRING BHA:

BOTTOM HOLE TEMP: 100 °C STATIC CIRC. SPACED OUT: 43 mm

REMARKS: WASH AND REAM 3383" - 1D @ 3837" WITH 1500 LTR.

1600 PSI 100 RPM 14-18 K F1/LBS. O. WOB.



REF ID: A12345

A. Larkie

COMPANY BFP

P. Thornton