TABLE 8.1

PRODUCTION TEST 1 2810 - 2855 m bdf						
Nitrogen displacement No.	Barrels in return	Fluid properties			Hydrocarbons	
		Weight (sg)	pH	Chlorinity (x 1000 PPM)	Oil	Gas (vol %)
1	59	1.25	3	250	No	1.36
2	53	1.17 - 1.25	4 - 5	140 - 214	No	1.35
3	54	1.13 - 1.25	4	153 - 200	No	4.5
4	49	1.15 - 1.23	4 - 5	120 - 191	No	0
5	62	1.14 - 1.25	5	124	No	11.2
Bottom hole sample						
1	-	1.14	4.5	120	No	-
2	-	1.14	4	138	No	-
3 Transferred into pvt bottle						
PRODUCTION TEST 2 2607 - 2665 m bdf (2)						
1	44	1.25	1	220	No	0.12
2 *	100?	1.25	2	270	No	-
3	53.5	1.25	1	220	No	0.55
4	55	1.21 - 1.24	1 - 4	183 - 214	No	-
5	61.75	1.15 - 1.21	3.5 - 6	120 - 190	No(1)	3.7
6	47.25	1.15 - 1.21	3.5 - 6	120 - 170	No	10
7	51.5	1.17 - 1.24	2.5	150 - 190	No(1)	13
8	66	1.16	4	140 - 250	No	16
9	60.6	1.17 - 1.24	4.5	130 - 200	No	18
10	58	1.19	4.5	155	No	29
11	44	1.18	4.2	125	No	40
Bottom hole sample	-	1.16	4.6	130	No	-

(1) Samples showed a very thin film of black fluid on top of brine/acid, probably diesel

(2) Gas samples taken from the tubing head after flowing the well to a stable fluid level, prior to circulating the influx out

* After displacement no 2 a second acid stilumation was performed

TABLE 8.2

RFT samples						
Depth (m bdf)	Weight (s.g.)	pH	Chlorinity (x 1000 ppm)	Oil	Water content (%)	Solids
2798	NO ANALYSIS	-	-	-	-	-
3533	1.01	8.9	11	No	98	2
3714.5 (lower chamber)	1.06	8.1	42	No	97	3
3714.5 (upper chamber)	1.07	7.8	42	No	97	3

TABLE 8.3

RFT RESULTS 7120/1-1

Depth (m bdf)	Hydrostatic Pressure (psi)	Formation Pressure (psi)	Comments
RUN 1			
2137	3926	.	No seal
2143	3938	4026	OK
2155.5	3962	4110	OK
2288	4203	44	Tight
RUN 2			
2137	3940	3733	Slow pressure increase
2308	4248	75	Lost sealing
2385	4376	71	Tight
2390	4389	61	Tight
2395	4396	4325	OK
RUN 3			
2426	4721	34	Tight
2426.5	4735	26	Tight
2425.5	4727	27	Tight
2425	4738	33	Tight
2429	4750	.	No seal
2438	4770	.	No seal
2442.5	4779	.	No seal
2450	4794	.	No seal
2447	4788	.	No seal
2458	4811	.	No seal
2461.5	4818		No seal
2441.5	4781	29	Tight
2433	4767	25	Tight
2447	4794	4633	Very slow buildup over 25 min
2455	4811	34	Tight
2464.5	4831	25	Tight
2462.1	4825	25	Tight
RUN 4			
2630	5235	(5262)	No seal
2630	5236	12	Tight
2630.5	5236	4350	OK but slow
2692.5	5360	(5361)	No seal
2692.5	5361	(5363)	No seal
2692	5358	(5376)	No seal
2693	5361	(5308)	No seal
2712.5	5398	(5397)	No seal
2713	5401	(5401)	No seal
2737	5449	4994	?
2792.5	5559	0	Tight
2793	5557	(5554)	No seal
2798	5568	4500	OK (sample)
2882.5	5736	(5738)	No seal
2882.5	5739	(5740)	No seal
2883	5737	(5336)	No seal
2957.5	5885	0	Tight
2957	5883	0	Tight
3087.5	6145	0	Tight
RUN 5			
3351	6680	.	No seal
3350.5	6678	5585	OK
3433	6842	.	No seal
3432.5	6841	.	No seal
3433.5	6843	5723	OK
3533	7085	5506	OK (sample)
3686	7401	5682	OK
3715	7465		No seal
3714.5	7463	5800	OK (sample)
3433	6846	5550	Checked previous runs
3432.5	6839	5532	Checked previous runs

REMARKS

- The recorded pressures are not temperature corrected
- Temperature correction for 5000 psi at 150°F is – 10 psi
- Points where tool would not seal may indicate fractures

U-480

April 1986

RKER.86.085

EVALUATION OF SOURCE ROCK PROPERTIES OF SIDEWALL AND CUTTING SAMPLES FROM WELL 7120/1-1, NORWAY

by

T. Rodenburg

Sponsor: Shell E&P,Risavika Code: 714.10300

Investigation: 8.121.03811
8.121.03921

KONINKLIJKE/SHELL EXPLORATIE EN PRODUKTIE LABORATORIUM

RIJSWIJK, THE NETHERLANDS

(Shell Research B.V.)

GEOCHEMICAL SOURCE ROCK DATA

TABLE I WELL: 7120/1-1

DEPTH M	SAMP TYPE	SNIFF BEF [SRI]	SNIFF AFT [SRI]	C	Corg [%WT]	TYPE OM	MAC
1460.00	S	75	70		2.5	-	*
1690.00	S	10	-		-	-	*
1725.50	S	45	65		2.1	-	*
1765.50	S	15	-		-	-	*
1823.00	S	15	-		-	-	*
1857.50	S	>900	2375		41.6	-	*
1858.40	S	540	500		8.1	-	*
2014.70	S	25	-		-	-	*
2285.20	S	45	50		0.9	-	*
2288.01	S	80	60		-	-	
2314.51	S	30	30		0.5	-	
2332.50	S	30	30		-	-	
2363.50	S	35	35		0.5	-	
2463.00	S	40	40		-	-	
2473.00	S	30	30		-	-	
2478.00	S	30	30		0.9	-	
2550.00	C	140	175	W	1.4	-	*
2550.00	C	140	175	W	1.2	-	*
2553.00	C	265	160		-	-	
2556.00	C	135	110		-	-	
2559.00	C	>900	440	W	3.2	-	*
2562.00	C	605	300		-	-	
2565.00	C	770	495	W	3.0	-	*
2568.00	C	125	45		-	-	
2571.00	C	145	45		-	-	
2574.00	C	120	50		-	-	
2577.00	C	190	85		1.4	-	*
2580.00	C	115	65		-	-	
2583.00	C	180	95		1.5	-	*
2586.00	C	90	40		-	-	
2589.00	C	95	45		-	-	
2592.00	C	75	45		-	-	
2595.00	C	80	55		1.2	-	*
2598.00	C	75	45		-	-	
2601.00	C	55	30		-	-	
2604.00	C	35	25		0.6	-	
2607.00	C	30	20		-	-	
2610.00	C	35	20		0.4	-	

TYPE OF SAMPLE C = CUTTINGS, R = CORE, S = SIDEWALL SAMPLE

CONTAMINATION : W = WALNUT FRAGMENTS OR SOME SIMILAR PRODUCT,
E = CELLOPHANE SHREDS, F = FIBRES, P = PLASTIC OR PAINT AND
C = CONTAMINATED BUT KIND NOT SPECIFIED

INTERPRETATION OF GASCHROMATOGRAPHIC ANALYSIS :

PGC<100.0	=	HUMIC	: GAS-PRONE
100.0<PGC<133.3	=	MAINLY HUMIC	:
133.3<PGC<166.6	=	MIXED	: GAS- AND OIL-PRONE
166.6<PGC<200.0	=	MAINLY KEROG.	:
200.0<PGC	=	KEROGENOUS	: OIL-PRONE

SYMBOL STAR (*) IN "MAC" (MACERAL DESCR.)
INDICATES THAT MACERAL DESCRIPTION HAS BEEN CARRIED OUT

GEOCHEMICAL SOURCE ROCK DATA
ROCK EVAL DATA

TABLE II WELL: 7120/1-1

DEPTH M	S-1	S-2	TOC	H-Index	O-Index	Tmax	Productivity Index
1857.50	14.76	195.71	41.60	100.	9.	422	0.07
1858.40	2.31	11.12	8.10	137.	9.	433	0.17
2550.00	0.35	0.91	1.36	66.	151.	442	0.28
2559.00	3.17	5.74	3.23	177.	253.	331	0.36
2565.00	2.05	4.91	3.00	164.	242.	330	0.29

S-1 = FREE HYDROCARBONS [kg/ton of rock]
S-2 = HYDROCARBONS ORIGINATING FROM KEROGEN [kg/ton of rock]

TOC = TOTAL AMOUNT OF ORGANIC CARBON [%WT]

H-INDEX = [mg HC/ g Corg.]
O-INDEX = [mg CO2/ g Corg.]
P-INDEX = S-1 / (S-1 + S-2)

Tmax = TEMPERATURE CORRESPONDING TO THE MAXIMUM OF HYDROCARBON GENERATION DURING PYROLYSIS

3

November 1986

RKER.86.243

GEOCHEMICAL INVESTIGATION OF TWO CUTTINGS SAMPLES FROM WELL 7120/1-1, NORWAY

by

P.J.R. Nederlof and J.M.A. Buiskool Toxopeus

Sponsor: Shell Risavika Code: 774.103.00

KONINKLIJKE/SHELL EXPLORATIE EN PRODUKTIE LABORATORIUM

RIJSWIJK, THE NETHERLANDS

(Shell Research B.V.)

CONTENTS

GEOCHEMICAL INVESTIGATION OF TWO CUTTINGS SAMPLES FROM WELL 7120/1-1, NORWAY

1.0. INTRODUCTION

A geochemical extract analysis has been carried out on two cuttings samples from the following well (request telex RIS 280111 of 28.01.1986):

- 7120/1-1, 1170-1180 m, Upper Triassic
- 7120/1-1, 2559-2565 m.

The results are presented in Tables 1-3 and in Figures 1-14.

Table 1 - GEOCHEMICAL DATA OF EXTRACTS

Sample: 7120/1-1 1170-1180 m

	original	heated
% extract	0.09	0.8
% organic carbon after extraction	1.6	1.1
extract/original carbon (after extraction)	0.06	0.5
% sulphur	ND	ND
ppm V as metals	ND	ND
ppm Ni as metals	ND	ND
pristane/phytane	1.2	1.3
pristane/nC17	0.8	0.2
phytane/nC18	0.8	0.2
C_{15} distribution		
1-ring	60	71
2-ring	30	24
3-ring	10	5
C_{30} distribution		
3-ring	9	43
4-ring	38	32
5-ring	53	25
C_{29} VR/E	0.72	-
methyl phenanthrene index 1:	0.56 (VRE = 0.68)	
methyl phenanthrene index 2:	0.62 (VRE = 0.74)	
% saturates*	33	ND
% aromatics	17	
% heterocompounds	50	
% asphaltenes	ND	ND
$\delta^{13}C^{o}/oo$ (whole extract)	-28.7	ND
" (saturates)	ND	ND
" (aromatics)	-29.4	-29.4
" (asphaltenes)	ND	ND
" (kerogen)	-24.9	ND

*) Determined by thin-layer-chromatography
N.D. = not detectable (not enough sample material available)

Table 2 - GEOCHEMICAL DATA OF EXTRACTS

Sample: 7120/1-1 2559-2565 m

% extract	0.02
% organic carbon after extraction	3.3
extract/original carbon (after extraction)	0.01
% sulphur	ND
ppm V as metals	ND
ppm Ni as metals	ND
pristane/phytane	1.4
pristane/nC17	0.4
phytane/nC18	0.4
C_{15} distribution	
1-ring	63
2-ring	24
3-ring	13
C_{30} distribution	
3-ring	36
4-ring	40
5-ring	24
C_{29} VR/E	1.03
methyl phenanthrene index 1:	0.66 (VRE = 0.72)
methyl phenanthrene index 2:	0.78 (VRE = 0.79)
% saturates*	48
% aromatics	22
% heterocompounds	30
% asphaltenes	0
$\delta^{13}C^{o}/oo$ (whole extract)	-26.0
" (saturates)	-26.6
" (aromatics)	-26.6
" (kerogen)	-23.9

*) Determined by thin-layer-chromatography
N.D. = not detectable (not enough sample material available)

GAS CHROMATOGRAPHIC ANALYSIS OF THE SATURATED HYDROCARBONS

REF.NUMBER : 863459 O.D. : 10-07-86

NORWAY7 7120/1-1 1170-1180 M

COMPONENT	RET.TIME	PEAK MAX.	PEAK AREA	PERCENTAGE
n-C07	----	----	----	----
n-C08	----	----	----	----
n-C09	----	----	----	----
n-C10	----	----	----	----
n-C11	7.85	105.68	490	0.46
n-C12	10.42	58.96	265	0.25
n-C13	13.34	260.14	1375	1.28
n-C14	16.46	719.75	3905	3.62
n-C15	19.58	1168.92	6665	6.18
n-C16	22.65	1411.91	8534	7.91
n-C17	25.61	1682.72	10129	9.39
n-C18	28.46	1345.78	8150	7.56
n-C19	31.17	1320.16	9225	8.55
n-C20	33.78	1324.53	7984	7.40
n-C21	36.29	1534.32	9595	8.90
n-C22	38.69	1120.71	6744	6.25
n-C23	40.97	1186.95	7001	6.49
n-C24	43.17	684.60	4369	4.05
n-C25	45.31	717.47	4931	4.57
n-C26	47.34	466.47	2803	2.60
n-C27	49.32	530.69	3362	3.12
n-C28	51.22	353.19	2275	2.11
n-C29	53.09	406.61	2860	2.65
n-C30	55.09	281.39	2539	2.35
n-C31	57.33	203.93	2130	1.98
n-C32	59.90	93.98	1048	0.97
n-C33	62.90	67.43	753	0.70
n-C34	66.42	32.10	509	0.47
n-C35	72.72	16.77	199	0.18
n-C36	----	----	----	----
n-C37	----	----	----	----
n-C38	----	----	----	----
n-C39	----	----	----	----
n-C40	----	----	----	----
				=====
				100.00
i-C13	----	----	----	
i-C14	12.60	33.73	280	
i-C15	15.80	129.91	679	
i-C16	18.47	432.09	2546	
i-C17	----	----	----	
i-C18	24.20	509.76	4970	
Pristane	25.88	1060.17	7844	
Phytane	28.82	688.06	6604	

RKER 86.243

FIG. 2B.

GASCHROMATOGRAPHIC ANALYSIS OF THE SATURATED HYDROCARBONS

REF.NUMBER : 863455 D.I. : 10-07-86

NORWAY 7120/1-1 1170-1180 M Heated

COMPONENT	RET.TIME	PEAK MAX.	PEAK AREA	PERCENTAGE
n-C07	----	----	----	----
n-C08	----	----	----	----
n-C09	----	----	----	----
n-C10	----	----	----	----
n-C11	7.79	31.46	142	0.16
n-C12	10.35	23.26	137	0.15
n-C13	13.28	53.05	312	0.35
n-C14	16.38	140.98	812	0.92
n-C15	19.51	495.66	2839	3.20
n-C16	22.58	898.85	5414	6.10
n-C17	25.55	1381.61	8345	9.40
n-C18	28.39	1452.34	9016	10.15
n-C19	31.13	1697.30	11030	12.42
n-C20	33.74	1625.70	9724	10.95
n-C21	36.23	1586.83	10026	11.29
n-C22	38.63	1072.82	6297	7.09
n-C23	40.93	912.03	5435	6.12
n-C24	43.14	540.47	3466	3.90
n-C25	45.27	520.11	3283	3.70
n-C26	47.31	394.04	2375	2.67
n-C27	49.28	342.34	2355	2.65
n-C28	51.18	266.90	1817	2.05
n-C29	53.04	244.47	1767	1.99
n-C30	55.04	154.53	1219	1.37
n-C31	57.29	102.34	913	1.03
n-C32	59.86	60.49	645	0.73
n-C33	62.87	45.90	677	0.76
n-C34	66.39	29.97	408	0.46
n-C35	70.59	21.38	336	0.38
n-C36	----	----	----	----
n-C37	----	----	----	----
n-C38	----	----	----	----
n-C39	----	----	----	----
n-C40	----	----	----	----
				=====
				100.00
i-C13	----	----	----	
i-C14	----	----	----	
i-C15	15.72	17.05	119	
i-C16	18.39	76.65	468	
i-C17	----	----	----	
i-C18	24.15	157.76	1698	
Pristane	25.83	241.56	1755	
Phytane	28.75	169.13	1335	

RKER 86.243

FIG. 2C.

GASCHROMATOGRAPHIC ANALYSIS OF THE SATURATED HYDROCARBONS

REF.NUMBER : 862193 D.D. : 11-04-86

NORWAY 7120/1-1 2559-2565M

COMPONENT	PEAK MAXIMUM	PEAK AREA	PERCENTAGE
n-C07	----	----	----
n-C08	----	----	----
n-C09	----	----	----
n-C10	----	----	----
n-C11	----	----	----
n-C12	1443.61	6747.	1.64
n-C13	4188.62	21383.	5.20
n-C14	7020.66	38365.	9.34
n-C15	7253.87	45923.	11.17
n-C16	7130.54	45831.	11.15
n-C17	6721.20	43454.	10.57
n-C18	5463.87	35432.	8.62
n-C19	4656.99	31911.	7.76
n-C20	4141.16	26219.	6.38
n-C21	3814.85	22493.	5.47
n-C22	3310.37	19730.	4.80
n-C23	2663.15	16714.	4.07
n-C24	2252.96	14326.	3.49
n-C25	1939.83	12635.	3.07
n-C26	1495.87	9502.	2.31
n-C27	1329.06	8191.	1.99
n-C28	952.48	6282.	1.53
n-C29	905.14	5836.	1.42
n-C30	----	----	----
n-C31	----	----	----
n-C32	----	----	----
n-C33	----	----	----
n-C34	----	----	----
n-C35	----	----	----
n-C36	----	----	----
n-C37	----	----	----
n-C38	----	----	----
n-C39	----	----	----
n-C40	----	----	----
			=====
			100.00
i-C13	----	----	
i-C14	----	----	
i-C15	1128.71	6168.	
i-C16	2409.39	14029.	
i-C18	2452.37	17845.	
Pristane	2244.17	18215.	
Phytane	1690.98	13452.	

RKER 86.243

FIG. 3B.

December 1986

RKER.86.370

GEOCHEMICAL INVESTIGATION OF AN IMPREGNATION AND A SOURCE ROCK EXTRACT IN WELL 7120/01-01, NORWAY

by

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Sponsor: Shell Risavika Code: 774.103.00

KONINKLIJKE/SHELL EXPLORATIE EN PRODUKTIE LABORATORIUM

RIJSWIJK, THE NETHERLANDS

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GEOCHEMICAL INVESTIGATION OF AN IMPREGNATION AND A SOURCE ROCK EXTRACT IN WELL 7120/01-01, NORWAY

1.0 INTRODUCTION

A geochemical investigation has been carried out on the following Triassic 7120/01-01 samples:

- 714 + 716 + 736 + 751.2 m combined sidewall samples
- 961.5 m sidewall sample

(Sample 857 m contains too small amounts of organic matter to analyse further). The results are shown in Table 1 and in Figs. 1-10.

TABLE 1 - GEOCHEMICAL DATA OF EXTRACTS

Sample:	Norway. 7120/01-01 714-751.2 m combined sidewalls	961.5 m sidewall sample
% extract	0.7	0.2
% organic carbon after extraction	0.3	1.9
% extract/original carbon (after extraction)	2.3	0.11
% sulphur	1.5	-
ppm V as metals	3	-
ppm Ni as metals	4	-
pristane/phytane	ND	1.7
pristane/nC17		1.3
phytane/nC18		0.5
C_{15} distribution		
1-ring	39	ND
2-ring	41	
3-ring	20	
C_{30} distribution		
3-ring	19	17
4-ring	49	46
5-ring	31	37
C_{29} VR/E	0.66	0.76
methyl phenanthrene index 1	0.70(VRE=0.79)NEM	
methyl phenanthrene index 2	0.73(VRE=0.79)NEM	
% saturates*	38	12
% aromatics	45	13
% heterocompounds	17	71
% asphaltenes	0.5	4.2
$\delta^{13}C^{o}/oo$ (whole)	-29.7	-26.3
" (saturates)	-30.2	NEM
" (aromatics)	-29.3	NEM
" (heteros)	-29.0	NEM

*) Determined by thin-layer chromatography
ND = not detectable
NEM = Not enough material

GASCHROMATOGRAPHIC ANALYSIS OF THE SATURATED HYDROCARBONS

REF.NUMBER : 861010 D.D. : 02-01-86

NORWAY 7120/1-1 961.5 M

COMPONENT	PEAK MAXIMUM	PEAK AREA	PERCENTAGE
n-C07	----	----	----
n-C08	----	----	----
n-C09	----	----	----
n-C10	----	----	----
n-C11	54.57	246.	0.27
n-C12	129.02	596.	0.66
n-C13	123.79	718.	0.80
n-C14	74.81	438.	0.49
n-C15	46.03	310.	0.34
n-C16	124.55	764.	0.85
n-C17	239.10	1437.	1.60
n-C18	355.56	2307.	2.57
n-C19	444.55	2802.	3.12
n-C20	496.55	3212.	3.57
n-C21	712.38	4319.	4.81
n-C22	751.56	4429.	4.93
n-C23	1360.94	8765.	9.75
n-C24	835.41	5276.	5.87
n-C25	2065.56	15133.	16.84
n-C26	713.16	4764.	5.30
n-C27	1409.20	10087.	11.23
n-C28	547.02	3762.	4.19
n-C29	1038.60	7061.	7.86
n-C30	396.21	2654.	2.95
n-C31	804.96	5653.	6.29
n-C32	186.52	1536.	1.71
n-C33	247.06	1705.	1.90
n-C34	85.56	887.	0.99
n-C35	108.42	997.	1.11
n-C36	----	----	----
n-C37	----	----	----
n-C38	----	----	----
n-C39	----	----	----
n-C40	----	----	----
			=====
			100.00

i-C13	----	----
i-C14	----	----
i-C15	----	----
i-C16	15.04	109.
i-C18	42.36	476.
Pristane	246.77	1889.
Phytane	135.58	1096.

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FIG. 2A.

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GEOCHEMICAL INVESTIGATION OF TWO GAS SAMPLES FROM WELL 7120/1-1, NORWAY

by

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KONINKLIJKE/SHELL EXPLORATIE EN PRODUKTIE LABORATORIUM

RIJSWIJK, THE NETHERLANDS

(Shell Research B.V.)

GEOCHEMICAL INVESTIGATION OF TWO GAS SAMPLES FROM WELL 7120/1-1, NORWAY

1. INTRODUCTION

Geochemical analyses have been completed on two gas samples from the following well (request RIS 250727 of 25.07.86):
7120/1-1, 2607-2665 m, Permian.

2. RESULTS

The composition of the gases (mole%, corrected for the presence of air) and the isotope ratios are as follows:

Sample	7120/1-1 (bottle no. 1959A)	7120/1-1 (bottle no. 2008A)
Methane	34.43	24.95
Ethane	4.01	3.11
C2-unsaturates	trace	trace
Propane	1.54	1.26
i-Butane	0.17	0.13
n-Butane	0.44	0.34
C4-unsaturates	-	-
neo-Pentane	trace	trace
i-Pentane	0.11	0.09
n-Pentane	0.16	0.12
C5-unsaturates	0.01	0.01
C6+-hydrocarbons	0.34	0.24
Hydrogen	0.07	trace
Nitrogen	10.89	8.78
Carbon monoxide	-	0.11
Carbon dioxide	47.81	60.93
Hydrogen sulphide	-	-
$\delta 13C$ (promille)	-44.4	-44.1
δ^2H (promille)	-196 $\pm$5	-192 $\pm$5