

2.7.4 Fluid Sampling

The oil zone was sampled at 3 different depth by MDT sampling. 3 monophasic bottom samples were collected together with one conventional bottom sample at each depth. The samples were transferred to Single-phase bottles at the rig site and transported to the PVT lab for analysis.

Detailed PVT reporting in the report: "Reservoir Fluid analysis for Agip S.p.a 7122/7-1.

One water sample was taken at 1233.4 m.

Sample depth:	Opening press.:	Density:	% CO2:	ppm H2S:	Sample no.:
1114.4 m	7200 psig @ 10 °C	N/A	N/A	N/A	1.01
1114.4 m	7300 psig @ 10 °C	N/A	N/A	N/A	1.02
1114.4 m	7200 psig @ 10 °C	N/A	N/A	N/A	1.03
1114.4 m	2400 psig @ 10 °C	N/A	N/A	N/A	1.04
1114.4 m	2500 psig @ 9 °C	0.867 g/cm3 @ 9.6 °C	19	0	1.05, 1.06
1140.0 m	7150 psig @ 10 °C	N/A	N/A	N/A	1.07
1140.0 m	7100 psig @ 10 °C	N/A	N/A	N/A	1.08
1140.0 m	7200 psig @ 10 °C	N/A	N/A	N/A	1.09
1140.0 m	2400 psig @ 10 °C	N/A	N/A	N/A	1.10
1140.0 m	2200 psig @ 10 °C	0.875 g/cm3 @ 10.6 °C	20	0	1.11
1106.0 m	7300 psig @ 10 °C	N/A	N/A	N/A	1.12
1106.0 m	7300 psig @ 10 °C	N/A	N/A	N/A	1.13
1106.0 m	7300 psig @ 10 °C	N/A	N/A	N/A	1.14
1106.0 m	7800 psig @ 10 °C	N/A	N/A	N/A	1.15
1106.0 m	2600 psig @ 9 °C	0.874 g/cm3 @ 10.5 °C	18	0	1.16
1233.4 m	2900 psig @ 9 °C	N/A	N/A	N/A	1.17

Tabel 2.7.6

MUD SUMMARY REPORT

Well 7122/7-1

Day no.	TMD (m)	Hole size (in)	Mud type	MW (g/cm ³)	Viscosity (s/L)	PV (mPa·s)	YP (Pa)	Gels 10s/10m (Pa)	API WL (mL)	HTHP WL (mL)	HTHP Temp. (°C)	pH	Cl- (mg/L)	Sand (%)	TS (%)	LGS (kg/m ³)	MBT (kg/m ³)	Tot. Hard. (mg/L)	Oil (%)	Tot. Vol. (m ³)
3	481	36	Spud Mud																0	167
4	481	36	Spud Mud																0	106
5	690	9,875	Spud Mud																0	106
6	690	9,875	Spud Mud																0	106
7	690	26	Spud Mud	1,03	110														0	106
8	690	26	Spud Mud	1,03	110														0	106
9	977	12,25	FORMATE/POLYMER	1,30	50	8	3	1/2	5			9,0	5000				7		0	106
10	1063	12,25	FORMATE/POLYMER	1,30	49	10	6	1/2	8			9,0	230000			118	12		0	367
11	1063	12,25	FORMATE/POLYMER	1,30	60	10	9	2/2	7			9,0	230000		4,6	118	12		0	299
12	1133	8,5	FORMATE/POLYMER	1,30	50	11	4	1/2	7,6			11,0	230000	0,4	4,6	118	12		0	322
13	1151	8,5	FORMATE/POLYMER	1,30	51	10	5	1/2	6,2			8,5	220000	0,25	5,4	136	12		0	323
14	1189	8,5	FORMATE/POLYMER	1,30	51	10	5	1/2	7,8			9,0	205000	0,25	6,2	163	12		0	328
15	1500	8,5	FORMATE/POLYMER	1,31	50	10	5	1/2	6,7			9,0	205000	0,25	6,8	163	14		0	327
16	1524	8,5	FORMATE/POLYMER	1,31	50	10	5	1/2	6,7			9,0	205000	0,25	6,8	163	14		0	332
17	1524	8,5	FORMATE/POLYMER	1,31	50	10	5	1/2	6,7			9,0	205000	0,25	6,8	163	14		0	331
18	1524	8,5	FORMATE/POLYMER	1,31	50	10	5	1/2	6,7			9,0	205000	0,25	6,8	163	14		0	331
19	1524	8,5	FORMATE/POLYMER	1,31	50	10	5	1/2	7,2			10,0	190000	0,1	7,7	208	14		0	331
20	1524	8,5	FORMATE/POLYMER	1,31	50	9	4	1/2	9,5			10,0	195000	0,1	7,8	199	14		0	326
21	1524	8,5	FORMATE/POLYMER	1,31	50	9	4	1/2	9,5			10,0	195000	0,1	7,8	199	14		0	319
22	1524	8,5	FORMATE/POLYMER	1,31	50	9	4	1/2	9,5			10,0	195000	0,1	7,8	199	14		0	306

Eni S.p.A.
Divisione Agip



Goliath Field Geochemical study

Edited by R.Galimberti

With the contribution of

P.G. Caccialanza (Reservoir Geochemistry and Source Rock evaluation)
V. Dieckmann (Asphaltene Kinetic)

S.Donato Mil.se
20/5/2001

Geochemistry
A. Muttoni

1 - Introduction

On request of NorskAGIP a geochemical study has been performed on the oil and cutting samples coming from the well 7122/7-1 drilled in the Goliath structure.

The new data have been integrated in the existing exploration model by the use of previous geochemical studies (Geochemical characterisation of several oil and condensate samples from Barents Sea area. GEOC, February 1997) based on samples provided by NPD.

The list of the NPD samples coming mainly from Snøhvit and Askeladden and from the new well is reported in the following table and the location map is shown in Fig.1.

A geochemical log of the well, obtained by the cutting analysis, has been performed in order to define the migrated fluid distribution and to identify the possible source rock properties.

Tab.1 Sample list

Well	Depth (m)		Notes	Type
7122/7-1 (Goliath)	1106			Oil
7122/7-1 (Goliath)	1114.4			Oil
7122/7-1 (Goliath)	1140			Oil
7121/4-1 (Snøhvit)	2419.5	2434.5	DST3	Oil
7120/6-1 (Snøhvit)	2432	2436	DST2	Oil
7121/5-1 (Snøhvit)	2802	2825	DST1	Oil
7120/6-1 (Snøhvit)	2386.4	2401.4	DST4	Condensate
7121/4-1 (Snøhvit)	2354	2385	DST4	Condensate
7121/4-1 (Snøhvit)	2465	2471	DST2	Condensate
7120/8-1 (Askeladden)	2092	2110	DST3	Condensate
7120/8-1 (Askeladden)	2133	2150	DST2	Condensate
7120/8-1 (Askeladden)	2165	2172	DST1	Condensate
7120/8-2 (Askeladden)	2092	2097	DST1	Condensate
7120/1-2	1944	1971	DST3B	Oil
7122/6-1	2424	2434	DST2	Condensate
7120/7-1	2415	2435	DST2	Condensate
7120/9-1 (Albatross North)	1869	1877	DST2A	Condensate
7119/12-3	3184	3195	DST1	Condensate
7120/12-2 (Alke South)	1985	1991	DST2	Condensate

The stable isotopes analysis

Well	Depth	Type	HCS	HCA	NSO	C.V.
7122/7-1	1114,4	oil	-29,42	-28,15	-27,96	0,3
7122/7-1	1106	oil	-29,48	-28,11	-27,86	0,5
7122/7-1	1140	oil	-29,30	-28,14	-27,84	0,0

2.3 - GEOCHEMICAL PROFILE BY ROCK-EVAL AND TOC

A geochemical study of the cuttings coming from the well 7122/7-1 has been performed with the following aims:

- to verify the presence of residual liquid HCs, tracing a log of their quantity vs. depth
- to identify possible source rock levels.

One hundred cutting samples in the 1098-1524 m interval have been analysed by Total Organic Carbon (TOC) and Rock-Eval (RE) techniques in order to detect:

- free HCs in the sample (S1 - migrated or in situ generated HCs)
- petroleum potential of the possible source rocks (S2)
- source rock maturity (Tmax)
- kerogen quality (Hydrogen Index and Oxygen Index; HI and OI)

It is important to note that all the analysed samples (except the shallowest in the 1098-1104 m range) show two anomalous features during the RE analysis: unusually high values of S3 peak are detected and moreover, the S2 peak shows a bimodal shape.

In our experience a similar situation takes place when organic water soluble additives are used in the drilling mud. In this case the first part of the S2 peak is generally produced by mud additives like for example the Glycol based additives (which are not soluble in common organic solvents) and/or by the heavy fraction of the oil like resins and asphaltene (which are soluble in organic solvents). The second part of the peak is produced by the HCs released during the kerogen pyrolysis.

The most probable interfering compound is, in the case of the well 7122/7-1, the Potassium formate: this organic compound is able to bind to shales and, due to its high content in oxygen, can develop CO₂ when heated during the RE analysis.

The analytical results are reported in the Annex 3, while the Fig.9 summarises the parameters discussed in the following paragraph.



Summary Report

Country: NORVEGIA
 Field: GOLIATH FIELD
 Form Name:

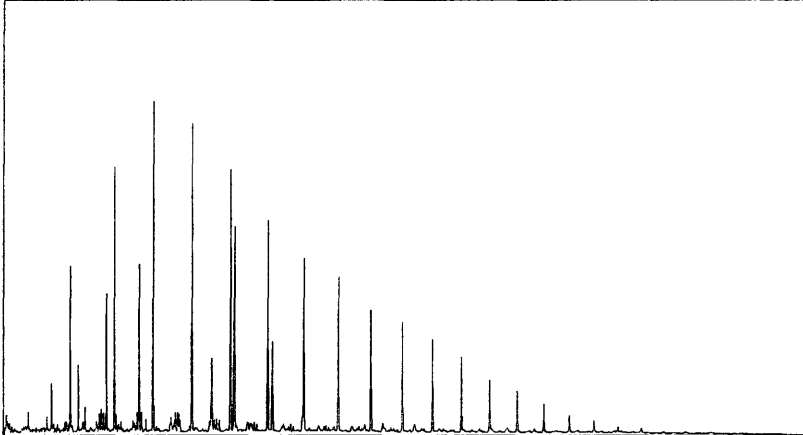
Site Name:7122/7-1
 Basin:
 Age:

Sample_ID: NOR_6912_OIL
 Depth: 1106(M)
 S_Type: OIL

Total Ion Chromatogram

Bulk Parameters

GCMS Para 1

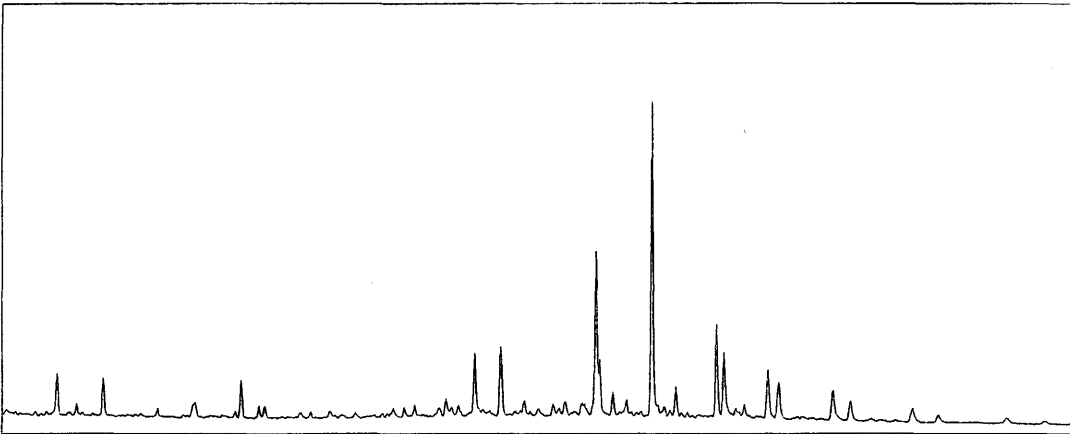


API Gravity:
 % Sulfur:
 delt C13 Whole Crude:
 delt C13 Saturates:
 delt C13 Aromatics:
 % Saturates:
 % Aromatics:
 % NONHCPC:
 OEP: 0.99

PrPh: 2.14
 Tri: 0.13
 Tet: 0.12
 Trit: 1.11
 TsTm: 0.88
 C29Hop/C30Hop: 0.52
 C30Lin:
 C29Ts/C30Hop: 0.18
 C30*/C30Hop: 0.07
 Gam/C30:
 Dia: 0.61

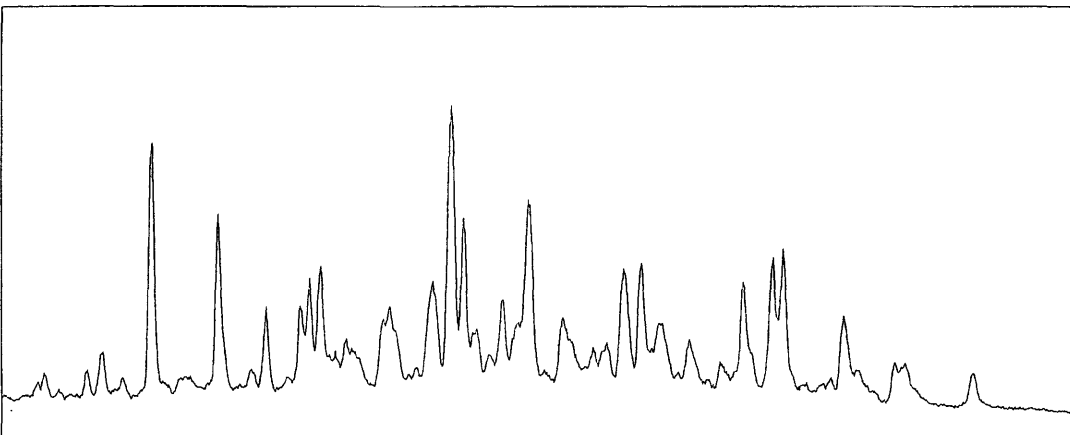
TERPANES(m/z 191)

GCMS Para 2



Organic Matter Parameters:
 C27/C29 Sterane: 1.04
 %27: 38.42
 %28: 24.55
 %29: 37.03
 Sterani/Hopani: 0.14
 Maturity Parameters:
 PrC17: 0.79
 PhC18: 0.43
 S/S+R Terpanes: 0.59
 S/S+R Steranes: 0.59
 TsTm: 0.88
 BB/aa: 0.70
 T/TM: 0.53
 MPI: 0.62

STERANES(m/z 217)



Age Parameters:
 Oleanane/30Hop:
 Baccarane:
 Other Parameters:
 31/30: 0.50
 Methylhopane: 1.73



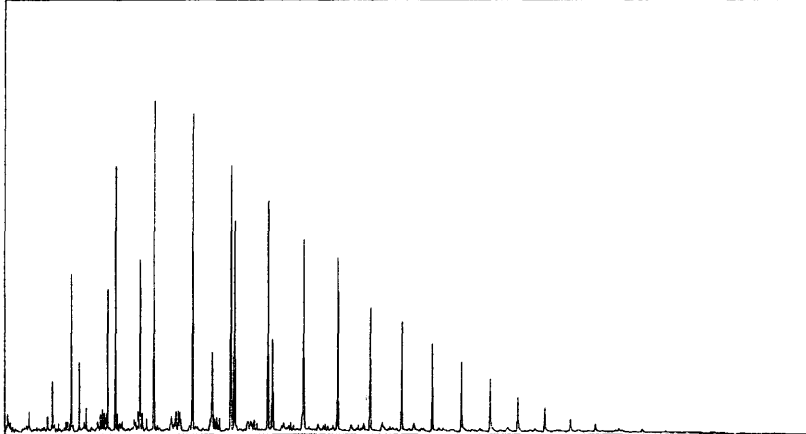
Summary Report

Country: NORVEGIA
 Field: GOLIATH FIELD
 Form Name:

Site Name:7122/7-1
 Basin:
 Age:

Sample_ID: NOR_6911_OIL
 Depth: 1114.4(M)
 S_Type: OIL

Total Ion Chromatogram



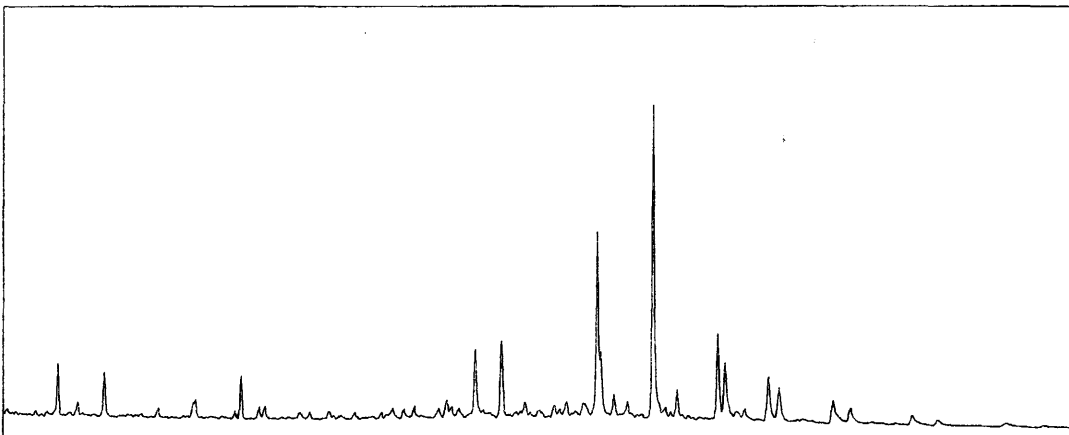
Bulk Parameters

API Gravity:
 % Sulfur:
 delt C13 Whole Crude:
 delt C13 Saturates:
 delt C13 Aromatics:
 % Saturates:
 % Aromatics:
 % NONHCPC:
 OEP: 0.98

GCMS Para 1

PrPh: 2.16
 Tri: 0.17
 Tet: 0.14
 Trit: 1.22
 TsTm: 0.88
 C29Hop/C30Hop: 0.59
 C30Lin:
 C29Ts/C30Hop: 0.20
 C30*/C30Hop: 0.07
 Gam/C30:
 Dia: 0.62

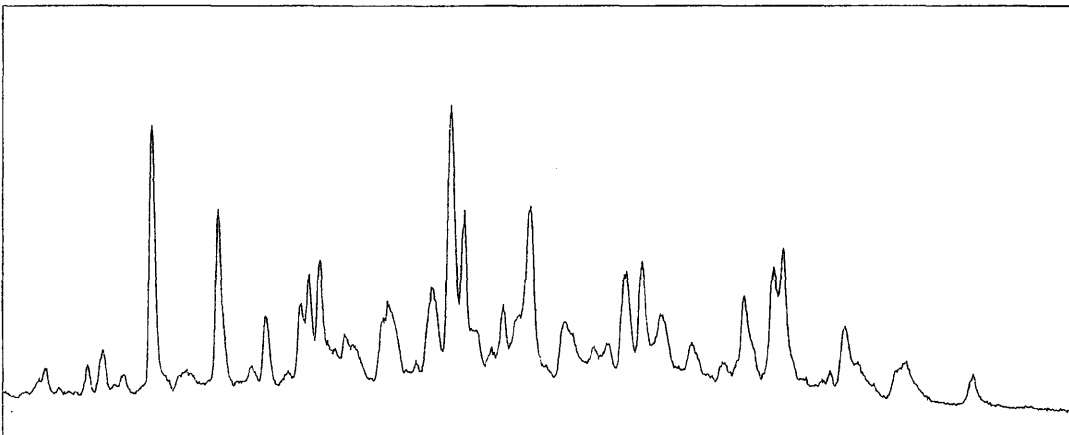
TERPANES(m/z 191)



GCMS Para 2

Organic Matter Parameters:
 C27/C29 Sterane: 1.02
 %27: 37.65
 %28: 25.30
 %29: 37.05
 Sterani/Hopani: 0.17
 Maturity Parameters:
 PrC17: 0.80
 PhC18: 0.40
 S/S+R Terpanes: 0.60
 S/S+R Steranes: 0.58
 TsTm: 0.88
 BB/aa: 0.73
 T/TM: 0.52
 MPI: 0.64
 Age Parameters:
 Oleanane/30Hop:
 Baccarane:
 Other Parameters:
 31/30: 0.45
 Methylhopane: 1.92

STERANES(m/z 217)





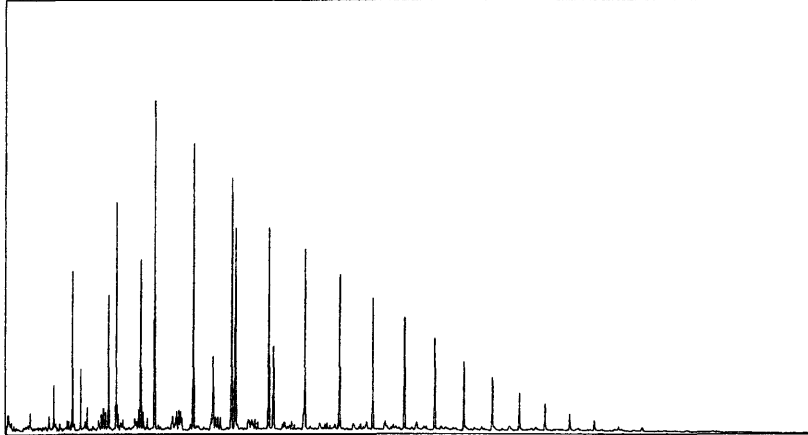
Summary Report

Country: NORVEGIA
 Field: GOLIATH FIELD
 Form Name:

Site Name: 7122/7-1
 Basin:
 Age:

Sample_ID: NOR_6913_OIL
 Depth: 1140(M)
 S_Type: OIL

Total Ion Chromatogram



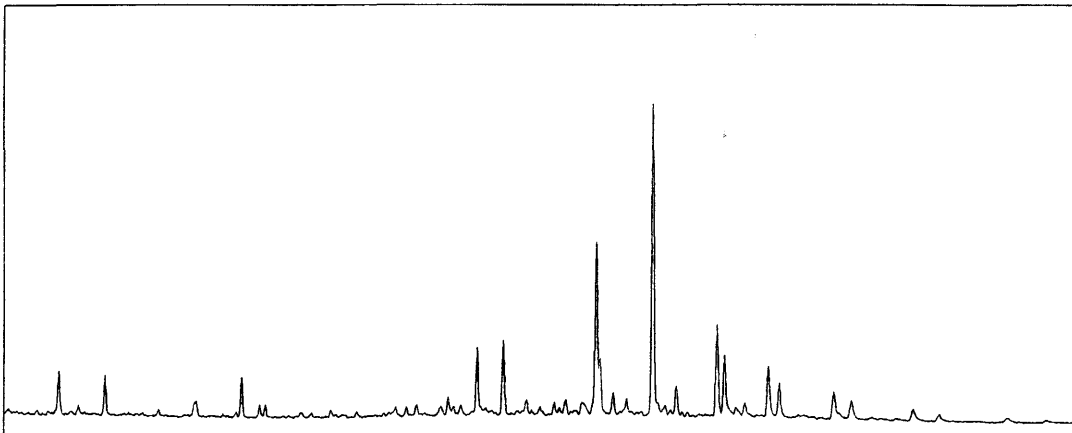
Bulk Parameters

API Gravity:	
% Sulfur:	
delt C13 Whole Crude:	
delt C13 Saturates:	
delt C13 Aromatics:	
% Saturates:	
% Aromatics:	
% NONHCPC:	
OEP:	1.02

GCMS Para 1

PrPh:	2.29
Tri:	0.14
Tet:	0.13
Trit:	1.09
TsTm:	0.92
C29Hop/C30Hop:	0.55
C30Lin:	0.04
C29Ts/C30Hop:	0.18
C30*/C30Hop:	0.07
Gam/C30:	
Dia:	0.66

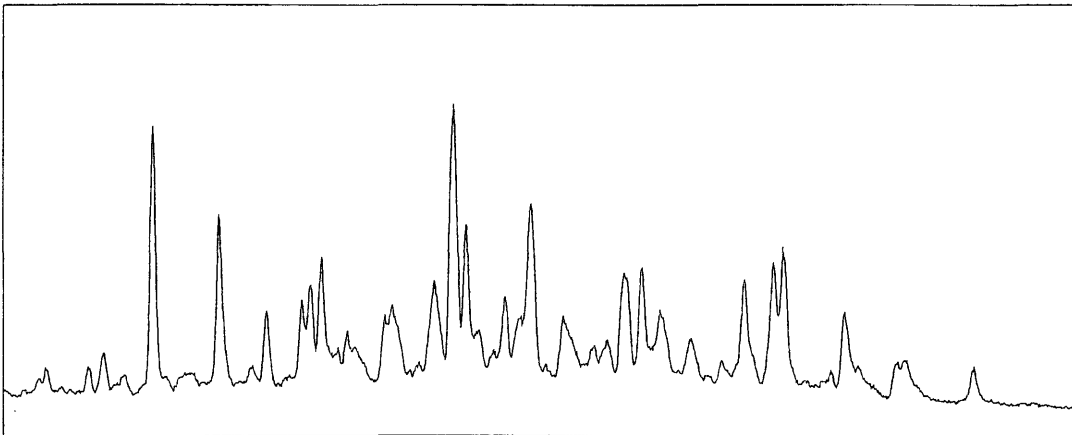
TERPANES(m/z 191)



GCMS Para 2

Organic Matter Parameters:	
C27/C29 Sterane:	0.98
%27:	36.85
%28:	25.37
%29:	37.78
Sterani/Hopani:	0.15
Maturity Parameters:	
PrC17:	0.81
PhC18:	0.41
S/S+R Terpanes:	0.61
S/S+R Steranes:	0.58
TsTm:	0.92
BB/aa:	0.69
T/TM:	0.50
MPI:	0.60
Age Parameters:	
Oleanane/30Hop:	
Baccarane:	
Other Parameters:	
31/30:	0.49
Methylhopane:	1.72

STERANES(m/z 217)





Summary Report

Country: NORVEGIA
 Field: GOLIATH FIELD
 Form Name:

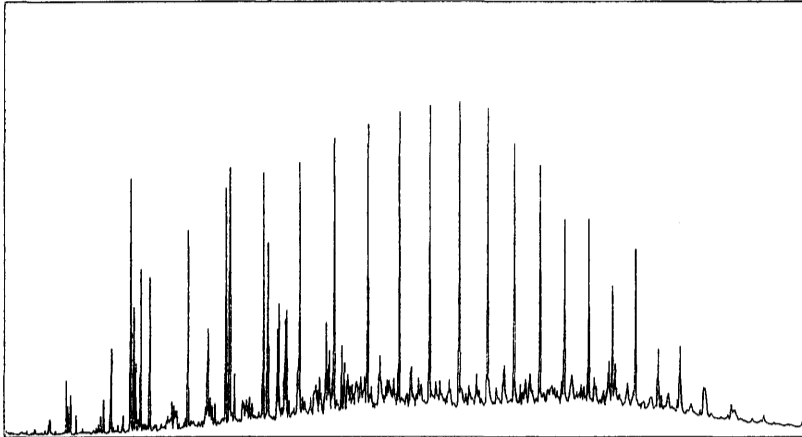
Site Name:7122/7-1
 Basin:
 Age:

Sample_ID: NOR_7138_CUT
 Depth: 1104(M)
 S_Type: CUTTING/TQ

Total Ion Chromatogram

Bulk Parameters

GCMS Para 1

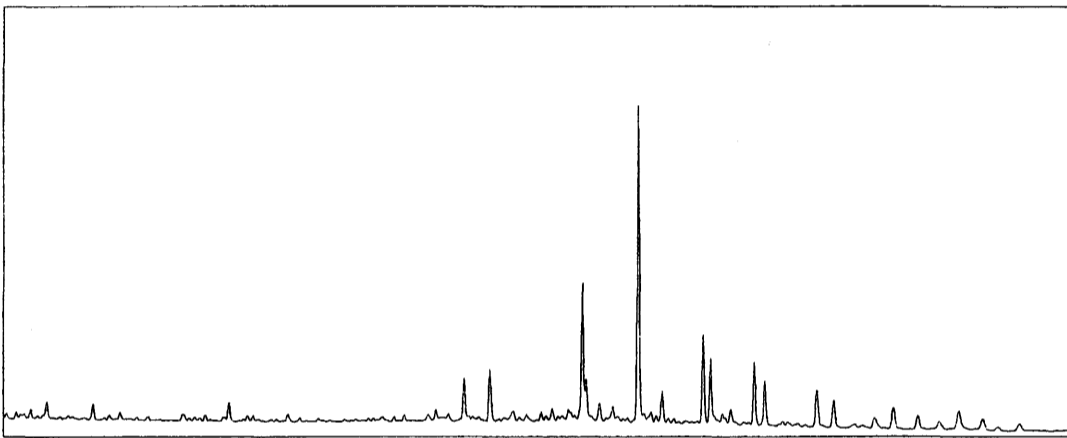


API Gravity:
 % Sulfur:
 delt C13 Whole Crude:
 delt C13 Saturates:
 delt C13 Aromatics:
 % Saturates:
 % Aromatics:
 % NONHCPC:
 OEP: 1.00

PrPh: 1.37
 Tri: 0.05
 Tet: 0.06
 Trit: 0.86
 TsTm: 0.79
 C29Hop/C30Hop: 0.43
 C30Lin:
 C29Ts/C30Hop: 0.13
 C30*/C30Hop: 0.05
 Gam/C30:
 Dia: 0.61

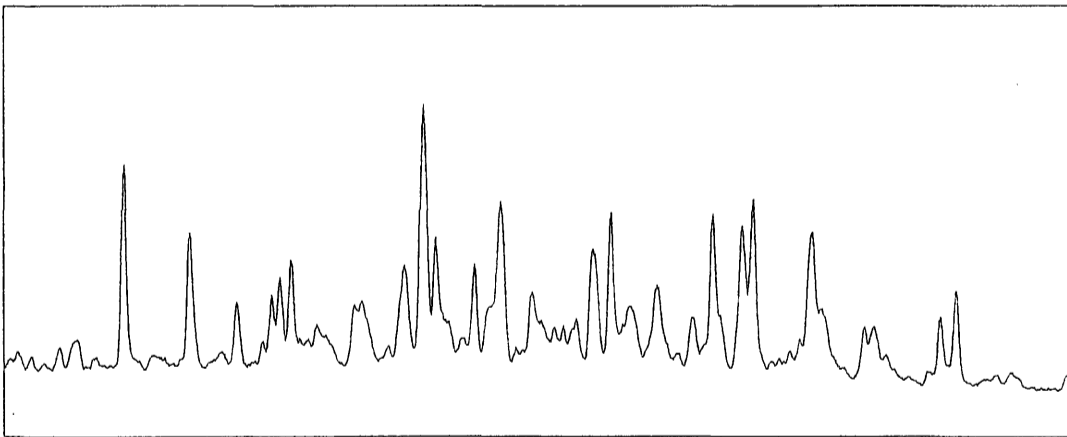
TERPANES(m/z 191)

GCMS Para 2



Organic Matter Parameters:
 C27/C29 Sterane: 0.80
 %27: 31.83
 %28: 28.44
 %29: 39.73
 Sterani/Hopani: 0.11
 Maturity Parameters:
 PrC17: 1.10
 PhC18: 0.73
 S/S+R Terpanes: 0.58
 S/S+R Steranes: 0.52
 TsTm: 0.79
 BB/aa: 0.61
 T/TM:
 MPI:
 Age Parameters:
 Oleanane/30Hop:
 Baccarane:
 Other Parameters:
 31/30: 0.48
 Methylhopane: 2.45

STERANES(m/z 217)





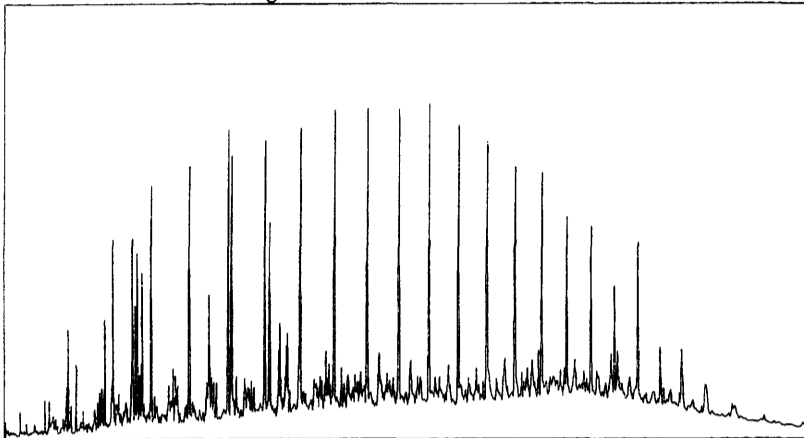
Summary Report

Country: NORVEGIA
 Field: GOLIATH FIELD
 Form Name:

Site Name:7122/7-1
 Basin:
 Age:

Sample_ID: NOR_7137_CUT
 Depth: 1158(M)
 S_Type: CUTTING/TQ

Total Ion Chromatogram



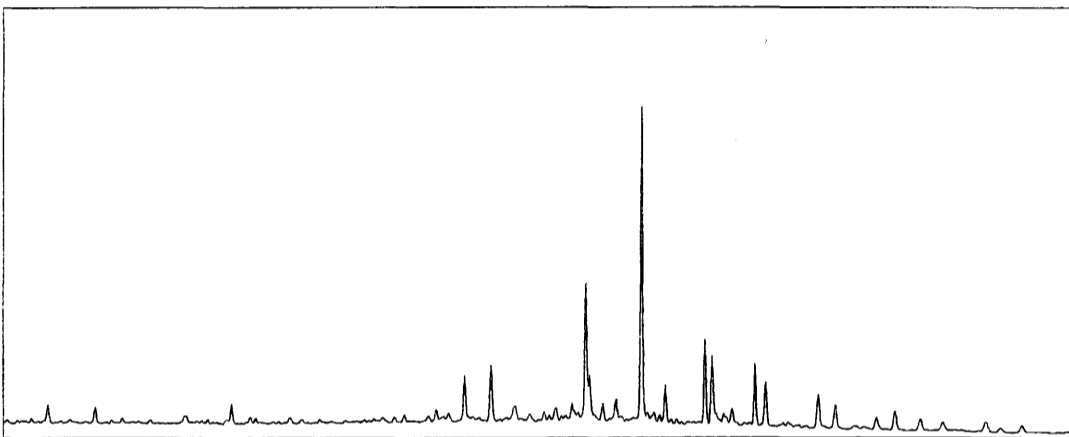
Bulk Parameters

API Gravity:	
% Sulfur:	
delt C13 Whole Crude:	
delt C13 Saturates:	
delt C13 Aromatics:	
% Saturates:	
% Aromatics:	
% NONHCPC:	
OEP:	1.03

GCMS Para 1

PrPh:	1.31
Tri:	0.06
Tet:	0.06
Trit:	0.95
TsTm:	0.77
C29Hop/C30Hop:	0.44
C30Lin:	
C29Ts/C30Hop:	0.16
C30*/C30Hop:	0.06
Gam/C30:	
Dia:	0.64

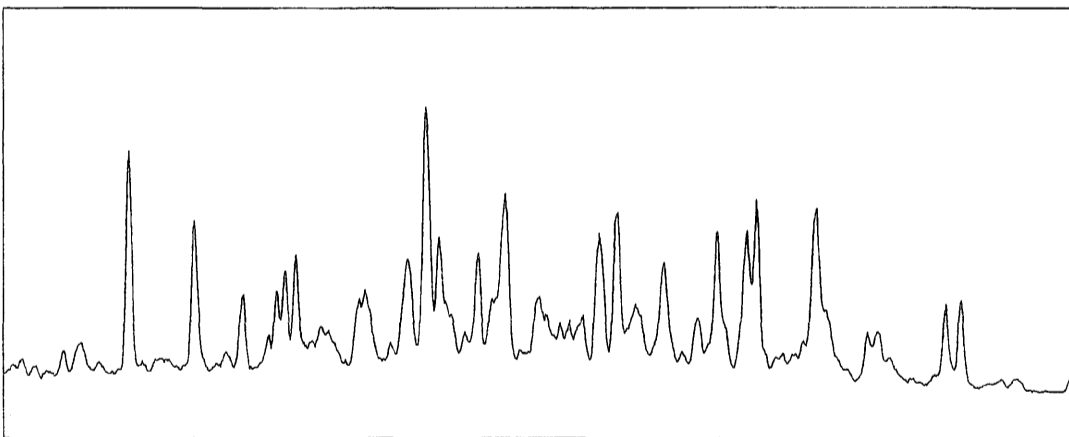
TERPANES(m/z 191)



GCMS Para 2

Organic Matter Parameters:	
C27/C29 Sterane:	0.88
%27:	33.35
%28:	28.84
%29:	37.81
Sterani/Hopani:	0.11
Maturity Parameters:	
PrC17:	0.93
PhC18:	0.71
S/S+R Terpanes:	0.55
S/S+R Steranes:	0.46
TsTm:	0.77
BB/aa:	0.59
T/TM:	
MPI:	
Age Parameters:	
Oleanane/30Hop:	
Baccarane:	
Other Parameters:	
31/30:	0.49
Methylhopane:	0.28

STERANES(m/z 217)





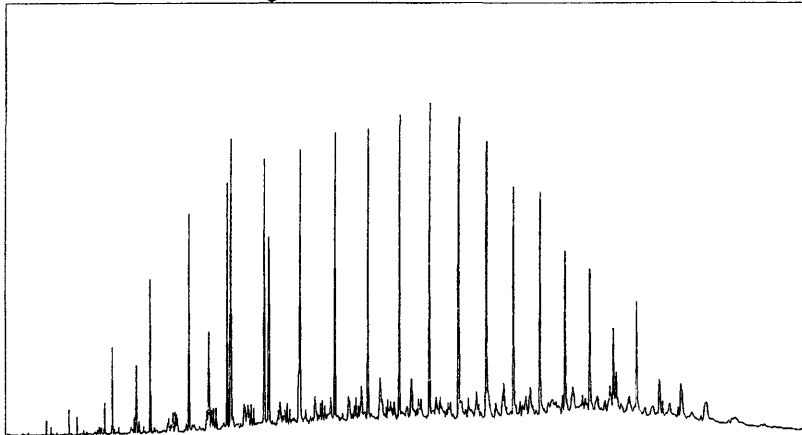
Summary Report

Country: NORVEGIA
 Field: GOLIATH FIELD
 Form Name:

Site Name:7122/7-1
 Basin:
 Age:

Sample_ID: NOR_7154_CUT
 Depth: 1212(M)
 S_Type: CUTTING

Total Ion Chromatogram



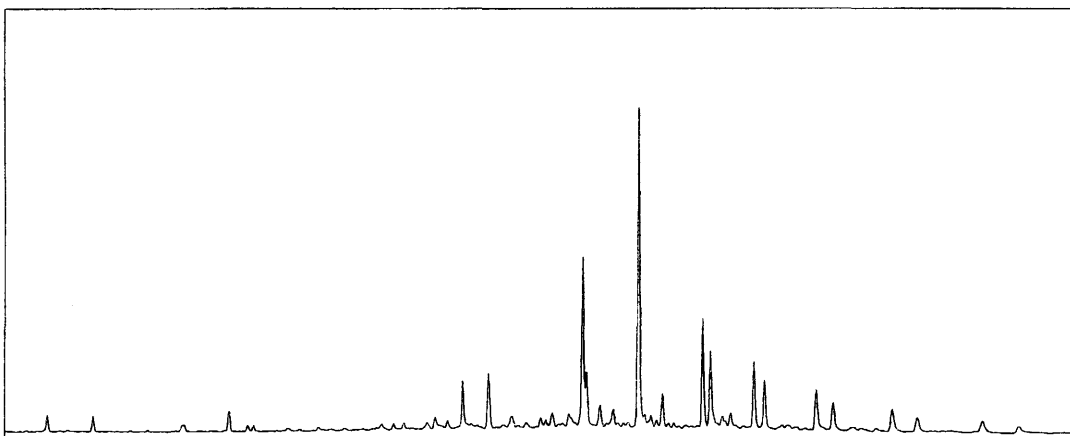
Bulk Parameters

API Gravity:	
% Sulfur:	
delt C13 Whole Crude:	
delt C13 Saturates:	
delt C13 Aromatics:	
% Saturates:	
% Aromatics:	
% NONHCPC:	
OEP:	1.01

GCMS Para 1

PrPh:	1.46
Tri:	0.05
Tet:	0.06
Trit:	0.84
TsTm:	0.84
C29Hop/C30Hop:	0.53
C30Lin:	
C29Ts/C30Hop:	0.17
C30*/C30Hop:	0.07
Gam/C30:	
Dia:	0.64

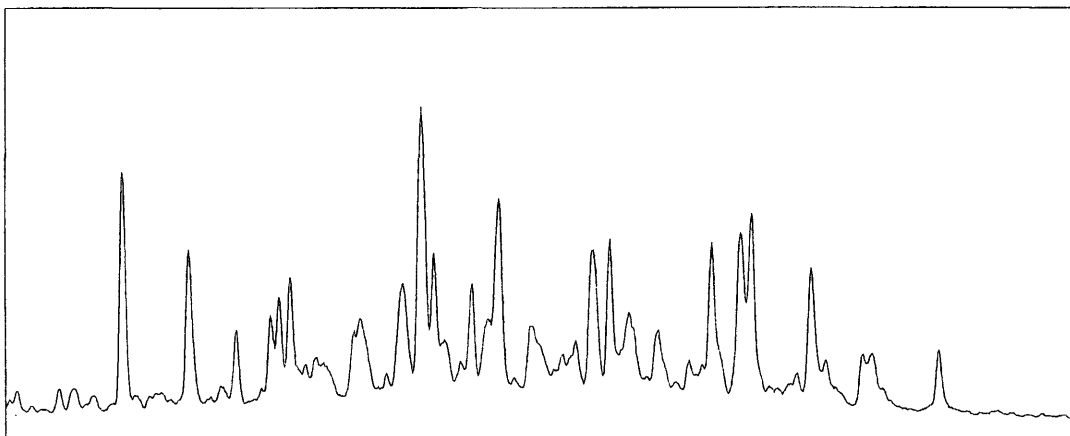
TERPANES(m/z 191)



GCMS Para 2

Organic Matter Parameters:	
C27/C29 Sterane:	0.83
%27:	33.13
%28:	26.82
%29:	40.04
Sterani/Hopani:	0.09
Maturity Parameters:	
PrC17:	1.20
PhC18:	0.71
S/S+R Terpanes:	0.59
S/S+R Steranes:	0.55
TsTm:	0.84
BB/aa:	0.65
T/TM:	0.64
MPI:	0.64
Age Parameters:	
Oleanane/30Hop:	
Baccarane:	
Other Parameters:	
31/30:	0.57
Methylhopane:	1.86

STERANES(m/z 217)



**BIOMARKERS DATA
BARENTS SEA OILS**

Well	Depth (m)	PrC17	PhC18	PrPh	Terpanes											Steranes						Aromatics			
					Tri	Tet	Trit	TsTm	TNH	29/30	29Ts	C30*	29Ts/C30*	Gam	S/S+R	31/30	Dia	S/S+R	BB/aa	%27	%28	%29	27/29	MPI	T/TM
7128/4-1		0,64	0,30	1,97	0,44	0,22	2,00	0,97	-	0,72	0,32	0,22	1,45	0,00	0,56	0,80	0,86	0,52	0,53	37	24	39	0,96	0,87	0,76
7121/4-1	2419,5 - 2434,5	0,98	0,65	1,40	0,03	0,04	0,80	1,00	+	0,51	0,18	0,09	2,00	0,00	0,57	0,62	0,66	0,54	0,63	29	26	45	0,65	0,78	0,67
7120/6-1	2432 - 2436	0,93	0,63	1,40	0,03	0,06	0,57	0,96	+	0,54	0,18	0,10	1,75	0,00	0,56	0,62	0,69	0,56	0,64	29	27	44	0,65	0,82	0,66
7121/5-1	2802 - 2825	0,98	0,66	1,36	0,04	0,06	0,71	0,92	+	0,53	0,19	0,09	2,09	0,00	0,59	0,64	0,69	0,56	0,65	30	27	43	0,71	0,79	0,67
7120/1-2	1944 - 1971	0,98	0,75	1,34	0,14	0,11	1,27	0,75	+++	0,67	0,46	0,17	2,71	0,09	0,53	0,78	0,67	0,54	0,57	29	31	40	0,72	0,48	0,73
7120/2-1	1943,7 - 2030,7	1,14	0,81	1,31	0,23	0,05	4,80	3,14	-	0,38	0,36	0,29	1,27	0,07	0,51	0,70	0,74	0,57	0,65	35	24	41	0,85	0,87	0,67

Barents Sea Oils and Condensates C7 fraction analysis

Well	% Composition															
	2,2 DMP	2,4 DMP	2,2,3 TMB	3,3 DMP	2 MH	2,3 DMP	1,1 DMCP	3 MH	1c3 DMCP	1t3 DMCP	3 EP	1t2 DMCP	n C7	MCH	ECP	TOL
7121/4-1 dst4	0,849	1,235	0,293	0,573	7,381	2,429	1,426	8,232	2,680	2,455	0,731	4,731	18,264	30,741	1,855	16,123
7121/4-1 dst2	0,753	1,096	0,264	0,518	7,182	2,418	1,397	8,152	2,660	2,471	0,781	4,844	18,372	33,210	1,999	13,883
7120/8-1 dst2	0,564	0,801	0,240	0,466	5,440	1,811	1,221	6,006	1,638	1,539	0,615	3,005	15,884	33,924	1,468	25,379
7120/9-1 dst2A	0,608	0,967	0,216	0,434	6,670	2,160	1,334	7,454	2,381	2,192	0,694	4,263	19,037	32,391	1,916	17,281
7120/12-12 dst2	1,071	1,378	0,454	0,835	9,340	2,695	1,898	9,957	2,727	2,445	0,836	4,399	20,077	34,606	1,741	5,541
7120/8-2 dst1	0,390	0,643	0,151	0,341	4,895	1,507	1,030	5,335	1,688	1,571	0,494	2,804	16,384	32,356	1,602	28,809
7121/7-2 dst1	0,538	0,869	0,202	0,393	5,620	1,668	1,150	5,884	1,984	1,857	0,457	3,132	16,979	32,592	1,361	25,315
7120/8-1 dst1	0,615	0,015	0,955	0,441	6,016	1,746	1,211	6,286	1,860	1,735	0,475	3,021	16,065	30,471	1,236	27,852
7121/4-1 dst3	0,586	0,871	0,236	0,448	5,678	2,058	1,221	6,614	2,462	2,327	0,779	4,248	15,461	31,816	2,158	23,037
7120/6-1 dst2	0,280	0,456	0,000	0,376	3,628	1,496	1,096	4,786	2,073	1,872	0,739	3,604	14,328	30,608	2,464	32,194
7122/7-1 1106	0,612	1,324	0,210	0,422	1,132	2,665	1,664	1,338	4,037	3,695	0,868	6,660	0,661	41,762	3,262	29,688
7122/7-1 1114	0,610	1,294	0,204	0,398	1,256	2,618	1,644	1,576	3,986	3,640	0,846	6,571	0,781	41,037	3,211	30,328
7122/7-1 1140	0,640	1,314	0,208	0,397	0,700	2,690	1,697	0,609	4,101	3,743	0,858	6,711	0,424	42,909	3,254	29,744
7121/5-1 dst1	0,424	0,689	0,159	0,441	4,729	1,688	1,101	5,598	2,205	2,042	0,988	3,818	14,908	31,323	1,848	28,040
7120/1-2 dst3B	0,511	0,987	0,065	0,358	6,794	2,388	1,355	8,252	2,869	2,640	1,074	5,631	20,367	27,983	2,361	16,365
7120/2-1 dst0	0,370	0,756	0,049	0,293	6,397	1,668	1,861	7,530	3,078	2,891	0,682	4,679	19,949	30,083	1,132	18,582
7120/7-1 dst2	0,523	0,826	0,195	0,404	5,420	1,580	1,166	5,682	1,785	1,680	0,502	2,830	16,093	33,024	1,210	27,081
7120/8-1 dst3	0,492	0,803	0,169	0,368	5,515	1,507	0,984	5,733	1,711	1,613	0,458	2,654	16,315	28,198	1,190	32,290
7119/12-3 dst1	0,916	0,983	0,315	0,725	6,294	1,747	0,719	6,472	0,899	0,847	0,610	1,407	12,231	18,577	0,587	46,668

**Barents Sea Oils and Condensates
C7 fraction analysis**

Well	ToI/nC7 (B)	Paraffinicity (I)	Paraffinicity (F)	Paraffinicity (H)	Naphtene branching (U)	Paraffin	Ctemp	N2	N2/P3	P2+N2	P3	P2	SDMCC5	ToI + MCC6
						branching (R)								
7121/4-1 dst4	0,8828	1,5826	0,5941	20,3972	1,4300	2,4745	129,9	58913,946	1,1277415	199110	52240,649	140196	11,2922	46,8641
7121/4-1 dst2	0,7557	1,5372	0,5532	20,2317	1,5539	2,5581	128,1	33340,463	1,1731071	111645	28420,646	78305	11,3724	47,0931
7120/8-1 dst2	1,5978	1,8515	0,4682	20,5415	2,2983	2,9202	127,8	12426,889	1,0329138	44771	12030,906	32344	7,4021	59,3034
7120/9-1 dst2A	0,9078	1,5986	0,5877	22,1432	1,5721	2,8540	128,0	38700,375	1,214369	131255	31868,712	92555	10,1693	49,6728
7120/12-12 dst2	0,2760	2,0160	0,5802	20,1462	1,5378	2,1497	129,9	74825,703	1,0374346	279041	72125,704	204215	11,4696	40,1467
7120/8-2 dst1	1,7583	1,6871	0,5064	21,9890	2,0994	3,3473	127,2	23933,033	1,2710168	81011	18829,833	57078	7,0935	61,1647
7121/7-2 dst1	1,4909	1,6500	0,5210	20,9273	1,7869	3,0210	130,2	72476,461	1,2720598	239532	56975,671	167055	8,1226	57,9073
7120/8-1 dst1	1,7337	1,8595	0,5272	20,5608	1,7791	2,6703	68,5	76819,215	1,459687	273475	52627,183	196655	7,8271	58,3231
7121/4-1 dst3	1,4900	1,3603	0,4859	18,5706	1,4767	2,7228	127,1	10464,23	1,2674139	31865	8256,3638	21401	10,2579	54,8527
7120/6-1 dst2	2,2469	1,1145	0,4681	20,2789	1,8755	3,9492	122,2	6658,0392	1,5064382	17771	4419,7226	11113	8,6452	62,8022
7122/7-1 1106	44,9335	0,1716	0,0158	0,8234	1,1687	0,5837	129,5	88906,441	1,5948988	112275	55744,258	23369	16,0562	71,4503
7122/7-1 1114	38,8148	0,1995	0,0190	0,9825	1,1637	0,6221	129,4	94446,018	1,6074836	123303	58753,955	28857	15,8403	71,3650
7122/7-1 1140	70,0722	0,0899	0,0099	0,5346	1,1425	0,6066	129,3	99708,512	1,6173409	113386	61649,657	13677	16,2519	72,6536
7121/5-1 dst1	1,8808	1,2806	0,4760	18,6776	1,5915	3,1523	126,6	10011,825	1,2643524	29345	7918,5395	19333	9,1656	59,3622
7120/1-2 dst3B	0,8035	1,3506	0,7278	22,9914	1,2537	2,9980	126,8	21224,943	1,2907837	67751	16443,454	46526	12,4946	44,3485
7120/2-1 dst0	0,9315	1,3080	0,6631	22,2997	1,4742	3,1185	128,1	45832,444	2,0770526	127359	22066,097	81527	12,5086	48,6656
7120/7-1 dst2	1,6828	1,7637	0,4873	20,4250	1,9809	2,9693	130,3	46475,701	1,20764	157891	38484,73	111416	7,4607	60,1052
7120/8-1 dst3	1,9791	1,8816	0,5786	22,4476	1,7248	2,9581	130,6	67747,696	1,1877134	244650	57040,439	176902	6,9620	60,4880
7119/12-3 dst1	3,8155	4,0482	0,6584	23,0207	1,9582	1,9433	131,4	13298,576	0,4948301	82165	26875,037	68867	3,8728	65,2449



WELL: 7122 / 7 -1 (NORWAY)

Cuttings

ROCK-EVAL AND TOTAL ORGANIC CARBON

Depth m	Sample Type	TOC Wt%	S1 mg/g	S2 (T) mg/g	S2 (K) mg/g	S3 mg/g	HI	OI	HC ext. mg/g	N.O.C. mg oil/g TOC	Tmax °C	PI
1098,00	original	4,36	2,97	7,04	7,04	7,17	161	164		68	424	0,30
1098,00	ws-dicl.	4,07	0,32	6,09	6,09	7,84	150	193	3,60		427	0,05
1101,00	original	2,56	3,74	3,96	3,69	6,77	144	264		146	421	0,49
1101,00	ws-dicl.	2,19	0,17	2,99	2,99	6,56	137	300	4,54		423	0,05
1104,00	original	2,60	4,72	4,53	4,53	5,79	174	223		182	416	0,51
1104,00	ws-dicl.	2,22	0,20	3,35	3,35	5,52	151	249	5,70		422	0,06
1107,00	original	0,97	2,22	1,89	1,12	15,85	115	1634		229	425	0,54
1107,00	ws-dicl.	0,83	0,16	1,18	1,00	15,61	120	1881	2,77		428	0,12
1107,00	ws-met+H2O	0,75	0,07	0,98	0,98	1,63	131	217			425	0,07
1113,00	original	1,10	2,24	1,82	1,08	20,13	98	1830		204	425	0,55
1113,00	ws-dicl.	0,90	0,37	1,19	1,01	17,68	112	1964	2,50		428	0,24
1119,00	original	0,57	1,40	1,11	0,56	6,45	98	1132		246	426	0,56
1119,00	ws-dicl.	0,44	0,10	0,59	0,50	6,00	114	1364	1,82		429	0,14
1121,00	original	0,56	0,55	1,46	0,39	14,69	70	2623		98	423	0,27
1121,00	ws-dicl.	0,50	0,22	0,82	0,42	13,96	84	2792	0,97		428	0,21
1125,00	original	0,76	1,18	1,57	1,13	9,36	149	1232		155	430	0,43
1125,00	ws-dicl.	0,65	0,17	1,07	0,92	9,15	142	1408	1,51		432	0,14
1129,00	original	1,44	0,91	2,12	1,44	13,08	100	908		63	430	0,30
1129,00	ws-dicl.	1,36	0,30	1,75	1,35	12,94	99	951	0,98		434	0,15
1131,00	original	0,79	0,86	1,41	0,92	7,12	116	901		109	430	0,38
1131,00	ws-dicl.	0,71	0,14	1,04	0,85	6,82	120	961	1,09		435	0,12
1134,00	original	2,00	2,51	3,28	2,52	11,90	126	595		126	428	0,43
1134,00	ws-dicl.	1,78	0,35	2,50	2,18	12,20	122	685	2,94		432	0,12
1149,00	original	1,35	1,26	3,37	1,80	10,87	133	805		93	423	0,27
1149,00	ws-dicl.	1,15	0,41	2,24	1,40	11,08	122	963	1,98		423	0,15
1152,00	original	2,13	1,65	3,59	2,30	12,66	108	594		77	429	0,31
1152,00	ws-dicl.	1,96	0,63	2,84	2,20	12,12	112	618	1,77		431	0,18
1155,00	original	2,03	1,58	3,69	2,23	13,78	110	679		78	433	0,30



WELL: 7122 / 7 -1 (NORWAY)

Cuttings

ROCK-EVAL AND TOTAL ORGANIC CARBON

Depth m	Sample Type	TOC Wt%	S1 mg/g	S2 (T) mg/g	S2 (K) mg/g	S3 mg/g	HI	OI	HC ext. mg/g	N.O.C. mg oil/g TOC	Tmax °C	PI
1155,00	ws-dicl.	1,93	0,57	2,96	2,14	12,98	111	673	1,74		432	0,16
1158,00	original	1,48	1,18	2,99	1,52	12,78	103	864		80	427	0,28
1158,00	ws-dicl.	1,33	0,44	2,20	1,56	13,08	117	983	1,53		428	0,17
1158,00	ws-met+H2O	1,37	0,15	1,53	1,53	1,63	112	119			428	0,09
1162,00	original	3,59	2,55	5,37	3,00	14,11	84	393		71	427	0,32
1162,00	ws-dicl.	3,24	0,52	4,06	2,84	14,16	88	437	3,34		430	0,11
1169,00	original	1,41	1,11	2,57	1,40	8,12	99	576		79	425	0,30
1169,00	ws-dicl.	1,25	0,27	1,79	1,14	8,41	91	673	1,62		427	0,13
1173,00	original	1,33	1,19	2,75	1,28	9,97	96	750		89	423	0,30
1173,00	ws-dicl.	1,27	0,29	1,72	1,14	10,08	90	794	1,93		426	0,14
1179,00	original	1,26	1,33	2,22	1,30	22,24	103	1765		106	424	0,37
1179,00	ws-dicl.	1,17	0,43	1,70	1,20	21,89	103	1871	1,42		427	0,20
1185,00	original	0,98	0,63	1,32	0,89	36,47	91	3721		64	428	0,32
1185,00	ws-dicl.	0,94	0,30	1,14	0,86	35,46	91	3772	0,51		431	0,21
1185,00	ws-met+H2O	0,91	0,11	0,89	0,89	5,54	98	609			429	0,11
1188,00	original	1,05	0,64	1,46	0,96	35,41	91	3372		61	426	0,30
1188,00	ws-dicl.	0,98	0,28	1,25	0,91	34,25	93	3495	0,57		429	0,18
1194,00	original	0,85	0,39	1,05	0,83	29,68	98	3492		46	429	0,27
1194,00	ws-dicl.	0,84	0,19	0,98	0,81	25,92	96	3086	0,27		431	0,16
1200,00	original	0,82	0,43	1,12	0,86	28,36	105	3459		52	429	0,28
1200,00	ws-dicl.	0,78	0,21	1,05	0,84	24,84	108	3185	0,29		431	0,17
1203,00	original	0,81	0,41	1,14	0,79	29,46	98	3637		51	429	0,26
1203,00	ws-dicl.	0,76	0,18	0,99	0,74	29,12	97	3832	0,38		433	0,15
1209,00	original	2,82	2,33	3,44	2,82	26,77	100	949		83	432	0,40
1209,00	ws-dicl.	2,59	0,38	2,84	2,54	24,45	98	944	2,55		431	0,12
1212,00	original	2,05	2,18	2,56	1,98	24,81	97	1210		106	430	0,46
1212,00	ws-dicl.	1,79	0,31	1,97	1,73	22,94	97	1282	2,46		431	0,14
1215,00	original	0,83	1,04	1,63	0,69	19,74	83	2378		125	427	0,39



WELL: 7122 / 7 -1 (NORWAY)

Cuttings

ROCK-EVAL AND TOTAL ORGANIC CARBON

Depth m	Sample Type	TOC Wt%	S1 mg/g	S2 (T) mg/g	S2 (K) mg/g	S3 mg/g	HI	OI	HC ext. mg/g	N.O.C. mg oil/g TOC	Tmax °C	PI
1215,00	ws-dicl.	0,73	0,26	1,10	0,71	19,84	97	2718	1,31		430	0,19
1215,00	ws-met+H2O	0,72	0,10	0,86	0,86	1,12	119	156			429	0,10
1218,00	original	0,85	0,99	1,38	0,75	22,91	88	2695		116	430	0,42
1218,00	ws-dicl.	0,77	0,21	0,95	0,74	22,23	96	2887	1,21		433	0,18
1227,00	original	0,47	0,51	0,97	0,41	14,24	87	3030		109	429	0,34
1230,00	original	0,37	0,37	0,76	0,37	11,17	100	3019		100	419	0,33
1233,00	original	0,17	0,11	0,18	0,12	4,58	71	2694		65	431	0,38
1236,00	original	0,20	0,17	0,22	0,18	3,84	90	1920		85	429	0,44
1239,00	original	0,13	0,10	0,24	0,18	4,69	138	3608		77	431	0,29
1242,00	original	0,10	0,09	0,13	0,10	5,26	100	5260		90	426	0,41
1245,00	original	0,12	0,12	0,18	0,13	8,63	108	7192		100	425	0,40
1248,00	original	0,29	0,24	0,38	0,33	16,09	114	5548		83	424	0,39
1251,00	original	0,39	0,34	0,55	0,44	13,25	113	3397		87	427	0,38
1254,00	original	0,55	0,38	0,72	0,62	15,01	113	2729		69	428	0,35
1257,00	original	0,47	0,28	0,69	0,57	18,21	121	3874		60	428	0,29
1260,00	original	0,23	0,16	0,45	0,37	16,66	161	7243		70	426	0,26
1263,00	original	0,22	0,23	0,32	0,25	11,05	114	5023		105	421	0,42
1266,00	original	0,26	0,24	0,39	0,29	12,96	112	4985		92	422	0,38
1269,00	original	0,27	0,21	0,41	0,33	10,96	122	4059		78	424	0,34
1272,00	original	0,33	0,28	0,63	0,33	16,89	100	5118		85	432	0,31
1275,00	original	0,34	0,24	0,61	0,41	17,85	121	5250		71	431	0,28
1278,00	original	0,28	0,17	0,36	0,30	9,62	107	3436		61	427	0,32
1281,00	original	1,07	0,47	1,45	1,22	14,49	114	1354		44	432	0,24
1284,00	original	0,77	0,48	1,17	0,85	17,83	110	2316		62	431	0,29
1287,00	original	1,91	0,72	2,30	2,01	14,85	105	777		38	432	0,24
1290,00	original	0,46	0,31	0,76	0,59	15,92	128	3461		67	426	0,29
1293,00	original	0,51	0,34	0,82	0,59	14,67	116	2876		67	427	0,29
1296,00	original	0,52	0,27	0,68	0,47	18,73	90	3602		52	430	0,28



WELL: 7122 / 7 -1 (NORWAY)

Cuttings

ROCK-EVAL AND TOTAL ORGANIC CARBON

Depth m	Sample Type	TOC Wt%	S1 mg/g	S2 (T) mg/g	S2 (K) mg/g	S3 mg/g	HI	OI	HC ext. mg/g	N.O.C. mg oil/g TOC	Tmax °C	PI
1299,00	original	0,35	0,24	0,67	0,44	24,84	126	7097		69	432	0,26
1302,00	original	0,36	0,23	0,60	0,38	21,69	106	6025		64	435	0,28
1308,00	original	0,41	0,29	0,66	0,48	14,79	117	3607		71	428	0,31
1314,00	original	0,37	0,23	0,55	0,41	14,80	111	4000		62	431	0,29
1320,00	original	0,31	0,18	0,38	0,30	12,11	97	3906		58	428	0,32
1326,00	original	0,32	0,27	0,65	0,41	16,75	128	5234		84	434	0,29
1332,00	original	0,28	0,26	0,61	0,33	17,13	118	6118		93	436	0,30
1338,00	original	0,24	0,18	0,48	0,32	17,10	133	7125		75	435	0,27
1347,00	original	0,44	0,22	0,68	0,50	21,14	114	4805		50	433	0,24
1353,00	original	0,34	0,22	0,60	0,36	19,07	106	5609		65	428	0,27
1359,00	original	0,29	0,25	0,65	0,44	15,96	152	5503		86	417	0,28
1362,00	original	0,32	0,21	0,55	0,38	15,18	119	4744		66	435	0,28
1365,00	original	0,37	0,27	0,70	0,40	15,60	108	4216		73	430	0,28
1368,00	original	0,30	0,22	0,57	0,41	19,46	137	6487		73	434	0,28
1370,00	original	0,42	0,22	0,67	0,50	18,89	119	4498		52	429	0,25
1374,00	original	0,48	0,27	0,73	0,44	16,71	92	3481		56	427	0,27
1377,00	original	0,35	0,16	0,43	0,30	12,68	86	3623		46	430	0,27
1383,00	original	0,44	0,19	0,54	0,40	13,92	91	3164		43	431	0,26
1389,00	original	0,24	0,11	0,29	0,20	7,92	83	3300		46	429	0,28
1395,00	original	0,15	0,08	0,18	0,12	9,15	80	6100		53	428	0,31
1401,00	original	0,13	0,07	0,14	0,09	6,63	69	5100		54	428	0,33
1407,00	original	0,40	0,13	0,41	0,35	6,54	88	1635		33	428	0,24
1410,00	original	0,94	0,30	1,17	0,90	12,60	96	1340		32	432	0,20
1422,00	original	0,37	0,16	0,54	0,44	9,95	119	2689		43	432	0,23
1425,00	original	0,40	0,22	0,65	0,54	9,92	135	2480		55	429	0,25
1428,00	original	0,33	0,20	0,66	0,50	11,51	152	3488		61	433	0,23
1431,00	original	0,33	0,22	0,52	0,37	11,03	112	3342		67	430	0,30
1434,00	original	0,30	0,21	0,54	0,40	10,58	133	3527		70	432	0,28



WELL: 7122 / 7 -1 (NORWAY)

Cuttings

ROCK-EVAL AND TOTAL ORGANIC CARBON

Depth m	Sample Type	TOC Wt%	S1 mg/g	S2 (T) mg/g	S2 (K) mg/g	S3 mg/g	HI	OI	HC ext. mg/g	N.O.C. mg oil/g TOC	Tmax °C	PI
1437,00	original	0,88	0,33	1,25	1,00	9,53	114	1083		38	434	0,21
1440,00	original	0,49	0,24	0,71	0,57	8,54	116	1743		49	434	0,25
1443,00	original	0,30	0,22	0,52	0,32	11,43	107	3810		73	432	0,30
1446,00	original	0,37	0,22	0,60	0,44	11,68	119	3157		59	429	0,27
1449,00	original	0,62	0,31	1,01	0,80	12,85	129	2073		50	430	0,23
1452,00	original	0,39	0,26	0,72	0,47	9,90	121	2538		67	431	0,27
1458,00	original	0,27	0,20	0,58	0,42	8,29	156	3070		74	431	0,26
1464,00	original	0,48	0,27	0,71	0,50	10,08	104	2100		56	427	0,28
1470,00	original	0,39	0,26	0,68	0,48	10,44	123	2677		67	430	0,28
1476,00	original	0,54	0,23	0,64	0,48	8,74	89	1619		43	428	0,26
1482,00	original	0,55	0,38	0,94	0,60	10,05	109	1827		69	431	0,29
1488,00	original	0,99	0,35	1,71	1,30	12,05	131	1217		35	433	0,17
1494,00	original	0,67	0,26	0,93	0,75	11,00	112	1642		39	430	0,22
1500,00	original	0,46	0,23	0,68	0,50	11,85	109	2576		50	425	0,25
1506,00	original	0,39	0,22	0,59	0,45	11,29	115	2895		56	426	0,27
1509,00	original	0,38	0,21	0,49	0,33	10,29	87	2708		55	426	0,30
1512,00	original	0,68	0,32	0,96	0,72	11,10	106	1632		47	430	0,25
1515,00	original	0,60	0,30	0,76	0,60	9,92	100	1653		50	430	0,28
1518,00	original	0,48	0,29	0,66	0,50	10,34	104	2154		60	428	0,31
1524,00	original	0,57	0,30	1,13	0,80	11,70	140	2053		53	432	0,21

ws-dicl. = samples washed by dichloromethane

ws-met.+H2O = samples washed by methanole + water

S2 (T) = total S2 (contaminant+ kerogen)

S2 (K) = S2 kerogen

HC ext. = Hydrocarbons extracted (S1+S2 original) - (S1+S2 ws-dicl)

N.O.C. = Normalized oil content (S1*100/TOC)