StatoilHydro

Petroleum Geochemistry, Well 6407/7-7S

Title:
Petroleum Geochemistry, Well 6407/7-7S

Document no. :	Contract no.:	Project:

Classification:	Distribution:
Internal	**Corporate StatoilHydro**
Expiry date: **2009-01-01**	Status **Draft**

Distribution date:	Rev. no.:	Copy no.:

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Subjects:
6407/7-7S, geochemistry
Remarks:

Valid from:	Updated:
Responsible publisher:	Authority to approve deviations:

Techn. responsible (Organisation unit):	Techn. responsible (Name):	Date/Signature:
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The analytical and interpretative work was mainly performed by StatoilHydro Research Centre in Bergen, Norway. Vitrinite reflectance measurements and isotope analysis of hydrocarbon fractions were performed by Applied Petroleum Technology AS at Kjeller, Norway. Table 2.1 lists a detailed analytical programme.

Well 6407/7-7S was drilled using an oil based mud of the type Versatec OBM.

Table 2.1: Detailed analytical programme for well 6407/7-7S.

Well	Type	End depth	RE	E/D	Iatro	LHC	SatHC	SatMs	DiaMS	AroMS	13F	13G	Gvo	VIT
		m MD RKB												
6407/7-7S	FLUI	3396,93		1	1	1	1	1	1	1	1	1	1	
6407/7-7S	FLUI	3623,35		1	1	1	1	1	1	1	1	1	1	
6407/7-7S	FLUI	3718,5		1	1	1	1	1	1	1	1	1	1	
6407/7-7S	FLUI	3733		1	1	1	1	1	1	1	1	1	1	
6407/7-7S	FLUI	3829		1	1	1	1	1	1	1	1	1	1	
6407/7-7S	COCH	3378,4	1	1	1		1	1	1	1				1
6407/7-7S	COCH	3396,9	1											1
6407/7-7S	COCH	3582,6	1											1
6407/7-7S	COCH	3604,6	1											1
6407/7-7S	COCH	3655,4	1											1
6407/7-7S	COCH	3663,8	1	1	1		1	1	1	1				1
6407/7-7S	COCH	3694,2	1											1
6407/7-7S	DC	2290												1
6407/7-7S	DC	2390												1
6407/7-7S	DC	2490												1
6407/7-7S	DC	2590												1
6407/7-7S	DC	2680												1
6407/7-7S	DC	2770												1
6407/7-7S	DC	2880												1
6407/7-7S	DC	2960												1
6407/7-7S	DC	3070												1
6407/7-7S	DC	3183												1
6407/7-7S	DC	3264	1	1	1		1	1	1	1				
6407/7-7S	DC	3267	1											
6407/7-7S	DC	3282												1
6407/7-7S	DC	3294	1											
6407/7-7S	DC	3300	1	1	1		1	1	1	1				
6407/7-7S	DC	3327	1	1	1		1	1	1	1				
6407/7-7S	DC	3336	1	1	1		1	1	1	1				
6407/7-7S	DC	3345	1											
6407/7-7S	DC	3360	1											
6407/7-7S	DC	3369												1
6407/7-7S	DC	3372	1											
6407/7-7S	DC	3471												1
6407/7-7S	DC	3567												1
6407/7-7S	DC	3717	1	1	1		1	1	1	1				
6407/7-7S	DC	3723	1											
6407/7-7S	DC	3738	1											1
6407/7-7S	DC	3810	1	1	1		1	1	1	1				
6407/7-7S	DC	3831	1											
6407/7-7S	DC	3834												1
6407/7-7S	DC	3849	1											
6407/7-7S	MUD	3378		1	1		1	1	1	1				
6407/7-7S	MUD	3713		1	1		1	1	1	1				
6407/7-7S	GASM	3218										1		
6407/7-7S	GASM	3254										1		
6407/7-7S	GASM	3266										1		
6407/7-7S	GASM	3272										1		
6407/7-7S	GASM	3278										1		

Table 2.1 continued: Detailed analytical programme for well 6407/7-7S.

Well	Type	End depth m MD RKB		RE	E/D	Iatro	LHC	SatHC	SatMs	DiaMS	AroMS	13F	13G	Gvo	VIT
6407/7-7S	GASM	3296											1		
6407/7-7S	GASM	3302											1		
6407/7-7S	GASM	3308											1		
6407/7-7S	GASM	3326											1		
6407/7-7S	GASM	3416											1		
6407/7-7S	GASM	3440											1		
6407/7-7S	GASM	3464											1		
6407/7-7S	GASM	3584											1		
6407/7-7S	GASM	3638											1		
6407/7-7S	GASM	3716											1		
6407/7-7S	GASM	3734											1		
6407/7-7S	GASM	3782											1		
6407/7-7S	GASM	3830											1		

2 Experimental

The analytical and preparative methods employed in this study comprise geochemical characterisation of sediment extracts and fluids. All chromatographic data are based on quantitative measurements.

The analytical methods are based on the guidelines in the Norwegian Industry Guide to Organic Geochemical Analysis - NIGOGA (Weiss et al., 2000). Major deviations from this guide are:

- Extract and asphaltene workup by centrifugation.
- Internal standard mixture added for quality control and quantitative measurements.
- GC analysis of SAT and ARO fractions by 5 % phenyl methyl-silicone stationary phase.
- GC-MSD detection of the aromatic hydrocarbons (not FID).
- Report of a restricted number of compounds relative to the NIGOGA guide, due to known co-elusions or disputable identities.

The data quality control is according to NIGOGA and defined internal laboratory procedures, available on request. Samples annotated “NSO_std” and “RG2_std” represent the North Sea reference oil (NGS-NSO1) and a standard gas sample, respectively. The standard samples are included in the results to reflect analytical repeatability.

Analytical results are given in Appendix I. The original report from Applied Petroleum Technology (APT) on vitrinite reflectance measurements and isotope analysis are given in Appendices II and III.

3 Sample quality and mud contamination

Well 6407/7-7S was drilled with an oil based mud of the type Versatec OBM. The use of this mud generally results in contamination of drill cuttings and to a smaller extent core samples. Geochemical evaluation based on these sample types must therefore be carried out with caution.

Two samples of mud were analysed in this study:

- 3378m MD RKB
- 3713m MD RKB

Figure 3.1 shows the chromatograms of the saturate compounds in the mud from 3713m MD RKB. The sample is enriched in nC_{12} to nC_{22} alkanes and contains small amounts of high molecular weight terpanes and steranes. Aromatic hydrocarbons are also detected in trace amounts. The strong nC_{12}-nC_{22} hydrocarbon signal of the mud will distort the signature of the in-situ hydrocarbons in the well. The aromatics and biomarkers will probably be less affected by the mud contamination, but the problem can not be excluded.

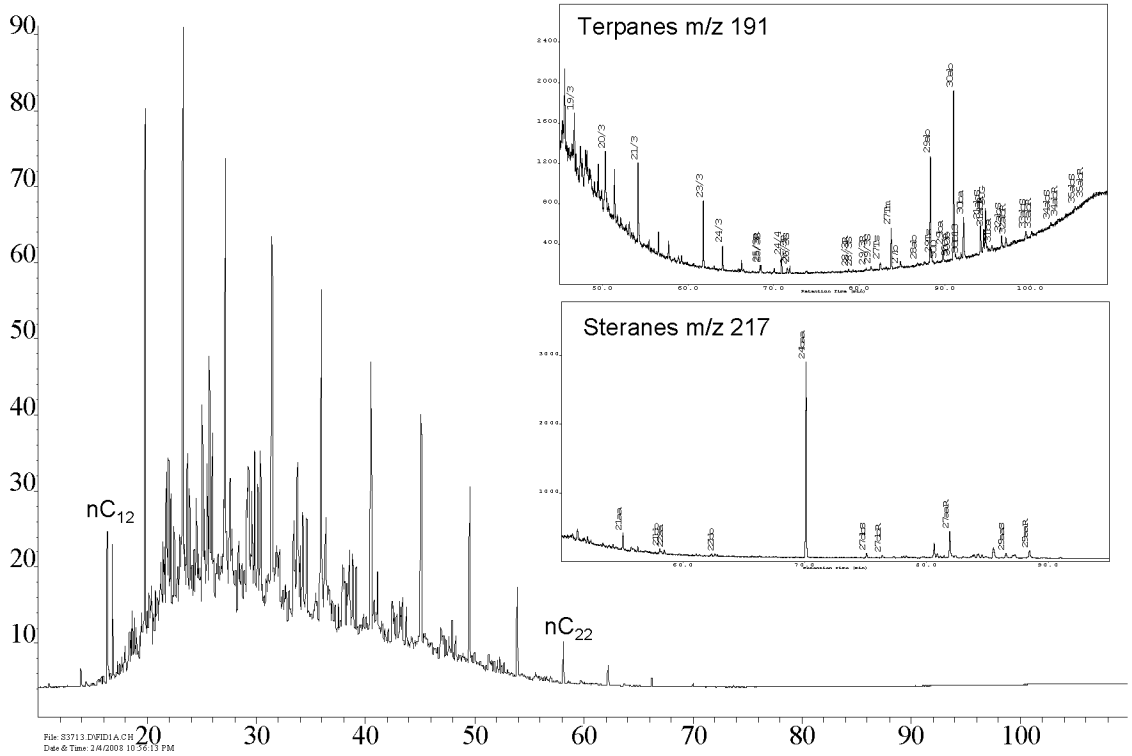


Figure 3.1: FID chromatogram, m/z191 and m/z217 mass chromatograms of saturates in mud sample from 3713m MD RKB.

The degree of mud contamination in the fluid samples was evaluated by PVT analysis. The weight percents of oil based mud in the fluid samples are given in Table 3.1.

Table 3.1: Average weight percent oil based mud contamination in fluid samples.

Type	End depth m MD RKB		OBM contamination Wt% in STO
FLUI	3396,93		1,5
FLUI	3623,35		
FLUI	3718,5		
FLUI	3733		
FLUI	3829		13,5

APPENDIX I

Summary reports of analysed samples

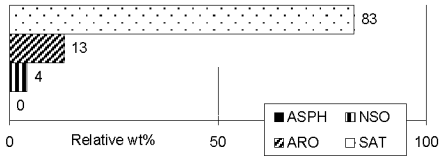
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3396,93-3396,93 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

StatoilHydro
Reserach Centre,
Bergen, Norway

OrgID: 2492838, PlanID: 697946

Fluid

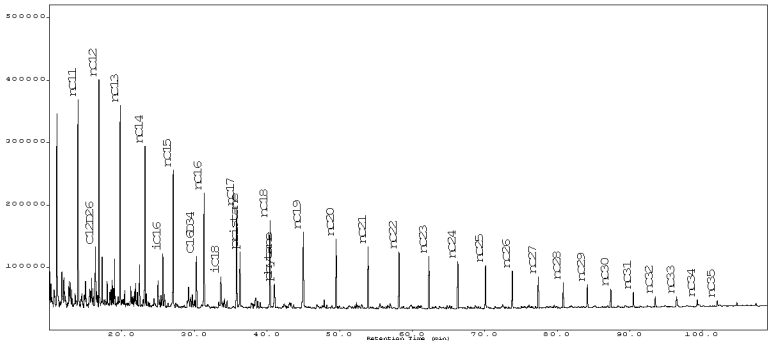
Iatroscan



δ13C fractions

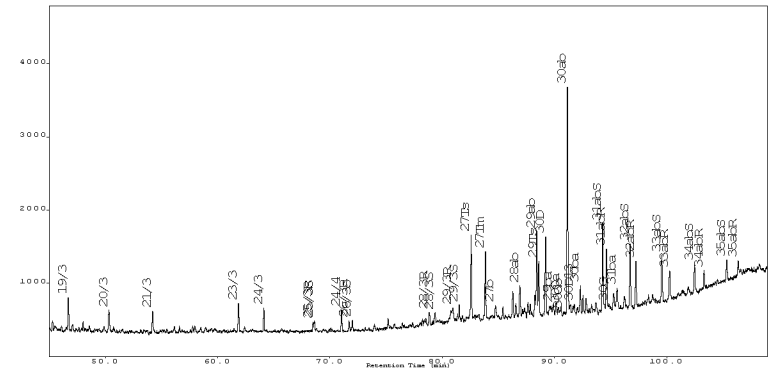
Sat.	-29,4
Aro.	-27,2
NSO	
Asph.	
EOM / Oil	

C15+ SAT-fraction hydrocarbons, GC/FID:



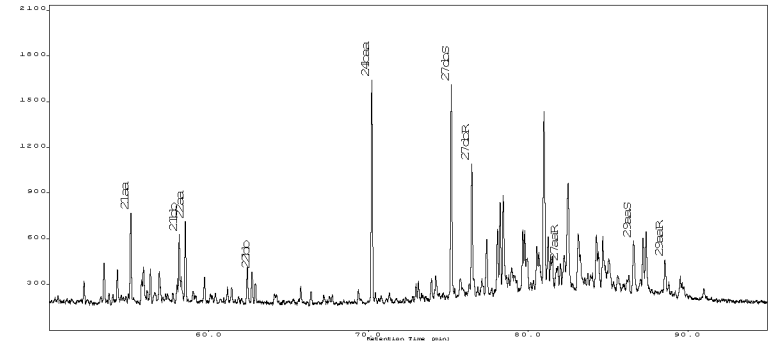
Parameter/amounts, μg/mg	
Pr/nC_{17}	0,7
Ph/nC_{18}	0,4
Pr/Ph	2,2
$nC_{17}/(C_{17}+C_{27})$	0,8
CPI2	1,0
nC_{17}	7,8
Pristane	5,2
ΣC15-C35	93

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	13,64
%20/3	16,0
%23/3	44,3
%24/4	38,4
C26/C25	1,0
%27Ts	55,0
%28αβ	17,9
%29Ts	42,5
%25nor30αβ	2,9
%29αβ	33,7
%30βα	11,2
%30D	34,7
%30G	3,9
%32αβS	58,5
%35αβ	43,5
30αβ	24,6
25nor30αβ	0,7
Σterpanes	149
%Pregnane	16,1
%29ααS	60,0
%29ββ	64,5
%27dia	67,5
%27ster. Norm	33,8
%28ster. Norm	24,0
%29ster. Norm	32,0
%30ster. Norm	10,2
Σsteranes	96
Hop/Ste	1,6

Steranes, m/z 217:



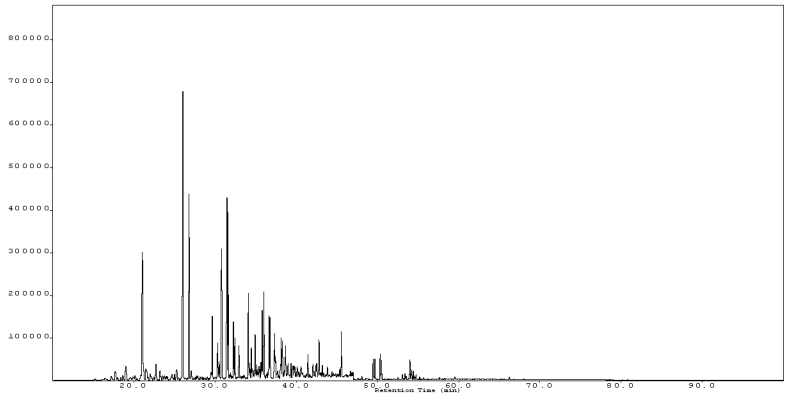
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3396,93-3396,93 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2492838, PlanID: 697946	

StatoilHydro

Reserach Centre,
Bergen, Norway

Fluid

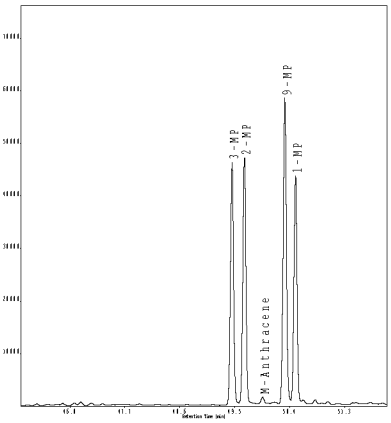
Aromatic hydrocarbons, TIC:



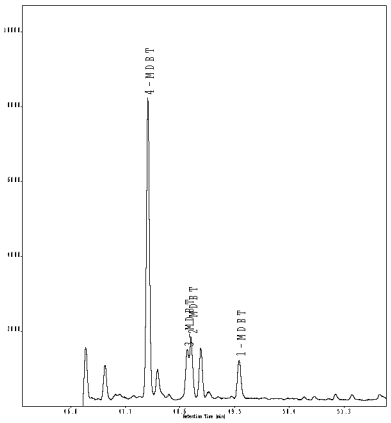
Parameter/amounts, ng/mg	
2/1MN	1,54
2/1EN	2,72
Phen.	280
MPI1	0,73
F1 (2+3/all MP)	0,48
F2 (2/all MP)	0,24
%TAS	74
DBT/P	0,02
F/P	0,62
BP/1.6DMN	0,98
4/1MDBT	7,72
3MP/R	12,25
ΣARO HC	2350

Aromatic and Diamondoid hydrocarbons, GC/MS:

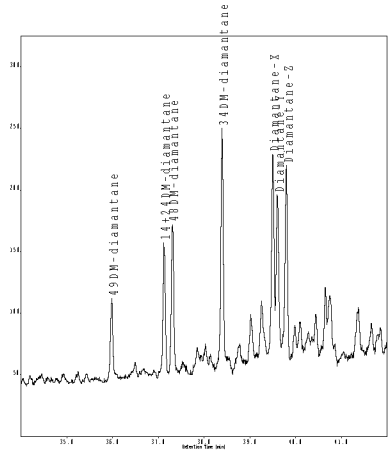
Methyl-phenanthrenes (m/z 192):



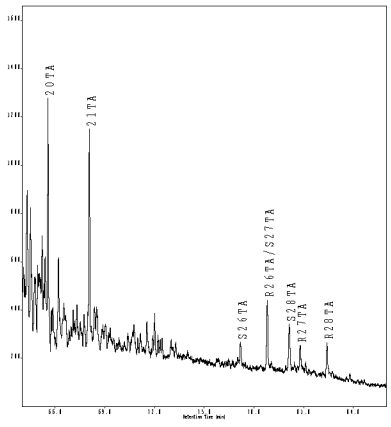
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	65,4
DMDI%	74,3
%49DM-Diam.	17,6
%48DM-Diam.	31,3
%34DM-Diam.	51,1

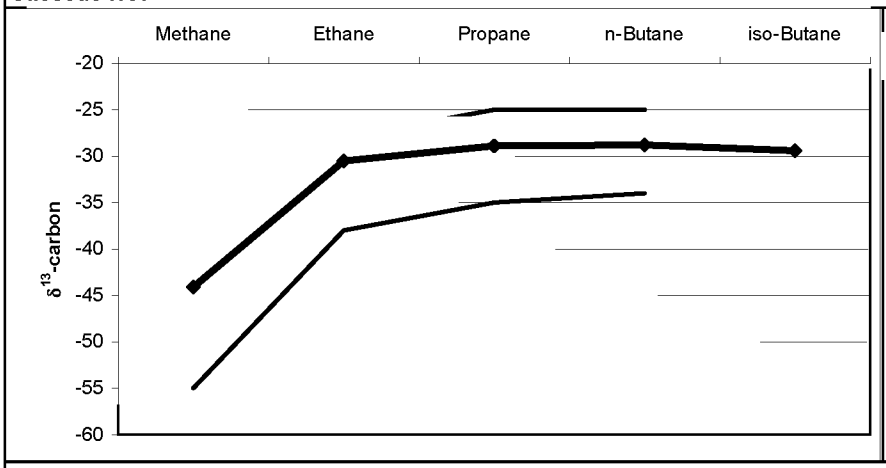
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3396,93-3396,93 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: , PlanID:	

StatoilHydro

Reserach Centre,
Bergen, Norway

Fluid

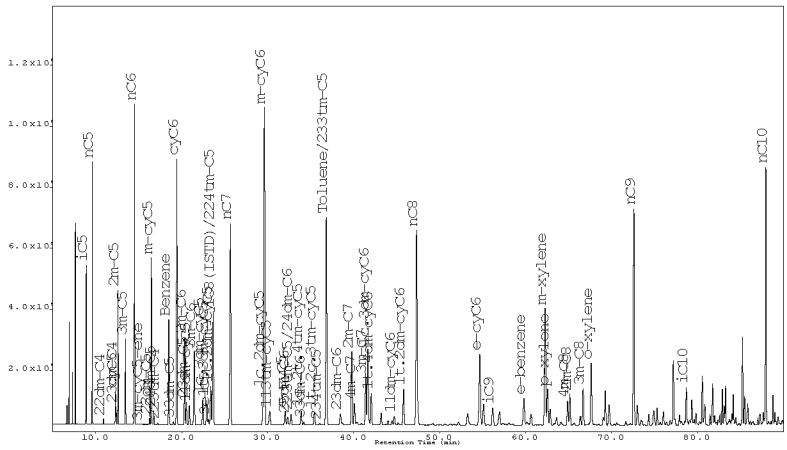
Gaseous HC:



Gaseous HC, wt%	
Wetness	
iC4/nC4	
C2/C3	
CO2	

Gaseous HC, isotopes ‰	
d13C C1	-44,1
d13C C2	-30,5
d13C C3	-28,9
d13C C4	-28,8
d13C iC4	-29,4
dD C1	0

Light HC C5-10, GC/FID:



Parameter/amounts, ug/mg	
Hepane value	20,8
Isohept. value	1,3
Paraffinicity	0,6
Aromaticity	0,8
nC_6/Benzene	2,3
nC_7/Toluene	0,9
ΣC5-C20	384

Whole oil, GC/FID:

Parameter/amounts, ug/mg	

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3623,35-3623,35 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

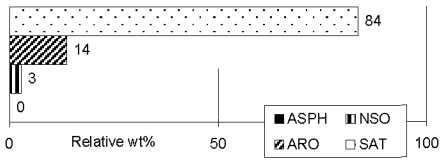
StatoilHydro

Reserach Centre,
Bergen, Norway

OrgID: 2492843, PlanID: 697947

Fluid

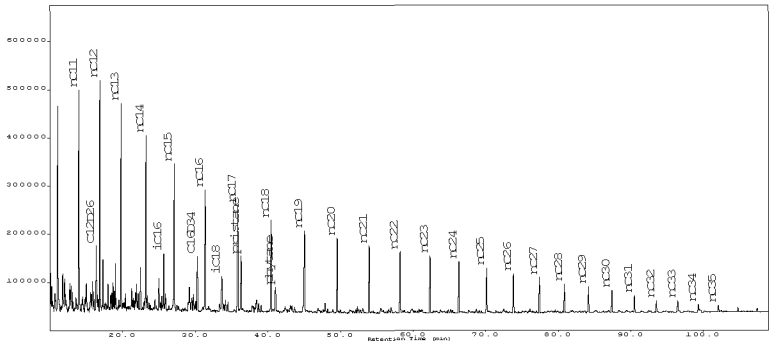
Iatroscan



δ13C fractions

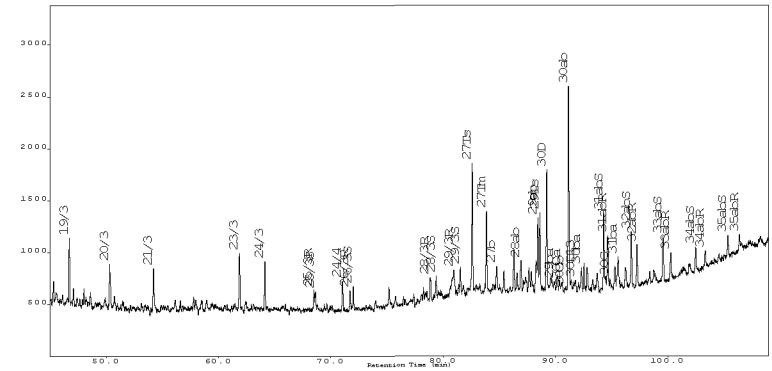
Sat.	-29,2
Aro.	-27,3
NSO	
Asph.	
EOM / Oil	

C15+ SAT-fraction hydrocarbons, GC/FID:



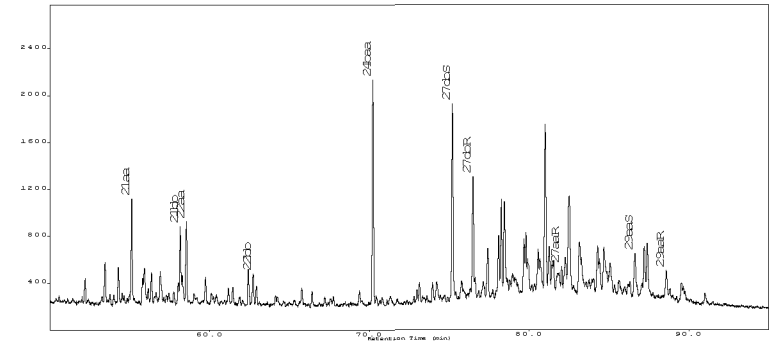
Parameter/amounts, μg/mg	
Pr/nC_{17}	0,6
Ph/nC_{18}	0,3
Pr/Ph	2,1
$nC_{17}/(C_{17}+C_{27})$	0,8
CPI2	1,0
nC_{17}	8,1
Pristane	4,6
ΣC15-C35	92

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	23,29
%20/3	15,8
%23/3	44,3
%24/4	31,3
C26/C25	1,2
%27Ts	61,3
%28αβ	20,6
%29Ts	56,8
%25nor30αβ	6,6
%29αβ	31,5
%30βα	11,2
%30D	47,5
%30G	9,9
%32αβS	56,8
%35αβ	48,0
30αβ	11,9
25nor30αβ	0,8
Σterpanes	82
%Pregnane	18,8
%29αααS	59,4
%29βββ	65,7
%27dia	67,5
%27ster. Norm	34,4
%28ster. Norm	24,5
%29ster. Norm	31,7
%30ster. Norm	9,4
Σsteranes	85
Hop/Ste	1,0

Steranes, m/z 217:



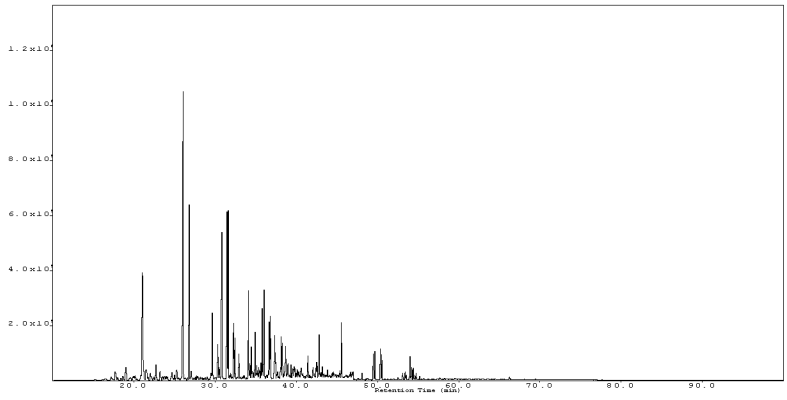
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3623,35-3623,35 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2492843, PlanID: 697947	

StatoilHydro

Reserach Centre,
Bergen, Norway

Fluid

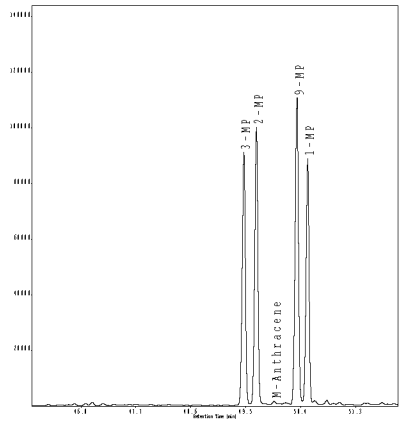
Aromatic hydrocarbons, TIC:



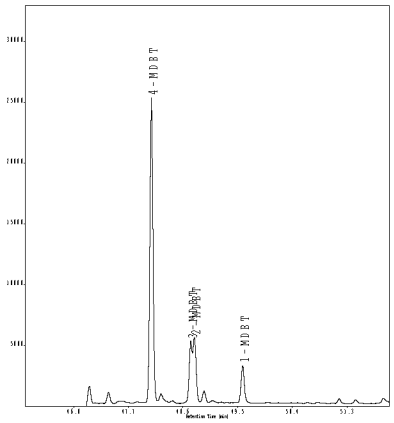
Parameter/amounts, ng/mg	
2/1MN	1,63
2/1EN	4,11
Phen.	376
MPI1	0,78
F1 (2+3/all MP)	0,49
F2 (2/all MP)	0,26
%TAS	90
DBT/P	0,02
F/P	0,59
BP/1.6DMN	1,07
4/1MDBT	8,16
3MP/R	32,57
ΣARO HC	2898

Aromatic and Diamondoid hydrocarbons, GC/MS:

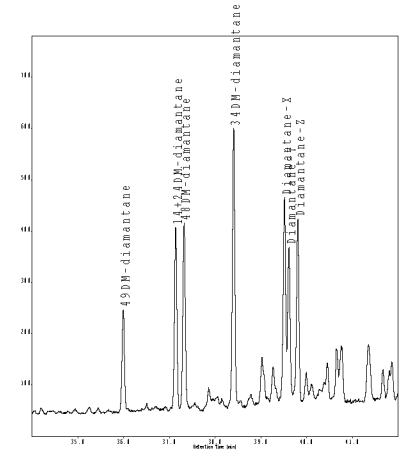
Methyl-phenanthrenes (m/z 192):



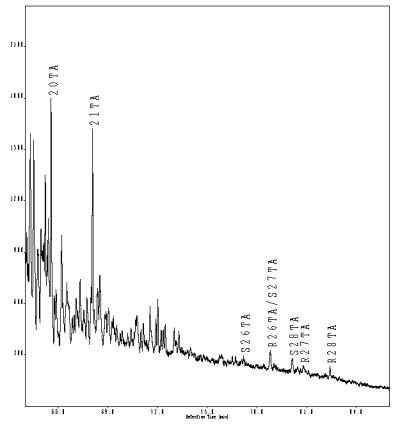
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	64,2
DMDI%	73,1
%49DM-Diam.	18,1
%48DM-Diam.	32,7
%34DM-Diam.	49,2

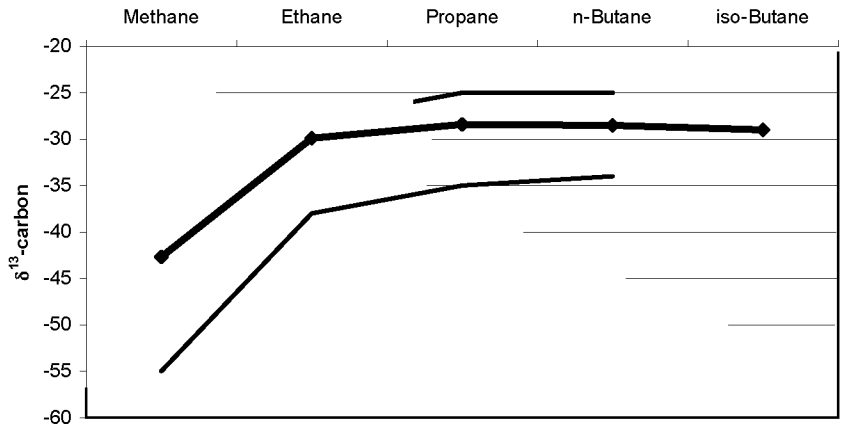
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3623,35-3623,35 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: , PlanID:	

StatoilHydro

Reserach Centre,
Bergen, Norway

Fluid

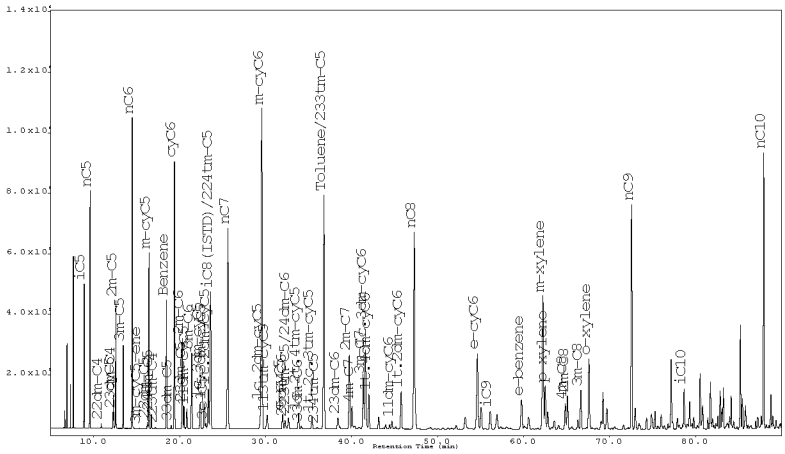
Gaseous HC:



Gaseous HC, wt%	
Wetness	
iC4/nC4	
C2/C3	
CO2	

Gaseous HC, isotopes ‰	
d13C C1	-42,7
d13C C2	-29,9
d13C C3	-28,4
d13C C4	-28,5
d13C iC4	-29
dD C1	0

Light HC C5-10, GC/FID:



Parameter/amounts, ug/mg	
Hepane value	20,7
Isohept. value	1,3
Paraffinicity	0,6
Aromaticity	0,9
nC_6/Benzene	1,8
nC_7/Toluene	0,8
ΣC5-C20	365

Whole oil, GC/FID:

Parameter/amounts, ug/mg

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3718,5-3718,5 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

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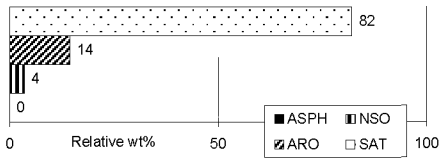
Bergen, Norway

OrgID: 2492833, PlanID: 697948

Fluid

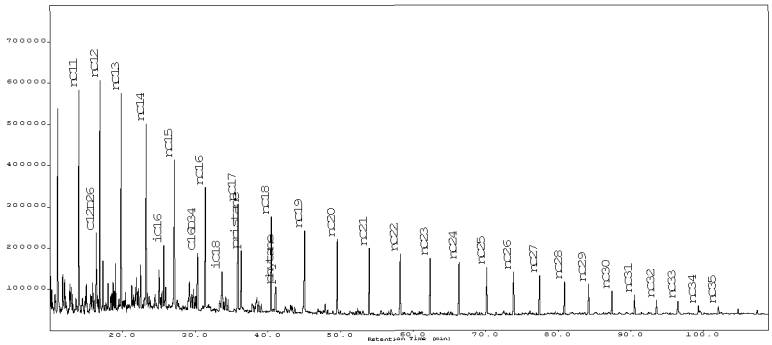
Iatroscan



δ13C fractions

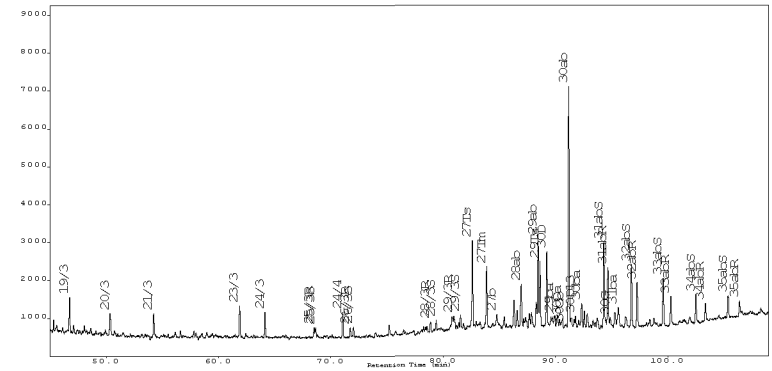
Sat.	-28,8
Aro.	-26,8
NSO	
Asph.	
EOM / Oil	

C15+ SAT-fraction hydrocarbons, GC/FID:



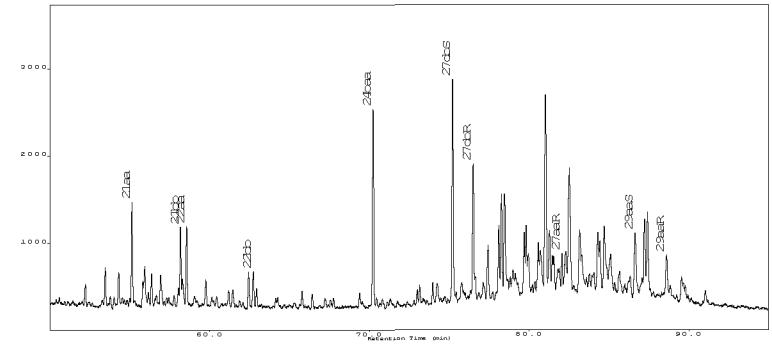
Parameter/amounts, μg/mg	
Pr/nC_{17}	0,6
Ph/nC_{18}	0,3
Pr/Ph	2,3
$nC_{17}/(C_{17}+C_{27})$	0,8
CPI2	1,0
nC_{17}	8,0
Pristane	4,8
ΣC15-C35	93

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	13,40
%20/3	15,6
%23/3	47,7
%24/4	42,8
C26/C25	1,1
%27Ts	58,6
%28αβ	21,6
%29Ts	45,8
%25nor30αβ	3,7
%29αβ	33,1
%30βα	9,0
%30D	32,4
%30G	4,8
%32αβS	58,2
%35αβ	44,4
30αβ	32,8
25nor30αβ	1,3
Σterpanes	190

Steranes, m/z 217:



%Pregnane	14,3
%29αααS	61,3
%29ββ	68,5
%27dia	64,0
%27ster. Norm	31,3
%28ster. Norm	24,9
%29ster. Norm	35,2
%30ster. Norm	8,7
Σsteranes	131
Hop/Ste	1,4

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3718,5-3718,5 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2492833, PlanID: 697948	

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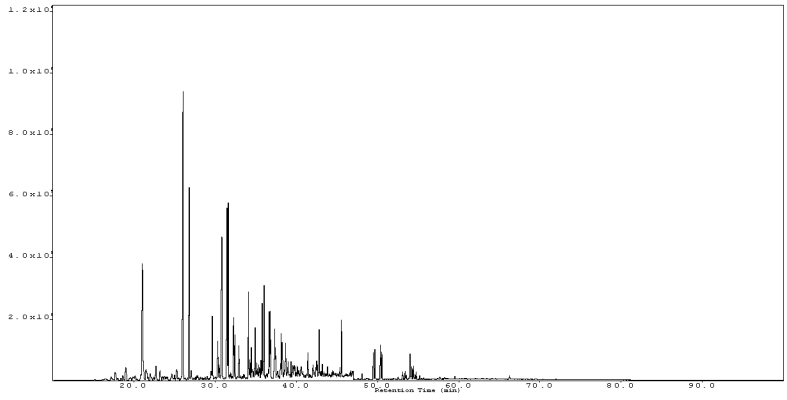
Bergen, Norway

Fluid

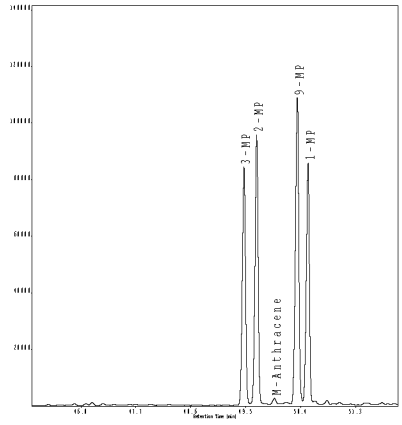
Aromatic hydrocarbons, TIC:



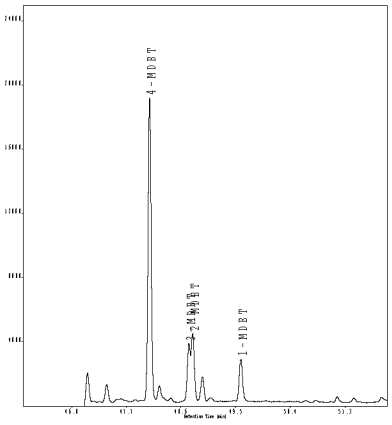
Parameter/amounts, ng/mg	
2/1MN	1,49
2/1EN	3,45
Phen.	296
MPI1	0,78
F1 (2+3/all MP)	0,48
F2 (2/all MP)	0,26
%TAS	77
DBT/P	0,02
F/P	0,64
BP/1.6DMN	0,90
4/1MDBT	7,21
3MP/R	12,50
ΣARO HC	2374

Aromatic and Diamondoid hydrocarbons, GC/MS:

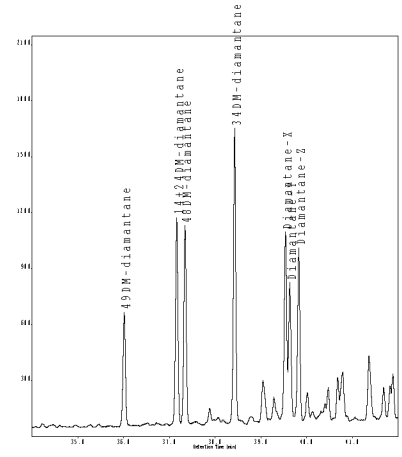
Methyl-phenanthrenes (m/z 192):



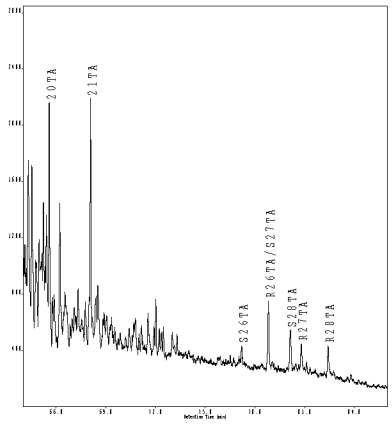
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	62,5
DMDI%	72,0
%49DM-Diam.	18,9
%48DM-Diam.	32,6
%34DM-Diam.	48,5

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3718,5-3718,5 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: , PlanID:	

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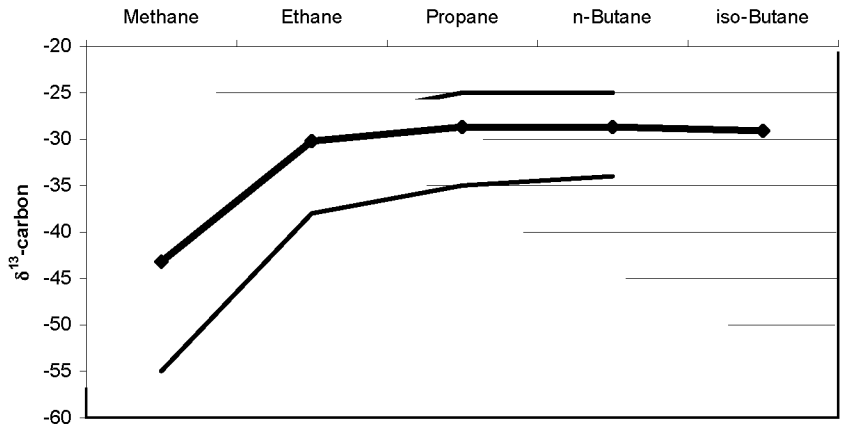
Fluid

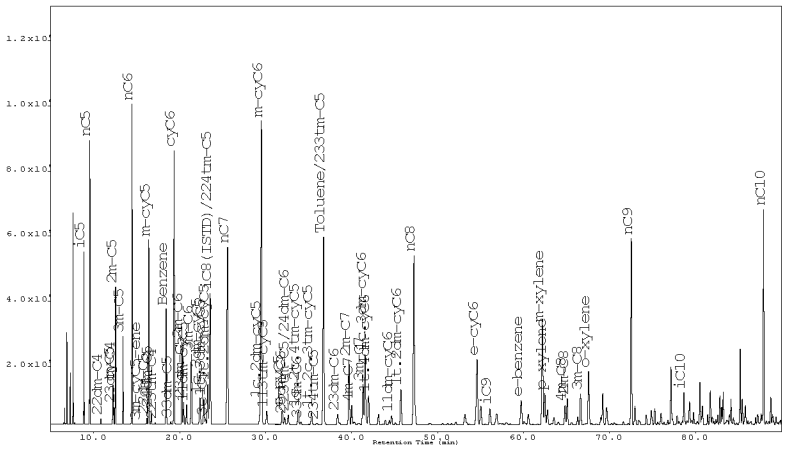
Gaseous HC:



Gaseous HC, wt%	
Wetness	
iC4/nC4	
C2/C3	
CO2	

Gaseous HC, isotopes ‰	
d13C C1	-43,2
d13C C2	-30,2
d13C C3	-28,7
d13C C4	-28,7
d13C iC4	-29,1
dD C1	0

Light HC C5-10, GC/FID:



Parameter/amounts, ug/mg	
Hepane value	19,3
Isohept. value	1,2
Paraffinicity	0,5
Aromaticity	0,8
nC_6/Benzene	2,1
nC_7/Toluene	0,9
ΣC5-C20	331

Whole oil, GC/FID:

Parameter/amounts, ug/mg

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3733-3733 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

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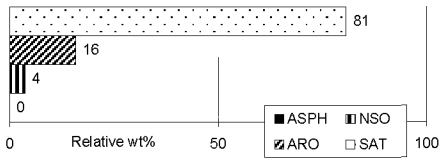
Reserach Centre,
Bergen, Norway

OrgID: 2492853, PlanID: 697949

Fluid

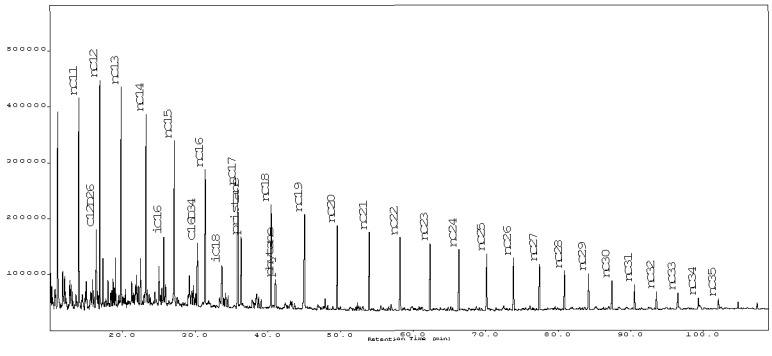
Iatroscan



δ13C fractions

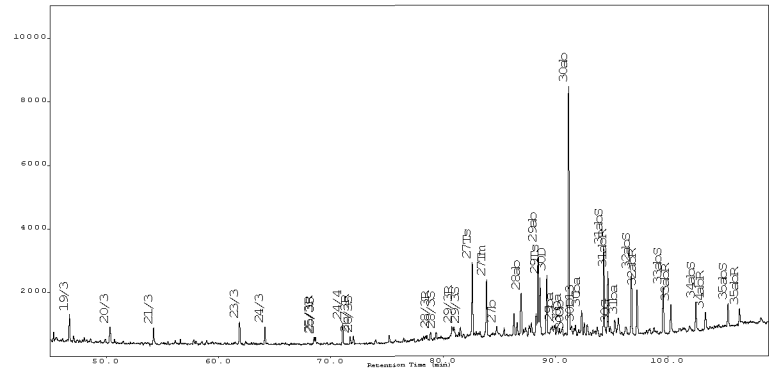
Sat.	-28,5
Aro.	-26,8
NSO	
Asph.	
EOM / Oil	

C15+ SAT-fraction hydrocarbons, GC/FID:



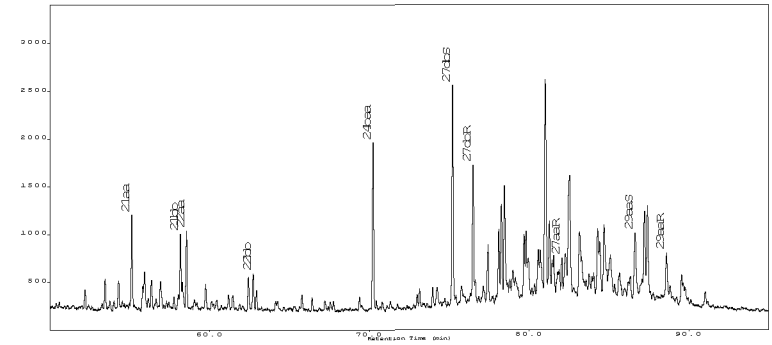
Parameter/amounts, µg/mg	
Pr/nC_{17}	0,7
Ph/nC_{18}	0,3
Pr/Ph	2,4
$nC_{17}/(C_{17}+C_{27})$	0,7
CPI2	1,0
nC_{17}	8,3
Pristane	5,5
ΣC15-C35	101

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	10,09
%20/3	15,7
%23/3	48,1
%24/4	47,3
C26/C25	1,3
%27Ts	56,9
%28αβ	20,9
%29Ts	40,6
%25nor30αβ	2,2
%29αβ	33,4
%30βα	9,0
%30D	26,9
%30G	4,8
%32αβS	57,6
%35αβ	46,2
30αβ	52,1
25nor30αβ	1,2
Σterpanes	286
%Pregnane	12,6
%29αααS	58,6
%29ββ	69,8
%27dia	60,1
%27ster. Norm	32,6
%28ster. Norm	23,5
%29ster. Norm	35,3
%30ster. Norm	8,6
Σsteranes	165
Hop/Ste	1,7

Steranes, m/z 217:



Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3733-3733 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2492853, PlanID: 697949	

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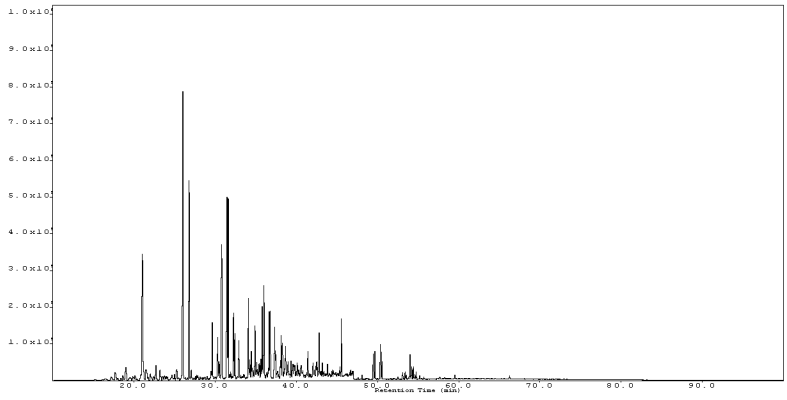
Fluid

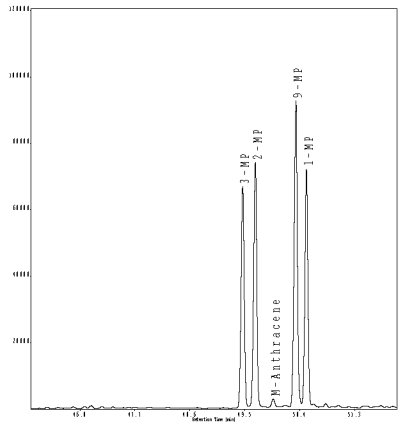
Aromatic hydrocarbons, TIC:



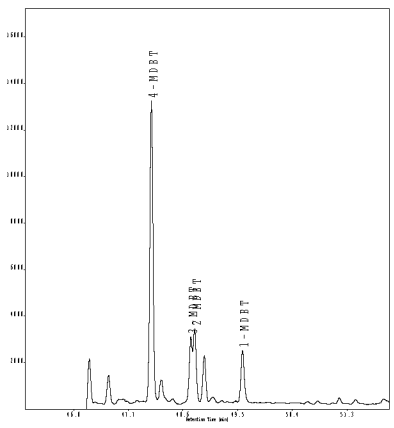
Parameter/amounts, ng/mg	
2/1MN	1,43
2/1EN	3,05
Phen.	288
MPI1	0,72
F1 (2+3/all MP)	0,46
F2 (2/all MP)	0,24
%TAS	71
DBT/P	0,02
F/P	0,56
BP/1.6DMN	0,76
4/1MDBT	5,76
3MP/R	7,73
ΣARO HC	2201

Aromatic and Diamondoid hydrocarbons, GC/MS:

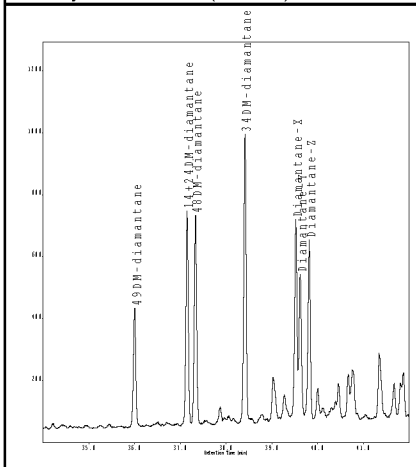
Methyl-phenanthrenes (m/z 192):



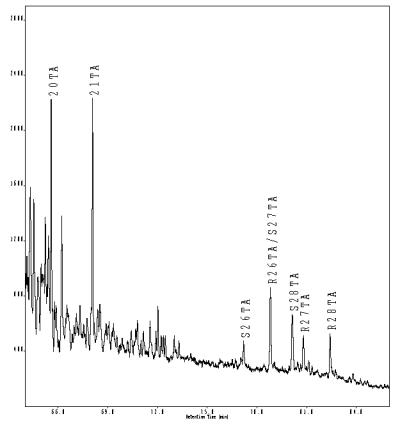
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	64,3
DMDI%	70,9
%49DM-Diam.	19,3
%48DM-Diam.	33,8
%34DM-Diam.	46,9

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3733-3733 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: , PlanID:	

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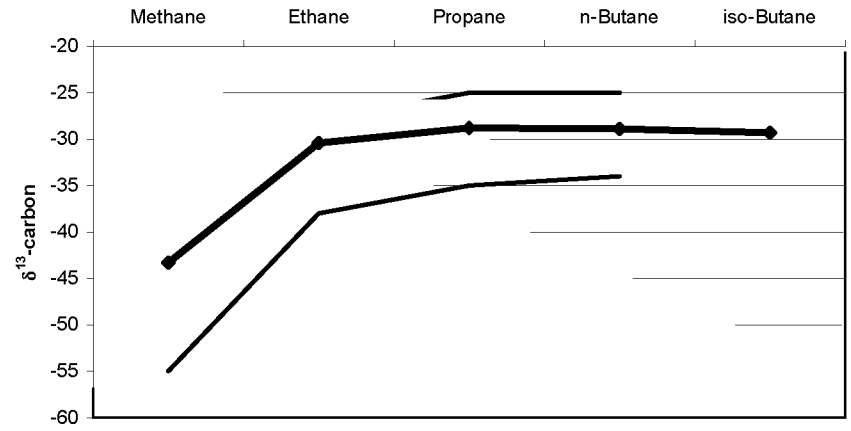
Fluid

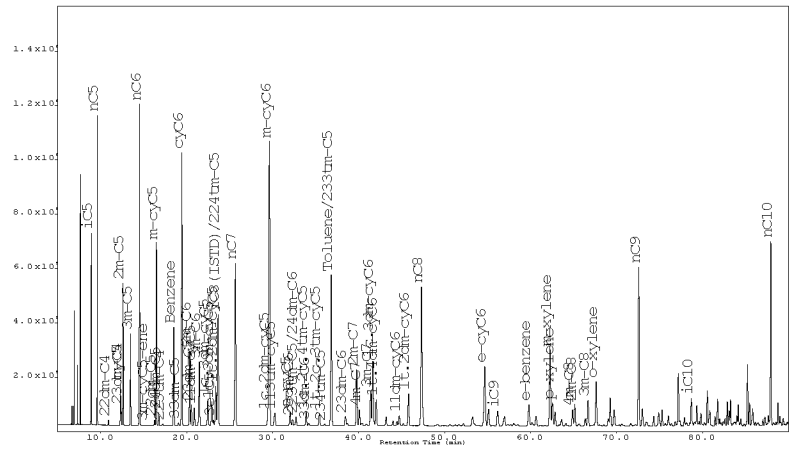
Gaseous HC:



Gaseous HC, wt%	
Wetness	
iC4/nC4	
C2/C3	
CO2	

Gaseous HC, isotopes ‰	
d13C C1	-43,3
d13C C2	-30,4
d13C C3	-28,8
d13C C4	-28,9
d13C iC4	-29,3
dD C1	0

Light HC C5-10, GC/FID:



Parameter/amounts, ug/mg	
Hepane value	18,5
Isohept. value	1,1
Paraffinicity	0,5
Aromaticity	0,7
nC_6/Benzene	2,4
nC_7/Toluene	1,0
ΣC5-C20	342

Whole oil, GC/FID:

Parameter/amounts, ug/mg

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3829-3829 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

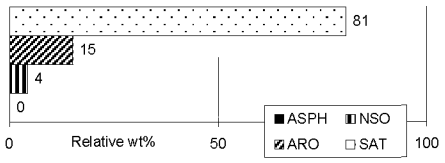
StatoilHydro

Reserach Centre,
Bergen, Norway

OrgID: 2492848, PlanID: 697950

Fluid

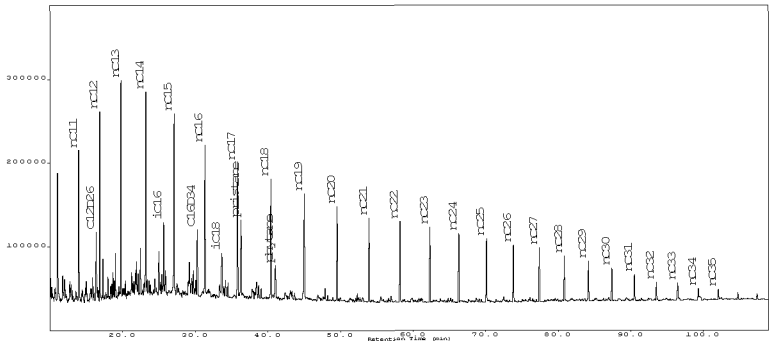
Iatroscan



δ13C fractions

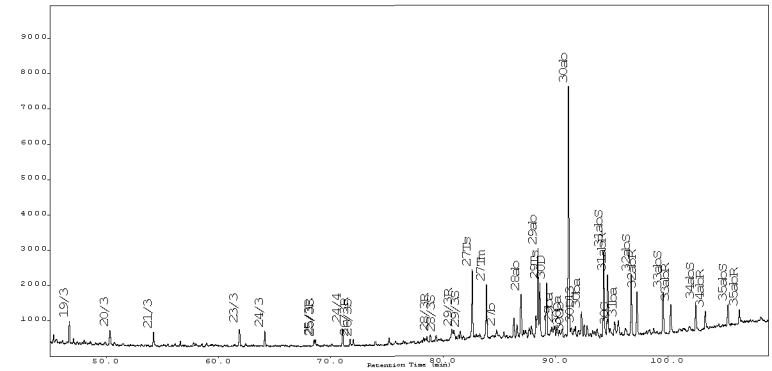
Sat.	-28,3
Aro.	-26,2
NSO	
Asph.	
EOM / Oil	

C15+ SAT-fraction hydrocarbons, GC/FID:



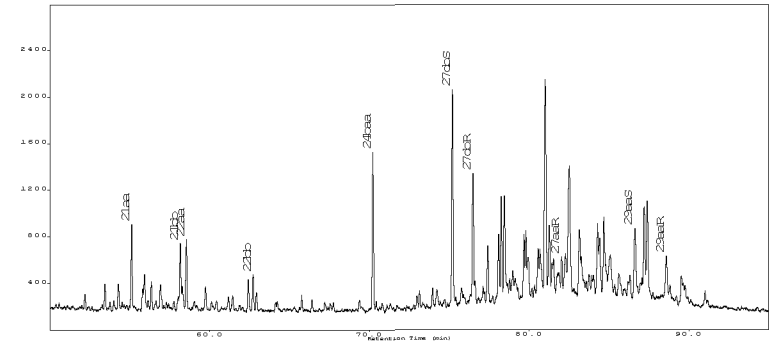
Parameter/amounts, μg/mg	
Pr/nC_{17}	0,7
Ph/nC_{18}	0,3
Pr/Ph	2,3
$nC_{17}/(C_{17}+C_{27})$	0,7
CPI2	1,1
nC_{17}	8,8
Pristane	5,8
ΣC15-C35	106

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	9,34
%20/3	16,3
%23/3	46,6
%24/4	47,6
C26/C25	1,0
%27Ts	55,8
%28αβ	21,2
%29Ts	39,6
%25nor30αβ	2,9
%29αβ	33,1
%30βα	9,0
%30D	24,8
%30G	4,0
%32αβS	57,9
%35αβ	44,0
30αβ	61,5
25nor30αβ	1,8
Σterpanes	328
%Pregnane	11,7
%29αααS	61,6
%29ββ	69,5
%27dia	60,2
%27ster. Norm	31,0
%28ster. Norm	25,1
%29ster. Norm	35,4
%30ster. Norm	8,4
Σsteranes	177
Hop/Ste	1,9

Steranes, m/z 217:



Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3829-3829 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2492848, PlanID: 697950	

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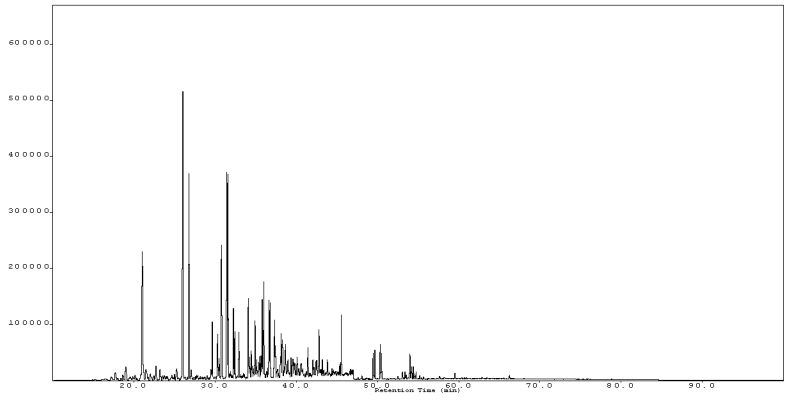
Fluid

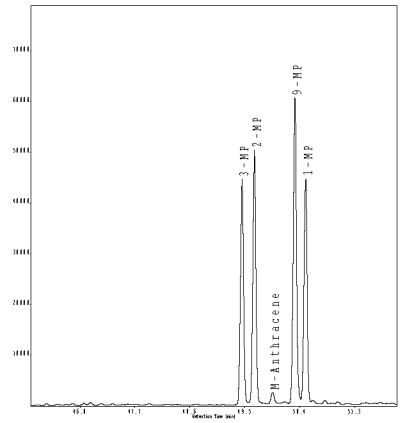
Aromatic hydrocarbons, TIC:



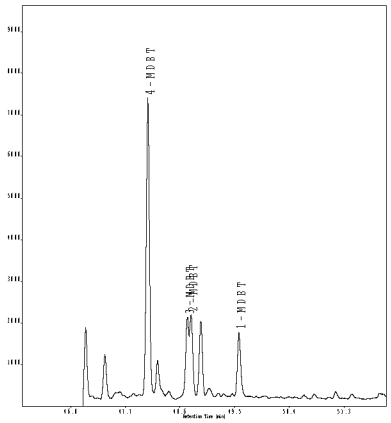
Parameter/amounts, ng/mg	
2/1MN	1,38
2/1EN	2,76
Phen.	259
MPI1	0,73
F1 (2+3/all MP)	0,48
F2 (2/all MP)	0,25
%TAS	69
DBT/P	0,02
F/P	0,54
BP/1.6DMN	0,72
4/1MDBT	4,61
3MP/R	5,73
ΣARO HC	1975

Aromatic and Diamondoid hydrocarbons, GC/MS:

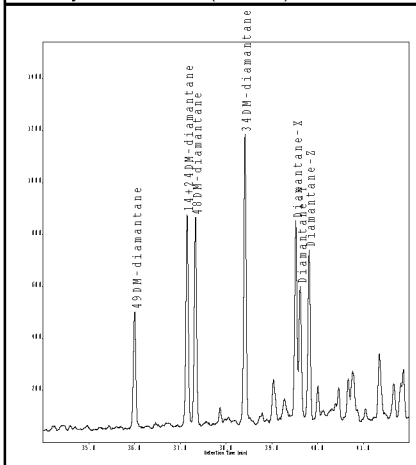
Methyl-phenanthrenes (m/z 192):



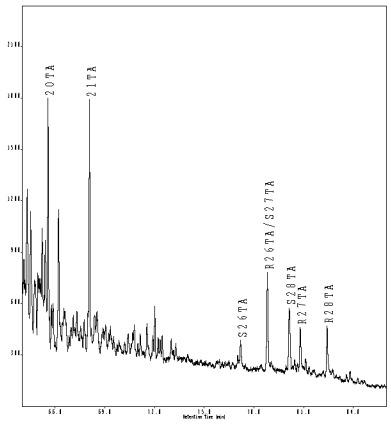
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	64,3
DMDI%	71,2
%49DM-Diam.	19,0
%48DM-Diam.	33,9
%34DM-Diam.	47,1

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**FLUI, 3829-3829 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: , PlanID:	

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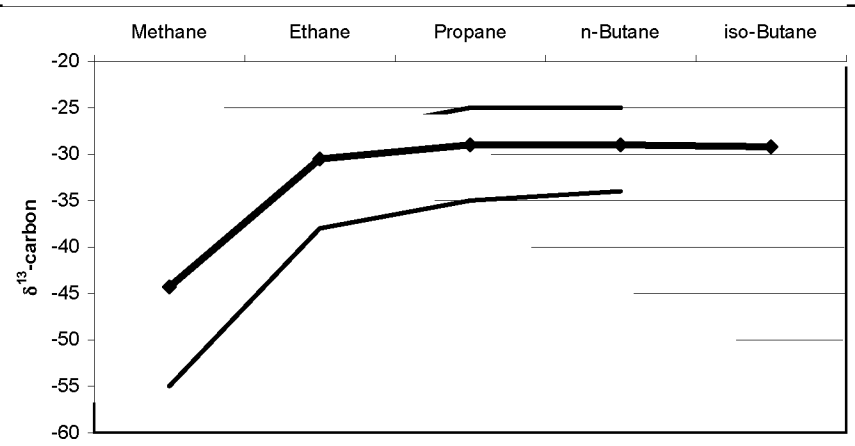
Fluid

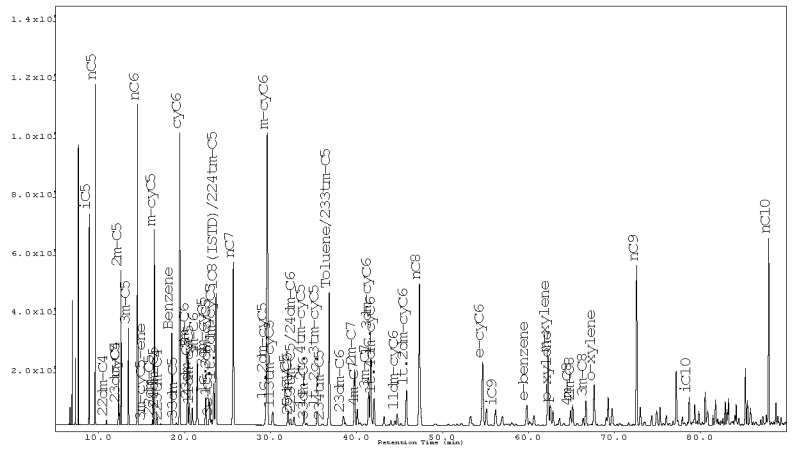
Gaseous HC:



Gaseous HC, wt%	
Wetness	
iC4/nC4	
C2/C3	
CO2	

Gaseous HC, isotopes ‰	
d13C C1	-44,3
d13C C2	-30,5
d13C C3	-29
d13C C4	-29
d13C iC4	-29,2
dD C1	0

Light HC C5-10, GC/FID:



Parameter/amounts, ug/mg	
Hepane value	17,7
Isohept. value	1,0
Paraffinicity	0,5
Aromaticity	0,7
nC_6/Benzene	2,7
nC_7/Toluene	1,2
ΣC5-C20	323

Whole oil, GC/FID:

Parameter/amounts, ug/mg

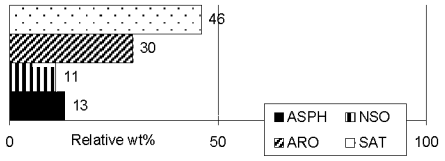
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**COCH, 3378,4-3378,4 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

StatoilHydro
Reserach Centre,
Bergen, Norway

OrgID: 2488886, PlanID: 697603

Sediment

Iatroscan



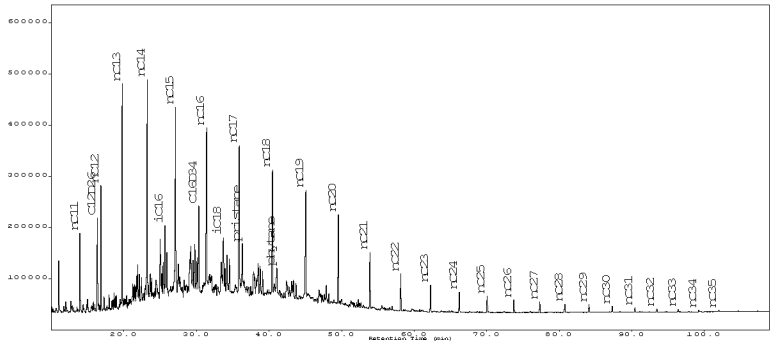
RockEval

S1	23,4
S2	184,7
PI	0,1
Tmax	440
TOC	81,6
HI	226
EOM wt%	2,4

δ13C fractions

Sat.
Aro.
NSO
Asph.
EOM / Oil
Kerogen

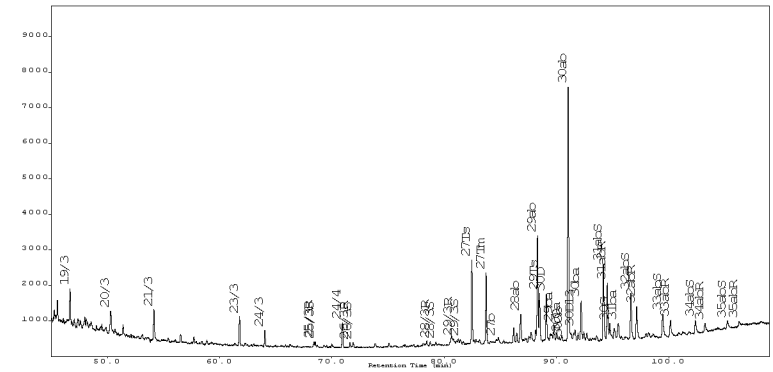
C15+ SAT-fraction hydrocarbons, GC/FID:



Parameter/amounts, ug/mg

Pr/nC_{17}	0,4
Ph/nC_{18}	0,2
Pr/Ph	2,0
$nC_{17}/(C_{17}+C_{27})$	0,9
CPI2	1,0
nC_{17}	7,5
Pristane	2,6
ΣC15-C35	57

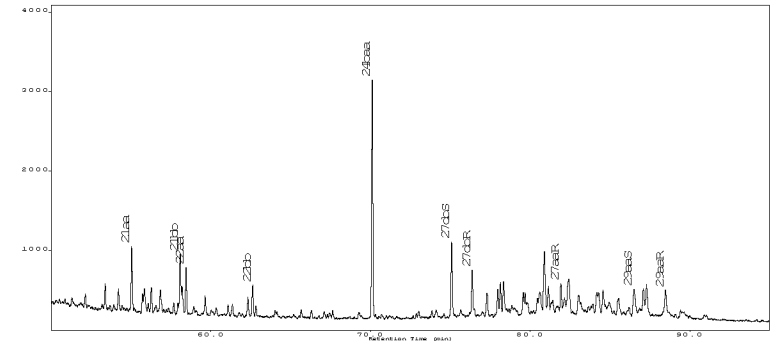
Terpanes, m/z 191:



Parameter/amounts, ng/mg

%Tri	12,7
%20/3	18,5
%23/3	58,2
%24/4	54,7
C26/C25	1,0
%27Ts	53,9
%28αβ	14,9
%29Ts	31,7
%25nor30αβ	0,9
%29αβ	38,0
%30βα	13,1
%30D	21,8
%30G	6,9
%32αβS	58,5
%35αβ	35,0
30αβ	26,6
25nor30αβ	0,3
Σterpanes	126
%Pregnane	27,0
%29ααS	54,2
%29ββ	60,0
%27dia	60,8
%27ster. Norm	33,6
%28ster. Norm	26,5
%29ster. Norm	32,5
%30ster. Norm	7,5
Σsteranes	37
Hop/Ste	3,5

Steranes, m/z 217:



Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**COCH, 3378,4-3378,4 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2488886, PlanID: 697603	

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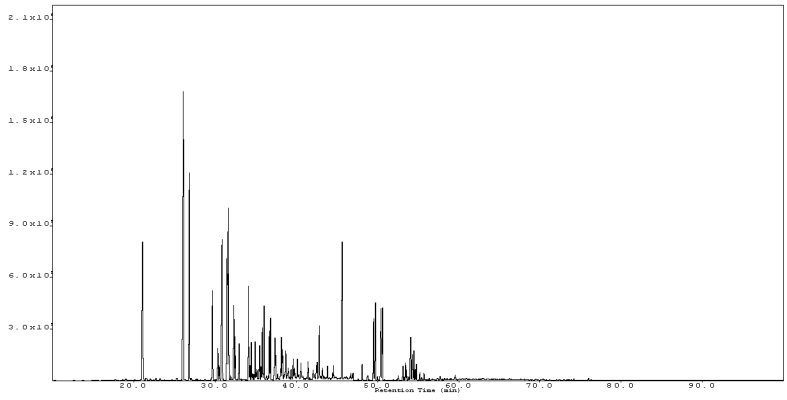
Reserach Centre,
Bergen, Norway

Sediment

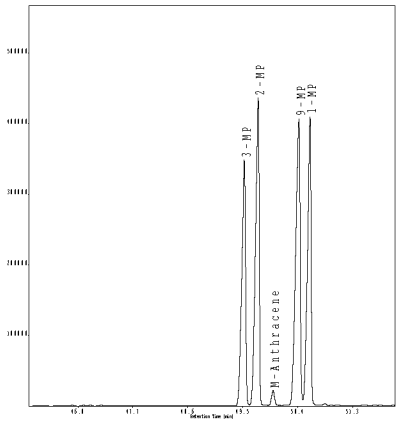
Aromatic hydrocarbons, TIC:



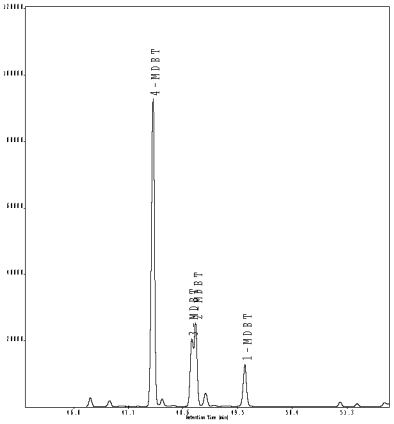
Parameter/amounts, ng/mg	
2/1MN	1,4
2/1EN	2,7
Phen.	4074
MPI1	0,8
F1 (2+3/all MP)	0,5
F2 (2/all MP)	0,3
%TAS	88,5
DBT/P	0,0
F/P	0,2
BP/1.6DMN	1,0
4/1MDBT	7,3
3MP/R	17,7
ΣARO HC	23551

Aromatic and Diamondoid hydrocarbons, GC/MS:

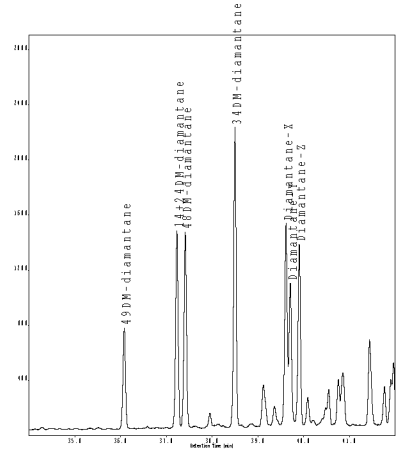
Methyl-phenanthrenes (m/z 192):



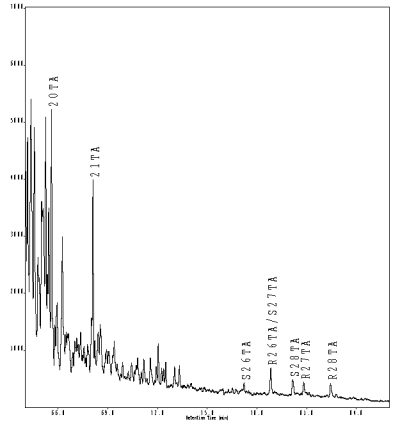
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	65
DMDI%	75
%49DM-Diam.	17
%48DM-Diam.	33
%34DM-Diam.	50

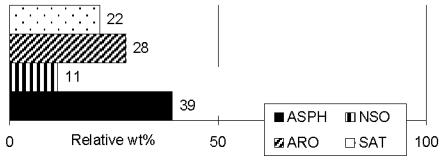
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**COCH, 3663,8-3663,8 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

StatoilHydro
Reserach Centre,
Bergen, Norway

OrgID: 2488891, PlanID: 697607

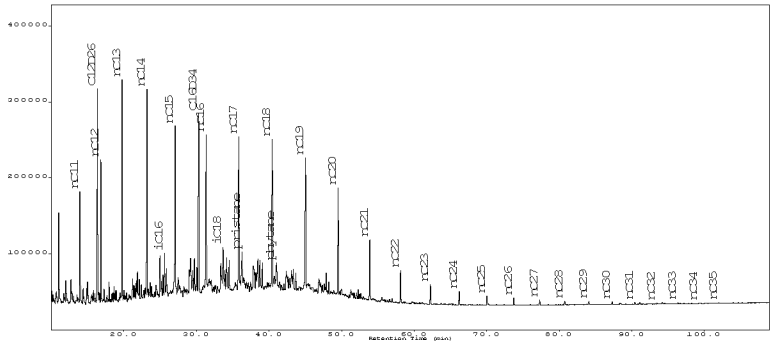
Sediment

Iatroscan



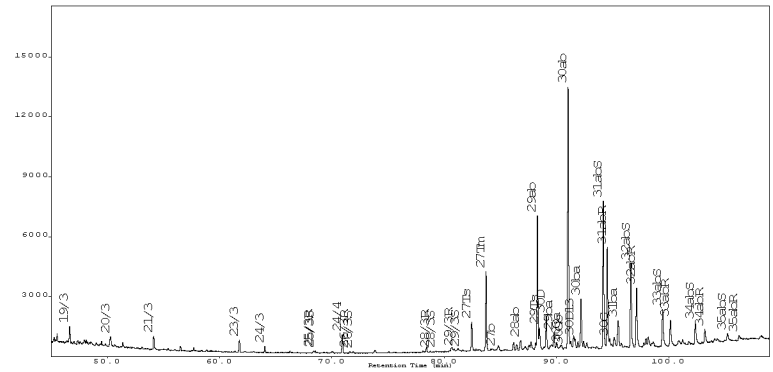
RockEval		**δ13C fractions**
S1	7,9	Sat.
S2	139,1	Aro.
PI	0,1	NSO
Tmax	445	Asph.
TOC	49,5	EOM / Oil
HI	281	Kerogen
EOM wt%	1,0	

C15+ SAT-fraction hydrocarbons, GC/FID:



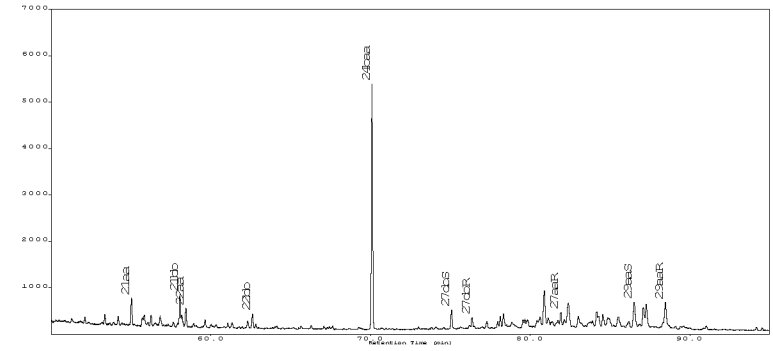
Parameter/amounts, ug/mg	
Pr/nC_{17}	0,3
Ph/nC_{18}	0,2
Pr/Ph	1,8
$nC_{17}/(C_{17}+C_{27})$	1,0
CPI2	1,0
nC_{17}	3,3
Pristane	1,0
ΣC15-C35	24

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	4,9
%20/3	19,8
%23/3	59,4
%24/4	68,1
C26/C25	1,0
%27Ts	26,3
%28αβ	5,6
%29Ts	13,5
%25nor30αβ	0,1
%29αβ	43,6
%30βα	15,4
%30D	15,8
%30G	5,5
%32αβS	59,0
%35αβ	26,5
30αβ	27,7
25nor30αβ	0,0
Σterpanes	154
%Pregnane	26,5
%29ααS	51,3
%29ββ	54,7
%27dia	50,3
%27ster. Norm	23,1
%28ster. Norm	24,3
%29ster. Norm	48,3
%30ster. Norm	4,3
Σsteranes	16
Hop/Ste	9,8

Steranes, m/z 217:



Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**COCH, 3663,8-3663,8 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2488891, PlanID: 697607	

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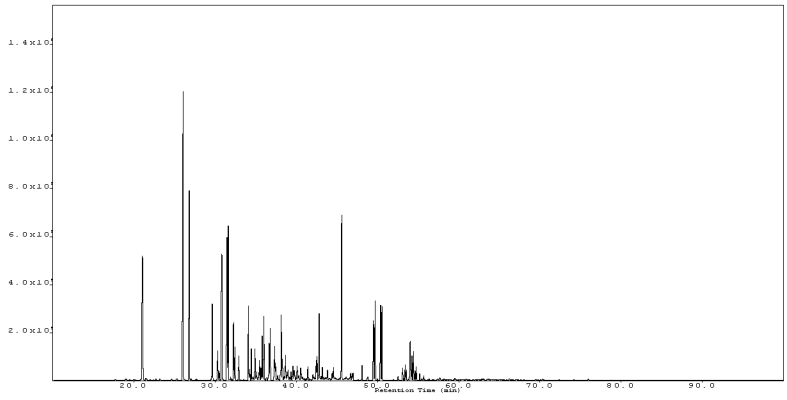
Reserach Centre,
Bergen, Norway

Sediment

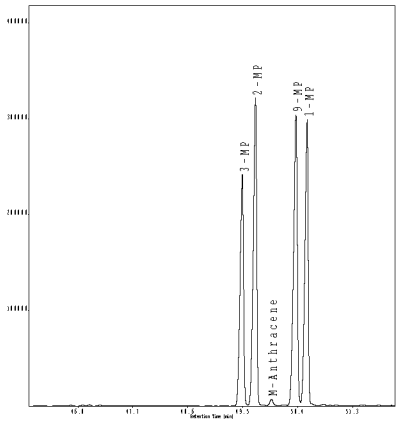
Aromatic hydrocarbons, TIC:



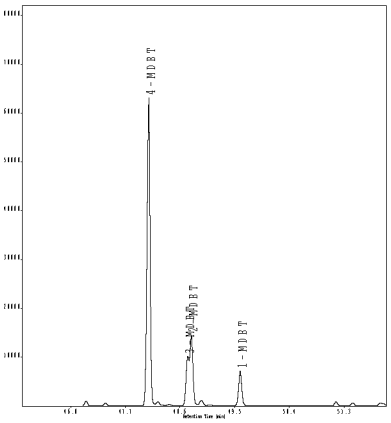
Parameter/amounts, ng/mg	
2/1MN	1,5
2/1EN	4,1
Phen.	3783
MPI1	0,7
F1 (2+3/all MP)	0,5
F2 (2/all MP)	0,3
%TAS	84,3
DBT/P	0,0
F/P	0,3
BP/1.6DMN	1,1
4/1MDBT	8,9
3MP/R	39,6
ΣARO HC	18914

Aromatic and Diamondoid hydrocarbons, GC/MS:

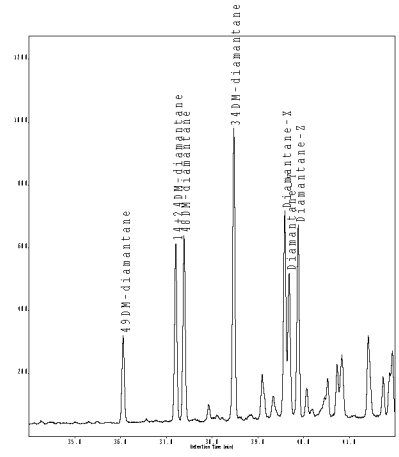
Methyl-phenanthrenes (m/z 192):



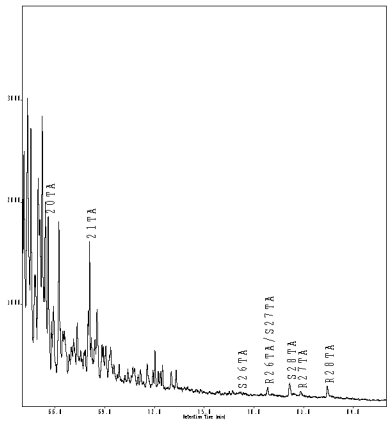
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	64
DMDI%	77
%49DM-Diam.	15
%48DM-Diam.	33
%34DM-Diam.	52

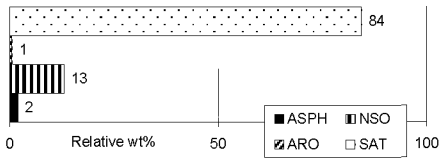
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3261-3264 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

StatoilHydro
Reserach Centre,
Bergen, Norway

OrgID: 2488797, PlanID: 697952

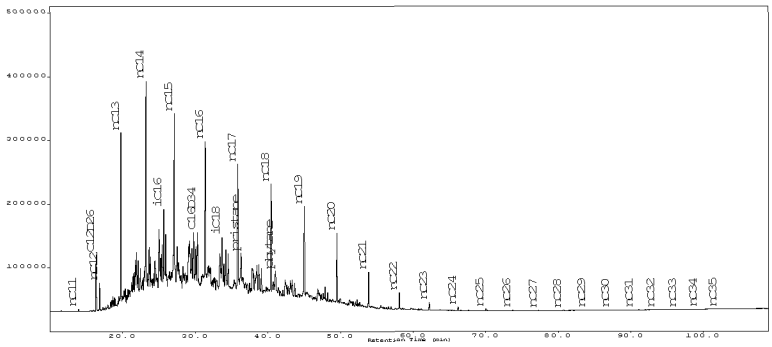
Sediment

Iatroscan



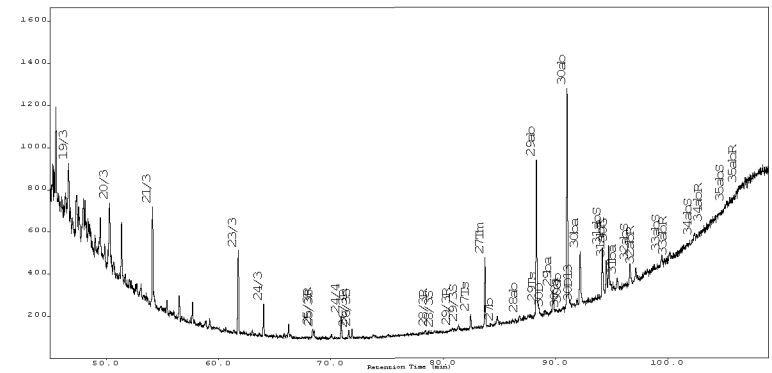
RockEval		**δ13C fractions**
S1		Sat.
S2		Aro.
PI		NSO
Tmax		Asph.
TOC		EOM / Oil
HI		Kerogen
EOM wt%	3,9	

C15+ SAT-fraction hydrocarbons, GC/FID:



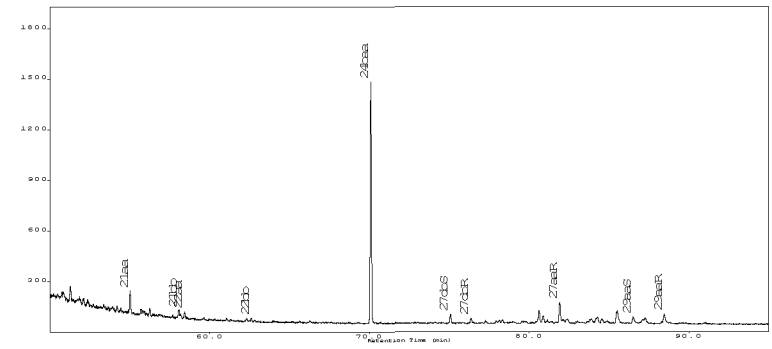
Parameter/amounts, ug/mg	
Pr/nC_{17}	0,3
Ph/nC_{18}	0,2
Pr/Ph	1,9
$nC_{17}/(C_{17}+C_{27})$	1,0
CPI2	0,8
nC_{17}	10,4
Pristane	3,6
ΣC15-C35	70

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	33,4
%20/3	20,8
%23/3	66,6
%24/4	35,7
C26/C25	1,1
%27Ts	18,1
%28αβ	3,7
%29Ts	4,5
%25nor30αβ	2,2
%29αβ	52,5
%30βα	19,5
%30D	4,9
%30G	24,0
%32αβS	65,0
%35αβ	55,1
30αβ	7,7
25nor30αβ	0,2
Σterpanes	31
%Pregnane	23,0
%29αααS	40,9
%29βββ	42,8
%27dia	54,9
%27ster. Norm	31,5
%28ster. Norm	33,6
%29ster. Norm	29,9
%30ster. Norm	4,9
Σsteranes	5
Hop/Ste	5,9

Steranes, m/z 217:



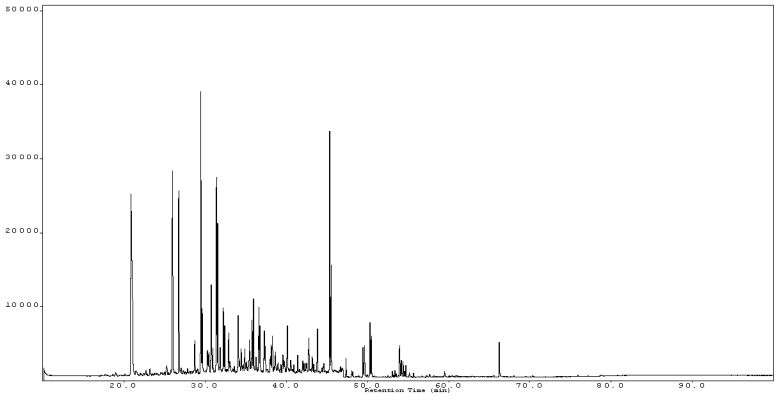
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3261-3264 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2488797, PlanID: 697952	

StatoilHydro

Reserach Centre,
Bergen, Norway

Sediment

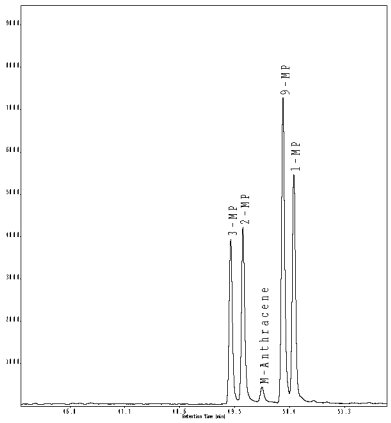
Aromatic hydrocarbons, TIC:



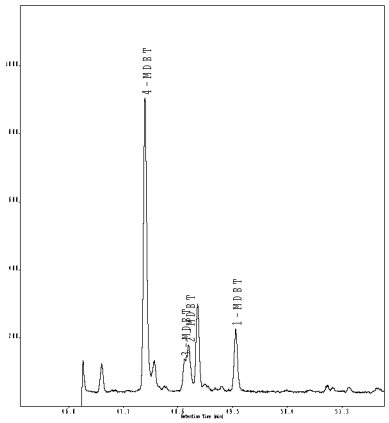
Parameter/amounts, ng/mg	
2/1MN	1,1
2/1EN	1,6
Phen.	19
MPI1	0,5
F1 (2+3/all MP)	0,4
F2 (2/all MP)	0,2
%TAS	65,1
DBT/P	0,0
F/P	0,1
BP/1.6DMN	0,9
4/1MDBT	4,4
3MP/R	6,9
ΣARO HC	81

Aromatic and Diamondoid hydrocarbons, GC/MS:

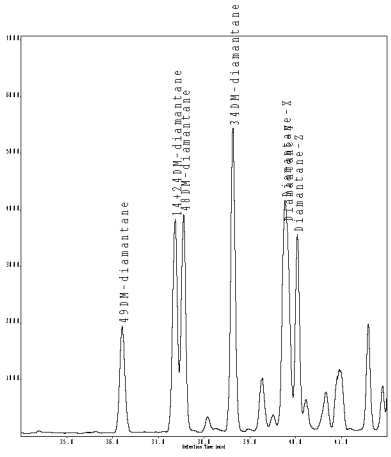
Methyl-phenanthrenes (m/z 192):



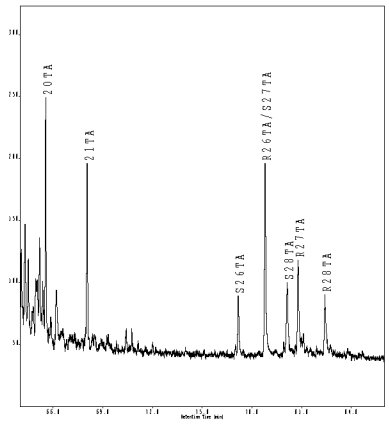
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	56
DMDI%	74
%49DM-Diam.	17
%48DM-Diam.	35
%34DM-Diam.	48

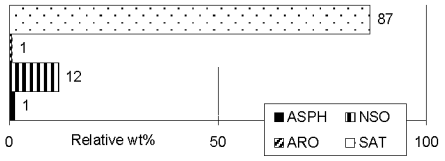
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3297-3300 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

StatoilHydro
Reserach Centre,
Bergen, Norway

OrgID: 2488809, PlanID: 697955

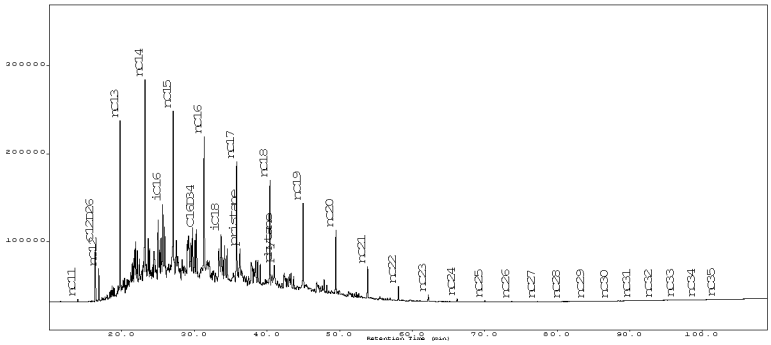
Sediment

Iatroscan



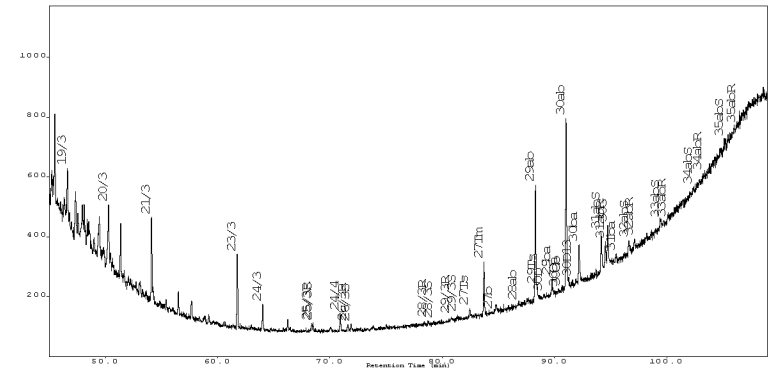
RockEval		**δ13C fractions**
S1		Sat.
S2		Aro.
PI		NSO
Tmax		Asph.
TOC		EOM / Oil
HI		Kerogen
EOM wt%	3,7	

C15+ SAT-fraction hydrocarbons, GC/FID:



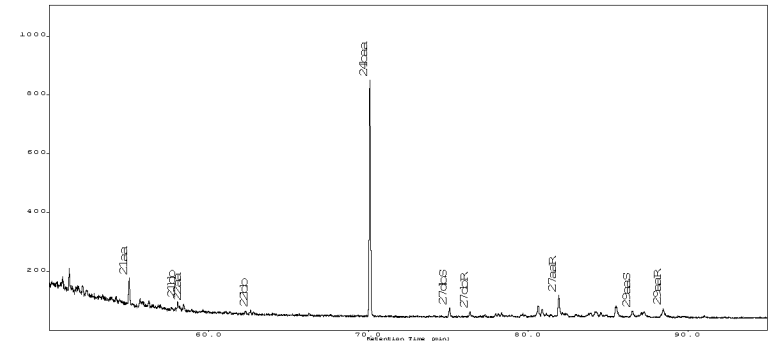
Parameter/amounts, ug/mg	
Pr/nC_{17}	0,3
Ph/nC_{18}	0,2
Pr/Ph	1,7
$nC_{17}/(C_{17}+C_{27})$	1,0
CPI2	1,0
nC_{17}	10,4
Pristane	3,0
ΣC15-C35	71

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	34,9
%20/3	21,7
%23/3	67,8
%24/4	34,7
C26/C25	0,8
%27Ts	16,6
%28αβ	4,2
%29Ts	9,1
%25nor30αβ	2,1
%29αβ	51,1
%30βα	20,0
%30D	3,5
%30G	30,2
%32αβS	51,4
%35αβ	48,2
30αβ	7,5
25nor30αβ	0,2
Σterpanes	33
%Pregnane	27,5
%29ααS	44,6
%29ββ	43,3
%27dia	55,4
%27ster. Norm	32,5
%28ster. Norm	32,5
%29ster. Norm	28,5
%30ster. Norm	6,5
Σsteranes	5
Hop/Ste	6,3

Steranes, m/z 217:



Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3297-3300 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2488809, PlanID: 697955	

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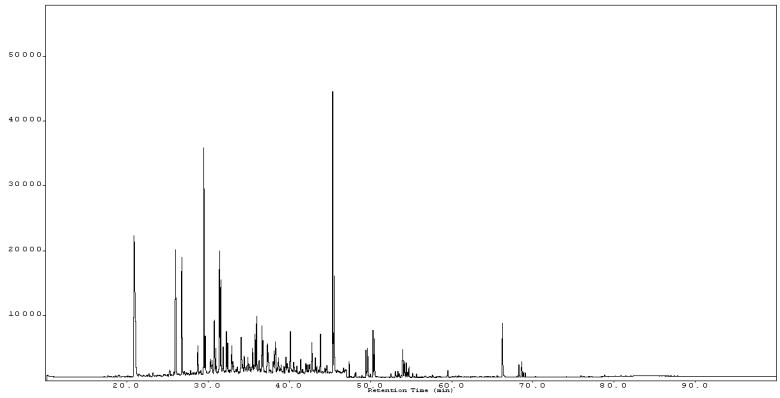
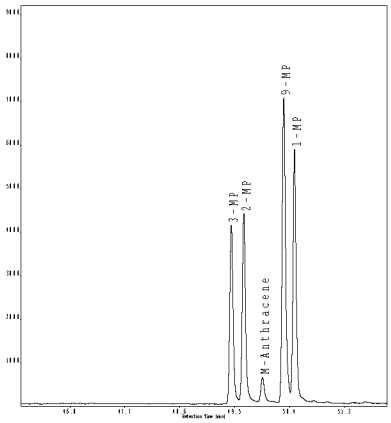
Aromatic hydrocarbons, TIC:



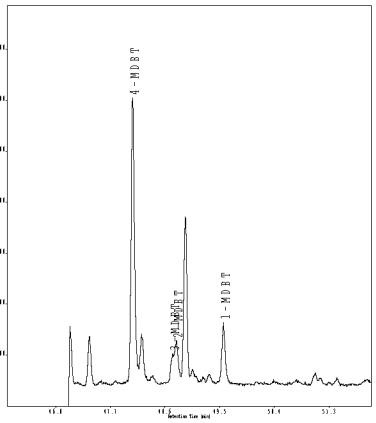
Parameter/amounts, ng/mg	
2/1MN	1,1
2/1EN	1,5
Phen.	15
MPI1	0,5
F1 (2+3/all MP)	0,4
F2 (2/all MP)	0,2
%TAS	61,9
DBT/P	0,0
F/P	0,2
BP/1.6DMN	0,8
4/1MDBT	5,0
3MP/R	5,1
ΣARO HC	68

Aromatic and Diamondoid hydrocarbons, GC/MS:

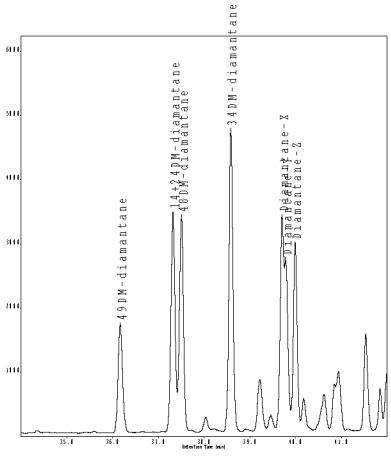
Methyl-phenanthrenes (m/z 192):



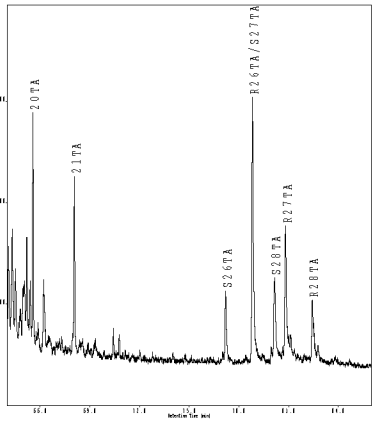
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	55
DMDI%	73
%49DM-Diam.	18
%48DM-Diam.	34
%34DM-Diam.	48

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3324-3327 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

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OrgID: 2488616, PlanID: 697626

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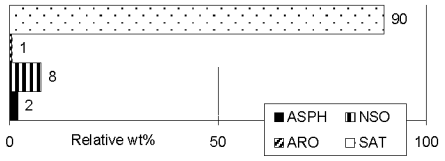
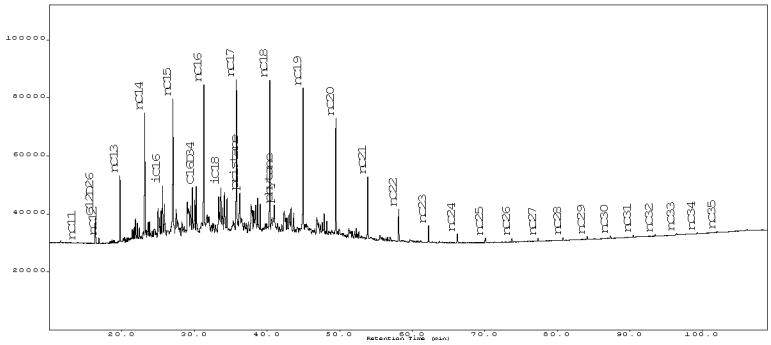


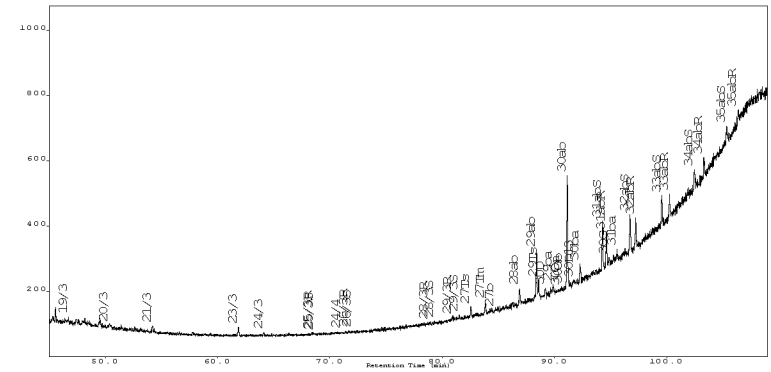
RockEval		**δ13C fractions**
S1	30,1	Sat.
S2	7,9	Aro.
PI	0,8	NSO
Tmax	432	Asph.
TOC	4,9	EOM / Oil
HI	160	Kerogen
EOM wt%	3,8	

C15+ SAT-fraction hydrocarbons, GC/FID:



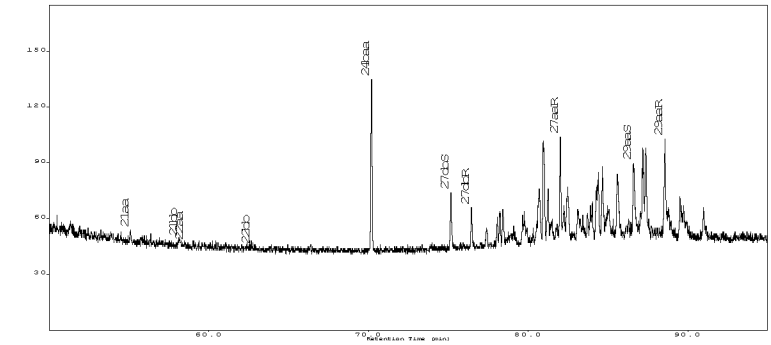
Parameter/amounts, ug/mg	
Pr/nC_{17}	0,2
Ph/nC_{18}	0,2
Pr/Ph	1,3
$nC_{17}/(C_{17}+C_{27})$	1,0
CPI2	0,9
nC_{17}	12,9
Pristane	3,2
ΣC15-C35	93

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	6,8
%20/3	11,3
%23/3	57,7
%24/4	24,0
C26/C25	1,4
%27Ts	46,8
%28αβ	17,7
%29Ts	26,7
%25nor30αβ	5,1
%29αβ	39,8
%30βα	17,3
%30D	12,9
%30G	15,8
%32αβS	55,1
%35αβ	43,0
30αβ	38,5
25nor30αβ	2,1
Σterpanes	256
%Pregnane	2,4
%29αααS	43,2
%29βββ	57,2
%27dia	37,4
%27ster. Norm	24,8
%28ster. Norm	28,6
%29ster. Norm	34,2
%30ster. Norm	12,4
Σsteranes	106
Hop/Ste	2,4

Steranes, m/z 217:



Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3324-3327 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2488616, PlanID: 697626	

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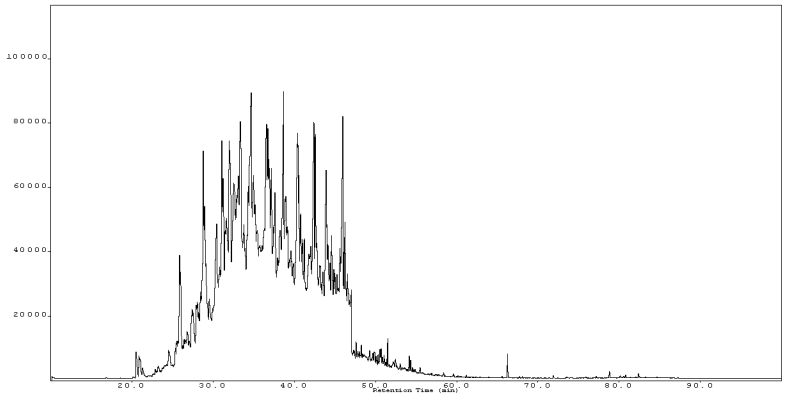
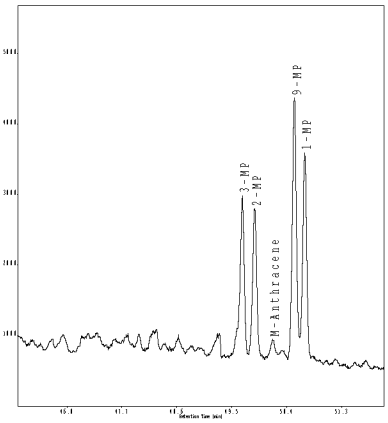
Aromatic hydrocarbons, TIC:



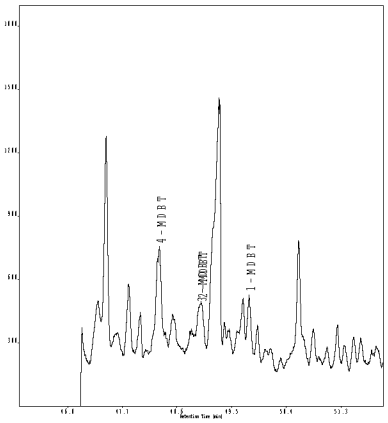
Parameter/amounts, ng/mg	
2/1MN	1,5
2/1EN	5,9
Phen.	18
MPI1	0,6
F1 (2+3/all MP)	0,4
F2 (2/all MP)	0,2
%TAS	31,3
DBT/P	0,0
F/P	0,2
BP/1.6DMN	0,6
4/1MDBT	1,7
3MP/R	3,6
ΣARO HC	252

Aromatic and Diamondoid hydrocarbons, GC/MS:

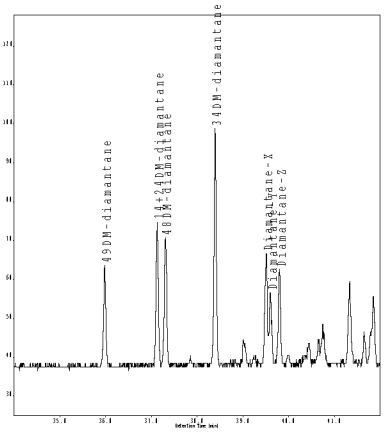
Methyl-phenanthrenes (m/z 192):



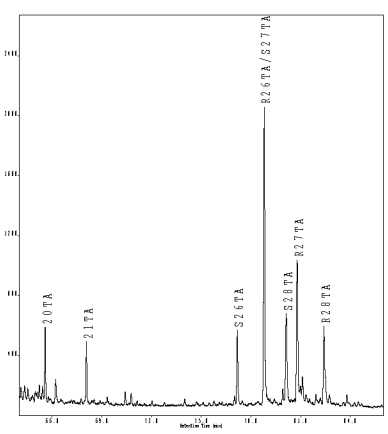
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	47
DMDI%	70
%49DM-Diam.	22
%48DM-Diam.	27
%34DM-Diam.	51

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3333-3336 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

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OrgID: 2488619, PlanID: 697627

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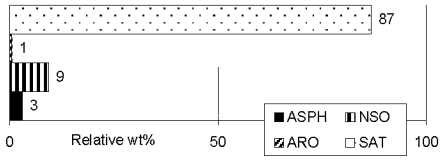
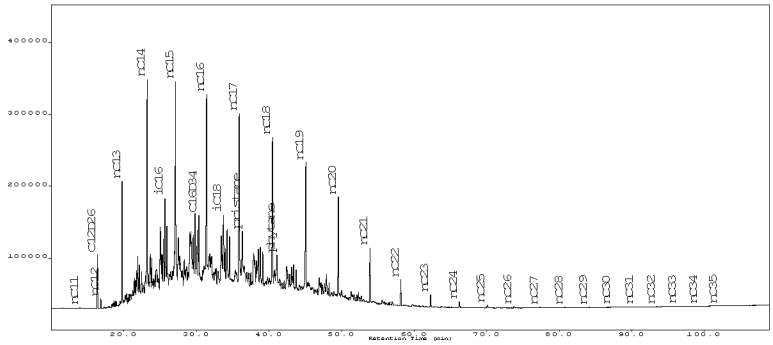


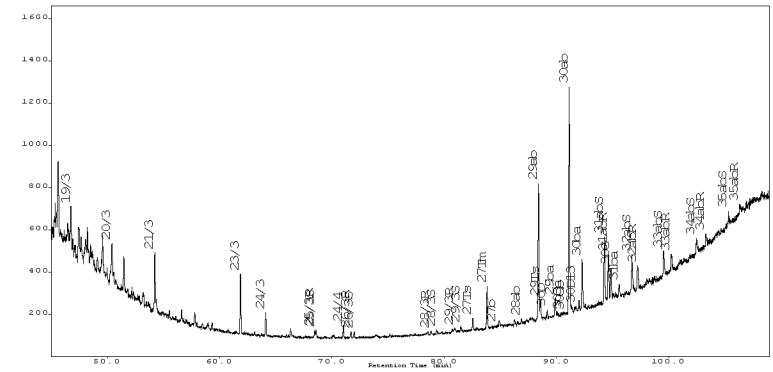
RockEval		**δ13C fractions**
S1	31,5	Sat.
S2	8,8	Aro.
PI	0,8	NSO
Tmax	434	Asph.
TOC	5,6	EOM / Oil
HI	157	Kerogen
EOM wt%	3,9	

C15+ SAT-fraction hydrocarbons, GC/FID:



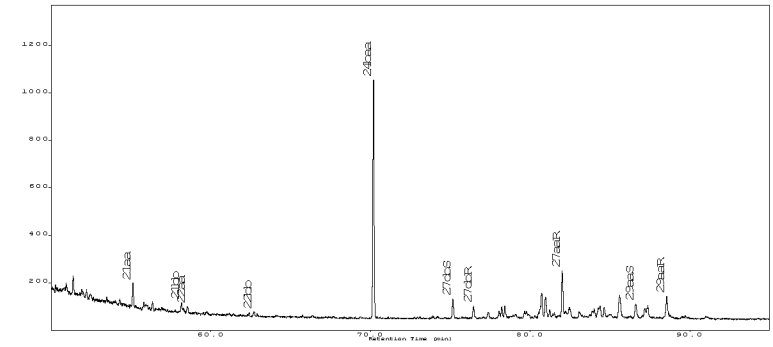
Parameter/amounts, ug/mg	
Pr/nC_{17}	0,3
Ph/nC_{18}	0,2
Pr/Ph	1,7
$nC_{17}/(C_{17}+C_{27})$	1,0
CPI2	1,0
nC_{17}	12,1
Pristane	3,4
ΣC15-C35	82

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	23,3
%20/3	17,9
%23/3	64,0
%24/4	30,1
C26/C25	0,9
%27Ts	23,4
%28αβ	3,6
%29Ts	14,5
%25nor30αβ	2,4
%29αβ	48,0
%30βα	18,8
%30D	7,9
%30G	17,6
%32αβS	59,5
%35αβ	47,9
30αβ	11,2
25nor30αβ	0,3
Σterpanes	50
%Pregnane	14,0
%29ααS	41,5
%29ββ	44,6
%27dia	54,2
%27ster. Norm	30,8
%28ster. Norm	33,4
%29ster. Norm	31,6
%30ster. Norm	4,1
Σsteranes	12
Hop/Ste	4,1

Steranes, m/z 217:



Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3333-3336 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2488619, PlanID: 697627	

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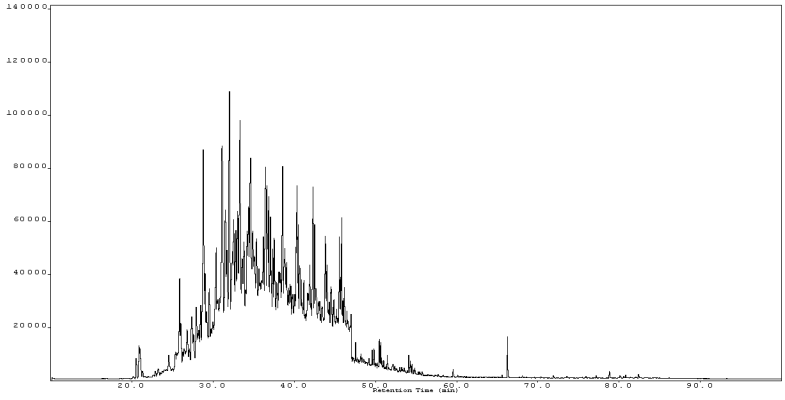
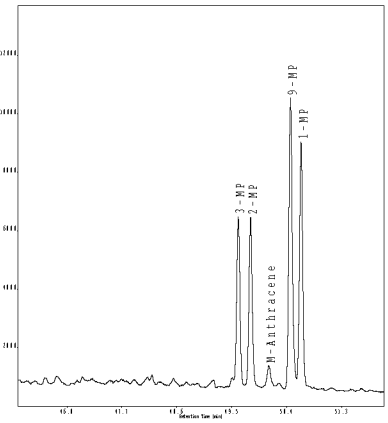
Aromatic hydrocarbons, TIC:



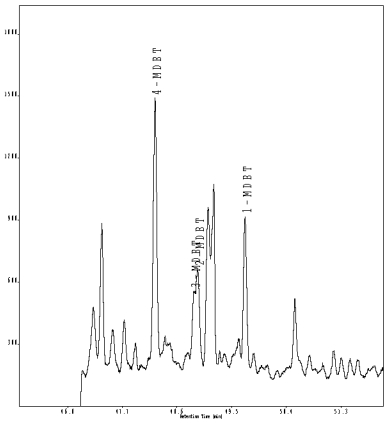
Parameter/amounts, ng/mg	
2/1MN	1,2
2/1EN	4,0
Phen.	20
MPI1	0,6
F1 (2+3/all MP)	0,4
F2 (2/all MP)	0,2
%TAS	35,4
DBT/P	0,0
F/P	0,4
BP/1.6DMN	0,5
4/1MDBT	1,7
3MP/R	2,7
ΣARO HC	179

Aromatic and Diamondoid hydrocarbons, GC/MS:

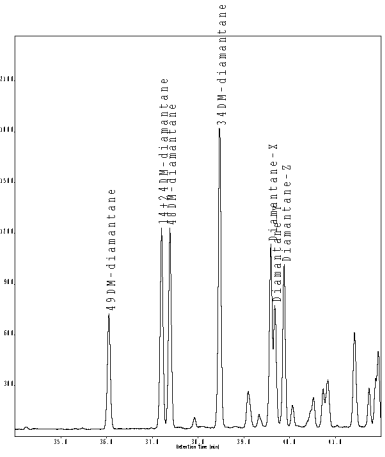
Methyl-phenanthrenes (m/z 192):



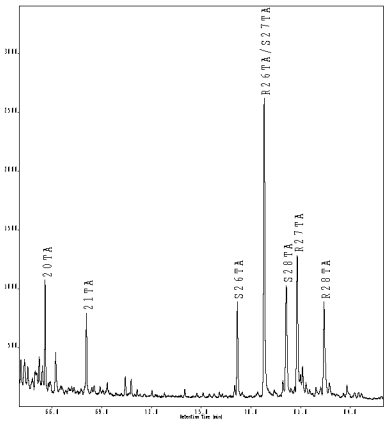
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	61
DMDI%	72
%49DM-Diam.	19
%48DM-Diam.	32
%34DM-Diam.	49

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3714-3717 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

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OrgID: 2488633, PlanID: 697631

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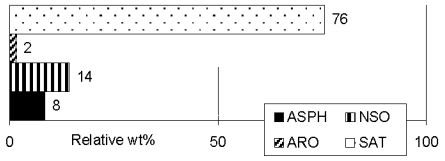
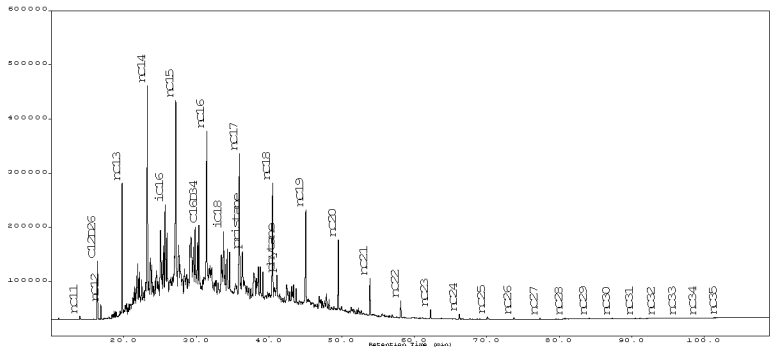


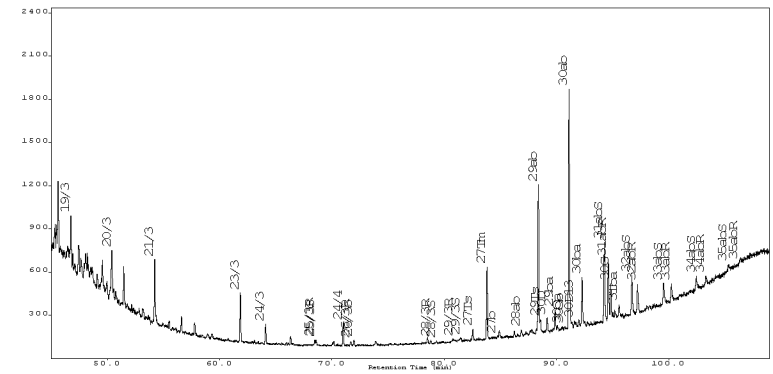
RockEval		**δ13C fractions**
S1	30,9	Sat.
S2	22,3	Aro.
PI	0,6	NSO
Tmax	438	Asph.
TOC	10,5	EOM / Oil
HI	213	Kerogen
EOM wt%	4,2	

C15+ SAT-fraction hydrocarbons, GC/FID:



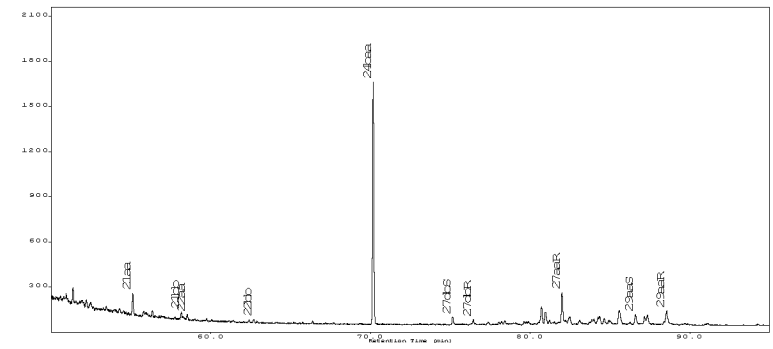
Parameter/amounts, ug/mg	
Pr/nC_{17}	0,2
Ph/nC_{18}	0,2
Pr/Ph	1,4
$nC_{17}/(C_{17}+C_{27})$	1,0
CPI2	0,9
nC_{17}	9,8
Pristane	2,4
ΣC15-C35	66

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	21,3
%20/3	23,1
%23/3	65,6
%24/4	47,0
C26/C25	1,1
%27Ts	14,3
%28αβ	4,2
%29Ts	8,8
%25nor30αβ	1,3
%29αβ	48,4
%30βα	16,8
%30D	8,5
%30G	17,3
%32αβS	56,4
%35αβ	34,7
30αβ	11,0
25nor30αβ	0,2
Σterpanes	50

Steranes, m/z 217:



%Pregnane	17,1
%29αααS	43,6
%29ββ	48,2
%27dia	47,9
%27ster. Norm	25,8
%28ster. Norm	31,5
%29ster. Norm	39,8
%30ster. Norm	2,8
Σsteranes	7
Hop/Ste	7,6

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3714-3717 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2488633, PlanID: 697631	

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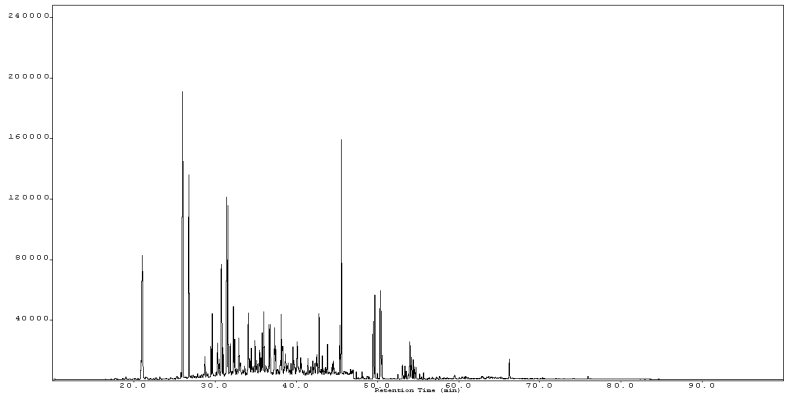
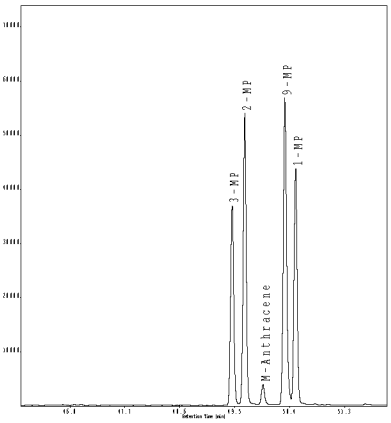
Aromatic hydrocarbons, TIC:



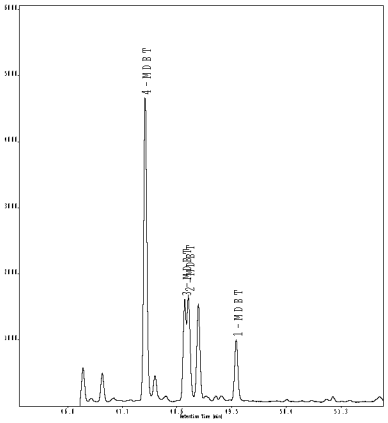
Parameter/amounts, ng/mg	
2/1MN	1,4
2/1EN	2,5
Phen.	203
MPI1	0,6
F1 (2+3/all MP)	0,5
F2 (2/all MP)	0,3
%TAS	47,5
DBT/P	0,0
F/P	0,3
BP/1.6DMN	0,8
4/1MDBT	5,0
3MP/R	21,3
ΣARO HC	866

Aromatic and Diamondoid hydrocarbons, GC/MS:

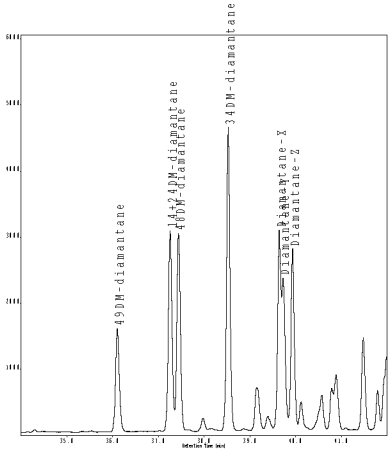
Methyl-phenanthrenes (m/z 192):



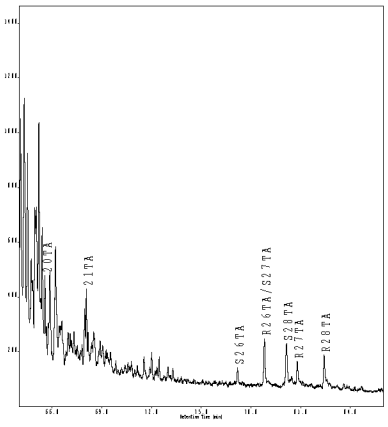
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	65
DMDI%	75
%49DM-Diam.	17
%48DM-Diam.	33
%34DM-Diam.	50

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3807-3810 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

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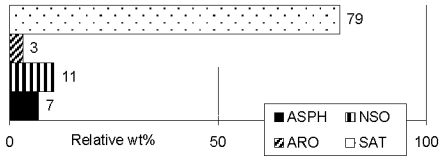
OrgID: 2488664, PlanID: 697633

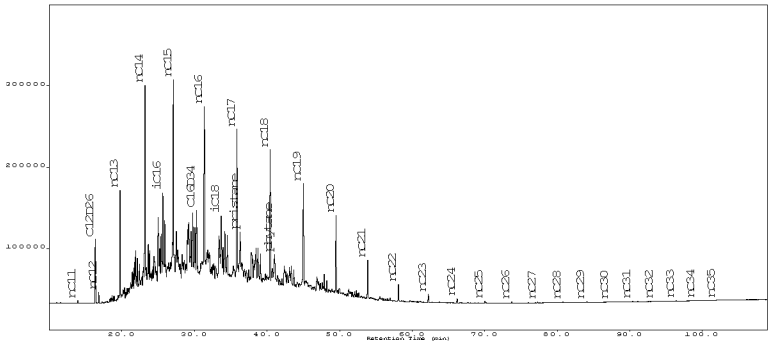
Sediment

Iatroscan



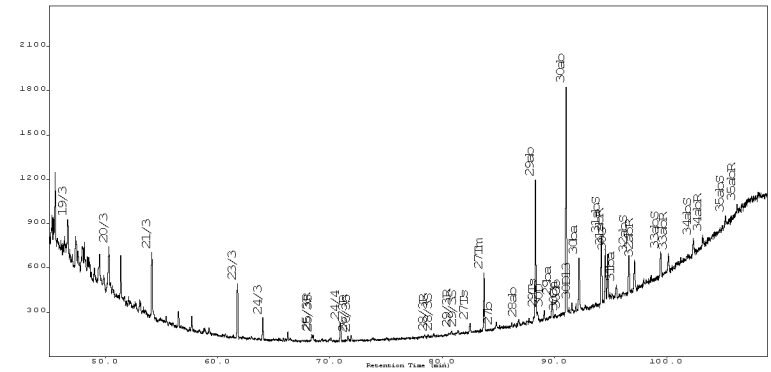
RockEval		**δ13C fractions**
S1	34,3	Sat.
S2	16,4	Aro.
PI	0,7	NSO
Tmax	442	Asph.
TOC	8,2	EOM / Oil
HI	201	Kerogen
EOM wt%	5,1	

C15+ SAT-fraction hydrocarbons, GC/FID:



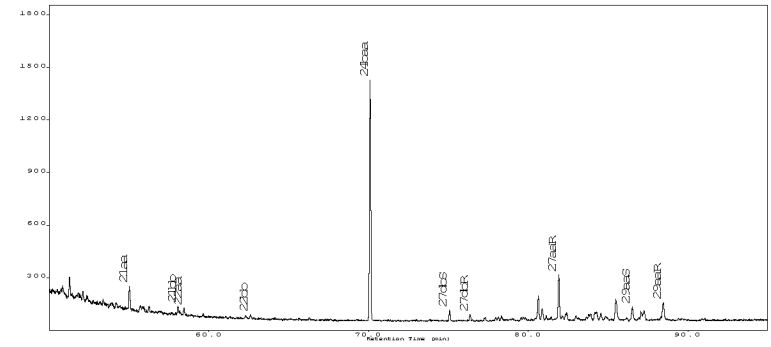
Parameter/amounts, ug/mg	
Pr/nC_{17}	0,4
Ph/nC_{18}	0,2
Pr/Ph	2,1
$nC_{17}/(C_{17}+C_{27})$	1,0
CPI2	0,8
nC_{17}	9,8
Pristane	3,5
ΣC15-C35	66

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	22,7
%20/3	19,8
%23/3	64,5
%24/4	39,2
C26/C25	0,8
%27Ts	14,0
%28αβ	3,5
%29Ts	6,8
%25nor30αβ	2,2
%29αβ	49,1
%30βα	19,2
%30D	8,2
%30G	24,2
%32αβS	55,9
%35αβ	41,4
30αβ	11,8
25nor30αβ	0,3
Σterpanes	54
%Pregnane	19,0
%29ααS	45,5
%29ββ	44,4
%27dia	52,4
%27ster. Norm	25,6
%28ster. Norm	31,0
%29ster. Norm	37,9
%30ster. Norm	5,5
Σsteranes	8
Hop/Ste	6,5

Steranes, m/z 217:



Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**DC, 3807-3810 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2488664, PlanID: 697633	

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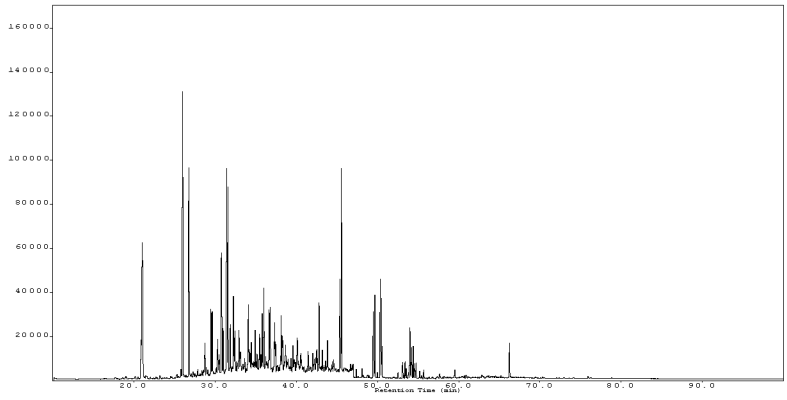
Bergen, Norway

Sediment

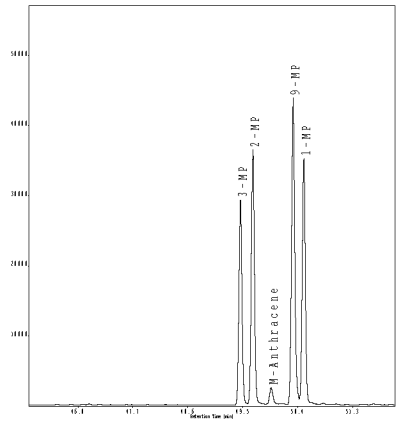
Aromatic hydrocarbons, TIC:



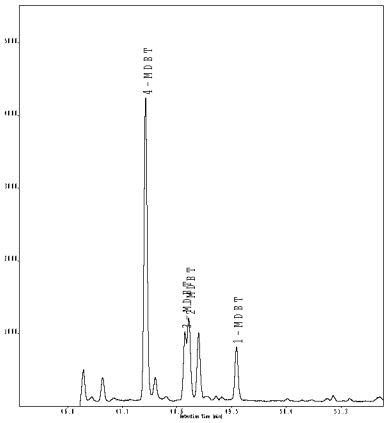
Parameter/amounts, ng/mg	
2/1MN	1,4
2/1EN	2,6
Phen.	95
MPI1	0,6
F1 (2+3/all MP)	0,5
F2 (2/all MP)	0,3
%TAS	53,1
DBT/P	0,0
F/P	0,2
BP/1.6DMN	0,7
4/1MDBT	5,6
3MP/R	10,4
ΣARO HC	447

Aromatic and Diamondoid hydrocarbons, GC/MS:

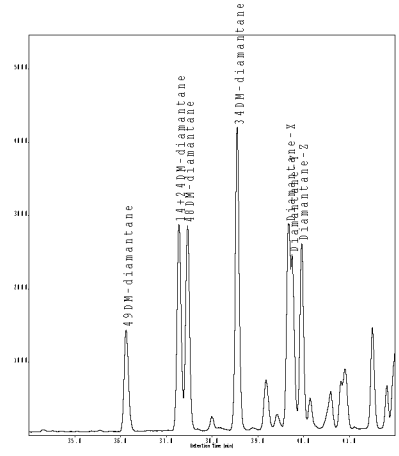
Methyl-phenanthrenes (m/z 192):



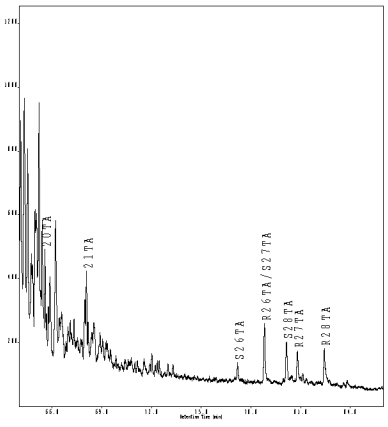
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	64
DMDI%	75
%49DM-Diam.	17
%48DM-Diam.	33
%34DM-Diam.	50

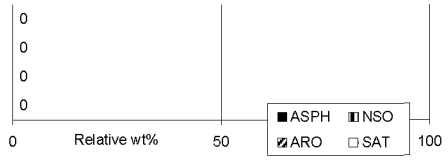
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**MUD, 3378-3378 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2483832, PlanID: 697956	

StatoilHydro

Reserach Centre,
Bergen, Norway

Fluid

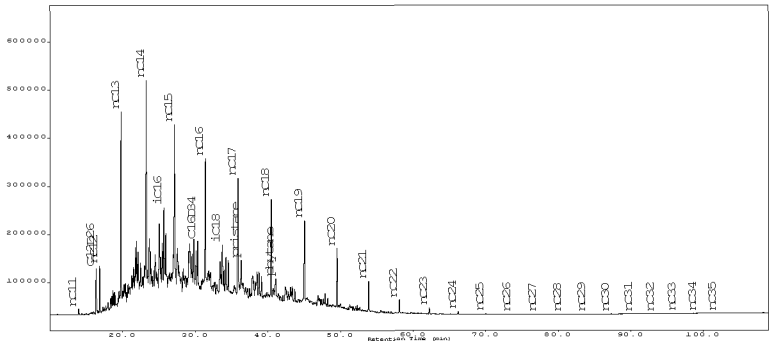
Iatroscan



δ13C fractions

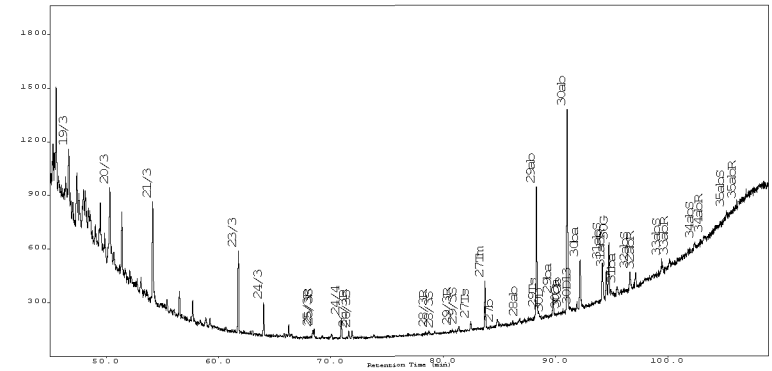
Sat.
Aro.
NSO
Asph.
EOM / Oil

C15+ SAT-fraction hydrocarbons, GC/FID:



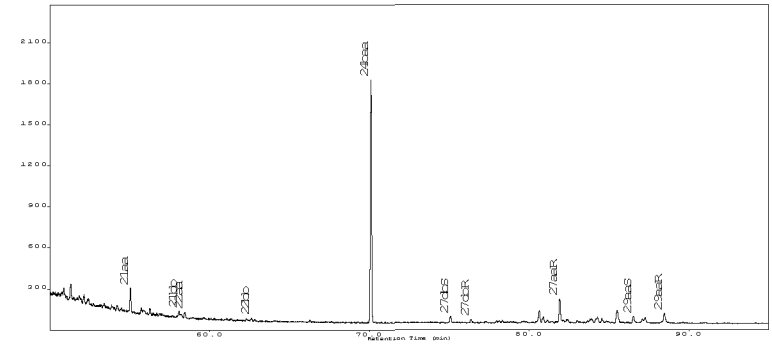
Parameter/amounts, μg/mg	
Pr/nC_{17}	0,2
Ph/nC_{18}	0,2
Pr/Ph	1,5
$nC_{17}/(C_{17}+C_{27})$	1,0
CPI2	0,8
nC_{17}	11,1
Pristane	2,7
ΣC15-C35	74

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	37,13
%20/3	22,3
%23/3	66,3
%24/4	33,5
C26/C25	1,0
%27Ts	15,7
%28αβ	3,2
%29Ts	5,0
%25nor30αβ	2,6
%29αβ	49,7
%30βα	19,6
%30D	2,6
%30G	28,9
%32αβS	51,8
%35αβ	64,7
30αβ	7,2
25nor30αβ	0,2
Σterpanes	27
%Pregnane	23,3
%29ααaS	40,1
%29ββ	41,3
%27dia	53,8
%27ster. Norm	27,9
%28ster. Norm	35,1
%29ster. Norm	32,8
%30ster. Norm	4,3
Σsteranes	5
Hop/Ste	5,9

Steranes, m/z 217:



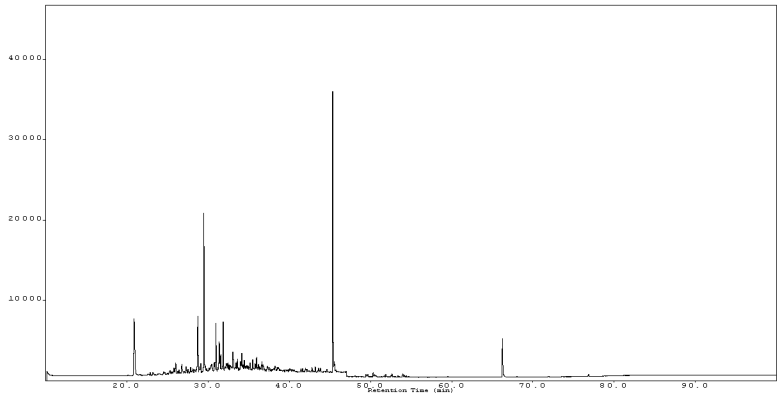
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**MUD, 3378-3378 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2483832, PlanID: 697956	

StatoilHydro

Reserach Centre,
Bergen, Norway

Fluid

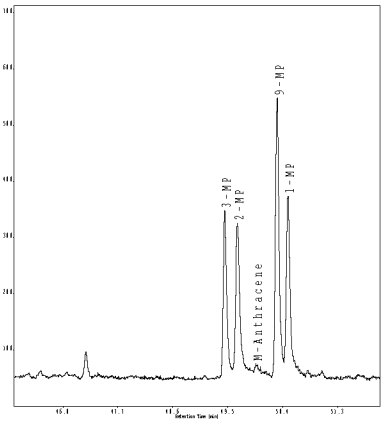
Aromatic hydrocarbons, TIC:



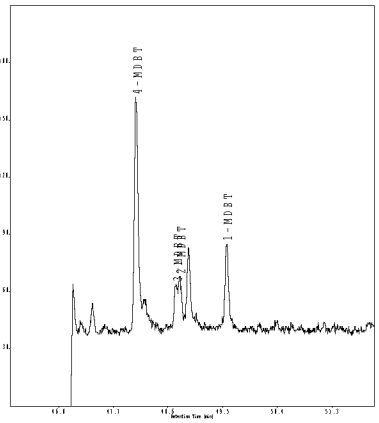
Parameter/amounts, ng/mg	
2/1MN	1,11
2/1EN	1,67
Phen.	1
MPI1	0,55
F1 (2+3/all MP)	0,41
F2 (2/all MP)	0,19
%TAS	38
DBT/P	0,03
F/P	0,37
BP/1.6DMN	0,65
4/1MDBT	3,00
3MP/R	2,94
ΣARO HC	8

Aromatic and Diamondoid hydrocarbons, GC/MS:

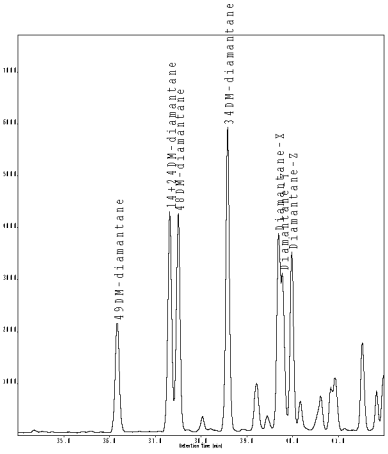
Methyl-phenanthrenes (m/z 192):



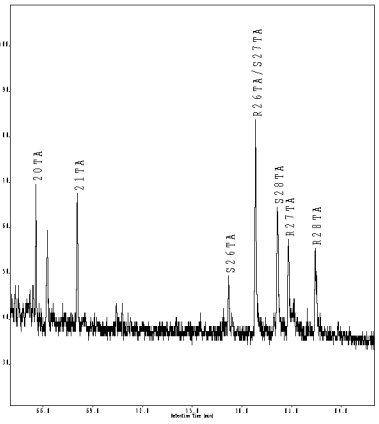
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	49,3
DMDI%	73,6
%49DM-Diam.	17,3
%48DM-Diam.	34,5
%34DM-Diam.	48,2

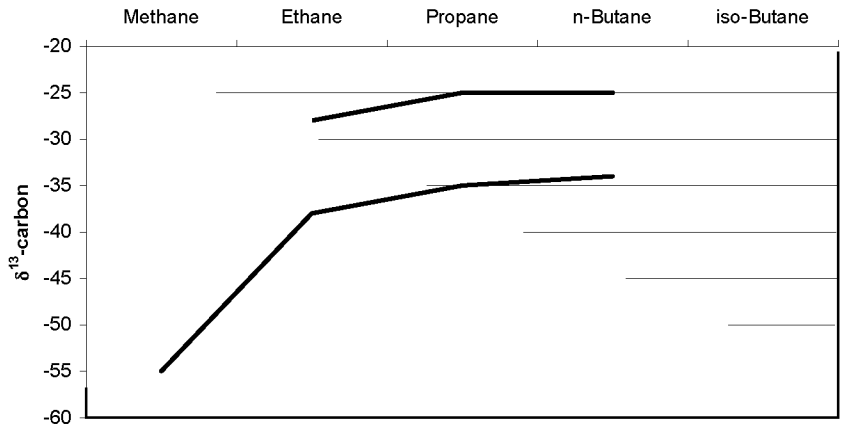
Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**MUD, 3378-3378 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: , PlanID:	

StatoilHydro

Reserach Centre,
Bergen, Norway

Fluid

Gaseous HC:



Gaseous HC, wt%

- Wetness
- iC4/nC4
- C2/C3
- CO2

Gaseous HC, isotopes ‰

- d13C C1
- d13C C2
- d13C C3
- d13C C4
- d13C iC4
- dD C1

Light HC C5-10, GC/FID:

Parameter/amounts, ug/mg

- Hepane value
- Isohept. value
- Paraffinicity
- Aromaticity
- nC_6/Benzene
- nC_7/Toluene
- ΣC5-C20

Whole oil, GC/FID:

Parameter/amounts, ug/mg

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**MUD, 3713-3713 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	

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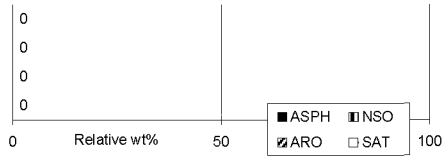
Reserach Centre,
Bergen, Norway

OrgID: 2483862, PlanID: 697957

Fluid

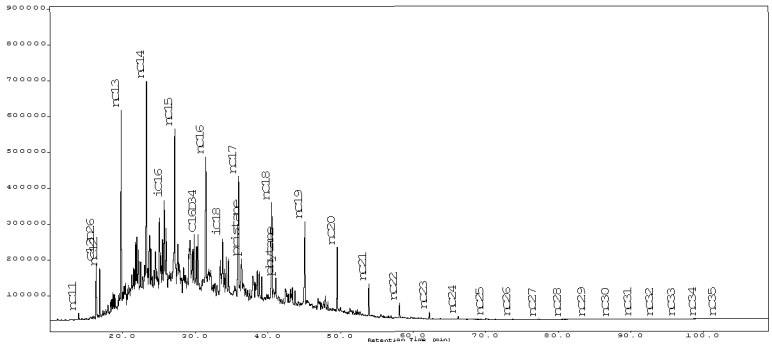
Iatroscan



δ13C fractions

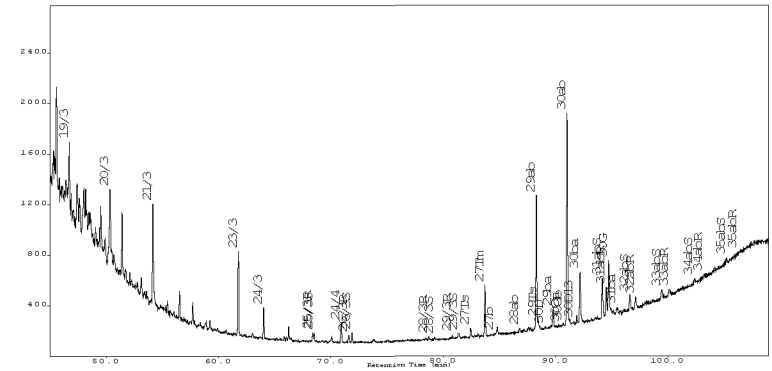
Sat.
Aro.
NSO
Asph.
EOM / Oil

C15+ SAT-fraction hydrocarbons, GC/FID:



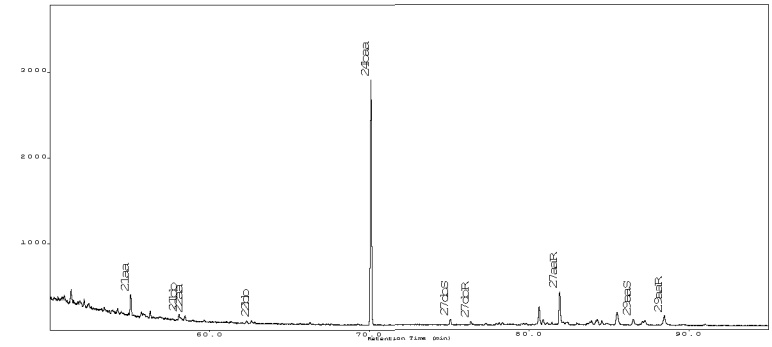
Parameter/amounts, µg/mg	
Pr/nC_{17}	0,3
Ph/nC_{18}	0,2
Pr/Ph	1,7
$nC_{17}/(C_{17}+C_{27})$	1,0
CPI2	0,8
nC_{17}	10,6
Pristane	2,8
ΣC15-C35	71

Terpanes, m/z 191:



Parameter/amounts, ng/mg	
%Tri	37,62
%20/3	22,3
%23/3	67,8
%24/4	33,7
C26/C25	1,0
%27Ts	16,2
%28αβ	3,7
%29Ts	5,0
%25nor30αβ	2,3
%29αβ	49,5
%30βα	19,5
%30D	2,0
%30G	28,0
%32αβS	57,5
%35αβ	52,6
30αβ	6,8
25nor30αβ	0,2
Σterpanes	24
%Pregnane	22,1
%29αααS	41,6
%29βββ	41,6
%27dia	49,3
%27ster. Norm	29,5
%28ster. Norm	36,5
%29ster. Norm	30,0
%30ster. Norm	4,0
Σsteranes	5
Hop/Ste	5,4

Steranes, m/z 217:



Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**MUD, 3713-3713 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: 2483862, PlanID: 697957	

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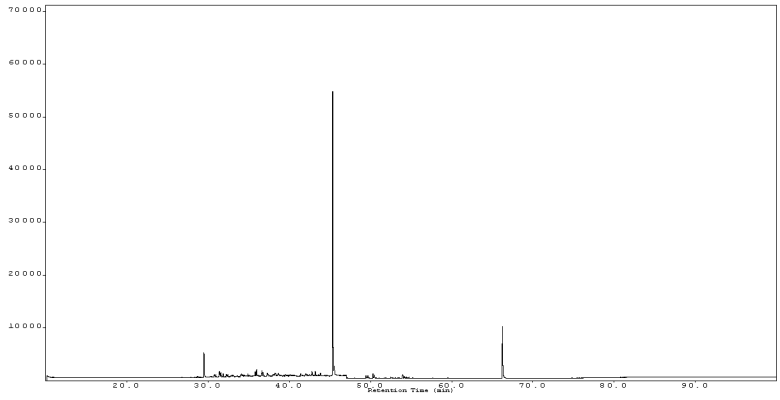
Bergen, Norway

Fluid

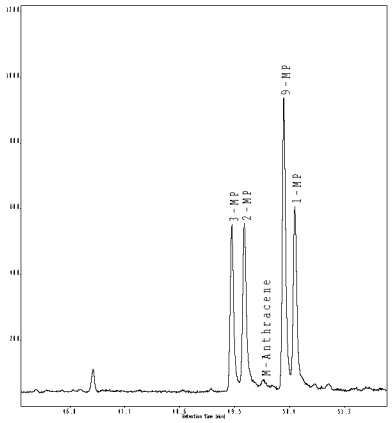
Aromatic hydrocarbons, TIC:



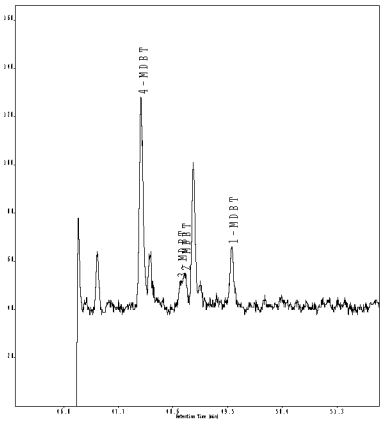
Parameter/amounts, ng/mg	
2/1MN	0,69
2/1EN	1,50
Phen.	1
MPI1	0,58
F1 (2+3/all MP)	0,41
F2 (2/all MP)	0,20
%TAS	36
DBT/P	0,02
F/P	1,78
BP/1.6DMN	0,27
4/1MDBT	3,00
3MP/R	3,18
ΣARO HC	20

Aromatic and Diamondoid hydrocarbons, GC/MS:

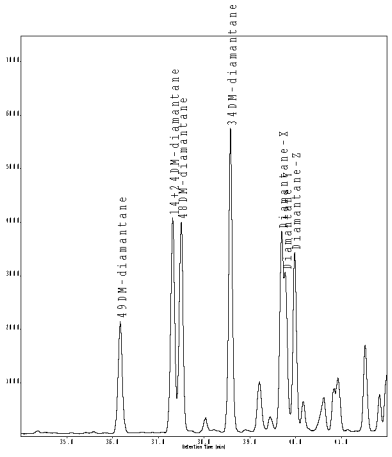
Methyl-phenanthrenes (m/z 192):



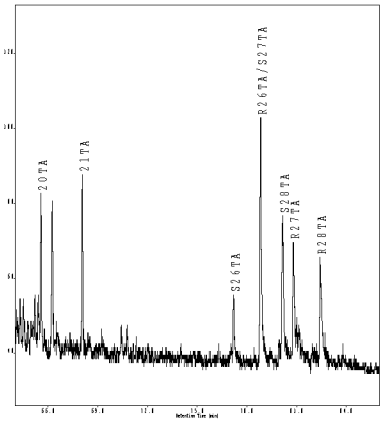
Methyl-dibenzothiophenes (m/z 198):



Dimethyl-diamantanes (m/z 201):



Triaromatic steroids (m/z 231):



Parameter/amounts, ng/mg	
EAI%	49,7
DMDI%	73,0
%49DM-Diam.	17,9
%48DM-Diam.	33,5
%34DM-Diam.	48,6

Country, well/location:	**NOR, 6407/7-7 S**
Sample type, depth (m):	**MUD, 3713-3713 m MD RKB**
Stratigraphy (Gr./Fm.):	
Mud system:	
Remarks:	
OrgID: , PlanID:	

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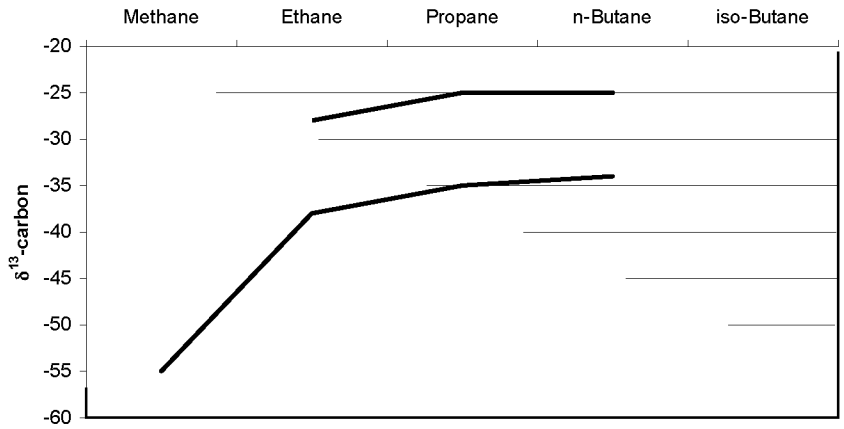
Reserach Centre,
Bergen, Norway

Fluid

Gaseous HC:



Gaseous HC, wt%

- Wetness
- iC4/nC4
- C2/C3
- CO2

Gaseous HC, isotopes ‰

- d13C C1
- d13C C2
- d13C C3
- d13C C4
- d13C iC4
- dD C1

Light HC C5-10, GC/FID:

Parameter/amounts, ug/mg

- Hepane value
- Isohept. value
- Paraffinicity
- Aromaticity
- nC_6/Benzene
- nC_7/Toluene

ΣC5-C20

Whole oil, GC/FID:

Parameter/amounts, ug/mg

APPENDIX II

Vitrinite reflectance

Geochemistry Data Report - Vitrinite Reflectance Well 6407/7-7 S

Applied Petroleum Technology AS
P. O. Box 123
2027 Kjeller
Norway

Address: **Applied Petroleum Technology AS**
P.O.Box 123
2027 Kjeller
Telephone: **+47 63 80 60 00**
Telefax: **+47 63 80 11 38**

Report number APT08-1465	**Classification** Confidential
Report Title Geochemistry Data Report - Vitrinite Reflectance Well 6407/7-7 S	**Submitted** 8th. Jan. 2008
Client StatoilHydro	**Service Order** APT2007-22 STHY
Client Reference Vibeke Hatlø	**Number of pages** 30
Distribution StatoilHydro (digital) APT (digital)	

Authors
Lorraine B. Eglinton
Kjell Urdal

	Name	Date	Signature
Reviewed by	Geir Hansen	2008-01-04	
Approved by	Tore Haaland	2008-01-04	

CONTENTS

Table 1. Number of analyses performed

Analysis	Cuttings	Core	Total
Lithology	16	7	23
Vitrinite reflectance	16	7	23

Table 2. Lithology Description

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	%	Lithology	Attributes
6407/7-7 S	DC	2280	2290	44781	100 %	CLYST	gy-md drk gy, slty
6407/7-7 S	DC	2380	2390	44782	100 %	CLYST	gy- md drk gy
6407/7-7 S	DC	2480	2490	44783	100 %	CLYST	gy, slty
6407/7-7 S	DC	2580	2590	44784	100 %	CLYST	gy- md drk gy
6407/7-7 S	DC	2670	2680	44785	100 %	CLYST	gy- md drk gy
6407/7-7 S	DC	2760	2770	44786	100 %	CLYST	gy-md drk gy, slty
6407/7-7 S	DC	2870	2880	44787	100 %	CLYST	gy- md drk gy
6407/7-7 S	DC	2950	2960	44788	100 %	CLYST	gy-md drk gy
6407/7-7 S	DC	3060	3070	44789	100 %	CLYST	gy- md drk gy
6407/7-7 S	DC	3180	3183	44790	100 %	CLYST	gy, slty
6407/7-7 S	DC	3279	3282	44791	100 %	CLYST	gy- md drk gy
6407/7-7 S	DC	3366	3369	44792	100 %	CLYST	gy- md drk gy, slty
6407/7-7 S	COCH	3378.40	3378.40	44793	100 %	COAL	blck, hrd, brtl
6407/7-7 S	COCH	3396.90	3396.90	44794	100 %	SLST	lt gy- gy- lt brn gy, mic, clayey
6407/7-7 S	DC	3465	3471	44795A	70%	SLST	pl or gy- pl ol gy
6407/7-7 S	DC	3465	3471	44795B	20%	SST	op-mlky w, f- m, l, rnd
6407/7-7 S	DC	3465	3471	44795C	10%	CLYST	gy- md drk gy
6407/7-7 S	DC	3564	3567	44796	100 %	CLYST	gy- md drk gy, slty
6407/7-7 S	COCH	3582.60	3582.60	44797	100 %	CLYST	gy, slty, mic
6407/7-7 S	COCH	3604.60	3604.60	44798	100 %	CLYST	gy- lt brn gy, slty, mic
6407/7-7 S	COCH	3655.40	3655.40	44799	100 %	SLST	smokey gy-brn gy, clayey, mic
6407/7-7 S	COCH	3663.80	3663.80	44800	100 %	COAL	brn blck- blck, carb
6407/7-7 S	COCH	3694.20	3694.20	44801	100 %	SLST	lt gy w-pl smokey gy, mic, string of brn clyst
6407/7-7 S	DC	3735	3738	44802A	50%	CLYST	gy- md drk gy
6407/7-7 S	DC	3735	3738	44802B	50%	CONTAM	lt gy w (rock flour ?)
6407/7-7 S	DC	3831	3834	44803A	75%	CLYST	gy- md drk gy
6407/7-7 S	DC	3831	3834	44803B	25%	CONTAM	lt gy w (rock flour?)

Table 3. Vitrinite Reflectance

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	Sample prep.	%Lithology	%Ro	Std. dev.	No. of measurements	Quality rating	Overall quality	Comment
6407/7-7 S	DC	2280	2290	44781	HF	Sh	0.53	0.03	9	ooo-oo	M	See data sheet
6407/7-7 S	DC	2380	2390	44782	HF	Sh	0.43	0.06	11	-o--oo	M	See data sheet
6407/7-7 S	DC	2480	2490	44783	HF	Sh	0.54	0.01	3	ooo-oo	M	See data sheet
6407/7-7 S	DC	2580	2590	44784	HF	Sh	0.56	0.05	3	-oo-oo	M	See data sheet
6407/7-7 S	DC	2670	2680	44785	HF	Sh	0.57	0.00	1	-ooooo	M	See data sheet
6407/7-7 S	DC	2760	2770	44786	HF	Sh	0.53	0.00	1	-oo-oo	M	See data sheet
6407/7-7 S	DC	2870	2880	44787	HF	Sh	0.58	0.00	1	oooooo	P	See data sheet
6407/7-7 S	DC	2950	2960	44788	HF	Sh	0.67	0.04	4	ooo+oo	M	See data sheet
6407/7-7 S	DC	3060	3070	44789	HF	Sh	0.62	0.04	4	ooo-oo	P	See data sheet
6407/7-7 S	DC	3180	3183	44790	HF	Sh	0.60	0.01	2	ooo-oo	P	See data sheet
6407/7-7 S	DC	3279	3282	44791	HF	Sh	0.55	0.05	13	ooo-oo	G	See data sheet
6407/7-7 S	DC	3366	3369	44792	HF	Sh	0.64	0.02	6	ooo+oo	M	See data sheet
6407/7-7 S	COCH	3378.40	3378.40	44793	HF	Coal	0.62	0.02	40	oo-ooo	G	See data sheet
6407/7-7 S	COCH	3396.90	3396.90	44794	HF	Sl st	0.67	0.04	11	oooooo	G	See data sheet
6407/7-7 S	DC	3465	3471	44795	HF	Sh	0.60	0.05	18	oooooo	G	See data sheet
6407/7-7 S	DC	3564	3567	44796	HF	Sh	0.57	0.04	18	oooooo	G	See data sheet
6407/7-7 S	COCH	3582.60	3582.60	44797	HF	Sh	0.65	0.07	12	oooooo	G	See data sheet
6407/7-7 S	COCH	3604.60	3604.60	44798	HF	Sh	0.42	0.04	18	oo-ooo	M	See data sheet
6407/7-7 S	COCH	3655.40	3655.40	44799	HF	Sh	0.66	0.06	13	oooooo	G	See data sheet
6407/7-7 S	COCH	3663.80	3663.80	44800	HF	Coal	0.59	0.03	40	oo-ooo	G	See data sheet
6407/7-7 S	COCH	3694.20	3694.20	44801	HF	Lst	0.58	0.05	4	oo-ooo	M	See data sheet
6407/7-7 S	DC	3735	3738	44802	HF	Sh	0.58	0.05	18	oo-ooo	G	See data sheet
6407/7-7 S	DC	3831	3834	44803	HF	Lst	0.64	0.06	15	oooooo	M	See data sheet

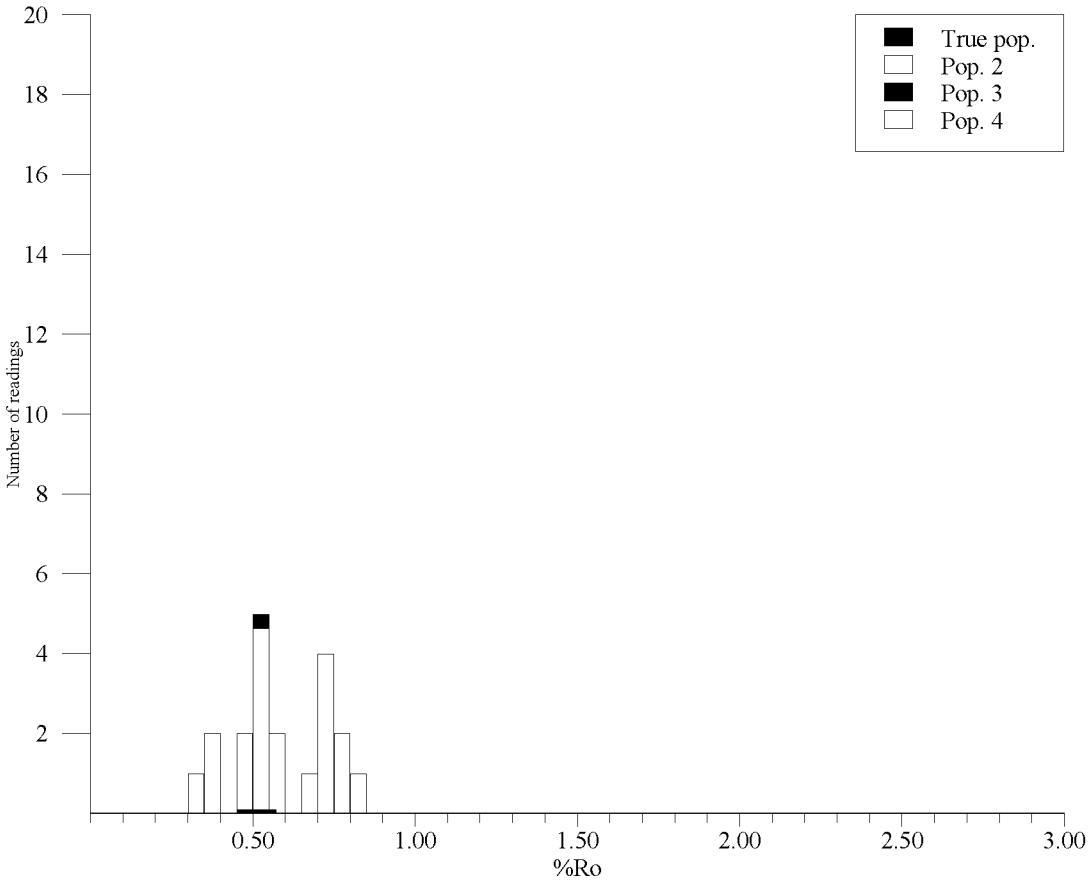
Legend to Vitrinite reflectance data

Lithology code		Sample quality		Sample preparation	
sst	Sandstone	G	Good	HF	Sample treatment with hydrofluoric acid prior to analysis
slst	Siltstone	M	Moderate		
clyst	Claystone	P	Poor	Bulk	Sample treated as bulk rock
sh	Shale	st	Hydrocarbon staining		
lst	Limestone				
coal	Coal				

Sample description and measurement evaluation (perfect sample characterised as: oooooo)

Sign order	Parameter	Sign	Sign legend:
1	Abundance of vitrinite	-o	- May give too low vitrinite reflectance sample value
2	Identification of vitrinite	-o+	o Reliable vitrinite reflectance sample value
3	Type of vitrinite	-o+	+ May give too high vitrinite reflectance sample value
4	Vitrinite fragment size	-o	
5	Vitrinite surface quality	-o	
6	Abundance of pyrite	o+	

Vitrinite Reflectance Sample Data Sheets



Sample info:

Well	6407/7-7 S
Lower depth	2290
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	27.12.2007
APT ID	44781

Quality rating:

Average sample quality	M
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.53±0.03	0.37±0.02	0.74±0.05	
Individual	0.489	0.346	0.668	
measurements	0.498	0.375	0.717	
3	0.507	0.377	0.721	
4	0.520		0.724	
5	0.534		0.742	
6	0.540		0.764	
7	0.547		0.771	
8	0.578		0.840	
9	0.587			
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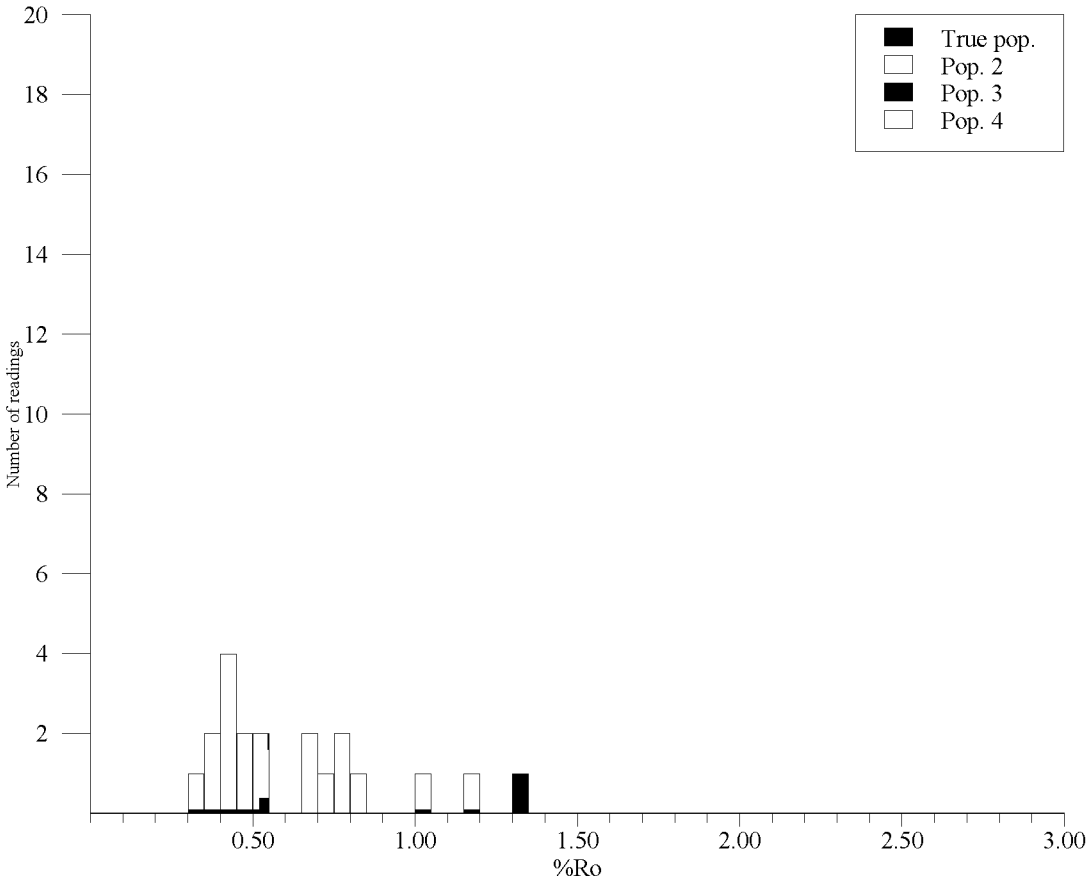
Comments:
Silty shale has a low organic matter content that is dominated by small particles of inertinite and occasional coaly particles. Majority of vitrinite is recycled and small. Dinoflagellate cysts dominate liptinite and fluoresce yellow/yellow-orange.



Sample info:

Well	6407/7-7 S
Lower depth	2390
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	27.12.2007
APT ID	44782

Quality rating:

Average sample quality	M
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	-
Particle size	-
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.43±0.06	0.74±0.05	1.18±0.14	
Individual	0.328	0.663	1.030	
measurements	0.376	0.695	1.192	
3	0.388	0.736	1.319	
4	0.401	0.752		
5	0.406	0.788		
6	0.410	0.802		
7	0.435			
8	0.460			
9	0.490			
10	0.501			
11	0.517			
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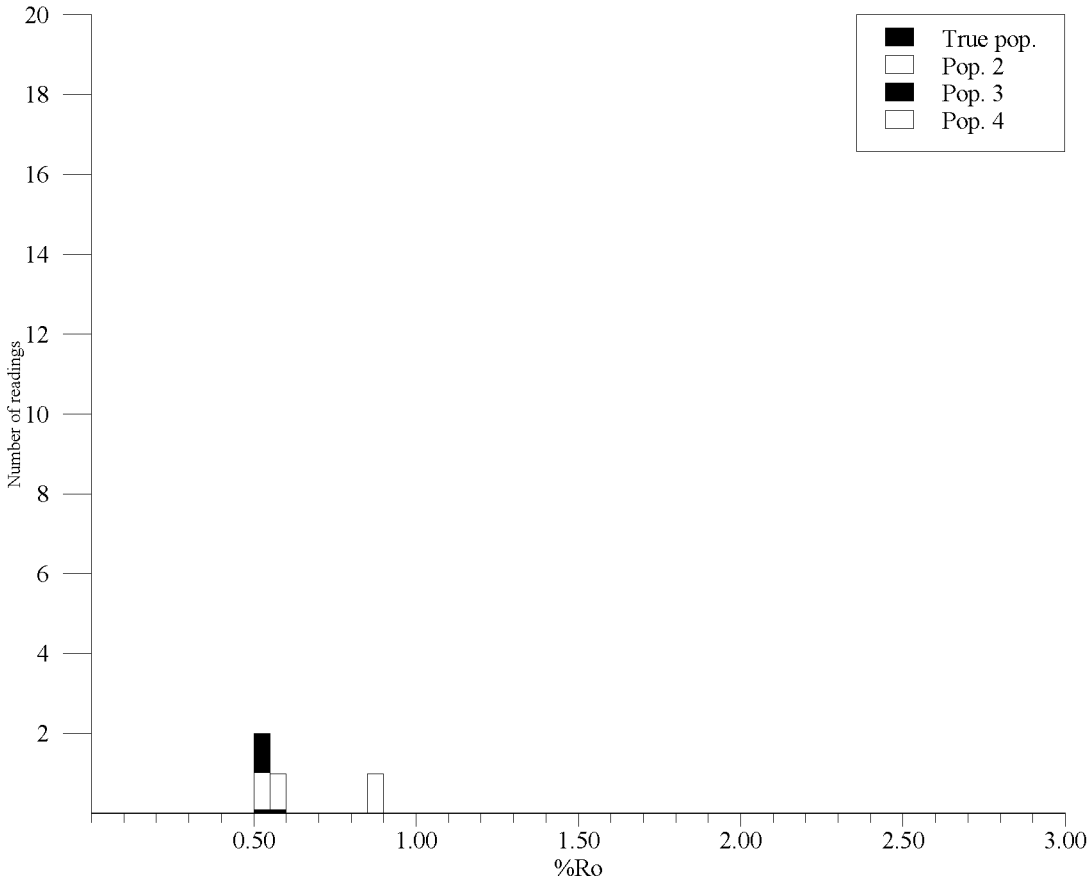
Comments:
Shale has a low to moderate organic matter content dominated by inertinite then recycled vitrinite. Primary vitrinite is minor and often small and poor quality. Algal cysts fluoresce yellow to golden yellow; tenuispores yellow-orange to light orange.



Sample info:

Well	6407/7-7 S
Lower depth	2490
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44783

Quality rating:

Average sample quality	M
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.54±0.01	0.88±0.00		
Individual	0.530	0.882		
measurements	0.535			
3	0.551			
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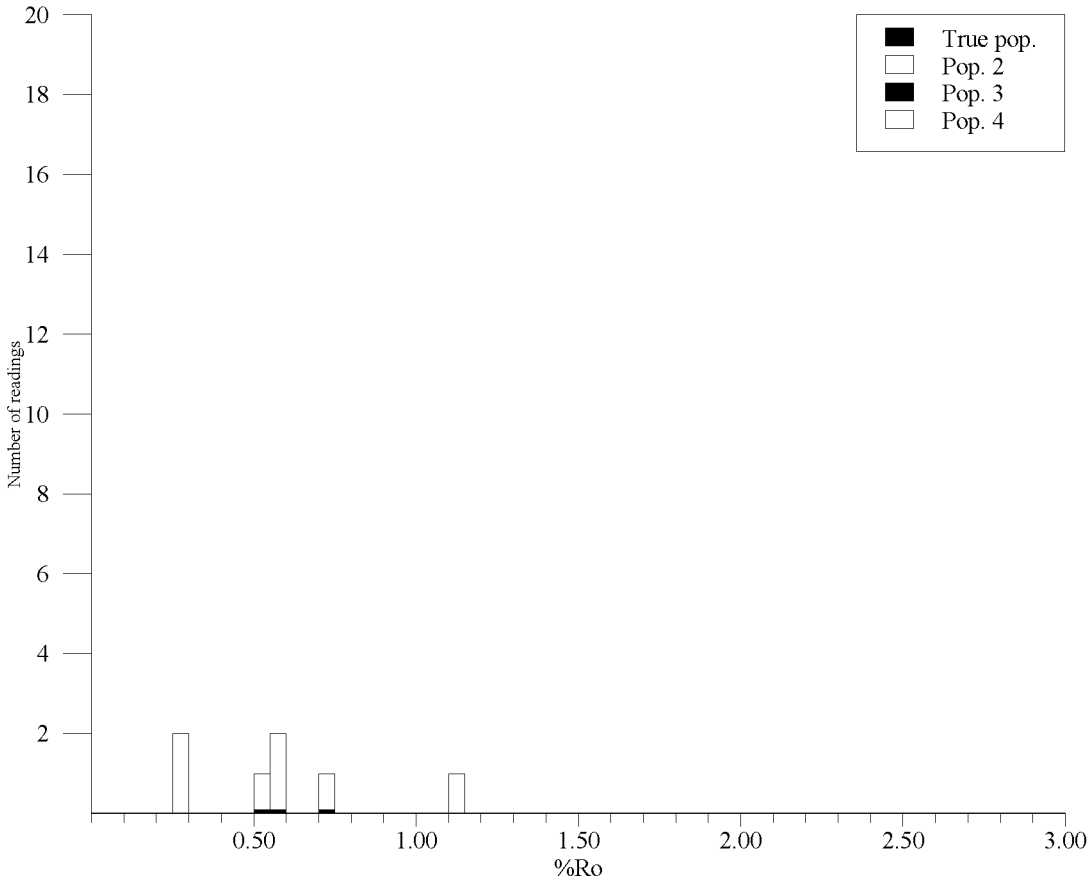
Comments:
Shale has a low to moderate organic matter content that is dominated by very small particles of inertinite then recycled vitrinite: Indigenous vitrinite is trace. Algal cysts fluoresce yellow; tenuispores fluoresce yellow-orange to light orange.



Sample info:

Well	6407/7-7 S
Lower depth	2590
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44784

Quality rating:

Average sample quality	M
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	**True pop.**	**Pop. 2**	**Pop. 3**	**Pop. 4**
%Mean±sd.	0.56±0.05	0.27±0.02	0.75±0.00	1.14±0.00
Individual	0.502	0.262	0.748	1.141
measurements	0.592	0.287		
3	0.599			
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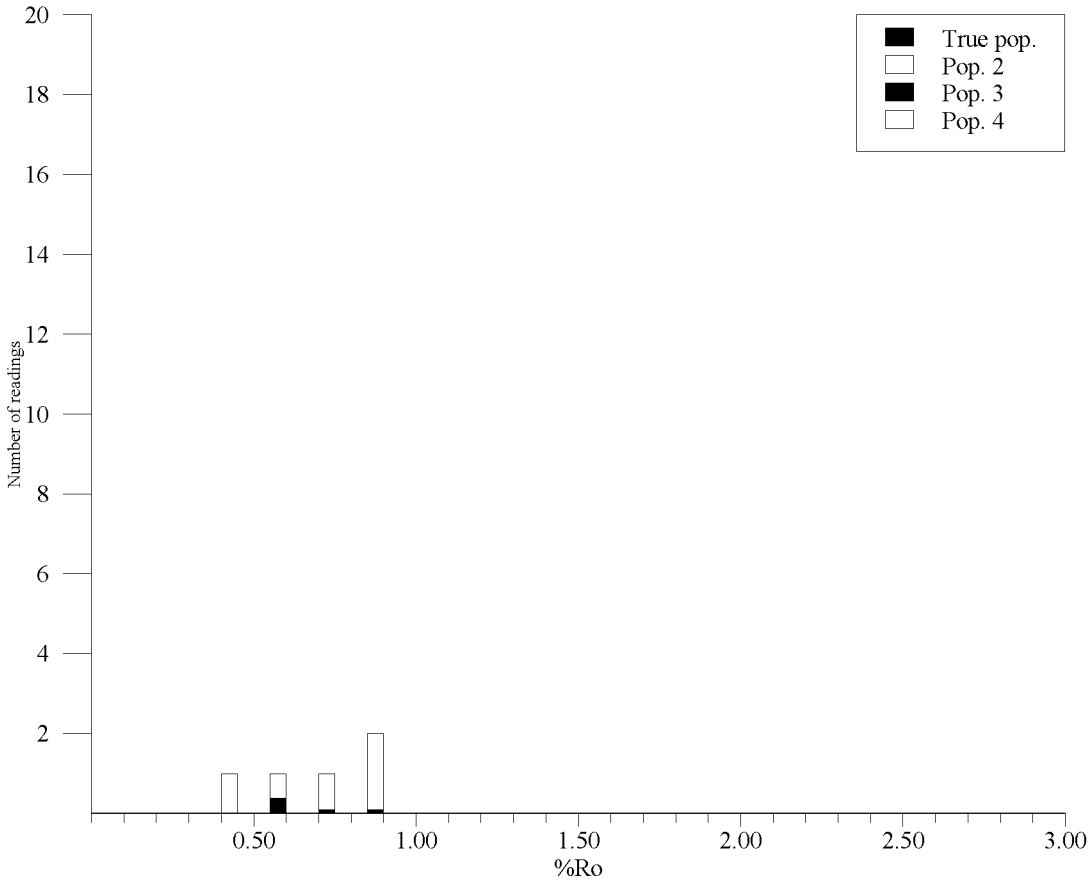
Comments:
Shale has a low organic matter content that is primarily comprised of inertinite and recycled vitrinite with minor primary vitrinite. Very little convincing liptinite fluorescence.



Sample info:

Well	6407/7-7 S
Lower depth	2680
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44785

Quality rating:

Average sample quality	M
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	o
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.57±0.00	0.44±0.00	0.83±0.08	
Individual measurements	0.565	0.441	0.735	
3			0.863	
4			0.886	
5				
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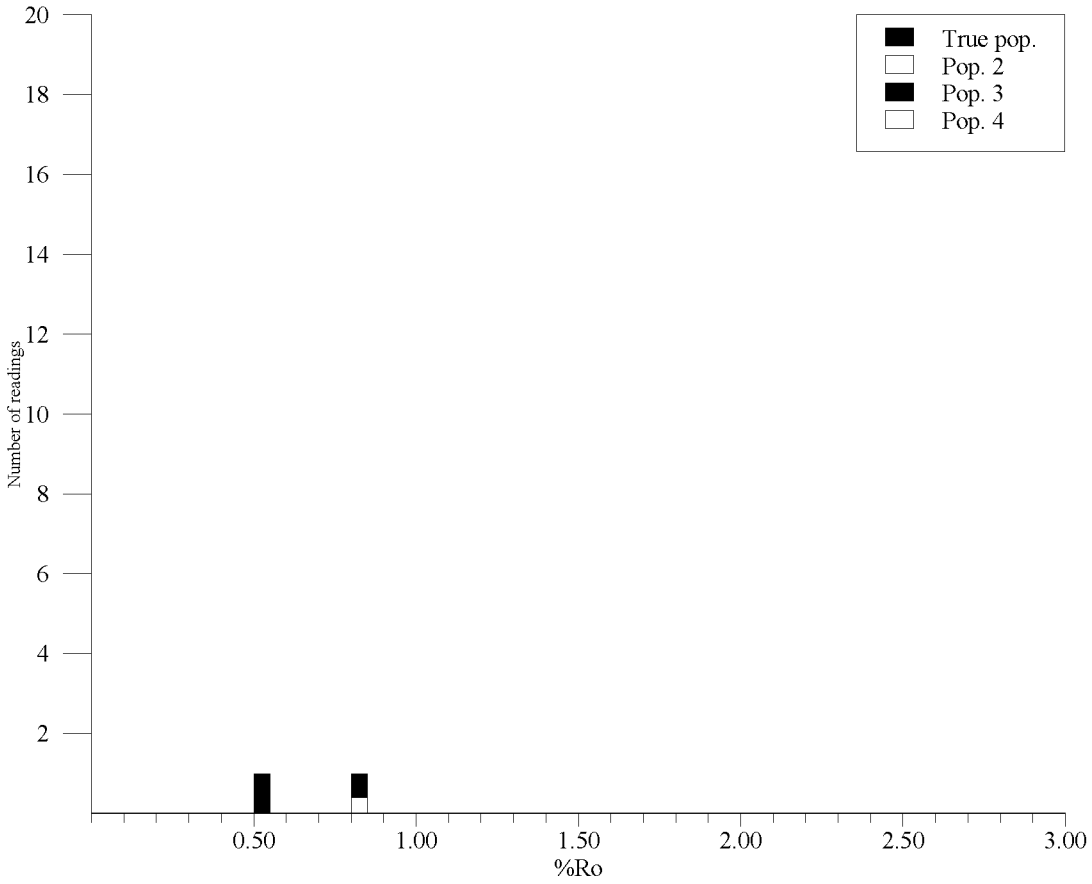
Comments:
Shale has a low organic matter content that is primarily comprised of inertinite and recycled vitrinite with trace to minor primary vitrinite. Trace yellow-orange algal fluorescence and weak light orange to mid orange tentative spore fluorescence.



Sample info:

Well	6407/7-7 S
Lower depth	2770
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44786

Quality rating:

Average sample quality	M
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	**True pop.**	**Pop. 2**	**Pop. 3**	**Pop. 4**
%Mean±sd.	0.53±0.00	0.82±0.00		
Individual measurements	0.533	0.819		
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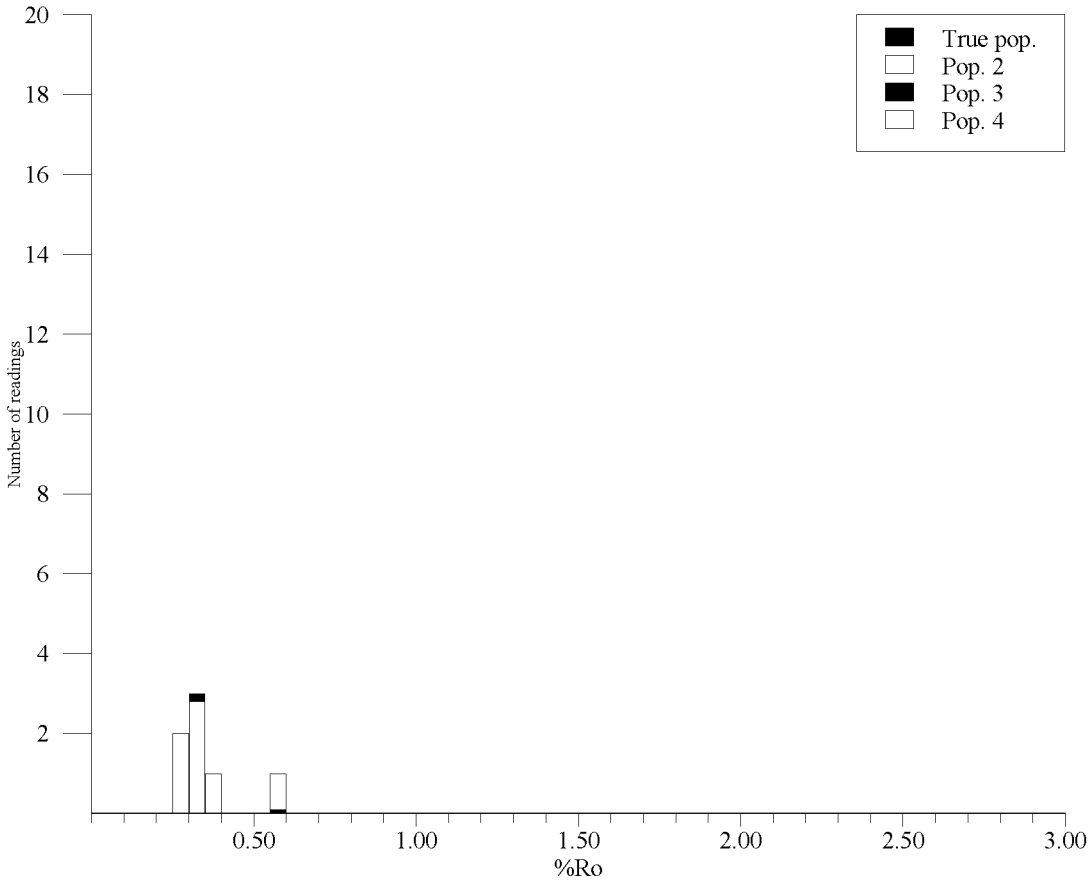
Comments:
Shale has a low organic matter content that is primarily comprised of inertinite and recycled vitrinite with trace primary vitrinite. Trace light orange spore fluorescence.



Sample info:

Well	6407/7-7 S
Lower depth	2880
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44787

Quality rating:

Average sample quality	P
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.58±0.00	0.31±0.03		
Individual	0.579	0.267		
measurements		0.278		
3		0.306		
4		0.310		
5		0.313		
6		0.358		
7				
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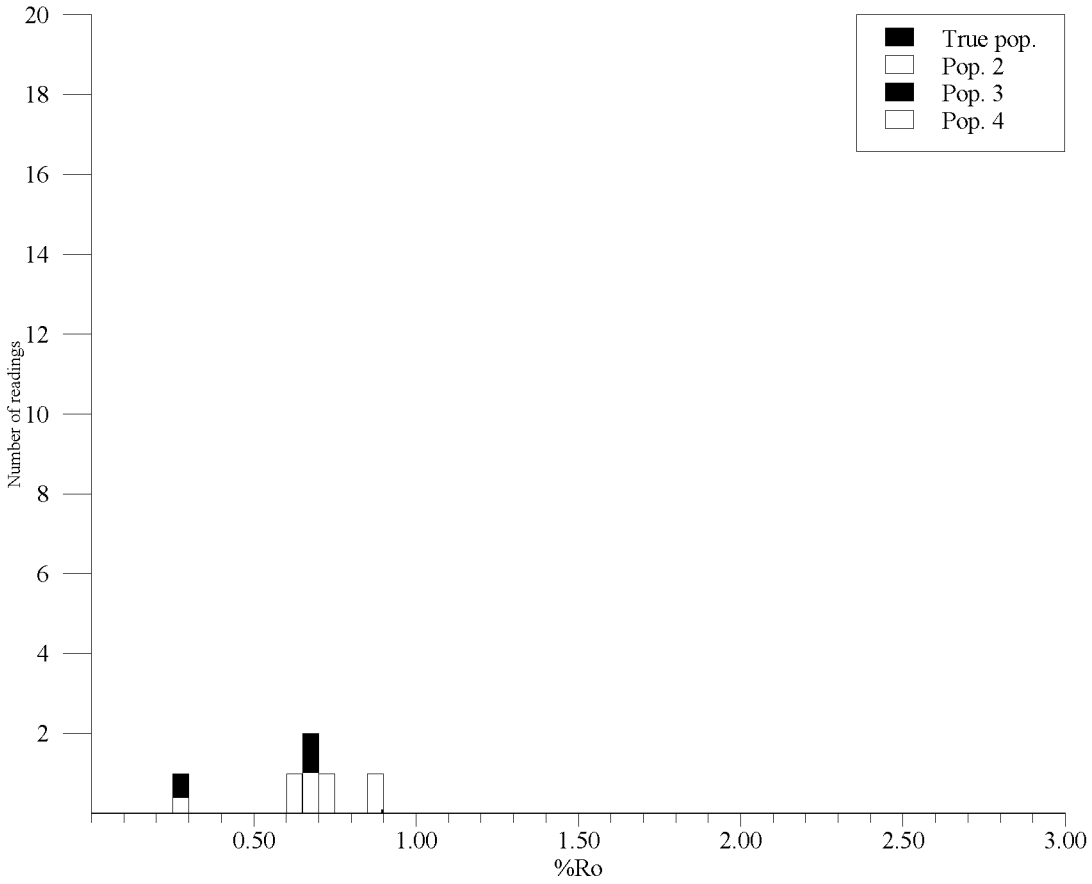
Comments:
Shale has a low organic matter content dominated by inertinite and recycled vitrinite with trace primary vitrinite. Minor yellow-orange algal fluorescence, recycled dark orange spore fluorescence; tentative light orange to mid orange spore fragments.



Sample info:

Well	6407/7-7 S
Lower depth	2960
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	28.12.2007
APT ID	44788

Quality rating:

Average sample quality	M
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	+
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.67±0.04	0.29±0.00	0.87±0.00	
Individual measurements	0.622	0.285	0.874	
3	0.652			
4	0.700			
5	0.711			
6				
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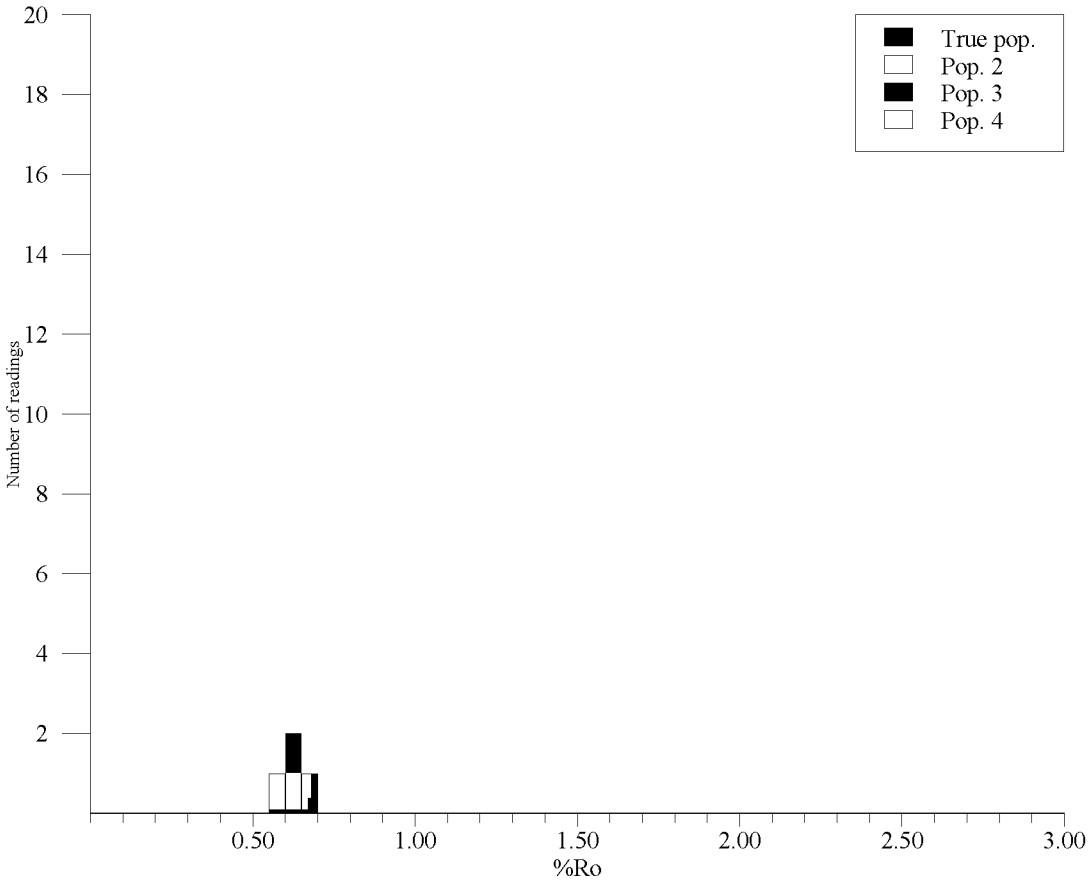
Comments:
Shale has a low organic matter content that is primarily comprised of fine inertinite and recycled vitrinite particles with minor primary vitrinite. Algal fluorescence is yellow-orange with no convincing spore fluorescence.



Sample info:

Well	6407/7-7 S
Lower depth	3070
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44789

Quality rating:

Average sample quality	P
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.62±0.04			
Individual measurements	0.577			
	0.607			
3	0.646			
4	0.666			
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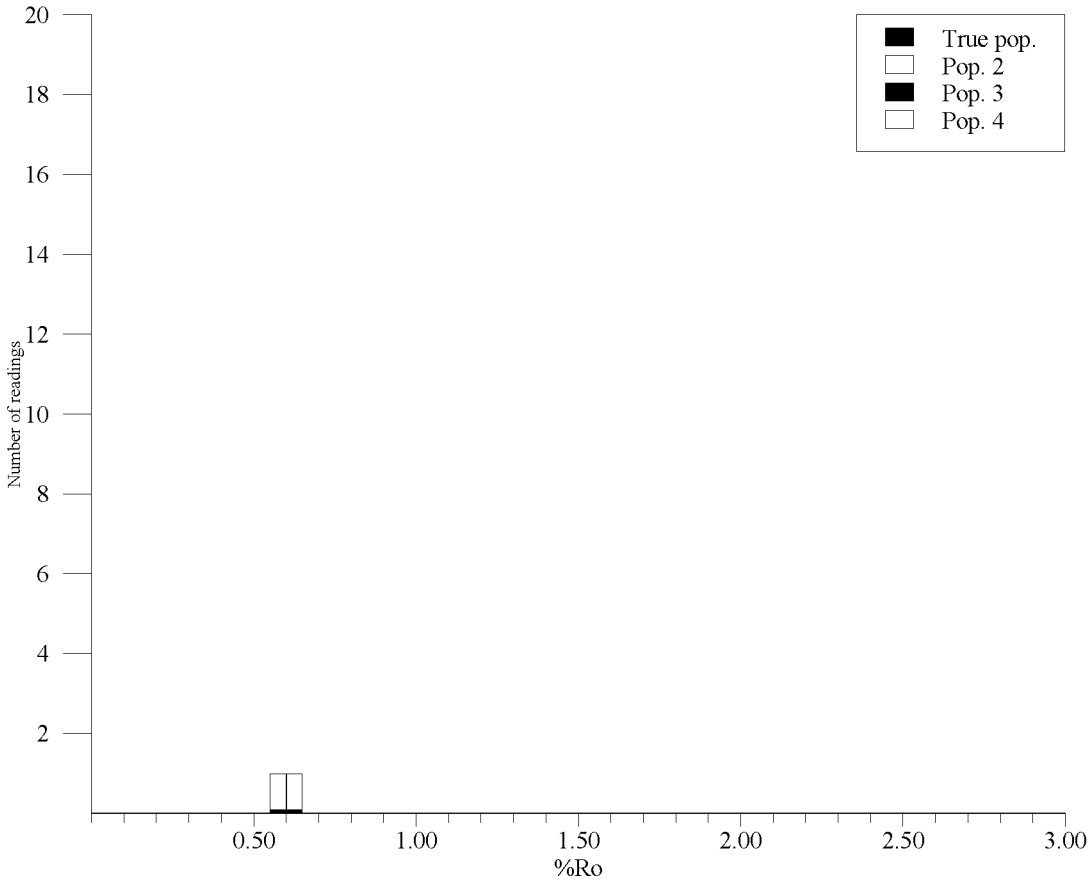
Comments:
Shale has a low to moderate organic matter content dominated by fine particles of inertinite and recycled vitrinite with trace measurable primary vitrinite. Low liptinite content but traces of algal matter fluoresce yellow/yellow-orange.



Sample info:

Well	6407/7-7 S
Lower depth	3183
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44790

Quality rating:

Average sample quality	P
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.60±0.01			
Individual measurements	0.591			
	0.600			
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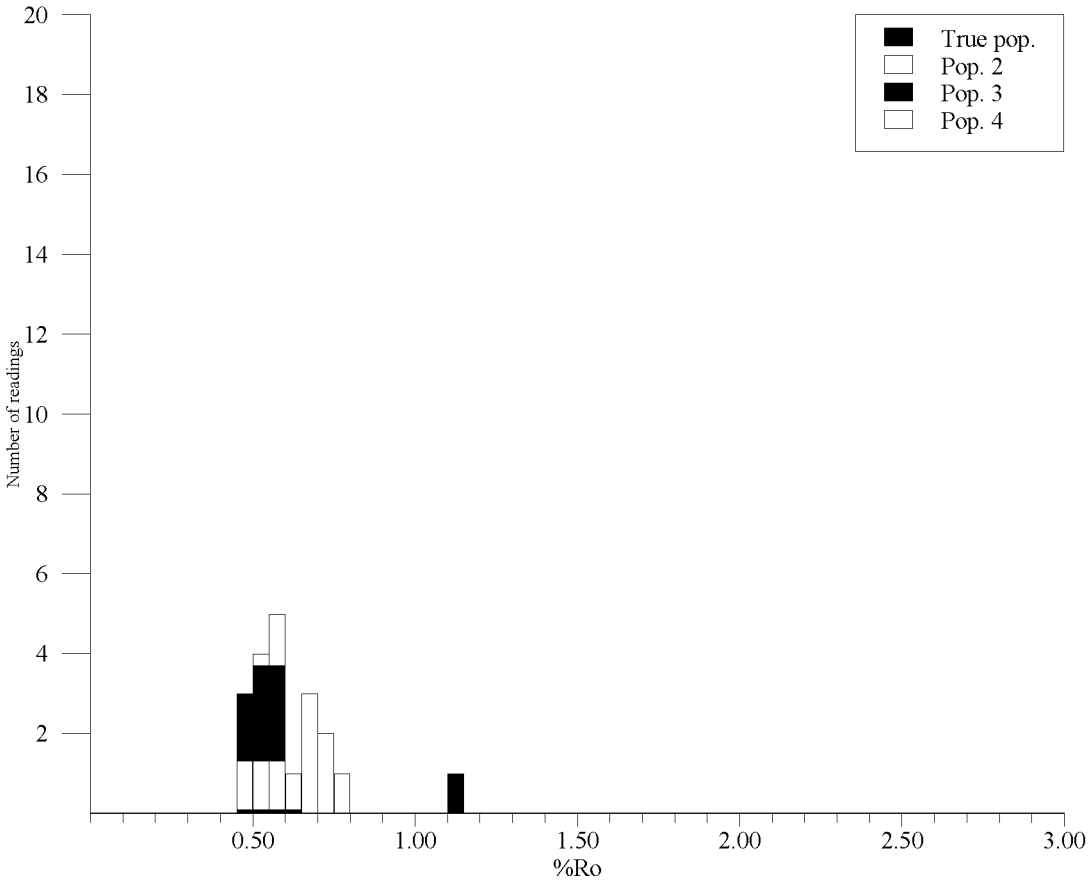
Comments:
Shale has a moderate to rich organic matter content dominated by fine particles of inertinite and recycled vitrinite with traces of measurable primary vitrinite. Low liptinite content. Traces of algal matter fluoresce yellow-orange.



Sample info:

Well	6407/7-7 S
Lower depth	3282
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44791

Quality rating:

Average sample quality	G
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.55±0.05	0.72±0.04	1.13±0.00	
Individual	0.451	0.687	1.134	
measurements	0.476	0.694		
3	0.490	0.694		
4	0.522	0.701		
5	0.531	0.738		
6	0.547	0.793		
7	0.547			
8	0.563			
9	0.575			
10	0.591			
11	0.593			
12	0.598			
13	0.628			
14				
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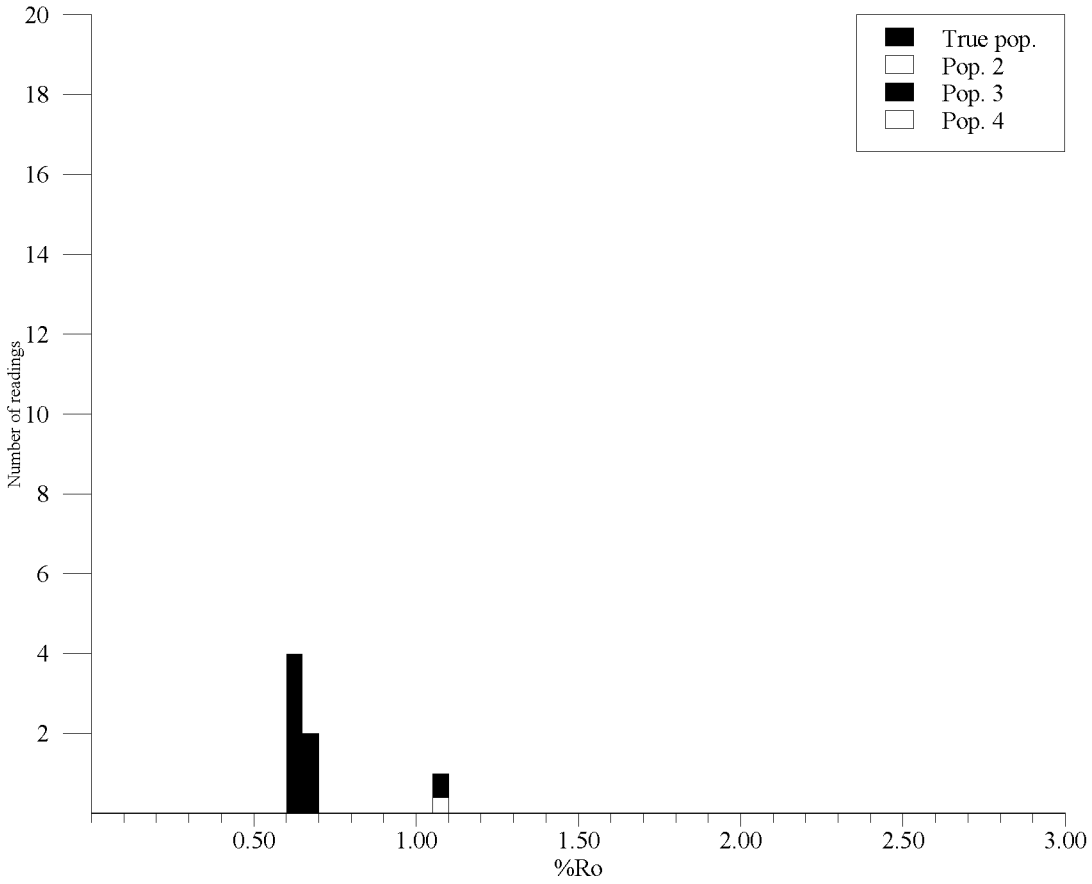
Comments:
Shale is rich in organic matter dominated by small phytoclasts of inertinite and recycled vitrinite with minor primary vitrinite. Tenuispores fluoresce light orange to mid orange. Occasional dark orange weak matrix bitumen fluorescence.



Sample info:

Well	6407/7-7 S
Lower depth	3369
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44792

Quality rating:

Average sample quality	M
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	+
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.64±0.02	1.07±0.00		
Individual measurements	0.617	1.074		
	0.622			
3	0.638			
4	0.640			
5	0.653			
6	0.660			
7				
8				
9				
10				
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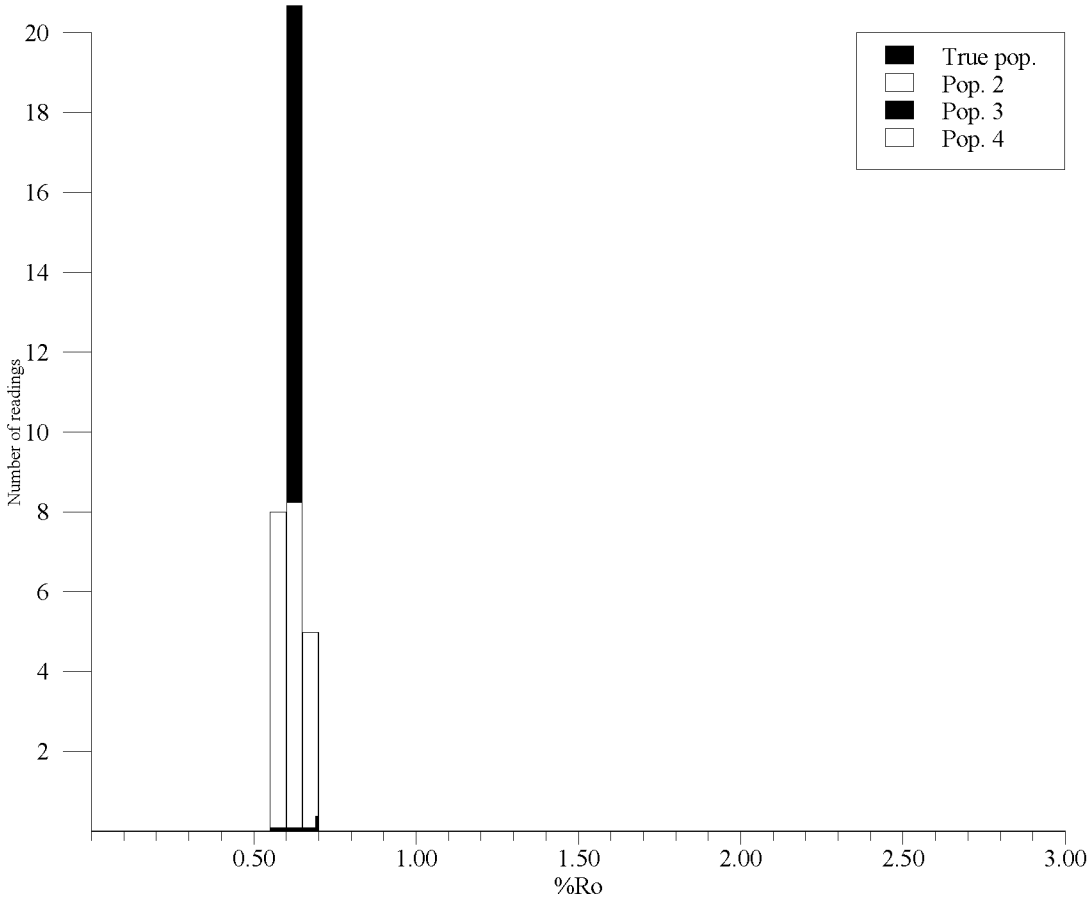
Comments:
Shale has a low to moderate organic matter content dominated by fine particles of inertinite and recycled vitrinite with trace measurable primary vitrinite. Good light orange to mid orange fluorescing spores are present with yellow-orange algal cysts.



Sample info:

Well	6407/7-7 S
Lower depth	3378.40
Sample type	COCH
Lithology	Coal
Preparation	HF
Date of analysis	29.12.2007
APT ID	44793

Quality rating:

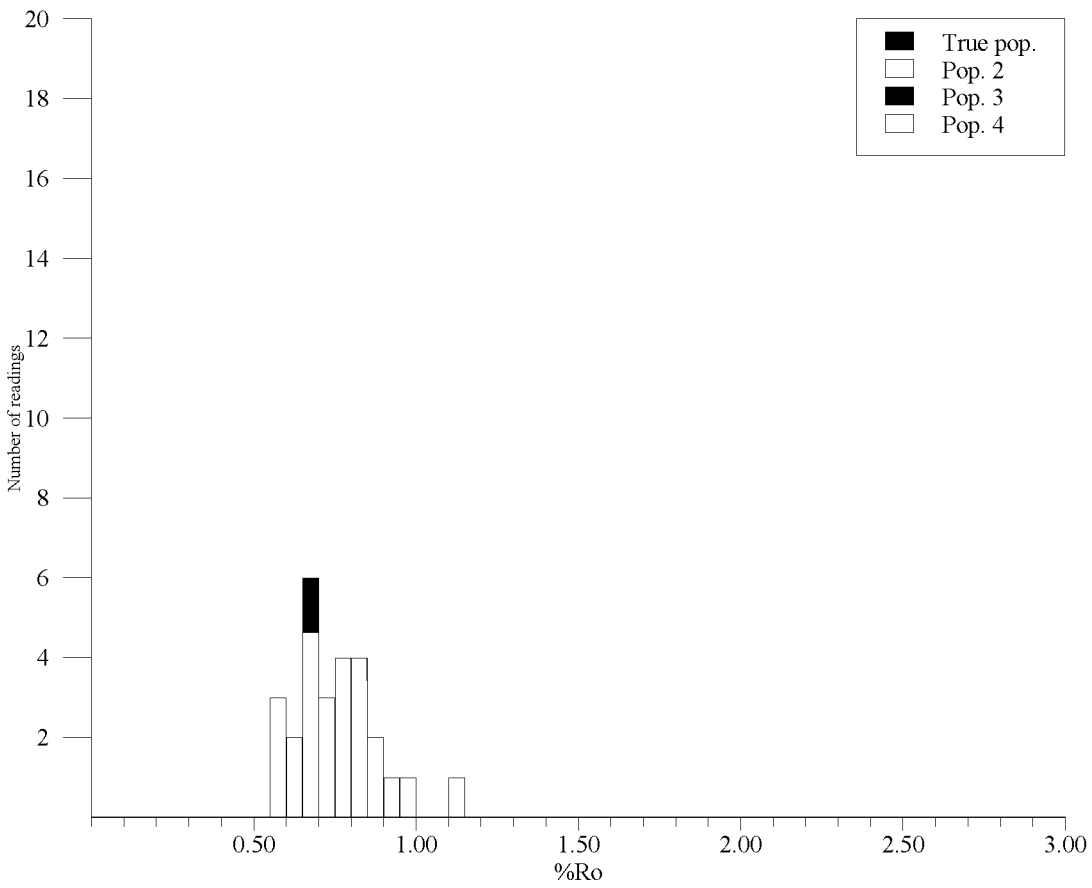
Average sample quality	G
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	-
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	**True pop.**	**Pop. 2**	**Pop. 3**	**Pop. 4**
%Mean±sd.	0.62±0.02			
Individual	0.579			
measurements	0.586			
3	0.591			
4	0.598			
5	0.598			
6	0.600			
7	0.600			
8	0.600			
9	0.602			
10	0.602			
11	0.607			
12	0.614			
13	0.616			
14	0.618			
15	0.618			
16	0.618			
17	0.621			
18	0.623			
19	0.623			
20	0.623			
21	0.623			
22	0.623			
23	0.625			
24	0.625			
25	0.627			
26	0.630			

Comments:
Coal is rich in fluorescing vitrinite, followed by inertinite semi-fusinite and sporinite. Spores fluoresce light orange.



Sample info:

Well	6407/7-7 S
Lower depth	3396.90
Sample type	COCH
Lithology	Sl st
Preparation	HF
Date of analysis	29.12.2007
APT ID	44794

Quality rating:

Average sample quality	G
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.67±0.04	0.58±0.02	0.83±0.07	1.11±0.00
Individual	0.610	0.560	0.755	1.114
measurements	0.617	0.569	0.768	
3	0.653	0.596	0.773	
4	0.653		0.793	
5	0.653		0.800	
6	0.664		0.818	
7	0.678		0.823	
8	0.696		0.848	
9	0.712		0.857	
10	0.712		0.866	
11	0.730		0.906	
12			0.986	
13				
14				
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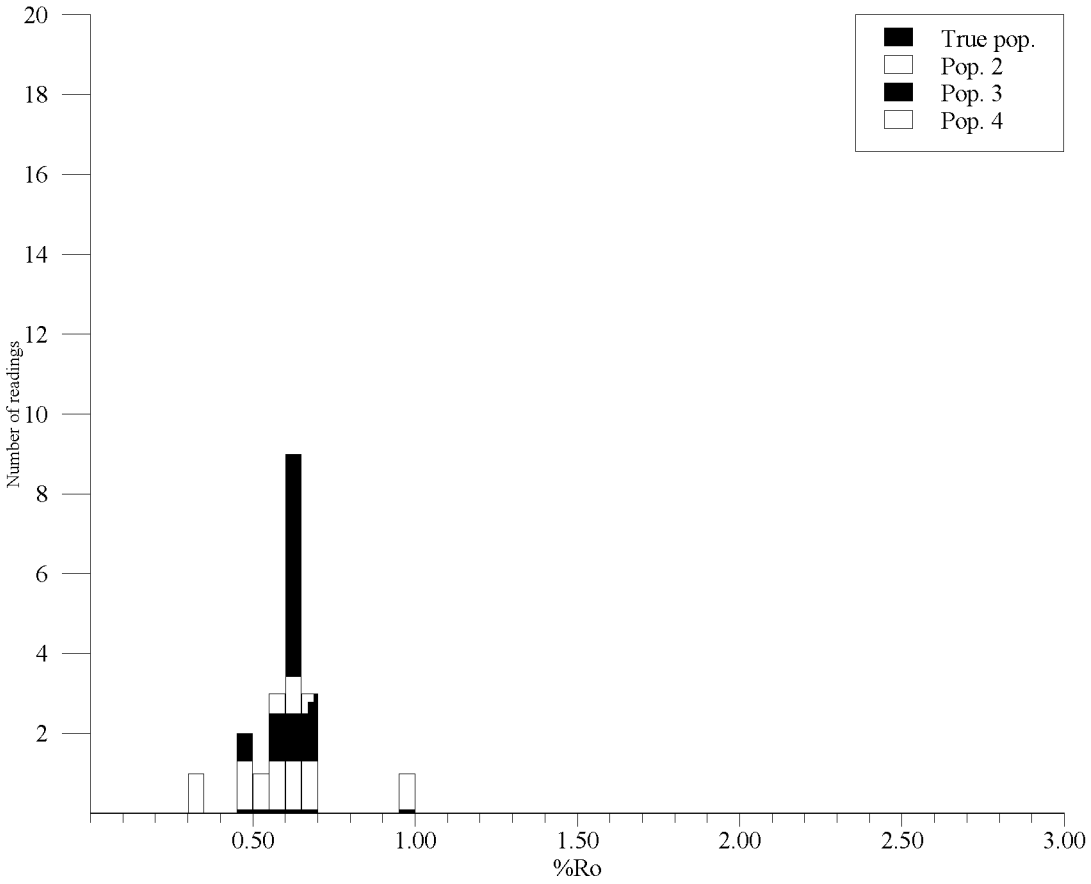
Comments:
Siltstone is often micaceous with patches of bitumen staining and has a low organic matter content. One fragment is rich and approaches a carbargillite. Vitrinite is weakly fluorescent (dark red). Thin-walled spores fluoresce light orange.



Sample info:

Well	6407/7-7 S
Lower depth	3471
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44795

Quality rating:

Average sample quality	G
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.60±0.05	0.34±0.00	0.96±0.00	
Individual	0.471	0.339	0.962	
measurements	0.491			
3	0.548			
4	0.584			
5	0.584			
6	0.593			
7	0.600			
8	0.607			
9	0.614			
10	0.616			
11	0.618			
12	0.628			
13	0.634			
14	0.637			
15	0.641			
16	0.653			
17	0.662			
18	0.675			
19				
20				
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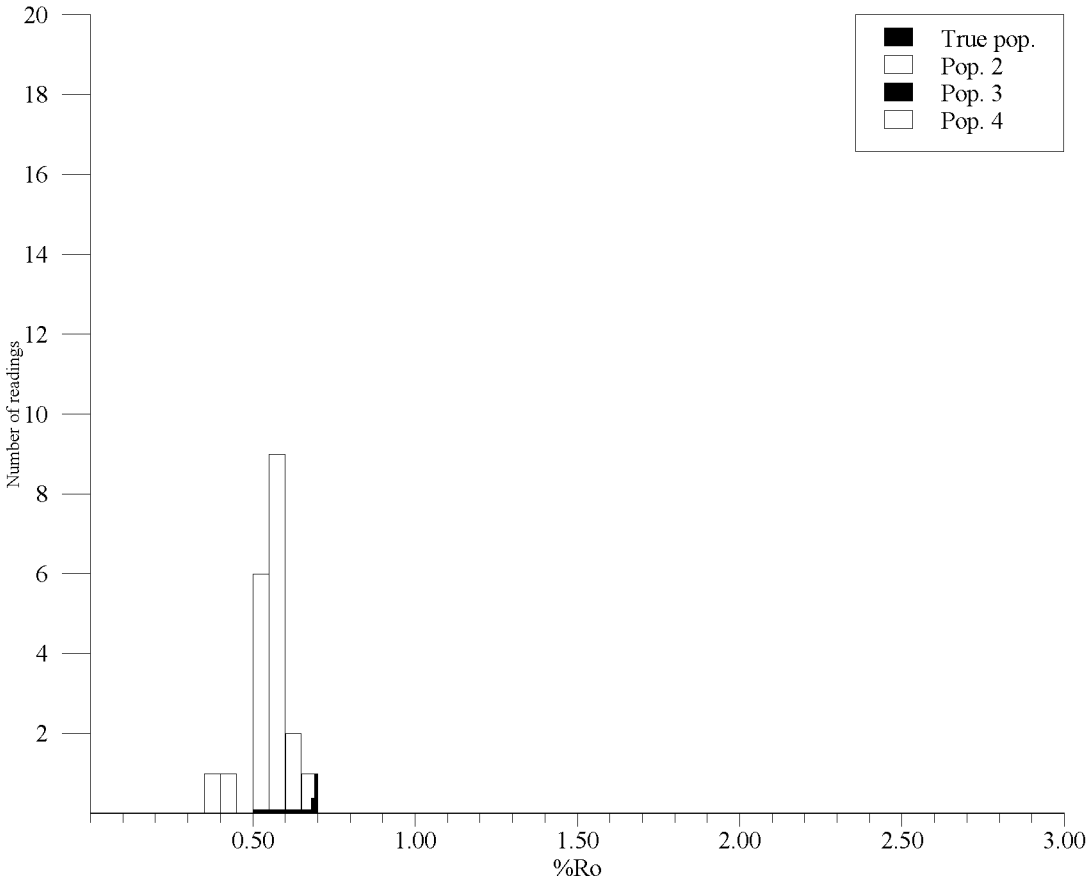
Comments:
Shale is silty and has a light hydrocarbon matrix stain. Organic matter content is moderate and dominated by inertinite, recycled vitrinite and minor primary vitrinite. Light orange spore fluorescence with some dark orange to red fluorescing matter.



Sample info:

Well	6407/7-7 S
Lower depth	3567
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44796

Quality rating:

Average sample quality	G
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.57±0.04	0.40±0.01		
Individual	0.512	0.397		
measurements	0.519	0.406		
3	0.536			
4	0.536			
5	0.536			
6	0.549			
7	0.554			
8	0.556			
9	0.559			
10	0.565			
11	0.577			
12	0.579			
13	0.584			
14	0.589			
15	0.595			
16	0.625			
17	0.646			
18	0.651			
19				
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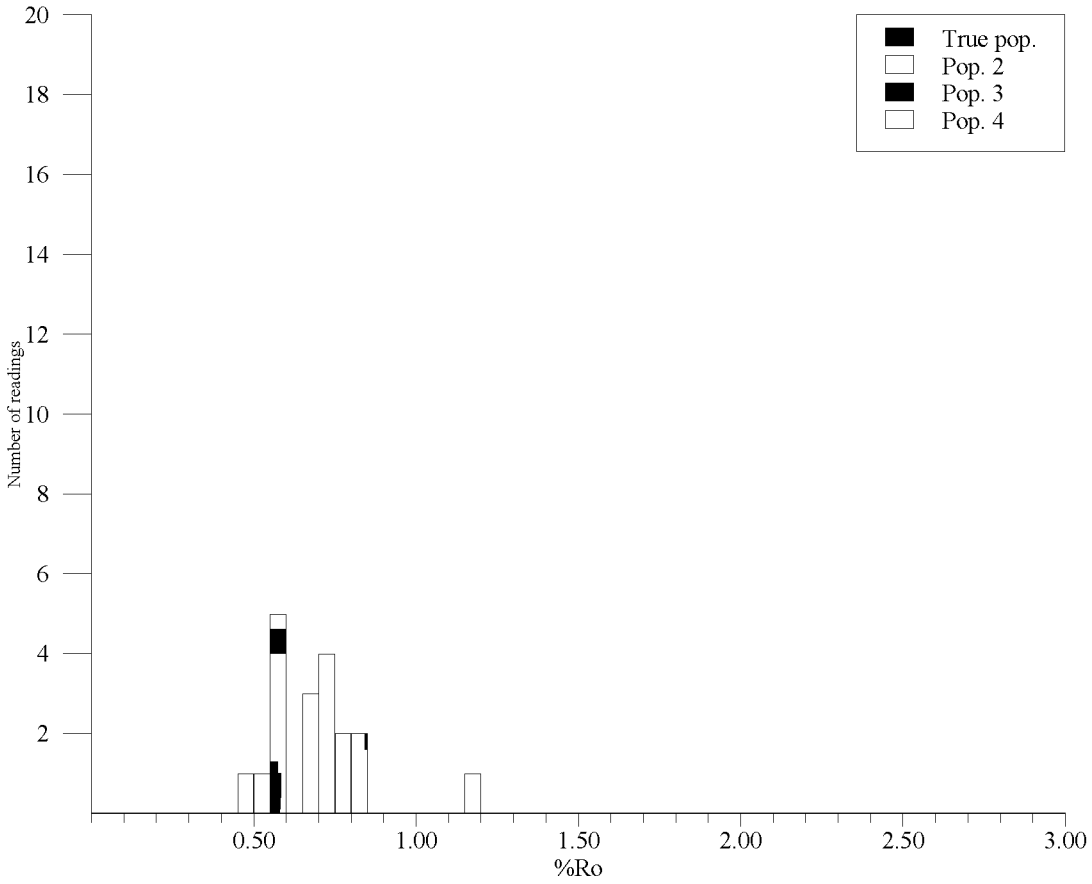
Comments:
Pyritic shale is rich in liptinite streaks (algal mostly). Inertinite is dominates the moderate organic matter content followed by recycled vitrinite and minor primary vitrinite. Spores fluoresce mid orange; algal cysts fluoresce yellow-orange.



Sample info:

Well	6407/7-7 S
Lower depth	3582.60
Sample type	COCH
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44797

Quality rating:

Average sample quality	G
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.65±0.07	0.50±0.04	0.79±0.03	1.17±0.00
Individual	0.556	0.467	0.755	1.173
measurements	0.565	0.524	0.787	
3	0.574		0.805	
4	0.581		0.821	
5	0.588			
6	0.668			
7	0.677			
8	0.693			
9	0.707			
10	0.734			
11	0.739			
12	0.743			
13				
14				
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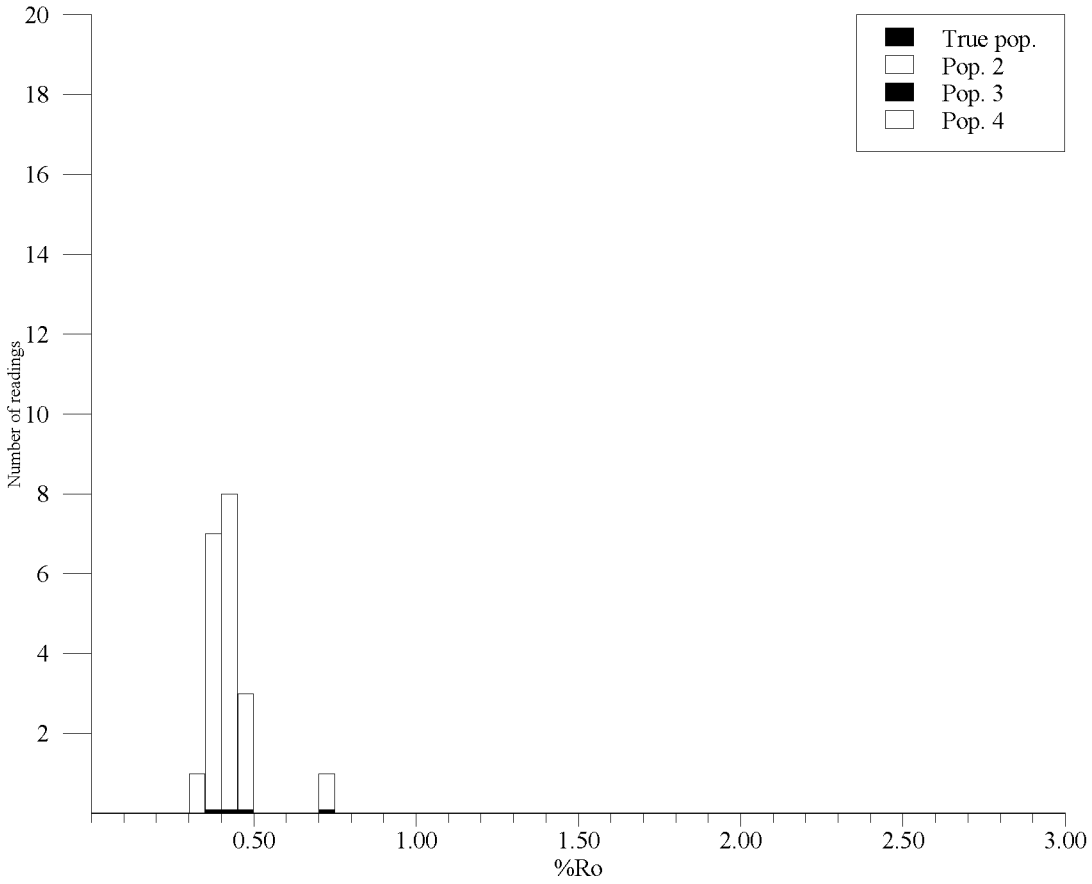
Comments:
Shale has a moderate to rich organic matter content dominated by inertinite and recycled vitrinite with significant liptinite streaks and minor primary vitrinite. Algal cysts fluoresce yellow-orange to light orange; minor dark orange spores.



Sample info:

Well	6407/7-7 S
Lower depth	3604.60
Sample type	COCH
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44798

Quality rating:

Average sample quality	M
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	-
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.42±0.04	0.33±0.00	0.71±0.00	
Individual	0.355	0.328	0.712	
measurements	0.364			
3	0.376			
4	0.378			
5	0.381			
6	0.397			
7	0.399			
8	0.413			
9	0.426			
10	0.426			
11	0.431			
12	0.445			
13	0.447			
14	0.447			
15	0.449			
16	0.465			
17	0.477			
18	0.481			
19				
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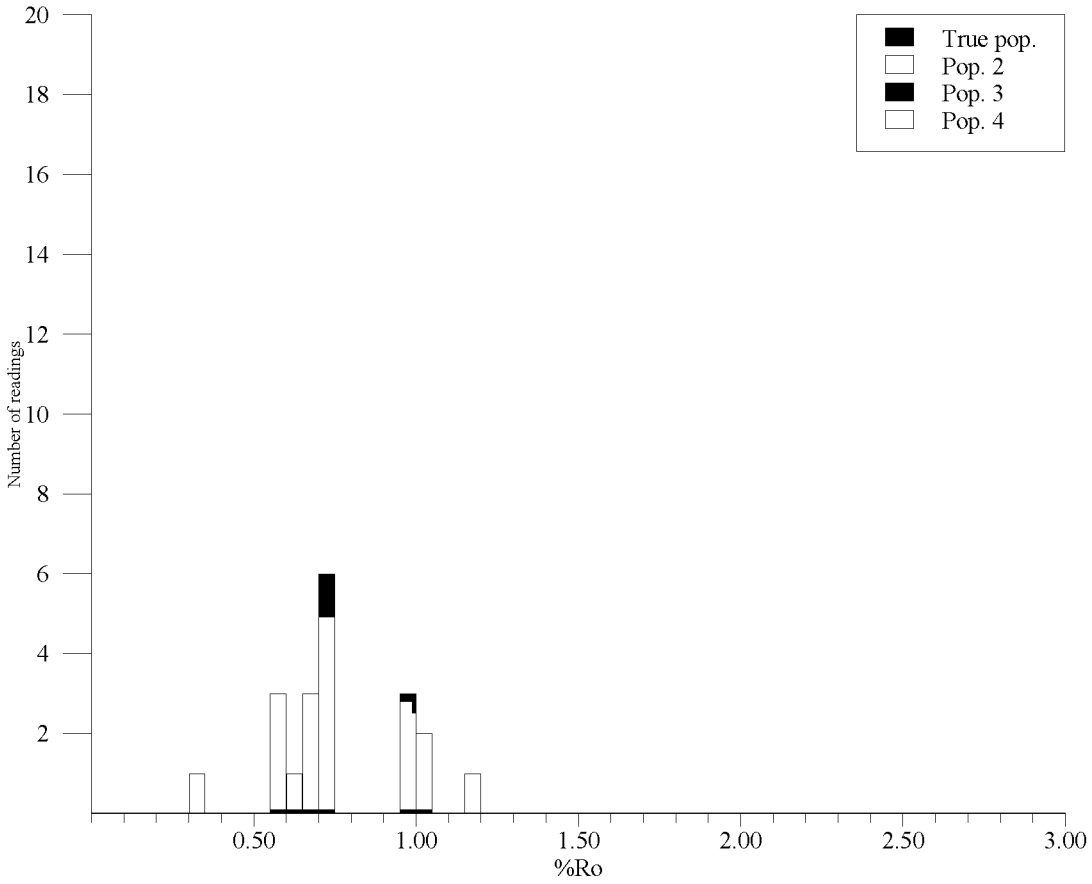
Comments:
Laminated shale is moderatly rich in organic matter with patches of bitumen stain. Significant fair to good quality primary vitrinite stringers are perhydrous and fluoresce dark red. Rich in yellow orange algal; trace light orange to mid orange spores.



Sample info:

Well	6407/7-7 S
Lower depth	3655.40
Sample type	COCH
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44799

Quality rating:

Average sample quality	G
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.66±0.06	0.33±0.00	1.00±0.03	1.18±0.00
Individual	0.552	0.329	0.978	1.179
measurements	0.556		0.980	
3	0.588		0.994	
4	0.620		1.025	
5	0.660		1.043	
6	0.685			
7	0.690			
8	0.701			
9	0.703			
10	0.710			
11	0.712			
12	0.719			
13	0.723			
14				
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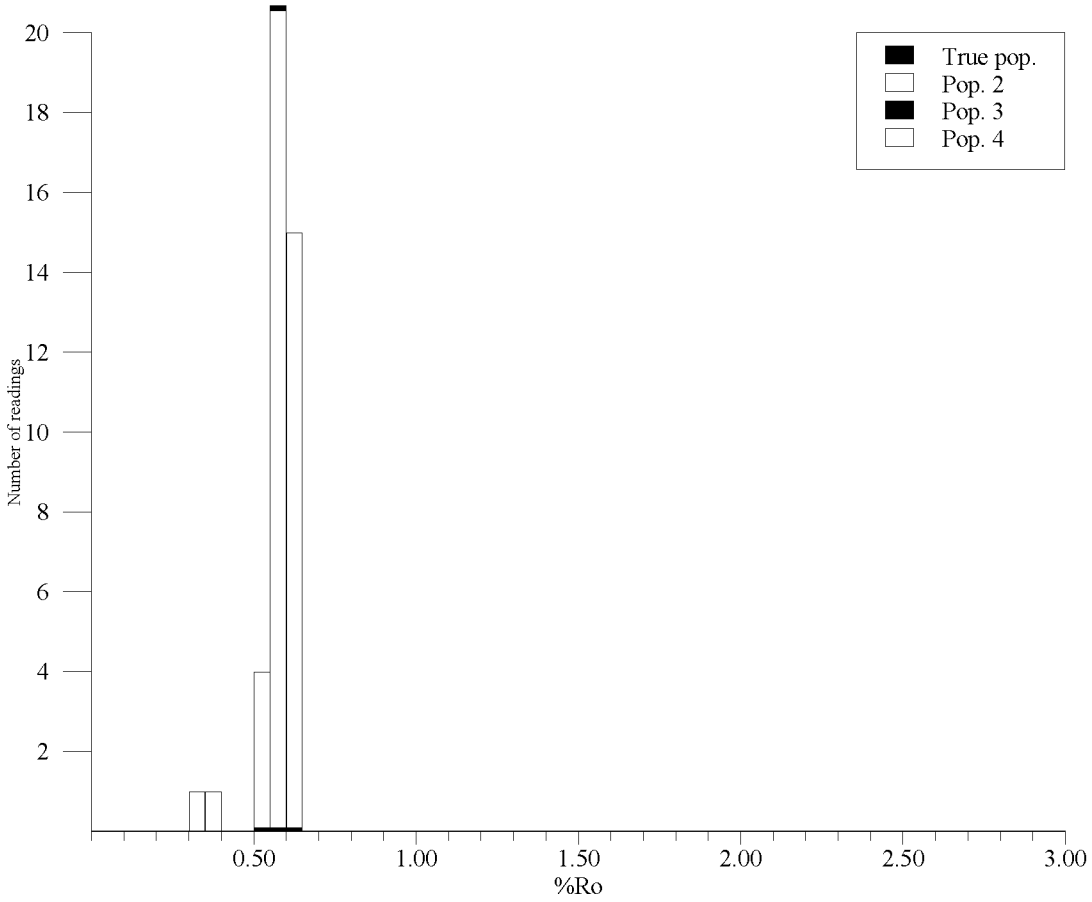
Comments:
Shale is rich in coaly particles with significant primary vitrinite, and abundant liptinite streaks. Rich in light orange tenuispores; a mega spore fluoresces light orange to mid orange. Dark orange-red spores may be recycled. .



Sample info:

Well	6407/7-7 S
Lower depth	3663.80
Sample type	COCH
Lithology	Coal
Preparation	HF
Date of analysis	29.12.2007
APT ID	44800

Quality rating:

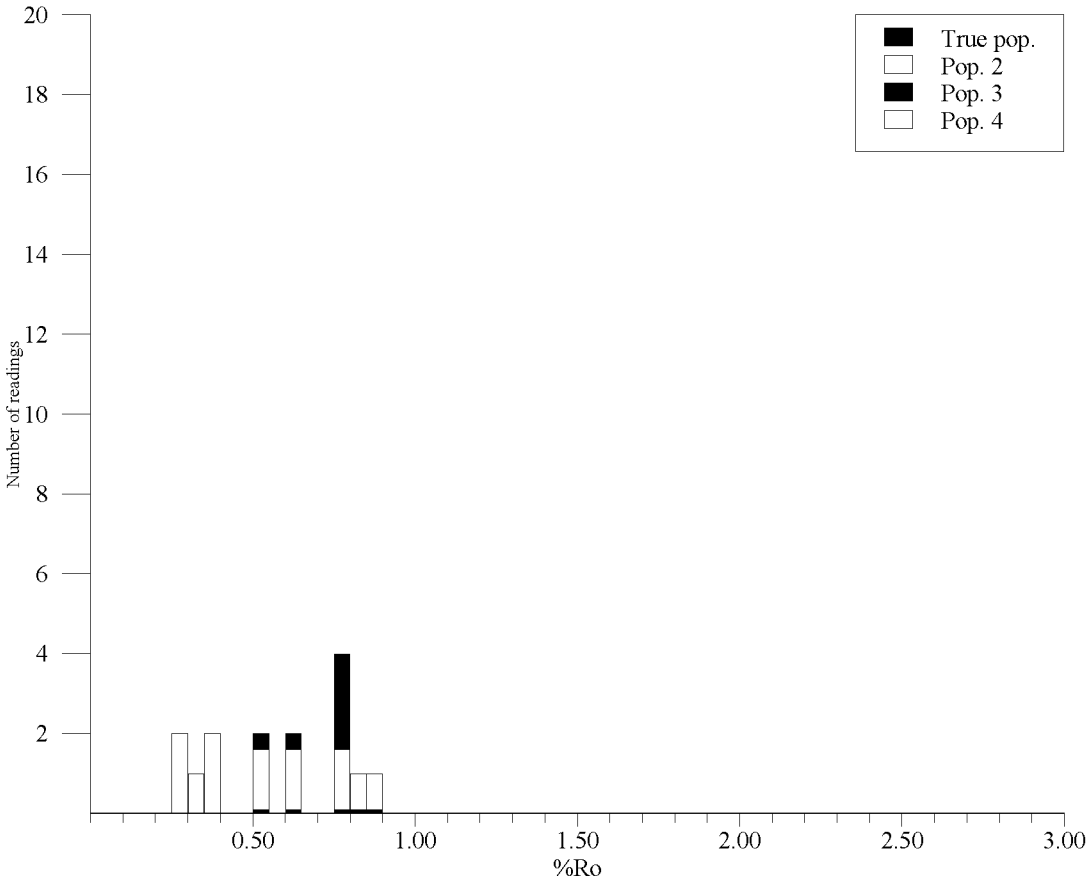
Average sample quality	G
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	-
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	**True pop.**	**Pop. 2**	**Pop. 3**	**Pop. 4**
%Mean±sd.	0.59±0.03	0.35±0.06		
Individual	0.535	0.311		
measurements	0.546	0.392		
3	0.546			
4	0.549			
5	0.551			
6	0.558			
7	0.564			
8	0.567			
9	0.569			
10	0.573			
11	0.573			
12	0.576			
13	0.576			
14	0.576			
15	0.576			
16	0.578			
17	0.578			
18	0.582			
19	0.582			
20	0.589			
21	0.591			
22	0.594			
23	0.594			
24	0.594			
25	0.594			
26	0.601			

Comments:
Coal is dominated by good quality but fluorescing vitrinite. Mid orange tenuispores fluoresce with moderate intensity. Resinite also fluoresces.



Sample info:

Well	6407/7-7 S
Lower depth	3694.20
Sample type	COCH
Lithology	Lst
Preparation	HF
Date of analysis	29.12.2007
APT ID	44801

Quality rating:

Average sample quality	M
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	-
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.58±0.05	0.33±0.04	0.80±0.05	
Individual	0.526	0.279	0.754	
measurements	0.535	0.295	0.761	
3	0.616	0.338	0.779	
4	0.623	0.374	0.797	
5		0.377	0.811	
6			0.879	
7				
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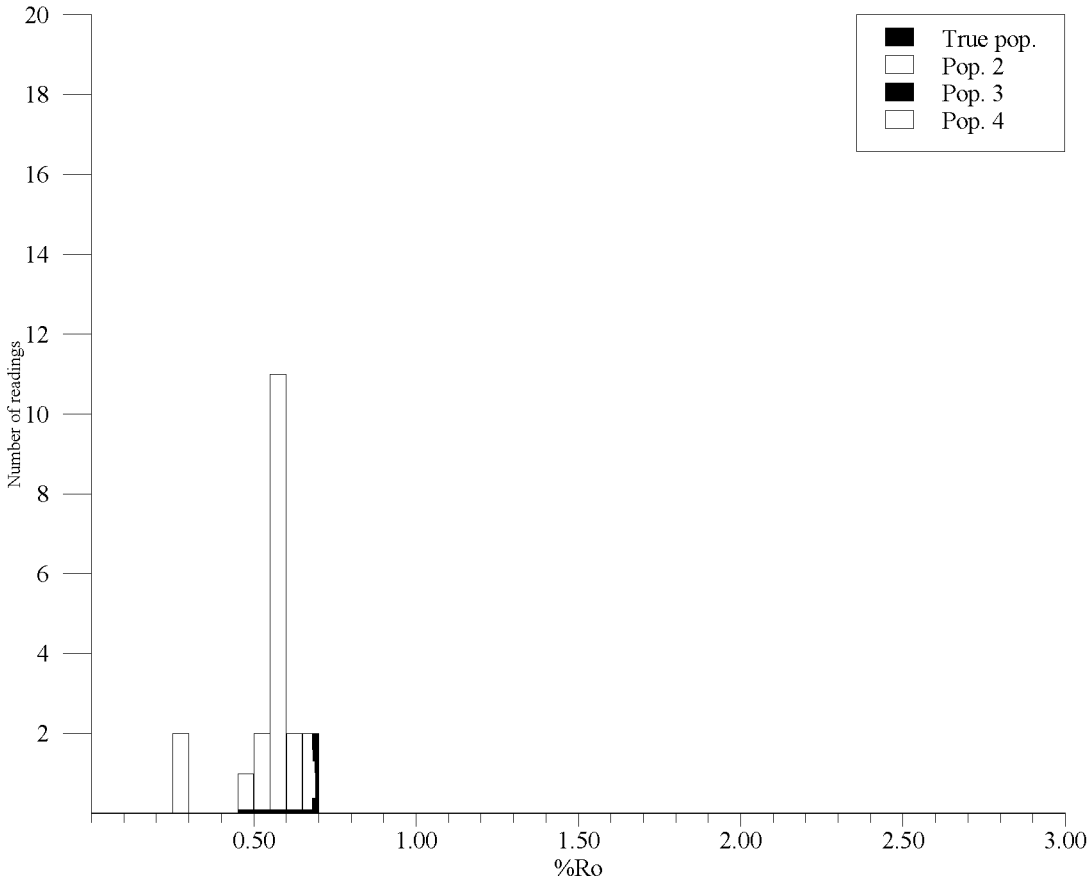
Comments:
Carbonate has a low organic matter content with fine inertinite and bituminite and trace primary vitrinite (occasionally fluoresces). Amorphous dark orange-red clouds fluoresce; trace yellow-orange algal cysts and light to mid orange tenuispores.



Sample info:

Well	6407/7-7 S
Lower depth	3738
Sample type	DC
Lithology	Sh
Preparation	HF
Date of analysis	29.12.2007
APT ID	44802

Quality rating:

Average sample quality	G
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	-
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	**True pop.**	**Pop. 2**	**Pop. 3**	**Pop. 4**
%Mean±sd.	0.58±0.05	0.27±0.01		
Individual	0.494	0.263		
measurements	0.517	0.277		
3	0.527			
4	0.554			
5	0.559			
6	0.561			
7	0.566			
8	0.572			
9	0.582			
10	0.586			
11	0.588			
12	0.591			
13	0.595			
14	0.595			
15	0.609			
16	0.634			
17	0.666			
18	0.678			
19				
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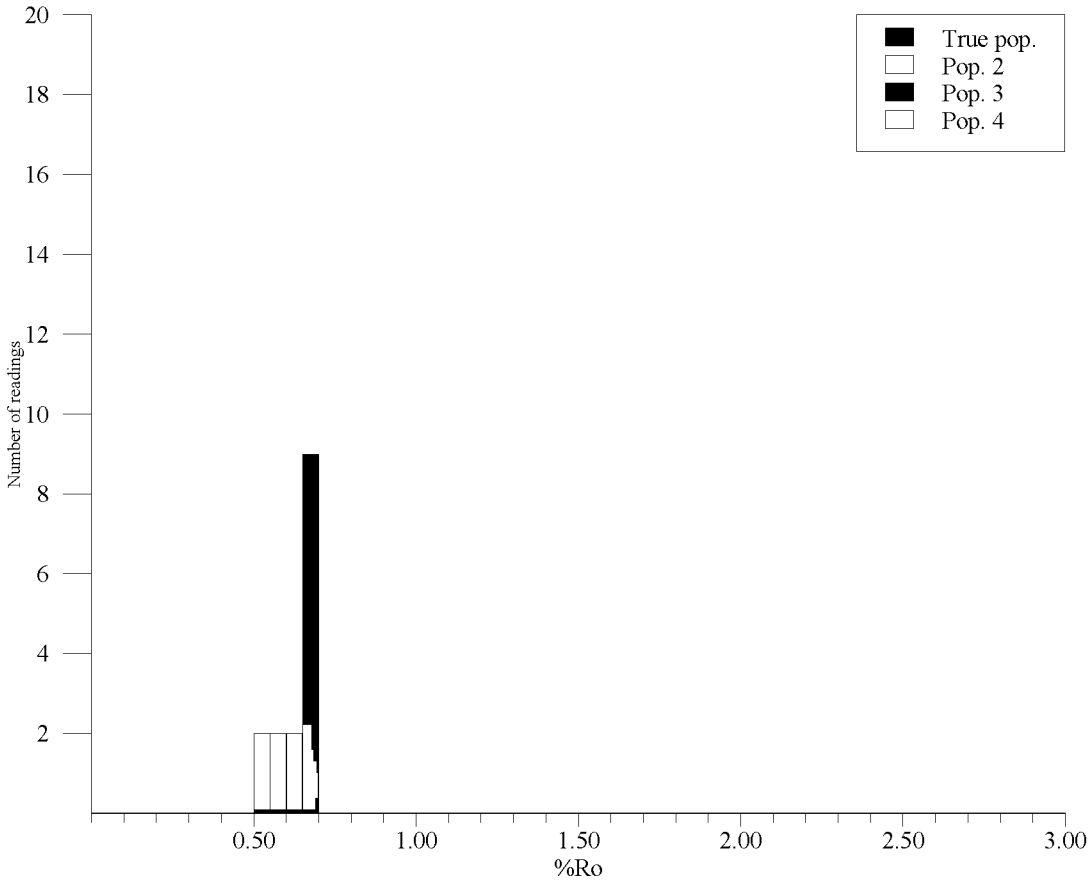
Comments:
Rich shale is laminated with inertinite and fair quality indigenous vitrinite that fluoresces. A crassispore fluoresces light to mid orange with a few dark orange-red fluorescing spores fragments.



Sample info:

Well	6407/7-7 S
Lower depth	3834
Sample type	DC
Lithology	Lst
Preparation	HF
Date of analysis	29.12.2007
APT ID	44803

Quality rating:

Average sample quality	M
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	o
Particle surface quality	o
Abundance of pyrite	o

Legend to quality rating:

No effect on the readings	o
Possibly too low readings	-
Possibly too high readings	+
Good quality	G
Moderate quality	M
Poor quality	P
Not vitrinite	X
Hydrocarbon staining	St

%Ro readings	True pop.	Pop. 2	Pop. 3	Pop. 4
%Mean±sd.	0.64±0.06			
Individual	0.508			
measurements	0.513			
3	0.586			
4	0.600			
5	0.607			
6	0.648			
7	0.660			
8	0.664			
9	0.666			
10	0.671			
11	0.671			
12	0.676			
13	0.680			
14	0.689			
15	0.694			
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Comments:
Marl has a very low organic matter content and light bitumen staining. Shale is rich in organic matter dominated by inertinite, vitrinite and is coaly in places and may be caved. Spores fluoresce mid to dark orange.

Experimental Procedures

All procedures follow NIGOGA, 4th Edition. Below are brief descriptions of procedures/analytical conditions.

Vitrinite reflectance analysis
Methods closely follow the guidelines set out in the International Organization for Standardization publications ISO 7404-2, ISO 7404-3 and ISO 7404-5 but vary as follows.

Crushed particles were cold set into an epoxy resin block. The set sample was ground and polished using an automated Buehler Ecomet 3®, with an Automet 2® head, polishing system. The sample was ground sequentially using 240, 400, 600, 1200 carborundum papers and isopropanol as lubricant. After each grinding stage the sample was washed with alcohol to remove debris and prevent swelling.

Three polishing laps covered with Buehler Mastertex® short-nap cloth were loaded with alumina powders of decreasing grain size and used in the following sequence; 1 µm, 0.3 µm and 0.05 µm. Isopropanol was used as a lubricant during polishing. After each polishing the sample was washed in alcohol to remove debris. Finally, the block was hand-buffed to remove fine smears and checked under a microscope for polish quality and particle relief. Vitrinite reflectance determination was performed in a dark-room using a Zeiss Standard Universal research microscope-photometer system (MPM01K) equipped with a tungsten-halogen lamp (12V, 100w), a Epiplan-Neofluar 40/0.90 oil objective, filtered 546 nm incident light and Zeiss immersion oil (n_e 1.517@ 23°C). The pinhole measuring diaphragm was set to 0.5 µm diameter and a lamp field stop reduced interfering reflectances during measurement.
Glass and mineral standards of known reflectance were used for calibration. A Zeiss triple glass standard with reflectances of 0.506 %, 1.025 % and 1.817 % was used in addition to McCrone® Yttrium-aluminum-Garnet (0.917 %), Spinel (0.413 %) and Cubic Zirconium (3.256 %) standards. The standards are kept in dust free boxes at constant temperature and humidity. Random reflectance measurements were made (*i.e.*, no rotation of the microscope stage) in non-polarized light. Data were acquired using a Zeiss PMI-2, interfaced for computer data acquisition and processing. Photometer linearity tests were performed using all six standards and vitrinite analysis was conducted only if the correlation coefficient was ≥0.999. Three standards were measured, each in triplicate on different spots on the standard surface, at the beginning of the analysis and every 15 min. during analyses

APPENDIX III

Stable isotopes of fractions of fluid samples

Data report
Stable isotopes of 12 fractions of oil samples from well 6707/7-7 S

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Report number APT08-1529	**Classification** Confidential
Report Title Data report - Stable isotopes of 12 fractions of oil samples from well 6707/7-7 S	**Submitted** 28.03.2008
Client StatoilHydro	**Service Order** 4501469841
Client Reference Ann Elin Gilje	**Number of pages** 2
Distribution StatoilHydro(digital) APT (digital) IFE (digital)	

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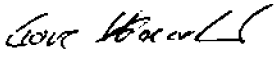
Reviewed by	Ingar Johansen	2008-03-28	
Approved by	Tore Haaland	2008-03-28	

CONTENTS

Table 1. Number of analyses performed

Analysis	Fluid	Total
Stable isotopes of fractions	6*2	12

Table 2. Isotopes of fractions, δ13C (‰ PDB)

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	δ13C-Sat	δ13C-Aro
6407/7-7 S	Oil	3396.93	3396.93	47166	-29.4	-27.2
6407/7-7 S	Oil	3623.35	3623.35	47167	-29.2	-27.3
6407/7-7 S	Oil	3623.50	3623.50	47168	-29.3	-27.2
6407/7-7 S	Oil	3718.50	3718.50	47169	-28.8	-26.8
6407/7-7 S	Oil	3733	3733	47170	-28.5	-26.8
6407/7-7 S	Oil	3829	3829	47171	-28.3	-26.2

Experimental Procedures

All procedures follow NIGOGA, 4th Edition. Below are brief descriptions of procedures/analytical conditions.

Stable carbon isotope analysis of fractions

The samples were dissolved in a known amount of dichloromethane, and 4-5 mg of the sample (or as much as possible) was transferred to a glass container. The solvent was evaporated in an oven at 50 °C. CuO and some silver wires were added to the containers, which were then sealed by melting in a vacuum. The samples were then combusted in an oven at 550 °C for 1 hour (Sofer, 1980). The combustion products CO_2 and H_2O were separated at –80°C.

Carbon isotopic composition of the CO_2 aliquot was determined on a Finnigan MAT 251 mass spectrometer. A standard (NGS NSO-1, topped oil) is analysed for each 10th sample. The $\delta^{13}C$ value obtained for this standard is –28.77 ‰ PDB. The variation in the isotopic values for the standard by repeated analysis over a period of five years is ± 0.13 ‰.