Summary of the geochemical data of the extract from well 6407/08-03 (1679.5 m), Norway

Gravity and Gross Composition

% Extract :	1.10
% TOC after extract :	0.0
Extract/TOC :	27.50
Gross Composition (wt%)	
Saturates :	49
Aromatics :	38
Heterocompounds :	13
Rest (high molecular) :	1
Sulphur (%) :	no data
Vanadium (ppm) :	no data
Nickel (ppm) :	no data

Saturates Distribution

(Gas Chromatography)

Pristane / Phytane :	1.90
Pristane / n-C17 :	0.93
Phytane / n-C18 :	0.54
ACI :	14
Corr. Coeff. :	-0.9905

C7 Distribution

(Gas Chromatography)

C7 Alkanes (%)	
Normal C7 :	no data
Monobranched :	
Polybranched :	
C7 Alkanes / Cycloalkanes (%)	
Normal C7 :	no data
Cycloalkanes :	
Branched Alkanes :	
C7 Alkanes / Aromatics (%)	
Alkanes :	no data
Cycloalkanes :	
Aromatics :	

Biomarkers Distribution

(Gas Chromatography / Mass Spectrometry)

Steranes/Triterpanes (%)	
Iso Steranes :	26
Rearranged Steranes :	59
Triterpanes :	15
Sterane Conversion (%)	
Iso Steranes :	33
Rearranged Steranes :	49
Normal Steranes :	18
Steranes Carbon Numbers (%)	
C27 :	32
C28 :	31
C29 :	37
Triterpanes (%)	
C30 Hopane :	100
Oleanane (α+ β) :	0
W + T :	0
C29 Sterane Ratios	
20S / (20R + 20S) :	0.56
Iso / (Iso + Normal) :	0.63
Triterpane Ratios	
Ts / Tm :	1.02
Ts / (Ts + Tm) :	0.50
3R / (3R + 5R) :	0.11

Aromatics Distribution

(Gas Chromatography / Mass Spectrometry)

Monoaromatic Steroids (%)	
C27 :	28
C28 :	42
C29 :	29
Phenanthrene Ratios	
MPI-1 :	0.56
F-1 :	0.42
F-2 :	0.22

Carbon Isotope Ratios

(Mass Spectrometry)

Total Oil (topped) :	-28.9
Saturates :	-29.3
Aromatics :	-28.3

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Summary of the geochemical data of the extract from well 6407/08-03 (1687 m), Norway

Gravity and Gross Composition

% Extract :	0.32
% TOC after extract :	0.4
Extract/TOC :	0.73
Gross Composition (wt%)	
Saturates :	3
Aromatics :	6
Heterocompounds :	89
Rest (high molecular) :	2
Sulphur (%) :	no data
Vanadium (ppm) :	no data
Nickel (ppm) :	no data

Saturates Distribution
(Gas Chromatography)

Pristane / Phytane :	1.24
Pristane / n-C17 :	0.81
Phytane / n-C18 :	0.52
ACI :	20
Corr. Coeff. :	-0.9471

C7 Distribution
(Gas Chromatography)

C7 Alkanes (%)	
Normal C7 :	no data
Monobranched :	
Polybranched :	
C7 Alkanes / Cycloalkanes (%)	
Normal C7 :	no data
Cycloalkanes :	
Branched Alkanes :	
C7 Alkanes / Aromatics (%)	
Alkanes :	no data
Cycloalkanes :	
Aromatics :	

Biomarkers Distribution
(Gas Chromatography / Mass Spectrometry)

Steranes/Triterpanes (%)	
Iso Steranes :	33
Rearranged Steranes :	52
Triterpanes :	15
Sterane Conversion (%)	
Iso Steranes :	30
Rearranged Steranes :	32
Normal Steranes :	38
Steranes Carbon Numbers (%)	
C27 :	40
C28 :	25
C29 :	35
Triterpanes (%)	
C30 Hopane :	100
Oleanane (α+ β) :	0
W + T :	0
C29 Sterane Ratios	
20S / (20R + 20S) :	0.49
Iso / (Iso + Normal) :	0.60
Triterpane Ratios	
Ts / Tm :	0.49
Ts / (Ts + Tm) :	0.33
3R / (3R + 5R) :	0.22

Aromatics Distribution
(Gas Chromatography / Mass Spectrometry)

Monoaromatic Steroids (%)	
C27 :	30
C28 :	30
C29 :	40
Phenanthrene Ratios	
MPI-1 :	0.23
F-1 :	0.36
F-2 :	0.22

Carbon Isotope Ratios
(Mass Spectrometry)

Total Oil (topped) :	-28.7
Saturates :	not detectable
Aromatics :	-27.3

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GC/MS data of the aromatic fraction from well 6407/08-03 (1679.5 m), Norway

Standard used for calculations: PDP
Discrimination factor : 0.34

I) NAPHTHALENES

a) Concentrations (ppm)	
2-MN	69
1-MN	64
2,6+2,7-DMN	208
1,6-DMN	195
1,5-DMN	86
1,3,5+1,4,6-TMN	206
2,3,6-TMN	128
1,2,5-TMN	69
C4-NAPH	37
THN	62
CAD	34
Total Naphthalenes	1160

b) Parameters		
2-MN/1-MN	(MNR)	1.08
2,6+2,7-DMN/1,5-DMN	(DNR-1	2.42
2,3,6-TMN/1,3,5+1,4,6-TMN	(TNR-1	0.62
2,3,6-TMN/1,2,5-TMN	(TNR-2	1.86
2,3,6-TMN/THN		2.07
2,3,6-TMN/Cadelene		3.74

II) PHENANTHRENES

a) Concentrations (ppm)	
P	173
3-MP	63
2-MP	70
9-MP	100
1-MP	80
Total Phenantrenes	485

b) Parameters		
2-MP/1-MP		0.88
1.5*(2+3-MP/(P+1+9-MP))	(MPI-1	0.56
3*(2-MP/(P+1+9-MP))	(MPI-2	0.60
2+3-MP/1+9-MP		0.74
2+3-MP/1+9+2+3-MP		0.42

III) DIBENZOTHIOPHENES

a) Concentrations (ppm)	
DBT	17
4-MDBT	41
2+3-MDBT	22
1-MDBT	12
Total Dibenzothiophenes	92

b) Parameters	
4-MDBT/2+3-MDBT	1.90
4-MDBT/1-MDBT	3.52
2+3-MDBT/1-MDBT	1.85
4-MDBT/DBT	2.45
2+3-MDBT/DBT	1.28
1-MDBT/DBT	0.69

IV) BIPHENYLS

a) Concentrations (ppm)	
BP	9
2-MBP	9
3-MBP	123
4-MBP	40
Total Biphenyls	180

b) Parameters	
3-MBP/BP	13.46
3-MBP/4-MBP	3.07
3-MBP/2-MBP	14.38

V) DIBENZOFURANS

a) Concentrations (ppm)	
DBF	10
4-MDBF	40
2+3-MDBF	26
1-MDBF	12
Total Dibenzofurans	87

b) Parameters	
4-MDBF/2+3-MDBF	1.55
4-MDBF/1-MDBF	3.31
2+3-MDBF/1-MDBF	2.14
4-MDBF/DBF	4.08
2+3-MDBF/DBF	2.64
1-MDBF/DBF	1.23

VI) OVERALL RATIOS

Biphenyls/NAPH*	0.29
Dibenzothiophenes/NAP	0.15
Dibenzofurans/NAPH*	0.14

MN = methylnaphthalene
DMN = dimethylnaphthalene
TMN = trimethylnaphthalene
THN = tetrahyronaphthalene
DBF = methyldibenzofuran
MDBF= methyldibenzofuran

P = phenanthrene
MP = methylphenanthrene
DBT = dibenzothiophene
MDBT= methyldibenzothiophene
BP = biphenyl
MBP = methylbiphenyl

NAPH*= 2,6+2,7-DMN + 1,5-DMN + 1,4,6+1,3,5-TMN + 2,3,6-TMN

GC/MS data of the aromatic fraction from well 6407/08-03 (1679.5 m), Norway

VII) Misc. NAPHTHALENES

a) Concentrations (ppm)

2,6-DMN	104	4,5-DMP	4
2,7-DMN	104	2,6+3,6-DMP	33
1,3+1,7-DMN	256	3,5-DMP	30
1,6-DMN	195	2,7-DMP	22
1,4-DMN	n.d.	3,9-DMP	166
2,3-DMN	57	1,6+2,5+2,9-DMP	80
1,5-DMN	86	1,7-DMP	72
1,2-DMN	28	1,9+4,9-DMP	59
1,4+2,3-DMN	57	1,5-DMP	n.d.
		1,8-DMP	16
		1,2-DMP	9
		9,10-DMP	n.d.
1,3,7-TMN	159	1,2,6-TMP	7
1,3,6-TMN	232	1,2,5-TMP	11
1,3,5+1,4,6-TMN	206	1,2,9-TMP	6
2,3,6-TMN	128	1,2,7-TMP	n.d.
1,2,7-TMN	33	1,2,8-TMP	15
1,6,7-TMN	187		
1,2,6-TMN	15		
1,2,4-TMN	16		
1,2,5-TMN	69		
1,3,5,7-TeMN	68		
1,3,6,7-TeMN	75		
1,2,4,7-TeMN	52		
1,2,5,7-TeMN	29		
2,3,6,7-TeMN	22		
1,2,6,7-TeMN	17		
1,2,5,6-TeMN (C4-NAPH)	37		

b) Parameters

1,2,5-TMN/1,3,6-TMN	0.30
1,2,7-TMN/1,3,7-TMN	0.21

The assignment of some of these peaks is tentative

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GC/MS data of the aromatic steroids from well 6407/08-03 (1679.5 m), Norway

I) Monoaromatic steroids
Intensities (arbitrary units)

MA C21 a ?	112
MA C21 b ?	62
MA C22 a ?	100
MA C22 b ??	54
MA C23 a ?	27
MA C23 b ?	15
MA C27 I 20S	28
MA C27 V 20S	109
MA C27 I 20R + MA C27 V 20R	92
MA C27 II 20S	36
MA C28 I 20S	185
MA C28 V 20S	22
MA C27 II 20R	23
MA C28 II 20S	39
MA C28 I 20R + MA C28 V 20R	123
MA C29 I 20S + MA C29 V 20S	133
MA C29 II 20S	36
MA C28 II 20R	57
MA C29 I 20R + MA C29 V 20R	97
MA C29 II 20R	31

II) Triaromatic steroids
Intensities (arbitrary units)

TA C20	185
TA C21	174
TA C22 20S	23
TA C22 20R	22
TA C26 20S	121
TA C26 20R + TA C27 20S	328
TA C28 20S	193
TA C28 20S	n.d.
TA C27 20R	169
TA C29 20S	48
TA C29 20S	26
TA C28 20R	154
TA C29 20R	41

III) Methylated Triaromatic steroids
Intensities (arbitrary units)

1Me TA C21 ?	32
3Me TA C21	65
6Me TA C21 ?	20
4Me TA C21	62
3Me TA C22	43
4Me TA C22	50
3Me TA C27 20S	16
4Me TA C27 20S	28
2Me TA C28 20S	5
3Me TA (C27 + C28) 20S	47
4Me TA (C27 + C28) 20S ?	76
4Me TA (C27 + C28) 20S ?	n.d.
2Me TA C29 20S	7
TA dinosteroid D1	15
3Me TA C29 20S	26
TA dinosteroid D2	40
2Me TA C28 20R	43
4Me TA C29 20S	n.d.
3Me TA C28 20R	30
4Me TA C28 20R	39
TA dinosteroid D3	38
TA dinosteroid D4	48
2Me TA C29 20R	3
3Me TA C29 20R	21
TA dinosteroid D5	38
4Me TA C29 20R	23
TA dinosteroid D6	60

IV) Parameters

% MA C27	28.85
% MA C28	41.26
% MA C29	29.89
TA C28/(MA C29 + TA C28)	0.54
MA(I)/MA(I+II)	0.25
TA(I)/TA(I+II)	0.23
MA C27 V 20S/(MA C27 (I+V) 2	0.80
TA C26 20S/TA C28 20S	0.63
TA C27 20R/TA C28 20R	1.10
3Me TA C28 20R/3Me TA C29 20	1.40
3Me TA C29 20R/(3+4)Me TA C2	0.48
TA (3+4)Me C27 20S/(3+4)Me C	1.72
TA (3+4)Me C28 20R/(3+4)Me C	1.57

S18759901

GC/MS data of the aromatic fraction from well 6407/08-03 (1687 m), Norway

Standard used for calculations: PDP
Discrimination factor : 0.00

I) NAPHTHALENES

a) Concentrations (ppm)		
2-MN		0
1-MN		0
2,6+2,7-DMN		4
1,6-DMN		8
1,5-DMN		6
1,3,5+1,4,6-TMN		14
2,3,6-TMN		5
1,2,5-TMN		5
C4-NAPH		2
THN		3
CAD		20
Total Naphthalenes		67

b) Parameters		
2-MN/1-MN	(MNR)	0.49
2,6+2,7-DMN/1,5-DMN	(DNR-1	0.75
2,3,6-TMN/1,3,5+1,4,6-TMN	(TNR-1	0.34
2,3,6-TMN/1,2,5-TMN	(TNR-2	1.06
2,3,6-TMN/THN		1.67
2,3,6-TMN/Cadelene		0.25

II) PHENANTHRENES

a) Concentrations (ppm)		
P		99
3-MP		8
2-MP		13
9-MP		21
1-MP		16
Total Phenantrenes		158

b) Parameters		
2-MP/1-MP		0.80
1.5*(2+3-MP/(P+1+9-MP))	(MPI-1	0.23
3*(2-MP/(P+1+9-MP))	(MPI-2	0.28
2+3-MP/1+9-MP		0.56
2+3-MP/1+9+2+3-MP		0.36

III) DIBENZOTHIOPHENES

a) Concentrations (ppm)	
DBT	4
4-MDBT	5
2+3-MDBT	3
1-MDBT	1
Total Dibenzothiophenes	13

b) Parameters	
4-MDBT/2+3-MDBT	1.64
4-MDBT/1-MDBT	5.01
2+3-MDBT/1-MDBT	3.06
4-MDBT/DBT	1.16
2+3-MDBT/DBT	0.71
1-MDBT/DBT	0.23

IV) BIPHENYLS

a) Concentrations (ppm)	
BP	0
2-MBP	n.d.
3-MBP	6
4-MBP	2
Total Biphenyls	9

b) Parameters	
3-MBP/BP	16.07
3-MBP/4-MBP	3.21
3-MBP/2-MBP	n.d.

V) DIBENZOFURANS

a) Concentrations (ppm)	
DBF	4
4-MDBF	10
2+3-MDBF	7
1-MDBF	2
Total Dibenzofurans	23

b) Parameters	
4-MDBF/2+3-MDBF	1.45
4-MDBF/1-MDBF	4.11
2+3-MDBF/1-MDBF	2.84
4-MDBF/DBF	2.59
2+3-MDBF/DBF	1.79
1-MDBF/DBF	0.63

VI) OVERALL RATIOS

Biphenyls/NAPH*	0.30
Dibenzothiophenes/NAP	0.44
Dibenzofurans/NAPH*	0.80

MN = methylnaphthalene
DMN = dimethylnaphthalene
TMN = trimethylnaphthalene
THN = tetrahyronaphthalene
DBF = methyldibenzofuran
MDBF= methyldibenzofuran
P = phenanthrene
MP = methylphenanthrene
DBT = dibenzothiophene
MDBT= methyldibenzothiophene
BP = biphenyl
MBP = methylbiphenyl
NAPH*= 2,6+2,7-DMN + 1,5-DMN + 1,4,6+1,3,5-TMN + 2,3,6-TMN

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GC/MS data of the aromatic fraction from well 6407/08-03 (1687 m), Norway

VII) Misc. NAPHTHALENES

a) Concentrations (ppm)

2,6-DMN	2	4,5-DMP	1
2,7-DMN	2	2,6+3,6-DMP	4
1,3+1,7-DMN	10	3,5-DMP	2
1,6-DMN	8	2,7-DMP	2
1,4-DMN	n.d.	3,9-DMP	9
2,3-DMN	4	1,6+2,5+2,9-DMP	6
1,5-DMN	6	1,7-DMP	4
1,2-DMN	2	1,9+4,9-DMP	5
1,4+2,3-DMN	4	1,5-DMP	n.d.
		1,8-DMP	2
		1,2-DMP	0
		9,10-DMP	n.d.
1,3,7-TMN	6	1,2,6-TMP	0
1,3,6-TMN	11	1,2,5-TMP	1
1,3,5+1,4,6-TMN	14	1,2,9-TMP	0
2,3,6-TMN	5	1,2,7-TMP	n.d.
1,2,7-TMN	2	1,2,8-TMP	1
1,6,7-TMN	13		
1,2,6-TMN	1		
1,2,4-TMN	1		
1,2,5-TMN	5		
1,3,5,7-TeMN	2		
1,3,6,7-TeMN	4		
1,2,4,7-TeMN	4		
1,2,5,7-TeMN	1		
2,3,6,7-TeMN	1		
1,2,6,7-TeMN	1		
1,2,5,6-TeMN (C4-NAPH)	2		

b) Parameters

1,2,5-TMN/1,3,6-TMN	0.42
1,2,7-TMN/1,3,7-TMN	0.26

The assignment of some of these peaks is tentative

S18760001

GC/MS data of the aromatic steroids from well 6407/08-03 (1687 m), Norway

I) Monoaromatic steroids
Intensities (arbitrary units)

MA C21 a ?	118
MA C21 b ?	46
MA C22 a ?	100
MA C22 b ??	38
MA C23 a ?	37
MA C23 b ?	13
MA C27 I 20S	31
MA C27 V 20S	66
MA C27 I 20R + MA C27 V 20R	150
MA C27 II 20S	93
MA C28 I 20S	205
MA C28 V 20S	79
MA C27 II 20R	370
MA C28 II 20S	183
MA C28 I 20R + MA C28 V 20R	137
MA C29 I 20S + MA C29 V 20S	243
MA C29 II 20S	492
MA C28 II 20R	96
MA C29 I 20R + MA C29 V 20R	134
MA C29 II 20R	57

II) Triaromatic steroids
Intensities (arbitrary units)

TA C20	750
TA C21	228
TA C22 20S	n.d.
TA C22 20R	n.d.
TA C26 20S	80
TA C26 20R + TA C27 20S	197
TA C28 20S	133
TA C28 20S	n.d.
TA C27 20R	110
TA C29 20S	24
TA C29 20S	10
TA C28 20R	118
TA C29 20R	23

III) Methylated Triaromatic steroids
Intensities (arbitrary units)

1Me TA C21 ?	168
3Me TA C21	174
6Me TA C21 ?	77
4Me TA C21	366
3Me TA C22	27
4Me TA C22	58
3Me TA C27 20S	11
4Me TA C27 20S	20
2Me TA C28 20S	n.d.
3Me TA (C27 + C28) 20S	34
4Me TA (C27 + C28) 20S ?	61
4Me TA (C27 + C28) 20S ?	n.d.
2Me TA C29 20S	8
TA dinosteroid D1	10
3Me TA C29 20S	24
TA dinosteroid D2	26
2Me TA C28 20R	40
4Me TA C29 20S	n.d.
3Me TA C28 20R	20
4Me TA C28 20R	31
TA dinosteroid D3	21
TA dinosteroid D4	30
2Me TA C29 20R	n.d.
3Me TA C29 20R	19
TA dinosteroid D5	26
4Me TA C29 20R	23
TA dinosteroid D6	44

IV) Parameters

% MA C27	28.17
% MA C28	35.16
% MA C29	36.67
TA C28/(MA C29 + TA C28)	0.21
MA(I)/MA(I+II)	0.11
TA(I)/TA(I+II)	0.58
MA C27 V 20S/(MA C27 (I+V) 2	0.68
TA C26 20S/TA C28 20S	0.61
TA C27 20R/TA C28 20R	0.93
3Me TA C28 20R/3Me TA C29 20	1.09
3Me TA C29 20R/(3+4)Me TA C2	0.45
TA (3+4)Me C27 20S/(3+4)Me C	1.30
TA (3+4)Me C28 20R/(3+4)Me C	1.23

S18760001

GC/MS data of the aromatic fraction from well 6407/08-03 (1704 m), Norway

Standard used for calculations: PDP
Discrimination factor : 0.00

I) NAPHTHALENES

a) Concentrations (ppm)

2-MN	0
1-MN	0
2,6+2,7-DMN	1
1,6-DMN	1
1,5-DMN	1
1,3,5+1,4,6-TMN	4
2,3,6-TMN	1
1,2,5-TMN	1
C4-NAPH	1
THN	1
CAD	8
Total Naphthalenes	19

b) Parameters

2-MN/1-MN	(MNR)	0.51
2,6+2,7-DMN/1,5-DMN	(DNR-1	0.76
2,3,6-TMN/1,3,5+1,4,6-TMN	(TNR-1	0.36
2,3,6-TMN/1,2,5-TMN	(TNR-2	1.01
2,3,6-TMN/THN		1.81
2,3,6-TMN/Cadelene		0.18

II) PHENANTHRENES

a) Concentrations (ppm)

P	50
3-MP	4
2-MP	6
9-MP	7
1-MP	5
Total Phenantrenes	71

b) Parameters

2-MP/1-MP		1.14
1.5*(2+3-MP/(P+1+9-MP))	(MPI-1	0.22
3*(2-MP/(P+1+9-MP))	(MPI-2	0.27
2+3-MP/1+9-MP		0.78
2+3-MP/1+9+2+3-MP		0.44

III) DIBENZOTHIOPHENES

a) Concentrations (ppm)

DBT	3
4-MDBT	2
2+3-MDBT	1
1-MDBT	1
Total Dibenzothiophenes	7

b) Parameters

4-MDBT/2+3-MDBT	1.59
4-MDBT/1-MDBT	4.25
2+3-MDBT/1-MDBT	2.67
4-MDBT/DBT	0.87
2+3-MDBT/DBT	0.54
1-MDBT/DBT	0.20

IV) BIPHENYLS

a) Concentrations (ppm)

BP	0
2-MBP	n.d.
3-MBP	1
4-MBP	0
Total Biphenyls	2

b) Parameters

3-MBP/BP	29.83
3-MBP/4-MBP	3.38
3-MBP/2-MBP	n.d.

V) DIBENZOFURANS

a) Concentrations (ppm)

DBF	1
4-MDBF	2
2+3-MDBF	2
1-MDBF	1
Total Dibenzofurans	5

b) Parameters

4-MDBF/2+3-MDBF	1.45
4-MDBF/1-MDBF	3.89
2+3-MDBF/1-MDBF	2.69
4-MDBF/DBF	2.90
2+3-MDBF/DBF	2.00
1-MDBF/DBF	0.75

VI) OVERALL RATIOS

Biphenyls/NAPH*	0.24
Dibenzothiophenes/NAP	1.06
Dibenzofurans/NAPH*	0.79

MN = methylnaphthalene
DMN = dimethylnaphthalene
TMN = trimethylnaphthalene
THN = tetrahyronaphthalene
DBF = methyldibenzofuran
MDBF= methyldibenzofuran
P = phenanthrene
MP = methylphenanthrene
DBT = dibenzothiophene
MDBT= methyldibenzothiophene
BP = biphenyl
MBP = methylbiphenyl
NAPH*= 2,6+2,7-DMN + 1,5-DMN + 1,4,6+1,3,5-TMN + 2,3,6-TMN

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GC/MS data of the aromatic fraction from well 6407/08-03 (1704 m), Norway

/II) Misc. NAPHTHALENES

a) Concentrations (ppm)

2,6-DMN	0	4,5-DMP	0
2,7-DMN	0	2,6+3,6-DMP	1
1,3+1,7-DMN	1	3,5-DMP	1
1,6-DMN	1	2,7-DMP	1
1,4-DMN	n.d.	3,9-DMP	4
2,3-DMN	1	1,6+2,5+2,9-DMP	2
1,5-DMN	1	1,7-DMP	2
1,2-DMN	0	1,9+4,9-DMP	2
1,4+2,3-DMN	1	1,5-DMP	n.d.
		1,8-DMP	1
		1,2-DMP	0
		9,10-DMP	n.d.
1,3,7-TMN	2	1,2,6-TMP	0
1,3,6-TMN	3	1,2,5-TMP	0
1,3,5+1,4,6-TMN	4	1,2,9-TMP	0
2,3,6-TMN	1	1,2,7-TMP	n.d.
1,2,7-TMN	1	1,2,8-TMP	0
1,6,7-TMN	4		
1,2,6-TMN	0		
1,2,4-TMN	0		
1,2,5-TMN	1		
1,3,5,7-TeMN	1		
1,3,6,7-TeMN	1		
1,2,4,7-TeMN	1		
1,2,5,7-TeMN	1		
2,3,6,7-TeMN	n.d.		
1,2,6,7-TeMN	n.d.		
1,2,5,6-TeMN (C4-NAPH)	1		

b) Parameters

1,2,5-TMN/1,3,6-TMN	0.45
1,2,7-TMN/1,3,7-TMN	0.37

The assignment of some of these peaks is tentative

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GC/MS data of the aromatic steroids from well 6407/08-03 (1704 m), Norway

I) Monoaromatic steroids
Intensities (arbitrary units)

MA C21 a ?	75
MA C21 b ?	59
MA C22 a ?	100
MA C22 b ??	39
MA C23 a ?	36
MA C23 b ?	21
MA C27 I 20S	80
MA C27 V 20S	117
MA C27 I 20R + MA C27 V 20R	200
MA C27 II 20S	104
MA C28 I 20S	346
MA C28 V 20S	53
MA C27 II 20R	371
MA C28 II 20S	263
MA C28 I 20R + MA C28 V 20R	291
MA C29 I 20S + MA C29 V 20S	432
MA C29 II 20S	483
MA C28 II 20R	205
MA C29 I 20R + MA C29 V 20R	264
MA C29 II 20R	90

II) Triaromatic steroids
Intensities (arbitrary units)

TA C20	581
TA C21	302
TA C22 20S	30
TA C22 20R	15
TA C26 20S	134
TA C26 20R + TA C27 20S	303
TA C28 20S	232
TA C28 20S	n.d.
TA C27 20R	181
TA C29 20S	42
TA C29 20S	18
TA C28 20R	166
TA C29 20R	29

III) Methylated Triaromatic steroids
Intensities (arbitrary units)

1Me TA C21 ?	116
3Me TA C21	111
6Me TA C21 ?	28
4Me TA C21	326
3Me TA C22	42
4Me TA C22	80
3Me TA C27 20S	25
4Me TA C27 20S	26
2Me TA C28 20S	14
3Me TA (C27 + C28) 20S	67
4Me TA (C27 + C28) 20S ?	95
4Me TA (C27 + C28) 20S ?	n.d.
2Me TA C29 20S	21
TA dinosteroid D1	16
3Me TA C29 20S	33
TA dinosteroid D2	44
2Me TA C28 20R	59
4Me TA C29 20S	n.d.
3Me TA C28 20R	40
4Me TA C28 20R	51
TA dinosteroid D3	43
TA dinosteroid D4	49
2Me TA C29 20R	n.d.
3Me TA C29 20R	36
TA dinosteroid D5	53
4Me TA C29 20R	38
TA dinosteroid D6	70

IV) Parameters

% MA C27	25.62
% MA C28	37.16
% MA C29	37.21
TA C28/(MA C29 + TA C28)	0.24
MA(I)/MA(I+II)	0.07
TA(I)/TA(I+II)	0.44
MA C27 V 20S/(MA C27 (I+V) 2	0.59
TA C26 20S/TA C28 20S	0.58
TA C27 20R/TA C28 20R	1.09
3Me TA C28 20R/3Me TA C29 20	1.13
3Me TA C29 20R/(3+4)Me TA C2	0.49
TA (3+4)Me C27 20S/(3+4)Me C	1.19
TA (3+4)Me C28 20R/(3+4)Me C	1.24

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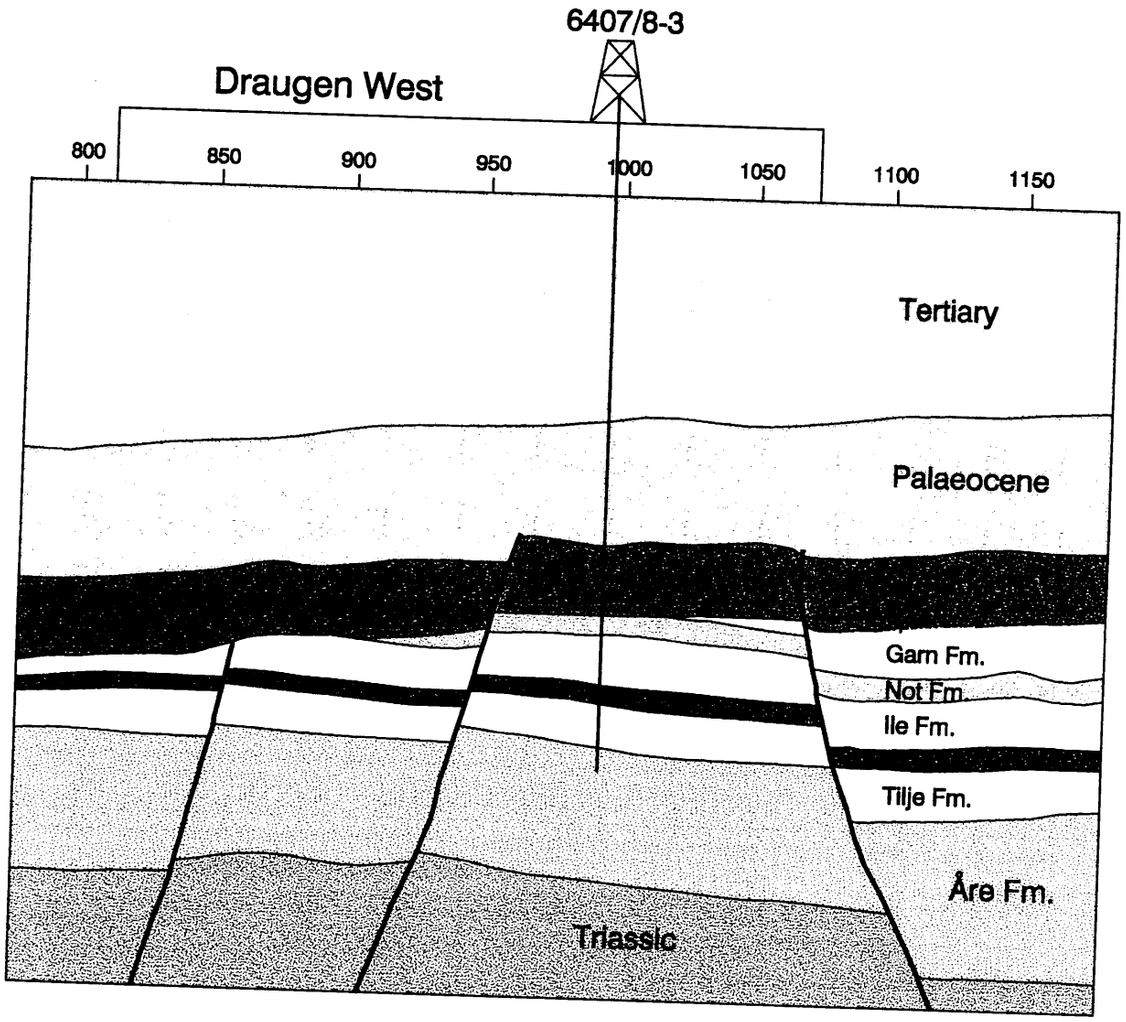
Geochemical Evaluation Report
Well 6407/8-3



by
R.I. Crisp and R.R. Olsen
November 1997

BP Norge

NOCS 6407/8-3 W25

TABLE 1.1

LITHOLOGY AND STRATIGRAPHY

COUNTRY: **Norway**
WELL: **6407/8-3**

DEPTH m	DEPTHRANGE m	FORMATION	AGE	LITHOLOGY	PICKED LITHOLOGY	SAMPLE TYPE
1622				MDST-m gy 100%	Mudstone	CUT
1634				MDST-m gy 100%	Mudstone	CUT
1640				MDST-m gy 100%	Mudstone	CUT
1646				MDST-m-dk gy 100%	Mudstone	CUT
1652				MDST-dk gy 100%	Mudstone	CUT
1658				MDST-dk gy 100%	Mudstone	CUT
1664				MDST-dk gy 100%	Mudstone	CUT
1670				MDST-m-dk gy 95%:MDST-m bn 5%	Bulk	CUT
1673				MDST-m gy 40%:MDST-dk gy 60%	Bulk	CUT
1679				MDST-dk gy 95%:SLTST-m bn 5%	Mudstone	CUT
1685				MDST-dk gy 85%:SLTST-m gy/bn 15%	Mudstone	CUT
1691				MDST-dk gy 30%:SLTST-m gy/bn 70%	Mudstone	CUT
1700				MDST-m gy 80%:MDST-dk gy 10%:SLTST-lt gy 10%	Mudstone	CUT
1715				MDST-m gy 85%:SLTST-lt bn 15%	Mudstone	CUT
1730				MDST-m gy 40%:SLTST-lt gy 60%	Bulk	CUT
1745				MDST-m gy 40%:SLTST-lt gy 60%	Mudstone	CUT
1757				MDST-m gy 40%:SLTST-lt gy 60%	Mudstone	CUT
1763				MDST-m gy 40%:SLTST-lt gy 60%	Mudstone	CUT
1772				MDST-m gy 40%:SLTST-lt gy 60%	Mudstone	CUT
1796				MDST-m gy/bn slty 40%:SLTST-lt gy 60%	Mudstone	CUT
1805				MDST-m gy/bn slty 80%:SLTST-lt gy 20%	Mudstone	CUT
1820				MDST-m gy/bn slty 95%:SLTST-lt gy 5%	Mudstone	CUT
1826				MDST-m gy/bn slty 95%:SLTST-lt gy 5%	Mudstone	CUT
1835				MDST-m gy/bn slty 100%	Mudstone	CUT
1841				MDST-m gy/bn slty 100%	Mudstone	CUT
1847				MDST-m gy/bn slty 100%	Mudstone	CUT
1868				MDST-m gy/bn slty 95%:SLTST-lt gy 5%	Mudstone	CUT
1877				MDST-m gy/bn slty 95%:SLTST-lt gy 5%	Mudstone	CUT
1895				MDST-lt-m gy/bn slty 80%:SLTST-lt gy 20%	Mudstone	CUT

TABLE 1.2

LITHOLOGY AND STRATIGRAPHY

COUNTRY: **Norway**
WELL: **6407/8-3**

DEPTH m	DEPTHRANGE m	FORMATION	AGE	LITHOLOGY	PICKED LITHOLOGY	SAMPLE TYPE
1907				MDST-lt-m gy/bn slty 80%:SLTST-lt gy 20%	Mudstone	CUT
1919				MDST-lt-m gy/bn slty 80%:SLTST-lt gy 20%	Mudstone	CUT
1928				MDST-lt-m gy/bn slty 80%:SLTST-lt gy 20%	Mudstone	CUT
1940				MDST-lt-m gy/bn slty 80%:SLTST-lt gy 20%	Mudstone	CUT
1958				MDST-lt-m gy/bn slty 80%:SLTST-lt gy 20%	Mudstone	CUT
1960				MDST-lt-m gy/bn slty 80%:SLTST-lt gy 20%	Mudstone	CUT

TABLE 2.

OPTICAL SOURCE ROCK MATURITY INDICATORS

COUNTRY Norway
WELL: 6407/8-3

DEPTH	FORMATION	VITRINITE (%Ro)	NO. of READINGS	CONFIDENCE	COMMENTS
1070		0.28	20	C	L;VPAR+WPAR 100% IPAR TR;BS LT BW L-MOD;SP G/Y+Y L
1160		0.29	20	C	L;VPAR+WPAR 90% IPAR 10%;BS LT BW MOD;SP Y+M.O. L Dinofagellates Y TR
1260		0.27	20	C	L-MOD;VPAR 100% IPAR TR;BS LT/MOD BW MOD;SP Y+M.O. L
1367		0.31	3	D	BAR;IPAR TR VPAR TR;BS TR BW TR;SP Y TR
1463		0.31	20	C	L-MOD;IPAR 70% VPAR+WPAR 30%;BS LT/MOD BW MOD;SP Y+M.O. TR
1553		0.36	20	C	MOD;IPAR 90% VPAR+WPAR 10%;BS MOD BW MOD;SP Y+Y/O MOD
1664		0.37	20	C	MOD;IPAR 90% VPAR+WPAR 10%;BS MOD/RI BW+BBL RI;SP Y-Y/O L
1763		0.34	5	C	L-MOD;IPAR 80% VPAR+WPAR 20%;BS LT+MOD BW MOD;SP Y+Y/O TR
1868		0.35	20	C	MOD;IPAR+WPAR 80% VPAR+WPAR 20%;BS LT BW MOD;SP Y+Y/O MOD Dinoflagellates Y TR
1960		0.34	20	C	L-MOD;IPAR+WPAR 80% VPAR+WPAR 20%;BS LT/MOD BW L/MOD;SP G-Y/O L/MOD

Confidence A=Excellent B=Good C=Average D=Poor E=Unreliable

TABLE 3.1

SOURCE ROCK QUALITY INDICATORS

COUNTRY: Norway
WELL: 6407/8-3

DEPTH (M)	DEPTHRANGE (M)	FORMATION	PICKED LITHOLOGY	S1 (kg/t)	S1 (mg/gC)	S2 (kg/t)	TOC (%)	TMAX deg C	HI	GOGI	CARBT (%)	S (%)
1622			Mudstone	1.0	100.9	3.3	1.00	393	332		5.6	0.69
1634			Mudstone				0.15				87.4	0.11
1640			Mudstone	1.1	94.8	4.3	1.11	396	386		8.6	0.93
1646			Mudstone	2.0	32.4	28.4	6.07	425	467		4.9	3.09
1652			Mudstone	2.0	31.0	29.2	6.30	411	464		5.3	3.87
1658			Mudstone	2.1	33.5	26.2	6.39	409	411		4.1	3.46
1664			Mudstone	3.0	45.0	30.5	6.74	417	453		6.0	3.71
1670			Mudstone	3.6	59.4	25.0	5.99	418	417		7.4	4.17
1673			Mudstone	3.1	68.8	17.6	4.53	413	389		6.9	3.46
1679			Mudstone	3.0	45.1	25.6	6.58	417	390		0.0	3.96
1685			Mudstone	3.4	49.9	27.9	6.76	420	412		5.5	3.91
1691			Mudstone	0.9	75.8	3.4	1.19	374	282		10.0	1.15
1700			Mudstone	1.1	55.9	6.5	1.96	430	331		11.8	2.06
1715			Mudstone	1.5	74.7	6.4	1.96	422	327		16.2	1.78
1730			Mudstone				0.79				34.8	1.70
1745			Mudstone	2.1	81.1	8.7	2.53	423	344		12.5	2.40
1757			Mudstone	2.3	131.2	5.3	1.76	417	302		14.7	1.75
1763			Mudstone	2.3	117.6	6.2	1.99	426	313		12.7	1.62
1772			Mudstone	2.1	101.1	5.8	2.04	428	282		12.4	1.10
1796			Mudstone	2.2	120.8	4.8	1.86	430	259		15.5	0.66
1805			Mudstone	2.0	118.6	5.5	1.65	430	333		15.2	0.54
1820			Mudstone	1.3	128.8	4.0	1.05	428	379		13.5	0.32
1826			Mudstone	1.4	124.4	3.6	1.14	429	315		14.6	0.33
1835			Mudstone	1.8	142.8	4.7	1.24	432	376		12.6	0.50
1841			Mudstone	1.8	131.0	5.2	1.39	425	374		18.3	1.07
1847			Mudstone	1.9	120.5	6.1	1.54	425	397		15.2	1.01
1868			Mudstone	1.9	116.7	6.7	1.60	429	418		14.9	0.88
1877			Mudstone	0.8	61.5	5.6	1.32	367	428		17.0	0.60
1895			Mudstone	1.4	96.2	5.8	1.46	434	397		16.3	0.16

Table 3.2

SOURCE ROCK QUALITY INDICATORS

COUNTRY: Norway
WELL: 6407/8-3

DEPTH (M)	DEPTHRANGE (M)	FORMATION	PICKED LITHOLOGY	S1 (kg/t)	S1 (mg/gC)	S2 (kg/t)	TOC (%)	TMAX deg C	HI	GOGI	CARBT (%)	S (%)
1907			Mudstone	1.6	102.5	5.9	1.54	435	382		18.3	0.33
1919			Mudstone	1.5	87.8	6.7	1.71	431	392		19.6	0.24
1928			Mudstone	0.9	56.4	5.9	1.64	436	357		19.1	0.35
1940			Mudstone	1.2	56.0	7.0	2.22	371	317		21.3	0.77
1958			Mudstone	1.5	66.2	9.3	2.31	369	404		18.9	0.88
1960			Mudstone	1.9	65.6	9.2	2.93	384	313		16.5	0.71

Sediment/Extract Analysis

Well name :	6407/8-3
Suite name :	6407/8-3 (Draugen West) Sidewall Cores
Country Of Origin :	Norway
Depth (m) :	1683
Sample name :	

Extraction

TSE %wt : 0.264

HPLC

Saturates %wt :	
Aromatics %wt :	
Residues %wt :	
Asphaltenes (Micro Method) %wt :	

Inspection Properties

API :	
Density @ 15 deg C :	
Wax Content %wt :	
Wax Melting Point deg C :	
Pour Point deg C :	
Viscocity cSt @ 20 deg C :	
Total Acidity mg KOH/g :	
Asphaltenes %wt (IP Method) :	
Nitrogen ppm :	
Sulphur %wt :	
Nickel ppm :	
Vanadium ppm :	
Nickel/Vanadium :	

Saturates GC

Pristane/Phytane :	
Pristane/nC17 :	
Phytane/nC18 :	
CPI :	
ALKIND :	
R22 :	

Biomarker Ratios

H1 :	0.44
H2 :	0.36
H3 :	0.83
H4 :	8
H5 :	100:105:64:34:15:15
H6 :	0.41
H7 :	0.49
H8 :	
H9 :	
H10 :	
H11 :	21.89
H12 :	15.97
H13 :	14.70
H14 :	5.33
H15 :	0.00
H16 :	0.00
H17 :	49.21
H18 :	0.00

S1 :	0.36
S2 :	0.53
S3 :	53:17:29
S4 :	36:25:37
S5 :	16.22
S6 :	
S7 :	64.39
S8 :	
S9 :	
S10 :	

M2 :	0.36
M3 :	0.24
M4 :	70.94
M5 :	
A1 :	0.08
A2 :	0.16
A3 :	0.82
A4 :	0.52
A5 :	0.45
A6 :	1.30
MDR :	1.68
MBP :	17.26

Light Hydrocarbons

MCH % :	
HER :	
HXR :	

Stable Carbon Isotopes

Saturates :	
Total Oil :	
Aromatics :	
Residue :	
Asphaltenes :	
Kerogen :	
STANDARD:	

Table 4.1

Sediment/Extract Analysis

Well name :	6407/8-3
Suite name :	6407/8-3 (Draugen West) Sidewall Cores
Country Of Origin :	Norway
Depth (m) :	1711
Sample name :	

Extraction

TSE %wt : 0.216

HPLC

Saturates %wt :	
Aromatics %wt :	
Residues %wt :	
Asphaltenes (Micro Method) %wt :	

Inspection Properties

API :	
Density @ 15 deg C :	
Wax Content %wt :	
Wax Melting Point deg C :	
Pour Point deg C :	
Viscocity cSt @ 20 deg C :	
Total Acidity mg KOH/g :	
Asphaltenes %wt (IP Method) :	
Nitrogen ppm :	
Sulphur %wt :	
Nickel ppm :	
Vanadium ppm :	
Nickel/Vanadium :	

Saturates GC

Pristane/Phytane :	0.81
Pristane/nC17 :	0.40
Phytane/nC18 :	0.40
CPI :	1.13
ALKIND :	66.57
R22 :	1.01

Biomarker Ratios

H1 :	0.55
H2 :	0.40
H3 :	0.86
H4 :	
H5 :	100:104:55:26:17:13
H6 :	0.40
H7 :	0.57
H8 :	
H9 :	
H10 :	
H11 :	19.80
H12 :	16.21
H13 :	7.06
H14 :	0.00
H15 :	0.00
H16 :	0.74
H17 :	43.30
H18 :	0.00

S1 :	0.55
S2 :	0.55
S3 :	52:22:25
S4 :	40:25:33
S5 :	23.18
S6 :	
S7 :	67.69
S8 :	
S9 :	
S10 :	

M2 :	0.50
M3 :	0.35
M4 :	71.78
M5 :	
A1 :	0.27
A2 :	0.46
A3 :	0.89
A4 :	0.70
A5 :	0.27
A6 :	1.20
MDR :	2.38
MBP :	43.37

Light Hydrocarbons

MCH % :	
HER :	
HXR :	

Stable Carbon Isotopes

Saturates :	
Total Oil :	
Aromatics :	
Residue :	
Asphaltenes :	
Kerogen :	
STANDARD:	

Table 4.2

Sediment/Extract Analysis

Well name :	6407/8-3
Suite name :	6407/8-3 (Draugen West) Sidewall Cores
Country Of Origin :	Norway
Depth (m) :	1732
Sample name :	

Extraction

TSE %wt : 0.639

HPLC

Saturates %wt :	
Aromatics %wt :	
Residues %wt :	
Asphaltenes (Micro Method) %wt :	

Inspection Properties

API :	
Density @ 15 deg C :	
Wax Content %wt :	
Wax Melting Point deg C :	
Pour Point deg C :	
Viscocity cSt @ 20 deg C :	
Total Acidity mg KOH/g :	
Asphaltenes %wt (IP Method) :	
Nitrogen ppm :	
Sulphur %wt :	
Nickel ppm :	
Vanadium ppm :	
Nickel/Vanadium :	

Saturates GC

Pristane/Phytane :	0.68
Pristane/nC17 :	0.60
Phytane/nC18 :	0.48
CPI :	1.14
ALKIND :	87.63
R22 :	1.00

Biomarker Ratios

H1 :	0.57
H2 :	0.42
H3 :	0.91
H4 :	3
H5 :	100:116:55:23:14:11
H6 :	0.32
H7 :	0.59
H8 :	
H9 :	
H10 :	
H11 :	16.46
H12 :	18.88
H13 :	5.45
H14 :	0.00
H15 :	0.00
H16 :	0.00
H17 :	44.12
H18 :	0.00

S1 :	0.41
S2 :	0.54
S3 :	42:14:43
S4 :	33:26:40
S5 :	26.15
S6 :	
S7 :	49.69
S8 :	
S9 :	
S10 :	

M2 :	
M3 :	
M4 :	68.59
M5 :	
A1 :	0.08
A2 :	0.42
A3 :	0.96
A4 :	0.90
A5 :	0.00
A6 :	0.78
MDR :	
MBP :	

Light Hydrocarbons

MCH % :	
HER :	
HXR :	

Stable Carbon Isotopes

Saturates :	
Total Oil :	
Aromatics :	
Residue :	
Asphaltenes :	
Kerogen :	
STANDARD:	

Table 4.3

Sediment/Extract Analysis

Well name :	6407/8-3
Suite name :	6407/8-3 (Draugen West) Sidewall Cores
Country Of Origin :	Norway
Depth (m) :	1735
Sample name :	

Extraction

TSE %wt : 0.489

HPLC

Saturates %wt :	
Aromatics %wt :	
Residues %wt :	
Asphaltenes (Micro Method) %wt :	

Inspection Properties

API :	
Density @ 15 deg C :	
Wax Content %wt :	
Wax Melting Point deg C :	
Pour Point deg C :	
Viscocity cSt @ 20 deg C :	
Total Acidity mg KOH/g :	
Asphaltenes %wt (IP Method) :	
Nitrogen ppm :	
Sulphur %wt :	
Nickel ppm :	
Vanadium ppm :	
Nickel/Vanadium :	

Saturates GC

Pristane/Phytane :	2.02
Pristane/nC17 :	0.66
Phytane/nC18 :	0.37
CPI :	1.14
ALKIND :	93.34
R22 :	1.01

Biomarker Ratios

H1 :	0.65	**S1 :**	0.46	**M2 :**	
H2 :	0.43	**S2 :**	0.51	**M3 :**	
H3 :	0.88	**S3 :**	36:22:40	**M4 :**	69.59
H4 :	4	**S4 :**	39:25:35	**M5 :**	
H5 :	100:97:55:27:14:12	**S5 :**	35.31	**A1 :**	0.05
H6 :	0.38	**S6 :**		**A2 :**	0.08
H7 :	0.61	**S7 :**	47.64	**A3 :**	0.65
H8 :		**S8 :**		**A4 :**	0.34
H9 :		**S9 :**		**A5 :**	0.40
H10 :		**S10 :**		**A6 :**	1.19
H11 :	12.38			**MDR :**	
H12 :	13.08			**MBP :**	
H13 :	9.66				
H14 :	0.00				
H15 :	0.00				
H16 :	0.00				
H17 :	45.90				
H18 :	0.00				

Light Hydrocarbons

MCH % :	
HER :	
HXR :	

Stable Carbon Isotopes

Saturates :	
Total Oil :	
Aromatics :	
Residue :	
Asphaltenes :	
Kerogen :	
STANDARD:	

Table 4.4

Sediment/Extract Analysis

Well name :	6407/8-3
Suite name :	6407/8-3 (Draugen West) Sidewall Cores
Country Of Origin :	Norway
Depth (m) :	1773
Sample name :	

Extraction

TSE %wt : 0.590

HPLC

Saturates %wt :	
Aromatics %wt :	
Residues %wt :	
Asphaltenes (Micro Method) %wt :	

Inspection Properties

API :	
Density @ 15 deg C :	
Wax Content %wt :	
Wax Melting Point deg C :	
Pour Point deg C :	
Viscocity cSt @ 20 deg C :	
Total Acidity mg KOH/g :	
Asphaltenes %wt (IP Method) :	
Nitrogen ppm :	
Sulphur %wt :	
Nickel ppm :	
Vanadium ppm :	
Nickel/Vanadium :	

Saturates GC

Pristane/Phytane :	0.68
Pristane/nC17 :	1.26
Phytane/nC18 :	1.23
CPI :	1.21
ALKIND :	25.64
R22 :	0.69

Biomarker Ratios

H1 :	0.29
H2 :	0.22
H3 :	0.79
H4 :	56
H5 :	100:47:39:14:9:8
H6 :	0.45
H7 :	0.39
H8 :	
H9 :	
H10 :	
H11 :	8.16
H12 :	3.80
H13 :	25.88
H14 :	23.95
H15 :	0.00
H16 :	2.23
H17 :	46.07
H18 :	0.00

S1 :	0.37
S2 :	0.31
S3 :	32:23:43
S4 :	27:23:49
S5 :	21.34
S6 :	
S7 :	42.74
S8 :	
S9 :	
S10 :	

M2 :	0.38
M3 :	0.33
M4 :	31.29
M5 :	
A1 :	0.03
A2 :	0.29
A3 :	0.97
A4 :	0.92
A5 :	0.00
A6 :	1.25
MDR :	2.86
MBP :	15.14

Light Hydrocarbons

MCH % :	
HER :	
HXR :	

Stable Carbon Isotopes

Saturates :	
Total Oil :	
Aromatics :	
Residue :	
Asphaltenes :	
Kerogen :	
STANDARD:	

Table 4.5

Sediment/Extract Analysis

Well name : 6407/8-3
Suite name : 6407/8-3 (Draugen West) Sidewall Cores
Country Of Origin : Norway
Depth (m) : 1793
Sample name :

Extraction

TSE %wt : 0.281

HPLC

Saturates %wt :
Aromatics %wt :
Residues %wt :
Asphaltenes (Micro Method) %wt :

Inspection Properties

API :
Density @ 15 deg C :
Wax Content %wt :
Wax Melting Point deg C :
Pour Point deg C :
Viscocity cSt @ 20 deg C :
Total Acidity mg KOH/g :
Asphaltenes %wt (IP Method) :
Nitrogen ppm :
Sulphur %wt :
Nickel ppm :
Vanadium ppm :
Nickel/Vanadium :

Saturates GC

Pristane/Phytane :
Pristane/nC17 :
Phytane/nC18 :
CPI :
ALKIND :
R22 :

Biomarker Ratios

H1 : 0.59
H2 : 0.43
H3 : 0.92
H4 : 14
H5 : 100:108:47:25:13:13
H6 : 0.35
H7 : 0.60
H8 :
H9 :
H10 :
H11 : 20.30
H12 : 18.12
H13 : 6.64
H14 : 0.00
H15 : 0.00
H16 : 0.00
H17 : 48.76
H18 : 0.00

S1 : 0.56
S2 : 0.52
S3 : 45:23:30
S4 : 36:27:36
S5 : 24.47
S6 :
S7 : 59.81
S8 :
S9 :
S10 :

M2 :
M3 :
M4 : 66.03
M5 :
A1 : 0.13
A2 : 0.12
A3 : 0.42
A4 : 0.19
A5 : 0.33
A6 : 0.90
MDR :
MBP :

Light Hydrocarbons

MCH % :
HER :
HXR :

Stable Carbon Isotopes

Saturates :
Total Oil :
Aromatics :
Residue :
Asphaltenes :
Kerogen :

STANDARD:

Table 4.6

Sediment/Extract Analysis

Well name :	6407/8-3
Suite name :	6407/8-3 (Draugen West) Sidewall Cores
Country Of Origin :	Norway
Depth (m) :	1845
Sample name :	

Extraction

TSE %wt : 0.249

HPLC

Saturates %wt :	
Aromatics %wt :	
Residues %wt :	
Asphaltenes (Micro Method) %wt :	

Inspection Properties

API :	
Density @ 15 deg C :	
Wax Content %wt :	
Wax Melting Point deg C :	
Pour Point deg C :	
Viscocity cSt @ 20 deg C :	
Total Acidity mg KOH/g :	
Asphaltenes %wt (IP Method) :	
Nitrogen ppm :	
Sulphur %wt :	
Nickel ppm :	
Vanadium ppm :	
Nickel/Vanadium :	

Saturates GC

Pristane/Phytane :	0.34
Pristane/nC17 :	1.26
Phytane/nC18 :	1.01
CPI :	1.42
ALKIND :	39.16
R22 :	1.62

Biomarker Ratios

H1 :	0.30	**S1 :**	0.21	**M2 :**	
H2 :	0.18	**S2 :**	0.39	**M3 :**	
H3 :	0.80	**S3 :**	42:15:41	**M4 :**	58.91
H4 :	10	**S4 :**	32:23:44	**M5 :**	
H5 :	100:93:77:33:17:6	**S5 :**	20.15	**A1 :**	0.04
H6 :	0.34	**S6 :**		**A2 :**	0.25
H7 :	0.41	**S7 :**	50.81	**A3 :**	0.96
H8 :		**S8 :**		**A4 :**	0.90
H9 :		**S9 :**		**A5 :**	0.46
H10 :		**S10 :**		**A6 :**	0.71
H11 :	15.70			**MDR :**	
H12 :	17.31			**MBP :**	48.02
H13 :	0.00				
H14 :	0.00				
H15 :	0.00				
H16 :	0.00				
H17 :	27.43				
H18 :	0.00				

Light Hydrocarbons

MCH % :	
HER :	
HXR :	

Stable Carbon Isotopes

Saturates :	
Total Oil :	
Aromatics :	
Residue :	
Asphaltenes :	
Kerogen :	
STANDARD:	

Table 4.7

Sediment/Extract Analysis

Well name : 6407/8-3
Suite name : 6407/8-3 (Draugen West) Sidewall Cores
Country Of Origin : Norway
Depth (m) : 1857
Sample name :

Extraction

TSE %wt : 0.321

HPLC

Saturates %wt :
Aromatics %wt :
Residues %wt :

Asphaltenes (Micro Method) %wt :

Inspection Properties

API :
Density @ 15 deg C :
Wax Content %wt :
Wax Melting Point deg C :
Pour Point deg C :
Viscocity cSt @ 20 deg C :
Total Acidity mg KOH/g :
Asphaltenes %wt (IP Method) :
Nitrogen ppm :
Sulphur %wt :
Nickel ppm :
Vanadium ppm :
Nickel/Vanadium :

Saturates GC

Pristane/Phytane : 0.41
Pristane/nC17 : 0.77
Phytane/nC18 : 0.66
CPI : 1.27
ALKIND : 58.41
R22 : 0.97

Biomarker Ratios

H1 : 0.39
H2 : 0.30
H3 : 0.84
H4 : 51
H5 : 100:116:60:27:16:10
H6 : 0.44
H7 : 0.52
H8 :
H9 :
H10 :
H11 : 11.44
H12 : 17.25
H13 : 10.81
H14 : 4.43
H15 : 0.00
H16 : 0.00
H17 : 38.25
H18 : 0.00

S1 : 0.43
S2 : 0.53
S3 : 41:18:40
S4 : 38:23:38
S5 : 31.47
S6 :
S7 : 50.66
S8 :
S9 :
S10 :

M2 :
M3 :
M4 : 68.43
M5 :
A1 : 0.07
A2 : 0.22
A3 : 0.92
A4 : 0.80
A5 : 0.29
A6 : 0.80
MDR :
MBP : 73.58

Light Hydrocarbons

MCH % :
HER :
HXR :

Stable Carbon Isotopes

Saturates :
Total Oil :
Aromatics :
Residue :
Asphaltenes :
Kerogen :

STANDARD:

Table 4.8

Appendices A

Vitrinite Reflectance Codes

VITRINITE ABBREVIATIONS

ANS - Anisotropic
BAR - Virtually Barren
BS - Bitumen Staining
CARB - Carbargilite
COR - Corroded
DD - Differentiation Difficult
DMA - Drilling Mud Additive
F - Few
FR - Fragments
G - Good
HI - High
IGN - Igneous Traces
IRON - Iron Oxides
LGN - Lignite
LT - Light
M - Mostly
NDP - No Determination Possible
OBS - Overall Bitumen Staining
OX - Indications of Oxidation
PAR - Particles
PL - Plentiful or Plenty
PY - Pyrite
RES - Resin
RM - Reworked Material
S - Some
SH - Shale
SML - Small
STC - Structure
SUB - Subordinate
TEL - Telinitic
V - Vitrinite
VL - Very Low Organic Content
VST - Vitrinite Stringers
W - Wisps or Wispy
* - Allocthonous
? - Questionable

B - Bitumen
BL - Blebs
BW - Bitumen Wisps
CAV - Caved
CTGS - Cuttings
DEC - Decomposed
DOM - Dominant
FL - Fluorescence
GN - Gnarled
HAE - Haematite
I - Inertinite
INST - Interstitial
L - Low
LOW - Low Reflectances
MAT - Maturity
MOD - Moderate
NTV - No True Vitrinite
OCC - Occasional
P - Poor
PHY - Phytoclast content
POS - Possibly
R - Reworked
RI - Rich
RO - Reflectance Measurement
SC - Scruffy
SLT - Siltstone
SPE - Specks
STR - Strongly
TB - Turbo-drilled
TR - Trace
VAR - Variable RO
VLT - Very Light
VW - Vitrinite Wisps
WH - Wholly
= - Equal Proportions

SPORE FLUORESCENCE COLOURS UNDER ULTRAVIOLET LIGHT

G - Green
O - Orange
LT - Light
D - Deep
ALG - Algae
HYD - Hydrocarbon
RH - Rhombs

Y - Yellow
R - Red
M - Mid
P - Pale
CAR - Carbonate
RES - Resin
SP - Spores

Appendices B

Molecular Parameters List

MOLECULAR PARAMETER LIST

LGC CODE	PARAMETER	USE
H1	C32 HOPANE 22S/(22S+22R)	M
H2	C31 HOPANE 22S/(22S+22R)	M
H3	C30 HOPANE/(C30 HOPANE+C30 MORETANE)	MS
H4	ββ HOPANES PRESENT/ABSENT	M
H5	C30:C31:C32:C33:C34:C35 HOPANE DISTRIBUTION	S
H6	C27 HOPANES Ts/(Ts+Tm)	MS
H7	C33 HOPANE 22S/(22S+22R)	M
H8	C34 HOPANE 22S/(22S+22R)	M
H9	C35 HOPANE 22S/(22S+22R)	M
H10	RESIN DITERPANES % RELATIVE TO C30 HOPANE (PEAK G)	S
H11	C23 EXT TRICYCLIC TERPANE % RELATIVE TO C30 HOPANE (PEAK G)	S
H12	C24 TETRACYCLIC TERPANE % RELATIVE TO C30 HOPANE (PEAK G)	S
H13	28,30 BISNORHOPANE (PEAK X) % RELATIVE TO C30 HOPANE (PEAK G)	S
H14	PENTACYCLANE Π % RELATIVE TO C30 HOPANE (PEAK G)	S
H15	OLEANANE % RELATIVE TO C30 HOPANE (PEAK G)	S
H16	GAMMACERANE % RELATIVE TO (PEAK G)	S
H17	HOPANES C35/(C34+C35) %	S
H18	25-NORHOPANE/C30 HOPANE %	B
S1	C29 ααα STERANES 20S/(20S+20R)	M
S2	C29 STERANES αββ/(αββ+ααα)	M
S3	STERANES ααα C27:C28:C29	S
S4	STERANES αββ C27:C28:C29	S
S5	βα DIASTERANES/(SAME+ααα+αββ STERANES) %	SM
S6	LOW MOLECULAR WEIGHT STERANES RELATIVE TO C29 STERANES	S
S7	STERANE INDEX C27/(C27+C29) % (FROM S3)	S
S8	4-ME C30 STERANE % RELATIVE TO C29 20R ααα STERANE (PEAK 42)	S
S9	4-ME STERANES INDEX C28/(C28+C30) %	S
S10	BICADINANES PRESENT/ABSENT	S
A1	C28 20R TRIAROM. STERANE/(SAME+C29 20R MONOAROM. STERANE)	M
A2	SUM TRIAROM. STERANES/(SAME+SUM MONOAROM. STERANES)	M
A3	C20 TRIAROM. STERANE/(SAME+C28 20R TRIAROM. STERANE)	M
A4	C20+C21 TRIAROM. STERANE/(SAME+SUM C26-C28 TRIAROM. STERANES)	M
A5	C26 20S TRIAROM. STERANE/C28 20S TRIAROM. STERANE	S
A6	C27 20R TRIAROM. STERANE/C28 20R TRIAROM. STERANE	S
M2	PHENANTHRENES (3ME+2ME)/(9ME+1ME)	M
M3	MPI [(3ME+2ME)/(PHENANTHRENE+9ME+1ME)] * 1.5	M
MBP	3-METHYL BIPHENYL/2-METHYL BIPHENYL	M
MDR	4-METHYLDIBENZOTHIOPHENE/1-METHYLDIBENZOTHIOPHENE	M
M4	SUM C27-C35 HOPANES/(SAME+ SUM C27-C29 STERANES) %	S
ALKIND	ALKANE INDEX n-C17/(n-C17+n-C27) %	S
R22	R22 INDEX (2 * n-C22)/(n-C21+n-C23)	SM

NOTES:

1. S=SOURCE PARAMETER, M=MATURITY PARAMETER.
2. TRIAROM. STERANE=MONOMETHYL TRIAROMATIC STERANES
   MONOAROM. STERANE=DIMETHYL MONOAROMATIC STERANES. (13/11/92)

Appendices C

Biomarker Identification

BIOMARKER IDENTIFICATION - PENTACYCLIC HYDROCARBONS

LGC CODE	TENTATIVE ASSIGNMENT BASED ON MASS SPECTROMETRY (m/e 191)
I	9-DODECYLPERHYDROANTHRACENE [INTERNAL STANDARD]
Ts	18α(H)-22,29,30-TRISNORNEOHOPANE
Tm	17A(H)-22,29,30-TRISNORHOPANE
Q	17β(H)-22,29,30-TRISNORHOPANE
W	17A(H)-25,30-BISNORHOPANE
X	17α(H),18α(H),21β(H)-28,30-BISNORHOPANE
Y	17α(H)-25-NORHOPANE
D	17α(H),21β(H)-30-NORHOPANE
D2	18α(H)-30-NORNEOHOPANE
π	17α(H),15α(Me)-27-NORHOPANE ("DIAHOPANE")
A	17β(H),21α(H)-30-NORMORETANE
B	18α(H)-OLEANANE
G	17α(H),21β(H)-HOPANE
H	17β(H),21β(H)-30-NORHOPANE
K	17β(H),21α(H)-MORETANE
N	(22S)-17α(H),21β(H)-30-METHYLHOPANE
O	(22R)-17α(H),21β(H)-30-METHYLHOPANE
S	GAMMACERANE
P	17β(H),21β(H)-HOPANE
R	17β(H),21α(H)-30-METHYLMORETANE
U	(22S)-17α(H),21β(H)-30-ETHYLHOPANE
V	(22R)-17α(H),21β(H)-30-ETHYLHOPANE
J	17β(H),21β(H)-METHYLHOPANE
α	(22S)-17α(H),21β(H)-30-n-PROPYLHOPANE
β	(22R)-17α(H),21β(H)-30-n-PROPYLHOPANE
L	17β(H),21β(H)-ETHYLHOPANE
γ	(22S)-17α(H),21β(H)-30-n-BUTYLHOPANE
δ	(22R)-17α(H),21β(H)-30-n-BUTYLHOPANE
ε	(22S)-17α(H),21β(H)-30-n-PENTYLHOPANE
ζ	(22R)-17α(H),21β(H)-30-n-PENTYLHOPANE

BIOMARKER IDENTIFICATION - STERANES

LGC CODE	TENTATIVE ASSIGNMENT BASED ON MASS SPECTROMETRY (m/e 217)
10	(20S)-13β(H),17α(H)-DIACHOLESTANE
11	(20R)-13β(H),17α(H)-DIACHOLESTANE
13	(20S)-13α(H),17β(H)-DIACHOLESTANE
14	(20R)-13α(H),17β(H)-DIACHOLESTANE
15	(24S/R)-(20S)-13β(H),17α(H)-24-METHYLDIACHOLESTANE
16	(24S/R)-(20S)-13β(H),17α(H)-24-METHYLDIACHOLESTANE
18	(24S/R)-(20R)-13β(H),17α(H)-24-METHYLDIACHOLESTANE
19	(24R/S)-(20R)-13β(H),17α(H)-24-METHYLDIACHOLESTANE
20A	(24S/R)-(20S)-13α(H),17β(H)-24-METHYLDIACHOLESTANE
20B	(20S)-5α(H),14α(H),17α(H)-CHOLESTANE
21A	(24R+S)-(20S)-13β(H),17α(H)-24-ETHYLDIACHOLESTANE
21B	(20R)-5α(H),14β(H),17β(H)-ISOCHOLESTANE
22	(20S)-5α(H),14β(H),17β(H)-ISOCHOLESTANE
25	(20R)-5α(H),14α(H),17α(H)-CHOLESTANE
27	(24S+R)-(20R)-13β(H),17α(H)-24-ETHYLDIACHOLESTANE
29	(24S+R)-(20S)-13α(H),17β(H)-24-ETHYLDIACHOLESTANE
33A	(24S+R)-(20R)-5α(H),14β(H)17β(H)-24-METHYLISOCHOLESTANE
33B	(24S+R)-(20R)-13α(H),17β(H)-24-ETHYLDIACHOLESTANE
34	(24S+R)-(20S)-5α(H),14β(H),17β(H)-24-METHYLISOCHOLESTANE
36	(24S+R)-(20R)-5α(H),14α(H),17α(H)-24-METHYLCHOLESTANE
39	(24S+R)-(20S)-5α(H),14α(H),17α(H)-24-ETHYLCHOLESTANE
40	(24S+R)-(20S)-5α(H),14β(H),17β(H)-24-ETHYLISOCHOLESTANE
41	(24S+R)-(20R)-5α(H),14β(H),17β(H)-24-ETHYLISOCHOLESTANE
42	(24S+R)-(20R)-5α(H),14α(H),17α(H)-24-ETHYLCHOLESTANE
46	(24S+R)-(20R)C_{30} STERANE

BIOMARKER IDENTIFICATION - AROMATIC STEROIDAL HYDROCARBONS (AROMATIC STERANES)

LGC CODE	TENTATIVE ASSIGNMENT BASED ON MASS SPECTROMETRY (m/e 253 mass fragmentogram)
F22	C_{21} DIMETHYL MONOAROMATIC STEROID
F23	C_{22} DIMETHYL MONOAROMATIC STEROID
F2	C_{27}(20S)5β(H)DIMETHYL MONOAROMATIC STEROID
F3	C_{27}(20R)5β(H)DIMETHYL MONOAROMATIC STEROID
F4	C_{27}(20S)5α(H)DIMETHYL MONOAROMATIC STEROID
F5	C_{28}(20S)5β(H)DIMETHYL MONOAROMATIC STEROID
F6	C_{27}(20R)5α(H)DIMETHYL MONOAROMATIC STEROID
F7	C_{28}(20S)5α(H)DIMETHYL MONOAROMATIC STEROID
F8	C_{28}(20R)5β(H)DIMETHYL MONOAROMATIC STEROID
F9	C_{29}(20S)5β(H)DIMETHYL MONOAROMATIC STEROID
F10	C_{29}(20S)5α(H)DIMETHYL MONOAROMATIC STEROID
F11	C_{28}(20R)5α(H)DIMETHYL MONOAROMATIC STEROID
F12	C_{29}(20R)5β(H)DIMETHYL MONOAROMATIC STEROID
F13	C_{29}(20R)5α(H)DIMETHYL MONOAROMATIC STEROID
	(m/e 231 mass fragmentogram)
F14	C_{20}METHYL TRIAROMATIC STEROID
F15	C_{21}METHYL TRIAROMATIC STEROID
F16	C_{26}(20S)METHYL TRIAROMATIC STEROID
F17	C_{26}(20R)METHYL TRIAROMATIC STEROID
F18	C_{27}(20S)METHYL TRIAROMATIC STEROID
F19	C_{28}(20S)METHYL TRIAROMATIC STEROID
F20	C_{27}(20R)METHYL TRIAROMATIC STEROID
F21	C_{28}(20R)METHYL TRIAROMATIC STEROID

BIOMARKER IDENTIFICATION - NORHOPANES

LGC CODE	TENTATIVE ASSIGNMENT BASED ON MASS SPECTROMETRY (m/e 177)
W	17α(H)-25,30-BISNORHOPANE
Y	17α(H)-25-NORHOPANE
D	17α(H),21β(H)-30-NORHOPANE
C1	(22S)-17α(H)-25-NOR-30-METHYLHOPANE
G	17α(H),21β(H)HOPANE
C2	(22R)-17α(H)-25-NOR-30-METHYLHOPANE
C3	(22S)-17α(H)-25-NOR-30-ETHYLHOPANE
C4	(22R)-17α(H)-25-NOR-30-ETHYLHOPANE
C5	(22S)-17α(H)-25-NOR-30-n-PROPYLHOPANE
C6	(22R)-17α(H)-25-NOR-30-n-PROPYLHOPANE
C7	(22S)-17α(H)-25-NOR-30-n-BUTYLHOPANE
C8	(22R)-17α(H)-25-NOR-30-n-BUTYLHOPANE
C9	(22S)-17α(H)-25-NOR-30-n-PENTYLHOPANE
C10	(22R)-17α(H)-25-NOR-30-n-PENTYLHOPANE