

Depth m MD RKB	Sample Size	Shut-in pressure (bar)	Opening pressure (bar)	Pump Vol. Litres	Avg. Pump Draw down (bar)	Mobility (mD/cp)	Comments
1773 m Water sample	2.75 gal			71,9	0,5	748,7	Transferred to 1 l plastic bottles
	1 gal	283,0	180,0	83,6	1,8	748,7	
1746 m HC sample	2.75 gal	282,0	280,0	31,0	8,0	96,2	Filled cylinders with gas for geochemical tests
	2.75 gal	284,0		52,0	8,0	96,2	
	1,0 gal	82,0	1,0	60,3	8,0	96,2	
	250 cc	272,0		62,0	8,0	96,2	Drained offshore for analysis
	250 cc	272,0		63,8	8,0	96,2	
	250 cc	278,0		64,9	8,0	96,2	
1747,0 m HC sample	18 gal			14,5	11,0	43,9	Transferred offshore to Jerry cans appr. 62 l
1747.4m HC sample	18 gal			18,1	15,0	53,1	Transferred offshore to Jerry cans appr. 63 l
1686,9 m water sample	1 gal	265,0	150,0	38,0	20,0	37,4	Transferred to PVT bottles

MDT run 1A, 1B, 1C, 1E and 1F

Test no	Depth m MD	Depth m TVDRT	Hydrost. pressure before - BAR	Hydrost. pressure after - BAR	Formation pressure BAR	Mobility mD/cp	Temp Deg C.	Comments
Run 1A								
1	1559.5	1559.2					27.8	Tight
2	1561	1560.7					29.4	Tight
3	1687	1686.7	212.4	212.4	170.7	31	36.6	Good, water sample
4	1688	1687.7	212.5	212.5	170.8	6	38	Poor
5	1690	1689.7	212.7		171.0	7	40.8	Poor
6	1737.5	1737.2	218.8	218.6	177.7	4	42.3	Tight
7	1743	1742.7	219.3	219.2	178.3		43.3	Superch
8	1748	1747.7	219.9	219.9	177.6	400	44.4	Very Good
9	1750	1749.7	220.1				44.9	Lost Seal
10	1750	1749.7	220.1	220.1	177.8	207	45.2	Good
11	1753	1752.7	220.5	220.5	178.1	235	45.6	Good
12	1755	1754.7	220.8	220.7	178.3	561	46	Very Good
13	1757	1756.7	221.0	221.0	178.5	46	46.2	Very Good
14	1807.5	1807.2	227.4	227.3	182.2	1123	47	Very Good, water sample attempt
15	1819	1818.7	228.7	228.7	183.3	1804	48.5	Very Good
16	1823	1822.7	229.2	229.2	183.7	2953	49	Very Good
17	1855.5	1855.2	233.3	233.3	186.8	6255	49.7	Very Good
18	1889.5	1889.2	237.5	237.5	190.2	412	50.6	Very Good
19	1940	1939.7	243.9	243.7	196.2	172	51.9	Very Good
20	1976	1975.7	248.2	248.2	198.6	1887	53.5	Very Good
21	2005.5	2005.2	252.0	251.9	201.6	32	54.8	Very Good
22	2069	2068.7	259.9	259.8	207.8	1038	56.9	Very Good
23	2120	2119.7	266.1	266.1	212.9	19	59.1	Very Good
24	2175	2174.7	273.0	273.0	218.4		61.4	Very Good
Run 1B								
1	1773	1772.7	223.02	223.03	178.8	12	53.5	Very Good, water sample.
Run 1C								
1	1746	1745.7			178.9	96	51.2	HC samples
Run 1E								
1	1747	1746.7					54	HC sample, 18 gal
Run 1F								
1	1747.4	1747.1			177.3	44	54.1	HC sample, 18 gal
2	1686.9	1686.6			170.4	23	53.4	Water sample 1 Gallon

Well: 6608/11-2
 Field: Exploration
 Rig: West Navion

DRILLING FLUIDS PROGRAMME

HOLE		CASING		MUD TYPE	MW [SG]	LGS [KG/m³]	10 sec. [Pa]	10 min. [Pa]	Fann 100 rpm	Fann 3 rpm	O / W ratio	PV [mPa]	API FL [ml]	HTHP FL [ml]	MBT [KG/m³]	pH	Kcl [KG/m³]	Glyc. [%]	ES	DFE [%]	Total Volume Old Volume New Volume Usage [m³]	
SIZE	TVD MD	SIZE	TVD MD																			
36"	448 448	30"	447,5 447,5	seawater w/ bentonite	1.03 - 1.05 1.35 (displ.fl)	>100 >60 (displ.fl.)				12 - 20						9 - 10						638 260 378 137
				Comments:																		
12 1/4"	1254 1254	9 5/8"	1249 1249	seawater w/ bentonite	1.03 - 1.05 1.3 (displ.fl)	>100 >60 (displ.fl.)				12 - 20						9 - 10						806 501 806 806
				Comments:																		
8 1/2"	2215 2215			Glydril WBM	1.25 - 1.26+		3-6.5	3.5 - 8.5		5 - 12		2 - 2.4			7 - 11	7.5 - 8.5	140 - 170	4.5 - 5				368 0 368 113
				Comments:																		

Title: Geochemical evaluation of well 6608/11-2		
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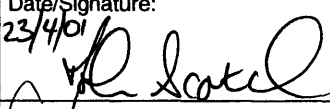
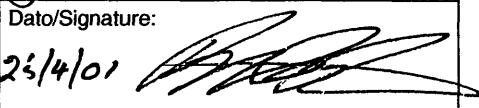
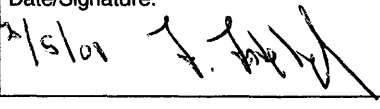
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Subjects: Mid-Norway, Falk, thermal maturity, source rocks, oil, gas, biodegradation	REGISTRERT OLJEDIREKTORATET 03 JULI 2001 BA 01-4518-1
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Remarks: See Summary on page i
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SUMMARY

Well 6608/11-2 was drilled offshore Mid-Norway using GLYDRILL (i.e. containing glycols) water-based mud. The well was an oil discovery, and wireline fluid samples (oil and gas) were analysed

1 INTRODUCTION

This report presents the results of a geochemical evaluation of the 6608/11-2 oil discovery well (Falk prospect), drilled offshore Mid-Norway (Figure 1). The well section is vertical and was drilled using GLYDRILL (i.e. containing glycols) water-based mud.

The total numbers of analyses carried out during the course of the study are as follows:

Analysis	Cuttings	Core	SWC	Oil	Gas	Mud	Total
Sample preparation	38	11	23				72
TOC content	38	1	23				62
Rock-Eval pyrolysis	38	11	23				72
Vitrinite reflectance	4	1	11				16
Kerogen description	2	1	15				18
Pyrolysis-GC	7	1	5				13
Solvent extraction	38	12	15			3	68
Asphaltene precipitation	7	11	5	1		1	25
MPLC separation	7	11	5	1		1	25
Iatroscan		11	4	1			16
Whole oil/extract GC		1		1		3	5
Saturates GC	7	11	5	1		1	25
Aromatic GC				1			1
Saturates GC-MS	1	3	4	1		1	10
Aromatic GC-MS				1			1
Carbon isotopes	1	3	4	1		1	10
Gas composition					1		1
Gas isotopes					1		1

Full details of the analytical programme on a sample-by-sample basis are presented in Table 1. The analyses were carried out by Geolab Nor, with the exception of vitrinite reflectance and gas analyses, which were carried out by IFE. All analytical work was performed in accordance with the guidelines given in "The Norwegian Industry Guide to Organic Geochemical Analyses, 3rd edition (1993)". The analytical data are presented in Appendix 1.

Formation	Sample Depth	Sample Type	Lithology Description	Vitrinite Reflectance	Kerogen Description	TOC Content	Rock-Eval	Pyrolysis-GC	Whole Oil/Extract GC	Solvent Extraction	Bulk Composition	Saturate GC	Aromatic GC	Saturate GC-MS	Aromatic GC-MS	Carbon Isotopes	Gas Composition	Gas Isotopes	
Rock Samples																			
	1402	SWC	x	x	x	*	*												
	1435	SWC	x		x	*	*												
	1537	SWC	x	x	x	*	*												
	1584	SWC	x	x	x	*	*												
	1614	SWC	x	x	x	x	x	x		x	x	x		x		x			
	1615	SWC	x			x	x			x									
	1631	Ctgs	x			x	x			x									
	1636	SWC	x		x	x	x			x									
	1637	Ctgs	x			x	x			x									
	1640	Ctgs	x			x	x			x									
	1643	Ctgs	x			x	x	x		x	x	x							
	1646	Ctgs	x			x	x			x									
	1652	SWC	x			x	x			x									
	1658	Ctgs	x			x	x			x									
	1660	SWC	x			x	x			x									
	1661	Ctgs	x			x	x			x									
	1667	Ctgs	x			x	x			x									
	1670	Ctgs	x			x	x			x									
	1673	Ctgs	x			x	x			x									
	1679	Ctgs	x			x	x			x									
	1682	Ctgs	x			x	x	x		x	x	x							
	1691	Ctgs	x			x	x			x									
	1697	SWC	x		x	x	x			x									
	1700	Ctgs	x			x	x	x		x	x	x							
	1702.5	SWC	x			x	x			x									
	1703	Ctgs	x			x	x			x									
	1706	Ctgs	x			x	x			x									
	1709	Ctgs	x			x	x			x									
	1718	Ctgs	x			x	x			x									
	1724	Ctgs	x			x	x			x									
	1730	Ctgs	x			x	x			x									
	1731	SWC	x	x	x	x	x	x		x	x	x		x		x			
	1733	Ctgs	x			x	x			x									
	1736	Ctgs	x			x	x			x									
	1737	SWC	x		x	x	x			x									
	1742.1	Core	x				x			x	x	x		x		x			
	1742.5	Core	x	x	x	x	x	x		x	x	x							
	1744.25	Core	x				x			x	x	x							
	1748.77	Core	x				x			x	x	x							
	1751.57	Core	x				x			x	x	x							
	1754.49	Core	x				x			x	x	x							
	1757.37	Core	x				x			x	x	x		x		x			
	1759	Core							x	x									
	1759.95	Core	x				x			x	x	x							
	1760.67	Core	x				x			x	x	x		x		x			
	1763.22	Core	x				x			x	x	x							
	1765.08	Core	x				x			x	x	x							
	1787	Ctgs	x	x		x	x	x		x	x	x							
	1794.5	SWC	x			x	x			x									
	1798	SWC	x			x	x	x		x	x	x		x		x			

Table 1 Geochemical analytical programme

Sample Depth	Sample Type	Lithology Description	Vitrinite Reflectance	Kerogen Description	TOC Content	Rock-Eval	Pyrolysis-GC	Whole Oil/Extract GC	Solvent Extraction	Bulk Composition	Saturate GC	Aromatic GC	Saturate GC-MS	Aromatic GC-MS	Carbon Isotopes	Gas Composition	Gas Isotopes
1811	Ctgs	x			x	x			x								
1815.5	SWC	x	x	x	x	x			x								
1826	Ctgs	x			x	x			x								
1838	Ctgs	x			x	x			x								
1841	SWC	x			x	x			x								
1865	Ctgs	x			x	x			x								
1895	SWC	x	x	x	*	*											
1898	Ctgs	x			x	x	x		x	x	x						
1904	Ctgs	x			x	x			x								
1922	Ctgs	x			x	x	x		x	x	x						
1949	Ctgs	x			x	x			x								
1964	Ctgs	x	x		x	x			x								
1994	Ctgs	x			x	x	x		x	x	x		x		x		
2036	Ctgs	x			x	x			x								
2050.5	SWC	x	x	x	*	*											
2081	Ctgs	x			x	x			x								
2093	SWC	x		x	x	x	x		x	x	x						
2108	Ctgs	x			x	x			x								
2127	SWC	x	x	x	x	x	x		x	x	x		x		x		
2147	Ctgs	x	x	x	x	x			x								
2182	SWC	x	x	x	*	*											
2206	SWC	x	x		*	*											
2215	Ctgs	x	x	x	x	x			x								
Wireline samples																	
1747	Oil, gas							x		x	x	x	x	x	x	x	x
Mud samples																	
1700	Mud							x	x	x	x		x		x		
1765	Mud							x	x								
2057	Mud							x	x								
		72	16	18	62	72	13	5	68	25	25	1	10	1	10	1	1

* These samples were analysed erroneously by Geolab Nor. The samples have not been flagged in Table 1 of the Rock Samples section of the data report (Appendix 1), although the data are reported in Table 5 of that report.

Table 1 Geochemical analytical programme

Formation	Depth	Sample Type	22S	TSTM	TTX	30D	30AB-HOP	28AB	TRICY	TETRACY	35H_34H	29H_30H	DEMET
Source rock samples													
	1614	SWC	0.36	0.31	0.29	0.10	0.66	0.09	0.14	0.19	0.62	0.76	0.41
	1731	SWC	0.36	0.73	0.09	0.07	0.26	0.07	0.04	0.09	-	1.03	0.36
	1798	SWC	0.11	0.59	0.00	0.00	0.79	0.54	0.03	0.06	0.48	1.36	0.18
	1994	Ctgs	0.14	0.63	0.09	0.08	1.00	0.56	0.01	0.03	1.41	1.31	0.55
	2127	SWC	0.15	0.95	0.16	0.07	0.71	0.08	0.02	0.07	8.44	0.55	0.25
Oil and oil stain samples													
	1742.1	Core	0.57	0.98	1.87	0.25	0.90	0.26	0.43	0.41	0.78	0.62	1.18
	1747	Oil	0.55	0.92	1.87	0.24	0.89	0.25	0.24	0.26	0.83	0.56	1.13
	1757.37	Core	0.54	0.96	1.84	0.30	0.88	0.31	0.47	0.47	0.82	0.62	1.60
	1760.67	Core	0.52	0.98	2.14	0.41	0.87	0.38	0.41	0.45	0.86	0.62	2.16
Mud sample													
	1700	Mud	0.60	1.07	1.01	0.18	0.87	0.15	0.53	0.29	0.84	0.74	0.84

Table 2 Saturated hydrocarbon biomarker data (triterpanes)

Formation	Depth	Sample Type	20S	BB	C27BB	C28BB	C29BB	C30BB	DIAST	HOPST
Source rock samples										
	1614	SWC	0.24	0.44	35	31	34	0.09	1.47	5.87
	1731	SWC	0.10	0.30	32	38	30	0.51	0.38	10.23
	1798	SWC	0.10	0.44	14	35	51	0.17	0.46	10.05
	1994	Ctgs	0.11	0.36	20	31	49	1.68	0.53	14.56
	2127	SWC	0.12	0.38	32	26	42	0.49	0.17	18.99
Oil and oil stain samples										
	1742.1	Core	0.50	0.63	36	27	37	0.08	2.58	1.45
	1747	Oil	0.50	0.63	33	27	40	0.09	2.36	1.45
	1757.37	Core	0.50	0.64	35	27	38	0.08	2.68	1.29
	1760.67	Core	0.50	0.63	33	27	40	0.10	2.36	1.18
Mud sample										
	1700	Mud	0.40	0.59	33	27	39	0.08	1.84	2.44

Table 3 Saturated hydrocarbon biomarker data (steranes)

Derivation of biomarker ratios reported in Tables 2 and 3

<u>Ratio</u>	<u>Derivation</u>	<u>m/z</u>
Triterpanes		
22S	$32\alpha\beta S / (32\alpha\beta S + 32\alpha\beta R)$	191
TSTM	$27Ts / 27Tm$	191
TTX	$30d / 29\beta\alpha$	191
30D	$30d / 30\alpha\beta$	191
29H_30H	$29\alpha\beta / 30\alpha\beta$	191
30AB-HOP	$30\alpha\beta / (30\alpha\beta + 30\beta\alpha)$	191
C28AB	$28\alpha\beta / 30\alpha\beta$	191
TRICY	$(23/3) / 30\alpha\beta$	191
TETRACY	$(24/4) / 30\alpha\beta$	191
35H_34H	$(35\alpha\beta R + 35\alpha\beta S) / (34\alpha\beta R + 34\alpha\beta S)$	191
DEMET	$25nor30\alpha\beta / 30\alpha\beta$	191
OLEANAN	$30O / 30\alpha\beta$	191
GAMMA	$30G / 30\alpha\beta$	191
PPMH'	ppm $27Ts + 27Tm + 29\alpha\beta + 29\beta\alpha + 30\alpha\beta + 30\beta\alpha + 31\alpha\beta S + 31\alpha\beta R + 32\alpha\beta S + 32\alpha\beta R + 33\alpha\beta S + 33\alpha\beta R + 34\alpha\beta S + 34\alpha\beta R + 35\alpha\beta S + 35\alpha\beta R$	191
Steranes		
20S	$29\alpha\alpha S / (29\alpha\alpha R + 29\alpha\alpha S)$	217
BB	$(29\beta\beta R + 29\beta\beta S) / (29\beta\beta R + 29\beta\beta S + 29\alpha\alpha R + 29\alpha\alpha S)$	217
C27BB	$100 * (27\beta\beta R + 27\beta\beta S) / (27\beta\beta R + 27\beta\beta S + 28\beta\beta R + 28\beta\beta S + 29\beta\beta R + 29\beta\beta S)$	218
C28BB	$100 * (28\beta\beta R + 28\beta\beta S) / (27\beta\beta R + 27\beta\beta S + 28\beta\beta R + 28\beta\beta S + 29\beta\beta R + 29\beta\beta S)$	218
C29BB	$100 * (29\beta\beta R + 29\beta\beta S) / (27\beta\beta R + 27\beta\beta S + 28\beta\beta R + 28\beta\beta S + 29\beta\beta R + 29\beta\beta S)$	218
C30BB	$(30\beta\beta R + 30\beta\beta S) / (27\beta\beta R + 27\beta\beta S + 28\beta\beta R + 28\beta\beta S + 29\beta\beta R + 29\beta\beta S)$	218
DIAST	$(27d\beta R + 27d\beta S) / (27\alpha\alpha R + 27\alpha\alpha S)$	217
PPMS'	ppm $27\beta\beta R + 27\beta\beta S + 28\beta\beta R + 28\beta\beta S + 29\beta\beta R + 29\beta\beta S$	218
HOPST	Intensities $(27Ts + 27Tm + 29\alpha\beta + 29\beta\alpha + 30\alpha\beta + 30\beta\alpha + 31\alpha\beta S + 31\alpha\beta R + 32\alpha\beta S + 32\alpha\beta R + 33\alpha\beta S + 33\alpha\beta R + 34\alpha\beta S + 34\alpha\beta R + 35\alpha\beta S + 35\alpha\beta R) /$ Intensities $(27\beta\beta R + 27\beta\beta S + 28\beta\beta R + 28\beta\beta S + 29\beta\beta R + 29\beta\beta S)$	

* ppm calculated from comparison with m/z 219 intensity for D2-cholestane

Biomarker codes used in derivation of ratios

<u>Compound name</u>	<u>Old code</u>	<u>NEW CODE</u>
Triterpanes		
C ₂₃ H ₄₂ tricyclic terpane	P	23/3
C ₂₄ H ₄₄ tricyclic terpane	Q	24/3
C ₂₅ H ₄₆ tricyclic terpane ¹	R	25/3
C ₂₄ H ₄₂ tetracyclic terpane	S	24/4
C ₂₆ H ₄₈ tricyclic terpane ²	T	26/3
18α(H)-22,29,30-trisnorneohopane	27A	27Ts
17α(H)-22,29,30-trisnorhopane	27B	27Tm
17α(H), 21β(H)-25,28,30-trisnorhopane		25nor28αβ
17α(H), 21β(H)-28,30-bisnorhopane	28A	28αβ
17α(H), 21β(H)-25-norhopane		25nor30αβ ³
17α(H), 21β(H)-30-norhopane	C29A	29αβ
18α(H)-30-norneohopane		29Ts
15α-methyl-17α(H)-27-norhopane (TtX)	X	30D
17β(H), 21α(H)-30-norhopane (normoretane)	C29B	29βα
18α(H)-oleanane		30O
17α(H), 21β(H)-hopane	C30A	30αβ
17β(H), 21α(H)-hopane (moretane)	C30B	30βα
Gammacerane		
17α(H), 21β(H), 22(S)-homohopane	C31S	31αβS
17α(H), 21β(H), 22(R)-homohopane	C31R	31αβR
17α(H), 21β(H), 22(S)-bishomohopane	C32S	32αβS
17α(H), 21β(H), 22(R)-bishomohopane	C32R	32αβR
17α(H), 21β(H), 22(S)-trishomohopane	C33S	33αβS
17α(H), 21β(H), 22(R)-trishomohopane	C33R	33αβR
17α(H), 21β(H), 22(S)-tetrakishomohopane	C34S	34αβS
17α(H), 21β(H), 22(R)-tetrakishomohopane	C34R	34αβR
17α(H), 21β(H), 22(S)-pentakishomohopane	C35S	35αβS
17α(H), 21β(H), 22(R)-pentakishomohopane	C35R	35αβR

1 may be broad peak or doublet 2 may be doublet 3 listed in Statoil spreadsheets as "nor30" for convenience

Steranes

13 β (H), 17 α (H), 20(S)-cholestane (diasterane)	27a	27d β S
13 β (H), 17 α (H), 20(R)-cholestane (diasterane)	27b	27d β R
13 α (H), 17 β (H), 20(R)-cholestane (diasterane)	27c	27d α R
13 α (H), 17 β (H), 20(S)-cholestane (diasterane)	27d	27d α S
5 α (H), 14 α (H), 17 α (H), 20(S)-cholestane	27e	27 $\alpha\alpha$ S
5 α (H), 14 β (H), 17 β (H), 20(R)-cholestane	27f	27 $\beta\beta$ R
5 α (H), 14 β (H), 17 β (H), 20(S)-cholestane	27g	27 $\beta\beta$ S
5 α (H), 14 α (H), 17 α (H), 20(R)-cholestane	27h	27 $\alpha\alpha$ R
24-methyl-13 β (H), 17 α (H), 20(S)-cholestane (diasterane)	28a	28d β S
24-methyl-13 β (H), 17 α (H), 20(R)-cholestane (diasterane)	28b	28d β R
24-methyl-13 α (H), 17 β (H), 20(R)-cholestane (diasterane)	28c	28d α R
24-methyl-13 α (H), 17 β (H), 20(S)-cholestane (diasterane)	28d	28d α S
24-methyl-5 α (H), 14 α (H), 17 α (H), 20(S)-cholestane	28e	28 $\alpha\alpha$ S
24-methyl-5 α (H), 14 β (H), 17 β (H), 20(R)-cholestane	28f	28 $\beta\beta$ R
24-methyl-5 α (H), 14 β (H), 17 β (H), 20(S)-cholestane	28g	28 $\beta\beta$ S
24-methyl-5 α (H), 14 α (H), 17 α (H), 20(R)-cholestane	28h	28 $\alpha\alpha$ R
24-ethyl-13 β (H), 17 α (H), 20(S)-cholestane (diasterane)	29a	29d β S
24-ethyl-13 β (H), 17 α (H), 20(R)-cholestane (diasterane)	29b	29d β R
24-ethyl-13 α (H), 17 β (H), 20(R)-cholestane (diasterane)	29c	29d α R
24-ethyl-13 α (H), 17 β (H), 20(S)-cholestane (diasterane)	29d	29d α S
24-ethyl-5 α (H), 14 α (H), 17 α (H), 20(S)-cholestane	29e	29 $\alpha\alpha$ S
24-ethyl-5 α (H), 14 β (H), 17 β (H), 20(R)-cholestane	29f	29 $\beta\beta$ R
24-ethyl-5 α (H), 14 β (H), 17 β (H), 20(S)-cholestane	29g	29 $\beta\beta$ S
24-ethyl-5 α (H), 14 α (H), 17 α (H), 20(R)-cholestane	29h	29 $\alpha\alpha$ R
24-propyl-5 α (H), 14 α (H), 17 α (H), 20(S)-cholestane	30e	30 $\alpha\alpha$ S
24-propyl-5 α (H), 14 β (H), 17 β (H), 20(R)-cholestane	30f	30 $\beta\beta$ R
24-propyl-5 α (H), 14 β (H), 17 β (H), 20(S)-cholestane	30g	30 $\beta\beta$ S
24-propyl-5 α (H), 14 α (H), 17 α (H), 20(R)-cholestane	30h	30 $\alpha\alpha$ R
4-methyl-14 α (H), 17 α (H)-cholestanes		M28 $\alpha\alpha$
4,24-dimethyl-14 α (H), 17 α (H)-cholestanes		M29 $\alpha\alpha$
4-methyl-24-ethyl-14 α (H), 17 α (H)-cholestanes		M30 $\alpha\alpha$
4,23,24-trimethyl-14 α (H), 17 α (H)-cholestanes (dinosteranes)		M30D

Depth	Sample Type	Arom1	Arom2	Crack1	Crack2
1747	Oil	0.51	0.52	0.77	0.51

Table 4 Aromatic hydrocarbon biomarker data

Derivation of aromatic steroid ratios reported in Table 4

$$\text{Arom 1} = g1 / ((g1 + H1b + I1) - (I1 * f1 / g1))$$

$$\text{Arom 2} = (a1 + b1 + c1 + d1 + e1 + f1 + g1) / (a1 + b1 + c1 + d1 + e1 + f1 + g1 + A1 + B1 + C1 + D1 + E1 + F1 + G1 + H1 + I1)$$

$$\text{Crack 1} = a1 / (a1 + g1)$$

$$\text{Crack 2} = (a1 + b1) / (a1 + b1 + c1 + d1 + e1 + f1 + g1)$$

N.B. H1b refers to second eluting (split) peak of doublet corresponding to H1 in standard figure

Codes for aromatic steroids

ABC-RING TRIAROMATIC STEROID HYDROCARBONS (m/z 231)

Peak	Substituents		Abbreviation of Compound
	R ₁	R ₂	
a1	CH ₃	H	C ₂₀ TA
b1	CH ₃	CH ₃	C ₂₁ TA
c1	S(CH ₃)	C ₆ H ₁₃	SC ₂₆ TA
d1	R(CH ₃)	C ₆ H ₁₃	RC ₂₆ TA
	S(CH ₃)	C ₇ H ₁₅	SC ₂₇ TA
e1	S(CH ₃)	C ₈ H ₁₇	SC ₂₈ TA
f1	R(CH ₃)	C ₇ H ₁₅	RC ₂₇ TA
g1	R(CH ₃)	C ₈ H ₁₇	RC ₂₈ TA

C-RING MONOAROMATIC STEROID HYDROCARBONS (m/z 253)

Peak	R ₁	Substituents		R ₄	Abbreviation of Compound
		R ₂	R ₃		
A1					C ₂₁ M
B1					C ₂₂ MA
C1	β(H)	CH ₃	S(CH ₃)	H	βSC ₂₇ MA
	β(CH ₃)	H	S(CH ₃)	H	βSC ₂₇ DMA
D1	β(CH ₃)	H	R(CH ₃)	H	βRC ₂₇ DMA
	β(H)	CH ₃	R(CH ₃)	H	βRC ₂₇ MA
	α(H)	CH ₃	S(CH ₃)	H	αSC ₂₇ MA
E1	β(H)	CH ₃	S(CH ₃)	CH ₃	βSC ₂₈ MA
	α(CH ₃)	H	R(CH ₃)	H	αRC ₂₇ DMA
	β(CH ₃)	H	S(CH ₃)	CH ₃	βSC ₂₈ DMA
F1	α(CH ₃)	H	S(CH ₃)	CH ₃	αSC ₂₇ DMA
G1	α(H)	CH ₃	R(CH ₃)	H	αRC ₂₇ MA
	α(H)	CH ₃	S(CH ₃)	CH ₃	αSC ₂₈ MA
	β(H)	CH ₃	R(CH ₃)	CH ₃	βRC ₂₈ MA
	β(CH ₃)	H	R(CH ₃)	CH ₃	βRC ₂₈ DMA
	β(H)	CH ₃	S(CH ₃)	C ₂ H ₅	βSC ₂₉ MA
H1	βCH ₃	H	S(CH ₃)	C ₂ H ₅	βSC ₂₉ DMA
	α(H)	CH ₃	S(CH ₃)	C ₂ H ₅	αSC ₂₉ MA
	α(H)	CH ₃	R(CH ₃)	CH ₃	αRC ₂₈ MA
	β(H)	CH ₃	R(CH ₃)	C ₂ H ₅	βRC ₂₉ MA
I1	βCH ₃	H	R(CH ₃)	C ₂ H ₅	βRC ₂₉ DMA
	α(H)	CH ₃	R(CH ₃)	C ₂ H ₅	αRC ₂₉ MA

N.B. Not all possible DMA isomers are marked (rarely present in geological samples)

Table 1 Analytical Program for NOCS Well 6608/11-2, Falk (rock samples)

Sample Depth (m)	Sample Type	Sample Code	Lithology Description	Picking for screening	Provepreparering (Kjernematriale)	Provepreparering (Losningsmiddel-Ekstraksjon)	Leco TOC	RockEval	GHM Pyrolysis-GC	Picking for Extraction	Topping	Iatroscan	SOXTEC Extraction	MPLC & Deasphaltene	EOM GC	Whole Oil GC	Sat GC (Q and non-Q)	Aro GC (Non-Q)	Sat GCMS (Q and non-Q)	Aro GCMS (Non-Q)	Isotope of fractions §	API Gravity (Westlab)	Vitrinite Reflectance	Visual Kerogen	Gas composition and isotopes (IFE)
Table nos.			3				5	5			8	8	8		13	9	9	11	12	10	17	4	7	14	
1402	s	U29/0002-1	x																			x	x		
1435	s	U29/0003-1	x																					x	
1537	s	U29/0004-1	x																				x	x	
1584	s	U29/0005-1	x																				x	x	
1614	s	U29/0006-1	x				x	x	x		x	x	x			x		x		x		x	x		
1615	s	U29/0007-1	x				x	x				x													
1631	c	U29/0036-1	x				x	x				x													
1636	s	U29/0008-1	x				x	x				x												x	
1637	c	U29/0037-1	x				x	x				x													
1640	c	U29/0038-1	x				x	x				x													
1643	c	U29/0039-1	x				x	x	x			x	x			x									
1646	c	U29/0040-1	x				x	x				x													
1652	s	U29/0009-1	x				x	x				x													
1658	c	U29/0041-1	x				x	x				x													
1660	s	U29/0010-1	x				x	x				x													
1661	c	U29/0042-1	x				x	x				x													
1667	c	U29/0043-1	x				x	x				x													
1670	c	U29/0044-1	x				x	x				x													
1673	c	U29/0045-1	x				x	x				x													

Sample code refers to the lithology analysed.

For vitrinite reflectance and visual kerogen analysis of cuttings samples bulk cuttings are taken for analysis not fractions (i.e. code should be 0)

Table 1 Analytical Program for NOCS Well 6608/11-2, Falk (rock samples)

Sample Depth (m)	Sample Type	Sample Code	Lithology Description	Picking for screening	Prøvepreparing (Kjernematriale)	Prøvepreparing (Losningsmiddel-Ekstraksjon)	Leco TOC	RockEval	GHM Pyrolysis-GC	Picking for Extraction	Topping	Iatroscan	SOXTEC Extraction	MPLC & Deasphaltene	EOM GC	Whole Oil GC	Sat GC (Q and non-Q)	Aro GC (Non-Q)	Sat GCMS (Q and non-Q)	Aro GCMS (Non-Q)	Isotope of fractions §	API Gravity (Westlab)	Vitrinite Reflectance	Visual Kerogen	Gas composition and isotopes (IFE)
Table nos.			3				5	5				8	8	8		13	9	9	11	12	10	17	4	7	14
1679	c	U29/0046-1	x				x	x					x												
1682	c	U29/0047-1	x				x	x	x				x	x			x								
1691	c	U29/0048-1	x				x	x					x												
1697	s	U29/0011-1	x				x	x					x										x		
1700	c	U29/0049-1	x				x	x	x				x	x			x								
1702.5	s	U29/0012-1	x				x	x					x												
1703	c	U29/0050-1	x				x	x					x												
1706	c	U29/0051-1	x				x	x					x												
1709	c	U29/0052-1	x				x	x					x												
1718	c	U29/0053-1	x				x	x					x												
1724	c	U29/0054-1	x				x	x					x												
1730	c	U29/0055-1	x				x	x					x												
1731	s	U29/0013-1	x				x	x	x				x	x			x		x		x		x	x	
1733	c	U29/0056-1	x				x	x					x												
1736	c	U29/0057-1	x				x	x					x												
1737	s	U29/0014-1	x				x	x					x										x		
1742.1	p	U29/0025-1	x					x				x	x	x			x		x		x				
1742.5	p	U29/0026-1	x				x	x	x				x	x	x			x				x	x		
1744.25	p	U29/0027-1	x					x					x	x	x			x							

Sample code refers to the lithology analysed.

For vitrinite reflectance and visual kerogen analysis of cuttings samples bulk cuttings are taken for analysis not fractions (i.e. code should be 0)

Table 1 Analytical Program for NOCS Well 6608/11-2, Falk (rock samples)

Sample Depth (m)	Sample Type	Sample Code	Lithology Description	Picking for screening	Prevepreparing (Kjernematriale)	Prevepreparing (Losningsmiddel-Ekstraksjon)	Leco TOC	RockEval	GHM Pyrolysis-GC	Picking for Extraction	Topping	Iatrosan	SOXTEC Extraction	MPLC & Deasphaltene	EOM GC	Whole Oil GC	Sat GC (Q and non-Q)	Aro GC (Non-Q)	Sat GCMS (Q and non-Q)	Aro GCMS (Non-Q)	Isotope of fractions §	API Gravity (Westlab)	Vitrinite Reflectance	Visual Kerogen	Gas composition and isotopes (IFE)
Table nos.			3				5	5				8	8	8		13	9	9	11	12	10	17	4	7	14
1748.77	p	U29/0028-1	x					x				x	x	x			x								
1751.57	p	U29/0029-1	x					x				x	x	x			x								
1754.49	p	U29/0030-1	x					x				x	x	x			x								
1757.37	p	U29/0031-1	x					x				x	x	x			x		x		x				
1759	p	hot shot											X		X										
1759.95	p	U29/0032-1	x					x				x	x	x			x								
1760.67	p	U29/0033-1	x					x				x	x	x			x		x		x				
1763.22	p	U29/0034-1	x					x				x	x	x			x								
1765.08	p	U29/0035-1	x					x				x	x	x			x								
1787	c	U29/0074-2	x				x	x	x				x	x			x						x		
1794.5	s	U29/0015-1	x				x	x					x												
1798	s	U29/0016-1	x				x	x	x			x	x	x			x		x		x				
1811	c	U29/0059-3	x				x	x					x												
1815.5	s	U29/0017-1	x				x	x					x										x	x	
1826	c	U29/0060-3	x				x	x					x												
1838	c	U29/0061-3	x				x	x					x												
1841	s	U29/0018-1	x				x	x					x												
1865	c	U29/0062-6	x				x	x					x												
1895	s	U29/0019-1	x																				x	x	

Sample code refers to the lithology analysed.

For vitrinite reflectance and visual kerogen analysis of cuttings samples bulk cuttings are taken for analysis not fractions (i.e. code should be 0)

Table 1 Analytical Program for NOCS Well 6608/11-2, Falk (rock samples)

Sample Depth (m)	Sample Type	Sample Code	Lithology Description	Picking for screening	Provepreparing (Kjernematerial)	Provepreparing (Losningsmiddel-Ekstraksjon)	Leco TOC	RockEval	GHM Pyrolysis-GC	Picking for Extraction	Topping	Iatroscan	SOXTEC Extraction	MPLC & Deasphaltene	EOM GC	Whole Oil GC	Sat GC (Q and non-Q)	Aro GC (Non-Q)	Sat GCMS (Q and non-Q)	Aro GCMS (Non-Q)	Isotope of fractions §	API Gravity (Westlab)	Vitrinite Reflectance	Visual Kerogen	Gas composition and isotopes (IFE)
Table nos.			3				5	5			8	8	8		13	9	9	11	12	10	17	4	7	14	
1898	c	U29/0063-2	x				x	x	x				x	x		x									
1904	c	U29/0064-2	x				x	x					x												
1922	c	U29/0065-1	x				x	x	x				x	x		x									
1949	c	U29/0066-3	x				x	x					x												
1964	c	U29/0067-4	x				x	x					x									x			
1994	c	U29/0068-4	x				x	x	x				x	x		x		x		x					
2036	c	U29/0069-4	x				x	x					x												
2050.5	s	U29/0020-1	x																			x	x		
2081	c	U29/0070-3	x				x	x					x												
2093	s	U29/0021-1	x				x	x	x				x	x		x							x		
2108	c	U29/0071-3	x				x	x					x												
2127	s	U29/0022-1	x				x	x	x				x	x		x		x		x		x	x		
2147	c	U29/0072-3	x				x	x					x									x	x		
2182	s	U29/0023-1	x																			x	x		
2206	s	U29/0024-1	x																			x			
2215	c	U29/0073-1	x				x	x					x									x	x		
		73	72				54	64	13				15	65	23	1	23	8	8			16	18		
Sample type key c = Cuttings s = SWC p = Conv core/ plug o=oil g= gas m=mud							Q=quantitative, non-Q = not quantitative																		
§ isotope analysis on SAT and ARO only																									

Table 3 : Lithology description for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1402.00	swc					0002
			100	Sh/Clst: drk gy, slt		0002-1L
1435.00	swc					0003
			100	Sh/Clst: dsk brn to dsk y brn, calc, pyr, slt		0003-1L
1537.00	swc					0004
			50	Sh/Clst: dsk brn to dsk y brn, calc, pyr, slt		0004-1L
			50	Ca : gy w, s		0004-2L
1584.00	swc					0005
			100	Sltst : lt or to dsk y brn, slt, s, mic, st		0005-1L
1614.00	swc					0006
	1.63		100	Sh/Clst: dsk y brn, wx		0006-1L
1615.00	swc					0007
	1.35		100	Sh/Clst: dsk y brn, wx		0007-1L
1631.00						0036
	1.61		25	Sh/Clst: lt brn gy to drk brn gy		0036-1L
			20	Ca : lt brn gy to brn gy, brn blk		0036-2L
			20	Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0036-3L
			20	Other : pyr		0036-4L
			5	S/Sst : w, f, l		0036-5L
			5	Cont		0036-6L
			5	Other : glauc		0036-7L
			tr	Coal : blk		0036-8L
			tr	Meta		0036-9L

Table 3 : Lithology description for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1636.00	swc					0008
	1.91	100		Sh/Clst: lt brn gy to brn gy, pyr, slt		0008-1L
1637.00						0037
	2.24	40		Sh/Clst: lt brn gy to drk brn gy		0037-1L
		20		Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0037-3L
		15		Other : pyr		0037-4L
		10		Ca : lt brn gy to brn gy, brn blk		0037-2L
		5		S/Sst : w, f, l		0037-5L
		5		Cont : tar-ad		0037-6L
		5		Other : glauc		0037-7L
		tr		Coal : blk		0037-8L
		tr		Meta		0037-9L
1640.00						0038
	1.83	40		Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0038-3L
		35		Sh/Clst: lt brn gy to drk brn gy		0038-1L
		15		Other : pyr		0038-4L
		5		Ca : lt brn gy to brn gy, brn blk		0038-2L
		5		Other : glauc		0038-5L
		tr		Coal : blk		0038-6L
1643.00						0039
	3.08	35		Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0039-3L
		25		Sh/Clst: lt brn gy to drk brn gy		0039-1L
		25		Other : pyr		0039-4L
		10		Other : glauc		0039-5L
		5		Ca : lt brn gy to brn gy, brn blk		0039-2L
		tr		Coal : blk		0039-6L
1646.00						0040
	1.53	40		Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0040-3L
		25		Other : pyr		0040-4L
		15		Sh/Clst: lt brn gy to drk brn gy		0040-1L
		15		Other : glauc		0040-5L
		5		Ca : lt brn gy to brn gy, brn blk		0040-2L
		tr		Coal : blk		0040-6L

Table 3 : Lithology description for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1652.00	swc					0009
	1.79	100	Sltst	: lt brn gy to brn gy, slt		0009-1L
1658.00						0041
	1.77	40	Sh/Clst:	lt bl gy to lt gn gy, calc, glauc		0041-2L
		30	Sh/Clst:	lt brn gy to drk brn gy		0041-1L
		20	Other	: pyr		0041-3L
		10	Other	: glauc		0041-4L
		tr	Coal	: blk		0041-5L
1660.00	swc					0010
	1.41	100	Sltst	: pl brn gy to brn gy, s, mic		0010-1L
1661.00						0042
	1.43	40	Sh/Clst:	lt bl gy to lt gn gy, calc, glauc		0042-2L
		30	Sh/Clst:	lt brn gy to drk brn gy		0042-1L
		20	Other	: pyr		0042-3L
		10	Other	: glauc		0042-4L
		tr	Coal	: blk		0042-5L
1667.00						0043
	1.48	35	Sh/Clst:	lt bl gy to lt gn gy, calc, glauc		0043-2L
		35	Other	: pyr		0043-3L
		20	Sh/Clst:	lt brn gy to drk brn gy		0043-1L
		10	Other	: glauc		0043-4L
		tr	Coal	: blk		0043-5L
1670.00						0044
	1.70	45	Sh/Clst:	lt bl gy to lt gn gy, calc, glauc		0044-2L
		30	Sh/Clst:	lt brn gy to drk brn gy		0044-1L
		20	Other	: pyr		0044-3L
		5	Other	: glauc		0044-4L
		tr	Coal	: blk		0044-5L

Table 3 : Lithology description for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1673.00						0045
	1.90			45 Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0045-2L
				30 Sh/Clst: lt brn gy to drk brn gy		0045-1L
				20 Other : pyr		0045-3L
				5 Other : glauc		0045-4L
				tr Coal : blk		0045-5L
1679.00						0046
	1.69			45 Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0046-2L
				30 Sh/Clst: lt brn gy to drk brn gy		0046-1L
				20 Other : pyr		0046-3L
				5 Other : glauc		0046-4L
				tr Coal : blk		0046-5L
1682.00						0047
	3.15			55 Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0047-2L
				30 Other : pyr		0047-3L
				15 Sh/Clst: lt brn gy to drk brn gy		0047-1L
				tr Other : glauc		0047-4L
				tr Coal : blk		0047-5L
1691.00						0048
	1.49			55 Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0048-2L
				30 Other : pyr		0048-3L
				15 Sh/Clst: lt brn gy to drk brn gy		0048-1L
				tr Other : glauc		0048-4L
				tr Coal : blk		0048-5L
1697.00	swc					0011
	1.01	100	Sltst	: pl brn gy to brn gy, s, mic		0011-1L
1700.00						0049
	1.72			55 Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0049-2L
				30 Other : pyr		0049-3L
				15 Sh/Clst: lt brn gy to drk brn gy		0049-1L
				tr Other : glauc		0049-4L
				tr Coal : blk		0049-5L

Table 3 : Lithology description for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1702.50	swc					0012
	1.06	100	Sltst	: pl brn gy to brn gy, s, mic		0012-1L
1703.00						0050
	2.18		55	Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0050-2L
			30	Other : pyr		0050-3L
			15	Sh/Clst: lt brn gy to drk brn gy		0050-1L
			tr	Other : glauc		0050-4L
			tr	Coal : blk		0050-5L
1706.00						0051
	1.58		40	Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0051-2L
			25	Other : pyr		0051-3L
			20	Sh/Clst: lt brn gy to drk brn gy		0051-1L
			10	Other : glauc		0051-4L
			5	S/Sst : w, l		0051-6L
			tr	Coal : blk		0051-5L
1709.00						0052
	1.69		40	Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0052-2L
			30	Sh/Clst: lt brn gy to drk brn gy		0052-1L
			25	Ca : lt brn gy		0052-6L
			5	Other : pyr		0052-3L
			tr	Other : glauc		0052-4L
			tr	Coal : blk		0052-5L
1718.00						0053
	1.72		40	Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0053-2L
			25	Ca : lt brn gy		0053-6L
			20	Sh/Clst: lt brn gy to drk brn gy		0053-1L
			15	Other : pyr		0053-3L
			tr	Other : glauc		0053-4L
			tr	Coal : blk		0053-5L
1724.00						0054
	1.00		40	Sh/Clst: lt bl gy to lt gn gy, calc, glauc		0054-2L
			25	Ca : lt brn gy		0054-6L
			20	Sh/Clst: lt brn gy to drk brn gy		0054-1L
			15	Other : pyr		0054-3L
			tr	Other : glauc		0054-4L
			tr	Coal : blk		0054-5L

Table 3 : Lithology description for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1730.00						0055
	1.42			40 Sh/Clst: lt bl gy to lt gn gy, calc, glauc 30 Sh/Clst: lt brn gy to drk brn gy 25 Ca : lt brn gy 5 Other : pyr tr Other : glauc tr Coal : blk		0055-2L 0055-1L 0055-6L 0055-3L 0055-4L 0055-5L
1731.00	swc					0013
	28.00		95	Sh/Clst: blk, carb 5 Coal : blk, argill		0013-1L 0013-2L
1733.00						0056
	1.08			40 Sh/Clst: lt bl gy to lt gn gy, calc, glauc 25 Ca : lt brn gy 20 Sh/Clst: lt brn gy to drk brn gy 15 Other : pyr tr Other : glauc tr Coal : blk		0056-2L 0056-6L 0056-1L 0056-3L 0056-4L 0056-5L
1736.00						0057
	0.84			40 Sh/Clst: lt bl gy to lt gn gy, calc, glauc 25 Ca : lt brn gy 20 Sh/Clst: lt brn gy to drk brn gy 15 Other : pyr tr Other : glauc tr Coal : blk		0057-2L 0057-6L 0057-1L 0057-3L 0057-4L 0057-5L
1737.00	swc					0014
	1.00		100	Sh/Clst: brn gy		0014-1L
1742.10	ccp					0025
			100	S/Sst : drk y brn, f, l		0025-1L

Table 3 : Lithology description for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1742.50	ccp					0026
	4.21	100		Sh/Clst: brn blk, slt, mic		0026-1L
1744.25	ccp					0027
		100		S/Sst : m y brn to pl y brn		0027-1L
1748.77	ccp					0028
		100		S/Sst : m y brn		0028-1L
1751.57	ccp					0029
		100		S/Sst : m y brn		0029-1L
1754.49	ccp					0030
		100		S/Sst : m y brn		0030-1L
1757.37	ccp					0031
		100		S/Sst : m y brn		0031-1L
1759.95	ccp					0032
		100		S/Sst : lt or to lt brn gy, argill, sft		0032-1L
1760.67	ccp					0033
		100		S/Sst : lt or to lt brn gy, argill, l		0033-1L
1763.22	ccp					0034
		100		S/Sst : pl y brn, mic, crs, l		0034-1L

Table 3 : Lithology description for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1765.08	ccp					0035
			100	S/Sst : pl y brn, mic, crs, l		0035-1L
1787.00						0074
		57.00		70 Sh/Clst: lt gn gy to lt bl gy, glauc		0074-1L
				20 Sh/Clst: blk to brn blk, carb		0074-2L
				10 S/Sst : w, l		0074-3L
1794.50	swc					0015
		2.52	100	Sh/Clst: blk to brn blk, carb		0015-1L
1798.00	swc					0016
		6.10	95	Sh/Clst: dsk y brn to blk, carb		0016-1L
			5	Coal : blk		0016-2L
1811.00						0059
				80 S/Sst : w, l		0059-1L
				10 Sh/Clst: lt bl gy to lt gn gy, glauc		0059-2L
		52.30		10 Sh/Clst: brn blk to blk, carb		0059-3L
1815.50	swc					0017
		3.44	100	Sh/Clst: brn blk, carb		0017-1L
1826.00						0060
				80 S/Sst : w, l		0060-1L
				10 Sh/Clst: lt bl gy to lt gn gy, glauc		0060-2L
		51.20		10 Sh/Clst: brn blk to blk, carb		0060-3L
1838.00						0061
				55 S/Sst : w, mic, l		0061-1L
				30 Sh/Clst: lt gn gy, glauc		0061-2L
		43.20		10 Sh/Clst: blk to brn blk, carb		0061-3L
				5 S/Sst : pl y, calc, cem		0061-4L

Table 3 : Lithology description for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1841.00	swc					0018
	2.17	100		Sh/Clst: blk to brn blk, carb		0018-1L
1865.00						0062
				45 S/Sst : w, mic, l		0062-1L
				20 Sh/Clst: lt gn gy, glauc		0062-2L
				10 Coal : blk to brn blk, argill		0062-3L
				10 Sh/Clst: lt gy		0062-5L
	18.50			10 Sh/Clst: brn gy, carb		0062-6L
				5 S/Sst : pl y, calc, cem		0062-4L
1895.00	swc					0019
				100 Sh/Clst: drk y brn		0019-1L
1898.00						0063
	53.20			80 Sh/Clst: blk to brn blk, carb		0063-2L
				20 S/Sst : w, l		0063-3L
				tr Sh/Clst: lt gn gy, lt gy, brn gy		0063-4L
1904.00						0064
	35.10			80 Sh/Clst: blk to brn blk, carb		0064-2L
				10 S/Sst : w, l		0064-3L
				10 Sh/Clst: lt gn gy, lt gy, brn gy		0064-4L
1922.00						0065
	21.80			80 Sh/Clst: blk to brn blk, carb		0065-1L
				10 S/Sst : w, l		0065-2L
				10 Sh/Clst: lt gn gy, lt gy, brn gy		0065-3L
1949.00						0066
				45 Sh/Clst: lt gn gy, glauc		0066-1L
				20 S/Sst : w, l		0066-2L
	3.83			20 Sh/Clst: brn gy, carb		0066-3L
				15 Sh/Clst: blk to brn blk, carb		0066-4L

Table 3 : Lithology description for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1964.00						0067
	50.40		40	S/Sst : w, l		0067-2L
			35	Sh/Clst: blk to brn blk, carb		0067-4L
			15	Sh/Clst: lt gn gy, glauc		0067-1L
			10	Sh/Clst: brn gy, carb		0067-3L
1994.00						0068
	39.50		45	S/Sst : w, l		0068-2L
			30	Sh/Clst: lt gn gy, glauc		0068-1L
			15	Sh/Clst: blk to brn blk, carb		0068-4L
			10	Sh/Clst: brn gy, carb		0068-3L
2036.00						0069
	53.60		65	S/Sst : w, l		0069-2L
			35	Sh/Clst: blk to brn blk, carb		0069-4L
			tr	Sh/Clst: lt gn gy, glauc		0069-1L
			tr	Sh/Clst: brn gy, carb		0069-3L
2050.50	swc					0020
			100	Sh/Clst: gy brn to dsk brn		0020-1L
2081.00						0070
	0.98		65	S/Sst : w, l		0070-1L
			15	Sh/Clst: lt gn gy, glauc		0070-2L
			15	Sh/Clst: brn gy, carb		0070-3L
			5	Sh/Clst: blk to brn blk, carb		0070-4L
2093.00	swc					0021
	2.63		100	Sh/Clst: blk, carb		0021-1L
2108.00						0071
	0.94		85	S/Sst : w, l		0071-1L
			10	Sh/Clst: lt gn gy, glauc		0071-2L
			5	Sh/Clst: brn gy, carb		0071-3L
			tr	Sh/Clst: blk to brn blk, carb		0071-4L

Table 3 : Lithology description for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2127.00	swc					0022	
	3.27	100	Sh/Clst: blk, carb			0022-1L	
2147.00						0072	
	2.85		95 S/Sst : w, l 5 Sh/Clst: lt gn gy, glauc tr Sh/Clst: brn gy, carb tr Sh/Clst: blk to brn blk, carb			0072-1L 0072-2L 0072-3L 0072-4L	
2182.00	swc					0023	
		100	Sh/Clst: dsk brn, m brn			0023-1L	
2206.00	swc					0024	
		100	Sh/Clst: lt gn gy to gy w, calc			0024-1L	
2215.00						0073	
	0.96		40 Sh/Clst: m gy to m drk gy, ol gy, calc 25 Ca : w 20 S/Sst : w, l 15 Sh/Clst: dsk red brn to m gy, gy pu, calc tr Sh/Clst: blk to brn blk, carb			0073-1L 0073-2L 0073-4L 0073-3L 0073-5L	

Table 4 : Thermal Maturity Data for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Typ	Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation (%)	Spore Fluorescence Colour	SCI	Tmax (°C)	Sample
1402.00	swc	Sh/Clst: drk gy	0.21	5	0.05	-	NDP/4.5(??)	-	0002-1L
1435.00	swc	Sh/Clst: dsk brn to dsk y brn	-	-	0.00	-	4.5	-	0003-1L
1537.00	swc	Sh/Clst: dsk brn to dsk y brn	0.20	6	0.02	-	NDP	-	0004-1L
1584.00	swc	Sltst : lt or to dsk y brn	0.22	12	0.05	-	4.5-5.0(??)	-	0005-1L
1614.00	swc	Sh/Clst: dsk y brn	0.20	6	0.02	-	4.0-4.5	418	0006-1L
1636.00	swc	Sh/Clst: lt brn gy to brn gy	-	-	0.00	-	5.5-6.0(??)	419	0008-1L
1697.00	swc	Sltst : pl brn gy to brn gy	-	-	0.00	-	4.5(?)	418	0011-1L
1731.00	swc	Sh/Clst: blk	0.27	24	0.04	-	4.5(??)	419	0013-1L
1737.00	swc	Sh/Clst: brn gy	-	-	0.00	-	5.0(?)	598	0014-1L
1742.50	ccp	Sh/Clst: brn blk	0.20	20	0.03	-	5.0	418	0026-1L
1787.00	cut	bulk	0.32	23	0.02	-	-	416	0074-0B
1815.50	swc	Sh/Clst: brn blk	0.32	10	0.03	-	5.0	427	0017-1L
1895.00	swc	Sh/Clst: drk y brn	NDP	-	-	-	NDP/5.0-5.5(??)	-	0019-1L
1964.00	cut	bulk	0.29	22	0.04	-	-	409	0067-0B
2050.50	swc	Sh/Clst: gy brn to dsk brn	NDP	-	-	-	NDP	-	0020-1L

Table 4 : Thermal Maturity Data for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Typ	Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation (%)	Spore Fluorescence Colour	SCI	Tmax (°C)	Sample
2093.00	swc	Sh/Clst: blk	-	-	0.00	-	5.0-5.5	429	0021-1L
2127.00	swc	Sh/Clst: blk	0.28	22	0.05	-	4.5-5.0(??)	432	0022-1L
2147.00	cut	bulk	0.33	24	0.03	-	5.0(?)	433	0072-0B
2182.00	swc	Sh/Clst: dsk brn, m brn	0.28	2	0.01	-	NDP/5.0-5.5(??)	-	0023-1L
2206.00	swc	Sh/Clst: lt gn gy to gy w	NDP	-	-	-	-	-	0024-1L
2215.00	cut	bulk	0.31	24	0.03	-	5.5-6.0 (?)	368	0073-0B

Table 5A: Rock-Eval table for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1614.00	swc	Sh/Clst: dsk y brn	0.24	3.32	-	-	1.63	204	-	3.6	0.07	418	0006-1L
1615.00	swc	Sh/Clst: dsk y brn	0.15	1.48	-	-	1.35	110	-	1.6	0.09	414	0007-1L
1631.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.18	3.63	-	-	1.61	225	-	3.8	0.05	421	0036-1L
1636.00	swc	Sh/Clst: lt brn gy to brn gy	0.16	1.47	-	-	1.91	77	-	1.6	0.10	419	0008-1L
1637.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.30	4.27	-	-	2.24	190	-	4.6	0.07	417	0037-1L
1640.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.21	3.29	-	-	1.83	180	-	3.5	0.06	418	0038-1L
1643.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.32	6.92	-	-	3.08	225	-	7.2	0.04	419	0039-1L
1646.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.18	2.59	-	-	1.53	169	-	2.8	0.06	419	0040-1L
1652.00	swc	Sltst : lt brn gy to brn gy	0.13	1.30	-	-	1.79	73	-	1.4	0.09	422	0009-1L
1658.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.22	3.02	-	-	1.77	171	-	3.2	0.07	416	0041-1L
1660.00	swc	Sltst : pl brn gy to brn gy	0.32	1.46	-	-	1.41	104	-	1.8	0.18	415	0010-1L
1661.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.19	2.46	-	-	1.43	172	-	2.7	0.07	414	0042-1L
1667.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.17	2.18	-	-	1.48	147	-	2.4	0.07	419	0043-1L
1670.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.19	2.66	-	-	1.70	156	-	2.9	0.07	416	0044-1L
1673.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.22	3.79	-	-	1.90	199	-	4.0	0.05	417	0045-1L
1679.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.22	3.17	-	-	1.69	188	-	3.4	0.06	417	0046-1L

Table 5A: Rock-Eval table for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1682.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.23	6.75	-	-	3.15	214	-	7.0	0.03	417	0047-1L
1691.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.24	2.68	-	-	1.49	180	-	2.9	0.08	404	0048-1L
1697.00	swc	Sltst : pl brn gy to brn gy	0.11	0.85	-	-	1.01	84	-	1.0	0.11	418	0011-1L
1700.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.23	4.83	-	-	1.72	281	-	5.1	0.05	421	0049-1L
1702.50	swc	Sltst : pl brn gy to brn gy	0.08	0.98	-	-	1.06	92	-	1.1	0.08	422	0012-1L
1703.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.16	3.61	-	-	2.18	166	-	3.8	0.04	419	0050-1L
1706.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.23	2.73	-	-	1.58	173	-	3.0	0.08	411	0051-1L
1709.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.16	2.61	-	-	1.69	154	-	2.8	0.06	418	0052-1L
1718.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.29	3.37	-	-	1.72	196	-	3.7	0.08	402	0053-1L
1724.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.06	1.12	-	-	1.00	112	-	1.2	0.05	418	0054-1L
1730.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.24	3.39	-	-	1.42	239	-	3.6	0.07	381	0055-1L
1731.00	swc	Sh/Clst: blk	0.55	34.00	-	-	28.00	121	-	34.5	0.02	419	0013-1L
1733.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.18	1.54	-	-	1.08	143	-	1.7	0.10	388	0056-1L
1736.00	cut	Sh/Clst: lt brn gy to drk brn gy	0.11	1.17	-	-	0.84	139	-	1.3	0.09	416	0057-1L
1737.00	swc	Sh/Clst: brn gy	0.06	0.86	-	-	1.00	86	-	0.9	0.07	598	0014-1L
1742.10	ccp	S/Sst : drk y brn	51.60	20.65	-	-	-	-	-	72.3	0.71	338	0025-1L

Table 5A: Rock-Eval table for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1742.50	ccp	Sh/Clst: brn blk	0.24	8.68	-	-	4.21	206	-	8.9	0.03	418	0026-1L
1744.25	ccp	S/Sst : m y brn to pl y brn	62.37	29.10	-	-	-	-	-	91.5	0.68	329	0027-1L
1748.77	ccp	S/Sst : m y brn	61.06	27.99	-	-	-	-	-	89.1	0.69	328	0028-1L
1751.57	ccp	S/Sst : m y brn	56.33	25.17	-	-	-	-	-	81.5	0.69	328	0029-1L
1754.49	ccp	S/Sst : m y brn	62.07	29.79	-	-	-	-	-	91.9	0.68	323	0030-1L
1757.37	ccp	S/Sst : m y brn	67.98	36.40	-	-	-	-	-	104.4	0.65	321	0031-1L
1759.95	ccp	S/Sst : lt or to lt brn gy	49.35	20.90	-	-	-	-	-	70.3	0.70	329	0032-1L
1760.67	ccp	S/Sst : lt or to lt brn gy	50.34	22.83	-	-	-	-	-	73.2	0.69	331	0033-1L
1763.22	ccp	S/Sst : pl y brn	0.90	1.53	-	-	-	-	-	2.4	0.37	321	0034-1L
1765.08	ccp	S/Sst : pl y brn	2.86	0.58	-	-	-	-	-	3.4	0.83	337	0035-1L
1787.00	cut	Sh/Clst: blk to brn blk	1.86	71.93	-	-	57.00	126	-	73.8	0.03	416	0074-2L
1794.50	swc	Sh/Clst: blk to brn blk	0.21	1.61	-	-	2.52	64	-	1.8	0.12	419	0015-1L
1798.00	swc	Sh/Clst: dsk y brn to blk	0.25	7.46	-	-	6.10	122	-	7.7	0.03	425	0016-1L
1811.00	cut	Sh/Clst: brn blk to blk	1.86	64.92	-	-	52.30	124	-	66.8	0.03	409	0059-3L
1815.50	swc	Sh/Clst: brn blk	0.09	2.07	-	-	3.44	60	-	2.2	0.04	427	0017-1L
1826.00	cut	Sh/Clst: brn blk to blk	2.54	55.04	-	-	51.20	108	-	57.6	0.04	408	0060-3L

Table 5A: Rock-Eval table for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1838.00	cut	Sh/Clst: blk to brn blk	1.49	61.55	-	-	43.20	142	-	63.0	0.02	416	0061-3L
1841.00	swc	Sh/Clst: blk to brn blk	0.12	1.22	-	-	2.17	56	-	1.3	0.09	426	0018-1L
1865.00	cut	Sh/Clst: brn gy	0.66	36.27	-	-	18.50	196	-	36.9	0.02	417	0062-6L
1898.00	cut	Sh/Clst: blk to brn blk	2.50	95.31	-	-	53.20	179	-	97.8	0.03	406	0063-2L
1904.00	cut	Sh/Clst: blk to brn blk	1.16	70.42	-	-	35.10	201	-	71.6	0.02	418	0064-2L
1922.00	cut	Sh/Clst: blk to brn blk	0.75	45.79	-	-	21.80	210	-	46.5	0.02	420	0065-1L
1949.00	cut	Sh/Clst: brn gy	0.29	5.58	-	-	3.83	146	-	5.9	0.05	426	0066-3L
1964.00	cut	Sh/Clst: blk to brn blk	2.61	76.67	-	-	50.40	152	-	79.3	0.03	409	0067-4L
1994.00	cut	Sh/Clst: blk to brn blk	1.87	75.67	-	-	39.50	192	-	77.5	0.02	416	0068-4L
2036.00	cut	Sh/Clst: blk to brn blk	2.14	80.22	-	-	53.60	150	-	82.4	0.03	409	0069-4L
2081.00	cut	Sh/Clst: brn gy	0.12	0.76	-	-	0.98	78	-	0.9	0.14	352	0070-3L
2093.00	swc	Sh/Clst: blk	0.16	4.02	-	-	2.63	153	-	4.2	0.04	429	0021-1L
2108.00	cut	Sh/Clst: brn gy	0.05	0.55	-	-	0.94	59	-	0.6	0.08	430	0071-3L
2127.00	swc	Sh/Clst: blk	0.18	11.85	-	-	3.27	362	-	12.0	0.01	432	0022-1L
2147.00	cut	Sh/Clst: brn gy	0.22	5.88	-	-	2.85	206	-	6.1	0.04	433	0072-3L
2215.00	cut	Sh/Clst: m gy to m drk gy, ol gy	0.15	1.39	-	-	0.96	145	-	1.5	0.10	368	0073-1L

Table 5b Rock-Eval Data on SR-1 standard for well NOCS 6608/11-2

	S1	S2	Tmax
SR1	1.34	5.44	436
SR1	1.37	5.77	436
SR1	1.33	5.45	436
SR1	1.4	5.9	434
SR1	1.3	5.48	439
SR1	1.27	5.61	439
SR1	1.27	5.58	439
SR1	1.26	5.73	439
SR1	1.24	5.65	440

Table J : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 6608/11-2

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
1614.00	swc	Sh/Clst: dsk y brn	4.02	10.24	56.82	28.92	3.32	0006-1L
1643.00	cut	Sh/Clst: lt brn gy to drk brn gy	4.50	20.46	43.63	31.42	6.92	0039-1L
1682.00	cut	Sh/Clst: lt brn gy to drk brn gy	4.74	14.88	42.35	38.04	6.75	0047-1L
1700.00	cut	Sh/Clst: lt brn gy to drk brn gy	3.59	16.03	43.33	37.04	4.83	0049-1L
1731.00	swc	Sh/Clst: blk	5.56	17.60	40.55	36.28	34.00	0013-1L
1742.50	ccp	Sh/Clst: brn blk	4.46	15.59	37.48	42.47	8.68	0026-1L
1787.00	cut	Sh/Clst: blk to brn blk	11.56	17.31	38.49	32.64	71.93	0074-2L
1798.00	swc	Sh/Clst: dsk y brn to blk	11.44	17.53	42.97	28.07	7.46	0016-1L
1898.00	cut	Sh/Clst: blk to brn blk	10.51	14.47	39.01	36.02	95.31	0063-2L
1922.00	cut	Sh/Clst: blk to brn blk	7.16	14.84	33.50	44.49	45.79	0065-1L
1994.00	cut	Sh/Clst: blk to brn blk	11.32	13.86	35.03	39.78	75.67	0068-4L
2093.00	swc	Sh/Clst: blk	4.91	16.49	43.65	34.94	4.02	0021-1L
2127.00	swc	Sh/Clst: blk	3.61	13.43	33.61	49.35	11.85	0022-1L

Table 7: Visual Kerogen Composition Data for well NOCS 6608/11-2

Depth unit of measure: m

Depth	Typ	Lithology	Amorphous			Algal/Phytoplankton					Herbaceous				Woody				Coaly			SCI	Sample
			AM%	FA	HA	AP%	Cy	Ta	Bo	Di	De	HE%	SP	Cu	De	WO%	FL	NF	De	CO%	FS		
1402.00	swc	Sh/Clst	90	*		TR	*		**		TR	*	?	**	5		*		5	*		NDP/4.5(??)	0002-1L
1435.00	swc	Sh/Clst	85	*	**	TR			*		5	*	*	**	10		*	**	TR	*	**	4.5	0003-1L
1537.00	swc	Sh/Clst	NDP			NDP					NDP				NDP			NDP			NDP	0004-1L	
1584.00	swc	Sltst	75	*		TR	?				5	*	?	**	10		*	**	10	*	**	4.5-5.0(??)	0005-1L
1614.00	swc	Sh/Clst	45	*	**	TR	*		*		30	**	*	*	10		*	*	15	*	*	4.0-4.5	0006-1L
1636.00	swc	Sh/Clst	40	*		TR			*		15	*	**	**	15		*	**	30	*	**	5.5-6.0(??)	0008-1L
1697.00	swc	Sltst	15	*		TR	?				20	*	**	*	20		*	**	45	**	*	4.5(?)	0011-1L
1731.00	swc	Sh/Clst	25	*		10	*		*		15	*	*	*	25		*		25	*		4.5(??)	0013-1L
1737.00	swc	Sh/Clst	25	*		TR	?				15	*	**	*	20		*	*	40	**	*	5.0(?)	0014-1L
1742.50	ccp	Sh/Clst	45	*	**	TR	*				30	**	**	*	15		*	*	10	*	*	5.0	0026-1L
1815.50	swc	Sh/Clst	5	*		TR	*				40	**		*	35		**	*	20	**	*	5.0	0017-1L
1895.00	swc	Sh/Clst	85	*		TR	?		?		5	*	*	**	5		*		5	*		NDP/5.0-5.5(??)	0019-1L
2050.50	swc	Sh/Clst	95	*		TR	?				TR	?	*		TR		*		TR	*		NDP	0020-1L
2093.00	swc	Sh/Clst	55	*	**	TR	*				25	**		*	5		*	**	15	*	**	5.0-5.5	0021-1L
2127.00	swc	Sh/Clst	80	*	*	TR	*				10	*	*	*	5		*	**	5	*	**	4.5-5.0(??)	0022-1L