3.3 Wireline Formation Testing

12 1/4" Section

Two Formation Multi Tester (FMT) runs were performed for pressure measurement Only one was planned but tool failures made it necessary do a second attempt. Out of 20 attempts only one pressure reading was obtained

FMT PRESSURES WELL 6506/12-11S

Test no.	Measured depth (m)	TVD depth (m)	Final buildup pressure (bar)	Hydrostatic pressure before (bar)	Hydrostatic pressure after (bar)	Drawdown permeability (mD)	Chamber used	Remarks
1,0	3710,0	3369,5		587,1	586,9			No seal
2,0	3709,0	3368,6		586,7	586,9		P	No seal
3,0	3709,4	3369,0		586,9	586,2		P	No seal
4,0	3710,9	3370,4		587,2	587,2		P	No seal
5,0	3709,9	3369,5		588,1	587,8		P	No seal
6,0	3709,1	3368,7	487,2	587,4	586,5	0,8	P	Poor
7,0	3713,0	3372,0		587,4	587,4		P	No seal
8,0	4260,6	3843,2		670,5	670,3		P	No seal
9,0	4259,9	3842,6		669,9	669,6		P	No seal
10,0	4369,2	3947,0		687,6	687.5		P	No seal
11,0	4361,6	3939,6		685,9	686,7		P	No seal
12,0	4360,9	3939,0		685,5	685,4		P	No seal
13,0	4367,1	3945,0		686,6	686,8		P	No seal
14,0	4357,1	3935,6		685,0	685,1		P	No seal
15,0	4362,0	3939,9		687,4	687,1		P	No seal
16,0	4362,2	3940,3		687,1	687,0		P	No seal
17,0	4361,7	3939,7		686,7	686,5		P	No seal
18,0	4361,2	3939,2		686,4	686,2		P	No seal
19,0	4360,7	3938,7		686,1	685,8		P	No seal
20,0	4357,9	3935,9		685,2	684,9		P	No seal

Figure 3.3.1 Formation Pressure (bar)

8 1/2" Section

The Schlumberger MDT tool was run in this well section

Test no.	Measured depth (m)	TVD depth (m)	Final buildup pressure (bar)	Hydrostatic pressure before (bar)	Hydrostatic pressure after (bar)	Drawdown permeability (mD)	Chamber used	Remarks
1	4768.21	4343.46						Dry Test
2	4768.41	4343.65						Dry Test
3	4750.02	4325.28			514.07			Lost Seal
4	4767.96	4343.21		516.48	516.41			Dry Test
5	4839.4	4414.56		525.60	525.48	3.08		Dry Test
6	4845.03	4420.18			526.05			Lost Seal
7	4853.44	4428.58		527.23	527.14			Lost Seal
8	4853.6	4428.74		527.09	526.98			Lost Seal
9	4839.42	4414.58		524.86	524.79			Lost Seal
10	4762.09	4337.34		515.06	515.13			Lost Seal
11	5042	4616.9		550.51	550.23	2.13		Lost Seal
12	5042.56	4617.46		550.28	549.99			Dry Test
13	5043.03	4617.92		550.03	549.80	1.5		Lost Seal
14	5044.68	4619.58		549.92	549.76	0.47		Lost Seal
15	5046.99	4621.88		550.10	549.82	2.12		Lost Seal
16	4767.69	4342.93		516.16	516.07	0.29		Lost Seal
17	4769.7	4344.94		515.86	515.73			Lost Seal
18	4780.5	4355.73		517.56	517.54			Dry Test
19	5206.01	4780.59		568.09	567.99			Dry Test
20	5209.52	4784.08		568.44	568.35	9.06		Lost Seal
21	5209.05	4783.62	494.15	568.32	568.18	132.06		Draw-down Pretest
22	5185.99	4760.62		566.68	566.38			Dry Test
23	5193.02	4767.63		567.19	567.05			Dry Test
24	5203.11	4777.69	493.86	568.37	568.18	75.25		Draw-down Pretest
25	5205.57	4780.15		568.53	568.46			Lost Seal
26	5227	4801.52		571.20	571.00			Lost Seal
27	5229.05	4803.56	496.24	571.24	571.04	133.6		Draw-down Pretest
28	5230.56	4805.06	496.30	571.16	570.51			Draw-down Pretest
29	4845.01	4420.17		525.93	525.87			Lost Seal
30	4853.35	4428.49		526.92	526.95			Lost Seal
31	4860	4435.14		527.68	527.58			Lost Seal
32	4768.11	4343.36	496.43	516.48	516.40	2.47		Draw-down Pretest
33	4839.56	4414.72		525.85	525.73			Lost Seal
34	4872	4447.11		529.95	529.78			Lost Seal

35	4880.1	4455.2		530.72	530.61			Lost Seal
36	4894	4469.08		532.36	532.26			Lost Seal
37	4914.07	4489.13		534.80	534.66			Lost Seal
38	4923.05	4498.09		535.68	535.58			Lost Seal
39	4984.04	4559		543.40	543.03			Lost Seal
40	4768.1	4343.34						Dry Test
41	4763.16	4338.41		516.49	516.26	0.07		Supercharged
42	4768.43	4343.67	496.56	516.89	516.81	3.01		Draw-down Pretest
43	4768.54	4343.78	496.85	516.68	516.53	0.34		Draw-down Pretest
44	4769.04	4344.28	497.09	516.54	516.39	0.14		Draw-down Pretest
45	4773.06	4348.3		516.90	516.81			Lost Seal
46	4777.51	4352.75		517.35	517.26			Dry Test
47	4778.52	4353.75	497.48	517.36	517.29	0.84		Draw-down Pretest
48	4782.46	4357.69		517.78	517.75			Dry Test
49	4783.45	4358.68		517.92	517.90			Dry Test
50	4787.55	4362.77		518.50	518.46			Dry Test
51	4790.1	4365.32		518.84	518.80			Dry Test
52	4793.6	4368.82		519.15	519.15			Lost Seal
53	4796	4371.22		519.47	519.48			Lost Seal
54	4798.84	4374.05		519.88	519.84			Dry Test
55	4800.84	4376.05		520.13	520.11	0.98		Lost Seal
56	4802.92	4378.13		520.42	520.40	2.53		Lost Seal
57	5185.57	4760.2		566.43	566.28			Dry Test
58	5186.03	4760.65	492.91	566.24	566.16	2.37		Draw-down Pretest
59	5186.51	4761.14	493.71	566.16	566.02	0.23		Draw-down Pretest
60	5193.02	4767.62		566.80	566.71			Dry Test
61	5197.51	4772.11		567.29	567.15			Dry Test
62	5203.01	4777.59		567.86	567.71			Dry Test

Figure 3.3.1 Formation Pressure (bar)

MDT sampling performed in the following sections:

5205.5 m MD,

Resultat of the 2-3/4 gallon chamber opened on the rig.
175 bar opening pressure
0 H2S
39.9 cu ft gas
5.6 l fluid, brown (Density 43 deg API at 60 deg F = 0.811 g/cc at 15 deg C)

One 450 cc sealed and sent to lab.

5230.6 m MD

Result of the 2-3/4 gallon chamber opened on the rig:
180 bar opening pressure
0 H2S
61.4 cu ft gas
3.5 l fluid, light brown (Density 44 deg API at 60 deg F = 0.806 g/cc at 15 deg C)

1 gallon chamber sent to lab.

4768.2 m MD

Result of the 2-3/4 gallon chamber opened on the rig:
90 bar operning pressure
0 H2S
1.5 cu ft gass
9.7 l formation water, trace oil (from mud??)

Analysis of the formation water done on the rig:
Cl- : 28000 mg/l
Ca2+ : 880 mg/l
Tot H : 1000 mg/l
Mg2- : 73 mg/l
Ph : 5.75
Resistivity (Schlumberger) : 0.161 at 23 deg C
Density : 1.026 SG

One 450 cc failed and one sent to lab. for analysis.

3.4 Well Testing

DST NO.	1
PERFORATED INTERVAL	5226.0 - 5235.5 M MD RKB
PRODUCTION DATA (main flow)	
Oil flow rate	650 Sm^3/day
Gas flow rate	460 000 Sm^3/day
GOR	707 Sm^3/Sm^3
Bottomhole flowing pressure	454 bar at 5211.98 (gauge depth)
Bottomhole flowing temperature	165 deg.C
Flowing wellhead pressure	145 bar
Flowing wellhead temperature	44 deg.C
CO_2/H_2S	6% / 15 ppm
Oil density	800 kg/m^3 at 20 deg. C
Gas gravity	0.795 (air=1)

DST NO:	2
PERFORATED INTERVAL	5197.5 - 5206.5 M MD RKB
PRODUCTION DATA (main flow)	
Oil flow rate	510 Sm^3/day
Gas flow rate	175 000 Sm^3/day
GOR	343 Sm^3/Sm^3
Bottomhole flowing pressure	285 bar at 5171.9 (gauge depth)
Bottomhole flowing temperature	161 deg.C
Flowing wellhead pressure	62 bar
Flowing wellhead temperature	28 deg.C
CO_2/H_2S	8% /28 ppm
Oil density	830 kg/m^3 at 20 deg. C
Gas gravity	0.75 (air=1)

Table 3.4.1

Anchor MI Drilling Fluids

TOTAL MATERIAL COST AND CONSUMPTION

OPERATOR: STATOIL

WELL: 6506/12-11S

Product	Unit size	Unit price NOK	36"x26" sect.	Cost NOK	17 1/2" sect.	Cost NOK	12 1/4" sect.	Cost NOK	8 1/2" sect.	Cost NOK	P & A sect.	Cost NOK	Total consumed	Total cost NOK
Barite	mt	708,68	145	102 758,60	123	87 167,64	670	474 815,60	89	63 072,52	8	5 669,44	1035	733 483,80
Bentonite	mt	1799,85	47	84 592,95							1	1 799,85	48	86 392,80
Soda Ash	kg	2,92			675	1 971,00					50	146,00	725	2 117,00
CMC EHV	kg	13,82												
Celpol ESL	kg	30,49			12125	369 691,25							12125	369 691,25
Rhodopol 23P	kg	79,05			2725	215 411,25					800	63 240,00	3525	278 651,25
KCl Brine	m3	518,70			610	316 407,00							610	316 407,00
Anco 208 in 1m3 tank	ltr	16355,85			9	147 202,65							9	147 202,65
Anco 208 in bulktank	ltr	17405,85			2,2	38 292,87							2	38 292,87
Anco 208 in brine	ltr	15305,85			30,5	466 828,43							31	466 828,43
KCl Powder	kg	1,71			16000	27 360,00							16000	27 360,00
KD - 40	200 ltr	12555,00									3	37 665,00	3	37 665,00
Anco Vert P	kg	33,00					11400	376 200,00	8950	295 350,00			20350	671 550,00
Anco Vert S	kg	33,25					3400	113 050,00	5150	171 237,50			8550	284 287,50
Anco Vert F	kg	27,90					4250	118 575,00	6100	170 190,00			10350	288 765,00
Anco Vert Vis	kg	31,29					8675	271 440,75	4950	154 885,50			13625	426 326,25
Anco Vert M	kg	54,60					1140	62 244,00	380	20 748,00			1520	82 992,00
Lime	kg	2,02					4800	9 696,00	3600	7 272,00			8400	16 968,00
CaCl2	kg	2,63							2100	5 523,00			2100	5 523,00
Baseoil, SN-91(KSU)	m3	3094,20							123	380 586,60			123	380 586,60
Baseoil, SN-91	m3	2946,86					310	913 526,60	60	176 811,60			370	1 090 338,20
Anco Superwash	kg	47,25									2352	111 132,00	2352	111 132,00
Anco Vert Received	m3	2500,00					400	1 000 000,00	355	887 500,00			755	1 887 500,00
Anco Vert Backl.	m3	-2500,00					317	-792 500,00	485	-1 212 500,00			802	-2 005 000,00
NaCl Brine	m3	458,79									745	341 798,55	745	341 798,55
NaCl Powder (1 ton)	kg	1,21									7000	8 470,00	7000	8 470,00
NaCl Powder (25 kg)	kg	1,51									5000	7 550,00	5000	7 550,00
Total cost	NOK			187 351,55		1 670 332,09		2 547 047,95		1 120 676,72		577 470,84		6 102 879,15
Hole drilled	m					1621		2514		481				4616
Cost per metre	NOK					1 030,43		1 013,15		2 329,89				1 322,11
Total days				18		6		15		22		33		94
Cost per day	NOK			10 406,42		278 388,68		169 803,20		50 939,85		17 499,12		64 924,25
Mud mixed	m3			1 520		854		495		240		769		3878
Cost per m3	NOK			123,26		1 955,89		5 145,55		4 669,49		750,94		1 573,72

UPDATED GEOCHEMICAL DATA REPORT

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STATOIL

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TITLE

NOCS 6506/12-11S
GEOCHEMICAL ANALYSIS OF OILS AND GASES

AUTHOR(S)

Monica Østbye Hansen / Kjell Arne Bakken

GEOLAB PROJECT NO	DATE
62305	21.02.97
PROJECT MANAGER	QA RESPONSIBLE
Monica Østbye Hansen, Lab. Manager	Peter B. Hall, Snr.Scientist Kjell Arne Bakken, Snr. Scientist
REPORT NO./FILE	PAGE
	1 of 1

Comments:

This data-report replaces earlier reports on these samples.

This report contain, in addition to the original data, also re-analysis of GC-MS of the whole oil and of the saturated fraction of the DST-1 sample. This to determine the reliability of the GC-MS data. The re-analyses are qualitative. The results of the new analyses supports the reliability of the data for the two new GC-MS analyses are quite similar and for most parameters also similar to the results marked as DST-1.

CONTENTS

COMMENTS

The analysis have been performed according to "The Norwegian Industry Guide to Organic Geochemical Analysis", Third Edition. The procedures are not enclosed with this report.

Due to not enough material, API gravity has not been performed on sample 6506/12-11s, DST 2.

ANALYTICAL PROGRAM: NOCS 6506/12-11S	Page: 1 of 1
PROJECT: NOCS 6506/12-11S	DATABASE CODE: 8305/011/242
Scientist: MØH	Technician: ALH
Notes: Quant. Sat GC m/intern standard.Both gas samples and oil samples of both fractions	Date: 26.11.96

	Fraction						Topping	MPLC & Deasp	Iatroscan	Light HCs	Sat GC	Aro GC	Sat GCMS	Aro GCMS	Bulk C Isot	Gas comp	API
Tables							8 A-B	8 A-B	8 C	13	9	9	11	12	10	14	4
WELL 6506/12-11S																	
5126-5235,5 DST 1							X	X	X	X	X	X	X	X	X	X	X
5197,5-5206,5 DST 2							X	X	X	X	X	X	X	X	X	X	*
TOTAL							2	2	2	2	2	2	2	2	2	2	1

* Lacking API data due to not enough material

TABLE 4: API-GRAVITY

Method:

According to ASTM D-4052 at 15 deg.C with calculation to API-gravity at 60 deg. F as described in API-table 51 (Standard procedure).

SAMPLE	API-Gravity
6506/12-11S DST 1	41.76
6506/12-11S DST 2	*

* Not enough material to analyse the sample.

Ta… 9A: Quantitative Analysis of Saturated F… …tion for well NOCS 6506/12-11S

sample	nC15 mg/g sat	nC16 mg/g sat	iC18 mg/g sat	nC17 mg/g sat	Pr mg/g sat	nC18 mg/g sat	Ph mg/g sat	nC19 mg/g sat	nC20 mg/g sat	nC21 mg/g sat	nC22 mg/g sat	nC23 mg/g sat	nC24 mg/g sat	nC25 mg/g sat	nC26 mg/g sat	nC27 mg/g sat	nC28 mg/g sat	nC29 mg/g sat	nC30 mg/g sat	nC31 mg/g sat	nC32 mg/g sat	nC33 mg/g sat	nC34 mg/g sat
DST 1, 5235 50m	12.52	11.48	3.86	10.66	6.81	9.61	4.42	8.78	8.01	6.74	6.33	5.90	5.54	5.29	4.44	3.88	3.35	3.64	2.26	1.76	1.29	0.97	1.30
DST 2, 5206 50m	10.30	9.71	3.08	9.34	5.90	8.62	3.78	7.18	7.62	6.79	6.85	6.29	5.94	5.37	4.85	4.00	3.26	2.29	1.69	1.22	0.66	0.99	1.27

Table 9B: Saturated Hydrocarbon Ratios (peak area) for 6506/12-11S

Well	Description	Pristane / nC17	Pristane / Phytane	Pristane/nC17 / Phytane/nC18	Phytane / nC18	CPI1	nC17 / nC17+nC27	Sample
6506/12-11S	DST1	0.64	1.54	1.39	0.46	1.06	0.73	O11/0001
6506/12-11S	DST2	0.63	1.56	1.44	0.44	1.03	0.70	O11/0002

Table 9C : Aromatic Hydrocarbon Ratios (peak area) for 6506/12-11S

Well	Description	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	Rc	DBT/P	4/1MDBT	(3+2) /1MDBT	Sample
6506/12-11S	DST1	2.05	6.15	0.52	1.58	0.85	1.04	0.91	-	-	-	O11/0001
6506/12-11S	DST2	2.05	8.45	0.45	1.96	1.04	1.25	1.02	-	-	-	O11/0002

Well	Description	F1	F2	Sample
6506/12-11S	DST1	0.50	0.31	O11/0001
6506/12-11S	DST2	0.57	0.34	O11/0002

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Table 11a: Variation in Triterpane Distribution (peak height) SIR for STATOIL

Well	Descript.	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Ratio6	Ratio7	Ratio8	Ratio9	Rat.10	Rat.11	Rat.12	Rat.13	Rat.14	Sample
6506/12-11S	DST 1 W.OI	0.28	0.22	0.30	0.55	0.36	1.32	0.27	0.49	0.21	1.02	0.88	0.39	0.19	54.69	04/0002
6506/12-11S	DST 2 FRAC	0.19	0.16	0.19	0.61	0.38	0.94	0.28	0.47	0.22	0.74	0.87	0.39	0.17	56.64	O11/0002
6506/12-11s	DST 1 FRAC	0.32	0.24	0.38	0.84	0.46	1.72	0.34	0.41	0.26	1.31	0.88	0.49	0.20	59.96	04/0001

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List of Triterpane Distribution Ratios

Ratio 1: 27Tm / 27Ts

Ratio 2: 27Tm / 27Tm+27Ts

Ratio 3: 27Tm / 27Tm+30aß+30ßa

Ratio 4: 29aß / 30aß

Ratio 5: 29aß / 29aß+30aß

Ratio 6: 30d / 30aß

Ratio 7: 28aß / 30aß

Ratio 8: 28aß / 29aß

Ratio 9: 28aß / 28aß+30aß

Ratio 10: 24/3 / 30aß

Ratio 11: 30aß / 30aß+30ßa

Ratio 12: 29aß+29ßa / 29aß+29ßa+30aß+30ßa

Ratio 13: 29ßa+30ßa / 29aß+30aß

Ratio 14: 32aßS / 32aßS+32aßR (%)

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Table 11b: Variation in Sterane Distribution (peak height) SIR for STATOIL

Well	Descript.	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Ratio6	Ratio7	Ratio8	Ratio9	Ratio10	Sample
6506/12-11S	DST 1 W.OI	0.84	56.81	76.33	1.27	0.74	0.48	0.33	0.62	1.32	3.73	04/0002
6506/12-11S	DST 2 FRAC	0.75	57.07	78.64	1.25	0.76	0.45	0.32	0.65	1.33	4.29	O11/0002
6506/12-11s	DST 1 FRAC	0.76	55.41	78.79	1.28	0.77	0.49	0.35	0.65	1.24	4.17	04/0001

List of Sterane Distribution Ratios

Ratio 1: 27dßS / 27dßS+27aaR

Ratio 2: 29aaS / 29aaS+29aaR (%)

Ratio 3: 2*(29ßßR+29ßßS) / (29aaS+29aaR + 2*(29ßßR+29ßßS)) (%)

Ratio 4: 27dßS+27dßR+27daR+27daS / 29dßS+29dßR+29daR+29daS

Ratio 5: 29ßßR+29ßßS / 29ßßR+29ßßS+29aaS

Ratio 6: 21a+22a / 21a+22a+29aaS+29ßßR+29ßßS+29aaR

Ratio 7: 21a+22a / 21a+22a+28daS+28aaS+29daR+29aaS+29ßßR+29ßßS+29aaR

Ratio 8: 29ßßR+29ßßS / 29aaS+29ßßR+29ßßS+29aaR

Ratio 9: 29aaS / 29aaR

Ratio 10: 29ßßR+29ßßS / 29aaR

Table 11c: Raw triterpane data (peak height) m/z 191 SIR for STATOIL

Well	Descript.	23/3	24/3	25/3	24/4	26/3	27Ts	27Tm	28aß	25nor30aß	Sample
		29aß	29Ts	30d	29ßa	30O	30aß	30ßa	30G	31aßS	
		31aßR	32aßS	32aßR	33aßS	33aßR	34aßS	34aßR	35aßS	35aßR	
6506/12-11S	DST 1 W.OI	14655.5	13623.4	7598.4	8180.9	4615.2	22785.8	6314.4	3617.3	5442.6	04/0002
		7363.8	18342.4	17536.0	2185.4	0.0	13302.2	1777.5	469.0	3948.8	
		4219.8	2413.0	1999.4	1182.1	2030.9	0.0	0.0	0.0	0.0	
6506/12-11S	DST 2 FRAC	30374.8	27790.4	11858.5	19020.0	8978.3	52395.6	9798.0	10660.2	10093.2	011/0002
		22707.4	35627.4	35275.1	4687.4	2174.8	37454.6	5459.0	3248.6	12968.2	
		10423.5	9263.3	7090.0	4661.1	5478.5	3702.0	2287.3	2555.4	1601.3	
6506/12-11s	DST 1 FRAC	12989.3	10279.2	4999.7	4499.1	3974.4	17655.5	5595.9	2701.7	1803.9	04/0001
		6654.1	12625.7	13516.1	1810.8	0.0	7875.3	1092.8	0.0	3310.6	
		2894.3	2588.0	1728.5	935.9	1734.8	0.0	0.0	0.0	0.0	

Table 11d: Raw sterane data (peak height) m/z 217 SIR for STATOIL

Well	Descript.	21a	22a	27dßS	27dßR	27daR	27daS	28dßS	28dßR	28daR*	29dßS*	28daS*	27aaR	29dßR	29daR	28aaS	29daS*	28ßßS	28aaR	29aaS	29ßßR	29ßßS	29aaR	Sample
6506/12-11S	DST 1 W.OI	21930.1	5984.4	36156.2	24447.7	10198.6	10469.3	19717.4	14667.1	9516.4	25223.4	11750.8	6653.2	21753.4	7598.4	4594.9	9189.1	11629.8	2334.9	6680.3	10259.3	8699.1	5077.9	04/0002
6506/12-11S	DST 2 FRAC	59725.1	23482.2	96825.4	71548.9	26330.4	31377.0	41326.4	34337.4	29177.8	67574.0	33723.3	31622.9	61222.9	22953.8	16399.1	28713.6	37372.0	10513.2	20490.6	33247.1	32861.0	15416.2	011/0002
6506/12-11s	DST 1 FRAC	23938.6	7561.8	38818.1	24083.7	9866.7	8163.7	13393.5	13178.3	9071.4	23789.7	10943.1	12000.5	21680.0	7934.8	4543.5	9588.6	11775.5	1953.7	6321.3	11110.2	10079.2	5086.7	04/0001

* 28daR coel with 27aaS, 29dßS coel with 27ßßR, 28daS coel with 27ßßS, 29daS coel with 28ßßR

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Table 11e: Raw sterane data (peak height) m/z 218 SIR for STATOIL

Well	Descript.	27ßßR	27ßßS	28ßßR	28ßßS	29ßßR	29ßßS	30ßßR	30ßßS	Sample
6506/12-11S	DST 1 W.OI	13615.3	12423.3	11024.6	14605.3	15249.8	13954.5	5091.8	4165.7	04/0002
6506/12-11S	DST 2 FRAC	41721.4	37085.5	32784.6	39939.6	44499.9	46307.1	13706.2	12159.0	O11/0002
6506/12-11s	DST 1 FRAC	13856.7	12113.2	11567.8	14677.3	15604.4	15275.7	4887.9	4122.0	04/0001

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Table 11f: Raw triterpane data (peak height) m/z 177 SIR for STATOIL

Well	Descript.	25nor28aß	25nor30aß	Sample
6506/12-11S	DST 1 W.OI	9702.6	2421.0	04/0002
6506/12-11S	DST 2 FRAC	29202.1	9737.0	O11/0002
6506/12-11s	DST 1 FRAC	9655.4	2436.4	04/0001

Table 12a: Variation in Triaromatic Sterane Distribution (peak height) for 6506/12-11S

Well	Descript.	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Sample
6506/12-11S	DST 2 FRAC	1.00	1.00	1.00	1.00	1.00	O11/0002
6506/12-11S	DST1 FRAC	1.00	1.00	1.00	1.00	1.00	O11/0001

Ratio1: a1 / a1 + g1
Ratio2: b1 / b1 + g1
Ratio3: a1 + b1 / a1 + b1 + c1 + d1 + e1 + f1 + g1
Ratio4: a1 / a1 + e1 + f1 + g1
Ratio5: a1 / a1 + d1

Table 12b: Variation in Monoaromatic Sterane Distribution (peak height) for 6506/12-11S

Well	Descript.	Ratio1	Ratio2	Ratio3	Ratio4	Sample
6506/12-11S	DST 2 FRAC	1.00	1.00	0.90	0.84	O11/0002
6506/12-11S	DST1	1.00	1.00	1.00	1.00	O11/0001

Ratio1: A1 / A1 + E1
Ratio2: B1 / B1 + E1
Ratio3: A1 / A1 + E1 + G1
Ratio4: A1+B1 / A1+B1+C1+D1+E1+F1+G1+H1+I1

Table 12c: Aromatisation of Steranes (peak height) for 6506/12-11S

Well	Descript.	Ratio1	Ratio2	Sample
6506/12-11S	DST 2 FRAC	1.00	-	O11/0002
6506/12-11S	DST1	-	-	O11/0001

Ratio1: $\dfrac{C1+D1+E1+F1+G1+H1+I1}{C1+D1+E1+F1+G1+H1+I1 + c1+d1+e1+f1+g1}$

Ratio2: g1 / g1 + I1

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Table 12d: Raw triaromatic sterane data (peak height) m/z 231 for 6506/12-11S

Well	Descript.	a1	b1	c1	d1	e1	f1	g1	Sample
6506/12-11S	DST 2 FRAC	14261.1	14764.4	0.0	0.0	0.0	0.0	0.0	O11/0002
6506/12-11S	DST1	5737.3	5451.7	0.0	0.0	0.0	0.0	0.0	O11/0001

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Table 12e: Raw monoaromatic sterane data (peak height) m/z 253 for 6506/12-11S

Well	Descript.	A1	B1	C1	D1	E1	F1	G1	H1	I1	Sample
6506/12-11S	DST 2 FRAC	13099.0	8737.9	775.3	928.7	0.0	0.0	1496.0	1059.6	0.0	O11/0002
6506/12-11S	DST1	3537.3	3143.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	O11/0001

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Table 13A: Light Hydrocarbons from Whole Oil GC for 6506/12-11S

Well	Description	iC4	nC4	iC5	nC5	2,2DMC4	2,3DMC4	2MC5	3MC5	nC6	MCyC5	Benz	Sample
6506/12-11S	DST1	-	-	-	-	0.14	-	-	-	5.46	3.14	2.18	O11/0001
6506/12-11S	DST2	-	-	-	-	0.13	-	-	-	4.71	2.94	2.46	O11/0002

Table 13B: Light Hydrocarbons from Whole Oil GC for 6506/12-11S

Well	Description	CyC6	2MC6	3MC6	1,3ci-DMCyC5	1,3tr-DMCyC5	1,2tr-DMCyC5	nC7	MCyC6	Tol	nC8	p/m-Xylene	Sample
6506/12-11S	DST1	5.01	2.56	1.79	0.64	0.61	1.13	5.27	8.54	6.89	4.35	5.24	O11/0001
6506/12-11S	DST2	4.86	2.21	1.54	0.60	0.58	1.10	4.70	8.47	7.41	4.20	5.85	O11/0002

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Table 13C: Thompson's indices for 6506/12-11S

Well	Description	A	B	X	W	C	I	F	H	U	R	S	Sample
6506/12-11S	DST1	0.40	1.31	1.20	4.35	0.79	1.83	0.62	20.63	1.60	2.06	39.00	O11/0001
6506/12-11S	DST2	0.52	1.58	1.39	5.06	0.71	1.64	0.55	19.53	1.65	2.13	36.23	O11/0002

THOMPSON'S INDICES

$$A = \frac{\text{Benzene}}{\text{nC6}} \qquad B = \frac{\text{Toluene}}{\text{nC7}} \qquad X = \frac{\text{p/m-xylene}}{\text{nC8}} \qquad W = \frac{\text{Benzene} * 10}{\text{CyC6}}$$

$$C = \frac{\text{nC6 + nC7}}{\text{CyC6 + MCyC6}} \qquad I = \frac{\text{2MC6 + 3MC6}}{\text{1,3ciDMCyC5 + 1,3trDMCyC5 + 1,2trDMCyC5}} \qquad F = \frac{\text{nC7}}{\text{MCyC6}}$$

$$H = \frac{\text{nC7} * 100}{\text{CyC6 + 2MC6 + 2,3DMC4 + 3MC6 + 1,3ciDMCyC5 + 1,3trDMCyC5 + 1,2trDMCyC5 + nC7 + MCyC6}}$$

$$U = \frac{\text{CyC6}}{\text{MCyC5}} \qquad R = \frac{\text{nC7}}{\text{2MC6}} \qquad S = \frac{\text{nC6}}{\text{2,2DMC4}}$$

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