Table 1: Analytical Program for Well NOCS 6507/3-3A

GEOLAB NOR

Sample Depth (m)	Sample Type	Sample Code	Extraction Clean-Up	Lithology Description	Picking for screening	Prøvepreparering	Leco TOC	RockEval	Thermal Extraction	Pyrolysis GC	Picking for Extraction	Iatroscan	SOXTEC Extraction	MPLC & Deasphaltene	EOM GC	Whole Oil GC	Sat GC (Quantitative)	Aro GC (Non Quantitiative	Sat GCMS (Quantitative)	Aro GCMS (Non-Q)	Isotope of EOM/fractions	Vitrinite Reflectance	Visual kerogen
Table nos.				3			5	5		6		8	8	8			9	9	11	12		4	7
4300.00	cS		x	x	x		x	x															
4350.00	cS		x	x	x		x	x															
4410.00	cS		x	x	x		x	x		x													
4440.00	cS		x	x	x		x	x															
4480.00	cS		x	x	x		x	x															
4520.00	cS		x	x	x		x	x														x	
Totals			44	50	50		45	51	6	6			1		1							6	1

Sample type: cS cuttings in source rock section, pR core in reservoir section, cR cuttings in reservoir section

Table 1': Analytical Program for Well NOCS 6507/3-3B

GEOLAB NOR

Sample Depth (m)	Sample Type	Sample Code	Extraction Clean-Up	Lithology Description	Picking for screening	Prøveprepparering	Leco TOC	RockEval	Thermal Extraction	Pyrolysis GC	Picking for Extraction	Iatroscan	SOXTEC Extraction	MPLC & Deasphaltene	EOM GC	Whole Oil GC	Sat GC (Quantitative)	Aro GC (Non Quantitiative	Sat GCMS (Quantitative)	Aro GCMS (Non-Q)	Isotope of EOM/fractions	Vitrinite Reflectance	Visual kerogen
Table nos.				3			5	5		6		8	8	8			9	9	11	12		4	7
3770.00	cS		x	x	x		x	x														x	
3780.00	cS		x	x	x		x	x															
3790.00	cS		x	x	x		x	x															
3820.00	cS			x	x			x	x														
3850.00	cS			x	x			x	x														
3860.00	cS		x	x	x		x	x															
3960.00	cS		x	x	x		x	x														x	
3995.00	cS		x	x	x		x	x															
4000.00	cS		x	x	x		x	x															
4005.00	cS		x	x	x		x	x															
4010.00	cS		x	x	x		x	x															
4015.00	cS		x	x	x		x	x															
4020.00	cS		x	x	x		x	x															
4025.00	cS*			x	x		x	x	x														
4030.00	cS		x	x	x		x	x															
4035.00	cS		x	x	x		x	x															
4040.00	cS		x	x	x		x	x		x													
4045.00	cS		x	x	x		x	x															
4050.00	cS		x	x	x		x	x															
4050.00	mud						x	x					x		x								
4060.00	cS			x	x			x	x														
4125.00	cS		x	x	x		x	x		x													
4130.00	cS		x	x	x		x	x															
4135.00	cS		x	x	x		x	x														x	
4140.00	cS		x	x	x		x	x															
4155.00	cS		x	x	x		x	x															
4180.00	cS		x	x	x		x	x															
4185.00	cS		x	x	x		x	x															
4190.00	cS		x	x	x		x	x															
4195.00	cS		x	x	x		x	x															
4200.00	cS		x	x	x		x	x															
4205.00	cS		x	x	x		x	x		x													
4210.00	cS		x	x	x		x	x															
4230.00	cS		x	x	x		x	x															
4235.00	cS		x	x	x		x	x															
4240.00	cS		x	x	x		x	x															
4255.00	cS		x	x	x		x	x															
4260.00	cS		x	x	x		x	x														x	
Totals			33	37	37		35	38	4	3			1		1							4	
	* 2 lithologies analysed: shale picked + extraction cleaned for TOC/RE; sst not cleaned for therm. ext																						
Sample type: cS cuttings in source rock section, pR core in reservoir section, cR cuttings in reservoir section																							

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Table 3 : Lithology description for well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Type		Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description				
2705.00							0001
		90	Sh/Clst: lt gy to drk gy				0001-1L
		10	Ca : gy w				0001-2L
3110.00							0002
	2.09	45	Sh/Clst: drk gy to brn blk				0002-1L
		45	Sh/Clst: m gy				0002-2L
		10	Sh/Clst: brn red				0002-3L
3125.00							0003
	6.26	75	Sh/Clst: drk gy to brn blk				0003-1L
		25	Sh/Clst: m gy				0003-2L
3140.00							0004
	6.36	100	Sh/Clst: drk gy to brn blk				0004-1L
3155.00							0005
	6.84	100	Sh/Clst: drk gy to brn blk				0005-1L
3170.00							0006
	8.00	100	Sh/Clst: drk gy to brn blk				0006-1L
3200.00							0007
	6.74	100	Sh/Clst: drk gy to brn blk				0007-1L
3230.00							0008
	3.58	95	Sh/Clst: drk gy to brn blk				0008-1L
		5	Ca : lt brn gy				0008-2L

GEOLAB NOR

Table 3 : Lithology description for well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Type		Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description				
3290.00							0009
	1.81	95	Sh/Clst: m gy to drk brn gy				0009-1L
		5	Ca : lt brn gy				0009-2L
3335.00							0010
	1.30	95	Sh/Clst: m gy to drk brn gy				0010-1L
		5	Ca : lt brn gy				0010-2L
3365.00							0011
	1.08	95	Sh/Clst: m gy to drk brn gy				0011-1L
		5	Ca : lt brn gy				0011-2L
3410.00							0012
	1.47	95	Sh/Clst: m gy to drk brn gy				0012-1L
		5	Ca : lt brn gy				0012-2L
3440.00							0013
	2.00	95	Sh/Clst: m gy to drk brn gy				0013-1L
		5	Ca : lt brn gy				0013-2L
3470.00							0014
	2.17	95	Sh/Clst: m gy to drk brn gy				0014-1L
		5	Ca : lt brn gy				0014-2L
3500.00							0015
	2.82	95	Sh/Clst: m gy to drk brn gy				0015-1L
		5	Ca : lt brn gy				0015-2L
3545.00							0016
	1.97	95	Sh/Clst: m gy to drk brn gy				0016-1L
		5	Ca : lt brn gy				0016-2L

GEOLAB NOR

Table 3 : Lithology description for well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Type		Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description				
3620.00							0017
	2.77	95	Sh/Clst: m gy to drk brn gy				0017-1L
		5	Ca : lt brn gy				0017-2L
3680.00							0018
	2.46	95	Sh/Clst: m gy to drk brn gy				0018-1L
		5	Ca : lt brn gy				0018-2L
3715.00							0019
	1.40	95	Sh/Clst: m gy to drk brn gy				0019-1L
		5	Ca : lt brn gy				0019-2L
3730.00							0020
	2.18	95	Sh/Clst: m gy to drk brn gy				0020-1L
		5	Ca : lt brn gy				0020-2L
3765.00							0021
	1.57	95	Sh/Clst: m gy to drk brn gy				0021-1L
		5	Ca : lt brn gy				0021-2L
3775.00							0022
	1.44	95	Sh/Clst: m gy to drk brn gy				0022-1L
		5	Ca : lt brn gy				0022-2L
3780.00							0023
	1.28	95	Sh/Clst: m gy to drk brn gy				0023-1L
		5	Ca : lt brn gy				0023-2L
3800.00							0024
		85	Sh/Clst: m gy to brn gy				0024-1L
		15	S/Sst : w to pl brn gy, kln				0024-2L

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Table 3 : Lithology description for well NOCS 6507/3-3A

Depth unit of measure: m

Depth Int	Cvd	Type TOC%	%	Grp Frm Age Lithology description	Trb	Sample
3830.00						0025
			100	Cont : cem		0025-1L
			tr	Sh/Clst: drk brn gy		0025-2L
3850.00		mud				0026
			80	Cont : cem		0026-1L
			20	Sh/Clst: drk brn gy		0026-2L
		13.40		bulk		0026-0B
3850.00						0027
			70	Cont : cem		0027-1L
		23.10	30	Sh/Clst: drk brn gy		0027-2L
3860.00						0028
			70	Cont : cem		0028-1L
		22.70	30	Sh/Clst: drk brn gy		0028-2L
3870.00						0029
			70	Cont : cem		0029-1L
		9.97	30	Sh/Clst: drk brn gy		0029-2L
3880.00						0030
			80	Cont : prp		0030-1L
			10	Sh/Clst: drk brn gy		0030-2L
			10	S/Sst : w to lt brn gy		0030-3L
3940.00						0031
			90	S/Sst : lt gy to lt brn gy, l		0031-1L
			5	Sh/Clst		0031-2L
			5	Cont : dd		0031-3L

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Table 3 : Lithology description for well NOCS 6507/3-3A

Depth unit of measure: m

Depth		Type		Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description				
4020.00								0032
			50	Sh/Clst: brn gy to drk brn gy, slt				0032-1L
			20	Ca : w to lt brn gy				0032-2L
			20	S/Sst : w to lt brn gy, kln				0032-3L
			10	Cont : dd				0032-4L
4040.00								0033
			40	S/Sst : w to lt brn gy, kln				0033-3L
		2.04	30	Sh/Clst: brn gy to drk brn gy, slt				0033-1L
			30	Sltst : w to lt brn gy				0033-2L
4050.00								0034
		1.45	40	Sh/Clst: brn gy to drk brn gy, slt				0034-1L
			30	Sltst : w to lt brn gy				0034-2L
			30	S/Sst : w to lt brn gy, kln				0034-3L
4060.00								0035
			85	S/Sst : w to lt brn gy, kln				0035-3L
			10	Sltst : w to lt brn gy				0035-2L
		2.24	5	Sh/Clst: brn gy to drk brn gy, slt				0035-1L
4070.00								0036
			70	S/Sst : w to lt brn gy, kln				0036-3L
		1.71	20	Sh/Clst: brn gy to drk brn gy, slt				0036-1L
			10	Sltst : w to lt brn gy				0036-2L
4080.00								0037
			40	S/Sst : w to lt brn gy, kln				0037-3L
		1.70	30	Sh/Clst: brn gy to drk brn gy, slt				0037-1L
			30	Sltst : w to lt brn gy				0037-2L
4090.00								0038
		2.02	40	Sh/Clst: brn gy to drk brn gy, slt				0038-1L
			40	Sltst : w to lt brn gy				0038-2L
			20	S/Sst : w to lt brn gy, kln				0038-3L

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Table 3 : Lithology description for well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Type		Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description				
4100.00							0039
	1.62	70	Sh/Clst: brn gy to drk brn gy, slt				0039-1L
		20	Sltst : w to lt brn gy				0039-2L
		10	S/Sst : w to lt brn gy, kln				0039-3L
4110.00							0040
	1.80	80	Sh/Clst: brn gy to drk brn gy, slt				0040-1L
		10	Sltst : w to lt brn gy				0040-2L
		10	S/Sst : w to lt brn gy, kln				0040-3L
4130.00							0041
	1.87	80	Sh/Clst: brn gy to drk brn gy, slt				0041-1L
		10	Sltst : w to lt brn gy				0041-2L
		10	S/Sst : w to lt brn gy, kln				0041-3L
4160.00							0042
	2.93	90	Sh/Clst: brn gy to drk brn gy, slt				0042-1L
		10	S/Sst : w to lt brn gy, kln				0042-2L
4200.00							0043
	2.25	100	Sh/Clst: drk brn gy to brn blk, slt				0043-1L
4240.00							0044
	3.45	100	Sh/Clst: drk brn gy to brn blk, slt				0044-1L
4260.00							0045
	3.01	100	Sh/Clst: drk brn gy to brn blk, slt				0045-1L
4300.00							0046
	2.81	100	Sh/Clst: drk brn gy to brn blk, slt				0046-1L

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Table 3 : Lithology description for well NOCS 6507/3-3A

Depth unit of measure: m

Depth		Type		Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description				
4350.00								0047
		2.56	100	Sh/Clst: drk brn gy to brn blk, slt				0047-1L
4410.00								0048
		2.86	100	Sh/Clst: drk brn gy to brn blk, slt				0048-1L
4440.00								0049
		2.91	100	Sh/Clst: drk brn gy to brn blk, slt				0049-1L
4480.00								0050
		2.37	100	Sh/Clst: drk brn gy to brn blk, slt				0050-1L
4520.00								0051
		2.72	100	Sh/Clst: drk brn gy to brn blk, slt				0051-1L

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Table 3': Lithology description for well NOCS 6507/3-3B

Depth unit of measure: m

Depth Int	Depth Cvd	Type TOC%	Type %	Grp	Frm	Age	Trb	Sample
				Lithology description				
3770.00								0002
		1.37	100	Sh/Clst: m gy to drk brn gy				0002-1L
3780.00								0003
		1.43	100	Sh/Clst: m gy to drk brn gy				0003-1L
3790.00								0004
		1.46	100	Sh/Clst: m gy to drk brn gy				0004-1L
3820.00								0005
			90	S/Sst : brn gy				0005-1L
			10	Sh/Clst: m gy to drk brn gy				0005-2L
3850.00								0006
			90	S/Sst : brn gy, l, kln				0006-1L
			10	Sh/Clst: m gy to drk brn gy				0006-2L
3860.00								0007
			50	Sh/Clst: drk gy to gy blk, mic				0007-1L
			20	Sltst : brn gy to drk brn gy, s, argill				0007-2L
			20	S/Sst : w to gy w, kln				0007-3L
			10	Coal : blk				0007-4L
		2.33		bulk				0007-0B
3960.00								0008
			80	Sh/Clst: drk gy to gy blk, mic				0008-1L
			10	Sltst : brn gy to drk brn gy, s, argill				0008-2L
			5	S/Sst : w to gy w, kln				0008-3L
			5	Coal : blk				0008-4L
		2.08		bulk				0008-0B

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Table 3': Lithology description for well NOCS 6507/3-3B

Depth unit of measure: m

Depth	Type		Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description				
3995.00							0009
		70	S/Sst	:	w to gy w, kln		0009-3L
	1.29	30	Sh/Clst	:	drk gy to gy blk, mic		0009-1L
		tr	Sltst	:	brn gy to drk brn gy, s, argill		0009-2L
		tr	Coal	:	blk		0009-4L
4000.00							0010
		80	S/Sst	:	w to gy w, kln		0010-3L
	1.15	20	Sh/Clst	:	drk gy to gy blk, mic		0010-1L
		tr	Sltst	:	brn gy to drk brn gy, s, argill		0010-2L
		tr	Coal	:	blk		0010-4L
4005.00							0011
		60	S/Sst	:	w to gy w, kln		0011-3L
		20	Sh/Clst	:	drk gy to gy blk, mic		0011-1L
		20	Sltst	:	brn gy to drk brn gy, s, argill		0011-2L
	1.55		bulk				0011-0B
		tr	Coal	:	blk		0011-4L
4010.00							0012
		80	Sltst	:	brn gy to drk brn gy, s, argill		0012-2L
		10	Sh/Clst	:	drk gy to gy blk, mic		0012-1L
		10	S/Sst	:	w to gy w, kln		0012-3L
	1.46		bulk				0012-0B
4015.00							0013
		80	Sltst	:	brn gy to drk brn gy, s, argill		0013-2L
		10	Sh/Clst	:	drk gy to gy blk, mic		0013-1L
		10	S/Sst	:	w to gy w, kln		0013-3L
	1.47		bulk				0013-0B
4020.00							0014
		80	Sltst	:	brn gy to drk brn gy, s, argill		0014-2L
		10	Sh/Clst	:	drk gy to gy blk, mic		0014-1L
		10	S/Sst	:	w to gy w, kln		0014-3L
	1.67		bulk				0014-0B

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Table 3': Lithology description for well NOCS 6507/3-3B

Depth unit of measure: m

Depth	Type		Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description				
4025.00							0015
	1.99	80	S/Sst	: w to gy w, l, kln			0015-3L
		10	Sh/Clst	: drk gy to gy blk, mic			0015-1L
	1.88	10	Sltst	: brn gy to drk brn gy, s, argill			0015-2L
4030.00							0016
		80	S/Sst	: w to gy w, l, kln			0016-3L
		10	Sh/Clst	: drk gy to gy blk, mic			0016-1L
		10	Sltst	: brn gy to drk brn gy, s, argill			0016-2L
	1.24		bulk				0016-0B
4035.00							0017
		75	Sltst	: brn gy to drk brn gy, s, argill			0017-2L
		20	S/Sst	: w to gy w, l, kln			0017-3L
		5	Sh/Clst	: drk gy to gy blk, mic			0017-1L
	1.75		bulk				0017-0B
4040.00							0018
		60	Sltst	: brn gy to drk brn gy, s, argill			0018-2L
		35	S/Sst	: w to gy w, l, kln			0018-3L
		5	Sh/Clst	: drk gy to gy blk, mic			0018-1L
	2.03		bulk				0018-0B
4045.00							0019
		60	Sltst	: brn gy to drk brn gy, s, argill			0019-2L
		35	S/Sst	: w to gy w, l, kln			0019-3L
		5	Sh/Clst	: drk gy to gy blk, mic			0019-1L
	1.88		bulk				0019-0B
4050.00							0020
		60	S/Sst	: w to gy w, l, kln			0020-3L
		35	Sltst	: brn gy to drk brn gy, s, argill			0020-2L
		5	Sh/Clst	: drk gy to gy blk, mic			0020-1L
	1.99		bulk				0020-0B

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Table 3': Lithology description for well NOCS 6507/3-3B

Depth unit of measure: m

Depth Int	Depth Cvd	Type TOC%	%	Grp	Frm	Age	Trb	Sample	Lithology description
4060.00								0022	
			60					0022-1L	S/Sst : drk brn gy, l
			35					0022-2L	Sltst : brn gy to drk brn gy
			5					0022-3L	Sh/Clst: drk gy to brn blk
4125.00								0023	
			50					0023-3L	Sh/Clst: drk gy to brn blk
			30					0023-2L	Sltst : brn gy to drk brn gy
			20					0023-1L	S/Sst : drk brn gy, l
		3.91						0023-0B	bulk
			tr					0023-4L	Coal : blk
4130.00								0024	
			50					0024-3L	Sh/Clst: drk gy to brn blk
			30					0024-2L	Sltst : brn gy to drk brn gy
			20					0024-1L	S/Sst : drk brn gy, l
		1.59						0024-0B	bulk
			tr					0024-4L	Coal : blk
4135.00								0025	
			50					0025-2L	Sltst : brn gy to drk brn gy
			30					0025-1L	S/Sst : drk brn gy, l
			20					0025-3L	Sh/Clst: drk gy to brn blk
		2.09						0025-0B	bulk
			tr					0025-4L	Coal : blk
4140.00								0026	
			60					0026-1L	S/Sst : drk brn gy, l
			25					0026-3L	Sh/Clst: drk gy to brn blk
			15					0026-2L	Sltst : brn gy to drk brn gy
		1.90						0026-0B	bulk
4155.00								0027	
			70					0027-3L	Sh/Clst: drk gy to brn blk
			15					0027-1L	S/Sst : drk brn gy, l
			15					0027-2L	Sltst : brn gy to drk brn gy
		1.25						0027-0B	bulk

GEOLAB NOR

Table 3': Lithology description for well NOCS 6507/3-3B

Depth unit of measure: m

Depth Int	Depth Cvd	Type TOC%	%	Grp	Frm	Age / Lithology description	Trb	Sample
								0028
4180.00								
			80			Sh/Clst: drk gy to brn blk		0028-3L
			10			S/Sst : drk brn gy, l		0028-1L
			10			Sltst : brn gy to drk brn gy		0028-2L
		1.94				bulk		0028-0B
			tr			Coal : blk		0028-4L
								0029
4185.00								
			80			Sh/Clst: drk gy to brn blk		0029-3L
			10			S/Sst : drk brn gy, l		0029-1L
			10			Sltst : brn gy to drk brn gy		0029-2L
		1.21				bulk		0029-0B
								0030
4190.00								
			60			Sh/Clst: drk gy to brn blk		0030-3L
			20			S/Sst : drk brn gy, l		0030-1L
			20			Sltst : brn gy to drk brn gy		0030-2L
		1.16				bulk		0030-0B
								0031
4195.00								
			50			Sltst : brn gy to drk brn gy		0031-2L
			30			S/Sst : drk brn gy, l		0031-1L
			20			Sh/Clst: drk gy to brn blk		0031-3L
		1.29				bulk		0031-0B
								0032
4200.00								
			60			Sltst : brn gy to drk brn gy		0032-2L
			30			Sh/Clst: drk gy to brn blk		0032-3L
			10			S/Sst : drk brn gy, l		0032-1L
		1.35				bulk		0032-0B
								0033
4205.00								
			80			Sltst : brn gy to drk brn gy		0033-2L
			10			S/Sst : drk brn gy, l		0033-1L
			10			Sh/Clst: drk gy to brn blk		0033-3L
		1.60				bulk		0033-0B

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Table 3': Lithology description for well NOCS 6507/3-3B

Depth unit of measure: m

Depth	Type		Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description				
4210.00							0034
		60	S/Sst : drk brn gy, l				0034-1L
		20	Sltst : brn gy to drk brn gy				0034-2L
		20	Sh/Clst: drk gy to brn blk				0034-3L
	1.30		bulk				0034-0B
4230.00							0035
		60	S/Sst : drk brn gy, l				0035-1L
		20	Sltst : brn gy to drk brn gy				0035-2L
		20	Sh/Clst: drk gy to brn blk				0035-3L
	1.33		bulk				0035-0B
4235.00							0036
		50	Sltst : brn gy to drk brn gy				0036-2L
		40	S/Sst : drk brn gy, l				0036-1L
		10	Sh/Clst: drk gy to brn blk				0036-3L
	1.41		bulk				0036-0B
4240.00							0037
		60	S/Sst : drk brn gy, l				0037-1L
		30	Sh/Clst: drk gy to brn blk				0037-3L
		10	Sltst : brn gy to drk brn gy				0037-2L
	1.32		bulk				0037-0B
4255.00							0038
		70	S/Sst : drk brn gy, l				0038-1L
		20	Sltst : brn gy to drk brn gy				0038-2L
		10	Sh/Clst: drk gy to brn blk				0038-3L
	1.32		bulk				0038-0B
4260.00							0039
		70	S/Sst : drk brn gy, l				0039-1L
		20	Sltst : brn gy to drk brn gy				0039-2L
		10	Sh/Clst: drk gy to brn blk				0039-3L
	1.35		bulk				0039-0B

Table 4 : Thermal Maturity Data for well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Typ	Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation (%)	Spore Fluorescence Colour	SCI	Tmax (°C)	Sample
3110.00	cut	bulk	0.38	19	0.04	-	6.0-6.5	425	0002-0B
3230.00	cut	bulk	0.43	21	0.07	-	-	438	0008-0B
3780.00	cut	bulk	0.62	5	0.11	-	-	435	0023-0B
4040.00	cut	bulk	0.69	11	0.10	-	-	441	0033-0B
4160.00	cut	bulk	0.79	22	0.09	-	-	438	0042-0B
4520.00	cut	bulk	1	20	0.08	-	-	436	0051-0B

Table 4': Thermal Maturity Data for well NOCS 6507/3-3B

Depth unit of measure: m

Depth	Typ	Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation (%)	Spore Fluorescence Colour	SCI	Tmax (°C)	Sample
3770.00	cut	bulk	1.02	5	0.07	-	-	441	0002-0B
3960.00	cut	bulk	0.78	22	0.08	-	-	450	0008-0B
4135.00	cut	bulk	0.84	14	0.10	-	-	450	0025-0B
4260.00	cut	bulk	1.11	22	0.10	-	-	445	0039-0B

Table 5 : Rock-Eval table for well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Typ	Form	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3545.00	cut		Sh/Clst: m gy to drk brn gy	0.43	4.58	-	-	1.97	232	-	5.0	0.09	437	0016-1L
3620.00	cut		Sh/Clst: m gy to drk brn gy	0.32	4.22	-	-	2.77	152	-	4.5	0.07	438	0017-1L
3680.00	cut		Sh/Clst: m gy to drk brn gy	1.80	4.52	-	-	2.46	184	-	6.3	0.28	438	0018-1L
3715.00	cut		Sh/Clst: m gy to drk brn gy	0.52	3.01	-	-	1.40	215	-	3.5	0.15	437	0019-1L
3730.00	cut		Sh/Clst: m gy to drk brn gy	0.76	4.26	-	-	2.18	195	-	5.0	0.15	441	0020-1L
3765.00	cut		Sh/Clst: m gy to drk brn gy	2.03	3.75	-	-	1.57	239	-	5.8	0.35	438	0021-1L
3775.00	cut		Sh/Clst: m gy to drk brn gy	0.81	2.63	-	-	1.44	183	-	3.4	0.24	433	0022-1L
3780.00	cut		Sh/Clst: m gy to drk brn gy	3.29	3.83	-	-	1.28	299	-	7.1	0.46	435	0023-1L
3800.00	cut		Sh/Clst: m gy to brn gy	39.14	6.53	-	-	-	-	-	45.7	0.86	433	0024-1L
3830.00	cut		Sh/Clst: drk brn gy	35.59	9.91	-	-	-	-	-	45.5	0.78	435	0025-2L
3850.00	mud		bulk	157.02	16.34	-	-	13.40	122	-	173.4	0.91	408	0026-0B
3850.00	cut		Sh/Clst: drk brn gy	4.63	56.36	-	-	23.10	244	-	61.0	0.08	442	0027-2L
3860.00	cut		Sh/Clst: drk brn gy	7.39	55.66	-	-	22.70	245	-	63.0	0.12	444	0028-2L
3870.00	cut		Sh/Clst: drk brn gy	3.89	26.31	-	-	9.97	264	-	30.2	0.13	446	0029-2L
3880.00	cut		Sh/Clst: drk brn gy	34.00	23.06	-	-	-	-	-	57.1	0.60	443	0030-2L
3940.00	cut		S/Sst : lt gy to lt brn gy	32.81	3.66	-	-	-	-	-	36.5	0.90	431	0031-1L

Table 5 : Rock-Eval table for well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Typ	Form	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2705.00	cut		bulk	13.51	2.11	-	-	-	-	-	15.6	0.86	424	0001-0B
2705.00	cut		Sh/Clst: lt gy to drk gy	28.48	3.29	-	-	-	-	-	31.8	0.90	430	0001-1L
3110.00	cut		Sh/Clst: drk gy to brn blk	1.64	4.85	-	-	2.09	232	-	6.5	0.25	425	0002-1L
3125.00	cut		Sh/Clst: drk gy to brn blk	0.51	21.40	-	-	6.26	342	-	21.9	0.02	423	0003-1L
3140.00	cut		Sh/Clst: drk gy to brn blk	0.69	17.41	-	-	6.36	274	-	18.1	0.04	421	0004-1L
3155.00	cut		Sh/Clst: drk gy to brn blk	1.62	21.86	-	-	6.84	320	-	23.5	0.07	425	0005-1L
3170.00	cut		Sh/Clst: drk gy to brn blk	1.51	28.08	-	-	8.00	351	-	29.6	0.05	425	0006-1L
3200.00	cut		Sh/Clst: drk gy to brn blk	5.75	18.05	-	-	6.74	268	-	23.8	0.24	433	0007-1L
3230.00	cut		Sh/Clst: drk gy to brn blk	0.45	5.38	-	-	3.58	150	-	5.8	0.08	438	0008-1L
3290.00	cut		Sh/Clst: m gy to drk brn gy	0.59	4.84	-	-	1.81	267	-	5.4	0.11	439	0009-1L
3335.00	cut		Sh/Clst: m gy to drk brn gy	0.60	2.80	-	-	1.30	215	-	3.4	0.18	438	0010-1L
3365.00	cut		Sh/Clst: m gy to drk brn gy	0.22	3.01	-	-	1.08	279	-	3.2	0.07	436	0011-1L
3410.00	cut		Sh/Clst: m gy to drk brn gy	2.97	4.58	-	-	1.47	312	-	7.6	0.39	436	0012-1L
3440.00	cut		Sh/Clst: m gy to drk brn gy	1.31	5.69	-	-	2.00	285	-	7.0	0.19	436	0013-1L
3470.00	cut		Sh/Clst: m gy to drk brn gy	0.83	4.97	-	-	2.17	229	-	5.8	0.14	435	0014-1L
3500.00	cut		Sh/Clst: m gy to drk brn gy	1.20	6.85	-	-	2.82	243	-	8.1	0.15	435	0015-1L

Table 5 : Rock-Eval table for well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Typ	Form	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3940.00	cut		Sh/Clst	34.25	20.54	-	-	-	-	-	54.8	0.63	443	0031-2L
4020.00	cut		Sh/Clst: brn gy to drk brn gy	38.10	8.55	-	-	-	-	-	46.6	0.82	440	0032-1L
4040.00	cut		Sh/Clst: brn gy to drk brn gy	5.33	5.33	-	-	2.04	261	-	10.7	0.50	441	0033-1L
4050.00	cut		Sh/Clst: brn gy to drk brn gy	2.01	5.08	-	-	1.45	350	-	7.1	0.28	442	0034-1L
4060.00	cut		Sh/Clst: brn gy to drk brn gy	4.77	6.37	-	-	2.24	284	-	11.1	0.43	444	0035-1L
4070.00	cut		Sh/Clst: brn gy to drk brn gy	0.98	5.44	-	-	1.71	318	-	6.4	0.15	445	0036-1L
4080.00	cut		Sh/Clst: brn gy to drk brn gy	0.96	5.61	-	-	1.70	330	-	6.6	0.15	443	0037-1L
4090.00	cut		Sh/Clst: brn gy to drk brn gy	3.10	5.77	-	-	2.02	286	-	8.9	0.35	442	0038-1L
4100.00	cut		Sh/Clst: brn gy to drk brn gy	0.93	5.37	-	-	1.62	331	-	6.3	0.15	444	0039-1L
4110.00	cut		Sh/Clst: brn gy to drk brn gy	1.65	4.96	-	-	1.80	276	-	6.6	0.25	443	0040-1L
4130.00	cut		Sh/Clst: brn gy to drk brn gy	5.40	6.21	-	-	1.87	332	-	11.6	0.47	440	0041-1L
4160.00	cut		Sh/Clst: brn gy to drk brn gy	8.29	6.32	-	-	2.93	216	-	14.6	0.57	438	0042-1L
4200.00	cut		Sh/Clst: drk brn gy to brn blk	0.84	4.35	-	-	2.25	193	-	5.2	0.16	440	0043-1L
4240.00	cut		Sh/Clst: drk brn gy to brn blk	2.45	6.57	-	-	3.45	190	-	9.0	0.27	438	0044-1L
4260.00	cut		Sh/Clst: drk brn gy to brn blk	3.52	6.19	-	-	3.01	206	-	9.7	0.36	437	0045-1L
4300.00	cut		Sh/Clst: drk brn gy to brn blk	0.36	5.35	-	-	2.81	190	-	5.7	0.06	437	0046-1L

Table 5 : Rock-Eval table for well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Typ	Form	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
4350.00	cut		Sh/Clst: drk brn gy to brn blk	0.28	5.62	-	-	2.56	220	-	5.9	0.05	439	0047-1L
4410.00	cut		Sh/Clst: drk brn gy to brn blk	2.46	6.34	-	-	2.86	222	-	8.8	0.28	439	0048-1L
4440.00	cut		Sh/Clst: drk brn gy to brn blk	1.46	5.50	-	-	2.91	189	-	7.0	0.21	438	0049-1L
4480.00	cut		Sh/Clst: drk brn gy to brn blk	0.90	5.70	-	-	2.37	241	-	6.6	0.14	440	0050-1L
4520.00	cut		Sh/Clst: drk brn gy to brn blk	1.26	5.59	-	-	2.72	206	-	6.9	0.18	436	0051-1L

Table 5: Rock-Eval table for well NOCS 6507/3-3B

Depth unit of measure: m

Depth	Typ	Form	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3770.00	cut		Sh/Clst: m gy to drk brn gy	1.31	5.31	-	-	1.37	388	-	6.6	0.20	441	0002-1L
3780.00	cut		Sh/Clst: m gy to drk brn gy	1.08	4.49	-	-	1.43	314	-	5.6	0.19	439	0003-1L
3790.00	cut		Sh/Clst: m gy to drk brn gy	1.12	4.65	-	-	1.46	318	-	5.8	0.19	440	0004-1L
3820.00	cut		S/Sst : brn gy	39.74	6.77	-	-	-	-	-	46.5	0.85	429	0005-1L
3820.00	cut		Sh/Clst: m gy to drk brn gy	18.79	5.19	-	-	-	-	-	24.0	0.78	441	0005-2L
3850.00	cut		S/Sst : brn gy	48.00	6.54	-	-	-	-	-	54.5	0.88	428	0006-1L
3850.00	cut		Sh/Clst: m gy to drk brn gy	14.19	2.96	-	-	-	-	-	17.1	0.83	439	0006-2L
3860.00	cut		bulk	1.47	4.67	-	-	2.33	200	-	6.1	0.24	450	0007-0B
3960.00	cut		bulk	1.10	3.04	-	-	2.08	146	-	4.1	0.27	450	0008-0B
3995.00	cut		Sh/Clst: drk gy to gy blk	1.31	2.01	-	-	1.29	156	-	3.3	0.39	446	0009-1L
4000.00	cut		Sh/Clst: drk gy to gy blk	1.64	2.07	-	-	1.15	180	-	3.7	0.44	446	0010-1L
4005.00	cut		bulk	1.84	2.81	-	-	1.55	181	-	4.7	0.40	449	0011-0B
4010.00	cut		bulk	1.44	3.94	-	-	1.46	270	-	5.4	0.27	445	0012-0B
4015.00	cut		bulk	1.25	3.52	-	-	1.47	239	-	4.8	0.26	449	0013-0B
4020.00	cut		bulk	1.96	4.78	-	-	1.67	286	-	6.7	0.29	447	0014-0B
4025.00	cut		S/Sst : w to gy w	44.63	9.02	-	-	1.99	453	-	53.7	0.83	425	0015-3L

N.B. For samples 3860m and 3960m material analysed are combined shale/claystone and siltstone fractions.

Table 5: Rock-Eval table for well NOCS 6507/3-3B

Depth unit of measure: m

Depth	Typ	Form	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
4025.00	ext		Sltst : brn gy to drk brn gy	1.58	8.84	-	-	2.18	406	-	10.4	0.15	442	0041-1L
4030.00	cut		bulk	1.98	2.00	-	-	1.24	161	-	4.0	0.50	445	0016-0B
4035.00	cut		bulk	1.96	4.91	-	-	1.75	281	-	6.9	0.29	448	0017-0B
4040.00	cut		bulk	2.27	5.48	-	-	2.03	270	-	7.8	0.29	453	0018-0B
4045.00	cut		bulk	2.25	5.01	-	-	1.88	266	-	7.3	0.31	450	0019-0B
4050.00	cut		bulk	2.89	6.02	-	-	1.99	303	-	8.9	0.32	451	0020-0B
4050.00	mud		bulk	153.88	21.66	-	-	15.80	137	-	175.5	0.88	407	0021-0B
4060.00	cut		bulk	20.09	5.72	-	-	-	-	-	25.8	0.78	448	0022-0B
4125.00	cut		bulk	2.51	10.37	-	-	3.91	265	-	12.9	0.19	453	0023-0B
4130.00	cut		bulk	1.99	2.50	-	-	1.59	157	-	4.5	0.44	450	0024-0B
4135.00	cut		bulk	1.63	3.91	-	-	2.09	187	-	5.5	0.29	450	0025-0B
4140.00	cut		bulk	1.38	3.32	-	-	1.90	175	-	4.7	0.29	453	0026-0B
4155.00	cut		bulk	1.23	2.33	-	-	1.25	186	-	3.6	0.35	446	0027-0B
4180.00	cut		bulk	1.57	3.60	-	-	1.94	186	-	5.2	0.30	450	0028-0B
4185.00	cut		bulk	0.89	1.81	-	-	1.21	150	-	2.7	0.33	446	0029-0B
4190.00	cut		bulk	1.37	2.66	-	-	1.16	229	-	4.0	0.34	444	0030-0B

Table 5: Rock-Eval table for well NOCS 6507/3-3B

Depth unit of measure: m

Depth	Typ	Form	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
4195.00	cut		bulk	0.98	1.64	-	-	1.29	127	-	2.6	0.37	448	0031-0B
4200.00	cut		bulk	1.88	3.41	-	-	1.35	253	-	5.3	0.36	445	0032-0B
4205.00	cut		bulk	2.32	4.93	-	-	1.60	308	-	7.3	0.32	444	0033-0B
4210.00	cut		bulk	1.85	3.97	-	-	1.30	305	-	5.8	0.32	446	0034-0B
4230.00	cut		bulk	1.35	2.16	-	-	1.33	162	-	3.5	0.38	447	0035-0B
4235.00	cut		bulk	2.61	2.99	-	-	1.41	212	-	5.6	0.47	448	0036-0B
4240.00	cut		bulk	1.78	2.17	-	-	1.32	164	-	4.0	0.45	448	0037-0B
4255.00	cut		bulk	1.69	2.06	-	-	1.32	156	-	3.7	0.45	447	0038-0B
4260.00	cut		bulk	1.81	2.65	-	-	1.35	196	-	4.5	0.41	445	0039-0B

Table 6 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
3155.00	cut	Sh/Clst: drk gy to brn blk	15.58	24.97	40.27	19.18	21.86	0005-1L
3170.00	cut	Sh/Clst: drk gy to brn blk	15.78	26.62	37.90	19.70	28.08	0006-1L
3500.00	cut	Sh/Clst: m gy to drk brn gy	9.24	20.55	39.59	30.61	6.85	0015-1L
3850.00	cut	Sh/Clst: drk brn gy	17.90	21.78	30.45	29.87	56.36	0027-2L
4060.00	cut	Sh/Clst: brn gy to drk brn gy	9.48	21.18	37.86	31.48	6.37	0035-1L
4410.00	cut	Sh/Clst: drk brn gy to brn blk	9.58	17.50	36.26	36.66	6.34	0048-1L

Table 6': Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 6507/3-3B

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
4040.00	cut	bulk	8.73	14.30	41.95	35.02	5.48	0018-0B
4125.00	cut	bulk	8.79	19.36	30.43	41.42	10.37	0023-0B
4205.00	cut	bulk	6.03	19.40	39.64	34.93	4.93	0033-0B

Table 7: Visual Kerogen Composition Data for well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Typ	Lithology	Amorphous AM% FA HA	Algal/Phytoplankton AP% Cy Ta Bo Di De	Herbaceous HE% SP Cu De	Woody WO% FL NF De	Coaly CO% FS De	SCI	Sample
3110.00	cut	bulk	55 * *	10 * *	10 * * *	5 * **	20 * **	6.0-6.5	0002-0B

Table 14A: Volume Composition of Gas Samples from well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2	C3	iC4	nC4	iC5	nC5	CO2	sum C1-C5	wet-ness	iC4/ nC4	Sample
3807.00	gas	bulk	90.70	3.80	1.80	0.14	0.37	-	0.33	2.90	97.1	0.06	0.38	0052-0B

Table 14B: Isotopic Composition of Gas Samples from well NOCS 6507/3-3A

Depth unit of measure: m

Depth	Typ	Lithology	C1 d13C	C1 dD	C2 d13C	C3 d13C	iC4 d13C	nC4 d13C	CO2 d13C	CO2 d18O	Sample
3807.00	gas	bulk	-35.0	-187.0	-27.1	-26.6	-23.6	-25.8	-9.8	-14.0	0052-0B

Table 14A: Volume Composition of Gas Samples from well NOCS 6507/3-3B

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2	C3	iC4	nC4	iC5	nC5	CO2	sum C1-C5	wet-ness	iC4/ nC4	Sample
4075.60	gas	bulk	90.00	3.60	2.00	0.16	0.34	-	0.17	3.70	96.3	0.06	0.47	0040-0B

Table 14B: Isotopic Composition of Gas Samples from well NOCS 6507/3-3B

Depth unit of measure: m

Depth	Typ	Lithology	C1 d13C	C1 dD	C2 d13C	C3 d13C	iC4 d13C	nC4 d13C	CO2 d13C	CO2 d18O	Sample
4075.60	gas	bulk	-34.9	-181.0	-27.2	-26.6	-24.7	-26.3	-8.8	-4.4	0040-0B

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Summary

One gas sample from well 6507/3-3A; MDT, 3807m and one sample from well 6507/3-3B; MDT run 1A; 4075.6m are analysed for gas and isotopic composition.

The work is done in accordance with «The Norwegian Industry Guide to Organic Geochemical Analyses», third edition 1993.

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1 Introduction

One gas sample from well 6507/3-3A; MDT, 3807m and one sample from well 6507/3-3B; MDT run 1A; 4075.6m are analysed for gas and isotopic composition.

On the samples C_1 - C_5 and CO_2 are quantified. The $\delta^{13}C$ value is measured on methane, ethane, propane, the butanes and CO_2. In addition the δD value is measured on methane.

2 Analytical procedures

Aliquots of 0.2 ml are sampled with a syringe for analysis on a Poraplot Q column connected with flame ionisation (FID) and thermal conductivity (TCD) detectors. The detection limit for the hydrocarbon gas components is 0.001 µl/ml, for CO_2 0.05 µl/ml.

For the isotope analysis 5-10 ml of the gas is sampled with a syringe and then separated into the different gas components by a Carlo Erba 4200 gas chromatograph. The hydrocarbon gas components are oxidised in separate CuO-ovens in order to prevent cross contamination. The combustion products CO_2 and H_2O are frozen into collection vessels and separated.

The combustion water is reduced with zinc metal in sealed quarts tubes to prepare hydrogen for isotopic analysis. The isotopic measurements are performed on a Finnigan MAT 251 and a Finnigan Delta mass spectrometer.

IFEs value on NBS 22 is -29.77 ± .06‰ PDB.

The analytical procedures are tested with a laboratory gas standard mixture. Based on repeated analysis of the gas standard, the reproducibility in the $\delta^{13}C$ value is better than 0.5‰ PDB for all components. The reproducibility in the δD value is likewise better than 10‰.

3 Results

The normalised volume composition of the gas samples is shown in Table 1. The stable isotope composition is shown in Table 2.

The molecular composition related to the carbon isotope variations in methane from the samples are plotted in Figure 1 (Schoell, 1983), the carbon and hydrogen variations in methane are plotted in Figure 2 (Schoell, 1983) and the carbon isotope variation in ethane related to the carbon isotope variations in methane in Figure 3 (Schoell, 1983).

Table 1 Volume composition of gas samples (normalised values) from well 6507/3-3A and 6507/3-3B

Well	Sample	Sample depth m	IFE no GEO	C_1 %	C_2 %	C_3 %	iC_4 %	nC_4 %	C_{5+} %	CO_2 %	ΣC_1- C_5 %	Wet-ness	iC_4/ nC_4
6507/3-3A	MDT	3807	991327	90.7	3.8	1.8	0.14	0.37	0.33	2.9	97.1	0.07	0.37
6507/3-3B	MDT, run 1A	4075.6	991328	90.0	3.6	2.0	0.16	0.34	0.17	3.7	96.3	0.06	0.47

Table 2 Isotopic composition of gas samples from well 6507/3-3A and 6507/3-3B

Well	Sample	Sample depth m	IFE no GEO	C_1 $\delta^{13}C$ ‰ PDB	C_1 δ D ‰ SMOW	C_2 $\delta^{13}C$ ‰ PDB	C_3 $\delta^{13}C$ ‰ PDB	iC_4 $\delta^{13}C$ ‰ PDB	nC_4 $\delta^{13}C$ ‰ PDB	CO_2 $\delta^{13}C$ ‰ PDB	CO_2 $\delta^{18}O$ ‰ PDB
6507/3-3A	MDT	3807	991327	-35.0	-187	-27.1	-26.6	-23.6	-25.8	-9.8	-14.0
6507/3-3B	MDT, run 1A	4075.6	991328	-34.9	-181	-27.2	26.6	-24.7	-26.3	-8.8	-4.4

4 Literature

Schoell, M. (1983). Genetic characterisation of natural gases. *The American Association of Petroleum Geologists Bulletin*, **67**,2225-2238.