

**PRE-CRETACEOUS HYDROCARBON POTENTIAL  
OF THE NORWEGIAN CENTRAL GRABEN**

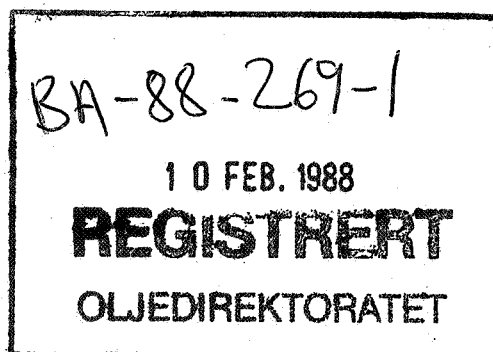
**GEOCHEMICAL ANALYSIS**

Well NOCS 2/4-8

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Date : November 1987



INTRODUCTION

This well from the Norwegian sector is located in the eastern part of the Central Graben in the Tor field. The total drilled depth was 4075 m. Samples between 3601 m and 4075 m were collected from Norwegian Petroleum Directorate in Stavanger. A total of 67 samples was collected, washed and described. The analysed section is from 3501 m. From 3719 m a sampling interval of 3 metres was used. A careful selection of suitable samples was made for screening analyses. Thirty-two samples were selected for this analysis and from the data obtained, the samples were chosen for follow up analysis. These were:

Thermal extraction - pyrolysis gas chromatography	10 samples
Extraction, MPLC fractionation, saturated and aromatic hydrocarbon gas chromatography	3 samples
Vitrinite reflectance microscopy	6 samples
Visual kerogen analysis	3 samples

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
3601.00				001
	0.25	100 Ca : m or to pl pu tr Sh/Clst: m gy, calc tr Cont : prp		001-1L 001-2L 001-3L
3604.00				002
		90 Ca : m or to pl pu 10 Sh/Clst: m gy, calc tr Cont : prp		002-1L 002-2L 002-3L
3607.00				003
		90 Ca : m or to pl pu 10 Sh/Clst: m gy, calc tr Cont : prp, fib		003-1L 003-2L 003-3L
3610.00				004
		85 Ca : m or to pl pu 10 Cont : prp, fib 5 Sh/Clst: m gy, calc tr Cont : Coal-ad		004-1L 004-3L 004-2L 004-4L
3613.00				005
		60 Ca : m or to pl pu 40 Cont : prp, fib tr Sh/Clst: m gy, calc tr Cont : Coal-ad, Mica-ad		005-1L 005-3L 005-2L 005-4L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
3617.00				006
		90 Ca : m or to pl pu		006-1L
		5 Sh/Clst: m gy, calc		006-2L
		5 Cont : prp, fib		006-3L
		tr Cont : Mica-ad		006-4L
3620.00				007
	0.24	95 Ca : m or to pl pu		007-1L
		5 Sh/Clst: m gy, calc		007-2L
		tr Cont : prp, fib		007-3L
		tr S/Sst : w, calc		007-4L
3623.00				008
		90 Ca : m or to pl pu		008-1L
		10 Cont : prp, fib		008-3L
		tr Sh/Clst: m gy, calc		008-2L
		tr S/Sst : w, calc		008-4L
3626.00				009
		95 Ca : m or to pl pu		009-1L
		5 Cont : prp, fib		009-3L
		tr Sh/Clst: m gy, calc		009-2L
3629.00				010
		100 Ca : m or to pl pu		010-1L
		tr Sh/Clst: m gy, calc		010-2L
		tr Cont : prp, fib		010-3L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	%		
Lithology description				
3632.00				011
		100 Ca	: m or to pl pu	011-1L
		tr Sh/Clst:	m gy, calc	011-2L
		tr Cont	: prp	011-3L
		tr S/Sst	: w, calc	011-4L
3635.00				012
	0.19	95 Ca	: m or to pl pu	012-1L
		5 Cont	: prp	012-3L
		tr Sh/Clst:	m gy, calc	012-2L
3638.00				013
		100 Ca	: m or to pl pu	013-1L
		tr Sh/Clst:	m gy, calc	013-2L
		tr Cont	: prp	013-3L
3641.00				014
		100 Ca	: m or to pl pu	014-1L
		tr Sh/Clst:	m gy, calc	014-2L
		tr Cont	: prp	014-3L
		tr S/Sst	: lt gy, calc, glauc	014-4L
3644.00				015
		100 Ca	: m or to pl pu	015-1L
		tr Sh/Clst:	m gy, calc	015-2L
		tr Cont	: Coal-ad, prp	015-3L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description	---	-----
3647.00				016
		90 Ca : m or to pl pu, sil		016-1L
		10 S/Sst : w to ol gy, calc, glauc		016-4L
		tr Sh/Clst: m gy, calc		016-2L
		tr Cont : prp		016-3L
		tr Other : blk, sil		016-5L
3650.00				017
	0.25	95 Ca : m or to pl pu, sil		017-1L
		5 Other : blk, sil		017-5L
		tr Sh/Clst: m gy, ol gy, calc, carb		017-2L
		tr Cont : prp		017-3L
		tr S/Sst : w to ol gy, calc, glauc		017-4L
3655.00				018
		95 Ca : m or to pl pu, sil		018-1L
		5 S/Sst : w to ol gy, calc, glauc		018-4L
		tr Sh/Clst: m gy, ol gy, calc, carb		018-2L
		tr Cont : prp, fib		018-3L
		tr Other : blk, sil		018-5L
3658.00				019
		100 Ca : m or to pl pu		019-1L
		tr Sh/Clst: m gy, ol gy, calc, carb		019-2L
		tr Cont : prp		019-3L
		tr S/Sst : w to ol gy, calc, glauc		019-4L
3661.00				020
		100 Ca : m or to pl pu		020-1L
		tr Sh/Clst: drk gy, ol gy, carb, mic		020-2L
		tr Cont : prp		020-3L
		tr S/Sst : w to ol gy, calc, glauc		020-4L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
3664.00				021
	0.23	75 Ca : m or to pl pu 25 Cont : Coal-ad, prp, fib tr Sh/Clst: drk gy, ol gy, carb, mic tr S/Sst : w to ol gy, calc, glauc		021-1L 021-3L 021-2L 021-4L
3667.00				022
		60 Cont : Coal-ad, prp, fib 40 Ca : m or to pl pu tr Sh/Clst: drk gy, ol gy, carb, mic tr S/Sst : w to ol gy, calc, glauc		022-3L 022-1L 022-2L 022-4L
3670.00				023
	0.26	60 Ca : m or to pl pu 40 Cont : Coal-ad, prp, fib tr Sh/Clst: drk gy, ol gy, carb, mic tr S/Sst : w to ol gy, calc, glauc		023-1L 023-3L 023-2L 023-4L
3673.00				024
	1.05	50 Sh/Clst: lt ol gy, drk gn gy, drk gy, mic 45 Ca : m or to pl pu 5 Cont : Coal-ad, prp, fib tr Coal		024-2L 024-1L 024-3L 024-4L
3676.00				025
	1.33	50 Sh/Clst: lt ol gy, drk gn gy, drk gy, slt, mic 45 Ca : m or to pl pu 5 Cont : fib tr Cont : prp tr Other : glauc		025-2L 025-1L 025-3L 025-4L 025-5L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description		
3679.00				026
	0.86	60 Ca : m or to pl pu		026-1L
		30 Sh/Clst: drk gy blk, carb		026-6L
		5 Sh/Clst: lt ol gy, slt, glauc		026-2L
		5 Cont : Coal-ad, prp, fib		026-3L
		tr Cont : prp		026-4L
		tr Other : glauc		026-5L
3681.00				027
	1.27	35 Sh/Clst: drk gy blk, carb		027-6L
		30 Ca : m or to pl pu		027-1L
		30 Cont : Coal-ad, prp, fib		027-3L
		5 Sh/Clst: lt ol gy, slt, glauc		027-2L
		tr Other : glauc		027-5L
3682.00				028
	1.93	35 Ca : m or to pl pu		028-1L
		35 Sh/Clst: drk gy blk, carb		028-5L
		25 Cont : prp, fib		028-3L
		5 Sh/Clst: lt ol gy, slt, glauc		028-2L
		tr Other : glauc		028-4L
3685.00				029
	2.80	50 Ca : m or to pl pu		029-1L
		50 Sh/Clst: drk gy blk, carb		029-4L
		tr Sh/Clst: lt ol gy, calc, glauc		029-2L
		tr Cont : prp, fib, evap		029-3L
3687.00				030
	3.79	65 Sh/Clst: drk gy blk, carb		030-3L
		35 Ca : m or to pl pu		030-1L
		tr Cont : prp, fib, evap		030-2L



Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	% Lithology description	---	-----
3688.00				031
	6.02	70 Sh/Clst: drk gy blk, carb 20 Ca : m or to pl pu 10 Cont : evap tr Cont : prp, dd, fib tr Other : glauc		031-3L 031-1L 031-4L 031-2L 031-5L
3690.00				032
	3.67	65 Sh/Clst: drk gy blk, carb 30 Ca : m or to pl pu 5 Cont : Mica-ad, prp, dd, fib tr Cont : evap		032-3L 032-1L 032-2L 032-4L
3693.00				033
	2.62	75 Sh/Clst: drk gy blk, carb 20 Ca : m or to pl pu 5 Cont : evap tr Cont : prp, dd, fib		033-3L 033-1L 033-4L 033-2L
3694.00				034
	3.34	75 Sh/Clst: drk gy blk, carb 15 Cont : evap 10 Ca : m or to pl pu tr Cont : prp, fib		034-3L 034-4L 034-1L 034-2L
3696.00				035
	3.12	75 Sh/Clst: drk gy blk, carb 20 Cont : evap 5 Ca : m or to pl pu tr Cont : prp, dd, fib		035-3L 035-4L 035-1L 035-2L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth		Type		Trb	Sample	
Int	Cvd	TOC%	%	Lithology description		
					3702.00	036
	cvd	2.97		50 Cont : Mica-ad, dd, evap 40 Sh/Clst: drk gy blk, carb 10 Ca : m or to pl pu tr Cont : prp, fib		036-2L 036-3L 036-1L 036-4L
					3703.00	037
				100 Cont : Coal-ad, prp, dd, evap		037-1L
					3713.00	038
	cvd			100 Cont : Mica-ad tr Cont : Coal-ad, prp tr Sh/Clst: drk gy blk		038-1L 038-2L 038-3L
					3714.00	039
	cvd			95 Cont : Mica-ad 5 Sh/Clst: drk gy blk, carb tr Cont : prp, fib		039-1L 039-2L 039-3L
					3719.00	040
	cvd	2.97		30 Cont : Mica-ad 30 Sh/Clst: drk gy blk, carb 30 Cont : dd, evap 5 Cont : prp, fib 5 Ca : ol gy		040-1L 040-2L 040-4L 040-3L 040-5L
					3722.00	041
	cvd	3.23		30 Cont : Mica-ad 30 Sh/Clst: drk gy blk, carb 30 Cont : dd, evap 5 Cont : prp, fib 5 Ca : ol gy		041-1L 041-2L 041-4L 041-3L 041-5L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type		Trb	Sample
Int	Cvd	TOC%	%	Lithology description
3725.00				042
	cvd	3.31	30 Cont : Mica-ad	042-1L
			30 Sh/Clst: drk gy blk, carb	042-2L
			30 Cont : dd, evap	042-4L
			5 Cont : prp, fib	042-3L
			5 Ca : ol gy	042-5L
3728.00				043
	cvd	3.00	30 Cont : Mica-ad	043-1L
			30 Sh/Clst: drk gy blk, carb	043-2L
			30 Cont : dd, evap	043-4L
			10 Cont : prp, fib	043-3L
			tr Ca : ol gy	043-5L
3731.00				044
	cvd		40 Cont : dd	044-4L
			30 Cont : Mica-ad	044-1L
			25 Sh/Clst: drk gy blk, carb	044-2L
			5 Cont : prp, fib	044-3L
			tr Ca : ol gy	044-5L
3734.00				045
	cvd	3.15	45 Sh/Clst: drk gy blk, carb	045-2L
			35 Cont : dd	045-4L
			20 Cont : Mica-ad	045-1L
			tr Cont : prp, fib	045-3L
			tr Ca : ol gy	045-5L
			tr Cont : evap	045-6L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type	TOC%	%	Lithology description	Trb	Sample
Int	Cvd					
3737.00						046
	cvd	3.65	45	Cont : Mica-ad		046-1L
			45	Sh/Clst: drk gy blk, carb		046-2L
			10	Cont : dd, evap		046-4L
			tr	Cont : prp, fib		046-3L
3740.00						047
	cvd		35	Cont : Mica-ad		047-1L
			35	Sh/Clst: drk gy blk, carb		047-2L
			30	Cont : dd, evap		047-4L
			tr	Cont : prp, fib		047-3L
			tr	Ca : ol gy		047-5L
3743.00						048
	cvd	2.51	55	Sh/Clst: drk gy blk, carb		048-2L
			45	Cont : Mica-ad, dd, evap		048-1L
			tr	Cont : Coal-ad, prp, fib		048-3L
			tr	Ca : ol gy		048-4L
3746.00						049
	cvd		55	Sh/Clst: drk gy blk, carb		049-2L
			45	Cont : Mica-ad, dd, fib		049-1L
			tr	Cont : prp		049-3L
			tr	Ca : ol gy		049-4L
3752.00						050
	cvd	3.53	70	Sh/Clst: drk gy blk, carb		050-2L
			25	Cont : Mica-ad, fib, evap		050-1L
			5	Ca : ol gy		050-4L
			tr	Cont : prp		050-3L
			tr	Other : pyr		050-5L
			tr	S/Sst : w, calc		050-6L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type			Trb	Sample
Int	Cvd	TOC%	%	Lithology description	
3755.00					051
	cvd	4.31	50	Sh/Clst: drk gy blk, carb	051-2L
			45	Cont : Mica-ad, evap	051-1L
			5	Cont : prp, fib	051-3L
			tr	Ca : ol gy	051-4L
			tr	S/Sst : w, calc	051-5L
3758.00					052
	cvd		75	Cont : Mica-ad, evap	052-1L
			20	Sh/Clst: drk gy blk, carb	052-2L
			5	Cont : prp, fib	052-3L
			tr	Ca : ol gy	052-4L
3761.00					053
	cvd		80	Cont : Mica-ad	053-1L
			10	Sh/Clst: drk gy blk, carb	053-2L
			10	Cont : prp, dd, fib, evap	053-3L
			tr	Ca : ol gy	053-4L
3764.00					054
	cvd		75	Cont : Mica-ad, dd, fib	054-1L
			25	Sh/Clst: drk gy blk, carb	054-2L
			tr	Cont : prp, evap	054-3L
			tr	Ca : ol gy	054-4L
3767.00					055
	cvd		70	Cont : Mica-ad, fib	055-1L
			25	Sh/Clst: drk gy blk, carb	055-2L
			5	Cont : prp, evap	055-3L
			tr	Ca : ol gy	055-4L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type			Trb	Sample
Int	Cvd	TOC%	%		
Lithology description					
3770.00					056
	cvd	3.04	60 Cont : Mica-ad, evap 40 Sh/Clst: drk gy blk, carb tr Cont : prp, fib tr Ca : ol gy		056-1L 056-2L 056-3L 056-4L
3773.00					057
	cvd		50 Cont : Mica-ad, evap 50 Sh/Clst: drk gy blk, carb tr Cont : prp, fib tr Ca : ol gy		057-1L 057-2L 057-3L 057-4L
3777.00					058
	cvd		75 Sh/Clst: drk gy blk, carb 20 Cont : Mica-ad, fib, evap 5 Cont : prp tr Ca : ol gy		058-2L 058-1L 058-3L 058-4L
3780.00					059
	cvd	3.70	75 Sh/Clst: drk gy blk, carb 20 Cont : Mica-ad, fib, evap 5 Cont : prp tr Ca : ol gy		059-2L 059-1L 059-3L 059-4L
3783.00					060
	cvd		75 Sh/Clst: drk gy blk, carb 15 Cont : prp, fib, evap 5 Cont : Mica-ad 5 Ca : ol gy		060-2L 060-1L 060-3L 060-4L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type			Trb	Sample
Int	Cvd	TOC%	%	Lithology description	
3786.00					061
	cvd		60	Sh/Clst: drk gy blk, carb	061-2L
			35	Cont : Mica-ad, dd, fib, evap	061-1L
			5	Ca : ol gy	061-4L
			tr	Cont : prp	061-3L
3789.00					062
	cvd		50	Sh/Clst: drk gy blk, carb	062-2L
			35	Cont : Mica-ad, dd, fib, evap	062-1L
			15	Ca : ol gy	062-4L
			tr	Cont : prp	062-3L
3792.00					063
	cvd	2.78	50	Sh/Clst: drk gy blk, carb	063-1L
			40	Cont : Mica-ad, prp, fib	063-3L
			10	Ca : ol gy	063-2L
3795.00					064
	cvd		70	Sh/Clst: drk gy blk, carb	064-1L
			25	Cont : Mica-ad, prp, dd, fib, evap	064-3L
			5	Ca : ol gy	064-2L
3798.00					065
	cvd		70	Sh/Clst: drk gy blk, carb	065-1L
			25	Cont : Mica-ad, prp, dd, fib, evap	065-3L
			5	Sh/Clst: lt ol gy, calc	065-4L
			tr	Ca : ol gy	065-2L

Table 1 : Lithology description for well NOCS 2/4-8

Depth unit of measure: m

Depth	Type		Trb	Sample
Int Cvd	TOC%	%		
Lithology description				
3801.00				066
cvd		60		Sh/Clst: drk gy blk, carb
		35		Cont : Mica-ad, prp, dd, fib
		5		Cont : evap
		tr		Ca : ol gy
		tr		Sh/Clst: lt ol gy, calc
3804.00				067
cvd	3.79	65		Sh/Clst: drk gy blk, carb
		35		Cont : Mica-ad, prp, dd, fib, evap
		tr		Ca : ol gy



Table 2 : Rock-Eval table for well NOCS 2/4-8

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3601.00	cut	Ca : m or to pl pu	1.46	0.07	0.33	0.21	0.25	28	132	1.5	0.95	361	001-1L
3620.00	cut	Ca : m or to pl pu	0.86	0.02	0.25	0.08	0.24	8	104	0.9	0.98	-	007-1L
3635.00	cut	Ca : m or to pl pu	0.93	0.02	0.27	0.07	0.19	11	142	0.9	0.98	-	012-1L
3650.00	cut	Ca : m or to pl pu	0.86	-	0.24	-	0.25	-	96	0.9	1.00	-	017-1L
3664.00	cut	Ca : m or to pl pu	1.03	0.03	0.26	0.12	0.23	13	113	1.1	0.97	-	021-1L
3670.00	cut	Ca : m or to pl pu	1.05	0.02	0.33	0.06	0.26	8	127	1.1	0.98	431	023-1L
3673.00	cut	Sh/Clst: lt ol gy, drk gn gy, drk gy	6.75	0.66	0.32	2.06	1.05	63	30	7.4	0.91	339	024-2L
3676.00	cut	Sh/Clst: lt ol gy, drk gn gy, drk gy	4.89	1.21	0.37	3.27	1.33	91	28	6.1	0.80	401	025-2L
3679.00	cut	Sh/Clst: drk gy blk	3.97	0.66	0.17	3.88	0.86	77	20	4.6	0.86	360	026-6L
3681.00	cut	Sh/Clst: drk gy blk	5.02	0.90	0.24	3.75	1.27	71	19	5.9	0.85	357	027-6L
3682.00	cut	Sh/Clst: drk gy blk	6.27	1.18	0.46	2.57	1.93	61	24	7.4	0.84	441	028-5L
3685.00	cut	Sh/Clst: drk gy blk	7.57	0.86	0.91	0.95	2.80	31	33	8.4	0.90	384	029-4L
3687.00	cut	Sh/Clst: drk gy blk	8.81	1.17	1.49	0.79	3.79	31	39	10.0	0.88	436	030-3L
3688.00	cut	Sh/Clst: drk gy blk	12.72	2.79	1.85	1.51	6.02	46	31	15.5	0.82	440	031-3L

Table 2 : Rock-Eval table for well NOCS 2/4-8

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3690.00	cut	Sh/Clst: drk gy blk	6.38	2.19	0.64	3.42	3.67	60	17	8.6	0.74	445	032-3L
3693.00	cut	Sh/Clst: drk gy blk	5.74	1.39	0.48	2.90	2.62	53	18	7.1	0.81	445	033-3L
3694.00	cut	Sh/Clst: drk gy blk	4.04	2.10	0.66	3.18	3.34	63	20	6.1	0.66	443	034-3L
3696.00	cut	Sh/Clst: drk gy blk	6.54	1.86	0.54	3.44	3.12	60	17	8.4	0.78	443	035-3L
3702.00	cut	Sh/Clst: drk gy blk	12.08	3.92	0.41	9.56	2.97	132	14	16.0	0.75	396	036-3L
3719.00	cut	Sh/Clst: drk gy blk	12.22	2.18	0.43	5.07	2.97	73	14	14.4	0.85	449	040-2L
3722.00	cut	Sh/Clst: drk gy blk	11.86	2.36	0.33	7.15	3.23	73	10	14.2	0.83	447	041-2L
3725.00	cut	Sh/Clst: drk gy blk	13.44	2.36	0.49	4.82	3.31	71	15	15.8	0.85	445	042-2L
3728.00	cut	Sh/Clst: drk gy blk	12.82	2.14	0.42	5.10	3.00	71	14	15.0	0.86	446	043-2L
3734.00	cut	Sh/Clst: drk gy blk	13.37	2.44	0.45	5.42	3.15	77	14	15.8	0.85	447	045-2L
3737.00	cut	Sh/Clst: drk gy blk	13.17	2.40	0.63	3.81	3.65	66	17	15.6	0.85	446	046-2L
3743.00	cut	Sh/Clst: drk gy blk	10.36	1.55	0.54	2.87	2.51	62	22	11.9	0.87	449	048-2L
3752.00	cut	Sh/Clst: drk gy blk	10.24	2.91	0.46	6.33	3.53	82	13	13.1	0.78	447	050-2L
3755.00	cut	Sh/Clst: drk gy blk	12.07	3.49	0.72	4.85	4.31	81	17	15.6	0.78	448	051-2L
3770.00	cut	Sh/Clst: drk gy blk	11.58	1.94	0.74	2.62	3.04	64	24	13.5	0.86	447	056-2L

Table 2 : Rock-Eval table for well NOCS 2/4-8

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3780.00	cut	Sh/Clst: drk gy blk	10.53	2.44	0.95	2.57	3.70	66	26	13.0	0.81	445	059-2L
3792.00	cut	Sh/Clst: drk gy blk	9.32	1.91	0.80	2.39	2.78	69	29	11.2	0.83	447	063-1L
3804.00	cut	Sh/Clst: drk gy blk	11.68	3.00	0.88	3.41	3.79	79	23	14.7	0.80	444	067-1L

Depth unit of measure: m

Depth	Typ	Lithology	Rock Extracted (g)	EOM (mg)	Sat (mg)	Aro (mg)	Asph (mg)	NSO (mg)	HC (mg)	Non-HC (mg)	TOC(e) (%)	Sample
3676.00	com	Composite sample - see table 3 e	1.6	16.2	9.4	1.0	0.6	5.1	10.5	5.7	1.23	068-0B
3687.00	com	Composite sample - see table 3 e	2.1	32.0	14.6	3.9	1.0	12.6	18.5	13.6	3.70	069-0B
3696.00	com	Composite sample - see table 3 e	4.2	50.4	20.1	6.6	1.8	21.9	26.7	23.7	3.80	070-0B

Table 3 b: Concentration of EOM and Chromatographic Fraction (wt ppm rock) for well NOCS 2/4-8

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
3676.00	com	Composite sample - see table 3 e	10318	6019	668	382	3248	6687	3630	068-0B
3687.00	com	Composite sample - see table 3 e	15238	6928	1857	476	5976	8785	6452	069-0B
3696.00	com	Composite sample - see table 3 e	12144	4843	1590	433	5277	6433	5710	070-0B

Table 3 c: Concentration of EOM and Chromatographic Fraction (mg/g TOC(e)) for well NOCS 2/4-8

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
3676.00	com	Composite sample - see table 3 e	838.90	489.36	54.37	31.07	264.10	543.73	295.17	068-0B
3687.00	com	Composite sample - see table 3 e	411.84	187.26	50.19	12.87	161.52	237.45	174.39	069-0B
3696.00	com	Composite sample - see table 3 e	319.59	127.46	41.85	11.41	138.87	169.31	150.29	070-0B

Table 3 d: Composition of material extracted from the rock (%) for well NOCS 2/4-8

Depth unit of measure: m

Depth	Typ	Lithology	Sat	Aro	Asph	NSO	HC	Non-HC	Sat	HC	Sample
			EOM	EOM	EOM	EOM	EOM	EOM	Aro	Non-HC	
3676.00	com	Composite sample - see table 3 e	58.33	6.48	3.70	31.48	64.81	35.19	900.00	184.21	068-0B
3687.00	com	Composite sample - see table 3 e	45.47	12.19	3.13	39.22	57.66	42.34	373.08	136.16	069-0B
3696.00	com	Composite sample - see table 3 e	39.88	13.10	3.57	43.45	52.98	47.02	304.55	112.66	070-0B

Depth unit of measure: m

NOTE: Depths shown in tables 3 a to d correspond to the composite samples' lower depth.

<u>Upper depth</u>	<u>Lower depth</u>	<u>Typ</u>	<u>Sample</u>	<u>Depth</u>	<u>Typ</u>	<u>Lithology</u>	<u>Sample</u>
3673.00	3676.00	com	068-0B is composed of:	3673.00	cut	Sh/Clst: lt ol gy, drk gn gy, drk gy, mic	024-2L
				3676.00	cut	Sh/Clst: lt ol gy, drk gn gy, drk gy, slt, mic	025-2L
3679.00	3687.00	com	069-0B is composed of:	3679.00	cut	Sh/Clst: drk gy blk, carb	026-6L
				3681.00	cut	Sh/Clst: drk gy blk, carb	027-6L
				3682.00	cut	Sh/Clst: drk gy blk, carb	028-5L
				3685.00	cut	Sh/Clst: drk gy blk, carb	029-4L
				3687.00	cut	Sh/Clst: drk gy blk, carb	030-3L
3688.00	3696.00	com	070-0B is composed of:	3688.00	cut	Sh/Clst: drk gy blk, carb	031-3L
				3690.00	cut	Sh/Clst: drk gy blk, carb	032-3L
				3693.00	cut	Sh/Clst: drk gy blk, carb	033-3L
				3694.00	cut	Sh/Clst: drk gy blk, carb	034-3L
				3696.00	cut	Sh/Clst: drk gy blk, carb	035-3L



Table 4 : Saturated Hydrocarbon Ratios for well NOCS 2/4-8

Depth unit of measure: m

Depth	Typ	Lithology	<u>Pristane</u>	<u>Pristane</u>	<u>Pristane + Phytane</u>	<u>Phytane</u>	CPI	Sample
			nC17	Phytane	nC17 + nC18	nC18		
3676.00	com	bulk	0.38	1.29	0.40	0.43	1.00	068-0B
3687.00	com	bulk	0.32	0.98	0.36	0.41	1.07	069-0B
3696.00	com	bulk	0.32	0.99	0.36	0.42	1.08	070-0B

Table 5 : Aromatic Hydrocarbon Ratios for well NOCS 2/4-8

Depth unit of measure: m

Depth	Typ	Lithology	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	DBT/P	4/1MDBT	(3+2)/1MDBT	Sample
3676.00	com	bulk	-	1.42	0.11	1.08	1.01	0.84	0.65	6.54	1.78	068-0B
3687.00	com	bulk	0.84	1.96	0.08	1.26	1.18	0.99	1.29	7.48	2.29	069-0B
3696.00	com	bulk	0.58	1.69	0.07	1.28	1.15	1.03	1.15	8.02	2.22	070-0B

Table 6 : Thermal Maturity Data for well NOCS 2/4-8

Depth unit of measure: m

Depth	Typ Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation	Spore Fluorescence Colour	SCI	T <sub>max</sub> (°C)	Sample
3604.00	cut bulk	1.00	10	0.06	0	-	-	002-0B
3647.00	cut bulk	1.03	14	0.09	0	-	-	016-0B
3682.00	cut bulk	1.07	17	0.11	0	-	-	028-0B
3722.00	cut bulk	1.11	23	0.14	0	-	-	041-0B
3761.00	cut bulk	1.10	30	0.11	0	-	-	053-0B
3801.00	cut bulk	1.24	24	0.09	0	-	-	066-0B

Table 7 : Visual Kerogen Composition Data for well NOCS 2/4-8

Depth unit of measure: m

Depth	Typ	Lithology	L I P T %	A m o r p h o u s e %	L i p o d o l i t e %	S p o r o l i t e %	C o c c o n i t e %	D i a l o x i d e %	A r o m a t i c %	B i o g e n i c %	I n d e t e r m i n e d %	F u m f u n c t i o n a l %	S e m i f u n c t i o n a l %	M e t a b i o g e n i c %	S c l e r o l i t e %	V i t r i n e %	T e l l u r i c %	C o l l o i d e %	V o l a t i l i t y %	A r o m a t i c %	B i o g e n i c %	Sample	
3676.00	cut	Sh/Clst: lt ol gy, drk gn gy, drk gy	TR?								5?		*				95?		*	*			025-2L
3682.00	cut	Sh/Clst: drk gy blk	TR?								10?		*				90?		*	*			028-5L
3693.00	cut	Sh/Clst: drk gy blk	TR?								10?		*				90?		*	*			033-3L

Table 8 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 2/4-8

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
3664.00	cut	Ca : m or to pl pu	2.29	24.43	35.60	37.68	0.03	021-1L
3673.00	cut	Sh/Clst: lt ol gy, drk gn gy, drk gy	0.34	30.76	32.06	36.85	0.66	024-2L
3679.00	cut	Sh/Clst: drk gy blk	2.32	14.38	38.52	44.78	0.66	026-6L
3687.00	cut	Sh/Clst: drk gy blk	5.53	18.93	39.97	35.58	1.17	030-3L
3694.00	cut	Sh/Clst: drk gy blk	6.23	19.93	46.43	27.41	2.10	034-3L
3702.00	cut	Sh/Clst: drk gy blk	2.77	19.64	37.33	40.26	3.92	036-3L
3725.00	cut	Sh/Clst: drk gy blk	0.89	28.58	41.00	29.54	2.36	042-2L
3752.00	cut	Sh/Clst: drk gy blk	6.14	22.53	42.65	28.68	2.91	050-2L
3780.00	cut	Sh/Clst: drk gy blk	5.26	28.10	44.14	22.49	2.44	059-2L
3804.00	cut	Sh/Clst: drk gy blk	5.17	27.74	39.87	27.23	3.00	067-1L

Table 9: Variation in Triterpane Distribution for Well NOCS 2/4-8

Depth unit of measure: m

Depth	Lithology	B/A	B/B+A	B		C/E	C/C+E	X/E	Z/E	Z/C	Z/Z+E	Q/E	E/E+F	C+D		J1		Sample
				B+E+F										C+D+E+F	D+F/C+E	J1+J2%		
3676.00	Sh/Clst	2.24	0.69	0.24		1.19	0.54	0.03	-	-	-	0.23	0.92	0.55	0.09	56.82		068-0
3696.00	Sh/Clst	2.56	0.72	0.26		1.19	0.54	-	-	-	-	0.36	0.91	0.54	0.10	53.66		070-0

Table 10: Variation in Sterane Distribution for Well NOCS 2/4-8

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Ratio3</u>	<u>Ratio4</u>	<u>Ratio5</u>	<u>Ratio6</u>	<u>Ratio7</u>	<u>Sample</u>
3676.00	Sh/Clst	0.52	50.94	71.66	0.82	0.71	0.62	0.58	068-0
3696.00	Sh/Clst	0.43	46.15	74.00	0.70	0.76	0.76	0.70	070-0

Ratio1:  $a / a + j$

Ratio2:  $q / q + t * 100\%$

Ratio3:  $2(r + s) / (q + t + 2(r + s)) * 100\%$

Ratio4:  $a + b + c + d / h + k + l + n$

Ratio5:  $r + s / r + s + q$

Ratio6:  $u + v / u + v + q + r + s + t$

Ratio7:  $u + v / u + v + i + m + n + q + r + s + t$

Table 11: Aromatisation of Steranes for Well NOCS 2/4-8

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Sample</u>
3676.00	Sh/Clst	0.52	0.82	068-0
3696.00	Sh/Clst	0.89	0.36	070-0

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

$$\text{Ratio2: } \text{g1} / \text{g1} + \text{I1}$$



Table 12: Variation in Triaromatic Sterane Distribution for Well NOCS 2/4-8

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Ratio3</u>	<u>Ratio4</u>	<u>Ratio5</u>	<u>Sample</u>
3676.00	Sh/Clst	0.78	0.60	0.52	0.56	0.71	068-0
3696.00	Sh/Clst	0.96	0.93	0.87	0.88	0.93	070-0

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 13: Variation in Monoaromatic Sterane Distribution for Well NOCS 2/4-8

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Ratio3</u>	<u>Ratio4</u>	<u>Sample</u>
3676.00	Sh/Clst	0.80	0.60	0.63	0.48	068-0
3696.00	Sh/Clst	0.79	0.55	0.73	0.49	070-0

Ratio1:  $A1 / A1 + E1$   
 Ratio2:  $B1 / B1 + E1$

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