

I.8 PRODUCTION TESTS

Wireline Formation Tests

Between the top of the potential reservoir sand at 1836.5 m BDF and TD at 3375 m BDF four runs were made with the Schlumberger Repeat Formation Tester (RFT) at two different stages during the drilling of the well. The tool was equipped with the high resolution Hewlett Packard (HP) crystal gauge.

The first three RFT runs were made in the 12-1/4" hole between the 13-3/8" casing shoe at 1734 m BDF and the 12 1/4" TD at 2743 m BDT. Fifteen pressure readings covering the interval from 1845 to 2702 m BDF were obtained in run no. 1. The readings indicated a water gradient of 0.447 psi/ft for the whole interval (see Fig. I.8.1). In the same run several unsuccessful attempts (due to plugging) were made to obtain a fluid sample from the clean sand interval between 1842.5 and 1855 m BDF. The presence of an oil saturation in this interval had been evidenced by bleeding cores and electric logs indicating a low hydrocarbon saturation. Additional sampling attempts from the same interval were made in run no. 2. Severe plugging and malfunction of the HP gauge were experienced at three points within the interval and the tool was moved down to 1884.5 m BDF. At this point some flow into the sampling chambers was obtained, but the HP gauge still malfunctioned. At surface the sampling chambers were each found to contain about 2 litres of mud filtrate. The tool was redressed and rerun in a last attempt to obtain a sample from the potentially hydrocarbon bearing interval. The upper sample chamber was opened at 1849 m. Flow pressures of 20-25 psi were noted. Some 1800 cc mud contaminated formation water and 100 cc of emulsified hydrocarbons were obtained at surface.

RFT run no. 4 was a pretest run made below the 9-5/8" shoe. With 11 new pressure points it extended the pressure gradient down to 3344 m BDF confirming a very thick aquifer (see Fig. I.8.2).

Drill Stem Test

Bleeding cores and the interpretation of electric logs had indicated the presence of an oil saturation (possibly only residual oil) in the clean sand interval from 1842.5 to 1855 m BDF. Unsuccessful attempts to recover a fluid sample from this interval still left uncertainty as to whether the oil was producible. It was, therefore, decided to drill stem test the interval 1843 - 1848 m BDF. The mechanical aspects of this test are discussed in the "Drilling History" section.

About 33 barrels of formation water with a trace of oil were recovered in the test. Analyses indicate that some of this water was polluted with brine. However, trustworthy samples were recovered from the drill collars. Table I.8.1 shows an analysis of this water.

The formation pressure indicated by the 31/2-8 DST is in agreement with the RFT results.

GEOCHEMICAL ANALYSES REPORT

WELL NOCS 31/2-8
PART 1

Authors:

Kjell Arne Bakken
Lorraine Buxton
Ian L. Ferriday

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REGISTRERT

OLJEDIREKTORATET

Geolab Nor A/S
Hornebergveien 5
7038 Trondheim
Norway

Date :

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INTRODUCTION

Well NOCS 31/2-8 is situated in the Norwegian sector of the northern part of the North Sea, just north of the western part of the giant Troll gas field. The well is located, at 60°57'33.02"N and 03°29'49.84"E at a water depth of 346 m. Elevation of Kelly Bushing (KB) above mean sea level was 25 m. All depths are given from KB unless otherwise specified. The total drilled depth was 3375 m. Samples were collected between 1808 m and 3375 m from the Norwegian Petroleum Directorate in Stavanger. A total of 245 samples was collected, (only the cuttings samples were washed when necessary) and described. The analysed section of the well is from 1808 m to 3375 m with sampling interval mostly 6 m for the cuttings samples and about 5 m for the core-chip samples. A careful selection of suitable samples was made for screening analysis (i.e. TOC and Rock-Eval analysis). 109 samples were selected for this analysis, and from the data obtained the samples were chosen for follow-up analyses. These were:

Thermal extraction - pyrolysis - gas chromatography	25 samples
Extraction, MPLC fractination, saturated and aromatic hydrocarbon gas chromatography	12 samples
Vitrinite reflectance microscopy	16 samples
Visual kerogen analysis	19 samples
Isotop analysis of C15+ fractions	6 samples
Gas chromatography - mass spectrometry	6 samples

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1808.00						0012
		1.20	75	Sh/Clst: m gy, calc		0012-1L
			25	Ca : w		0012-2L
1820.00						0013
		0.12	75	Ca : w		0013-2L
			25	Sh/Clst: m gy, calc		0013-1L
1826.00						0014
	cvd		70	Ca : w		0014-2L
		2.91	20	Sh/Clst: drk gy, mic		0014-3L
	cvd		10	Sh/Clst: m gy, calc		0014-1L
1832.00						0015
	cvd		80	Sh/Clst: drk gy, mic		0015-3L
		3.28	10	Sh/Clst: m gy, calc		0015-1L
	cvd		10	Ca : w		0015-2L
1838.00						0016
	cvd		80	Sh/Clst: drk gy, mic		0016-3L
	cvd		10	Sh/Clst: m gy, calc		0016-1L
	cvd		10	Ca : w		0016-2L
			tr	S/Sst : lt gy		0016-4L
1841.80	ccp					0001
		0.93	100	S/Sst : lt gy, calc, cem		0001-1L

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description			
1846.70	ccp					0002
	0.80	100	S/Sst	: lt y gy		0002-1L
1851.35	ccp					0003
	1.05	100	S/Sst	: lt y gy		0003-1L
1856.45	ccp					0004
	0.17	100	Ca	: w, s		0004-1L
1861.34	ccp					0005
	1.09	100	Sltst	: lt gy		0005-1L
1866.30	ccp					0006
	3.24	100	Sltst	: lt gy, carb, mic		0006-1L
1871.00	ccp					0007
	0.71	100	S/Sst	: lt gy, mic		0007-1L
1876.00	ccp					0008
	0.78	100	S/Sst	: lt gy, carb, mic, f, cem		0008-1L
1881.00	ccp					0009
	1.90	100	Sh/Clst:	lt gy, carb, mic, cem		0009-1L

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1885.70	ccp					0010
		0.03	100 Ca	: w, s		0010-1L
1888.70	ccp					0011
		0.12	100 S/Sst	: w to lt y brn, calc, crs		0011-1L
1889.00						0017
		0.24	80 S/Sst	: lt gy, crs, l		0017-1L
	cvd		15 Sh/Clst:	lt gy to m gy		0017-2L
	cvd		5 Ca	: w		0017-3L
1895.00						0018
		0.07	90 S/Sst	: lt gy, crs, l		0018-1L
	cvd		10 Sh/Clst:	lt gy to m gy		0018-2L
	cvd		tr Ca	: w		0018-3L
1901.00						0019
		0.18	90 S/Sst	: lt gy, crs, l		0019-1L
	cvd		10 Sh/Clst:	lt gy to m gy		0019-2L
	cvd		tr Ca	: w		0019-3L
1907.00						0020
			95 S/Sst	: lt gy, crs, l		0020-1L
			5 Ca	: w		0020-3L
	cvd		tr Sh/Clst:	lt gy to m gy		0020-2L

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1913.00						0021
	0.20	95	S/Sst	: lt gy, crs, l		0021-1L
		5	Ca	: w		0021-3L
	cvd	tr	Sh/Clst:	lt gy to m gy		0021-2L
1919.00						0022
		95	S/Sst	: lt gy, crs, l		0022-1L
		5	Ca	: w		0022-3L
	cvd	tr	Sh/Clst:	lt gy to m gy		0022-2L
1925.00						0023
		80	S/Sst	: lt gy, crs, l		0023-1L
		20	Ca	: w		0023-3L
	cvd	tr	Sh/Clst:	lt gy to m gy		0023-2L
1931.00						0024
	0.09	85	S/Sst	: lt gy, crs, l		0024-1L
		15	Ca	: w		0024-3L
	cvd	tr	Sh/Clst:	lt gy to m gy		0024-2L
1937.00						0026
		95	Sltst	: lt ol gy		0026-4L
		5	S/Sst	: lt gy, crs, l		0026-1L
	cvd	tr	Sh/Clst:	lt gy to m gy		0026-2L
		tr	Ca	: w		0026-3L
1946.00						0025
		50	S/Sst	: lt gy, crs, l		0025-1L
		25	Sh/Clst:	lt gy to m gy, calc		0025-2L
		25	Ca	: w		0025-3L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1952.00						0027
		0.10		65 S/Sst : lt gy, crs, l		0027-1L
				20 Sh/Clst: lt gy to m gy, calc		0027-2L
				15 Ca : w		0027-3L
1958.00						0028
				80 S/Sst : lt gy, crs, l		0028-1L
				10 Sh/Clst: lt gy to m gy, calc		0028-2L
				10 Ca : w		0028-3L
1964.00						0029
				80 S/Sst : lt gy, crs, l		0029-1L
				10 Sh/Clst: lt gy to m gy, calc		0029-2L
				10 Ca : w		0029-3L
1970.00						0030
		0.24		70 Sltst : lt ol gy, calc		0030-4L
	cvd			20 S/Sst : lt gy, crs, l		0030-1L
	cvd			5 Sh/Clst: lt gy to m gy, calc		0030-2L
	cvd			5 Ca : w		0030-3L
1978.00						0031
		1.61		90 Sltst : ol gy, calc		0031-3L
	cvd			5 S/Sst : lt gy, crs, l		0031-1L
	cvd			5 Sh/Clst: lt gy to m gy, calc		0031-2L
1985.00						0032
		1.72		95 Sltst : ol gy, calc		0032-3L
	cvd			5 S/Sst : lt gy, crs, l		0032-1L
	cvd			tr Sh/Clst: lt gy to m gy, calc		0032-2L

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1991.00						0033
	0.38	80	S/Sst	: lt gy, crs, l		0033-1L
		10	Sh/Clst:	lt gy to m gy, calc		0033-2L
		10	Ca	: w		0033-4L
		tr	Sltst	: ol gy, calc		0033-3L
1997.00						0034
		60	S/Sst	: lt gy, crs, l		0034-1L
		20	Sltst	: ol gy, calc		0034-3L
		10	Sh/Clst:	lt gy to m gy, calc		0034-2L
		10	Ca	: w		0034-4L
2003.00						0035
	1.35	50	Sltst	: ol gy, calc		0035-3L
		40	S/Sst	: lt gy, crs, l		0035-1L
		5	Sh/Clst:	lt gy to m gy, calc		0035-2L
		5	Ca	: w		0035-4L
2009.00						0036
	0.92	90	Sltst	: ol gy, calc		0036-3L
		10	S/Sst	: lt gy, crs, l		0036-1L
		tr	Sh/Clst:	lt gy to m gy, calc		0036-2L
		tr	Ca	: w		0036-4L
2015.00						0037
		50	Sh/Clst:	lt gy to m gy, calc		0037-2L
		35	S/Sst	: drk gy to dsk y brn, calc		0037-5L
		10	S/Sst	: lt gy, crs, l		0037-1L
		5	Ca	: w		0037-4L
		tr	Sltst	: ol gy, calc		0037-3L

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2021.00						0038
	1.83		75	Sltst : ol gy, calc		0038-3L
			10	Sh/Clst: lt gy to m gy, calc		0038-2L
			10	S/Sst : drk gy to dsk y brn, calc		0038-5L
			5	Ca : w		0038-4L
			tr	S/Sst : lt gy, crs, l		0038-1L
2027.00						0039
	1.63		60	Sltst : ol gy, calc		0039-3L
			25	S/Sst : drk gy to dsk y brn, calc		0039-5L
			10	Sh/Clst: lt gy to m gy, calc		0039-2L
			5	S/Sst : lt gy, crs, l		0039-1L
			tr	Ca : w		0039-4L
2030.00						0040
	2.36		75	Sltst : ol gy, calc		0040-3L
			10	Sh/Clst: lt gy to m gy, calc		0040-2L
			10	S/Sst : drk gy to dsk y brn, calc		0040-5L
			5	S/Sst : lt gy, crs, l		0040-1L
			tr	Ca : w		0040-4L
2042.00						0041
	2.03		75	Sltst : ol gy, calc		0041-3L
			10	Sh/Clst: lt gy to m gy, calc		0041-2L
			10	S/Sst : drk gy to dsk y brn, calc		0041-5L
			5	S/Sst : lt gy, crs, l		0041-1L
			tr	Ca : w		0041-4L
2048.00						0042
	2.89		75	Sltst : ol gy, calc		0042-3L
			10	Sh/Clst: lt gy to m gy, calc		0042-2L
			10	S/Sst : drk gy to dsk y brn, calc		0042-5L
			5	S/Sst : lt gy, crs, l		0042-1L
			tr	Ca : w		0042-4L

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2054.00						0043
	2.12		75	Sltst : ol gy, calc		0043-3L
			10	Sh/Clst: lt gy to m gy, calc		0043-2L
			10	S/Sst : drk gy to dsk y brn, calc		0043-5L
			5	S/Sst : lt gy, crs, l		0043-1L
			tr	Ca : w		0043-4L
2060.00						0044
			75	Sltst : ol gy, calc		0044-3L
			10	Sh/Clst: lt gy to m gy, calc		0044-2L
			10	S/Sst : drk gy to dsk y brn, calc		0044-5L
			5	S/Sst : lt gy, crs, l		0044-1L
			tr	Ca : w		0044-4L
2066.00						0045
	3.95		95	Sltst : ol gy, calc		0045-3L
			5	Sh/Clst: lt gy to m gy, calc		0045-2L
			tr	S/Sst : lt gy, crs, l		0045-1L
			tr	S/Sst : drk gy to dsk y brn, calc		0045-4L
2072.00						0046
			95	Sltst : ol gy, calc		0046-3L
			5	Sh/Clst: lt gy to m gy, calc		0046-2L
			tr	S/Sst : lt gy, crs, l		0046-1L
			tr	S/Sst : drk gy to dsk y brn, calc		0046-4L
2078.00						0047
	3.41		95	Sltst : ol gy, calc		0047-3L
			5	Sh/Clst: lt gy to m gy, calc		0047-2L
			tr	S/Sst : lt gy, crs, l		0047-1L
			tr	S/Sst : drk gy to dsk y brn, calc		0047-4L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2084.00						0048
				95 Sltst : ol gy, calc		0048-3L
				5 Sh/Clst: lt gy to m gy, calc		0048-2L
				tr S/Sst : lt gy, crs, l		0048-1L
				tr S/Sst : drk gy to dsk y brn, calc		0048-4L
2090.00						0049
	3.04			95 Sltst : ol gy, calc		0049-3L
				5 Sh/Clst: lt gy to m gy, calc		0049-2L
				tr S/Sst : lt gy, crs, l		0049-1L
				tr S/Sst : drk gy to dsk y brn, calc		0049-4L
2096.00						0050
				95 Sltst : ol gy, calc		0050-3L
				5 Sh/Clst: lt gy to m gy, calc		0050-2L
				tr S/Sst : lt gy, crs, l		0050-1L
				tr S/Sst : drk gy to dsk y brn, calc		0050-4L
2108.00						0051
	2.00			95 Sltst : ol gy, calc		0051-3L
				5 Sh/Clst: lt gy to m gy, calc		0051-2L
				tr S/Sst : lt gy, crs, l		0051-1L
				tr S/Sst : drk gy to dsk y brn, calc		0051-4L
2114.00						0052
				80 Sltst : ol gy, calc		0052-3L
				10 Sh/Clst: lt gy to m gy, calc		0052-2L
				5 S/Sst : lt gy, crs, l		0052-1L
				5 Ca : pl y brn		0052-4L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2120.00						0053
	0.71		70	Sltst : ol gy, calc		0053-3L
			20	Ca : pl y brn		0053-4L
			5	S/Sst : lt gy, crs, l		0053-1L
			5	Sh/Clst: lt gy to m gy, calc		0053-2L
2126.00						0054
			90	Sltst : ol gy, calc		0054-3L
			5	Sh/Clst: lt gy to m gy, calc		0054-2L
			5	Ca : pl y brn		0054-4L
			tr	S/Sst : lt gy, crs, l		0054-1L
2132.00						0055
	2.48		90	Sltst : ol gy, calc		0055-3L
			5	Sh/Clst: lt gy to m gy, calc		0055-2L
			5	Ca : pl y brn		0055-4L
			tr	S/Sst : lt gy, crs, l		0055-1L
2138.00						0056
			90	Sltst : ol gy, calc		0056-3L
			5	Sh/Clst: lt gy to m gy, calc		0056-2L
			5	Ca : pl y brn		0056-4L
			tr	S/Sst : lt gy, crs, l		0056-1L
2144.00						0057
	2.46		95	Sltst : ol gy, calc		0057-3L
			5	Sh/Clst: lt gy to m gy, calc		0057-2L
			tr	S/Sst : lt gy, crs, l		0057-1L
			tr	Ca : pl y brn		0057-4L

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2150.00						0058	
		95	Sltst	: ol gy to drk gy, calc		0058-3L	
		5	Sh/Clst:	lt gy to m gy, calc		0058-2L	
		tr	S/Sst	: lt gy, crs, l		0058-1L	
		tr	Ca	: pl y brn		0058-4L	
2156.00						0059	
	1.99	95	Sltst	: ol gy to drk gy, calc		0059-3L	
		5	Sh/Clst:	lt gy to m gy, calc		0059-2L	
		tr	S/Sst	: lt gy, crs, l		0059-1L	
		tr	Ca	: pl y brn		0059-4L	
2162.00						0060	
		95	Sltst	: ol gy, calc		0060-2L	
		5	Sh/Clst:	lt gy to m gy, calc		0060-1L	
		tr	Ca	: pl y brn		0060-3L	
2168.00						0061	
	1.41	95	Sltst	: ol gy, calc		0061-2L	
		5	Sh/Clst:	lt gy to m gy, calc		0061-1L	
		tr	Ca	: pl y brn		0061-3L	
2174.00						0062	
		95	Sltst	: ol gy, calc		0062-2L	
		5	Sh/Clst:	lt gy to m gy, calc		0062-1L	
		tr	Ca	: pl y brn		0062-3L	

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2180.00						0063
	1.91	95	Sltst	: ol gy, calc		0063-2L
		5	Sh/Clst:	lt gy to m gy, calc		0063-1L
			tr Ca	: pl y brn		0063-3L
			tr S/Sst	: lt gy, crs, l		0063-4L
2186.00						0064
	1.34	95	Sltst	: ol gy, calc		0064-2L
		5	Sh/Clst:	lt gy to m gy, calc		0064-1L
			tr Ca	: pl y brn		0064-3L
			tr S/Sst	: lt gy, crs, l		0064-4L
2192.00						0065
	0.41	100	S/Sst	: w to lt gy, l		0065-2L
			tr Sh/Clst:	lt gy to m gy, calc		0065-1L
2198.00						0066
		100	S/Sst	: w to lt gy, l		0066-2L
			tr Sh/Clst:	lt gy to m gy, calc		0066-1L
2204.00						0067
	0.16	100	S/Sst	: w to lt gy to drk gy, l		0067-2L
			tr Sh/Clst:	lt gy to m gy, calc		0067-1L
			tr Cont	: Mica-ad		0067-3L
2210.00						0068
		100	S/Sst	: w to lt gy to drk gy, l		0068-2L
			tr Sh/Clst:	lt gy to m gy, calc		0068-1L
			tr Cont	: Mica-ad		0068-3L

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2216.00						0069
				80 Sltst : ol gy, calc		0069-3L
				10 Sh/Clst: lt gy to m gy, calc		0069-1L
				10 S/Sst : w to lt gy to drk gy, l		0069-2L
2222.00						0070
	0.49			95 S/Sst : w to lt gy to drk gy, l		0070-2L
				5 Sh/Clst: lt gy to m gy, calc		0070-1L
				tr Sltst : ol gy, calc		0070-3L
2228.00						0071
				95 S/Sst : w to lt gy to drk gy, l		0071-2L
				5 Sh/Clst: lt gy to m gy, calc		0071-1L
				tr Sltst : ol gy, calc		0071-3L
2234.00						0072
				95 S/Sst : w to lt gy to drk gy, l		0072-2L
				5 Sh/Clst: lt gy to m gy, calc		0072-1L
				tr Sltst : ol gy, calc		0072-3L
2240.00						0073
	0.14			90 S/Sst : w to lt gy, calc		0073-2L
				5 Sh/Clst: lt gy to m gy, calc		0073-1L
				5 Ca : w		0073-3L
2246.00						0074
				50 Sltst : ol gy, calc		0074-4L
				40 S/Sst : w to lt gy, calc		0074-2L
				5 Sh/Clst: lt gy to m gy, calc		0074-1L
				5 Ca : w		0074-3L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2252.00						0075
				90 Sltst : ol gy, calc		0075-4L
				5 Sh/Clst: lt gy to m gy, calc		0075-1L
				5 S/Sst : w to lt gy, calc		0075-2L
				tr Ca : w		0075-3L
2258.00						0076
	0.34			90 S/Sst : w to lt gy		0076-2L
				5 Sh/Clst: lt gy to m gy, calc		0076-1L
				5 Ca : w		0076-3L
				tr Sltst : ol gy, calc		0076-4L
2264.00						0077
				85 S/Sst : w to lt gy		0077-2L
				10 Sltst : ol gy, calc		0077-4L
				5 Sh/Clst: lt gy to m gy, calc		0077-1L
				tr Ca : w		0077-3L
2270.00						0078
	cvd			50 S/Sst : w to lt gy		0078-2L
				50 Sltst : ol gy, calc		0078-3L
				tr Sh/Clst: lt gy to m gy, calc		0078-1L
2276.00						0079
	cvd	1.95		90 Sltst : ol gy to lt ol gy, calc		0079-3L
				10 S/Sst : w to lt gy		0079-2L
				tr Sh/Clst: lt gy to m gy, calc		0079-1L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2282.00						0080	
cvd		100	Sltst	: ol gy to lt ol gy, calc		0080-2L	
			tr S/Sst	: w to lt gy		0080-1L	
2288.00						0081	
cvd	1.22	100	Sltst	: ol gy to lt ol gy, calc		0081-2L	
			tr S/Sst	: w to lt gy		0081-1L	
2294.00						0082	
		100	Sltst	: ol gy to lt ol gy, calc		0082-1L	
2300.00						0083	
	2.11	100	Sltst	: ol gy to lt ol gy, calc		0083-1L	
2306.00						0084	
cvd		100	Sltst	: ol gy to lt ol gy, calc		0084-1L	
			tr Sh/Clst:	m gy, calc		0084-2L	
cvd			tr S/Sst	: w to lt gy		0084-3L	
2312.00						0085	
cvd	1.51	100	Sltst	: ol gy to lt ol gy, calc		0085-1L	
			tr Sh/Clst:	m gy, calc		0085-2L	
cvd			tr S/Sst	: w to lt gy		0085-3L	
2318.00						0086	
cvd		100	Sltst	: ol gy to lt ol gy, calc		0086-1L	
			tr Sh/Clst:	m gy, calc		0086-2L	
cvd			tr S/Sst	: w to lt gy		0086-3L	

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2324.00						0087	
	1.33	100	Sltst	: ol gy to lt ol gy, calc		0087-1L	
cvd			tr Sh/Clst:	m gy, calc		0087-2L	
cvd			tr S/Sst	: w to lt gy		0087-3L	
2330.00						0088	
		50	Sltst	: ol gy to lt ol gy, calc		0088-1L	
		50	S/Sst	: w to lt gy to drk gy, l		0088-3L	
cvd			tr Sh/Clst:	m gy, calc		0088-2L	
2336.00						0089	
	0.92	60	Sltst	: ol gy to lt ol gy, calc		0089-1L	
		40	S/Sst	: w to lt gy to drk gy, l		0089-3L	
cvd			tr Sh/Clst:	m gy, calc		0089-2L	
2342.00						0090	
		90	Sltst	: ol gy to lt ol gy, calc		0090-1L	
		10	S/Sst	: w to lt gy to drk gy, l		0090-2L	
2348.00						0091	
	1.59	95	Sltst	: ol gy to lt ol gy, calc		0091-1L	
		5	S/Sst	: w to lt gy to drk gy, l		0091-2L	
			tr Cont	: Coal-ad		0091-3L	
2354.00						0092	
		80	S/Sst	: w to lt gy to drk gy, l		0092-2L	
		10	Sltst	: ol gy to lt ol gy, calc		0092-1L	
		10	Ca	: w to lt ol gy		0092-4L	
			tr Cont	: Coal-ad		0092-3L	

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2360.00						0093
	3.48	90	Sltst	: ol gy to lt ol gy, calc		0093-1L
		5	S/Sst	: w to lt gy to drk gy, l		0093-2L
		5	Coal	: brn blk		0093-4L
			tr Ca	: w to lt ol gy		0093-3L
2366.00						0094
		100	Sltst	: ol gy to lt ol gy, calc		0094-1L
			tr S/Sst	: w to lt gy to drk gy, l		0094-2L
			tr Ca	: w to lt ol gy		0094-3L
			tr Coal	: brn blk		0094-4L
2372.00						0095
	2.18	100	Sltst	: ol gy to lt ol gy, calc		0095-1L
			tr S/Sst	: w to lt gy to drk gy, l		0095-2L
			tr Ca	: w to lt ol gy		0095-3L
			tr Coal	: brn blk		0095-4L
2378.00						0096
		100	Sltst	: ol gy to lt ol gy, calc		0096-1L
			tr S/Sst	: w to lt gy to drk gy, l		0096-2L
			tr Coal	: brn blk		0096-3L
2390.00						0097
	2.32	100	Sltst	: ol gy to lt ol gy, calc		0097-1L
			tr S/Sst	: w to lt gy to drk gy, l		0097-2L
			tr Coal	: brn blk		0097-3L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2396.00						0098
			100	Sltst : ol gy to lt ol gy, calc tr S/Sst : w to lt gy to drk gy, l tr Coal : brn blk		0098-1L 0098-2L 0098-3L
2402.00						0099
		2.55	100	Sltst : ol gy to lt ol gy, calc tr S/Sst : w to lt gy to drk gy, l tr Coal : brn blk		0099-1L 0099-2L 0099-3L
2408.00						0100
			100	Sltst : ol gy to lt ol gy, calc tr S/Sst : w to lt gy to drk gy, l		0100-1L 0100-2L
2414.00						0101
		2.20	100	Sltst : ol gy to lt ol gy, calc tr S/Sst : w to lt gy to drk gy, l		0101-1L 0101-2L
2420.00						0102
			100	Sltst : ol gy to lt ol gy, calc tr S/Sst : w to lt gy to drk gy, l		0102-1L 0102-2L
2426.00						0103
		2.01	100	Sltst : ol gy to lt ol gy, calc tr S/Sst : w to lt gy to drk gy		0103-1L 0103-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2432.00						0104
	2.58	100	Sltst	: ol gy to lt ol gy, calc		0104-1L
			tr S/Sst	: w to lt gy to drk gy		0104-2L
2438.00						0105
	1.22	90	Ca	: lt ol gy to m drk gy		0105-2L
		10	Sltst	: ol gy to lt ol gy, calc		0105-1L
			tr S/Sst	: w to lt gy to drk gy		0105-3L
2444.00						0106
		100	Sltst	: ol gy to lt ol gy, calc		0106-1L
			tr Ca	: lt ol gy to m drk gy		0106-2L
			tr S/Sst	: w to lt gy to drk gy		0106-3L
2450.00						0107
	2.47	95	Sltst	: ol gy to lt ol gy, calc		0107-1L
		5	Ca	: lt ol gy to m drk gy		0107-2L
2456.00						0108
		100	Sltst	: ol gy to lt ol gy, calc		0108-1L
			tr Ca	: lt ol gy to m drk gy		0108-2L
2462.00						0109
	1.97	100	Sltst	: ol gy to lt ol gy, calc		0109-1L
			tr Ca	: lt ol gy to m drk gy		0109-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2468.00						0110
			100	Sltst	: ol gy to lt ol gy, calc	0110-1L
			tr	Ca	: lt ol gy to m drk gy	0110-2L
2474.00						0111
	1.83		100	Sltst	: ol gy to lt ol gy, calc	0111-1L
			tr	Ca	: lt ol gy to m drk gy	0111-2L
2480.00						0112
			100	Sltst	: ol gy to lt ol gy, calc	0112-1L
			tr	Ca	: lt ol gy to m drk gy	0112-2L
2486.00						0113
			100	Sltst	: ol gy to lt ol gy, calc	0113-1L
			tr	Cont	: Coal-ad	0113-2L
2492.00						0114
	2.02		100	Sltst	: ol gy to lt ol gy, calc	0114-1L
			tr	Cont	: Coal-ad	0114-2L
2498.00						0115
			85	Sltst	: ol gy to lt ol gy, calc	0115-1L
			15	Ca	: pl y brn	0115-3L
			tr	Cont	: Coal-ad	0115-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2504.00						0116
			95	Sltst : ol gy to lt ol gy, calc		0116-1L
			5	Ca : pl y brn		0116-3L
			tr	Cont : Coal-ad		0116-2L
2510.00						0117
	1.18		95	Sltst : ol gy to lt ol gy, calc		0117-1L
			5	Ca : pl y brn		0117-3L
			tr	Cont : Coal-ad		0117-2L
2516.00						0118
			95	Sltst : ol gy to lt ol gy, calc		0118-1L
			5	Ca : pl y brn		0118-3L
			tr	Cont : Coal-ad		0118-2L
2522.00						0119
	cvd		90	Sltst : ol gy to lt ol gy, calc		0119-1L
			10	S/Sst : w, f, l		0119-2L
2528.00						0120
	cvd		70	Sltst : ol gy to lt ol gy, calc		0120-1L
	0.34		30	S/Sst : w, f, l		0120-2L
2534.00						0121
	cvd	1.05	85	Sltst : ol gy to lt ol gy, calc		0121-1L
			15	S/Sst : w, f, l		0121-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2540.00						0122
	cvd		95	Sltst : ol gy to lt ol gy, calc		0122-1L
			5	S/Sst : w, f, l		0122-2L
2546.00						0123
	cvd		100	Sltst : ol gy to lt ol gy, calc		0123-1L
				tr S/Sst : w, f, l		0123-2L
				tr Cont : Coal-ad		0123-3L
2552.00						0124
		1.07	100	Sltst : w to lt ol gy, calc, carb		0124-1L
2558.00						0125
			100	Sltst : w to lt ol gy, calc, carb		0125-1L
2564.00						0126
			100	Sltst : w to lt ol gy, calc, carb		0126-1L
2570.00						0127
		1.85	100	Sltst : w to lt ol gy, calc, carb		0127-1L
				tr Coal : blk		0127-2L
2576.00						0128
		40.43	100	Coal : blk		0128-2L
				tr Sltst : w to lt ol gy, calc, carb		0128-1L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2582.00						0129
			50	Sltst : w to lt ol gy, calc		0129-1L
			50	Coal : blk		0129-2L
2588.00						0130
	31.57		90	Coal : blk		0130-2L
			10	S/Sst : w, calc		0130-1L
2594.00						0131
			70	Coal : blk		0131-2L
			25	Sltst : lt ol gy, calc		0131-3L
			5	S/Sst : w, calc		0131-1L
			tr	Ca : pl y brn		0131-4L
2600.00						0132
	47.54		50	Coal : blk		0132-2L
			50	Sltst : lt ol gy, calc		0132-3L
			tr	S/Sst : w, calc		0132-1L
			tr	Ca : pl y brn		0132-4L
2606.00						0133
			85	Sltst : w to lt ol gy, calc		0133-2L
			15	Coal : blk		0133-1L
2612.00						0134
	48.45		100	Coal : blk		0134-1L
			tr	Sltst : w to lt ol gy, calc		0134-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2618.00						0135
				90 Sltst : w to lt ol gy, calc		0135-2L
				10 Coal : blk		0135-1L
				tr Sh/Clst: dsk y brn, wx		0135-3L
2624.00						0136
	1.88			95 Sltst : w to lt ol gy, calc		0136-2L
				5 Coal : blk		0136-1L
				tr Sh/Clst: dsk y brn, wx		0136-3L
2630.00						0137
				100 Coal : blk		0137-1L
				tr Sltst : w to lt ol gy, calc		0137-2L
				tr Sh/Clst: dsk y brn, wx		0137-3L
2636.00						0138
	70.33			70 Coal : blk		0138-1L
				30 Sltst : w to lt ol gy, calc		0138-2L
				tr Sh/Clst: dsk y brn, wx		0138-3L
2642.00						0139
				65 Sltst : ol gy to lt ol gy to drk gy, mic		0139-2L
				30 Coal : blk		0139-1L
				5 Sh/Clst: dsk y brn, wx		0139-3L
2648.00						0140
				65 Sltst : w to lt ol gy, calc		0140-5L
				15 Coal : blk		0140-1L
				10 Sltst : ol gy to lt ol gy to drk gy, mic		0140-2L
				10 S/Sst : w, l		0140-4L
				tr Sh/Clst: dsk y brn, wx		0140-3L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2654.00						0141
	0.41	90	S/Sst	: w, l		0141-3L
		5	Coal	: blk		0141-1L
		5	Sltst	: ol gy to lt ol gy to drk gy, mic		0141-2L
		tr	Sltst	: w to lt ol gy, calc		0141-4L
2663.00						0142
		50	Sltst	: w to lt ol gy, calc		0142-3L
		40	S/Sst	: w, l		0142-2L
		10	Coal	: blk		0142-1L
2669.00						0143
	2.39	90	Sltst	: w to lt ol gy, calc		0143-3L
		5	Coal	: blk		0143-1L
		5	Sh/Clst	: dsk y brn to drk y brn, carb, wx		0143-4L
		tr	S/Sst	: w, l		0143-2L
2675.00						0144
		60	S/Sst	: w, l		0144-2L
		35	Sltst	: w to lt ol gy, calc		0144-3L
		5	Coal	: blk		0144-1L
2684.00						0145
		60	S/Sst	: w, l		0145-2L
		35	Sltst	: w to lt ol gy, calc		0145-3L
		5	Coal	: blk		0145-1L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2690.00						0146
	0.20		95	S/Sst : w, l		0146-2L
			5	Coal : blk		0146-1L
			tr	Sltst : w to lt ol gy, calc		0146-3L
			tr	Ca : m gy		0146-4L
2693.00						0147
			95	S/Sst : w to lt gy, l		0147-2L
			5	Sltst : w to lt ol gy, calc		0147-3L
			tr	Coal : blk		0147-1L
2708.00						0148
			70	S/Sst : w to lt gy, l		0148-2L
			30	Sltst : w to lt ol gy, calc		0148-3L
			tr	Coal : blk		0148-1L
2714.00						0149
			100	S/Sst : w to lt gy, l		0149-2L
			tr	Coal : blk		0149-1L
			tr	Sltst : w to lt ol gy, calc		0149-3L
2720.00						0150
	0.06		100	S/Sst : w to lt gy, l		0150-2L
			tr	Coal : blk		0150-1L
			tr	Ca : w		0150-3L
			tr	Sh/Clst: m gy to drk gy		0150-4L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2726.00						0151	
		95	S/Sst	: w to lt gy, l		0151-2L	
		5	Sh/Clst:	m gy to drk gy		0151-4L	
		tr	Coal	: blk		0151-1L	
		tr	Ca	: w		0151-3L	
2732.00						0152	
		75	S/Sst	: w to lt gy, l		0152-1L	
		15	Sltst	: lt ol gy, calc		0152-4L	
		5	Ca	: w		0152-2L	
		5	Sh/Clst:	m gy to drk gy		0152-3L	
2738.00						0153	
		75	S/Sst	: w to lt gy, l		0153-1L	
		20	Sltst	: lt ol gy, calc		0153-4L	
		5	Ca	: w		0153-2L	
		tr	Sh/Clst:	m gy to drk gy		0153-3L	
2741.00						0154	
	1.39	55	S/Sst	: w to lt gy, l		0154-1L	
		40	Sltst	: lt ol gy, calc		0154-4L	
		5	Ca	: w		0154-2L	
		tr	Sh/Clst:	m gy to drk gy		0154-3L	
		tr	Coal	: blk		0154-5L	
2759.00						0155	
		100	Sltst	: lt ol gy, calc		0155-4L	
		tr	S/Sst	: w to lt gy, l		0155-1L	
		tr	Ca	: w		0155-2L	
		tr	Sh/Clst:	m gy to drk gy		0155-3L	
		tr	Coal	: blk		0155-5L	

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2765.00						0156	
		100	Sltst	: lt ol gy to ol gy, calc		0156-2L	
			tr Sh/Clst:	m gy to drk gy		0156-1L	
			tr Coal	: blk		0156-3L	
			tr Cont	: prp		0156-4L	
2771.00						0157	
		100	Sltst	: lt ol gy to ol gy, calc		0157-1L	
			tr Coal	: blk		0157-2L	
			tr Cont	: prp		0157-3L	
2777.00						0158	
	1.85	100	Sltst	: lt ol gy to ol gy, calc		0158-1L	
			tr Coal	: blk		0158-2L	
			tr Cont	: prp		0158-3L	
2783.00						0159	
		100	Sltst	: lt ol gy to ol gy, calc		0159-1L	
			tr Coal	: blk		0159-2L	
			tr Cont	: prp		0159-3L	
2792.00						0160	
		100	Sltst	: lt ol gy to ol gy, calc		0160-1L	
			tr Coal	: blk		0160-2L	
			tr Cont	: prp		0160-3L	
			tr Ca	: w		0160-4L	

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2798.00						0161
	2.07	100	Sltst	: lt ol gy to ol gy, calc		0161-1L
			tr S/Sst	: w		0161-2L
			tr Cont	: prp		0161-3L
			tr Ca	: w		0161-4L
2804.00						0162
		100	Sltst	: lt ol gy to ol gy, calc		0162-1L
			tr S/Sst	: w		0162-2L
			tr Cont	: prp		0162-3L
			tr Ca	: w		0162-4L
2816.00						0163
		100	Sltst	: lt ol gy to ol gy, calc		0163-1L
			tr S/Sst	: w		0163-2L
			tr Cont	: prp		0163-3L
			tr Ca	: w		0163-4L
2831.00						0164
	1.91	55	Sltst	: lt ol gy to ol gy, calc		0164-1L
		40	S/Sst	: w		0164-2L
		5	Cont	: prp		0164-3L
			tr Ca	: w		0164-4L
2840.00						0165
		55	S/Sst	: w		0165-2L
		40	Sltst	: lt ol gy to ol gy, calc		0165-1L
		5	Cont	: prp		0165-3L
			tr Ca	: w		0165-4L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2870.00						0166
				80 S/Sst : w to y red		0166-2L
				10 Sltst : lt ol gy to ol gy, calc		0166-1L
				10 Cont : prp		0166-3L
				tr Ca : w		0166-4L
2876.00						0167
				80 S/Sst : w to y red to lt gy		0167-2L
				10 Sltst : lt ol gy to lt gy, calc		0167-1L
				10 Cont : prp		0167-3L
				tr Ca : w		0167-4L
2882.00						0168
	0.36			85 S/Sst : w to y red to lt gy		0168-2L
				15 Cont : prp		0168-3L
				tr Sltst : lt ol gy to lt gy, calc		0168-1L
				tr Ca : w		0168-4L
2888.00						0169
				85 S/Sst : w to y red to lt gy		0169-2L
				15 Cont : prp		0169-3L
				tr Sltst : lt ol gy to lt gy, calc		0169-1L
				tr Ca : w		0169-4L
2894.00						0170
				60 S/Sst : w to y red to lt gy		0170-1L
				40 Cont : prp, dd		0170-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2906.00						0171
				80 Sh/Clst: lt gy to m gy, or gy, calc, slt, s		0171-3L
				10 S/Sst : w to y red to lt gy		0171-1L
				10 Cont : prp, dd		0171-2L
2912.00						0172
	1.78			80 Sh/Clst: lt gy to m gy, or gy, calc, slt, s		0172-3L
				10 S/Sst : w to y red to lt gy		0172-1L
				10 Cont : prp, dd		0172-2L
2918.00						0173
				95 Sh/Clst: lt gy to m gy, or gy, calc, slt, s		0173-3L
				5 Cont : prp, dd		0173-2L
				tr S/Sst : w to y red to lt gy		0173-1L
2924.00						0174
				95 Sh/Clst: lt gy to m gy, or gy, calc, slt, s		0174-3L
				5 Cont : prp, dd		0174-2L
				tr S/Sst : w to y red to lt gy		0174-1L
2930.00						0175
	1.90			100 Sh/Clst: lt gy to m gy, or gy, calc, slt, s		0175-3L
				tr S/Sst : w to y red to lt gy		0175-1L
				tr Cont : prp, dd		0175-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2936.00						0176	
		100	Sh/Clst:	lt gy to m gy, or gy, calc, slt,		0176-3L	
			tr S/Sst	: w to y red to lt gy		0176-1L	
			tr Cont	: prp, dd		0176-2L	
2942.00						0177	
		100	Sh/Clst:	lt gy to m gy, or gy, calc, slt,		0177-3L	
			tr S/Sst	: w to y red to lt gy		0177-1L	
			tr Cont	: prp, dd		0177-2L	
2948.00						0178	
	1.63	100	Sh/Clst:	lt gy to m gy, or gy, calc, slt,		0178-3L	
			tr S/Sst	: w to y red to lt gy		0178-1L	
			tr Cont	: prp, dd		0178-2L	
2954.00						0179	
		100	Sh/Clst:	lt gy to m gy, or gy, calc, slt,		0179-3L	
			tr S/Sst	: w to y red to lt gy		0179-1L	
			tr Cont	: prp, dd		0179-2L	
2960.00						0180	
		100	Sh/Clst:	lt gy to m gy, or gy, calc, slt,		0180-3L	
			tr S/Sst	: w to y red to lt gy		0180-1L	
			tr Cont	: prp, dd		0180-2L	

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2966.00						0181
	1.82	100	Sh/Clst:	lt gy to m gy, or gy, calc, slt,		0181-3L
			tr S/Sst	: w to y red to lt gy		0181-1L
			tr Cont	: prp, dd		0181-2L
2972.00						0182
			50 S/Sst	: w to lt gy, or gy		0182-1L
			50 Sh/Clst:	lt gy to m gy, or gy, calc, slt,		0182-2L
2978.00						0183
			95 S/Sst	: w to lt gy, or gy		0183-1L
			5 Cont	: prp		0183-3L
			tr Sh/Clst:	lt gy to m gy, or gy, calc, slt,		0183-2L
2984.00						0184
	0.41	95	S/Sst	: w to lt gy, or gy		0184-1L
			5 Cont	: prp		0184-3L
			tr Sh/Clst:	lt gy to m gy, or gy, calc, slt,		0184-2L
2990.00						0185
			95 S/Sst	: w to lt gy, or gy		0185-1L
			5 Cont	: prp		0185-3L
			tr Sh/Clst:	lt gy to m gy, or gy, calc, slt,		0185-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2996.00						0186
			95	S/Sst	: w to lt gy, or gy	0186-1L
			5	Cont	: prp	0186-3L
			tr	Sh/Clst:	lt gy to m gy, or gy, calc, slt, s	0186-2L
3008.00						0187
			85	S/Sst	: w to lt gy, or gy	0187-1L
			10	Cont	: prp	0187-3L
			5	Sh/Clst:	lt gy to m gy, or gy, calc, slt, s	0187-2L
3014.00						0188
			90	S/Sst	: w to lt gy, or gy	0188-1L
			10	Cont	: prp	0188-3L
			tr	Sh/Clst:	lt gy to m gy, or gy, calc, slt, s	0188-2L
3029.00						0189
	0.28		60	S/Sst	: w to lt gy, or gy	0189-1L
			40	Cont	: prp	0189-3L
			tr	Sh/Clst:	lt gy to m gy, or gy, calc, slt, s	0189-2L
3035.00						0190
			60	S/Sst	: w to lt gy, or gy	0190-1L
			40	Cont	: prp	0190-3L
			tr	Sh/Clst:	lt gy to m gy, or gy, calc, slt, s	0190-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3041.00						0191
				75 Cont	: prp	0191-3L
				20 S/Sst	: w to lt gy, or gy	0191-1L
				5 Sh/Clst:	lt gy to m gy, or gy, calc, slt, s	0191-2L
3050.00						0192
				75 Cont	: prp	0192-3L
				20 S/Sst	: w to lt gy, or gy	0192-1L
				5 Sh/Clst:	lt gy to m gy, or gy, calc, slt, s	0192-2L
3056.00						0193
				75 Cont	: prp	0193-3L
				20 S/Sst	: w to lt gy, or gy	0193-1L
				5 Sh/Clst:	lt gy to m gy, or gy, calc, slt, s	0193-2L
3062.00						0194
				75 Cont	: prp	0194-3L
				20 S/Sst	: w to lt gy, or gy	0194-1L
				5 Sh/Clst:	lt gy to m gy, or gy, calc, slt, s	0194-2L
3068.00						0195
	72.95			60 Coal	: blk	0195-3L
				30 Cont	: prp	0195-2L
				10 S/Sst	: w to lt gy, or gy	0195-1L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
3074.00						0196	
		50	Coal	:	blk	0196-3L	
		30	S/Sst	:	w to lt gy	0196-1L	
		20	Cont	:	prp	0196-2L	
3080.00						0197	
		45	S/Sst	:	w to lt gy	0197-1L	
		45	Coal	:	blk	0197-3L	
		10	Cont	:	prp	0197-2L	
3086.00						0198	
	0.64	80	S/Sst	:	w to lt gy, or gy	0198-1L	
		20	Coal	:	blk	0198-3L	
		tr	Cont	:	prp	0198-2L	
3092.00						0199	
		90	S/Sst	:	w to lt gy, or gy	0199-1L	
		10	Coal	:	blk	0199-2L	
3098.00						0200	
		95	S/Sst	:	w to lt gy, or gy	0200-1L	
		5	Coal	:	blk	0200-2L	
3104.00						0201	
		95	S/Sst	:	w to lt gy, or gy	0201-1L	
		5	Coal	:	blk	0201-2L	

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description			
3110.00						0202
		90	S/Sst	: w to lt gy		0202-1L
		10	Coal	: blk		0202-2L
3116.00						0203
	0.47	95	S/Sst	: w to lt gy		0203-1L
		5	Coal	: blk		0203-2L
3122.00						0204
		95	S/Sst	: w to lt gy		0204-1L
		5	Coal	: blk		0204-2L
3128.00						0205
		95	S/Sst	: w to lt gy		0205-1L
		5	Coal	: blk		0205-2L
3134.00						0206
		100	S/Sst	: w to lt gy		0206-1L
		tr	Coal	: blk		0206-2L
3140.00						0207
		100	S/Sst	: w to lt gy		0207-1L
		tr	Coal	: blk		0207-2L
3146.00						0208
	0.15	100	S/Sst	: w to lt gy		0208-1L
		tr	Coal	: blk		0208-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3152.00						0209
				80 S/Sst : w to lt gy		0209-1L
				10 Sh/Clst: drk y brn to m gy, wx		0209-2L
				10 Cont : prp		0209-3L
3158.00						0210
				70 S/Sst : w to lt gy		0210-1L
				20 Sltst : lt ol gy, calc		0210-2L
				10 Cont : prp		0210-3L
3164.00						0211
				60 S/Sst : w to lt gy		0211-1L
				20 Sh/Clst: dsk y brn, wx		0211-4L
				10 Sltst : lt ol gy, calc		0211-2L
				10 Cont : prp		0211-3L
3170.00						0212
	0.12			50 Sh/Clst: dsk y brn to drk ol gy, wx		0212-4L
				30 S/Sst : w to lt gy		0212-1L
				10 Cont : prp		0212-3L
				5 Sltst : lt ol gy, calc		0212-2L
				5 Sh/Clst: red brn		0212-5L
3176.00						0213
	0.11			50 Sh/Clst: dsk y brn to drk ol gy to gn gy, wx		0213-4L
				30 S/Sst : w to lt gy		0213-1L
				10 Cont : prp		0213-3L
				5 Sltst : lt ol gy, calc		0213-2L
				5 Sh/Clst: red brn		0213-5L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3182.00						0214
				60 S/Sst : w to lt gy		0214-1L
				40 Sh/Clst: dsk y brn to drk ol gy to gn gy,		0214-4L
				wx		
				tr Sltst : lt ol gy, calc		0214-2L
				tr Cont : prp		0214-3L
				tr Sh/Clst: red brn		0214-5L
3188.00						0215
				70 S/Sst : w to lt gy		0215-1L
				30 Sh/Clst: dsk y brn to drk ol gy to gn gy,		0215-4L
				wx		
				tr Sltst : lt ol gy, calc		0215-2L
				tr Cont : prp		0215-3L
				tr Sh/Clst: red brn		0215-5L
3194.00						0216
	0.03			70 S/Sst : w to lt gy		0216-1L
				20 Sh/Clst: dsk y brn to drk ol gy to gn gy,		0216-4L
				wx		
				10 Cont : prp		0216-3L
				tr Sltst : lt ol gy, calc		0216-2L
				tr Sh/Clst: red brn		0216-5L
3200.00						0217
				40 S/Sst : w to lt gy		0217-1L
				35 Sh/Clst: dsk y brn to drk ol gy to gn gy,		0217-3L
				wx		
				15 Sh/Clst: red brn		0217-4L
				10 Cont : prp		0217-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3206.00						0218
				60 S/Sst : w to lt gy		0218-1L
				20 Sh/Clst: dsk y brn to drk ol gy to gn gy, wx		0218-3L
				10 Cont : prp		0218-2L
				10 Sh/Clst: red brn		0218-4L
3212.00						0219
				60 S/Sst : w to lt gy		0219-1L
				20 Sh/Clst: dsk y brn to drk ol gy to gn gy, wx		0219-3L
				10 Cont : prp		0219-2L
				10 Sh/Clst: red brn		0219-4L
3218.00						0220
	0.15			70 S/Sst : w to lt gy		0220-1L
				20 Sh/Clst: dsk y brn to drk ol gy to gn gy, wx		0220-3L
				10 Cont : prp		0220-2L
				tr Sh/Clst: red brn		0220-4L
3224.00						0221
				70 S/Sst : w to lt gy		0221-1L
				20 Sh/Clst: dsk y brn to drk ol gy to gn gy, wx		0221-3L
				10 Cont : prp		0221-2L
				tr Sh/Clst: red brn		0221-4L
3230.00						0222
	66.60			40 Coal : blk		0222-4L
				35 S/Sst : w to lt gy		0222-1L
				15 Sh/Clst: dsk y brn to drk ol gy to gn gy, wx		0222-3L
				10 Cont : prp		0222-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3236.00						0223
				55 S/Sst : w to lt gy		0223-1L
				20 Coal : blk		0223-4L
				15 Sh/Clst: dsk y brn to drk ol gy to gn gy, wx		0223-3L
				10 Cont : prp		0223-2L
3242.00						0224
				55 S/Sst : w to lt gy		0224-1L
				25 Coal : blk		0224-4L
				10 Cont : prp		0224-2L
				10 Sh/Clst: dsk y brn to drk ol gy to gn gy, wx		0224-3L
3248.00						0225
	0.67			90 S/Sst : w		0225-1L
				10 Coal : blk		0225-4L
				tr Cont : prp		0225-2L
				tr Sh/Clst: dsk y brn to drk ol gy to gn gy, wx		0225-3L
3254.00						0226
				90 S/Sst : w		0226-1L
				10 Coal : blk		0226-4L
				tr Cont : prp		0226-2L
				tr Sh/Clst: dsk y brn to drk ol gy to gn gy, wx		0226-3L
3260.00						0227
				95 S/Sst : w		0227-1L
				5 Cont : prp		0227-2L
				tr Sh/Clst: dsk y brn to drk ol gy to gn gy, wx		0227-3L
				tr Coal : blk		0227-4L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3266.00						0228
			95	S/Sst	: w	0228-1L
			5	Cont	: prp	0228-2L
			tr	Sh/Clst:	dsk y brn to drk ol gy to gn gy,	0228-3L
					wx	
			tr	Coal	: blk	0228-4L
3272.00						0229
	0.92		95	S/Sst	: w	0229-1L
			5	Cont	: prp	0229-2L
			tr	Sh/Clst:	dsk y brn to drk ol gy to gn gy,	0229-3L
					wx	
			tr	Coal	: blk	0229-4L
3278.00						0230
			55	S/Sst	: w	0230-1L
			30	Slstst	: pi	0230-4L
			10	Sh/Clst:	drk ol gy to gn gy	0230-3L
			5	Cont	: prp	0230-2L
3284.00						0231
			60	Slstst	: pi to red brn	0231-4L
			30	S/Sst	: w	0231-1L
			10	Sh/Clst:	drk ol gy to gn gy	0231-3L
			tr	Coal	: blk, prp	0231-2L
3290.00						0232
	0.77		60	Slstst	: pi to red brn	0232-4L
			30	S/Sst	: w	0232-1L
			10	Sh/Clst:	drk ol gy to gn gy	0232-3L
			tr	Coal	: blk, prp	0232-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3296.00						0233
			40	Sltst : pi to red brn		0233-4L
			35	Sh/Clst: red brn		0233-5L
			15	S/Sst : w		0233-1L
			10	Sh/Clst: drk ol gy to gn gy		0233-3L
			tr	Coal : blk, prp		0233-2L
3302.00						0234
			40	Sltst : pi to red brn		0234-4L
			35	Sh/Clst: red brn		0234-5L
			15	S/Sst : w		0234-1L
			10	Sh/Clst: drk ol gy to gn gy		0234-3L
			tr	Coal : blk, prp		0234-2L
3308.00						0235
	0.11		50	S/Sst : w		0235-1L
			40	Sh/Clst: red brn		0235-5L
			5	Sh/Clst: drk ol gy to gn gy		0235-3L
			5	Sltst : pi to red brn		0235-4L
			tr	Coal : blk, prp		0235-2L
3320.00						0236
			50	Sh/Clst: red brn		0236-3L
			30	S/Sst : w		0236-1L
			20	Sh/Clst: drk ol gy to gn gy		0236-2L
3326.00						0237
			50	Sh/Clst: red brn		0237-3L
			25	S/Sst : w		0237-1L
			25	Sh/Clst: drk ol gy to gn gy		0237-2L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3332.00						0238
				50 Sh/Clst: red brn		0238-3L
				25 S/Sst : w		0238-1L
				25 Sh/Clst: drk ol gy to gn gy		0238-2L
3338.00						0239
	0.19			50 Sh/Clst: red brn		0239-3L
				25 S/Sst : w		0239-1L
				25 Sh/Clst: drk ol gy to gn gy		0239-2L
3344.00						0240
				40 Sltst : pi		0240-4L
				30 Sh/Clst: red brn		0240-3L
				20 S/Sst : w		0240-1L
				10 Sh/Clst: drk ol gy to gn gy		0240-2L
3350.00						0241
				60 S/Sst : w		0241-1L
				20 Sh/Clst: drk ol gy to gn gy		0241-2L
				20 Sh/Clst: red brn		0241-3L
				tr Sltst : pi		0241-4L
3356.00						0242
				60 S/Sst : w		0242-1L
				20 Sh/Clst: drk ol gy to gn gy		0242-2L
				20 Sh/Clst: red brn		0242-3L
				tr Sltst : pi		0242-4L

Table 1 : Lithology description for well NOCS 31/2-8

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3362.00						0243
				70 S/Sst : w		0243-1L
				15 Sh/Clst: drk ol gy to gn gy		0243-2L
				15 Sh/Clst: red brn		0243-3L
3368.00						0244
				70 S/Sst : w		0244-1L
				15 Sh/Clst: drk ol gy to gn gy		0244-2L
				15 Sh/Clst: red brn		0244-3L
3375.00						0245
	0.08			70 S/Sst : w		0245-1L
				10 Sh/Clst: drk ol gy to gn gy		0245-2L
				10 Sh/Clst: red brn		0245-3L
				10 Cont : prp		0245-4L

Table 2 : Rock-Eval table for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1808.00	cut	Sh/Clst: m gy	0.35	0.92	0.73	1.26	1.20	77	61	1.3	0.28	430	0012-1L
1820.00	cut	Ca : w	0.04	0.07	1.17	0.06	0.12	58	975	0.1	0.36	425	0013-2L
1826.00	cut	Sh/Clst: drk gy	0.62	4.55	0.75	6.07	2.91	156	26	5.2	0.12	420	0014-3L
1832.00	cut	Sh/Clst: drk gy	0.51	5.16	1.50	3.44	3.28	157	46	5.7	0.09	420	0015-3L
1841.80	ccp	S/Sst : lt gy	3.58	0.99	0.77	1.29	0.93	106	83	4.6	0.78	415	0001-1L
1846.70	ccp	S/Sst : lt y gy	6.44	1.60	0.32	5.00	0.80	200	40	8.0	0.80	331	0002-1L
1851.35	ccp	S/Sst : lt y gy	6.87	2.84	0.49	5.80	1.05	270	47	9.7	0.71	357	0003-1L
1856.45	ccp	Ca : w	0.47	0.24	0.33	0.73	0.17	141	194	0.7	0.66	419	0004-1L
1861.34	ccp	Sltst : lt gy	0.83	1.09	0.66	1.65	1.09	100	61	1.9	0.43	408	0005-1L
1866.30	ccp	Sltst : lt gy	1.52	2.97	0.61	4.87	3.24	92	19	4.5	0.34	409	0006-1L
1871.00	ccp	S/Sst : lt gy	0.35	0.53	0.36	1.47	0.71	75	51	0.9	0.40	419	0007-1L
1876.00	ccp	S/Sst : lt gy	0.43	0.70	0.29	2.41	0.78	90	37	1.1	0.38	406	0008-1L
1881.00	ccp	Sh/Clst: lt gy	0.19	0.78	0.40	1.95	1.90	41	21	1.0	0.20	414	0009-1L
1885.70	ccp	Ca : w	0.02	0.03	0.26	0.12	0.03	100	867	0.1	0.40	417	0010-1L
1888.70	ccp	S/Sst : w to lt y brn	-	0.26	0.49	0.53	0.12	217	408	0.3	-	400	0011-1L

Table 2 : Rock-Eval table for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1889.00	cut	S/Sst : lt gy	0.08	0.20	0.82	0.24	0.24	83	342	0.3	0.29	397	0017-1L
1895.00	cut	S/Sst : lt gy	0.01	0.02	0.20	0.10	0.07	29	286	-	0.33	404	0018-1L
1901.00	cut	S/Sst : lt gy	0.02	0.05	0.39	0.13	0.18	28	217	0.1	0.29	301	0019-1L
1913.00	cut	S/Sst : lt gy	0.04	0.06	0.59	0.10	0.20	30	295	0.1	0.40	301	0021-1L
1931.00	cut	S/Sst : lt gy	-	0.02	0.34	0.06	0.09	22	378	-	-	301	0024-1L
1952.00	cut	S/Sst : lt gy	-	0.06	0.44	0.14	0.10	60	440	0.1	-	333	0027-1L
1970.00	cut	Sltst : lt ol gy	0.02	0.09	0.99	0.09	0.24	38	413	0.1	0.18	385	0030-4L
1978.00	cut	Sltst : ol gy	0.14	0.92	2.89	0.32	1.61	57	180	1.1	0.13	424	0031-3L
1985.00	cut	Sltst : ol gy	0.19	0.98	3.37	0.29	1.72	57	196	1.2	0.16	422	0032-3L
1991.00	cut	S/Sst : lt gy	0.05	0.17	0.51	0.33	0.38	45	134	0.2	0.23	427	0033-1L
2003.00	cut	Sltst : ol gy	0.11	0.55	2.20	0.25	1.35	41	163	0.7	0.17	423	0035-3L
2009.00	cut	Sltst : ol gy	0.21	1.15	3.56	0.32	0.92	125	387	1.4	0.15	425	0036-3L
2021.00	cut	Sltst : ol gy	0.15	0.79	3.51	0.23	1.83	43	192	0.9	0.16	427	0038-3L
2027.00	cut	S/Sst : drk gy to dsk y brn	0.10	0.60	1.26	0.48	1.63	37	77	0.7	0.14	430	0039-5L
2030.00	cut	Sltst : ol gy	0.14	0.74	4.94	0.15	2.36	31	209	0.9	0.16	422	0040-3L

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2042.00	cut	Sltst : ol gy	0.15	0.76	4.59	0.17	2.03	37	226	0.9	0.16	424	0041-3L
2048.00	cut	Sltst : ol gy	0.20	1.36	4.00	0.34	2.89	47	138	1.6	0.13	425	0042-3L
2054.00	cut	Sltst : ol gy	0.14	0.66	5.59	0.12	2.12	31	264	0.8	0.17	420	0043-3L
2066.00	cut	Sltst : ol gy	0.27	2.25	3.61	0.62	3.95	57	91	2.5	0.11	427	0045-3L
2078.00	cut	Sltst : ol gy	0.17	1.41	3.81	0.37	3.41	41	112	1.6	0.11	430	0047-3L
2090.00	cut	Sltst : ol gy	0.28	1.63	3.46	0.47	3.04	54	114	1.9	0.15	425	0049-3L
2108.00	cut	Sltst : ol gy	0.56	1.71	4.03	0.42	2.00	86	202	2.3	0.25	423	0051-3L
2120.00	cut	Ca : pl y brn	0.58	0.40	6.52	0.06	0.71	56	918	1.0	0.59	350	0053-4L
2132.00	cut	Sltst : ol gy	1.56	1.71	3.44	0.50	2.48	69	139	3.3	0.48	419	0055-3L
2144.00	cut	Sltst : ol gy	1.55	1.94	2.71	0.72	2.46	79	110	3.5	0.44	426	0057-3L
2156.00	cut	Sltst : ol gy to drk gy	1.57	1.45	2.78	0.52	1.99	73	140	3.0	0.52	426	0059-3L
2168.00	cut	Sltst : ol gy	1.28	1.10	2.48	0.44	1.41	78	176	2.4	0.54	430	0061-2L
2180.00	cut	Sltst : ol gy	1.57	1.62	3.18	0.51	1.91	85	166	3.2	0.49	431	0063-2L
2186.00	cut	Sltst : ol gy	1.27	0.87	3.00	0.29	1.34	65	224	2.1	0.59	428	0064-2L
2192.00	cut	S/Sst : w to lt gy	0.32	0.20	0.66	0.30	0.41	49	161	0.5	0.62	435	0065-2L

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2204.00	cut	S/Sst : w to lt gy to drk gy	0.12	0.09	0.32	0.28	0.16	56	200	0.2	0.57	428	0067-2L
2222.00	cut	S/Sst : w to lt gy to drk gy	0.35	0.24	0.65	0.37	0.49	49	133	0.6	0.59	425	0070-2L
2240.00	cut	S/Sst : w to lt gy	0.16	0.06	0.26	0.23	0.14	43	186	0.2	0.73	426	0073-2L
2258.00	cut	S/Sst : w to lt gy	0.26	0.21	0.32	0.66	0.34	62	94	0.5	0.55	433	0076-2L
2276.00	cut	Sltst : ol gy to lt ol gy	0.98	1.64	2.69	0.61	1.95	84	138	2.6	0.37	430	0079-3L
2288.00	cut	Sltst : ol gy to lt ol gy	0.94	0.86	1.87	0.46	1.22	70	153	1.8	0.52	431	0081-2L
2300.00	cut	Sltst : ol gy to lt ol gy	1.48	2.10	2.82	0.74	2.11	100	134	3.6	0.41	427	0083-1L
2312.00	cut	Sltst : ol gy to lt ol gy	0.79	1.14	2.44	0.47	1.51	75	162	1.9	0.41	431	0085-1L
2324.00	cut	Sltst : ol gy to lt ol gy	0.96	0.94	2.71	0.35	1.33	71	204	1.9	0.51	427	0087-1L
2336.00	cut	Sltst : ol gy to lt ol gy	0.84	0.75	1.77	0.42	0.92	82	192	1.6	0.53	428	0089-1L
2348.00	cut	Sltst : ol gy to lt ol gy	0.76	1.12	2.65	0.42	1.59	70	167	1.9	0.40	428	0091-1L
2360.00	cut	Sltst : ol gy to lt ol gy	1.78	3.33	2.68	1.24	3.48	96	77	5.1	0.35	431	0093-1L
2372.00	cut	Sltst : ol gy to lt ol gy	1.55	2.42	2.40	1.01	2.18	111	110	4.0	0.39	430	0095-1L
2390.00	cut	Sltst : ol gy to lt ol gy	1.37	2.66	2.82	0.94	2.32	115	122	4.0	0.34	427	0097-1L
2402.00	cut	Sltst : ol gy to lt ol gy	1.37	3.00	2.67	1.12	2.55	118	105	4.4	0.31	424	0099-1L

Table 2 : Rock-Eval table for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2414.00	cut	Sltst : ol gy to lt ol gy	1.32	2.84	3.29	0.86	2.20	129	150	4.2	0.32	430	0101-1L
2426.00	cut	Sltst : ol gy to lt ol gy	1.21	2.78	2.49	1.12	2.01	138	124	4.0	0.30	431	0103-1L
2432.00	cut	Sltst : ol gy to lt ol gy	1.21	5.25	2.56	2.05	2.58	203	99	6.5	0.19	422	0104-1L
2438.00	cut	Ca : lt ol gy to m drk gy	0.53	2.87	1.26	2.28	1.22	235	103	3.4	0.16	427	0105-2L
2450.00	cut	Sltst : ol gy to lt ol gy	1.23	4.14	2.71	1.53	2.47	168	110	5.4	0.23	423	0107-1L
2462.00	cut	Sltst : ol gy to lt ol gy	0.97	3.01	2.48	1.21	1.97	153	126	4.0	0.24	426	0109-1L
2474.00	cut	Sltst : ol gy to lt ol gy	1.10	2.52	2.30	1.10	1.83	138	126	3.6	0.30	428	0111-1L
2492.00	cut	Sltst : ol gy to lt ol gy	1.65	2.56	3.47	0.74	2.02	127	172	4.2	0.39	427	0114-1L
2510.00	cut	Sltst : ol gy to lt ol gy	0.83	1.01	2.54	0.40	1.18	86	215	1.8	0.45	422	0117-1L
2528.00	cut	S/Sst : w	0.33	0.25	2.01	0.12	0.34	74	591	0.6	0.57	383	0120-2L
2534.00	cut	Sltst : ol gy to lt ol gy	0.75	1.10	2.04	0.54	1.05	105	194	1.9	0.41	425	0121-1L
2552.00	cut	Sltst : w to lt ol gy	0.47	0.72	1.43	0.50	1.07	67	134	1.2	0.39	425	0124-1L
2570.00	cut	Sltst : w to lt ol gy	0.51	1.03	2.38	0.43	1.85	56	129	1.5	0.33	422	0127-1L
2576.00	cut	Coal : blk	5.84	74.80	8.18	9.14	40.43	185	20	80.6	0.07	436	0128-2L
2588.00	cut	Coal : blk	4.68	35.93	5.62	6.39	31.57	114	18	40.6	0.12	435	0130-2L

Table 2 : Rock-Eval table for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2600.00	cut	Coal : blk	7.03	54.68	8.12	6.73	47.54	115	17	61.7	0.11	436	0132-2L
2612.00	cut	Coal : blk	7.93	45.51	7.58	6.00	48.45	94	16	53.4	0.15	435	0134-1L
2624.00	cut	Sltst : w to lt ol gy	0.92	1.70	2.92	0.58	1.88	90	155	2.6	0.35	427	0136-2L
2636.00	cut	Coal : blk	6.41	64.71	8.30	7.80	70.33	92	12	71.1	0.09	433	0138-1L
2654.00	cut	S/Sst : w	0.46	0.27	0.71	0.38	0.41	66	173	0.7	0.63	422	0141-3L
2669.00	cut	Sltst : w to lt ol gy	0.94	1.83	2.29	0.80	2.39	77	96	2.8	0.34	428	0143-3L
2690.00	cut	S/Sst : w	0.23	0.17	0.53	0.32	0.20	85	265	0.4	0.57	420	0146-2L
2720.00	cut	S/Sst : w to lt gy	0.06	0.03	0.23	0.13	0.06	50	383	0.1	0.67	334	0150-2L
2741.00	cut	Sltst : lt ol gy	0.70	1.16	4.48	0.26	1.39	83	322	1.9	0.38	426	0154-4L
2777.00	cut	Sltst : lt ol gy to ol gy	1.43	2.33	2.84	0.82	1.85	126	154	3.8	0.38	428	0158-1L
2798.00	cut	Sltst : lt ol gy to ol gy	2.18	3.54	2.76	1.28	2.07	171	133	5.7	0.38	432	0161-1L
2831.00	cut	Sltst : lt ol gy to ol gy	1.78	2.36	5.74	0.41	1.91	124	301	4.1	0.43	426	0164-1L
2882.00	cut	S/Sst : w to y red to lt gy	0.79	0.21	2.96	0.07	0.36	58	822	1.0	0.79	375	0168-2L
2912.00	cut	Sh/Clst: lt gy to m gy, or gy	0.88	1.10	5.95	0.18	1.78	62	334	2.0	0.44	437	0172-3L
2930.00	cut	Sh/Clst: lt gy to m gy, or gy	0.81	1.28	5.97	0.21	1.90	67	314	2.1	0.39	430	0175-3L

Table 2 : Rock-Eval table for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2948.00	cut	Sh/Clst: lt gy to m gy, or gy	0.77	1.14	5.35	0.21	1.63	70	328	1.9	0.40	432	0178-3L
2966.00	cut	Sh/Clst: lt gy to m gy, or gy	1.00	1.22	6.70	0.18	1.82	67	368	2.2	0.45	435	0181-3L
2984.00	cut	S/Sst : w to lt gy, or gy	0.76	0.22	2.34	0.09	0.41	54	571	1.0	0.78	375	0184-1L
3029.00	cut	S/Sst : w to lt gy, or gy	0.18	0.12	1.00	0.12	0.28	43	357	0.3	0.60	433	0189-1L
3068.00	cut	Coal : blk	10.57	155.40	4.82	32.24	72.95	213	7	166.0	0.06	430	0195-3L
3086.00	cut	S/Sst : w to lt gy, or gy	0.42	0.50	1.52	0.33	0.64	78	238	0.9	0.46	377	0198-1L
3116.00	cut	S/Sst : w to lt gy	0.18	0.34	0.52	0.65	0.47	72	111	0.5	0.35	434	0203-1L
3146.00	cut	S/Sst : w to lt gy	0.14	0.09	0.78	0.12	0.15	60	520	0.2	0.61	436	0208-1L
3170.00	cut	Sh/Clst: dsk y brn to drk ol gy	0.01	0.10	2.20	0.05	0.12	83	1833	0.1	0.09	360	0212-4L
3176.00	cut	Sh/Clst: dsk y brn to drk ol gy to gn gy	-	0.05	0.40	0.13	0.11	45	364	0.1	-	301	0213-4L
3194.00	cut	S/Sst : w to lt gy	-	0.04	0.09	0.44	0.03	133	300	-	-	-	0216-1L
3218.00	cut	S/Sst : w to lt gy	0.22	0.11	0.68	0.16	0.15	73	453	0.3	0.67	336	0220-1L
3230.00	cut	Coal : blk	10.43	215.86	8.04	26.85	66.60	324	12	226.3	0.05	429	0222-4L
3248.00	cut	S/Sst : w	0.27	0.40	3.89	0.10	0.67	60	581	0.7	0.40	388	0225-1L

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
3272.00	cut	S/Sst : w	0.49	0.94	4.40	0.21	0.92	102	478	1.4	0.34	326	0229-1L
3290.00	cut	Sltst : pi to red brn	0.33	0.75	2.46	0.30	0.77	97	319	1.1	0.31	339	0232-4L
3308.00	cut	S/Sst : w	0.07	0.11	0.52	0.21	0.11	100	473	0.2	0.39	337	0235-1L
3338.00	cut	Sh/Clst: red brn	0.41	0.42	0.41	1.02	0.19	221	216	0.8	0.49	340	0239-3L
3375.00	cut	S/Sst : w	0.04	0.05	0.21	0.24	0.08	63	263	0.1	0.44	327	0245-1L

Table 3 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
1826.00	cut	Sh/Clst: drk gy	6.53	26.60	50.92	15.96	4.55	0014-3L
1841.80	ccp	S/Sst : lt gy	3.88	23.21	53.38	19.54	0.99	0001-1L
1846.70	ccp	S/Sst : lt y gy	2.50	30.34	46.81	20.35	1.60	0002-1L
1851.35	ccp	S/Sst : lt y gy	2.99	29.87	48.67	18.47	2.84	0003-1L
1866.30	ccp	Sltst : lt gy	13.65	26.09	46.05	14.22	2.97	0006-1L
2108.00	cut	Sltst : ol gy	12.64	28.43	45.73	13.20	1.71	0051-3L
2132.00	cut	Sltst : ol gy	15.42	24.24	46.59	13.46	1.71	0055-3L
2156.00	cut	Sltst : ol gy to drk gy	8.43	27.67	47.60	16.30	1.45	0059-3L
2186.00	cut	Sltst : ol gy	9.92	30.98	47.02	12.09	0.87	0064-2L
2300.00	cut	Sltst : ol gy to lt ol gy	11.35	26.78	46.36	15.51	2.10	0083-1L
2348.00	cut	Sltst : ol gy to lt ol gy	14.02	28.61	43.90	13.15	1.12	0091-1L
2390.00	cut	Sltst : ol gy to lt ol gy	12.47	23.81	47.01	16.36	2.66	0097-1L
2438.00	cut	Ca : lt ol gy to m drk gy	4.91	25.89	49.83	19.34	2.87	0105-2L
2474.00	cut	Sltst : ol gy to lt ol gy	5.73	24.31	51.07	18.58	2.52	0111-1L

Table 3 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
2534.00	cut	Sltst : ol gy to lt ol gy	7.91	24.90	49.69	17.34	1.10	0121-1L
2576.00	cut	Coal : blk	26.93	18.64	35.02	19.03	74.80	0128-2L
2654.00	cut	S/Sst : w	12.12	32.82	39.74	15.33	0.27	0141-3L
2798.00	cut	Sltst : lt ol gy to ol gy	7.95	23.11	50.04	18.47	3.54	0161-1L
2831.00	cut	Sltst : lt ol gy to ol gy	8.84	26.56	51.19	13.42	2.36	0164-1L
2882.00	cut	S/Sst : w to y red to lt gy	14.31	24.53	49.30	11.87	0.21	0168-2L
2912.00	cut	Sh/Clst: lt gy to m gy, or gy	12.95	26.62	47.78	12.65	1.10	0172-3L
2984.00	cut	S/Sst : w to lt gy, or gy	12.48	23.87	49.55	14.11	0.22	0184-1L
3086.00	cut	S/Sst : w to lt gy, or gy	8.93	61.08	24.32	5.54	0.50	0198-1L
3230.00	cut	Coal : blk	10.56	11.06	53.32	25.06	215.86	0222-4L
3338.00	cut	Sh/Clst: red brn	-	-	-	-	0.42	0239-3L

Table 4 a: Weight of EOM and Chromatographic Fraction for well NOCS 31/2-8

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
1841.80	ccp	S/Sst : lt gy	5.3	32.4	19.5	6.3	0.7	5.9	25.8	6.6	0.56	0001-1L
1846.70	ccp	S/Sst : lt y gy	6.0	73.5	36.8	11.7	0.9	24.1	48.5	25.0	1.04	0002-1L
1851.35	ccp	S/Sst : lt y gy	4.7	49.3	15.8	7.6	2.5	23.4	23.4	25.9	0.98	0003-1L
1866.30	com	Composite sample - see table 4 e	6.4	22.4	4.5	4.5	1.7	11.7	9.0	13.4	1.99	0247-0B
2186.00	com	Composite sample - see table 4 e	3.6	9.4	2.4	0.4	1.0	5.5	2.9	6.6	1.87	0248-0B
2348.00	com	Composite sample - see table 4 e	2.6	5.6	1.8	0.3	0.3	3.2	2.1	3.5	1.12	0249-0B
2414.00	com	Composite sample - see table 4 e	2.8	9.1	2.7	1.0	0.5	4.9	3.8	5.4	1.97	0250-0B
2492.00	com	Composite sample - see table 4 e	2.7	8.4	3.5	1.2	0.1	3.6	4.7	3.8	1.90	0251-0B
2552.00	com	Composite sample - see table 4 e	3.2	6.0	2.0	0.8	0.4	2.9	2.7	3.3	1.09	0252-0B
2612.00	com	Composite sample - see table 4 e	2.5	69.7	11.1	8.9	31.0	18.7	20.0	49.7	60.00	0253-0B
2798.00	com	Composite sample - see table 4 e	2.4	7.8	0.9	1.4	0.9	4.7	2.3	5.6	1.47	0254-0B
3230.00	com	Composite sample - see table 4 e	0.8	35.2	5.9	2.0	23.4	3.9	7.9	27.3	52.20	0256-0B

Table 4 b: Concentration of EOM and Chromatographic Fraction (wt ppm rock) for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
1841.80	ccp	S/Sst : lt gy	6101	3681	1177	131	1111	4858	1242	0001-1L
1846.70	ccp	S/Sst : lt y gy	12209	6104	1945	149	4009	8049	4159	0002-1L
1851.35	ccp	S/Sst : lt y gy	10400	3335	1607	527	4930	4943	5457	0003-1L
1866.30	com	Composite sample - see table 4 e	3472	694	694	263	1820	1389	2083	0247-0B
2186.00	com	Composite sample - see table 4 e	2618	668	125	278	1545	793	1824	0248-0B
2348.00	com	Composite sample - see table 4 e	2178	700	116	116	1245	817	1361	0249-0B
2414.00	com	Composite sample - see table 4 e	3204	950	369	176	1707	1320	1883	0250-0B
2492.00	com	Composite sample - see table 4 e	3099	1273	442	36	1346	1715	1383	0251-0B
2552.00	com	Composite sample - see table 4 e	1857	603	232	123	897	835	1021	0252-0B
2612.00	com	Composite sample - see table 4 e	27880	4456	3544	12400	7479	8000	19880	0253-0B
2798.00	com	Composite sample - see table 4 e	3277	378	567	378	1953	945	2331	0254-0B
3230.00	com	Composite sample - see table 4 e	45128	7576	2525	30000	5025	10102	35025	0256-0B

Table 4 c: Concentration of EOM and Chromatographic Fraction (mg/g TOC(e)) for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
1841.80	ccp	S/Sst : lt gy	1089.59	657.45	210.18	23.54	198.41	867.64	221.95	0001-1L
1846.70	ccp	S/Sst : lt y gy	1173.97	586.99	187.04	14.38	385.57	774.02	399.95	0002-1L
1851.35	ccp	S/Sst : lt y gy	1061.31	340.35	164.04	53.82	503.10	504.39	556.92	0003-1L
1866.30	com	Composite sample - see table 4 e	174.52	34.90	34.90	13.24	91.47	69.81	104.71	0247-0B
2186.00	com	Composite sample - see table 4 e	140.02	35.75	6.70	14.90	82.67	42.45	97.57	0248-0B
2348.00	com	Composite sample - see table 4 e	194.55	62.53	10.42	10.42	111.17	72.96	121.60	0249-0B
2414.00	com	Composite sample - see table 4 e	162.65	48.26	18.77	8.94	86.69	67.03	95.62	0250-0B
2492.00	com	Composite sample - see table 4 e	163.14	67.00	23.31	1.94	70.89	90.31	72.83	0251-0B
2552.00	com	Composite sample - see table 4 e	170.42	55.39	21.30	11.36	82.37	76.69	93.73	0252-0B
2612.00	com	Composite sample - see table 4 e	46.47	7.43	5.91	20.67	12.47	13.33	33.13	0253-0B
2798.00	com	Composite sample - see table 4 e	222.95	25.72	38.59	25.72	132.91	64.31	158.63	0254-0B
3230.00	com	Composite sample - see table 4 e	86.45	14.52	4.84	57.47	9.63	19.35	67.10	0256-0B

Table 4 d: Composition of material extracted from the rock (%) for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	Sat	Aro	Asph	NSO	HC	Non-HC	Sat	HC	Sample
			EOM	EOM	EOM	EOM	EOM	EOM	EOM	Aro	
1841.80	ccp	S/Sst : lt gy	60.34	19.29	2.16	18.21	79.63	20.37	312.80	390.91	0001-1L
1846.70	ccp	S/Sst : lt y gy	50.00	15.93	1.22	32.84	65.93	34.07	313.83	193.53	0002-1L
1851.35	ccp	S/Sst : lt y gy	32.07	15.46	5.07	47.40	47.53	52.47	207.48	90.57	0003-1L
1866.30	com	Composite sample - see table 4 e	20.00	20.00	7.59	52.41	40.00	60.00	100.00	66.67	0247-0B
2186.00	com	Composite sample - see table 4 e	25.53	4.79	10.64	59.04	30.32	69.68	533.33	43.51	0248-0B
2348.00	com	Composite sample - see table 4 e	32.14	5.36	5.36	57.14	37.50	62.50	600.00	60.00	0249-0B
2414.00	com	Composite sample - see table 4 e	29.67	11.54	5.49	53.30	41.21	58.79	257.14	70.09	0250-0B
2492.00	com	Composite sample - see table 4 e	41.07	14.29	1.19	43.45	55.36	44.64	287.50	124.00	0251-0B
2552.00	com	Composite sample - see table 4 e	32.50	12.50	6.67	48.33	45.00	55.00	260.00	81.82	0252-0B
2612.00	com	Composite sample - see table 4 e	15.98	12.71	44.48	26.83	28.69	71.31	125.73	40.24	0253-0B
2798.00	com	Composite sample - see table 4 e	11.54	17.31	11.54	59.62	28.85	71.15	66.67	40.54	0254-0B
3230.00	com	Composite sample - see table 4 e	16.79	5.60	66.48	11.14	22.39	77.61	300.00	28.84	0256-0B

Depth unit of measure: m

NOTE: Depths shown in results tables 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>
1826.00	1832.00	com	0246-0 is composed of:	1826.00	cut	Sh/Clst: drk gy, mic	014-3
				1832.00	cut	Sh/Clst: drk gy, mic	015-3
1861.34	1866.30	com	0247-0 is composed of:	1861.34	ccp	Sltst : lt gy	005-1
				1866.30	ccp	Sltst : lt gy, carb, mic	006-1
2132.00	2186.00	com	0248-0 is composed of:	2132.00	cut	Sltst : ol gy, calc	055-3
				2144.00	cut	Sltst : ol gy, calc	057-3
				2156.00	cut	Sltst : ol gy to drk gy, calc	059-3
				2168.00	cut	Sltst : ol gy, calc	061-2
				2180.00	cut	Sltst : ol gy, calc	063-2
				2186.00	cut	Sltst : ol gy, calc	064-2
2276.00	2348.00	com	0249-0 is composed of:	2276.00	cut	Sltst : ol gy to lt ol gy, calc	079-3
				2300.00	cut	Sltst : ol gy to lt ol gy, calc	083-1
				2312.00	cut	Sltst : ol gy to lt ol gy, calc	085-1
				2336.00	cut	Sltst : ol gy to lt ol gy, calc	089-1
				2348.00	cut	Sltst : ol gy to lt ol gy, calc	091-1
2360.00	2414.00	com	0250-0 is composed of:	2360.00	cut	Sltst : ol gy to lt ol gy, calc	093-1
				2390.00	cut	Sltst : ol ov to lt ol ov, calc	097-1
				2414.00	cut	Sltst : ol gy to lt ol gy, calc	101-1

Depth unit of measure: m

NOTE: Depths shown in results tables correspond to the composite samples' lower depth.

Upper depth	Lower depth	Typ	Sample	Depth	Typ	Lithology	Sample
2432.00	2492.00	com	0251-0 is composed of:	2432.00	cut	Sltst : ol gy to lt ol gy, calc	104-1
				2462.00	cut	Sltst : ol gy to lt ol gy, calc	109-1
				2492.00	cut	Sltst : ol gy to lt ol gy, calc	114-1
2534.00	2552.00	com	0252-0 is composed of:	2534.00	cut	Sltst : ol gy to lt ol gy, calc	121-1
				2552.00	cut	Sltst : w to lt ol gy, calc, carb	124-1
2576.00	2612.00	com	0253-0 is composed of:	2576.00	cut	Coal : blk	128-2
				2612.00	cut	Coal : blk	134-1
2777.00	2798.00	com	0254-0 is composed of:	2777.00	cut	Sltst : lt ol gy to ol gy, calc	158-1
				2798.00	cut	Sltst : lt ol gy to ol gy, calc	161-1
3068.00	3230.00	com	0256-0 is composed of:	3068.00	cut	Coal : blk	195-3
				3230.00	cut	Coal : blk	222-4

Table 5 : Saturated Hydrocarbon Ratios for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	Pristane	Pristane	Pristane + Phytane	Phytane	CPI	Sample
			nC17	Phytane	nC17 + nC18	nC18		
1841.80	ccp	S/Sst : lt gy	0.59	1.76	0.45	0.32	1.13	0001-1L
1846.70	ccp	S/Sst : lt y gy	0.68	1.66	0.56	0.43	1.11	0002-1L
1851.35	ccp	S/Sst : lt y gy	0.49	2.18	0.48	0.47	-	0003-1L
1866.30	com	bulk	0.69	2.37	0.62	0.49	2.25	0247-0B
2186.00	com	bulk	0.51	1.20	0.47	0.44	1.28	0248-0B
2348.00	com	bulk	0.64	1.32	0.57	0.50	1.16	0249-0B
2414.00	com	bulk	0.62	1.21	0.57	0.53	1.26	0250-0B
2492.00	com	bulk	0.58	1.25	0.55	0.51	1.13	0251-0B
2552.00	com	bulk	0.65	1.18	0.60	0.54	1.21	0252-0B
2612.00	com	bulk	1.26	3.23	1.03	0.64	1.95	0253-0B
2798.00	com	bulk	0.64	1.80	0.55	0.43	1.46	0254-0B
3230.00	com	bulk	0.57	1.22	0.52	0.47	1.12	0256-0B

Table 6 : Aromatic Hydrocarbon Ratios for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	Rc	DBT/P	4/1MDBT	(3+2) /1MDBT	Sample
1841.80	ccp	S/Sst : lt gy	-	-	-	1.37	0.90	1.12	0.94	-	-	-	0001-1L
1846.70	ccp	S/Sst : lt y gy	-	-	-	0.95	0.80	0.83	0.88	0.34	-	-	0002-1L
1851.35	ccp	S/Sst : lt y gy	-	-	-	1.00	0.86	0.96	0.92	-	-	-	0003-1L
1866.30	com	bulk	1.01	2.12	0.35	1.29	0.67	0.90	0.80	-	-	-	0247-0B
2186.00	com	bulk	0.97	1.34	0.14	1.15	0.76	0.86	0.86	-	-	-	0248-0B
2348.00	com	bulk	1.17	1.51	0.31	1.01	0.72	0.78	0.83	-	-	-	0249-0B
2414.00	com	bulk	1.17	1.47	0.29	1.04	0.71	0.81	0.83	0.37	9.54	1.50	0250-0B
2492.00	com	bulk	1.04	1.26	0.17	1.09	0.80	0.88	0.88	0.50	8.30	1.22	0251-0B
2552.00	com	bulk	0.95	1.39	0.16	1.03	0.74	0.82	0.84	0.40	11.82	1.67	0252-0B
2612.00	com	bulk	1.25	1.37	0.35	0.66	0.43	0.45	0.66	-	-	-	0253-0B
2798.00	com	bulk	0.97	1.40	0.09	1.02	0.45	0.54	0.67	-	-	-	0254-0B
3230.00	com	bulk	1.07	1.28	0.11	1.32	0.62	0.74	0.77	-	-	-	0256-0B

Table 7 : Thermal Maturity Data for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation	Spore Fluorescence Colour	SCI	T _{max} (°C)	Sample
1808.00	cut Sh/Clst: m gy	-	-	-	-	4.0-4.5	430	0012-1L
1826.00	cut Sh/Clst: drk gy	-	-	-	-	4.0(??)	420	0014-3L
1832.00	cut bulk	0.55	3	0.03	4-5	-	-	0015-0B
1866.30	ccp Sltst : lt gy	-	-	-	-	3.5-4.0	409	0006-1L
1881.00	ccp bulk	0.50	3	0.02	4-5	-	-	0009-0B
1978.00	cut Sltst : ol gy	-	-	-	-	3.5-4.0	424	0031-3L
1985.00	cut bulk	0.34	14	0.02	4 (??)	-	-	0032-0B
2030.00	cut Sltst : ol gy	-	-	-	-	4.0	422	0040-3L
2090.00	cut bulk	0.41	19	0.03	4-5 (?)	-	-	0049-0B
2090.00	cut Sltst : ol gy	-	-	-	-	4.0-4.5	425	0049-3L
2180.00	cut bulk	0.43	17	0.05	5	-	-	0063-0B
2180.00	cut Sltst : ol gy	-	-	-	-	4.5	431	0063-2L
2288.00	cut Sltst : ol gy to lt ol gy	-	-	-	-	4.5-5.0	431	0081-2L
2312.00	cut bulk	0.37	2	0.01	4-5 (?)	-	-	0085-0B

Depth unit of measure: m

Depth	Typ	Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation	Spore Fluorescence Colour	SCI	T _{max} (°C)	Sample
2348.00	cut	Sltst : ol gy to lt ol gy	-	-	-	-	4.5	428	0091-1L
2402.00	cut	Sltst : ol gy to lt ol gy	-	-	-	-	4.5-5.0	424	0099-1L
2414.00	cut	bulk	0.44	18	0.06	5	-	-	0101-0B
2474.00	cut	Sltst : ol gy to lt ol gy	-	-	-	-	5.0	428	0111-1L
2492.00	cut	bulk	0.50	3	0.11	5	-	-	0114-0B
2552.00	cut	Sltst : w to lt ol gy	-	-	-	-	5.0	425	0124-1L
2594.00	cut	bulk	0.60	25	0.05	4-5	-	-	0131-0B
2612.00	cut	Coal : blk	-	-	-	-	5.0	435	0134-1L
2669.00	cut	bulk	0.59	19	0.05	6	-	-	0143-0B
2798.00	cut	bulk	0.59	10	0.03	4-5	-	-	0161-0B
2798.00	cut	Sltst : lt ol gy to ol gy	-	-	-	-	5.0	432	0161-1L
2930.00	cut	bulk	0.54	9	0.08	5 (?)	-	-	0175-0B
2966.00	cut	bulk	0.52	14	0.05	5-6	-	-	0181-0B
2966.00	cut	Sh/Clst: lt gy to m gy, or gy	-	-	-	-	5.5	435	0181-3L

Table 7 : Thermal Maturity Data for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation	Spore Fluorescence Colour	SCI	T _{max} (°C)	Sample
3068.00	cut bulk	0.56	18	0.09	5-6	-	-	0195-0B
3068.00	cut Coal : blk	-	-	-	-	3.0-5.0	430	0195-3L
3170.00	cut Sh/Clst: dsk y brn to drk ol gy	-	-	-	-	NDP	360	0212-4L
3230.00	cut bulk	0.44	18	0.06	6-7 (?)	-	-	0222-0B
3230.00	cut Coal : blk	-	-	-	-	3.0-5.0	429	0222-4L
3290.00	cut bulk	NDP	-	-	5 (?)	-	-	0232-0B
3338.00	cut Sh/Clst: red brn	-	-	-	-	NDP	340	0239-3L

Table 8 : Visual Kerogen Composition Data for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	L I P T %	A m r L t	L o p D e l	S i p / P o l	C u e l l	R e s i n e	A l g a l	D i n o r l	A c c o r d i n g L	I N E R T %	F u s n	S e m F u s	I n t e n s i t y	M e t r o l o g y	S c l e r o l i t y	V I T R I N E %	T e l l u r i n e	C o l l e c t i o n	V o l u m e	A m o u n t	B i o g e n i c	V V Sample	
1808.00	cut	Sh/Clst: m gy	40	*	**	*	*	*	*	*		10		*					50	*	**				0012-1L
1826.00	cut	Sh/Clst: drk gy	45	*	**	*		**	*	*		5	*	**					50	*	**	**			0014-3L
1866.30	ccp	Sltst : lt gy	10			*	*	**				5	*	*					85	**	**	*	*		0006-1L
1978.00	cut	Sltst : ol gy	15		*	*	**	**	*			10		*	**				75	**	*	*			0031-3L
2030.00	cut	Sltst : ol gy	30		**	*		**	*	*		35	**	*	**				35	*	*	**			0040-3L
2090.00	cut	Sltst : ol gy	20		*	*	*	**	*			20		*					60	*	**				0049-3L
2180.00	cut	Sltst : ol gy	40		**	*		**	*			10		*					50	**	*	**			0063-2L
2288.00	cut	Sltst : ol gy to lt ol gy	40		**	*	*	**	*			5		*					55	*	*				0081-2L
2348.00	cut	Sltst : ol gy to lt ol gy	50			*	*	**				5		*					45	**	**	*			0091-1L
2402.00	cut	Sltst : ol gy to lt ol gy	65	*	**	*	**	**	*			5		*					30	*	*	**	*		0099-1L
2474.00	cut	Sltst : ol gy to lt ol gy	60	*	*	**	**	**	*			15		*	*				25	*					0111-1L
2552.00	cut	Sltst : w to lt ol gy	25	*	**	*	*	**				10	*	*					65	**	*				0124-1L

Table 8 : Visual Kerogen Composition Data for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	L	A	L	S	C	D			I	S	I	M	S	V	C	V	A	Sample					
			I	m	i	p	u	R	A	i	A	B	N	F	e	n	i	c	B		I	T	e	l	D
			P	r	D	P	i	s	g	o	r	t	R	s	F	D	r	e	t	R	l	i	e	V	V
			T	r	D	P	i	s	g	o	r	t	R	s	F	D	r	e	t	R	l	i	e	V	V
			%	L	t	l	l	n	e	l	t	L	%	n	s	t	n	o	I	%	n	n	t	V	V
2612.00	cut	Coal : blk	5	*	*			*				40	*	**					55	*	*				0134-1L
2798.00	cut	Sltst : lt ol gy to ol gy	80	**	*	*	*	*	*	*		5			*				15	*		*			0161-1L
2966.00	cut	Sh/Clst: lt gy to m gy, or gy	50		*	*	**	**	*			15	*	*	*				35	*					0181-3L
3068.00	cut	Coal : blk	TR		*	*		*				5		*					95	**	*				0195-3L
3170.00	cut	Sh/Clst: dsk y brn to drk ol gy	NDP									NDP							NDP						0212-4L
3230.00	cut	Coal : blk	TR		*	*		*				TR		*					100	**	*				0222-4L
3338.00	cut	Sh/Clst: red brn	NDP									NDP							NDP						0239-3L

Depth unit of measure: m

Depth	Typ	Lithology	EOM/Oil	Saturated	Aromatic	NSO	Asphaltenes	Kerogen	Sample
1846.70	ccp		-27.91	-29.09	-27.54	-27.87	-27.90	-	0002-1L
1851.35	ccp		-28.67	-29.21	-27.77	-28.10	-27.51	-	0003-1L
2186.00	com	Composite sample	-	-27.72	-26.66	-27.16	-25.52	-	0248-0B
2414.00	com	Composite sample	-	-28.24	-26.54	-26.96	-25.38	-	0250-0B
2612.00	com	Composite sample	-25.33	-27.51	-25.97	-25.65	-25.02	-	0253-0B
2798.00	com	Composite sample	-	-28.01	-27.34	-28.01	-27.87	-	0254-0B

Table 9B : Tabulation of cv values from carbon isotope data for well NOCS 31/2-8

Depth unit of measure: m

Depth	Typ	Lithology	Saturated	Aromatic	cv value	Sample
1846.70	ccp		-29.09	-27.54	0.81	0002-1L
1851.35	ccp		-29.21	-27.77	0.60	0003-1L
2186.00	com	Composite sample	-27.72	-26.66	-0.70	0248-0B
2414.00	com	Composite sample	-28.24	-26.54	0.88	0250-0B
2612.00	com	Composite sample	-27.51	-25.97	0.30	0253-0B
2798.00	com	Composite sample	-28.01	-27.34	-1.48	0254-0B

Table 10A: Variation in Triterpane Distribution for Well NOCS 31/2-8

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%		
1846.70	S/Sst	0.51	0.34	0.09		0.39	0.28	0.21	0.24	0.60	0.19	0.06	0.90	0.29	0.12	59.18		0002-1
1851.35	S/Sst	0.35	0.26	1.00		-	1.00	-	-	0.74	1.00	-	-	1.00	0.20	-		0003-1
2186.00	sltst	3.47	0.78	0.28		0.72	0.42	0.07	1.95	2.69	0.66	0.87	0.81	0.42	0.24	-		0248-0
2414.00	sltst	2.54	0.72	0.22		0.74	0.43	0.09	0.69	0.93	0.41	0.54	0.80	0.44	0.28	40.08		0250-0
2612.00	Coal	-	1.00	0.29		0.55	0.36	0.04	-	-	-	0.01	0.67	0.37	0.54	49.75		0253-0
2798.00	sltst	-	1.00	0.42		1.04	0.51	0.07	-	-	-	0.14	0.78	0.51	0.27	61.25		0254-0

Table 10B: Variation in Sterane Distribution (peak height) for Well NOCS 31/2-8

Depth unit of measure: m

Depth	Lithology	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Ratio6	Ratio7	Ratio8	Ratio9	Ratio10	Sample
1846.70	S/Sst	0.84	44.55	74.27	1.02	0.76	0.20	0.14	0.59	0.80	2.60	0002-1
1851.35	S/Sst	0.82	57.04	70.79	1.04	0.68	0.35	0.24	0.55	1.33	2.82	0003-1
2186.00	Sltst	0.84	23.00	70.74	1.22	0.84	0.82	0.76	0.55	0.30	1.57	0248-0
2414.00	Sltst	0.75	17.88	69.42	1.07	0.86	0.60	0.50	0.53	0.22	1.38	0250-0
2612.00	Coal	1.00	12.22	57.21	0.14	0.85	0.11	0.10	0.40	0.14	0.76	0253-0
2798.00	Sltst	-	-	-	-	-	-	-	-	-	-	0254-0

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: $u + v / u + v + i + m + n + q + r + s + t$ Ratio8: $r + s / q + r + s + t$ Ratio9: q / t Ratio10: $r + s / t$

Depth unit of measure: m

Depth	Lithology	p	q	r	s	t	a	b	z	c	Sample
		x	d	e	f	g	h	i	j1		
		j2	k1	k2	l1	l2	m1	m2			
1846.70	S/Sst	125.07	86.16	64.43	88.01	43.74	326.25	166.98	357.40	595.20	0002-1
		312.25	89.62	1506.93	167.63	565.76	367.45	50.61	407.88		
		281.38	377.25	251.49	281.22	171.52	226.28	145.09			
1851.35	S/Sst	136.12	136.85	82.87	106.38	60.16	344.83	121.52	248.73	336.97	0003-1
		268.12	68.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		0.00	118.45	34.48	160.30	91.53	141.22	85.30			
2186.00	Sltst	66.03	32.44	14.88	10.39	6.76	5.29	18.37	72.46	26.93	0248-0
		2.49	6.59	37.21	8.88	15.21	18.99	6.48	0.00		
		0.00	0.00	0.00	0.00	0.00	0.00	0.00			
2414.00	Sltst	94.67	48.64	26.70	25.02	10.88	12.20	31.02	62.43	67.02	0250-0
		8.36	21.21	90.53	22.46	39.25	45.20	20.54	15.70		
		23.47	57.11	79.97	6.86	6.60	4.20	6.62			
2612.00	Coal	18.56	10.37	4.89	15.83	3.03	0.00	459.78	0.00	412.75	0253-0
		29.54	255.90	746.92	371.20	444.04	328.89	229.65	175.08		
		176.85	47.07	56.74	22.90	23.57	0.00	0.00			

Depth unit of measure: m

Depth	Lithology	p	q	r	s	t	a	b	z	c	Sample
		x	d	e	f	g	h	i	j1		
		j2	k1	k2	l1	l2	m1	m2			
2798.00	Sltst	3.76	1.99	0.00	1.92	0.92	0.00	12.86	0.00	14.61	0254-0
		0.95	3.92	14.04	3.86	6.02	3.60	1.96	3.24		
		2.05	1.74	1.11	0.00	0.00	0.00	0.00			

Table 10D: Raw GCMS sterane data (peak height) for Well NOCS 31/2-8

Depth unit of measure: m

Depth	Lithology	u	v	a	b	c	d	e	f	g	Sample
		h	i	j	k	l	m	n	o		
		p	q	r	s	t					
1846.70	S/Sst	178.35	105.02	498.82	331.27	125.18	317.78	326.54	241.37	228.57	0002-1
		580.62	246.50	98.03	346.29	141.70	108.90	179.02	210.55		
		122.67	208.81	385.25	291.22	259.86					
1851.35	S/Sst	314.73	131.65	585.95	404.33	182.36	298.38	334.98	238.41	218.81	0003-1
		577.03	245.34	128.49	461.38	171.71	139.41	201.47	260.60		
		64.60	214.71	265.69	190.58	161.74					
2186.00	sltst	71.22	21.45	18.39	8.12	3.11	3.10	4.14	4.47	5.60	0248-0
		14.79	5.44	3.61	5.61	3.47	0.00	2.95	2.45		
		2.19	2.18	5.73	5.73	7.30					
2414.00	sltst	89.83	31.14	53.41	31.70	10.67	17.73	20.84	15.97	19.75	0250-0
		53.58	22.46	17.96	32.30	7.00	3.22	13.11	13.43		
		7.92	6.72	28.13	14.53	30.87					
2612.00	Coal	27.04	3.75	8.26	5.22	3.94	12.12	14.18	5.91	13.61	0253-0
		87.45	0.00	0.00	60.94	31.30	0.00	29.77	2.80		
		23.18	17.42	67.02	28.27	125.15					

Depth unit of measure: m

Depth	Lithology	u	v	a	b	c	d	e	f	g	Sample
		h	i	j	k	l	m	n	o		
		p	q	r	s	t					
2798.00	sltst	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 0254-0
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Depth unit of measure: m

Depth	Lithology	Ratio1	Ratio2	Sample
1846.70	S/Sst	0.41	0.94	0002-1
1851.35	S/Sst	0.38	0.92	0003-1
2186.00	Sltst	0.79	0.52	0248-0
2414.00	Sltst	0.78	0.42	0250-0
2612.00	Coal	0.79	0.67	0253-0
2798.00	Sltst	0.68	0.86	0254-0

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

Ratio2: $g1 / g1 + I1$

Table 10F: Variation in Triaromatic Sterane Distribution for Well NOCS 31/2-8

Depth unit of measure: m

Depth	Lithology	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Sample
1846.70	S/Sst	0.44	0.44	0.25	0.22	0.34	0002-1
1851.35	S/Sst	0.57	0.58	0.34	0.31	0.44	0003-1
2186.00	Sltst	0.81	0.74	0.61	0.60	0.76	0248-0
2414.00	Sltst	0.79	0.67	0.52	0.56	0.67	0250-0
2612.00	Coal	0.17	0.10	0.10	0.08	0.37	0253-0
2798.00	Sltst	0.18	0.28	0.17	0.08	0.31	0254-0

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: $a1 / a1 + d1$

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>
1846.70	S/Sst	0.38	0.32	0.21	0.19	0002-1
1851.35	S/Sst	0.40	0.17	0.20	0.14	0003-1
2186.00	Sltst	0.68	0.37	0.31	0.26	0248-0
2414.00	Sltst	0.51	0.27	0.25	0.19	0250-0
2612.00	Coal	0.37	0.18	0.06	0.05	0253-0
2798.00	Sltst	0.44	0.20	0.09	0.06	0254-0

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

Table 10H: Raw GCMS trioaromatic sterane data (peak height) for Well NOCS 31/2-8

Depth unit of measure: m

Depth	Lithology	a1	b1	c1	d1	e1	f1	g1	Sample
1846.70	S/Sst	324.28	327.26	213.71	622.76	416.54	319.92	413.39	0002-1
1851.35	S/Sst	688.47	719.95	317.55	874.57	569.02	436.19	515.64	0003-1
2186.00	Sltst	32.28	21.02	2.38	9.94	9.22	4.87	7.45	0248-0
2414.00	Sltst	215.46	116.49	34.50	107.14	60.60	51.81	56.88	0250-0
2612.00	Coal	11.95	6.26	1.82	20.12	63.29	13.55	56.82	0253-0
2798.00	Sltst	11.29	20.46	6.42	25.62	59.26	17.07	51.36	0254-0

Table 10I: Raw GCMS monoaromatic sterane data (peak height) for Well NOCS 31/2-8

Depth unit of measure: m

Depth	Lithology	a1	b1	c1	d1	e1	f1	g1	h1	i1	Sample
1846.70	S/Sst	188.79	143.33	199.52	151.29	308.71	59.41	421.22	211.14	25.46	0002-1
1851.35	S/Sst	205.33	64.89	296.56	161.78	308.03	63.74	520.60	262.53	46.90	0003-1
2186.00	Sltst	33.99	9.54	5.71	5.00	16.18	3.33	58.90	30.33	6.95	0248-0
2414.00	Sltst	198.24	71.62	105.23	93.16	190.95	43.49	394.41	222.28	77.56	0250-0
2612.00	Coal	25.47	9.18	4.97	0.00	42.63	18.83	360.55	147.56	28.47	0253-0
2798.00	Sltst	16.82	5.16	9.99	0.00	21.25	13.87	144.05	146.47	8.69	0254-0