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Geochemical Report on NOCS Well 2/7-30

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Chapter 1

INTRODUCTION

Core samples covering the interval from 10302 ft to 10748 ft, with a non-sampled interval from 10623 - 10658 ft, were analysed. Sample intervals are generally every 3 ft, except between 10372 ft and 10405 ft where sampling intervals varied from 1 to 9 ft. The well section under study was drilled using an ester-based oil mud.

1.1 General Comments

One hundred and thirty-nine core chip samples were supplied by Phillips Norway, Stavanger. The core chips were analysed after cleansing of any superficial contamination. The report is presented, chapter and section-wise, in chronological order of analyses, starting from the first screening analyses.

1.2 Analytical Program

Analysis type	No of sample	Figures	Tables
Lithology description	139	1	1
TOC	139	2	1,2
Rock-Eval pyrolysis	139	3,4,5	2
Iatroscan	139	4,5	3
Thermal extraction GC (GHM, S_1)	29	6a-d	
Pyrolysis GC (GHM, S_2)	29	7a-f	4
Thermal Extraction - GC - MS	15	8a-g	5a-f

Experimental Procedures

Rock-Eval Pyrolysis

This analysis is performed by using a Rock-Eval II Pyrolyser. Approximately 100 mg crushed whole rock is analysed. The sample is first heated at 300°C for three min in an atmosphere of helium to release the free hydrocarbons present (S1 peak) and then pyrolysed by increasing the temperature from 300°C to 600°C (temp. gradient 25°C/min) (S2 peak). Both the S1 and S2 yields are measured using a flame ionization detector (FID). In the temperature interval between 300°C and 390°C, the released gases are split and a proportion passed through a carbon dioxide trap, which is connected to a thermal conductivity detector (TCD). The value obtained from the TCD corresponds to the amount of oxygen contained in the kerogen of the sample and is reported as the S3 peak.

The Rock-Eval II Pyrolyser also analyses the TOC of each sample during the normal run of the instrument.

Thermal Extraction/Pyrolysis Gas Chromatography

The instrument used for this analysis is a Varian 3400 Gas Chromatograph interfaced to a pyrolysis oven (the pyrolyser). Up to 15 mg of whole rock sample is loaded on the pyrolyser and heated isothermally, at 300°C, for 4 min, during which time thermal extraction of the free hydrocarbons occurs (equivalent to the S1 peak of the Rock-Eval). The released gases pass to a 25 m OV1 column with a liquid nitrogen-cooled trap.

After 4 min the pyrolysis oven is temperature programmed up to 530°C, at a rate of 37°C/min, causing bound hydrocarbons to be released from the kerogen (equivalent to the S2 peak of the Rock-Eval). The released gases pass to a 25 m OV1 column with a liquid nitrogen-cooled trap.

The temperature program of the gas chromatograph oven, in which the columns are housed is -10°C to 290°C at a rate of 6°C/min.
Both the columns are linked to a FID.

Iatroscan

Saturates, aromatics, polars and asphaltenes were qualitatively and quantitatively assessed using Iatroscan TLC-FID and employing Chromarod S-III rods. Approximately 3 - 4 drops of oil was accurately weighed and dissolved in about 3 ml of solvent, to get a strength of about 10 - 15 mg/ml. 2 ul of this solution was spotted on the rod (rods are pre-activated) using an auto-spotter with continuous blowing using nitrogen. The rods are first developed using n-hexane (35 mins) as the mobile phase followed by toluene (14 mins) and DCM-MeOH (4 mins), with 2 minutes air drying between every stage. The developed rods are then introduced in the pre-heated oven (60°C) for 90 seconds. They are analysed using Iatroscan and data collected and processed using Multichrom data system.

Thermal Extraction - Gas Chromatography - Mass Spectrometry (GHM-MS)

The GHM–MS comprises a GHM injector installed onto a modified Varian Model 3400. The gas chromatograph is coupled via a heated (300 °C) transfer line directly to a Vestec model 201 quadrupole mass spectrometer in which a differentially–pumped vacuum system is employed. A capillary column of 0.32 mm i.d. is used, coated with a 0.5µ film thickness of OV 1 methyl silicone stationary phase. The column is temperature–programmed from 30 °C up to 300 °C at 4 °C/minute with an initial isothermal time of 5 minutes to allow the thermal extraction (desorption) to take place and a final isothermal time of 10 minutes to allow complete elution of high molecular weight compounds. The capillary column is fed directly into the ion source of the mass spectrometer to within 5 mm of the ion beam. The ion source of the MS is a low volume, high sensitivity type operating at 70 eV ionisation energy and 200 µA trap current and a temperature of 260 °C. The electron beam is collimated by two permanent magnets. The ions are detected by a Chaneltron electron multiplier, the output of which is fed to a Technivent mass spectrometry data system employing a Compaq model 286 IBM–compatible computer.

Ions monitored were those which were useful in identifying terpanes, steranes and certain aromatic compounds.

Saturated Fractions

Terpanes

The most commonly used fragment ions for detection of terpanes are M/Z 163 for detection of 25,28,30 trisnormoretane or 25,28,30 trisnorhopane, M/Z 177 for detection of demethylated hopanes or moretanes, M/Z 191 for detection of tricyclic, tetracyclic- and pentacyclic terpanes and M/Z 205 for methylated hopanes or moretanes.

Steranes

The most commonly used fragment ions for detection of steranes are M/Z 217 for detection of rearranged and normal steranes

Aromatic Fractions

Alkyl-substituted Benzenes

The M/Z 106 fragment ion is often used to detect the alkyl-substituted benzenes. It is especially useful for the detection of di-substituted benzenes. M/Z 134 can also be used for the detection of C_4-alkylbenzenes, but benzothiophene will also give a signal with this fragment ion.

Phenanthrenes

Phenanthrene is detected using the M/Z 178 fragment ion. Anthracene will, if present, also give a signal in the M/Z 178 fragment ion. Methyl-substituted phenanthrenes give signals in the M/Z 192 fragment ion, while the M/Z 206 fragment ion shows the dimethyl-substituted phenanthrenes and the M/Z 220 fragment ion shows the C_3 substituted phenanthrenes.

Aromatic Steranes

Monoaromatic steranes are detected using the M/Z 253 fragment ion, while the triaromatic steranes are detected using the M/Z 231 fragment ion.

Mass Fragmentograms representing Terpanes
(M/Z 163, 177, 191, 205, 370, 384, 398, 412 and 426)

Peak Identification: (α and β refer to hydrogen atoms at C-17 and C-21 respectively unless indicated otherwise)

A.	18α trisnorneohopane (T_s)	$C_{27}H_{44}$	(I)
B.	17α trisnorhopane (T_m)	$C_{27}H_{46}$	(II, R=H)
Z.	Bisnorhopane	$C_{28}H_{48}$	(IV)
C.	αβ norhopane	$C_{29}H_{50}$	(II, R=C_2H_5)
D.	βα norhopane	$C_{29}H_{50}$	(III, R=C_2H_5)
E.	αβ hopane	$C_{30}H_{52}$	(II, R=i-C_3H_7)
F.	βα hopane	$C_{30}H_{52}$	(III, R=i-C_3H_7)
G.	22S αβ homohopane	$C_{31}H_{54}$	(II, R=i-C_4H_9)
H.	22R αβ homohopane	$C_{31}H_{54}$	(II, R=i-C_4H_9)
I.	βα homohopane	$C_{31}H_{54}$	(III, R=i-C_4H_9)
J.	22S αβ bishomohopane	$C_{32}H_{56}$	(II, R=i-C_5H_{11})
	22R αβ bishomohopane	$C_{32}H_{56}$	(II, R=i-C_5H_{11})
K.	22S αβ trishomohopane	$C_{33}H_{58}$	(II, R=i-C_6H_{13})
	22R αβ trishomohopane	$C_{33}H_{58}$	(II, R=i-C_6H_{13})
L.	22S αβ tetrakishomohopane	$C_{34}H_{60}$	(II, R=i-C_7H_{15})
	22R αβ tetrakishomohopane	$C_{34}H_{60}$	(II, R=i-C_7H_{15})
M.	22S αβ pentakishomohopane	$C_{35}H_{62}$	(II, E=i-C_8H_{17})
	22R αβ pentakishomohopane	$C_{35}H_{62}$	(II, R=i-C_8H_{17})
P.	Tricyclic terpane	$C_{23}H_{42}$	(V, R=i-C_4H_9)
Q.	Tricyclic terpane	$C_{24}H_{44}$	(V, R=i-C_5H_{11})
R.	Tricyclic terpane (17R, 17S)	$C_{25}H_{66}$	(V, R=i-C_6H_{13})
S.	Tetracyclic terpane	$C_{24}H_{42}$	(VI)
T.	Tricyclic terpane (17R, 17S)	$C_{26}H_{48}$	(V, R=i-C_7H_{15})
N.	Tricyclic terpane	$C_{21}H_{38}$	(V, R=C_2H_5)
O.	Tricyclic terpane	$C_{22}H_{40}$	(V, R=C_3H_7)
Y.	25,28,30-trisnorhopane/moretane	$C_{27}H_{46}$	(VII)
X.	αβ diahopane	$C_{30}H_{52}$	(VIII)

Mass Fragmentograms representing Steranes

(M/Z 149, 189, 217, 218, 259, 372, 386, 400 and 414)

Peak Identifications: α and β refer to hydrogen atoms at C-5, C-14 and C-17 in regular steranes and at C-13 and C-17 in diasteranes).

a.	20S βα diacholestane	$C_{27}H_{48}$	(I, R=H)
b.	20R βα diacholestane	$C_{27}H_{48}$	(I, R=H)
c.	20S αβ diacholestane	$C_{27}H_{48}$	(II, R=H)
d.	20R αβ diacholestane	$C_{27}H_{48}$	(II, R=H)
e.	20S βα 24-methyl-diacholestane	$C_{28}H_{50}$	(I, R=CH_3)
f.	20R βα 24-methyl-diacholestane	$C_{28}H_{50}$	(I, R=CH_3)
g.	20S αβ 24-methyl-diacholestane	$C_{28}H_{50}$	(II, R=CH_3)
	+ 20S ααα cholestane	$C_{27}H_{48}$	(III, R=H)
h.	20S βα 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C_2H_5)
	+ 20R αββ cholestane	$C_{27}H_{48}$	(IV, R=H)
i.	20S αββ cholestane	$C_{27}H_{48}$	(IV, R=H)
	+ 20R αβ 24-methyl-diacholestane	$C_{28}H_{50}$	(II, R=CH_3)
j.	20R ααα cholestane	$C_{27}H_{48}$	(III, R=H)
k.	20R βα 24-ethyl-diacholestane	$C_{29}H_{52}$	(I, R=C_2H_5)
l.	20R αβ 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C_2H_5)
m.	20S ααα 24-methyl-cholestane	$C_{28}H_{50}$	(III, R=CH_3)
n.	20R αββ 24-methyl-cholestane	$C_{28}H_{50}$	(IV, R=CH_3)
	+ 20R αβ 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C_2H_5)
o.	20S αββ 24-methyl-cholestane	$C_{28}H_{50}$	(IV, R=CH_3)
p.	20R ααα 24-methyl-cholestane	$C_{28}H_{50}$	(III, R=CH_3)
q.	20S ααα 24-ethyl-cholestane	$C_{29}H_{52}$	(III, R=C_2H_5)
r.	20R αββ 24-ethyl-cholestane	$C_{29}H_{52}$	(IV, R=C_2H_5)
s.	20S αββ 24-ethyl-cholestane	$C_{29}H_{52}$	(IV, R=C_2H_5)
t.	20R ααα 24-ethyl-cholestane	$C_{29}H_{52}$	(III, R=C_2H_5)
u.	5α sterane	$C_{21}H_{36}$	(VI, R=C_2H_5)
v.	5α sterane	$C_{22}H_{38}$	(VI, R=C_3H_7)

Mass Fragmentograms representing Triaromatic Steranes (M/Z 231)

Description of ABC-ring triaromatic steroid hydrocarbons

	Substituents		Abbreviation
Peak	**R_1**	**R_2**	**of Compound**
a1	CH_3	H	$C_{20}TA$
b1	CH_3	CH_3	$C_{21}TA$
c1	$S(CH_3)$	C_6H_{1-3}	$SC_{26}TA$
d1	$R(CH_3)$	C_6H_{13}	$RC_{26}TA$
	$S(CH_3)$	C_7H_{15}	$SC_{27}TA$
e1	$S(CH_3)$	C_8H_{17}	$SC_{28}TA$
f1	$S(CH_3)$	C_7H_{15}	$RC_{27}TA$
g1	$R(CH_3)$	C_8H_{17}	$RC_{28}TA$

APPENDIX 1:

TABLES

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Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth		Type			Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
10302.00		ccp				0001
	0.51		100	Marl : lt gy		0001-1L
10305.00		ccp				0002
	0.15		100	Marl : lt gy, cly		0002-1L
10308.00		ccp				0003
	0.15		100	Ca : lt gy, mrl		0003-1L
10311.00		ccp				0004
	0.04		100	Ca : lt gy, mrl		0004-1L
10314.00		ccp				0005
	0.13		100	Ca : m gy w		0005-1L
			tr	Sh/Clst: lt ol brn, calc		0005-2L
10317.00		ccp				0006
	0.16		100	Ca : m gy w to lt gy		0006-1L
10320.00		ccp				0007
	0.15		100	Ca : m gy w		0007-1L

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Depth unit of measure: ft

Depth Int	Cvd	Type TOC%	%	Lithology description	Trb	Sample
10323.00	ccp					0008
		0.05	100	Ca : m gy w to lt gy, mrl		0008-1L
10326.00	ccp					0009
		0.14	100	Ca : lt gy w		0009-1L
10329.00	ccp					0010
		0.11	100	Ca : m gy w, mrl		0010-1L
10332.00	ccp					0011
		0.09	100	Ca : lt gy w		0011-1L
10335.00	ccp					0012
		0.77	100	Ca : lt gy w to lt brn pi		0012-1L
10338.00						0013
		2.73	85	Ca : m gy w to lt brn pi		0013-1L
			15	Sh/Clst: m gy, calc		0013-2L
10341.00	ccp					0014
		0.06	100	Marl : lt gy to m gy		0014-1L
10344.00	ccp					0015
		0.39	100	Ca : w to lt gy w		0015-1L

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Depth unit of measure: ft

Depth		Type			Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
10347.00		ccp				0016
		0.53	100	Ca : w to lt gy w		0016-1L
10350.00		ccp				0017
		0.28	100	Ca : lt gy w to lt brn pi		0017-1L
10353.00		ccp				0018
		0.13	100	Ca : lt gy w to lt gy pi		0018-1L
10356.00		ccp				0019
		0.31	100	Ca : lt gy w		0019-1L
10359.00		ccp				0020
		0.88	100	Ca : lt gy pi		0020-1L
10362.00		ccp				0021
		0.13	100	Ca : lt gy pi		0021-1L
10363.00		ccp				0022
		1.45	100	Ca : lt gy pi		0022-1L
10366.00		ccp				0023
		0.22	100	Ca : lt gy w		0023-1L

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Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth Int	Type Cvd	TOC%	%	Lithology description	Trb	Sample
10369.00	ccp					0024
		0.17	100	Ca : lt gy w		0024-1L
10372.00	ccp					0025
		0.29	100	Ca : lt gy w		0025-1L
10381.00	ccp					0026
		0.22	100	Ca : lt gy w		0026-1L
10383.00	ccp					0027
		1.27	100	Ca : lt brn pi		0027-1L
10384.00	ccp					0028
		0.44	100	Ca : lt gy w		0028-1L
10393.00	ccp					0029
		0.40	80	Ca : m gy w to lt gy, mrl		0029-1L
		0.45	20	Sh/Clst: drk gy, calc		0029-2L
10395.00	ccp					0031
		0.20	100	Ca : lt gy w to m gy w, mrl		0031-1L
10396.00	ccp					0032
		0.14	100	Ca : lt gy w to m gy w to lt gy, mrl		0032-1L

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Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth Int	Depth Cvd	Type TOC%	%	Lithology description	Trb	Sample
10399.00		ccp				0030
			50	Ca : lt gy w to m gy w, mrl		0030-1L
		0.28	50	Sh/Clst: drk gy, calc		0030-2L
10405.00		ccp				0033
		0.09	100	Ca : lt gy w to lt gy pi		0033-1L
10408.00		ccp				0034
		0.02	100	Ca : lt gy w to lt gy pi		0034-1L
10411.00		ccp				0035
		0.12	100	Ca : lt gy w to m gy w		0035-1L
10414.00		ccp				0036
		0.09	100	Ca : lt gy w to lt gy pi		0036-1L
10417.00		ccp				0037
		0.25	100	Ca : lt gy w to lt gy		0037-1L
10420.00		ccp				0038
		0.02	100	Marl : m gy w to lt brn gy to brn gy		0038-1L
10423.00		ccp				0039
		0.07	100	Marl : m gy w to lt brn gy		0039-1L

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Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth		Type				Trb	Sample
Int	Cvd	TOC%	%	Lithology description			
10426.00		ccp					0040
		0.21	100	Ca	: lt gy w to m gy, cly		0040-1L
10429.00		ccp					0041
		0.07	100	Ca	: lt gy w		0041-1L
10432.00		ccp					0042
		0.01	100	Ca	: lt gy w to lt gy, mrl		0042-1L
10435.00		ccp					0043
		0.02	100	Ca	: lt gy w		0043-1L
10438.00		ccp					0044
		0.16	100	Ca	: lt gy w		0044-1L
10441.00		ccp					0045
			100	Ca	: m gy w to lt gy, mrl		0045-1L
10444.00		ccp					0046
		0.02	100	Ca	: m gy w to lt gy, mrl		0046-1L
10447.00		ccp					0047
		0.03	100	Ca	: lt gy, mrl		0047-1L

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Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth Int	Depth Cvd	Type TOC%	%	Lithology description	Trb	Sample
10450.00		ccp				0048
		0.02	100	Ca : lt gy, mrl		0048-1L
10453.00		ccp				0049
			100	Ca : lt gy pi to lt ol gy, mrl		0049-1L
10454.00		ccp				0050
		0.06	100	Ca : lt gy w		0050-1L
10457.00		ccp				0051
		0.19	100	Ca : lt gy w		0051-1L
10460.00		ccp				0052
		0.17	100	Ca : lt gy w		0052-1L
			tr	Sh/Clst: drk gy, calc		0052-2L
10463.00		ccp				0053
		0.02	100	Ca : lt or gy		0053-1L
10466.00		ccp				0054
		0.12	100	Ca : m gy w to lt gy pi		0054-1L
10469.00		ccp				0055
		0.04	100	Ca : m gy w to lt gy pi		0055-1L
			tr	Marl : m gy		0055-2L

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Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth		Type			Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
10472.00		ccp				0056
		0.69	100	Ca : m gy w to lt gy pi		0056-1L
10475.00		ccp				0057
		0.04	100	Ca : m gy w to lt gy pi		0057-1L
10478.00		ccp				0058
		0.14	100	Ca : m gy w to lt gy pi		0058-1L
10481.00		ccp				0059
		0.04	100	Ca : m gy w		0059-1L
10484.00		ccp				0060
		0.08	100	Ca : lt gy w to m gy w to or gy		0060-1L
			tr	Sh/Clst: drk gn gy, glauc		0060-2L
10487.00		ccp				0061
		0.02	100	Ca : lt gy w, pyr		0061-1L
10490.00		ccp				0062
		0.05	100	Ca : lt gy w to m gy w		0062-1L
10493.00		ccp				0063
		0.04	100	Ca : lt gy w to lt or gy		0063-1L

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Depth unit of measure: ft

Depth		Type				Trb	Sample
Int	Cvd	TOC%	%	Lithology description			
10496.00		ccp					0064
		0.07	100	Ca	: lt gy w to lt or gy to lt gy, mrl		0064-1L
10499.00		ccp					0065
		0.15	100	Ca	: lt gy w to lt or gy, mrl, pyr		0065-1L
10502.00		ccp					0066
		0.23	100	Ca	: lt gy w to lt or gy, mrl, pyr		0066-1L
10505.00		ccp					0067
		0.13	100	Ca	: lt gy w to lt or gy, mrl		0067-1L
10508.00		ccp					0068
		0.01	100	Ca	: lt gy w to lt or gy		0068-1L
10511.00		ccp					0069
		0.02	100	Ca	: lt gy w to lt or gy, cly		0069-1L
10514.00		ccp					0070
		0.91	100	Ca	: lt gy w to lt or gy		0070-1L
10517.00		ccp					0071
		0.10	100	Ca	: lt gy w to or gy		0071-1L

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Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth Int	Depth Cvd	Type TOC%	%	Lithology description	Trb	Sample
10520.00		ccp				0072
		0.08	100	Ca : lt gy w		0072-1L
10523.00		ccp				0073
		0.07	100	Ca : lt gy w		0073-1L
			tr	Sh/Clst: m gy, calc		0073-2L
10526.00		ccp				0074
		0.17	100	Ca : lt gy w to lt or gy		0074-1L
10529.00		ccp				0075
		0.14	100	Ca : lt gy w to lt or gy to lt ol gy, mrl		0075-1L
10532.00		ccp				0076
		0.29	100	Ca : lt gy w		0076-1L
10535.00		ccp				0077
		0.17	100	Ca : lt gy w to m gy to or gy to m gy, cly, mrl		0077-1L
10538.00		ccp				0078
		0.08	100	Ca : lt gy w to or gy		0078-1L

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Depth unit of measure: ft

Depth		Type			Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
10541.00		ccp				0079
			100	Ca : lt gy w to or gy, mrl		0079-1L
10544.00		ccp				0080
		0.01	100	Ca : lt gy w to or gy		0080-1L
10545.00		ccp				0081
			100	Ca : lt gy w to or gy		0081-1L
10548.00		ccp				0082
		0.02	100	Ca : lt gy w to or gy		0082-1L
10551.00		ccp				0083
		0.01	100	Ca : lt gy w		0083-1L
10554.00		ccp				0084
		0.02	100	Ca : lt gy w		0084-1L
10557.00		ccp				0085
		0.02	100	Ca : lt gy w to lt ol gy		0085-1L
10560.00		ccp				0086
		0.03	100	Ca : lt gy w		0086-1L

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Depth unit of measure: ft

Depth		Type				Trb	Sample
Int	Cvd	TOC%	%	Lithology description			
10563.00		ccp					0087
		0.12	100	Ca	: lt gy w to lt gy pi		0087-1L
10566.00		ccp					0088
		0.03	100	Ca	: lt gy w to lt gy pi		0088-1L
10569.00		ccp					0089
		0.05	100	Ca	: lt gy w to lt gy pi		0089-1L
10572.00		ccp					0090
		0.11	100	Ca	: lt gy w to lt gy pi		0090-1L
10575.00		ccp					0091
		0.01	100	Ca	: lt gy w to lt gy pi		0091-1L
10578.00		ccp					0092
		0.02	100	Ca	: lt gy w to lt gy pi		0092-1L
10581.00		ccp					0093
		0.54	100	Ca	: lt gy w to lt gy pi		0093-1L
10584.00		ccp					0094
			100	Ca	: m gy w to lt gy to lt brn gy, mrl		0094-1L

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Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth		Type				Trb	Sample
Int	Cvd	TOC%	%	Lithology description			
10587.00		ccp					0095
		0.05	100	Ca	: lt gy w		0095-1L
10590.00		ccp					0096
			100	Ca	: m gy w		0096-1L
10593.00		ccp					0097
		0.16	100	Ca	: lt gy w to lt or gy		0097-1L
10596.00		ccp					0098
		0.02	100	Ca	: lt gy w to lt or gy		0098-1L
10599.00		ccp					0099
		0.10	100	Ca	: lt gy w to m gy w		0099-1L
10602.00		ccp					0100
			100	Ca	: m gy w to lt ol gy, sil		0100-1L
10605.00		ccp					0101
			100	Ca	: m gy w to lt gy to m gy, mrl		0101-1L
10608.00		ccp					0102
		0.01	100	Ca	: m gy w to lt gy pi		0102-1L

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Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth		Type			Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
10611.00		ccp				0103
		0.02	100	Ca : m gy w to lt gy pi		0103-1L
10614.00		ccp				0104
		0.04	100	Ca : m gy w to lt gy pi		0104-1L
10617.00		ccp				0105
		0.22	100	Ca : m gy w to lt gy pi		0105-1L
10620.00		ccp				0106
		0.36	100	Ca : lt gy w to lt gy pi		0106-1L
10623.00		ccp				0107
		2.00	100	Ca : lt gy w to lt gy pi		0107-1L
10658.00		ccp				0108
		2.28	100	Ca : m gy w to lt gy, sil		0108-1L
10661.00		ccp				0109
		1.59	100	Ca : lt gy w		0109-1L
10664.00		ccp				0110
		1.25	100	Ca : lt gy w to lt gy pi		0110-1L

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Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth		Type				Trb	Sample
Int	Cvd	TOC%	%	Lithology description			
10667.00		ccp					0111
		0.08	100	Ca	: lt gy w to lt gy pi		0111-1L
10670.00		ccp					0112
		0.10	100	Ca	: m gy w to lt gy pi		0112-1L
10673.00		ccp					0113
		0.15	100	Ca	: m gy w to lt gy pi		0113-1L
10676.00		ccp					0114
		0.48	100	Ca	: lt gy w to lt gy pi		0114-1L
10679.00		ccp					0115
		0.17	100	Ca	: m gy w to lt gy pi		0115-1L
10682.00		ccp					0116
		0.35	100	Ca	: lt gy w to lt gy pi		0116-1L
10685.00		ccp					0117
		0.16	100	Ca	: lt gy w to lt gy pi		0117-1L
10688.00		ccp					0118
		0.99	100	Ca	: lt gy w to lt gy pi		0118-1L

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Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth Int	Cvd	Type TOC%	%	Lithology description	Trb	Sample
10691.00		ccp				0119
		1.17	100	Ca : lt gy w		0119-1L
10694.00		ccp				0120
		0.24	100	Ca : lt gy w to lt gy pi		0120-1L
10697.00		ccp				0121
		0.49	100	Ca : lt gy w to lt gy pi		0121-1L
10700.00		ccp				0122
		0.04	100	Ca : lt gy w to lt gy pi		0122-1L
10703.00		ccp				0123
		0.01	100	Ca : lt gy w to lt gy pi		0123-1L
10706.00		ccp				0124
		0.02	100	Ca : lt gy w		0124-1L
10709.00		ccp				0125
		0.26	100	Ca : lt gy w		0125-1L
10712.00		ccp				0126
		0.06	100	Ca : lt gy w to lt gy pi		0126-1L

GEOLAB NOR

Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth		Type			Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
10715.00		ccp				0127
		0.02	100	Ca : lt gy w to lt gy pi		0127-1L
10718.00		ccp				0128
		0.41	100	Ca : lt gy w to lt gy pi		0128-1L
10721.00		ccp				0129
		0.21	100	Ca : lt gy w to lt gy pi		0129-1L
10724.00		ccp				0130
		0.18	100	Ca : lt gy w to lt gy pi		0130-1L
10727.00		ccp				0131
		0.23	100	Ca : lt gy w to lt gy pi		0131-1L
10730.00		ccp				0132
		0.25	100	Ca : lt gy w to lt gy pi		0132-1L
10733.00		ccp				0133
		0.57	100	Ca : lt gy w to m gy w		0133-1L
10736.00		ccp				0134
		0.07	100	Ca : lt gy w to m gy w		0134-1L

GEOLAB NOR

Table 1: Lithology description for well NOCS 2/7-30

Depth unit of measure: ft

Depth		Type			Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
10739.00		ccp				0135
		0.18	100	Ca : lt gy w to lt gy pi		0135-1L
10742.00		ccp				0136
		0.05	100	Ca : lt gy w to lt gy pi		0136-1L
10745.00		ccp				0137
		0.23	100	Ca : lt gy w to lt gy pi		0137-1L
10748.00		ccp				0138
		0.45	100	Ca : lt gy w		0138-1L

Table 2 : Rock-Eval table for well NOCS 2/7-30

Depth unit of measure: ft

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
10350.00	ccp	Ca : lt gy w to lt brn pi	2.03	1.37	0.54	2.54	0.28	489	193	3.4	0.60	431	0017-1L
10353.00	ccp	Ca : lt gy w to lt gy pi	0.79	0.88	0.57	1.54	0.13	677	438	1.7	0.47	437	0018-1L
10356.00	ccp	Ca : lt gy w	1.90	1.87	0.67	2.79	0.31	603	216	3.8	0.50	441	0019-1L
10359.00	ccp	Ca : lt gy pi	7.05	3.63	0.47	7.72	0.88	413	53	10.7	0.66	427	0020-1L
10362.00	ccp	Ca : lt gy pi	0.62	1.07	0.65	1.65	0.13	823	500	1.7	0.37	441	0021-1L
10363.00	ccp	Ca : lt gy pi	11.81	5.78	0.59	9.80	1.45	399	41	17.6	0.67	428	0022-1L
10366.00	ccp	Ca : lt gy w	1.16	1.60	0.51	3.14	0.22	727	232	2.8	0.42	455	0023-1L
10369.00	ccp	Ca : lt gy w	0.97	1.18	0.46	2.57	0.17	694	271	2.2	0.45	449	0024-1L
10372.00	ccp	Ca : lt gy w	1.57	1.93	0.57	3.39	0.29	666	197	3.5	0.45	450	0025-1L
10381.00	ccp	Ca : lt gy w	1.18	1.54	0.53	2.91	0.22	700	241	2.7	0.43	448	0026-1L
10383.00	ccp	Ca : lt brn pi	11.58	3.37	0.74	4.55	1.27	265	58	14.9	0.77	424	0027-1L
10384.00	ccp	Ca : lt gy w	3.92	1.40	0.62	2.26	0.44	318	141	5.3	0.74	442	0028-1L
10393.00	ccp	Ca : m gy w to lt gy	2.78	2.05	0.65	3.15	0.40	513	162	4.8	0.58	449	0029-1L
10393.00	ccp	Sh/Clst: drk gy	2.06	2.48	0.80	3.10	0.45	551	178	4.5	0.45	448	0029-2L
10395.00	ccp	Ca : lt gy w to m gy w	1.10	1.40	0.49	2.86	0.20	700	245	2.5	0.44	447	0031-1L
10396.00	ccp	Ca : lt gy w to m gy w to lt gy	0.78	0.95	0.41	2.32	0.14	679	293	1.7	0.45	449	0032-1L

Table 2 : Rock-Eval table for well NOCS 2/7-30

Depth unit of measure: ft

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
10399.00	ccp	Sh/Clst: drk gy	0.30	0.22	0.51	0.43	0.28	79	182	0.5	0.58	399	0030-2L
10405.00	ccp	Ca : lt gy w to lt gy pi	0.56	0.65	0.42	1.55	0.09	722	467	1.2	0.46	448	0033-1L
10408.00	ccp	Ca : lt gy w to lt gy pi	0.14	0.14	0.33	0.42	0.02	700	1650	0.3	0.50	432	0034-1L
10411.00	ccp	Ca : lt gy w to m gy w	0.69	0.78	0.48	1.63	0.12	650	400	1.5	0.47	443	0035-1L
10414.00	ccp	Ca : lt gy w to lt gy pi	0.49	0.65	0.56	1.16	0.09	722	622	1.1	0.43	438	0036-1L
10417.00	ccp	Ca : lt gy w to lt gy	1.68	1.43	0.56	2.55	0.25	572	224	3.1	0.54	447	0037-1L
10420.00	ccp	Marl : m gy w to lt brn gy to brn gy	0.17	0.10	0.44	0.23	0.02	500	2200	0.3	0.63	422	0038-1L
10423.00	ccp	Marl : m gy w to lt brn gy	0.45	0.47	0.40	1.17	0.07	671	571	0.9	0.49	443	0039-1L
10426.00	ccp	Ca : lt gy w to m gy	0.90	1.24	0.50	2.48	0.21	590	238	2.1	0.42	445	0040-1L
10429.00	ccp	Ca : lt gy w	0.36	0.59	0.53	1.11	0.07	843	757	0.9	0.38	437	0041-1L
10432.00	ccp	Ca : lt gy w to lt gy	0.11	0.10	0.38	0.26	0.01	1000	3800	0.2	0.52	406	0042-1L
10435.00	ccp	Ca : lt gy w	0.16	0.16	0.57	0.28	0.02	800	2850	0.3	0.50	420	0043-1L
10438.00	ccp	Ca : lt gy w	0.31	0.50	0.63	0.79	0.16	313	394	0.8	0.38	437	0044-1L
10441.00	ccp	Ca : m gy w to lt gy	0.07	0.06	0.54	0.11	-	-	-	0.1	0.54	392	0045-1L
10444.00	ccp	Ca : m gy w to lt gy	0.18	0.09	0.58	0.16	0.02	450	2900	0.3	0.67	398	0046-1L

Table 2 : Rock-Eval table for well NOCS 2/7-30

Depth unit of measure: ft

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
10447.00	ccp	Ca : lt gy	0.22	0.16	0.55	0.29	0.03	533	1833	0.4	0.58	413	0047-1L
10450.00	ccp	Ca : lt gy	0.14	0.12	0.36	0.33	0.02	600	1800	0.3	0.54	398	0048-1L
10453.00	ccp	Ca : lt gy pi to lt ol gy	0.06	0.04	0.32	0.13	-	-	-	0.1	0.60	315	0049-1L
10454.00	ccp	Ca : lt gy w	0.34	0.46	0.66	0.70	0.06	767	1100	0.8	0.43	428	0050-1L
10457.00	ccp	Ca : lt gy w	1.07	1.28	0.47	2.72	0.19	674	247	2.4	0.46	447	0051-1L
10460.00	ccp	Ca : lt gy w	0.93	1.13	0.42	2.69	0.17	665	247	2.1	0.45	450	0052-1L
10463.00	ccp	Ca : lt or gy	0.14	0.13	0.16	0.81	0.02	650	800	0.3	0.52	440	0053-1L
10466.00	ccp	Ca : m gy w to lt gy pi	0.78	0.69	0.39	1.77	0.12	575	325	1.5	0.53	437	0054-1L
10469.00	ccp	Ca : m gy w to lt gy pi	0.31	0.27	0.24	1.13	0.04	675	600	0.6	0.53	441	0055-1L
10472.00	ccp	Ca : m gy w to lt gy pi	5.62	2.77	0.76	3.64	0.69	401	110	8.4	0.67	446	0056-1L
10475.00	ccp	Ca : m gy w to lt gy pi	0.25	0.31	0.40	0.77	0.04	775	1000	0.6	0.45	438	0057-1L
10478.00	ccp	Ca : m gy w to lt gy pi	0.68	0.88	0.49	1.80	0.14	629	350	1.6	0.44	444	0058-1L
10481.00	ccp	Ca : m gy w	0.29	0.27	0.33	0.82	0.04	675	825	0.6	0.52	437	0059-1L
10484.00	ccp	Ca : lt gy w to m gy w to or gy	0.48	0.50	0.38	1.32	0.08	625	475	1.0	0.49	439	0060-1L
10487.00	ccp	Ca : lt gy w	0.17	0.12	0.26	0.46	0.02	600	1300	0.3	0.59	434	0061-1L

Table 2 : Rock-Eval table for well NOCS 2/7-30

Depth unit of measure: ft

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
10490.00	ccp	Ca : lt gy w to m gy w	0.26	0.43	0.53	0.81	0.05	860	1060	0.7	0.38	433	0062-1L
10493.00	ccp	Ca : lt gy w to lt or gy	0.23	0.27	0.39	0.69	0.04	675	975	0.5	0.46	438	0063-1L
10496.00	ccp	Ca : lt gy w to lt or gy to lt gy	0.51	0.46	0.43	1.07	0.07	657	614	1.0	0.53	434	0064-1L
10499.00	ccp	Ca : lt gy w to lt or gy	0.78	1.15	0.57	2.02	0.15	767	380	1.9	0.40	442	0065-1L
10502.00	ccp	Ca : lt gy w to lt or gy	1.32	1.48	0.59	2.51	0.23	643	257	2.8	0.47	438	0066-1L
10505.00	ccp	Ca : lt gy w to lt or gy	0.78	0.84	0.64	1.31	0.13	646	492	1.6	0.48	434	0067-1L
10508.00	ccp	Ca : lt gy w to lt or gy	0.08	0.08	0.24	0.33	0.01	800	2400	0.2	0.50	433	0068-1L
10511.00	ccp	Ca : lt gy w to lt or gy	0.10	0.19	0.29	0.66	0.02	950	1450	0.3	0.34	438	0069-1L
10514.00	ccp	Ca : lt gy w to lt or gy	9.20	1.82	0.67	2.72	0.91	200	74	11.0	0.83	442	0070-1L
10517.00	ccp	Ca : lt gy w to or gy	0.59	0.66	0.52	1.27	0.10	660	520	1.3	0.47	437	0071-1L
10520.00	ccp	Ca : lt gy w	0.37	0.63	0.56	1.13	0.08	788	700	1.0	0.37	439	0072-1L
10523.00	ccp	Ca : lt gy w	0.39	0.55	0.48	1.15	0.07	786	686	0.9	0.41	440	0073-1L
10526.00	ccp	Ca : lt gy w to lt or gy	0.85	1.21	0.54	2.24	0.17	712	318	2.1	0.41	443	0074-1L
10529.00	ccp	Ca : lt gy w to lt or gy to lt ol gy	0.98	0.59	0.43	1.37	0.14	421	307	1.6	0.62	432	0075-1L
10532.00	ccp	Ca : lt gy w	1.74	1.78	0.54	3.30	0.29	614	186	3.5	0.49	440	0076-1L

Table 2 : Rock-Eval table for well NOCS 2/7-30

Depth unit of measure: ft

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
10535.00	ccp	Ca : lt gy w to m gy to or gy to m gy	1.38	0.69	0.63	1.10	0.17	406	371	2.1	0.67	433	0077-1L
10538.00	ccp	Ca : lt gy w to or gy	0.49	0.60	0.60	1.00	0.08	750	750	1.1	0.45	436	0078-1L
10541.00	ccp	Ca : lt gy w to or gy	0.02	0.05	0.32	0.16	-	-	-	0.1	0.29	432	0079-1L
10544.00	ccp	Ca : lt gy w to or gy	0.11	0.11	0.33	0.33	0.01	1100	3300	0.2	0.50	420	0080-1L
10545.00	ccp	Ca : lt gy w to or gy	0.03	0.05	0.30	0.17	-	-	-	0.1	0.38	334	0081-1L
10548.00	ccp	Ca : lt gy w to or gy	0.19	0.17	0.33	0.52	0.02	850	1650	0.4	0.53	429	0082-1L
10551.00	ccp	Ca : lt gy w	0.08	0.12	0.27	0.44	0.01	1200	2700	0.2	0.40	429	0083-1L
10554.00	ccp	Ca : lt gy w	0.13	0.19	0.30	0.63	0.02	950	1500	0.3	0.41	431	0084-1L
10557.00	ccp	Ca : lt gy w to lt ol gy	0.14	0.22	0.28	0.79	0.02	1100	1400	0.4	0.39	435	0085-1L
10560.00	ccp	Ca : lt gy w	0.19	0.27	0.36	0.75	0.03	900	1200	0.5	0.41	433	0086-1L
10563.00	ccp	Ca : lt gy w to lt gy pi	0.77	0.79	0.49	1.61	0.12	658	408	1.6	0.49	437	0087-1L
10566.00	ccp	Ca : lt gy w to lt gy pi	0.13	0.25	0.29	0.86	0.03	833	967	0.4	0.34	435	0088-1L
10569.00	ccp	Ca : lt gy w to lt gy pi	0.26	0.40	0.34	1.18	0.05	800	680	0.7	0.39	436	0089-1L
10572.00	ccp	Ca : lt gy w to lt gy pi	0.57	0.88	0.55	1.60	0.11	800	500	1.5	0.39	443	0090-1L
10575.00	ccp	Ca : lt gy w to lt gy pi	0.07	0.10	0.22	0.45	0.01	1000	2200	0.2	0.41	437	0091-1L

Table 2 : Rock-Eval table for well NOCS 2/7-30

Depth unit of measure: ft

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
10578.00	ccp	Ca : lt gy w to lt gy pi	0.17	0.19	0.18	1.06	0.02	950	900	0.4	0.47	441	0092-1L
10581.00	ccp	Ca : lt gy w to lt gy pi	5.05	1.57	0.68	2.31	0.54	291	126	6.6	0.76	439	0093-1L
10584.00	ccp	Ca : m gy w to lt gy to lt brn gy	0.05	0.01	0.32	0.03	-	-	-	0.1	0.83	443	0094-1L
10587.00	ccp	Ca : lt gy w	0.33	0.39	0.31	1.26	0.05	780	620	0.7	0.46	441	0095-1L
10590.00	ccp	Ca : m gy w	0.04	0.09	0.22	0.41	-	-	-	0.1	0.31	437	0096-1L
10593.00	ccp	Ca : lt gy w to lt or gy	0.75	1.20	0.62	1.94	0.16	750	388	2.0	0.38	440	0097-1L
10596.00	ccp	Ca : lt gy w to lt or gy	0.09	0.17	0.54	0.31	0.02	850	2700	0.3	0.35	429	0098-1L
10599.00	ccp	Ca : lt gy w to m gy w	0.07	0.20	0.37	0.54	0.10	200	370	0.3	0.26	405	0099-1L
10602.00	ccp	Ca : m gy w to lt ol gy	-	-	0.11	-	-	-	-	-	-	-	0100-1L
10605.00	ccp	Ca : m gy w to lt gy to m gy	0.02	0.01	0.28	0.04	-	-	-	-	0.67	-	0101-1L
10608.00	ccp	Ca : m gy w to lt gy pi	0.07	0.09	0.17	0.53	0.01	900	1700	0.2	0.44	434	0102-1L
10611.00	ccp	Ca : m gy w to lt gy pi	0.10	0.18	0.17	1.06	0.02	900	850	0.3	0.36	440	0103-1L
10614.00	ccp	Ca : m gy w to lt gy pi	0.23	0.37	0.22	1.68	0.04	925	550	0.6	0.38	442	0104-1L
10617.00	ccp	Ca : m gy w to lt gy pi	1.98	0.73	0.44	1.66	0.22	332	200	2.7	0.73	434	0105-1L
10620.00	ccp	Ca : lt gy w to lt gy pi	3.53	0.89	0.48	1.85	0.36	247	133	4.4	0.80	437	0106-1L

Table 2 : Rock-Eval table for well NOCS 2/7-30

Depth unit of measure: ft

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
10623.00	ccp	Ca : lt gy w to lt gy pi	22.93	1.21	0.83	1.46	2.00	61	42	24.1	0.95	424	0107-1L
10658.00	ccp	Ca : m gy w to lt gy	25.97	1.04	0.61	1.70	2.28	46	27	27.0	0.96	426	0108-1L
10661.00	ccp	Ca : lt gy w	14.35	4.21	0.64	6.58	1.59	265	40	18.6	0.77	362	0109-1L
10664.00	ccp	Ca : lt gy w to lt gy pi	14.23	0.89	0.65	1.37	1.25	71	52	15.1	0.94	421	0110-1L
10667.00	ccp	Ca : lt gy w to lt gy pi	0.72	0.36	0.56	0.64	0.08	450	700	1.1	0.67	416	0111-1L
10670.00	ccp	Ca : m gy w to lt gy pi	0.89	0.37	0.46	0.80	0.10	370	460	1.3	0.71	428	0112-1L
10673.00	ccp	Ca : m gy w to lt gy pi	1.40	0.48	0.46	1.04	0.15	320	307	1.9	0.74	424	0113-1L
10676.00	ccp	Ca : lt gy w to lt gy pi	5.18	0.66	0.52	1.27	0.48	138	108	5.8	0.89	422	0114-1L
10679.00	ccp	Ca : m gy w to lt gy pi	1.51	0.60	0.50	1.20	0.17	353	294	2.1	0.72	427	0115-1L
10682.00	ccp	Ca : lt gy w to lt gy pi	3.74	0.56	0.44	1.27	0.35	160	126	4.3	0.87	428	0116-1L
10685.00	ccp	Ca : lt gy w to lt gy pi	1.38	0.56	0.57	0.98	0.16	350	356	1.9	0.71	428	0117-1L
10688.00	ccp	Ca : lt gy w to lt gy pi	11.11	0.86	0.61	1.41	0.99	87	62	12.0	0.93	424	0118-1L
10691.00	ccp	Ca : lt gy w	13.39	0.75	0.59	1.27	1.17	64	50	14.1	0.95	420	0119-1L
10694.00	ccp	Ca : lt gy w to lt gy pi	2.57	0.40	0.52	0.77	0.24	167	217	3.0	0.87	421	0120-1L
10697.00	ccp	Ca : lt gy w to lt gy pi	5.29	0.70	0.67	1.04	0.49	143	137	6.0	0.88	424	0121-1L
10700.00	ccp	Ca : lt gy w to lt gy pi	0.32	0.27	0.44	0.61	0.04	675	1100	0.6	0.54	432	0122-1L

Table 2 : Rock-Eval table for well NOCS 2/7-30

Depth unit of measure: ft

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
10703.00	ccp	Ca : lt gy w to lt gy pi	0.12	0.12	0.31	0.39	0.01	1200	3100	0.2	0.50	429	0123-1L
10706.00	ccp	Ca : lt gy w	0.13	0.20	0.22	0.91	0.02	1000	1100	0.3	0.39	433	0124-1L
10709.00	ccp	Ca : lt gy w	2.57	0.62	0.46	1.35	0.26	238	177	3.2	0.81	429	0125-1L
10712.00	ccp	Ca : lt gy w to lt gy pi	0.45	0.38	0.45	0.84	0.06	633	750	0.8	0.54	431	0126-1L
10715.00	ccp	Ca : lt gy w to lt gy pi	0.17	0.11	0.42	0.26	0.02	550	2100	0.3	0.61	426	0127-1L
10718.00	ccp	Ca : lt gy w to lt gy pi	4.31	0.75	0.62	1.21	0.41	183	151	5.1	0.85	427	0128-1L
10721.00	ccp	Ca : lt gy w to lt gy pi	1.86	0.75	0.52	1.44	0.21	357	248	2.6	0.71	430	0129-1L
10724.00	ccp	Ca : lt gy w to lt gy pi	1.65	0.60	0.42	1.43	0.18	333	233	2.3	0.73	434	0130-1L
10727.00	ccp	Ca : lt gy w to lt gy pi	2.36	0.47	0.59	0.80	0.23	204	257	2.8	0.83	424	0131-1L
10730.00	ccp	Ca : lt gy w to lt gy pi	2.71	0.36	0.58	0.62	0.25	144	232	3.1	0.88	424	0132-1L
10733.00	ccp	Ca : lt gy w to m gy w	6.33	0.65	0.53	1.23	0.57	114	93	7.0	0.91	427	0133-1L
10736.00	ccp	Ca : lt gy w to m gy w	0.58	0.30	0.47	0.64	0.07	429	671	0.9	0.66	424	0134-1L
10739.00	ccp	Ca : lt gy w to lt gy pi	1.79	0.45	0.49	0.92	0.18	250	272	2.2	0.80	423	0135-1L
10742.00	ccp	Ca : lt gy w to lt gy pi	0.39	0.26	0.45	0.58	0.05	520	900	0.6	0.60	431	0136-1L
10745.00	ccp	Ca : lt gy w to lt gy pi	2.10	0.78	0.46	1.70	0.23	339	200	2.9	0.73	435	0137-1L
10748.00	ccp	Ca : lt gy w	4.57	0.93	0.49	1.90	0.45	207	109	5.5	0.83	440	0138-1L

Table 3: Results of TLC-FID analysis: Absolute yields in mg/g rock for well NOCS 2/7-30

Depth unit of measure: ft

Depth	S Tp	F Tp	Lithology	Sat HC	Aro HC	Resins	Asp	Tot HC	Tot Pol	Tot EOM	Sample	
1.00	mud	B	BULK FRACTION	—	—	—	—	—	—	—	0139-0	B
10302.00	ccp	L	MARL	0.188	0.028	1.534	0.257	0.216	1.792	2.007	0001-1	L
10305.00	ccp	L	MARL	0.000	0.000	0.069	0.125	0.000	0.194	0.194	0002-1	L
10308.00	ccp	L	CARBONATE	0.000	0.000	0.072	0.072	0.000	0.144	0.144	0003-1	L
10311.00	ccp	L	CARBONATE	0.000	0.000	0.000	0.027	0.000	0.027	0.027	0004-1	L
10314.00	ccp	L	CARBONATE	0.000	0.000	0.887	0.115	0.000	1.002	1.002	0005-1	L
10317.00	ccp	L	CARBONATE	0.000	0.000	0.567	0.089	0.000	0.656	0.656	0006-1	L
10320.00	ccp	L	CARBONATE	0.000	0.000	0.739	0.113	0.000	0.852	0.852	0007-1	L
10323.00	ccp	L	CARBONATE	0.000	0.000	0.038	0.053	0.000	0.091	0.091	0008-1	L
10326.00	ccp	L	CARBONATE	0.000	0.000	1.304	0.105	0.000	1.409	1.409	0009-1	L
10329.00	ccp	L	CARBONATE	0.000	0.000	0.583	0.094	0.000	0.677	0.677	0010-1	L
10332.00	ccp	L	CARBONATE	0.000	0.000	0.614	0.082	0.000	0.696	0.696	0011-1	L
10335.00	ccp	L	CARBONATE	1.594	0.726	1.702	0.209	2.320	1.911	4.231	0012-1	L
10338.00	cut	L	CARBONATE	4.300	2.676	12.451	1.871	6.977	14.322	21.299	0013-1	L
10341.00	ccp	L	MARL	0.000	0.000	0.074	0.056	0.000	0.131	0.131	0014-1	L
10344.00	ccp	L	CARBONATE	1.072	0.353	1.356	0.726	1.425	2.082	3.507	0015-1	L

Table 3: Results of TLC-FID analysis: Absolute yields in mg/g rock for well NOCS 2/7-30

Depth unit of measure: ft

Depth	S Tp	F Tp	Lithology	Sat HC	Aro HC	Resins	Asp	Tot HC	Tot Pol	Tot EOM	Sample	
10347.00	ccp	L	CARBONATE	0.000	0.000	3.272	0.357	0.000	3.629	3.629	0016-1	L
10350.00	ccp	L	CARBONATE	0.666	0.207	1.047	0.318	0.873	1.364	2.237	0017-1	L
10353.00	ccp	L	CARBONATE	0.154	0.000	0.843	0.119	0.154	0.963	1.116	0018-1	L
10356.00	ccp	L	CARBONATE	0.000	0.000	2.071	0.247	0.000	2.317	2.317	0019-1	L
10359.00	ccp	L	CARBONATE	4.142	1.761	0.955	0.879	5.902	1.834	7.736	0020-1	L
10362.00	ccp	L	CARBONATE	0.000	0.000	0.716	0.144	0.000	0.860	0.860	0021-1	L
10363.00	ccp	L	CARBONATE	5.998	3.958	3.545	1.483	9.955	5.027	14.983	0022-1	L
10366.00	ccp	L	CARBONATE	0.000	0.000	1.626	0.189	0.000	1.815	1.815	0023-1	L
10369.00	ccp	L	CARBONATE	0.000	0.000	1.779	0.147	0.000	1.926	1.926	0024-1	L
10372.00	ccp	L	CARBONATE	0.000	0.000	2.976	0.139	0.000	3.115	3.115	0025-1	L
10381.00	ccp	L	CARBONATE	0.000	0.000	2.022	0.167	0.000	2.189	2.189	0026-1	L
10383.00	ccp	L	CARBONATE	4.476	2.374	3.578	1.385	6.850	4.963	11.813	0027-1	L
10384.00	ccp	L	CARBONATE	0.000	0.000	3.206	0.265	0.000	3.470	3.470	0028-1	L
10393.00	ccp	L	CARBONATE	0.000	0.000	3.407	0.064	0.000	3.472	3.472	0029-1	L
10393.00	ccp	L	SHALE/CLAYSTONE	0.000	0.000	3.347	0.137	0.000	3.484	3.484	0029-2	L
10395.00	ccp	L	CARBONATE	0.000	0.000	1.641	0.058	0.000	1.700	1.700	0031-1	L

Table 3: Results of TLC-FID analysis: Absolute yields in mg/g rock for well NOCS 2/7-30

Depth unit of measure: ft

Depth	S Tp	F Tp	Lithology	Sat HC	Aro HC	Resins	Asp	Tot HC	Tot Pol	Tot EOM	Sample	
10396.00	ccp	L	CARBONATE	0.097	0.082	0.814	0.060	0.180	0.874	1.054	0032-1	L
10399.00	ccp	L	SHALE/CLAYSTONE	0.000	0.000	0.167	0.052	0.000	0.219	0.219	0030-2	L
10405.00	ccp	L	CARBONATE	0.000	0.000	0.723	0.073	0.000	0.797	0.797	0033-1	L
10408.00	ccp	L	CARBONATE	0.000	0.000	0.168	0.055	0.000	0.223	0.223	0034-1	L
10411.00	ccp	L	CARBONATE	0.000	0.000	1.095	0.086	0.000	1.182	1.182	0035-1	L
10414.00	ccp	L	CARBONATE	0.000	0.000	0.700	0.087	0.000	0.787	0.787	0036-1	L
10417.00	ccp	L	CARBONATE	0.000	0.000	2.042	0.239	0.000	2.281	2.281	0037-1	L
10420.00	ccp	L	MARL	0.000	0.000	0.101	0.035	0.000	0.137	0.137	0038-1	L
10423.00	ccp	L	MARL	0.000	0.000	0.393	0.041	0.000	0.434	0.434	0039-1	L
10426.00	ccp	L	CARBONATE	0.000	0.000	1.215	0.219	0.000	1.434	1.434	0040-1	L
10429.00	ccp	L	CARBONATE	0.000	0.000	0.547	0.236	0.000	0.783	0.783	0041-1	L
10432.00	ccp	L	CARBONATE	0.000	0.000	0.041	0.014	0.000	0.055	0.055	0042-1	L
10435.00	ccp	L	CARBONATE	0.000	0.000	0.095	0.099	0.000	0.194	0.194	0043-1	L
10438.00	ccp	L	CARBONATE	0.000	0.000	0.359	0.054	0.000	0.413	0.413	0044-1	L
10441.00	ccp	L	CARBONATE	0.000	0.000	0.035	0.038	0.000	0.073	0.073	0045-1	L
10444.00	ccp	L	CARBONATE	0.000	0.000	0.107	0.057	0.000	0.164	0.164	0046-1	L

Depth unit of measure: ft

Depth	S Tp	F Tp	Lithology	Sat HC	Aro HC	Resins	Asp	Tot HC	Tot Pol	Tot EOM	Sample	
10447.00	ccp	L	CARBONATE	0.000	0.000	0.127	0.015	0.000	0.142	0.142	0047-1	L
10450.00	ccp	L	CARBONATE	0.000	0.000	0.120	0.021	0.000	0.140	0.140	0048-1	L
10453.00	ccp	L	CARBONATE	0.000	0.000	0.032	0.022	0.000	0.054	0.054	0049-1	L
10454.00	ccp	L	CARBONATE	0.000	0.000	0.156	0.043	0.000	0.199	0.199	0050-1	L
10457.00	ccp	L	CARBONATE	0.000	0.000	1.488	0.085	0.000	1.574	1.574	0051-1	L
10460.00	ccp	L	CARBONATE	0.000	0.000	1.186	0.144	0.000	1.330	1.330	0052-1	L
10463.00	ccp	L	CARBONATE	0.000	0.000	0.126	0.021	0.000	0.147	0.147	0053-1	L
10466.00	ccp	L	CARBONATE	0.000	0.000	0.921	0.035	0.000	0.955	0.955	0054-1	L
10469.00	ccp	L	CARBONATE	0.000	0.000	0.274	0.043	0.000	0.317	0.317	0055-1	L
10472.00	ccp	L	CARBONATE	0.195	0.000	4.555	0.158	0.195	4.713	4.908	0056-1	L
10475.00	ccp	L	CARBONATE	0.000	0.000	0.311	0.038	0.000	0.349	0.349	0057-1	L
10478.00	ccp	L	CARBONATE	0.000	0.000	0.834	0.060	0.000	0.894	0.894	0058-1	L
10481.00	ccp	L	CARBONATE	0.000	0.000	0.262	0.030	0.000	0.292	0.292	0059-1	L
10484.00	ccp	L	CARBONATE	0.000	0.000	0.563	0.086	0.000	0.649	0.649	0060-1	L
10487.00	ccp	L	CARBONATE	0.000	0.000	0.153	0.045	0.000	0.198	0.198	0061-1	L
10490.00	ccp	L	CARBONATE	0.000	0.000	0.325	0.074	0.000	0.399	0.399	0062-1	L

Table 3: Results of TLC-FID analysis: Absolute yields in mg/g rock for well NOCS 2/7-30

Depth unit of measure: ft

Depth	S Tp	F Tp	Lithology	Sat HC	Aro HC	Resins	Asp	Tot HC	Tot Pol	Tot EOM	Sample	
10493.00	ccp	L	CARBONATE	0.000	0.000	0.272	0.057	0.000	0.329	0.329	0063-1	L
10496.00	ccp	L	CARBONATE	0.000	0.000	0.689	0.081	0.000	0.770	0.770	0064-1	L
10499.00	ccp	L	CARBONATE	0.000	0.000	0.939	0.059	0.000	0.997	0.997	0065-1	L
10502.00	ccp	L	CARBONATE	0.110	0.039	1.369	0.086	0.149	1.455	1.604	0066-1	L
10505.00	ccp	L	CARBONATE	0.179	0.000	0.501	0.074	0.179	0.574	0.753	0067-1	L
10508.00	ccp	L	CARBONATE	0.000	0.000	0.082	0.018	0.000	0.101	0.101	0068-1	L
10511.00	ccp	L	CARBONATE	0.000	0.000	0.096	0.023	0.000	0.119	0.119	0069-1	L
10514.00	ccp	L	CARBONATE	0.051	0.000	6.727	0.296	0.051	7.022	7.073	0070-1	L
10517.00	ccp	L	CARBONATE	0.000	0.000	0.561	0.091	0.000	0.652	0.652	0071-1	L
10520.00	ccp	L	CARBONATE	0.000	0.000	0.511	0.024	0.000	0.535	0.535	0072-1	L
10523.00	ccp	L	CARBONATE	0.000	0.000	0.350	0.021	0.000	0.371	0.371	0073-1	L
10526.00	ccp	L	CARBONATE	0.081	0.000	1.043	0.050	0.081	1.093	1.173	0074-1	L
10529.00	ccp	L	CARBONATE	0.369	0.074	0.091	0.066	0.443	0.158	0.601	0075-1	L
10532.00	ccp	L	CARBONATE	0.264	0.060	1.261	0.089	0.324	1.350	1.674	0076-1	L
10535.00	ccp	L	CARBONATE	0.000	0.000	0.734	0.049	0.000	0.783	0.783	0077-1	L
10538.00	ccp	L	CARBONATE	0.000	0.000	0.322	0.037	0.000	0.359	0.359	0078-1	L

Table 3: Results of TLC-FID analysis: Absolute yields in mg/g rock for well NOCS 2/7-30

Depth unit of measure: ft

Depth	S Tp	F Tp	Lithology	Sat HC	Aro HC	Resins	Asp	Tot HC	Tot Pol	Tot EOM	Sample	
10541.00	ccp	L	CARBONATE	0.000	0.000	0.008	0.015	0.000	0.024	0.024	0079-1	L
10544.00	ccp	L	CARBONATE	0.000	0.000	0.047	0.027	0.000	0.074	0.074	0080-1	L
10545.00	ccp	L	CARBONATE	0.000	0.000	0.000	0.020	0.000	0.020	0.020	0081-1	L
10548.00	ccp	L	CARBONATE	0.000	0.000	0.065	0.018	0.000	0.083	0.083	0082-1	L
10551.00	ccp	L	CARBONATE	0.040	0.000	0.038	0.026	0.040	0.064	0.104	0083-1	L
10554.00	ccp	L	CARBONATE	0.000	0.000	0.107	0.019	0.000	0.126	0.126	0084-1	L
10557.00	ccp	L	CARBONATE	0.000	0.000	0.090	0.019	0.000	0.108	0.108	0085-1	L
10560.00	ccp	L	CARBONATE	0.000	0.000	0.150	0.032	0.000	0.182	0.182	0086-1	L
10563.00	ccp	L	CARBONATE	0.000	0.000	0.836	0.033	0.000	0.869	0.869	0087-1	L
10566.00	ccp	L	CARBONATE	0.000	0.000	0.165	0.022	0.000	0.187	0.187	0088-1	L
10569.00	ccp	L	CARBONATE	0.000	0.000	0.226	0.035	0.000	0.262	0.262	0089-1	L
10572.00	ccp	L	CARBONATE	0.000	0.000	0.648	0.104	0.000	0.752	0.752	0090-1	L
10575.00	ccp	L	CARBONATE	0.000	0.000	0.077	0.020	0.000	0.097	0.097	0091-1	L
10578.00	ccp	L	CARBONATE	0.000	0.000	0.121	0.068	0.000	0.189	0.189	0092-1	L
10581.00	ccp	L	CARBONATE	0.000	0.000	3.214	0.958	0.000	4.172	4.172	0093-1	L
10584.00	ccp	L	CARBONATE	0.000	0.000	0.008	0.026	0.000	0.034	0.034	0094-1	L

Table 3: Results of TLC-FID analysis: Absolute yields in mg/g rock for well NOCS 2/7-30

Depth unit of measure: ft

Depth	S Tp	F Tp	Lithology	Sat HC	Aro HC	Resins	Asp	Tot HC	Tot Pol	Tot EOM	Sample	
10587.00	ccp	L	CARBONATE	0.000	0.000	0.300	0.081	0.000	0.381	0.381	0095-1	L
10590.00	ccp	L	CARBONATE	0.000	0.000	0.025	0.030	0.000	0.055	0.055	0096-1	L
10593.00	ccp	L	CARBONATE	0.000	0.000	1.240	0.212	0.000	1.452	1.452	0097-1	L
10596.00	ccp	L	CARBONATE	0.000	0.000	0.062	0.030	0.000	0.092	0.092	0098-1	L
10599.00	ccp	L	CARBONATE	0.000	0.000	0.011	0.027	0.000	0.038	0.038	0099-1	L
10602.00	ccp	L	CARBONATE	0.000	0.000	0.000	0.021	0.000	0.021	0.021	0100-1	L
10605.00	ccp	L	CARBONATE	0.000	0.000	0.000	0.017	0.000	0.017	0.017	0101-1	L
10608.00	ccp	L	CARBONATE	0.000	0.000	0.034	0.038	0.000	0.072	0.072	0102-1	L
10611.00	ccp	L	CARBONATE	0.000	0.000	0.083	0.028	0.000	0.111	0.111	0103-1	L
10614.00	ccp	L	CARBONATE	0.000	0.000	0.191	0.053	0.000	0.244	0.244	0104-1	L
10617.00	ccp	L	CARBONATE	0.000	0.000	1.174	0.093	0.000	1.267	1.267	0105-1	L
10620.00	ccp	L	CARBONATE	0.000	0.000	2.455	0.201	0.000	2.656	2.656	0106-1	L
10623.00	ccp	L	CARBONATE	0.064	0.000	16.594	0.769	0.064	17.364	17.428	0107-1	L
10658.00	ccp	L	CARBONATE	0.073	0.000	17.374	0.666	0.073	18.040	18.113	0108-1	L
10661.00	ccp	L	CARBONATE	1.316	0.105	8.343	1.088	1.422	9.431	10.852	0109-1	L
10664.00	ccp	L	CARBONATE	0.038	0.000	10.061	0.697	0.038	10.758	10.796	0110-1	L

Table 3: Results of TLC-FID analysis: Absolute yields in mg/g rock for well NOCS 2/7-30

Depth unit of measure: ft

Depth	S Tp	F Tp	Lithology	Sat HC	Aro HC	Resins	Asp	Tot HC	Tot Pol	Tot EOM	Sample	
10667.00	ccp	L	CARBONATE	0.000	0.000	0.242	0.047	0.000	0.288	0.288	0111-1	L
10670.00	ccp	L	CARBONATE	0.000	0.000	0.674	0.043	0.000	0.717	0.717	0112-1	L
10673.00	ccp	L	CARBONATE	0.052	0.000	0.923	0.046	0.052	0.969	1.021	0113-1	L
10676.00	ccp	L	CARBONATE	0.049	0.000	3.501	0.086	0.049	3.586	3.636	0114-1	L
10679.00	ccp	L	CARBONATE	0.000	0.000	1.134	0.055	0.000	1.189	1.189	0115-1	L
10682.00	ccp	L	CARBONATE	0.000	0.000	2.805	0.067	0.000	2.872	2.872	0116-1	L
10685.00	ccp	L	CARBONATE	0.000	0.000	0.918	0.059	0.000	0.977	0.977	0117-1	L
10688.00	ccp	L	CARBONATE	0.000	0.000	7.156	0.127	0.000	7.282	7.282	0118-1	L
10691.00	ccp	L	CARBONATE	0.076	0.000	9.651	0.226	0.076	9.877	9.952	0119-1	L
10694.00	ccp	L	CARBONATE	0.031	0.000	1.186	0.058	0.031	1.244	1.275	0120-1	L
10697.00	ccp	L	CARBONATE	0.000	0.000	3.580	0.091	0.000	3.670	3.670	0121-1	L
10700.00	ccp	L	CARBONATE	0.000	0.000	0.166	0.025	0.000	0.190	0.190	0122-1	L
10703.00	ccp	L	CARBONATE	0.000	0.000	0.035	0.013	0.000	0.048	0.048	0123-1	L
10706.00	ccp	L	CARBONATE	0.000	0.000	0.114	0.015	0.000	0.128	0.128	0124-1	L
10709.00	ccp	L	CARBONATE	0.031	0.000	1.039	0.054	0.031	1.092	1.124	0125-1	L
10712.00	ccp	L	CARBONATE	0.000	0.000	0.321	0.027	0.000	0.349	0.349	0126-1	L

Table 3: Results of TLC-FID analysis: Absolute yields in mg/g rock for well NOCS 2/7-30

Depth unit of measure: ft

Depth	S Tp	F Tp	Lithology	Sat HC	Aro HC	Resins	Asp	Tot HC	Tot Pol	Tot EOM	Sample	
10715.00	ccp	L	CARBONATE	0.000	0.000	0.084	0.023	0.000	0.107	0.107	0127-1	L
10718.00	ccp	L	CARBONATE	0.000	0.000	2.333	0.080	0.000	2.413	2.413	0128-1	L
10721.00	ccp	L	CARBONATE	0.000	0.000	1.347	0.102	0.000	1.449	1.449	0129-1	L
10724.00	ccp	L	CARBONATE	0.000	0.000	1.054	0.083	0.000	1.138	1.138	0130-1	L
10727.00	ccp	L	CARBONATE	0.000	0.000	1.174	0.067	0.000	1.242	1.242	0131-1	L
10730.00	ccp	L	CARBONATE	0.000	0.000	1.279	0.068	0.000	1.347	1.347	0132-1	L
10733.00	ccp	L	CARBONATE	0.039	0.000	4.039	0.160	0.039	4.199	4.238	0133-1	L
10736.00	ccp	L	CARBONATE	0.000	0.000	0.376	0.035	0.000	0.411	0.411	0134-1	L
10739.00	ccp	L	CARBONATE	0.000	0.000	1.078	0.033	0.000	1.110	1.110	0135-1	L
10742.00	ccp	L	CARBONATE	0.000	0.000	0.135	0.038	0.000	0.174	0.174	0136-1	L
10745.00	ccp	L	CARBONATE	0.000	0.000	1.806	0.055	0.000	1.861	1.861	0137-1	L
10748.00	ccp	L	CARBONATE	0.028	0.027	3.019	0.074	0.056	3.092	3.148	0138-1	L

Table 4 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 2/7-30

Depth unit of measure: ft

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
10302.00	ccp	Marl : lt gy	2.25	32.80	56.42	8.53	2.04	0001-1L
10335.00	ccp	Ca : lt gy w to lt brn pi	3.27	26.78	54.61	15.34	3.34	0012-1L
10338.00	cut	Ca : m gy w to lt brn pi	3.97	32.65	58.58	4.79	5.21	0013-1L
10344.00	ccp	Ca : w to lt gy w	3.15	26.31	53.24	17.31	2.03	0015-1L
10350.00	ccp	Ca : lt gy w to lt brn pi	2.37	28.11	53.30	16.22	1.37	0017-1L
10353.00	ccp	Ca : lt gy w to lt gy pi	3.45	24.51	52.81	19.23	0.88	0018-1L
10359.00	ccp	Ca : lt gy pi	6.26	33.38	51.43	8.92	3.63	0020-1L
10363.00	ccp	Ca : lt gy pi	6.49	31.31	51.98	10.21	5.78	0022-1L
10383.00	ccp	Ca : lt brn pi	10.81	30.48	51.10	7.60	3.37	0027-1L
10396.00	ccp	Ca : lt gy w to m gy w to lt gy	5.82	22.33	57.75	14.10	0.95	0032-1L
10472.00	ccp	Ca : m gy w to lt gy pi	3.28	27.96	57.36	11.39	2.77	0056-1L
10502.00	ccp	Ca : lt gy w to lt or gy	2.39	23.22	54.21	20.19	1.48	0066-1L
10505.00	ccp	Ca : lt gy w to lt or gy	2.53	25.79	53.72	17.96	0.84	0067-1L
10514.00	ccp	Ca : lt gy w to lt or gy	6.12	34.20	56.95	2.73	1.82	0070-1L
10526.00	ccp	Ca : lt gy w to lt or gy	2.53	24.87	53.22	19.38	1.21	0074-1L

Table 4 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 2/7-30

Depth unit of measure: ft

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
10529.00	ccp	Ca : lt gy w to lt or gy to lt ol gy	3.46	28.86	52.39	15.28	0.59	0075-1L
10532.00	ccp	Ca : lt gy w	10.32	24.05	46.12	19.51	1.78	0076-1L
10551.00	ccp	Ca : lt gy w	23.94	28.35	46.28	1.44	0.12	0083-1L
10623.00	ccp	Ca : lt gy w to lt gy pi	5.05	28.54	61.39	5.02	1.21	0107-1L
10658.00	ccp	Ca : m gy w to lt gy	5.15	27.63	61.50	5.72	1.04	0108-1L
10661.00	ccp	Ca : lt gy w	45.27	24.05	28.08	2.60	4.21	0109-1L
10664.00	ccp	Ca : lt gy w to lt gy pi	6.33	17.04	64.03	12.60	0.89	0110-1L
10673.00	ccp	Ca : m gy w to lt gy pi	9.51	42.34	41.23	6.93	0.48	0113-1L
10676.00	ccp	Ca : lt gy w to lt gy pi	7.42	37.09	50.71	4.78	0.66	0114-1L
10691.00	ccp	Ca : lt gy w	7.34	31.70	52.76	8.20	0.75	0119-1L
10694.00	ccp	Ca : lt gy w to lt gy pi	13.22	35.05	48.66	3.07	0.40	0120-1L
10709.00	ccp	Ca : lt gy w	12.07	20.19	61.62	6.12	0.62	0125-1L
10733.00	ccp	Ca : lt gy w to m gy w	10.63	25.92	56.61	6.84	0.65	0133-1L
10748.00	ccp	Ca : lt gy w	10.61	21.54	54.64	13.21	0.93	0138-1L

Table 5a: Variation in Triterpane Distribution (peak height) GHM for Well NOCS 2/7-30

Depth unit of measure: ft

Depth	Lithology	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Ratio6	Ratio7	Ratio8	Ratio9	Rat.10	Rat.11	Rat.12	Rat.13	Rat.14	Sample
Mud sample		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0139-0
10302.00	Marl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0001-1
10335.00	Ca	0.75	0.43	0.14	0.56	0.36	0.08	0.04	0.06	0.03	-	0.91	0.36	0.10	59.78	0012-1
10338.00	Ca	0.72	0.42	0.11	0.49	0.33	0.08	-	-	-	0.02	0.89	0.33	0.12	60.83	0013-1
10344.00	Ca	0.77	0.43	0.12	0.51	0.34	0.07	0.03	0.06	0.03	0.04	0.90	0.34	0.12	60.42	0015-1
10350.00	Ca	0.81	0.45	0.12	0.52	0.34	0.07	0.03	0.06	0.03	0.04	0.90	0.35	0.11	60.21	0017-1
10353.00	Ca	0.71	0.42	0.13	0.58	0.37	0.07	0.03	0.06	0.03	0.07	0.91	0.37	0.10	62.13	0018-1
10359.00	Ca	0.76	0.43	0.10	0.49	0.33	0.07	0.03	0.06	0.03	0.03	0.90	0.33	0.11	60.47	0020-1
10363.00	Ca	0.73	0.42	0.10	0.48	0.32	0.07	0.03	0.06	0.03	0.03	0.90	0.33	0.12	60.73	0022-1
10383.00	Ca	0.77	0.43	0.11	0.50	0.33	0.08	0.03	0.06	0.03	0.03	0.89	0.34	0.12	59.56	0027-1
10502.00	Ca	0.93	0.48	0.16	0.56	0.36	0.07	0.04	0.06	0.03	0.06	0.91	0.36	0.11	60.61	0066-1
10505.00	Ca	0.73	0.42	0.13	0.55	0.35	0.07	0.03	0.06	0.03	0.06	0.91	0.36	0.10	60.18	0067-1
10526.00	Ca	0.74	0.43	0.17	0.61	0.38	0.06	0.04	0.06	0.04	0.10	0.92	0.38	0.09	60.69	0074-1
10529.00	Ca	0.75	0.43	0.12	0.51	0.34	0.06	0.03	0.06	0.03	0.05	0.91	0.34	0.10	60.15	0075-1
10532.00	Ca	0.85	0.46	0.14	0.53	0.35	0.07	0.04	0.07	0.03	0.04	0.90	0.35	0.12	61.07	0076-1

List of Triterpane Distribution Ratios

Ratio 1: B / A

Ratio 2: B / B+A

Ratio 3: B / B+E+F

Ratio 4: C / E

Ratio 5: C / C+E

Ratio 6: X / E

Ratio 7: Z / E

Ratio 8: Z / C

Ratio 9: Z / Z+E

Ratio 10: Q / E

Ratio 11: E / E+F

Ratio 12: C+D / C+D+E+F

Ratio 13: D+F / C+E

Ratio 14: J1 / J1+J2 (%)

Table 5b: Variation in Sterane Distribution (peak height) GHM for Well NOCS 2/7-30

Depth unit of measure: ft

Depth	Lithology	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Ratio6	Ratio7	Ratio8	Ratio9	Ratio10	Sample
Mud sample		-	-	-	-	-	-	-	-	-	-	0139-0
10302.00	Marl	-	-	-	-	-	-	-	-	-	-	0001-1
10335.00	Ca	-	39.21	62.42	-	0.68	-	-	0.45	0.65	1.37	0012-1
10338.00	Ca	0.37	38.21	69.16	0.39	0.75	0.19	0.13	0.53	0.62	1.81	0013-1
10344.00	Ca	0.43	37.35	68.06	0.53	0.74	0.25	0.17	0.52	0.60	1.70	0015-1
10350.00	Ca	0.45	36.90	67.24	0.59	0.74	0.27	0.19	0.51	0.58	1.63	0017-1
10353.00	Ca	0.48	36.93	68.84	0.81	0.75	0.40	0.29	0.52	0.59	1.75	0018-1
10359.00	Ca	0.43	36.54	66.74	0.66	0.73	0.18	0.12	0.50	0.58	1.58	0020-1
10363.00	Ca	0.42	37.38	67.71	0.49	0.74	0.26	0.18	0.51	0.60	1.67	0022-1
10383.00	Ca	0.39	37.93	66.92	0.46	0.73	0.27	0.19	0.50	0.61	1.63	0027-1
10502.00	Ca	0.44	38.49	69.52	0.55	0.75	0.36	0.24	0.53	0.63	1.85	0066-1
10505.00	Ca	0.49	37.72	70.50	0.79	0.76	0.36	0.25	0.54	0.61	1.92	0067-1
10526.00	Ca	0.50	38.89	75.46	0.71	0.80	0.49	0.33	0.61	0.64	2.52	0074-1
10529.00	Ca	0.50	35.71	72.40	0.79	0.79	0.37	0.26	0.57	0.56	2.04	0075-1
10532.00	Ca	0.44	38.58	70.99	0.49	0.76	0.29	0.20	0.55	0.63	1.99	0076-1

List of Sterane Distribution Ratios

Ratio 1: a / a+j

Ratio 2: q / q+t (%)

Ratio 3: 2*(r+s) / (q+t + 2*(r+s)) (%)

Ratio 4: a+b+c+d / h+k+l+n

Ratio 5: r+s / r+s+q

Ratio 6: u+v / u+v+q+r+s+t

Ratio 7: u+v / u+v+i+m+n+q+r+s+t

Ratio 8: r+s / q+r+s+t

Ratio 9: q / t

Ratio 10: r+s / t

Table 5c: Variation in Triaromatic Sterane Distribution (peak height) for Well NOCS 2/7-30

Depth unit of measure: ft

Depth	Lithology	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Sample
Mud sample		-	-	-	-	-	0139-0
10302.00	Marl	-	-	-	-	-	0001-1
10335.00	Ca	0.42	0.30	0.11	0.15	0.16	0012-1
10338.00	Ca	0.31	0.37	0.13	0.12	0.15	0013-1
10344.00	Ca	0.45	0.50	0.20	0.20	0.24	0015-1
10350.00	Ca	0.48	0.53	0.21	0.21	0.24	0017-1
10353.00	Ca	0.64	0.68	0.29	0.30	0.33	0018-1
10359.00	Ca	0.38	0.41	0.15	0.15	0.19	0020-1
10363.00	Ca	0.45	0.47	0.19	0.19	0.23	0022-1
10383.00	Ca	0.42	0.42	0.18	0.18	0.22	0027-1
10502.00	Ca	0.56	0.67	0.28	0.25	0.29	0066-1
10505.00	Ca	0.62	0.67	0.29	0.28	0.32	0067-1
10526.00	Ca	0.80	0.86	0.44	0.41	0.46	0074-1

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 5c: Variation in Triaromatic Sterane Distribution (peak height) for Well NOCS 2/7-30

Depth unit of measure: ft

Depth	Lithology	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Sample
10529.00	Ca	0.66	0.65	0.31	0.32	0.39	0075-1
10532.00	Ca	0.58	0.61	0.25	0.25	0.29	0076-1

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 5d: Raw triterpane data (peak height) m/z 191 GHM for Well NOCS 2/7-30

Depth unit of measure: ft

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				
Mud sample		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0139-0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		0.0	0.0	0.0	0.0	0.0	0.0				
10302.00	Marl	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0001-1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		0.0	0.0	0.0	0.0	0.0	0.0				
10335.00	Ca	0.0	0.0	0.0	0.0	0.0	295424.0	222978.0	43104.0	686981.0	0012-1
		95772.0	72497.0	1219821.0	126952.0	420894.0	278597.0	53079.0	225557.0	151753.0	
		142615.0	91629.0	55772.0	33643.0	21904.0	12787.0				
10338.00	Ca	10030.0	7682.0	9203.0	13790.0	0.0	63517.0	45967.0	0.0	156139.0	0013-1
		24279.0	20784.0	319040.0	37524.0	134860.0	98684.0	21407.0	83403.0	53705.0	
		59701.0	47253.0	28893.0	19330.0	18914.0	7240.0				
10344.00	Ca	27669.0	17450.0	11839.0	27702.0	6225.0	94136.0	72344.0	15930.0	253822.0	0015-1
		35793.0	31471.0	497871.0	55075.0	184026.0	133208.0	25752.0	120364.0	78834.0	
		88527.0	57095.0	38745.0	25221.0	19265.0	13448.0				

Table 5d: Raw triterpane data (peak height) m/z 191 GHM for Well NOCS 2/7-30

Depth unit of measure: ft

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				
10350.00	Ca	20712.0	14832.0	8064.0	20639.0	5550.0	69087.0	56152.0	11081.0	190170.0	0017-1
		25852.0	24246.0	367145.0	38727.0	135902.0	95088.0	17236.0	79058.0	52241.0	
		54096.0	35812.0	24972.0	16364.0	10754.0	7068.0				
10353.00	Ca	8299.0	5755.0	3161.0	7749.0	2223.0	19994.0	14274.0	2883.0	50305.0	0018-1
		5946.0	4825.0	86548.0	8391.0	30527.0	21174.0	3859.0	17411.0	10611.0	
		9937.0	5637.0	3384.0	2082.0	1530.0	0.0				
10359.00	Ca	19837.0	13967.0	9369.0	23403.0	6324.0	89858.0	68534.0	15804.0	263528.0	0020-1
		37492.0	32315.0	534293.0	56629.0	203809.0	143662.0	27393.0	129214.0	84466.0	
		91061.0	60415.0	40051.0	25131.0	18181.0	11985.0				
10363.00	Ca	49708.0	27213.0	17789.0	41666.0	8622.0	140302.0	101962.0	24198.0	374955.0	0022-1
		52480.0	48996.0	785678.0	86988.0	303128.0	210921.0	41574.0	191835.0	124060.0	
		135222.0	92237.0	64710.0	40523.0	31440.0	18493.0				
10383.00	Ca	54025.0	26507.0	17326.0	37571.0	5829.0	148809.0	114303.0	25949.0	401546.0	0027-1
		60945.0	54847.0	809148.0	96206.0	331683.0	229648.0	45669.0	210277.0	142757.0	
		146794.0	98567.0	73417.0	47542.0	35090.0	25171.0				

Table 5d: Raw triterpane data (peak height) m/z 191 GHM for Well NOCS 2/7-30

Depth unit of measure: ft

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				
10502.00	Ca	7174.0	4628.0	2226.0	6330.0	1189.0	18139.0	16869.0	2956.0	46075.0	0066-1
		5680.0	5259.0	82571.0	8596.0	28480.0	20005.0	3253.0	17168.0	11158.0	
		11466.0	7196.0	4737.0	2879.0	3116.0	1570.0				
10505.00	Ca	5675.0	4166.0	2170.0	5772.0	1816.0	15971.0	11637.0	2445.0	39140.0	0067-1
		4909.0	4211.0	71211.0	7122.0	23719.0	16779.0	3177.0	13231.0	8753.0	
		8465.0	5285.0	3434.0	2366.0	1424.0	1017.0				
10526.00	Ca	5869.0	4467.0	1938.0	6528.0	1329.0	13357.0	9887.0	1694.0	26978.0	0074-1
		2466.0	2687.0	44103.0	3776.0	12374.0	8594.0	1529.0	6076.0	3935.0	
		2758.0	1726.0	1134.0	859.0	0.0	0.0				
10529.00	Ca	19434.0	13464.0	7250.0	16882.0	5504.0	52849.0	39884.0	8373.0	134655.0	0075-1
		16231.0	15468.0	261474.0	24508.0	83458.0	58622.0	10950.0	45885.0	30404.0	
		27739.0	17866.0	10618.0	6505.0	5075.0	2674.0				
10532.00	Ca	23286.0	13720.0	7915.0	19006.0	4602.0	64380.0	54912.0	11134.0	166561.0	0076-1
		21624.0	21460.0	311724.0	34234.0	111349.0	77420.0	14726.0	61989.0	39523.0	
		37834.0	24252.0	15388.0	9385.0	6222.0	4023.0				

Table 5e: Raw sterane data (peak height) m/z 217 GHM for Well NOCS 2/7-30

Depth unit of measure: ft

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					
Mud sample		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0139-0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		0.0	0.0	0.0	0.0	0.0					
10302.00	Marl	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0001-1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		0.0	0.0	0.0	0.0	0.0					
10335.00	Ca	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61510.0	165083.0	0012-1
		265413.0	162435.0	257648.0	124049.0	51645.0	73398.0	107039.0	120922.0		
		117075.0	117541.0	137259.0	111705.0	182206.0					
10338.00	Ca	22291.0	14538.0	32725.0	20666.0	0.0	0.0	0.0	13189.0	28484.0	0013-1
		65296.0	38512.0	56508.0	21512.0	11263.0	21690.0	38354.0	37982.0		
		25974.0	28415.0	44565.0	38810.0	45946.0					
10344.00	Ca	52663.0	27826.0	67787.0	45451.0	0.0	0.0	0.0	20515.0	50937.0	0015-1
		106961.0	61665.0	91418.0	36455.0	17272.0	27665.0	52554.0	55335.0		
		43021.0	43874.0	65408.0	59712.0	73586.0					

Depth unit of measure: ft

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					
10350.00	Ca	39369.0	20507.0	50468.0	33958.0	0.0	0.0	0.0	15575.0	32984.0	0017-1
		71944.0	42648.0	60602.0	24978.0	10533.0	18639.0	34678.0	37443.0		
		28819.0	29652.0	43914.0	38545.0	50701.0					
10353.00	Ca	17172.0	9849.0	15728.0	10715.0	0.0	7242.0	6516.0	3754.0	9541.0	0018-1
		20719.0	12125.0	16993.0	7798.0	3353.0	5381.0	9796.0	9824.0		
		7150.0	7071.0	11721.0	9435.0	12077.0					
10359.00	Ca	29704.0	19966.0	61192.0	41626.0	0.0	16885.0	18616.0	16431.0	44247.0	0020-1
		85367.0	53758.0	82545.0	34553.0	16265.0	24975.0	46513.0	49326.0		
		41555.0	42400.0	63433.0	53004.0	73650.0					
10363.00	Ca	90927.0	45741.0	103893.0	61954.0	0.0	0.0	0.0	29345.0	81655.0	0022-1
		166208.0	100902.0	146055.0	59926.0	30169.0	42483.0	80920.0	84980.0		
		65844.0	69177.0	104971.0	89063.0	115878.0					
10383.00	Ca	104518.0	47142.0	101227.0	61042.0	0.0	0.0	0.0	30295.0	79431.0	0027-1
		172159.0	102222.0	155675.0	64188.0	29858.0	45229.0	83069.0	88754.0		
		71211.0	78200.0	110928.0	97581.0	127944.0					

Table 5e: Raw sterane data (peak height) m/z 217 GHM for Well NOCS 2/7-30 Page: 3

Depth unit of measure: ft

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					
10502.00	Ca	14010.0	7952.0	13387.0	8738.0	0.0	0.0	0.0	5913.0	10271.0	0066-1
		20319.0	12296.0	16780.0	6743.0	3008.0	6505.0	10525.0	10251.0		
		6859.0	6960.0	11226.0	9395.0	11122.0					
10505.00	Ca	11295.0	6656.0	12372.0	7369.0	0.0	5771.0	5379.0	3011.0	7188.0	0067-1
		15918.0	10395.0	12745.0	5799.0	2674.0	4020.0	7981.0	8183.0		
		5872.0	5544.0	9761.0	7799.0	9153.0					
10526.00	Ca	13604.0	7655.0	9748.0	5536.0	0.0	5121.0	4702.0	3169.0	5961.0	0074-1
		14713.0	10402.0	9558.0	5642.0	1977.0	3111.0	6468.0	6733.0		
		4066.0	3411.0	6956.0	6529.0	5361.0					
10529.00	Ca	47895.0	23572.0	43589.0	25974.0	12848.0	11577.0	18313.0	11678.0	23333.0	0075-1
		58213.0	39555.0	44466.0	22486.0	9096.0	13346.0	28858.0	31255.0		
		20756.0	18699.0	37179.0	31499.0	33669.0					
10532.00	Ca	44691.0	23760.0	50627.0	30205.0	0.0	0.0	0.0	14722.0	39415.0	0076-1
		85045.0	51531.0	63230.0	27483.0	12359.0	20283.0	40946.0	41000.0		
		28157.0	28526.0	49360.0	41129.0	45421.0					

Table 5f: Raw triaromatic sterane data (peak height) m/z 231 for Well NOCS 2/7-30

Depth unit of measure: ft

Depth	Lithology	a1	b1	c1	d1	e1	f1	g1	Sample
Mud sample		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0139-0
10302.00	Marl	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0001-1
10335.00	Ca	73669.0	43880.0	183791.0	398632.0	192100.0	123014.0	102790.0	0012-1
10338.00	Ca	25047.0	33285.0	64925.0	145446.0	69459.0	54988.0	56662.0	0013-1
10344.00	Ca	65689.0	79407.0	87453.0	211721.0	106806.0	83522.0	78833.0	0015-1
10350.00	Ca	45358.0	54753.0	59545.0	141818.0	73683.0	51751.0	48524.0	0017-1
10353.00	Ca	11706.0	13800.0	10932.0	23563.0	12504.0	8879.0	6563.0	0018-1
10359.00	Ca	51558.0	56933.0	88516.0	223205.0	110895.0	88516.0	82874.0	0020-1
10363.00	Ca	111011.0	120639.0	140769.0	374556.0	183830.0	144729.0	135065.0	0022-1
10383.00	Ca	119989.0	118465.0	165277.0	418691.0	205006.0	164698.0	164215.0	0027-1
10502.00	Ca	11539.0	18478.0	13632.0	28492.0	14727.0	10391.0	9036.0	0066-1
10505.00	Ca	9018.0	11388.0	8512.0	18982.0	10711.0	7299.0	5550.0	0067-1
10526.00	Ca	6391.0	9678.0	3645.0	7373.0	4330.0	3310.0	1639.0	0074-1
10529.00	Ca	37464.0	34843.0	24528.0	59528.0	35724.0	25648.0	18959.0	0075-1
10532.00	Ca	44810.0	52242.0	48454.0	110822.0	56515.0	41319.0	33115.0	0076-1