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REGISTRATION

GEOLOGICAL SURVEY

Geochemical Report for

Well NOCS 17/9-1

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Chapter 1

INTRODUCTION

1.1 General Comments

Only lithological description and vitrinite reflection analysis were performed on this well. The lithological description was performed to be able to select the best samples for vitrinite reflection analysis.

1.2 Analytical Program

<u>Analysis type</u>	<u>No of samples</u>	<u>Figures</u>	<u>Tables</u>
Lithology description	197	1	1
Vitrinite reflectance	25	2	2,3

Experimental Procedures

Headspace Gas Analysis

The analysis is performed using a Perkin Elmer 8310 gas chromatograph with a 50 m Plot fused silica Al_2O_3/KCL column, loop injector and flame ionization detector. Nitrogen is used as carrier gas and the column is run from 70°C to 200°C, at a rate of 12°C/min. Final hold time is 5 min.

Two cm^3 of headspace gas are removed from each sample can for chromatographic analysis of the C_1 to C_7 range of hydrocarbons.

Occluded Gas Analysis

The gas chromatograph used for this analysis is identical to that used for headspace gas analysis and is operated under the same conditions.

The canned samples are washed in thermostat-controlled water to remove drilling contaminants and sieved on a 2 mm mesh sieve to remove large, caved rock fragments. An aliquot (ca 25 mg) of sieved sample is crushed with 25 cm^3 water in an airtight ball mill. After crushing, 2 cm^3 of the released gas are removed from the ball mill for gas chromatographic analysis.

Total Organic Carbon (TOC) and Total Carbon Analysis

This analysis is performed using a LECO CS244 Carbon Analyser.

Hand-picked lithologies from cuttings samples are crushed with a mortar and pestle and approximately 200 mg (50 mg for coals) are accurately weighed into LECO crucibles. The samples are then treated three times with 10 % hydrochloric acid to

remove oxidized (carbonate) carbon, and washed four times with distilled water. The samples are dried on a hotplate at 60 - 70°C before analysis of total organic carbon. Total carbon is also analysed on the same instrument using approximately 200 mg of untreated crushed whole rock. Oxidized (carbonate) carbon is calculated by weight difference.

Total organic carbon can also be analysed on the Rock-Eval II Pyrolyser during the normal run of the instrument.

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.

Solvent Extraction of Organic Matter (EOM)

The samples are extracted using a Tecator Soxtec HT-System. Carefully weighed samples are taken in a pre-extracted thimble. Some activated copper is added to the extraction cup and dichloromethane is used as an extraction solvent. The samples are boiled for 1 hour and then rinsed for 2 hours. If the samples contain more than 10 % TOC, then the whole procedure is repeated once. The resulting solution is filtered and the solvent removed by rotary evaporation (200 mb, 30°C). The amount of EOM is gravimetrically established.

Removal of Asphaltenes

Asphaltenes are removed from the EOM by precipitation in n-pentane. N-pentane is added to the EOM and the solution is then stored in the dark and at ambient temperature for at least 8 hours. The solution is then filtered (Baker 10-spe system) and the precipitated asphaltenes dissolved in dichloromethane are returned to the original flask. The solvent is removed by rotary evaporation (200 mb and 30°C).

Chromatographic Separation of deasphalted EOM

Chromatographic separation is performed using an MPLC system developed by the company. The EOM (minus asphaltenes) is injected into the MPLC and separated using hexane as an eluent. The saturated and aromatic hydrocarbon fractions are collected and the solvent removed using a rotary evaporator at 30°C. The fractions are then transferred to small pre-weighed vials and evaporated to dryness in a stream of nitrogen. The vials are re-weighed to obtain the weights of both the saturated and the aromatic fractions. The weight of the NSO fraction which is retained on the column, is obtained by weight difference.

Gas Chromatographic Analyses

Saturated hydrocarbon fractions:

The instrument used for this analysis is a PERKIN ELMER 8320 Gas Chromatograph equipped with an FID detector and an OV1 column. The carrier gas is helium and the temperature program runs from 80°C to 300°C at a rate of 4°C/min. Final hold time is 20 mins. The saturated hydrocarbon fraction is diluted by 1:30 and a 1 microlitre aliquot of this is injected into the instrument.

Aromatic hydrocarbon fractions:

The instrument used is a Varian 3400 Gas Chromatograph with a 25 m SE 54 capillary column, split injector and a column splitter leading to FID and FPD detectors, which allows simultaneous analysis of co-eluting hydrocarbons and sulphur compounds. The carrier gas is helium and the temperature program runs from 40°C to 290°C at a rate of 4°C/min. Final hold time is 10 mins. The aromatic hydrocarbon fraction is diluted by 1:30 and a 1 microlitre aliquot of this is injected into the instrument.

Whole Oil/Whole Extract

Whole oil chromatograms are determined on a Perkin Elmer Sigma 2000 gas chromatograph fitted with a split injector, 25 m SE54 capillary column and effluent splitter connected to FID and FPD detectors allowing simultaneous determination of hydrocarbons and sulphur compounds. Approximately 0.1 microlitres of whole oil are injected and the temperature program on the chromatograph runs from -10°C to 300°C at 4°C/min.

Vitrinite Reflectance Analysis

Samples to be analysed for vitrinite reflectance are ground to small granules (if necessary) using a pestle and mortar and are then mounted in a fast setting resin. The resin blocks are first ground flat using a coarse corundum paper to expose the rock granule surfaces and then with three finer grades of corundum paper to improve these surfaces and reduce scratches. The blocks are finally polished on a rotating Selvyt-covered lap using three grades of diamond suspension fluid. An appropriate lubricant is used when necessary.

Reflectance measurements are made under oil immersion at 546 nm using a Zeiss Universal Photo microscope II equipped with a HP 9000 series computer system. The polished blocks are mounted on the microscope stage and scanned manually in order to locate and measure particles of vitrinite. An attempt is made to obtain readings from 15-20 individual particles per sample, but this is not always possible in samples with low amounts of phytoclasts.

Visual Kerogen Microscopy

Kerogen concentrates are obtained from samples prepared by HCl and HF digestion followed by zinc bromide flotation to remove pyrite and other heavy mineral residues.

The cleaned concentrates are mounted on slides by smearing, these being analysed microscopically in transmitted white light and UV light (530 nm barrier filter) to determine the Spore Colour or Thermal Alteration Indices (SCI or TAI) and the colour and intensity of spore fluorescence. The spore colour index, backed by spore fluorescence, is used as an alternative maturity parameter to verify the results obtained from vitrinite reflectance.

Fluorescence Colour	Colour Index	Corresp. Vitrinite Reflectance
Green	1	0.2 %
Green/yellow	2	0.2-0.3 %
Yellow	3	0.3 %
Yellow/orange	4	0.4 %
Light orange	5	0.5 %
Moderate-orange	6	0.6 %
Dark orange	7	0.8 %
Dark orange/red	8	1.0 %
Spore fluorescence extinction	9	1.3 %

NB. This table only provides a rudimentary correlation as vitrinite reflectance and spore fluorescence colour are both independently affected by factors such as depositional environment and catenanic history.

Combined Gas Chromatography - Mass Spectrometry (GC-MS)

The GC-MS analyses are performed on a VG TS250 system interfaced to a Hewlett Packard 5890 gas chromatograph. The GC is fitted with a fused silica SE54 capillary column (40 m x 0.22 mm i.d.) directly into the ion source. Helium (12 psi) is used as carrier gas and the injections are performed in splitless mode. The GC oven is programmed from 45°C to 150°C at 35°C/min, at which point the programme rate is 2°C/min up to 310°C where the column is held isothermally for 15 min. For the aromatic hydrocarbons, the GC oven is programmed from 50°C to 310°C at 5°C/min. and held isothermally at 310°C for 15 min. The mass spectrometer is operated in electron impact (EI) mode at 70 eV electron energy, a trap current of 500 uA and a source temperature of 220°C. The instrument resolution used is 1500 (10 % value).

The data system used is a VG PDP11/73 for acquiring data, and a Vax station 3100

for peak processing the data. The samples are analysed in multiple ion detection mode (MID) at a scan cycle time of approximately 1.1 sec.

Calculation of peak ratios is performed from peak heights in the appropriate mass fragmentograms.

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. The molecular ions M/Z 370 and 384 are also recorded for identification of C₂₇ and C₂₈ triterpanes respectively.

Steranes

The most commonly used fragment ions for detection of steranes are M/Z 149 to distinguish between 5 α and 5 β steranes, M/Z 189 and 259 for detection of rearranged steranes, M/Z 217 for detection of rearranged and normal steranes and M/Z 218 for detection of 14 β (H) 17 β (H) steranes.

The M/Z 231 fragment ion is used to detect possible aromatic contamination of the saturated fraction. It is also used for detection of methyl 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 C₄-alkylbenzenes, but benzothiophene will also give a signal with this fragment ion.

Naphthalenes

Methyl naphthalenes are normally detected by the M/Z 142 fragment ion, while C₂-naphthalenes are detected by M/Z 156 and C₃-naphthalenes by M/Z 170.

Benzothiophenes and Dibenzothiophenes

Benzothiophene can be detected, as mentioned above, by M/Z 134. The M/Z 198 and M/Z 212 fragment ions are used for methyl-substituted dibenzothiophenes and dimethyl-substituted dibenzothiophenes respectively.

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 C₃ substituted phenanthrenes.

Aromatic Steranes

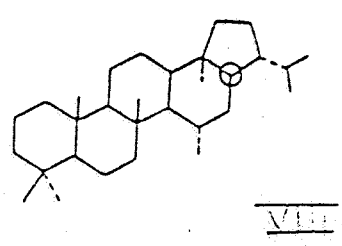
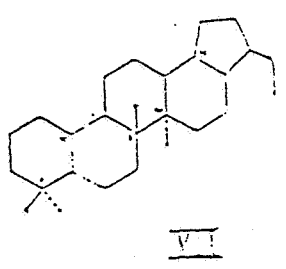
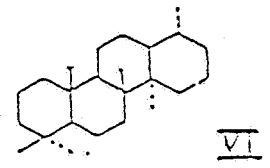
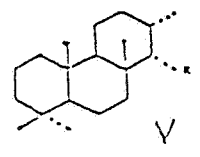
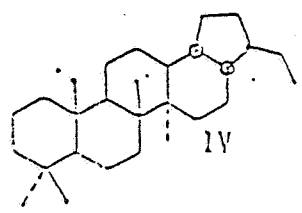
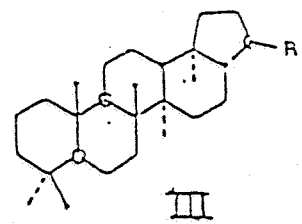
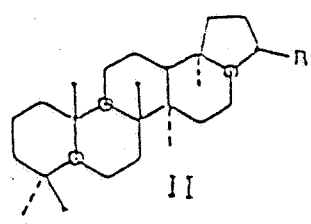
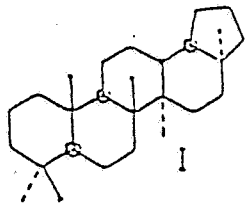
Monoaromatic steranes are detected using the M/Z 253 fragment ion, while the triaromatic steranes are detected using the M/Z 231 fragment ion.

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.	18 α trisnorneohopane (T _s)	C ₂₇ H ₄₄	(I)
B.	17 α trisnorhopane (T _m)	C ₂₇ H ₄₆	(II, R=H)
Z.	Bisnorhopane	C ₂₈ H ₄₈	(IV)
C.	$\alpha\beta$ norhopane	C ₂₉ H ₅₀	(II, R=C ₂ H ₅)
D.	$\beta\alpha$ norhopane	C ₂₉ H ₅₀	(III, R=C ₂ H ₅)
E.	$\alpha\beta$ hopane	C ₃₀ H ₅₂	(II, R=i-C ₃ H ₇)
F.	$\beta\alpha$ hopane	C ₃₀ H ₅₂	(III, R=i-C ₃ H ₇)
G.	22S $\alpha\beta$ homohopane	C ₃₁ H ₅₄	(II, R=i-C ₄ H ₉)
H.	22R $\alpha\beta$ homohopane	C ₃₁ H ₅₄	(II, R=i-C ₄ H ₉)
I.	$\beta\alpha$ homohopane	C ₃₁ H ₅₄	(III, R=i-C ₄ H ₉)
J.	22S $\alpha\beta$ bishomohopane	C ₃₂ H ₅₆	(II, R=i-C ₅ H ₁₁)
	22R $\alpha\beta$ bishomohopane	C ₃₂ H ₅₆	(II, R=i-C ₅ H ₁₁)
K.	22S $\alpha\beta$ trishomohopane	C ₃₃ H ₅₈	(II, R=i-C ₆ H ₁₃)
	22R $\alpha\beta$ trishomohopane	C ₃₃ H ₅₈	(II, R=i-C ₆ H ₁₃)
L.	22S $\alpha\beta$ tetrakishomohopane	C ₃₄ H ₆₀	(II, R=i-C ₇ H ₁₅)
	22R $\alpha\beta$ tetrakishomohopane	C ₃₄ H ₆₀	(II, R=i-C ₇ H ₁₅)
M.	22S $\alpha\beta$ pentakishomohopane	C ₃₅ H ₆₂	(II, R=i-C ₈ H ₁₇)
	22R $\alpha\beta$ pentakishomohopane	C ₃₅ H ₆₂	(II, R=i-C ₈ H ₁₇)
P.	Tricyclic terpene	C ₂₃ H ₄₂	(V, R=i-C ₄ H ₉)
Q.	Tricyclic terpene	C ₂₄ H ₄₄	(V, R=i-C ₅ H ₁₁)
R.	Tricyclic terpene (17R, 17S)	C ₂₅ H ₄₆	(V, R=i-C ₆ H ₁₃)
S.	Tetracyclic terpene	C ₂₄ H ₄₂	(VI)
T.	Tricyclic terpene (17R, 17S)	C ₂₆ H ₄₈	(V, R=i-C ₇ H ₁₅)
N.	Tricyclic terpene	C ₂₁ H ₃₈	(V, R=C ₂ H ₅)
O.	Tricyclic terpene	C ₂₂ H ₄₀	(V, R=C ₃ H ₇)
Y.	25,28,30-trisnorhopane/moretane	C ₂₇ H ₄₆	(VII)
X.	$\alpha\beta$ diahopane	C ₃₀ H ₅₂	(VIII)

STRUCTURES REPRESENTING TERPANES



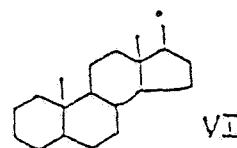
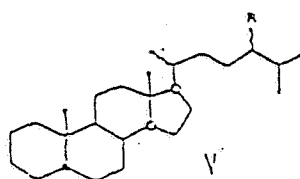
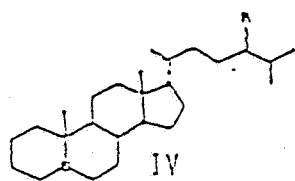
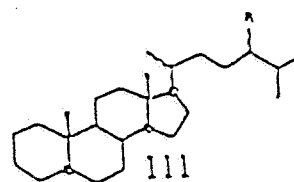
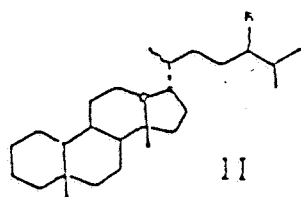
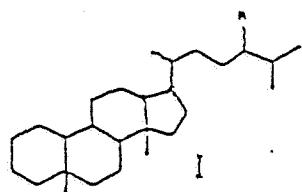
Mass Fragmentograms representing Steranes

(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 $\beta\alpha$ diacholestane	$C_{27}H_{48}$	(I, R=H)
b.	20R $\beta\alpha$ diacholestane	$C_{27}H_{48}$	(I, R=H)
c.	20S $\alpha\beta$ diacholestane	$C_{27}H_{48}$	(II, R=H)
d.	20R $\alpha\beta$ diacholestane	$C_{27}H_{48}$	(II, R=H)
e.	20S $\beta\alpha$ 24-methyl-diacholestane	$C_{28}H_{50}$	(I, R=CH ₃)
f.	20R $\beta\alpha$ 24-methyl-diacholestane	$C_{28}H_{50}$	(I, R=CH ₃)
g.	20S $\alpha\beta$ 24-methyl-diacholestane	$C_{28}H_{50}$	(II, R=CH ₃)
	+ 20S $\alpha\alpha\alpha$ cholestane	$C_{27}H_{48}$	(III, R=H)
h.	20S $\beta\alpha$ 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C ₂ H ₅)
	+ 20R $\alpha\beta\beta$ cholestane	$C_{27}H_{48}$	(IV, R=H)
i.	20S $\alpha\beta\beta$ cholestane	$C_{27}H_{48}$	(IV, R=H)
	+ 20R $\alpha\beta$ 24-methyl-diacholestane	$C_{28}H_{50}$	(II, R=CH ₃)
j.	20R $\alpha\alpha\alpha$ cholestane	$C_{27}H_{48}$	(III, R=H)
k.	20R $\beta\alpha$ 24-ethyl-diacholestane	$C_{29}H_{52}$	(I, R=C ₂ H ₅)
l.	20R $\alpha\beta$ 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C ₂ H ₅)
m.	20S $\alpha\alpha\alpha$ 24-methyl-cholestane	$C_{28}H_{50}$	(III, R=CH ₃)
n.	20R $\alpha\beta\beta$ 24-methyl-cholestane	$C_{28}H_{50}$	(IV, R=CH ₃)
	+ 20R $\alpha\beta$ 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C ₂ H ₅)
o.	20S $\alpha\beta\beta$ 24-methyl-cholestane	$C_{28}H_{50}$	(IV, R=CH ₃)
p.	20R $\alpha\alpha\alpha$ 24-methyl-cholestane	$C_{28}H_{50}$	(III, R=CH ₃)
q.	20S $\alpha\alpha\alpha$ 24-ethyl-cholestane	$C_{29}H_{52}$	(III, R=C ₂ H ₅)
r.	20R $\alpha\beta\beta$ 24-ethyl-cholestane	$C_{29}H_{52}$	(IV, R=C ₂ H ₅)
s.	20S $\alpha\beta\beta$ 24-ethyl-cholestane	$C_{29}H_{52}$	(IV, R=C ₂ H ₅)
t.	20R $\alpha\alpha\alpha$ 24-ethyl-cholestane	$C_{29}H_{52}$	(III, R=C ₂ H ₅)
u.	5 α sterane	$C_{21}H_{36}$	(VI, R=C ₂ H ₅)
v.	5 α sterane	$C_{22}H_{38}$	(VI, R=C ₃ H ₇)

STRUCTURES REPRESENTING STERANES

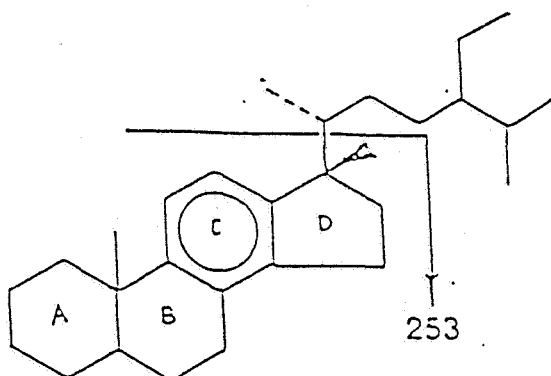


Mass Fragmentograms representing Monoaromatic Steranes (M/Z 253)

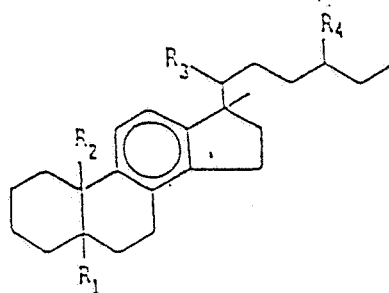
Description of C-ring monoaromatic steroid hydrocarbons

Peak	Substituents				Abbreviation of Compound
	R ₁	R ₂	R ₃	R ₄	
A1					C ₂₁ M
B1					C ₂₂ MA
C1	β(H)	CH ₃	S(CH ₃)	H	βSC ₂₇ MA
	β(H)	CH ₃	R(CH ₃)	H	βRC ₂₇ MA
D1	CH ₃	H	R(CH ₃)	H	RC ₂₇ DMA
	α(H)	CH ₃	S(CH ₃)	H	αSC ₂₇ MA
E1	β(H)	CH ₃	S(CH ₃)	CH ₃	βSC ₂₈ MA
	CH ₃	H	S(CH ₃)	CH ₃	SC ₂₈ DMA
F1	α(H)	CH ₃	R(CH ₃)	H	αRC ₂₇ MA
	α(H)	CH ₃	S(CH ₃)	CH ₃	αSC ₂₈ MA
	β(H)	CH ₃	R(CH ₃)	CH ₃	βRC ₂₈ MA
G1	CH ₃	H	R(CH ₃)	CH ₃	RC ₂₈ DMA
	β(H)	CH ₃	S(CH ₃)	C ₂ H ₅	βSC ₂₉ MA
	CH ₃	H	S(CH ₃)	C ₂ H ₅	SC ₂₉ DMA
	α(H)	CH ₃	R(CH ₃)	CH ₃	αRC ₂₈ MA
H1	β(H)	CH ₃	R(CH ₃)	C ₂ H ₅	βRC ₂₉ MA
	CH ₃	H	R(CH ₃)	C ₂ H ₅	RC ₂₉ DMA
I1	α(H)	CH ₃	R(CH ₃)	C ₂ H ₅	αRC ₂₉ MA

STRUCTURES REPRESENTING MONOAROMATIC STERANES



I

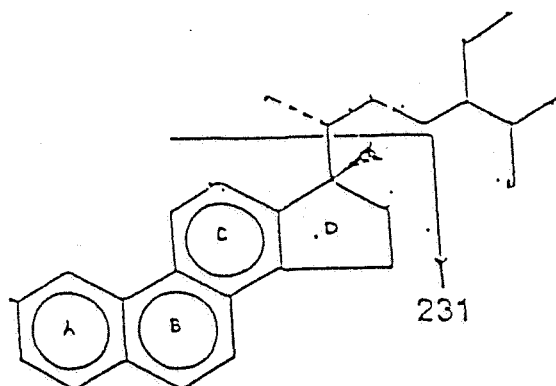


**Mass Fragmentograms representing Triaromatic Steranes
(M/Z 231)**

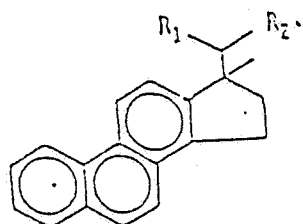
Description of ABC-ring triaromatic steroid hydrocarbons

Peak	Substituents		Abbreviation of Compound
	R ₁	R ₂	
a1	CH ₃	H	C ₂₀ TA
b1	CH ₃	CH ₃	C ₂₁ TA
c1	S(CH ₃)	C ₆ H ₁₋₃	SC ₂₆ TA
d1	R(CH ₃)	C ₆ H ₁₃	RC ₂₆ TA
	S(CH ₃)	C ₇ H ₁₅	SC ₂₇ TA
e1	S(CH ₃)	C ₈ H ₁₇	SC ₂₈ TA
f1	S(CH ₃)	C ₇ H ₁₅	RC ₂₇ TA
g1	R(CH ₃)	C ₈ H ₁₇	RC ₂₈ TA

STRUCTURES REPRESENTING TRIAROMATIC STERANES



II



Stable Carbon Isotope Ratio Mass Spectrometry

Carbon isotope analysis is performed on a dual inlet VG SIRA 10 instrument. The combustion of the samples is performed by a Carlo Erba EA 1108 element analyser directly connected to the inlet system of the mass spectrometer.

The combustion temperature is 1020°C and the carrier gas used was Helium. After the combustion H₂O and CO₂ are trapped in individual cool traps. The CO₂ gas is then heated up before admission into the mass spectrometer. The whole operation is controlled by an IBM PC50 computer system.

δ-values

The isotope ratios are given as δ-values in ‰ versus the PDB-standard:

$$\delta^{13}\text{C} = (R_{\text{sample}} - R_{\text{standard}}/R_{\text{standard}}) \times 1000$$
$$R = {}^{13}\text{C}/{}^{12}\text{C}$$

The PDB-standard (a marine chalk of the Pee Dee-formation, USA) was created by Craig 1957. All results of ¹³C/¹²C-analysis of organic matter today are calculated (Craig correction) against this international standard.

Reproducibility

The precision of the combustion system and the mass spectrometer is controlled by determination of an international calibrated standard, NBS22 oil and a house standard carbon. Replicate analyses are also performed on samples.

Appendix 1

Tables

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
603.50						0263	
		60	Sh/Clst:	drk gy		0263-1L	
		15	S/Sst	: gn, l, glauc		0263-2L	
		15	Other	: y, brn, brn, calc		0263-5L	
		5	S/Sst	: w, l		0263-3L	
		5	Other	: y, pyr		0263-4L	
649.20						0264	
		90	S/Sst	: gn, l, glauc		0264-1L	
		5	Other	: y, pyr		0264-2L	
		5	Other	: v col		0264-3L	
694.90						0265	
		65	Sh/Clst:	m drk gy to drk gy		0265-1L	
		30	Kaolin	: w		0265-2L	
		5	Other	: v col, pyr, calc		0265-3L	
740.60						0266	
		50	Sh/Clst:	lt gy to m lt gy, calc, kln		0266-2L	
		40	Sh/Clst:	m gy to m drk gy		0266-1L	
		10	Kaolin	: w to lt y gy		0266-3L	
786.40						0267	
		55	Chert	: lt gy to w, hd, ang		0267-2L	
		45	Ca	: w		0267-1L	

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
832.10						0268
				55 Chert : lt gy to w, hd, ang		0268-2L
				35 Ca : w		0268-1L
				10 Sh/Clst: m gn gy to m gy		0268-3L
877.80						0269
				70 Ca : w		0269-1L
				25 Chert : lt gy to w, hd, ang		0269-2L
				5 Sh/Clst: m gn gy to m gy		0269-3L
923.50						0270
				90 Ca : w		0270-1L
				5 Chert : lt gy to w, hd, ang		0270-2L
				5 Sh/Clst: m gn gy to m gy		0270-3L
969.30						0271
				95 Ca : w		0271-1L
				5 Chert : lt gy to w, hd, ang		0271-2L
				tr Sh/Clst: m gn gy to m gy		0271-3L
1015.00						0272
				100 Ca : w		0272-1L
				tr Chert : lt gy to w, hd, ang		0272-2L
1060.70						0273
				100 Ca : w		0273-1L
				tr Chert : lt gy to w, hd, ang		0273-2L
				tr Sh/Clst: m gy		0273-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1106.40						0274
			100	Ca : w		0274-1L
			tr	Chert : lt gy to w, hd, ang		0274-2L
			tr	Sh/Clst: m gy		0274-3L
1152.10						0275
			100	Ca : w		0275-1L
			tr	Chert : lt gy to w, hd, ang		0275-2L
1188.70						0276
			80	Ca : w to lt gy		0276-1L
			20	Chert : lt gy to w, hd, ang		0276-2L
			tr	Sh/Clst: lt gy		0276-3L
1207.00						0277
			60	Ca : w to lt gy		0277-1L
			20	Chert : lt gy to w, hd, ang		0277-2L
			20	Sh/Clst: m gy to drk gy		0277-3L
1216.20						0278
			90	Sh/Clst: m gy to drk gy		0278-2L
			10	Ca : w to lt gy		0278-1L
			tr	Cont : lt or		0278-3L
1225.30						0279
			90	Sh/Clst: m gy to drk gy		0279-2L
			10	Ca : w to lt gy		0279-1L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1234.40						0280
				50 Sh/Clst: m gy to drk gy		0280-2L
				40 Ca : w to lt gy		0280-1L
				10 Chert : lt gy to w, hd, ang		0280-3L
1243.60						0281
				50 Sh/Clst: m gy to drk gy		0281-2L
				45 Ca : w to lt gy		0281-1L
				5 Chert : lt gy to w, hd, ang		0281-3L
1252.73						0282
				80 Sh/Clst: m gy to drk gy		0282-2L
				20 Ca : w to lt gy		0282-1L
1261.90						0283
				55 Ca : w to lt gy		0283-1L
				45 Sh/Clst: m gy to drk gy		0283-2L
1271.00						0284
				90 Sh/Clst: m drk gy to drk gy		0284-2L
				10 Ca : w to lt gy		0284-1L
1280.20						0285
				55 Cont : brn, bar		0285-3L
				40 S/Sst : w		0285-2L
				5 Ca : w to lt gy		0285-1L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description			
1289.30						0287
		50	S/Sst	: w		0287-2L
		20	Cont	: brn, bar		0287-3L
		15	Ca	: w to lt gy		0287-1L
		15	Sh/Clst:	m gy		0287-4L
1307.60						0286
		50	S/Sst	: w		0286-2L
		20	Cont	: brn, bar		0286-3L
		15	Ca	: w to lt gy		0286-1L
		15	Sh/Clst:	m gy		0286-4L
1316.70						0288
		45	S/Sst	: w		0288-2L
		25	Sh/Clst:	m gy		0288-4L
		20	Sh/Clst:	drk gy		0288-5L
		5	Ca	: w to lt gy		0288-1L
		5	Cont	: brn, bar		0288-3L
1325.90						0289
		50	Sh/Clst:	m gy to drk gy		0289-3L
		45	S/Sst	: w		0289-2L
		5	Ca	: w to lt gy		0289-1L
1344.20						0290
		50	Sh/Clst:	m gy to drk gy		0290-3L
		45	S/Sst	: w		0290-2L
		5	Ca	: w to lt gy		0290-1L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1362.50						0291
			60	Sh/Clst: m gy to drk gy		0291-1L
			35	Other : drk gy brn		0291-3L
			5	Ca : w		0291-2L
1380.70						0292
			50	Sh/Clst: m gy to drk gy		0292-1L
			45	Other : drk gy brn		0292-3L
			5	Ca : w		0292-2L
1399.00						0293
			70	Other : drk gy brn, brn blk		0293-3L
			20	Sh/Clst: m gy to drk gy		0293-1L
			5	Ca : w		0293-2L
			5	Other : y, pyr		0293-4L
1408.20						0294
			45	Sh/Clst: m gy		0294-1L
			45	Other : drk gy brn, brn blk		0294-2L
			10	S/Sst : w, l, rnd		0294-4L
			tr	Other : y, pyr		0294-3L
1426.50						0295
			90	Other : drk gy brn, brn blk, dol		0295-2L
			5	Sh/Clst: m gy		0295-1L
			5	Ca : w		0295-4L
			tr	Other : y, pyr		0295-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1444.60						0296
			90	Other : drk gy brn, brn blk, dol		0296-2L
			5	Sh/Clst: m gy		0296-1L
			5	Ca : w		0296-4L
			tr	Other : y, pyr		0296-3L
1453.90						0297
			90	Other : drk gy brn, brn blk, dol		0297-2L
			5	Sh/Clst: m gy		0297-1L
			5	Ca : w		0297-4L
			tr	Other : y, pyr		0297-3L
1463.00						0298
			60	Other : drk gy brn, brn blk, dol		0298-2L
			35	Sh/Clst: m gy		0298-1L
			5	Ca : w		0298-4L
			tr	Other : y, pyr		0298-3L
1472.20						0299
			80	Other : drk gy brn, brn blk, dol		0299-2L
			15	Sh/Clst: m gy		0299-1L
			5	Ca : w		0299-4L
			tr	Other : y, pyr		0299-3L
1481.30						0300
			85	Sh/Clst: m gy		0300-1L
			15	Other : drk gy brn, brn blk, dol		0300-2L
			tr	Other : y, pyr		0300-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1490.50						0301
				85 Sh/Clst: m gy		0301-1L
				15 Other : drk gy brn, brn blk, dol		0301-2L
				tr Other : y, pyr		0301-3L
1499.60						0302
				80 Sh/Clst: m gy		0302-1L
				20 Other : drk gy brn, brn blk, dol		0302-2L
				tr Other : y, pyr		0302-3L
1508.70						0303
				85 Sh/Clst: m gy		0303-1L
				15 Other : drk gy brn, brn blk, m brn y, dol		0303-2L
				tr Other : y, pyr		0303-3L
1517.90						0304
				50 Sh/Clst: m gy		0304-1L
				30 Sh/Clst: lt gy y, m y brn, carb		0304-3L
				20 Other : drk gy brn, brn blk, m brn y, dol		0304-2L
1527.00						0305
				75 Sh/Clst: m gy		0305-1L
				15 Sh/Clst: lt gy y, m y brn, carb		0305-3L
				10 Other : drk gy brn, brn blk, m brn y, dol		0305-2L
1536.20						0306
				55 Sh/Clst: m gy to m drk gy		0306-1L
				30 Other : drk gy brn, brn blk, m brn y, dol		0306-2L
				15 Sh/Clst: lt gy y, m y brn, carb		0306-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1545.30						0307
				85 Sh/Clst: m gy to m drk gy		0307-1L
				10 Other : drk gy brn, brn blk, m brn y, dol		0307-2L
				5 Sh/Clst: lt gy y, m y brn, carb		0307-3L
				tr Other : y, pyr		0307-4L
1554.50						0308
				85 Sh/Clst: m gy to m drk gy		0308-1L
				10 Other : drk gy brn, brn blk, m brn y, dol		0308-2L
				5 Sh/Clst: lt gy y, m y brn, carb		0308-3L
				tr Other : y, pyr		0308-4L
1563.60						0309
				80 Sh/Clst: m gy to m drk gy		0309-1L
				10 Other : drk gy brn, brn blk, m brn y, dol		0309-2L
				5 Sh/Clst: lt gy y, m y brn, carb		0309-3L
				5 S/Sst : w, l		0309-5L
				tr Other : y, pyr		0309-4L
1572.70						0310
				90 Sh/Clst: m gy to m lt gy		0310-1L
				10 Other : drk gy brn, brn blk, m brn y, dol		0310-2L
				tr Other : y, pyr		0310-3L
				tr S/Sst : w, l		0310-4L
1581.90						0311
				75 Sh/Clst: m gy to m lt gy		0311-1L
				20 S/Sst : w, l		0311-4L
				5 Other : drk gy brn, brn blk, m brn y, dol		0311-2L
				tr Other : y, pyr		0311-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1591.00						0312
				50 Sh/Clst: m gy to m lt gy		0312-1L
				35 Other : drk gy brn, brn blk, m brn y, dol		0312-2L
				10 S/Sst : w, l		0312-4L
				5 Other : y, pyr		0312-3L
1609.30						0313
				45 Sh/Clst: m gy to m lt gy		0313-1L
				45 Other : drk gy brn, brn blk, m brn y, dol		0313-2L
				10 S/Sst : w, l		0313-4L
				tr Other : y, pyr		0313-3L
1618.40						0314
				40 Other : drk gy brn, brn blk, m brn y, dol		0314-2L
				30 Sh/Clst: m gy to m lt gy		0314-1L
				15 S/Sst : w, l		0314-3L
				15 Sh/Clst: lt gy, slt		0314-4L
1627.60						0315
				40 Sh/Clst: m gy to m lt gy		0315-1L
				35 Other : drk gy brn, brn blk, m brn y, dol		0315-2L
				25 S/Sst : w, l		0315-3L
				tr Sh/Clst: lt gy, slt		0315-4L
1636.70						0316
				60 Sh/Clst: lt gy to m gy, calc, slt		0316-1L
				15 S/Sst : w, f, l		0316-2L
				15 Sltst : gy brn		0316-3L
				5 Ca : w, f		0316-4L
				5 Other : w, pyr, fos		0316-5L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1645.90						0317
				45 Sh/Clst: lt gy to m gy, calc, slt		0317-1L
				45 Sltst : gy brn to m brn		0317-2L
				10 S/Sst : w, f, l		0317-3L
1664.20						0318
				70 Sh/Clst: lt gy to m gy, calc, pyr, slt		0318-1L
				30 Sltst : gy brn to m brn		0318-2L
				tr Ca : w, f		0318-3L
1673.40						0319
				70 Sh/Clst: lt gy to m gy, calc, pyr, slt		0319-1L
				25 Sltst : gy brn to m brn		0319-2L
				5 S/Sst : w, f, l		0319-3L
1682.50						0320
				80 Sh/Clst: lt gy to m gy, calc, pyr, slt		0320-1L
				15 Sltst : gy brn to m brn, fe		0320-2L
				5 S/Sst : w, f, l		0320-3L
				tr Cont : dd		0320-4L
1691.60						0321
				70 Sh/Clst: lt gy to m gy to drk gy, calc, pyr, slt		0321-1L
				25 Sltst : lt gy w to m brn to gy brn, fe		0321-2L
				5 Cont : prp, dd, bar		0321-3L
				tr Ca : w, f		0321-4L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1700.80						0322
			70	Sh/Clst: lt gy to m gy to drk gy, calc, pyr, slt, fe		0322-1L
			25	Sltst : lt gy w to m brn to gy brn, fe		0322-2L
			5	S/Sst : w, f, l		0322-3L
			tr	Cont : dd		0322-4L
1709.90						0323
			45	S/Sst : w, f, l		0323-1L
			45	Sh/Clst: lt gy to m gy, calc, pyr, slt		0323-2L
			10	Sltst : gy brn, fe		0323-3L
1737.30						0324
			65	Sh/Clst: lt gy to m gy, calc, pyr, slt		0324-1L
			30	Sh/Clst: m brn, slt, fe		0324-2L
			5	S/Sst : w, f, l		0324-3L
			tr	Marl : lt gy w to lt gy, f		0324-4L
1746.50						0325
			60	Sh/Clst: m gy to drk gy, calc, pyr, slt		0325-1L
			30	Sh/Clst: m brn to gy brn, slt, fe		0325-2L
			10	S/Sst : w, f, l		0325-3L
1755.60						0326
			70	Sh/Clst: m gy to drk gy, calc, pyr, slt		0326-1L
			30	Sh/Clst: m brn to gy brn, slt, fe		0326-2L
			tr	S/Sst : w, f, l		0326-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description			
1764.80						0327
		75	Sh/Clst: m gy to drk gy, calc, pyr, slt			0327-1L
		25	Sh/Clst: m y brn to gy brn, slt, fe			0327-2L
			tr S/Sst : w, f, l			0327-3L
1773.90						0328
		75	Sh/Clst: m gy to drk gy, calc, pyr, slt			0328-1L
		25	Sh/Clst: m y brn to gy brn to m brn, slt, fe			0328-2L
			tr S/Sst : w, f, l			0328-3L
1783.10						0329
		70	Sh/Clst: m gy to drk gy, calc, pyr, slt			0329-1L
		30	Sh/Clst: m y brn to gy brn to m brn, slt, fe			0329-2L
			tr S/Sst : w, f, l			0329-3L
1801.30						0330
		80	Sh/Clst: m gy to drk gy, calc, pyr, slt			0330-1L
		20	Sh/Clst: m y brn to gy brn to m brn, slt, fe			0330-2L
			tr S/Sst : w, f, l			0330-3L
1810.50						0331
		90	Sh/Clst: m gy to drk gy, calc, pyr, slt			0331-1L
		5	Sh/Clst: m y brn to gy brn to m brn, slt, fe			0331-2L
		5	Cont : bar			0331-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1819.60						0332
				95 Sh/Clst: m gy to drk gy, calc, pyr, slt		0332-1L
				5 Sh/Clst: m y brn to gy brn to m brn, slt, fe		0332-2L
				tr Sltst : lt gy w		0332-3L
1828.80						0333
				100 Sh/Clst: m gy to drk gy, calc, pyr, slt		0333-1L
				tr Sh/Clst: m y brn to gy brn to m brn, slt, fe		0333-2L
1856.20						0334
				95 Sh/Clst: lt gy to m gy to drk gy, calc, pyr, slt		0334-1L
				5 Sh/Clst: m y brn to gy brn to m brn, slt, fe		0334-2L
1874.50						0335
				90 Sh/Clst: lt gy to m gy to drk gy, calc, pyr, slt		0335-1L
				5 Sh/Clst: m y brn to gy brn to m brn, slt, fe		0335-2L
				5 Sltst : lt gy		0335-3L
1892.80						0336
				85 Sh/Clst: lt gy to m gy to drk gy, calc, pyr, slt		0336-1L
				10 Sh/Clst: lt brn to gy brn to m brn, slt, fe		0336-2L
				5 Sltst : lt gy		0336-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1911.10						0337
				95 Sh/Clst: lt gy to m gy to drk gy, calc, pyr, slt		0337-1L
				5 Sh/Clst: lt brn to gy brn to m brn, slt, fe		0337-2L
1929.30						0338
				95 Sh/Clst: lt gy to m gy to drk gy, calc, pyr, slt		0338-1L
				5 Sh/Clst: lt brn to gy brn to m brn, slt, fe		0338-2L
				tr Cont : fib		0338-3L
1935.50						0339
				100 Sh/Clst: m gy to drk gy, calc, pyr, slt		0339-1L
1941.60						0340
				100 Sh/Clst: m gy to drk gy, calc, pyr, slt		0340-1L
				tr Sh/Clst: m y brn to lt brn, slt, fe		0340-2L
1947.70						0341
				95 Sh/Clst: m gy to drk gy, calc, pyr, slt		0341-1L
				5 S/Sst : w, f, l		0341-2L
				tr Sh/Clst: m y brn to lt brn, slt, fe		0341-3L
1956.80						0342
				95 Sh/Clst: lt gy to m gy to drk gy, calc, pyr, slt		0342-1L
				5 S/Sst : w, f, l		0342-2L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
1969.00						0343
				65 Sh/Clst: lt gy to m gy to drk gy, calc, pyr, slt		0343-1L
				35 S/Sst : w, f, l		0343-2L
1981.20						0344
				85 Sh/Clst: lt gy to m gy to drk gy, pyr, slt		0344-1L
				15 S/Sst : w, f, l		0344-2L
1993.40						0345
				100 Sh/Clst: m gy to drk gy, pyr, slt		0345-1L
				tr Sh/Clst: m brn to gy brn, slt, fe		0345-2L
				tr S/Sst : w, f, l		0345-3L
2008.60						0346
				100 Sh/Clst: m gy to drk gy to lt gy, pyr, slt		0346-1L
				tr Sh/Clst: m brn to gy brn, slt, fe		0346-2L
				tr S/Sst : w, f, l		0346-3L
2017.80						0347
				95 Sh/Clst: m gy to drk gy to lt gy, pyr, slt		0347-1L
				5 Cont : bar		0347-2L
				tr Sh/Clst: m y brn to gy brn, slt, fe		0347-3L
2033.00						0348
				100 Sh/Clst: m gy to drk gy to lt gy, pyr, slt		0348-1L
				tr Cont : dd, bar		0348-2L
				tr Sh/Clst: m y brn to gy brn, slt, fe		0348-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2034.10						0349
				100 Sh/Clst: m gy to drk gy to lt gy, pyr, slt		0349-1L
				tr Cont : bar, fib		0349-2L
2048.20						0350
				100 Sh/Clst: m gy to drk gy to lt gy, pyr, slt		0350-1L
2057.40						0351
				100 Sh/Clst: m gy to drk gy to lt gy, pyr, slt		0351-1L
				tr Coal : blk		0351-2L
2069.60						0352
				100 Sh/Clst: m gy to drk gy to lt gy, pyr, slt		0352-1L
				tr Cont : fib		0352-2L
2081.80						0353
				100 Sh/Clst: m gy to drk gy to lt gy, pyr, slt		0353-1L
				tr Cont : fib		0353-2L
				tr Other : w, carb		0353-3L
2094.00						0354
				100 Sh/Clst: m gy to drk gy to lt gy, pyr, slt		0354-1L
				tr Cont : fib		0354-2L
				tr Other : w, carb		0354-3L
				tr Sh/Clst: m brn to m y brn, slt, fe		0354-4L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2103.10						0355
			100	Sh/Clst: m gy to drk gy to lt gy, pyr, slt		0355-1L
2118.40						0356
			100	Sh/Clst: m gy to drk gy to lt gy, pyr, slt		0356-1L
				tr Cont : fib		0356-2L
				tr Coal : blk		0356-3L
2133.60						0365
			100	Sh/Clst: drk gy to m gy, slt		0365-1L
				tr Sltst : lt gy		0365-2L
				tr Cont : prp		0365-3L
2145.80						0366
			100	Sh/Clst: m gy to lt gy, slt		0366-1L
				tr Sltst : lt gy		0366-2L
				tr Marl : blk		0366-3L
2158.01						0367
			95	Sh/Clst: m gy to lt gy, calc, slt		0367-1L
			5	Sltst : lt gy		0367-2L
				tr Marl : blk		0367-3L
2170.20						0368
			90	Sh/Clst: m gy to drk gy, calc, slt		0368-1L
			5	Sltst : lt gy		0368-2L
			5	S/Sst : bar, prp		0368-3L
				tr Coal : blk		0368-4L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2182.40						0369
				95 Sh/Clst: drk gy to brn gy, calc, slt, st		0369-1L
				5 Sltst : lt gy		0369-2L
				tr S/Sst : bar, prp		0369-3L
				tr Coal : blk		0369-4L
2194.60						0370
				90 Sh/Clst: drk gy to gy blk, calc, slt, st		0370-1L
				10 Sltst : lt gy		0370-2L
				tr Coal : blk		0370-3L
2206.70						0371
				90 Sh/Clst: drk gy to gy blk, calc, slt, st		0371-1L
				10 Sltst : lt gy		0371-2L
				tr Coal : blk		0371-3L
				tr Cont : bar		0371-4L
2218.90						0372
				85 Sh/Clst: drk gy to gy blk, calc, slt, st		0372-1L
				10 Sltst : lt gy		0372-2L
				5 Ca : w, cem		0372-3L
				tr Cont : bar, prp		0372-4L
2231.10						0373
				80 Sh/Clst: m gy to drk gy, calc, slt		0373-1L
				10 Ca : w, cem		0373-2L
				10 Sltst : m gy to dsk y gn		0373-3L
				tr Coal : blk		0373-4L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2243.30						0374
				65 Sh/Clst: m gy to drk gy, calc, slt		0374-1L
				30 Tuff : drk gy to lt gy to dsk y gn, cngr		0374-2L
				5 Ca : w, cem		0374-3L
2252.50						0375
				70 Tuff : drk gy to lt gy to dsk y gn, cngr		0375-1L
				30 Sh/Clst: drk gy to brn gy, slt		0375-2L
2261.60						0376
				80 Tuff : drk gy to lt gy to dsk y gn to blk, cngr		0376-1L
				15 Sh/Clst: drk gy to brn gy, slt		0376-2L
				5 Other : w, f		0376-3L
2268.63	ccp					0358
				100 Tuff : lt bl gn to bl gn, cngr, f		0358-1L
2271.30	ccp					0357
				100 Tuff : lt bl gn to bl gn, cngr, f		0357-1L
2274.11	ccp					0359
				100 Tuff : m gn y to m gy, cngr, f		0359-1L
2276.86	ccp					0360
				100 Tuff : gy brn to pl y gn to blk, cngr, hd		0360-1L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2279.40						0377
			65	Sh/Clst: drk gy to brn gy, slt		0377-1L
			25	Tuff : blk to m brn		0377-2L
			10	Cont : prp		0377-3L
2287.52	ccp					0361
			100	Tuff : pl ol to lt gn gy to blk, cnsl, hd		0361-1L
2289.35	ccp					0362
			100	Tuff : drk gy to m brn to blk, cnsl, hd, fe		0362-1L
2293.01	ccp					0363
			100	Tuff : brn gy to gy brn to lt gn gy to w to blk, cnsl, hd		0363-1L
2294.84	ccp					0364
			100	Tuff : m gy to brn gy to blk, cnsl, hd		0364-1L
2295.10						0378
			80	Sh/Clst: drk gy to brn gy, slt		0378-1L
			15	Tuff : blk to lt gn gy		0378-2L
			5	Cont : prp		0378-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2304.30						0379
				55 Sh/Clst: drk gy to brn gy, slt		0379-1L
				30 Tuff : blk to gn gy		0379-2L
				15 S/Sst : w, crs		0379-3L
2313.40						0380
				50 Sh/Clst: drk gy to brn gy, slt		0380-1L
				40 Tuff : blk to lt brn to lt bl gn		0380-2L
				10 S/Sst : w, crs		0380-3L
2328.70						0381
				75 Tuff : blk to lt brn to lt bl gn		0381-1L
				25 Sh/Clst: m gy to drk gy, slt		0381-2L
2347.00						0382
				70 Tuff : blk to lt brn to lt bl gn		0382-1L
				30 Sh/Clst: m gy to drk gy, slt		0382-2L
2359.10						0383
				75 Tuff : blk to lt brn to lt bl gn		0383-1L
				25 Sh/Clst: m gy to drk gy, slt		0383-2L
2368.30						0384
				65 Tuff : blk to lt brn to lt bl gn		0384-1L
				35 Sh/Clst: m gy to drk gy, slt		0384-2L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2380.00						0385
				55 Tuff : blk to lt brn to lt bl gn to brn red		0385-1L
				45 Sh/Clst: m gy to drk gy, slt		0385-2L
2392.70						0386
				40 Tuff : blk to lt brn to lt bl gn to brn red		0386-1L
				40 Sh/Clst: m gy to drk gy, slt		0386-2L
				20 S/Sst : w, crs, l		0386-3L
2404.90						0387
				60 Sh/Clst: m gy to drk gy, slt		0387-1L
				20 S/Sst : w, crs, l		0387-2L
				20 Tuff : blk to gn gy to lt pu		0387-3L
2414.00						0388
				70 Sh/Clst: m gy to drk gy, slt		0388-1L
				20 S/Sst : w, crs, l		0388-2L
				10 Tuff : blk to gn gy to lt pu		0388-3L
2429.20						0389
				60 Sh/Clst: m gy to drk gy, slt		0389-1L
				30 Cont : prp, ns		0389-2L
				10 Tuff : lt gn gy to blk to dsk y gn		0389-3L
2468.90						0390
				65 Sh/Clst: m gy to drk gy, slt		0390-1L
				20 Cont : prp, ns		0390-2L
				10 Tuff : lt gn gy to blk to dsk y gn		0390-3L
				5 S/Sst : w, crs		0390-4L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2490.20						0391
				65 Sh/Clst: m gy to drk gy, slt		0391-1L
				15 Cont : prp, ns		0391-2L
				15 Tuff : lt gn gy to blk to dsk y gn		0391-3L
				5 S/Sst : w, crs		0391-4L
2499.40						0392
				55 Sh/Clst: m gy to drk gy, slt		0392-1L
				35 Tuff : lt gn gy to blk to dsk y gn		0392-2L
				10 S/Sst : w, crs		0392-3L
2508.50						0393
				45 Sh/Clst: m gy to drk gy, slt		0393-1L
				45 Tuff : lt gn gy to blk to dsk y gn		0393-2L
				5 S/Sst : w, crs		0393-3L
				5 Cont : ns		0393-4L
2517.60						0394
				40 Sh/Clst: m gy to drk gy, slt		0394-1L
				40 Tuff : lt gn gy to blk to dsk y gn		0394-2L
				15 S/Sst : w, crs		0394-3L
				5 Cont : ns, fib		0394-4L
2526.80						0395
				45 Sh/Clst: m gy to drk gy, slt		0395-1L
				40 Tuff : lt gn gy to blk to dsk y gn		0395-2L
				10 S/Sst : w, crs		0395-3L
				5 Cont : prp, ns, fib		0395-4L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2535.90						0396
				55 Sh/Clst: m gy to drk gy, slt		0396-1L
				30 Tuff : lt gn gy to blk to dsk y gn		0396-2L
				10 S/Sst : w, crs		0396-3L
				5 Cont : prp, ns, fib		0396-4L
2548.10						0397
				55 Sh/Clst: m gy to drk gy, slt		0397-1L
				35 Tuff : lt gn gy to blk to dsk y gn		0397-2L
				5 S/Sst : w, crs		0397-3L
				5 Cont : prp, ns, fib		0397-4L
2560.30						0398
				55 Sh/Clst: m gy to drk gy, slt		0398-1L
				30 Tuff : lt gn gy to blk to dsk y gn		0398-2L
				15 Cont : prp, ns, fib		0398-3L
2569.40						0399
				55 Sh/Clst: m gy to drk gy, slt		0399-1L
				35 Tuff : lt gn gy to blk to dsk y gn		0399-2L
				10 Cont : prp, ns, fib		0399-3L
2587.70						0400
				55 Sh/Clst: m gy to drk gy, slt		0400-1L
				40 Tuff : lt gn gy to blk to dsk y gn		0400-2L
				5 Cont : prp, ns, fib		0400-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2590.80						0401
				50 Sh/Clst: m gy to drk gy, slt		0401-1L
				40 Tuff : lt gn gy to blk to dsk y gn		0401-2L
				5 Cont : prp, ns, fib		0401-3L
				5 S/Sst : w, crs		0401-4L
2599.90						0402
				40 Sh/Clst: m gy to drk gy, slt		0402-1L
				40 Tuff : lt gn gy to blk to dsk y gn		0402-2L
				10 Cont : prp, ns, fib		0402-3L
				10 S/Sst : w, crs		0402-4L
2609.10						0403
				50 Sh/Clst: m gy to drk gy, slt		0403-1L
				35 Tuff : lt gn gy to blk to dsk y gn		0403-2L
				10 Cont : prp, ns, fib		0403-3L
				5 S/Sst : w, crs		0403-4L
2618.20						0404
				40 Sh/Clst: m gy to drk gy, slt		0404-1L
				40 Tuff : lt gn gy to blk to dsk y gn		0404-2L
				15 Cont : prp, ns, fib		0404-3L
				5 S/Sst : w, crs		0404-4L
2627.40						0405
				40 Sh/Clst: m gy to drk gy, slt		0405-1L
				40 Cont : prp, ns, fib		0405-2L
				20 Tuff : blk to dsk y gn to lt gn gy to lt pu		0405-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description			
2639.60						0406
		60	Sh/Clst:	m gy to drk gy, slt		0406-1L
		25	Cont	: prp, ns, fib		0406-2L
		15	Tuff	: blk to dsk y gn to lt gn gy to lt pu		0406-3L
2651.80						0407
		50	Sh/Clst:	m gy to drk gy, slt		0407-1L
		25	Cont	: prp, ns, fib		0407-2L
		25	Tuff	: blk to dsk y gn to lt gn gy to lt pu		0407-3L
2660.90						0408
		50	Tuff	: blk to dsk y gn to lt gn gy to lt pu		0408-3L
		30	Sh/Clst:	m gy to drk gy, slt		0408-1L
		20	Cont	: prp, ns, fib		0408-2L
2670.00						0409
		75	Tuff	: blk to dsk y gn to lt gn gy to lt pu		0409-1L
		15	Sh/Clst:	m gy to drk gy, slt		0409-2L
		10	Cont	: ns		0409-3L
2679.20						0410
		75	Tuff	: blk to dsk y gn to lt gn gy to lt pu to w		0410-1L
		20	Sh/Clst:	m gy to drk gy, slt		0410-2L
		5	Cont	: ns		0410-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2688.30						0411
			70	Tuff : blk to dsk y gn to lt gn gy to lt pu to w		0411-1L
			20	Sh/Clst: m gy to drk gy, slt		0411-2L
			10	Cont : ns		0411-3L
2697.50						0412
			65	Tuff : blk to dsk y gn to lt gn gy to lt pu to w		0412-1L
			25	Sh/Clst: m gy to drk gy, slt		0412-2L
			10	Cont : ns		0412-3L
2709.70						0413
			55	Tuff : blk to dsk y gn to lt gn gy to lt pu to w		0413-1L
			20	Sh/Clst: m gy to drk gy, slt		0413-2L
			20	S/Sst : lt brn to w, f		0413-3L
			5	Cont : prp		0413-4L
2718.80						0414
			55	Tuff : blk to dsk y gn to lt gn gy to lt pu to w		0414-1L
			25	Sh/Clst: m gy to drk gy, slt		0414-2L
			10	S/Sst : lt brn to w, f		0414-3L
			10	Cont : prp, ns		0414-4L
2727.90						0415
			55	Tuff : blk to dsk y gn to lt gn gy to lt pu to w		0415-1L
			25	Sh/Clst: m gy to drk gy, slt		0415-2L
			10	S/Sst : lt brn to w, f		0415-3L
			10	Cont : prp, ns		0415-4L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description			
2737.10						0416
		65	Tuff	: blk to dsk y gn to lt gn gy to lt pu to w		0416-1L
		20	Sh/Clst:	m gy to drk gy, slt		0416-2L
		5	S/Sst	: lt brn to w, f		0416-3L
		5	Cont	: prp, ns		0416-4L
		5	Ca	: w, f		0416-5L
2752.30						0424
		55	Tuff	: lt bl gn to drk gn gy to blk, calc		0424-1L
		25	Sh/Clst:	drk gy, slt		0424-2L
		15	Cont	: ns, fib, prp		0424-3L
		5	Ca	: w, f		0424-4L
2761.40						0423
		55	Tuff	: lt brn gn to lt pu to blk, calc		0423-1L
		25	Sh/Clst:	drk gy, slt		0423-2L
		10	Cont	: ns, fib, prp		0423-3L
		10	S/Sst	: w to m brn, f		0423-4L
		tr	Ca	: w, f		0423-5L
2770.60						0422
		65	Tuff	: lt brn gn to lt pu to blk, calc		0422-1L
		25	Sh/Clst:	drk gy, slt		0422-2L
		5	Cont	: ns, fib		0422-3L
		5	S/Sst	: w to m brn, f		0422-4L
2779.70						0421
		50	Tuff	: lt brn gn to lt pu to blk, calc		0421-1L
		40	Sh/Clst:	drk gy, slt		0421-2L
		5	Cont	: ns, fib		0421-3L
		5	Ca	: w		0421-4L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2788.90						0420
				50 Tuff : lt brn gn to lt pu to blk, calc		0420-1L
				40 Cont : Mica-ad, ns		0420-2L
				10 Sh/Clst: drk gy, slt		0420-3L
				tr Ca : w		0420-4L
2798.10						0419
				60 Tuff : lt brn gn to lt pu to blk, calc		0419-1L
				25 Cont : Mica-ad, ns		0419-2L
				15 Sh/Clst: drk gy, slt		0419-3L
				tr Ca : w		0419-4L
2807.20						0418
				55 Tuff : lt brn gn to lt pu, calc		0418-1L
				30 Sh/Clst: drk gy to m gy, slt		0418-2L
				10 Cont : Mica-ad, ns		0418-3L
				5 S/Sst : w, f		0418-4L
2819.40						0417
				65 Tuff : lt brn gn to lt pu, calc		0417-1L
				25 Sh/Clst: drk gy to m gy, slt		0417-2L
				10 Cont : Mica-ad, ns		0417-3L
2831.60						0425
				50 Tuff : lt bl gn to drk gn gy to blk, calc		0425-1L
				25 Sh/Clst: drk gy, slt		0425-2L
				25 Sltst : w to lt gy w to m gy, calc, cem		0425-3L
				tr Cont : Mica-ad, fib		0425-4L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2840.70						0426
			35	Tuff : lt bl gn to drk gn gy to blk, calc		0426-1L
			30	Sh/Clst: drk gy, slt		0426-2L
			30	Sltst : w to lt gy w to m gy, calc, cem		0426-3L
			5	Cont : Mica-ad, fib		0426-4L
2852.90						0427
			85	Sh/Clst: drk gy, slt		0427-1L
			10	Tuff : lt bl gn to drk gn gy		0427-2L
			5	Sltst : w, calc		0427-3L
			tr	Cont : Mica-ad, ns		0427-4L
2859.00						0428
			80	Sh/Clst: drk gy to gy blk, slt		0428-1L
			10	Tuff : lt bl gn to drk gn gy		0428-2L
			5	Sltst : w, calc		0428-3L
			5	Cont : Mica-ad, ns		0428-4L
2865.10						0429
			85	Sh/Clst: drk gy to gy blk, slt		0429-1L
			10	Tuff : lt bl gn to drk gn gy		0429-2L
			5	Marl : lt brn gy		0429-3L
			tr	Cont : prp		0429-4L
2874.30						0430
			80	Sh/Clst: m gy to drk gy to gy blk, pyr, slt		0430-1L
			10	Tuff : lt bl gn to drk gn gy to blk		0430-2L
			10	Cont : ns, prp		0430-3L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2883.40						0431
				90 Sh/Clst:	drk gy to gy blk, pyr, slt	0431-1L
				10 Tuff	: lt bl gn to drk gn gy to blk	0431-2L
				tr Cont	: ns, prp	0431-3L
2892.50						0432
				85 Sh/Clst:	drk gy to gy blk to brn blk, slt	0432-1L
				10 Tuff	: lt bl gn to drk gn gy to blk	0432-2L
				5 Cont	: prp, fib, dd	0432-3L
2901.70						0433
				90 Sh/Clst:	drk gy to gy blk to brn blk, slt	0433-1L
				10 Tuff	: lt bl gn to drk gn gy to blk	0433-2L
				tr Cont	: prp, fib, dd	0433-3L
2913.90						0434
				85 Sh/Clst:	drk gy to gy blk to brn blk, slt	0434-1L
				10 Tuff	: lt bl gn to drk gn gy to blk	0434-2L
				5 Sh/Clst:	m brn to red brn, fe	0434-3L
2923.00						0435
				90 Sh/Clst:	drk gy to gy blk to brn blk, pyr, slt	0435-1L
				5 Tuff	: lt bl gn to drk gn gy to blk	0435-2L
				5 Sh/Clst:	m brn to red brn, fe	0435-3L
2932.10						0436
				70 Sh/Clst:	drk gy to gy blk to brn blk, pyr, slt	0436-1L
				25 Tuff	: lt bl gn to drk gn gy to blk to m gy	0436-2L
				5 Sltst	: lt gy w to lt gy	0436-3L
				tr Cont	: prp, ns	0436-4L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2950.40						0437
			85	Sh/Clst: drk gy to gy blk to brn blk, pyr, slt		0437-1L
			10	Tuff : lt bl gn to drk gn gy to blk		0437-2L
			5	Cont : prp, ns		0437-3L
2959.40						0438
			90	Sh/Clst: drk gy to gy blk to brn blk, pyr, slt		0438-1L
			10	Tuff : lt bl gn to drk gn gy to blk		0438-2L
			tr	Cont : prp, ns		0438-3L
2968.70						0439
			85	Sh/Clst: drk gy to gy blk to brn blk, pyr, slt		0439-1L
			10	Sltst : m gy to drk gy to lt brn gy, cly		0439-2L
			5	Tuff : drk gn gy to lt bl gn		0439-3L
2977.80						0440
			80	Sh/Clst: drk gy to brn gy, pyr, slt		0440-1L
			10	Tuff : drk gn gy to lt bl gn		0440-2L
			10	Cont : prp, dd		0440-3L
2987.00						0441
			85	Sh/Clst: drk gy to brn gy, pyr, slt		0441-1L
			10	Tuff : drk gn gy to lt bl gn		0441-2L
			5	Sltst : lt gy w to m gy		0441-3L
			tr	Cont : prp		0441-4L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2996.20						0442
				85 Sh/Clst: drk gy to brn gy, pyr, slt		0442-1L
				10 Tuff : drk gn gy to lt bl gn		0442-2L
				5 S/Sst : w to m gy, f, cem, hd		0442-3L
3005.30						0443
				85 Sh/Clst: drk gy to brn gy to gy blk, pyr, slt		0443-1L
				10 Tuff : drk gn gy to lt bl gn		0443-2L
				5 S/Sst : w to m gy, f, cem, hd		0443-3L
				tr Coal : blk		0443-4L
				tr Cont : prp, fib, dd		0443-5L
3014.50						0444
				55 Sh/Clst: drk gy to brn gy to gy blk, pyr, slt		0444-1L
				35 S/Sst : w to lt gy w, f, cem, hd		0444-2L
				10 Tuff : drk gn gy to lt bl gn to blk		0444-3L
				tr Cont : prp, fib		0444-4L
3026.60						0445
				55 Sh/Clst: drk gy to brn gy to gy blk, pyr, slt		0445-1L
				35 S/Sst : w to lt gy w, f, cem, hd		0445-2L
				5 Tuff : drk gn gy to lt bl gn to blk		0445-3L
				5 Cont : prp, fib, Mica-ad		0445-4L
3051.10						0446
				80 Sh/Clst: m gy to drk gy to gy blk, pyr, slt		0446-1L
				10 Cont : prp, fib, Mica-ad		0446-3L
				5 Tuff : drk gn gy to lt bl gn to blk		0446-2L
				5 Ca : w		0446-4L
				tr S/Sst : w, f, cem, hd		0446-5L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description			
3060.20						0447
		80	Sh/Clst:	m gy to drk gy to gy blk, pyr,		0447-1L
				slt		
		10	Tuff	: drk gn gy to lt bl gn to blk		0447-2L
		10	Cont	: prp, fib, Mica-ad		0447-3L
		tr	Ca	: w		0447-4L
		tr	S/Sst	: w, f, cem, hd		0447-5L
3069.30						0448
		70	Sh/Clst:	m gy to drk gy to gy blk, pyr,		0448-1L
				slt		
		20	Tuff	: drk gn gy to lt bl gn to blk		0448-2L
		10	Cont	: prp, fib, Mica-ad		0448-3L
3072.99	ccp					0455
		80	Other	: m gy to pl y gn to blk, hd		0455-1L
		20	Ca	: w, hd		0455-2L
3074.84	ccp					0456
		100	Other	: m gy to gn gy to blk, mic, f, hd,		0456-1L
				calc		
3076.04	ccp					0457
		100	Other	: m gy to gn gy to blk, mic, f, hd,		0457-1L
				calc		
3077.26	ccp					0458
		100	Sltst	: m gy, hd		0458-1L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
3077.87	ccp					0459
				90 Other : m gy to lt y gn to blk, hd		0459-1L
				10 Ca : w, cem, hd		0459-2L
3084.60						0449
				45 Sh/Clst: m gy to drk gy to gy blk, pyr, slt		0449-1L
				30 S/Sst : w to lt gy w, f, cem, hd		0449-2L
				15 Tuff : drk gn gy to lt bl gn to blk		0449-3L
				10 Cont : Mica-ad		0449-4L
3099.80						0450
				65 Sh/Clst: m gy to drk gy, pyr, slt		0450-1L
				15 Sh/Clst: lt gy, slt		0450-5L
				10 Cont : Mica-ad		0450-4L
				5 S/Sst : w to lt gy w, f, cem, hd		0450-2L
				5 Tuff : drk gn gy to lt bl gn to blk		0450-3L
3115.10						0451
				35 Sh/Clst: m gy to drk gy, pyr, slt		0451-1L
				25 S/Sst : w to lt gy w, f, cem, hd		0451-2L
				25 Sh/Clst: lt pu to m brn, calc		0451-3L
				10 Sh/Clst: lt gy w to lt gy		0451-4L
				5 Tuff : drk gn gy to lt bl gn		0451-5L
3130.20						0452
				50 Sh/Clst: m gy to drk gy to gy blk, pyr, slt		0452-1L
				25 Sh/Clst: lt pu to m brn, calc		0452-2L
				15 Tuff : drk gn gy to lt bl gn		0452-3L
				5 Ca : w, f		0452-4L
				5 Cont : Mica-ad		0452-5L
				tr S/Sst : w, f, cem, hd		0452-6L

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Table 1 : Lithology description for well NOCS 17/9-1

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int Cvd	TOC%	%	Lithology description			
3148.60						0453
		40	Sh/Clst:	m gy to drk gy to gy blk, pyr,		0453-1L
				slt		
		40	Sh/Clst:	lt pu to m brn, calc		0453-2L
		10	Tuff	: drk gn gy to lt bl gn		0453-3L
		10	S/Sst	: w, f, cem, hd		0453-4L
		tr	Cont	: Mica-ad		0453-5L
3160.80						0454
		40	Sh/Clst:	m gy to drk gy to gy blk, pyr,		0454-1L
				slt		
		40	Sh/Clst:	lt pu to m brn, calc		0454-2L
		10	Tuff	: drk gn gy to lt bl gn		0454-3L
		10	S/Sst	: w, f, cem, hd		0454-4L
		tr	Cont	: Mica-ad		0454-5L

Table 2 : Thermal Maturity Data for well NOCS 17/9-1

Depth unit of measure: m

Depth	Typ Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation	Spore Fluorescence Colour	SCI	T _{max} (°C)	Sample
603.50	cut Sh/Clst: drk gy	0.26	20	0.06	3+4	-	-	0263-1L
694.90	cut Sh/Clst: m drk gy to drk gy	0.31	10	0.04	3+4	-	-	0265-1L
740.60	cut Sh/Clst: lt gy to m lt gy	0.34	13	0.04	3+4	-	-	0266-2L
832.10	cut Sh/Clst: m gn gy to m gy	0.33	8	0.07	3	-	-	0268-3L
1060.70	cut Ca : w	NDP	-	-	0	-	-	0273-1L
1216.20	cut Sh/Clst: m gy to drk gy	0.33	11	0.06	3-4	-	-	0278-2L
1426.50	cut Other : drk gy brn, brn blk	0.39	2	0.04	0	-	-	0295-2L
1517.90	com bulk	0.40	4	0.03	3-4	-	-	0460-0B
1618.40	cut Sh/Clst: m gy to m lt gy	0.39	2	0.06	3-4	-	-	0314-1L
1737.30	com bulk	0.38	20	0.04	4	-	-	0461-0B
1828.80	cut Sh/Clst: m gy to drk gy	0.39	20	0.06	3-4	-	-	0333-1L
1935.50	cut Sh/Clst: m gy to drk gy	0.38	20	0.05	3-4	-	-	0339-1L
2033.00	cut Sh/Clst: m gy to drk gy to lt gy	0.38	20	0.04	3-4	-	-	0348-1L
2133.60	cut Sh/Clst: drk gy to m gy	0.40	11	0.06	3-4	-	-	0365-1L

Table 2 : Thermal Maturity Data for well NOCS 17/9-1

Depth unit of measure: m

Depth	Typ Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation	Spore Fluorescence Colour	SCI	T _{max} (°C)	Sample
2231.10	cut Sh/Clst: m gy to drk gy	0.42	20	0.05	3-4	-	-	0373-1L
2313.40	cut Sh/Clst: drk gy to brn gy	0.41	20	0.05	3-4	-	-	0380-1L
2414.00	cut Sh/Clst: m gy to drk gy	0.40	10	0.03	4	-	-	0388-1L
2526.80	cut Sh/Clst: m gy to drk gy	0.48	7	0.06	3+4	-	-	0395-1L
2639.60	cut Sh/Clst: m gy to drk gy	0.41	11	0.06	3-6	-	-	0406-1L
2718.80	cut Sh/Clst: m gy to drk gy	0.43	20	0.07	3-5	-	-	0414-2L
2807.20	cut Sh/Clst: drk gy to m gy	0.44	20	0.06	3+4	-	-	0418-2L
2923.00	cut Sh/Clst: drk gy to gy blk to brn blk	0.48	20	0.07	4-5	-	-	0435-1L
3026.60	cut Sh/Clst: drk gy to brn gy to gy blk	0.50	10	0.06	5-6	-	-	0445-1L
3130.20	cut Sh/Clst: m gy to drk gy to gy blk	0.52	15	0.07	4+5	-	-	0452-1L
3160.80	cut Sh/Clst: m gy to drk gy to gy blk	0.54	13	0.07	5	-	-	0454-1L