GEOCHEMICAL DATA REPORT

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GEOCHEMICAL DATA REPORT ON RESIDUAL HYDROCARBONS IN WELL 24/9-2

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DATA REPORT ON RESIDUAL HYDROCARBONS IN WELL 24/9-2

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Experimental Procedures

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.

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/methanol (93/7) 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 transferred to a flask and the solvent removed by rotary evaporation (200 mb, 30°C). The amount of EOM is gravimetrically established.

Removal of Asphaltenes

The EOM is dissolved in n-pentane in a flask to precipitate the asphaltenes by ultrasonic bath for 3 min. 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 returned to the original flask by dissolution in dichloromethane. The solvent is removed by rotary evaporation at 200 mB and 30°C.

Iatroscan

Saturates, aromatics and polars are qualitatively and quantitatively assessed using Iatroscan TLC-FID and employing Chromarod S-III rods. EOM was dissolved in DCM/MeOH. 1-3 µl of the solution is spotted on the pre-activated rods, using an auto-spotter. The rods are developed in n-hexane (35 mins), followed by toluene (14 mins) and DCM/MeOH (4 mins) with 2 mins air-drying between every stage. The developed rods are introduced in a 60°C oven for 90 seconds. The rods are analysed using the Iatroscan and the data are collected and processed using Multichrom data system.

Chromatographic Separation of deasphaltened 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 overnight. 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

EOM:
Analysis of extracted organic matter is performed on a Dani 8500 Gas Chromatograph fitted with a 25 m OV-1 Fused Silica column with 0.25 mm internal diameter. The temperature program on the column has an initial temperature of 50□ C (hold time 1 min), a heating rate of 10°C/min up to 310°C held for 15 mins. The detectors are standard FIDs. Correlation is achieved by use of external standards. Quantification is achieved using squalane as internal standard. Chromatographic data is processed using the Multichrom data acquisition and processing system.

Saturated hydrocarbon fractions:

The instrument used for this analysis is a DANI 8510 Gas Chromatograph equipped with an FID detector and an OV1 (25m) 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 40 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.

Combined Gas Chromatography - Mass Spectrometry (GC-MS)

The GC-MS analyses are performed on a Autospec Ultima 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 150C 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 OPUS system. 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 C_{27} and C_{28} triterpanes respectively.

Steranes

The most commonly used fragment ions for detection of steranes are m/z 149 to distinguish between 5α and 5β 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 5α(H)14β(H) 17β(H) steranes.

The m/z 231 fragment ion is used to detect methyl steranes.

The m/z 253 fragment ion is used to detect possible monoaromatic sterane contamination of the saturated fraction.

Norwegian Standard Guide Annotation

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).

27Ts	18 α trisnorneohopane (T_s)	$C_{27}H_{44}$	(I)
27Tm	17 α trisnorhopane (T_m)	$C_{27}H_{46}$	(II, R=H)
28αβ	Bisnorhopane	$C_{28}H_{48}$	(IV)
25nor30αβ*	norhopane	$C_{29}H_{50}$	
29αβ	αβ norhopane	$C_{29}H_{50}$	(II, R=C_2H_5)
29Ts	norneohopane	$C_{29}H_{50}$	
29βα	βα norhopane	$C_{29}H_{50}$	(III, R=C_2H_5)
30αβ	αβ hopane	$C_{30}H_{52}$	(II, R=i-C_3H_7)
30O	Oleanane	$C_{30}H_{52}$	
30βα	βα hopane	$C_{30}H_{52}$	(III, R=i-C_3H_7)
31αβS	22Sαβ homohopane	$C_{31}H_{54}$	(II, R=i-C_4H_9)
31αβR	22Rαβ homohopane	$C_{31}H_{54}$	(II, R=i-C_4H_9)
30G	gammacerane	$C_{30}H_{52}$	
31βα	βα homohopane	$C_{31}H_{54}$	(III, R=i-C_4H_9)
32αβS	22Sαβ bishomohopane	$C_{32}H_{56}$	(II, R=i-C_5H_{11})
32αβR	22Rαβ bishomohopane	$C_{32}H_{56}$	(II, R=i-C_5H_{11})
33αβS	22Sαβ trishomohopane	$C_{33}H_{56}$	(II, R=i-C_5H_{11})
33αβR	22Rαβ trishomohopane	$C_{33}H_{58}$	(II, R=i-C_6H_{13})
34αβS	22Sαβ tetrakishomohopane	$C_{34}H_{60}$	(II, R=i-C_7H_{15})
34αβR	22Rαβ tetrakishomohopane	$C_{34}H_{60}$	(II, R=i-C_7H_{15})
35αβS	22Sαβ pentakishomohopane	$C_{35}H_{62}$	(II, Ri-C_8H_{17})
35αβR	22Rαβ pentakishomohopane	$C_{35}H_{62}$	(II, R=i-C_8H_{17})
23/3	Tricyclic terpane	$C_{23}H_{42}$	(V, R=i-C_4H_9)
24/3	Tricyclic terpane	$C_{24}H_{44}$	(V, R=i-C_5H_{11})
25/3	Tricyclic terpane (17R, 17S)	$C_{25}H_{66}$	(V, R=i-C_6H_{13})
24/4	Tetracyclic terpane	$C_{24}H_{42}$	(VI)
26/3	Tricyclic terpane (17R, 17S)	$C_{26}H_{48}$	(V, R=i-C_7H_{15})
21/3	Tricyclic terpane	$C_{21}H_{38}$	(V, R=C_2H_5)
22/3	Tricyclic terpane	$C_{22}H_{40}$	(V, R=C_3H_7)
25nor28 *	25,28,30-trisnorhopane/moretane	$C_{27}H_{46}$	(VII)
30d	Diahopane	$C_{30}H_{52}$	(VIII)

* Also identified and quantified in m/z 177 fragmentograms

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.

21α	5α sterane	$C_{21}H_{36}$	(VI, R=C_2H_5)
22α	5α sterane	$C_{22}H_{38}$	(VI, R=C_3H_7)
27dβS	20S βα diacholestane	$C_{27}H_{48}$	(I, R=H)
27dβR	20R βα diacholestane	$C_{27}H_{48}$	(I, R=H)
27dαS	20S αβ diacholestane	$C_{27}H_{48}$	(II, R=H)
27dαR	20R αβ diacholestane	$C_{27}H_{48}$	(II, R=H)
28dβS	20S βα 24-methyl-diacholestane	$C_{28}H_{50}$	(I, R=CH_3)
28dβR	20R βα 24-methyl-diacholestane	$C_{28}H_{50}$	(I, R=CH_3)
28dαR	20R αβ 24-methyl-diacholestane	$C_{28}H_{50}$	(II, R=CH_3)
27ααS	+ 20S ααα cholestane	$C_{27}H_{48}$	(III, R=H)
29dβS	20S βα 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C_2H_5)
27ββR*	+ 20R αββ cholestane	$C_{27}H_{48}$	(IV, R=H)
27ββS*	20S αββ cholestane	$C_{27}H_{48}$	(IV, R=H)
28dαS	+ 20S αβ 24-methyl-diacholestane	$C_{28}H_{50}$	(II, R=CH_3)
27ααR	20R ααα cholestane	$C_{27}H_{48}$	(III, R=H)
29dβR	20R βα 24-ethyl-diacholestane	$C_{29}H_{52}$	(I, R=C_2H_5)
29dαR	20R αβ 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C_2H_5)
28ααS	20S ααα 24-methyl-cholestane	$C_{28}H_{50}$	(III, R=CH_3)
28ββR*	20R αββ 24-methyl-cholestane	$C_{28}H_{50}$	(IV, R=CH_3)
29dαS	+ 20S αβ 24-ethyl-diacholestane	$C_{29}H_{52}$	(II, R=C_2H_5)
28ββS*	20S αββ 24-methyl-cholestane	$C_{28}H_{50}$	(IV, R=CH_3)
28ααR	20R ααα 24-methyl-cholestane	$C_{28}H_{50}$	(III, R=CH_3)
29ααS	20S ααα 24-ethyl-cholestane	$C_{29}H_{52}$	(III, R=C_2H_5)
29ββR*	20R αββ 24-ethyl-cholestane	$C_{29}H_{52}$	(IV, R=C_2H_5)
29ββS*	20S αββ 24-ethyl-cholestane	$C_{29}H_{52}$	(IV, R=C_2H_5)
29ααR	20R ααα 24-ethyl-cholestane	$C_{29}H_{52}$	(III, R=C_2H_5)
M30αα	αα 4-methyl-24-ethyl-cholestane	$C_{30}H_{54}$	
M30D	αα 4,23,24-trimethyl-cholestane	$C_{30}H_{54}$	
30ααS	20S ααα 24-propyl-cholestane	$C_{30}H_{54}$	(IV, R=C_3H_7)
30ββR*	20R αββ 24-propyl-cholestane	$C_{30}H_{54}$	(V, R=C_3H_7)
30ββS*	20S αββ 24-propyl-cholestane	$C_{30}H_{54}$	(IV, R=C_3H_7)
30ααR	20R ααα 24-propyl-cholestane	$C_{30}H_{54}$	(IV, R=C_3H_7)

- Compounds identified and quantified in m/z 218 fragmentograms

Abbreviations

List of abbreviations used for lithology description
(sorted alphabetically)

ang	= angular
bar	= Baryte (mud additive)
bit	= bituminous
bl	= blue/blueish
blk	= black
br	= brittle
brn	= brown/brownish
Ca	= Carbonate (limestone/chalk/dolomite/siderite)
calc	= calcareous
carb	= carbonaceous
cem	= cement used as additive (under "cont") or to describe cemented S/Sst
Chert	= Chert
chk	= Chalk/chalky
cly	= clayey/shaly
cngl	= conglomeratic
Coal	= Coal
Coal-ad	= Coal-like additive (e.g. chromlignosulfonate)
Congl	= Conglomerat
Cont	= Contamination(s)
crs	= coarse grained
dd	= dried drilling mud
dol	= Dolomite/dolomitic
drk	= dark (colour)
dsk	= dusk/dusky (colour)
evap	= Salt/Gypsum/Halite (natural "Other" or as additive "Cont"
f	= fine grained
fe	= ferruginous
fib	= fibres (mud additive/contamination)
fis	= fissile
fos	= fossiliferous
glauc	= glauconite/glauconitic
gn	= green/greenish
gy	= grey/greyish
hd	= hard
ign	= Igneous (material derived from igneous source)
Kaolin	= Kaolin(ite)
kln	= kaolinitic
l	= loose
lam	= laminated/laminae
lt	= light (colour)
m	= medium (colour or grain size)
Marl	= Marl (calcareous claystone/mudstone)
mic	= micaceous
Mica-ad	= Mica used as mud additive
mrl	= marly
No Mat.	= No material left over after washing
ns	= nutshells (mud additive)
ol	= olive
ool	= Oolite/oolitic
or	= orange
Other	= Other lithology/mineral, specified after this word
pi	= pink/pinkish
pl	= pale (colour)
prp	= paint/rust/plastic contaminations/additives
pu	= purple

pyr	=	Pyrite/pyritic
red	=	red/reddish
rnd	=	round/rounded
s	=	sandy
sft	=	soft
S/Sst	=	Sand and/or sandstone
Sh/Clst	=	Shale and/or claystone
sid	=	Siderite/sideritic
sil	=	siliceous/cherty
slt	=	silty
Sltst	=	siltstone
st	=	stained (with natural oil or oil-like additive)
tar-ad	=	Tar-like additive (e.g. "Black Magic")
trbfgs	=	turbodrilled fragments
Tuff	=	Tuff
tuff	=	tuffaceous
v col	=	various colours
w	=	white
wx	=	waxy
y	=	yellow/yellowish

General

EOM	=	Extractable Organic Matter
GC-MS	=	Gas Chromatograph - Mass Spectrometer
HC	=	Hydrocarbons
MPLC	=	Medium Pressure Liquid Chromatograph
NSO	=	Nitrogen-, Sulphur- and Oxygen-compounds
TOC	=	Total Organic Carbon
VRe	=	Vitrinite Reflectance equivalent

In GAS CHROMATOGRAPHY

FID	=	Flame Ionisation Detector
FPD	=	Flame Photometric Detector
GC	=	Gas Chromatograph
CPI	=	Carbon Preference Index, $0.5 \times \frac{C25+C27+C29+C31+C33}{C24+C26+C28+C30+C32} + \frac{C25+C27+C29+C31+C33}{C26+C28+C30+C32+C34}$
Bph	=	Biphenyl
P	=	phenanthrene
MP	=	methyl phenanthrene
MDBT	=	methyl dibenzothiophene
DBT	=	dibenzothiophene
MNR	=	2/1 methylnaphthalenes
ENR	=	2/1 ethylnaphthalenes
DMNR	=	2,6+2,7/1,5 dimethyl naphthalenes
BphR	=	Biphenyl/1,6 dimethylnaphthalene
MPI 1	=	methyl phenanthrene index, 1.5x(3MP+2MP) / P+9MP+1MP
MPI 2	=	methyl phenanthrene index, 3x(2MP) / P+9MP+1MP
(3+2/1)MDBT	=	3+2/1 methyl dibenzothiophenes
(4/1)MDBT	=	4/1 methyl dibenzothiophenes
Rc	=	0,6 MPI 1 + 0.4 (where 2/1MP = <2.65)

In GC-MS

Triterpanes

C_{30} diahopane/C_{30} diahopane+C_{29} βα hopane – peaks X/(X+D)

C_{30} diahopane/C_{30} diahopane+C_{30} αβ hopane – peaks X/(X+E)

Ts/(Ts+Tm) - C_{27} 22,29,30 18α trisnorneohopane / (C_{27} 22,29,30 17α trisnorhopane + C_{27} 22,29,30 18α trisnorneohopane) peaks A/(A+B)

Bisnorhopane/(bisnorhopane+ C_{29} αβ hopane) – peaks Z/(Z+C)

Steranes

Ratio 1 C_{27} diasterane/C_{27} Diasterane+C_{27}αα20R - peaks a/(a+j)

Ratio 2 %C_{29} 20S - % 5α 14α 17α 20S/(20S+20R) ethylcholestanes– peaks q/(q+t)

Ratio 4 C27/C29 diasteranes (peaks a+b+c+d)/(h+k+l+n)

Ratio 6 (C_{21}+C_{22})/ (C_{21}+C_{22}+ 5α 14β 17β + 5α 14α 17α 20S+20R) – peaks (a+b)/(a+b+q+r+s+t)

Ratio 8 C_{29} ββ/(αα+ββ) – 5α 14β 17β / (5α 14β 17β + 5α 14α 17α) (20S+20R) ethylcholestanes – peaks (r+s)/(q+r+s+t)

Appendix 1

Table 1: Analytical Program for Hydrocarbon Analysis of Sandstones from 24/9-2

Well	Sample Depth (m)	Sample Type	Sample Code	Extraction Clean-Up	Lithology Description	Picking for screening	Prøvepreparering	Leco TOC	RockEval	Thermal Extraction	Pyrolysis GC	Picking for Extraction	Iatroscan	Solvent Extraction	Topping	MPLC & Deasphaltene	EOM GC	Whole Oil GC	Sat GC (Quantitative)	Aro GC	Sat GCMS (Quantitative)	Aro GCMS (Quantitative)	Carbon isotope of fractions	Vitrinite Reflectance	Visual kerogen	API Gravity	Gas composition	GC-IRMS of oils
	Table nos.:															8		13	9	9	11	12	10			17		18
24/9-2	2100	cuttings	C48/0010-2		x		x					x	x	x		x	x		x	x	x							
24/9-2	2103	cuttings	C48/0011-2		x		x					x	x	x		x	x		x	x	x							
24/9-2	2109	cuttings	C48/0012-2		x		x					x		x			x											
24/9-2	2112	cuttings	C48/0013-2		x		x					x		x			x											
			Total		4		4					4	2	4		2	4		2	2	2							
				cemented sandstone cuttings were picked where possible																								
				in 24/9-2 samples were bulk but all contaminants and coaly particles removed																								

Table 8a Extraction and Fractionation (MPLC) Data (weights) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	whole rock (g) for extraction	EOM (mg)	Sat (mg)	Aro (mg)	NSO (mg)	Asph (mg)	%TOC	HC	Non-HC	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	4,79	14,6	4,94	1,75	5,41	2,5	1,37	6,7	7,91	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	3,72	10,2	3,61	0,86	4,13	1,6	1,23	4,5	5,73	C48/0011-2
NOCS 24/9-2	2109	cut	sandstone/sand	30	3,51	11,1	-	-	-	-	-	-	-	C48/0012-2
NOCS 24/9-2	2112	cut	sandstone/sand	30	3,44	11,4	-	-	-	-	-	-	-	C48/0013-2

Table 8b Extraction and Fractionation (MPLC) Data (ppm) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	EOM (ppm)	Sat (ppm)	Aro (ppm)	NSO (ppm)	Asph (ppm)	HC	Non-HC	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	3048	1031	365	1129	522	1397	1651	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	2742	970	231	1110	430	1202	1540	C48/0011-2
NOCS 24/9-2	2109	cut	sandstone/sand	30	3162	-	-	-	-	-	-	C48/0012-2
NOCS 24/9-2	2112	cut	sandstone/sand	30	3314	-	-	-	-	-	-	C48/0013-2

Table 8c Extraction and Fractionation (MPLC) Data (mg/gTOC) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	EOM (mg/gTOC)	Sat (mg/gTOC)	Aro (mg/gTOC)	NSO (mg/gTOC)	Asph (mg/gTOC)	HC	Non-HC	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	222	75	27	82	38	102	121	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	223	79	19	90	35	98	125	C48/0011-2
NOCS 24/9-2	2109	cut	sandstone/sand	30	-	-	-	-	-	-	-	C48/0012-2
NOCS 24/9-2	2112	cut	sandstone/sand	30	-	-	-	-	-	-	-	C48/0013-2

Table 8d Fractionation Data from MPLC (fractions as a percentage of EOM) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	Sat/ EOM	Aro/ EOM	Asph/ EOM	NSO/ EOM	HC/ EOM	Non-HC/ EOM	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	33,80	12,00	17,12	37,08	45,80	54,20	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	35,41	8,43	15,69	40,47	43,84	56,16	C48/0011-2

Table 8e Fractionation Data from MPLC (ratios) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	Sat/ Aro	HC/ Non-HC	ASP/ NSO	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	2,82	0,85	0,46	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	4,20	0,78	0,39	C48/0011-2

Table 8f Iatroscan analysis (abslute data in mg) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	EOM weighed	Sat.	Aro.	Resins	Asph.	Tot. HC	Tot. pol.	Tot. EOM (calc.)	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	3,05	1,54	0,39	0,6	0,52	1,93	1,12	3,05	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	2,74	1,38	0,37	0,56	0,43	1,75	0,99	2,74	C48/0011-2

Table 8g Iatroscan data % of EOM of Sandstones from 24/9-2

Well name	Lower depth	Sample type	Description	% Lith.	Sat.	Aro.	Resins	Asph.	Tot. HC	Tot. pol.	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	50,47	12,74	19,67	17,12	63,21	36,79	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	50,43	13,53	20,35	15,69	63,96	36,04	C48/0011-2

Table 9Aa Saturated Hydrocarbon peak areas of Sandstones from 24/9-2

Well name	Lower depth	Sample type	Description	% Lith.	nC15	nC16	Nor-pristane	nC17	Pristane	nC18	Phytane	nC19	nC20
NOCS 24/9-2	2100	cut	sandstone/sand	20	1625389	2353482	656381	2041816	1184484	1104360	542547	456709	237636
NOCS 24/9-2	2103	cut	sandstone/sand	25	7804786	9396257	2847489	6190615	4365399	2614483	1758746	978234	446759

Well name	Lower depth	Sample type	Description	% Lith.	nC21	nC22	nC23	nC24	nC25	nC26	nC27	nC28	nC29	nC30	nC31	nC32
NOCS 24/9-2	2100	cut	sandstone/sand	20	81857	39812	19039	0	0	0	0	0	0	0	0	0
NOCS 24/9-2	2103	cut	sandstone/sand	25	199991	137684	94417	80695	101142	77394	80317	0	0	0	0	0

Well name	Lower depth	Sample type	Description	% Lith.	nC33	nC34	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	0	0	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	0	0	C48/0011-2

Table 9Ab: Quantitative Analysis of Saturated Hydrocarbon Fraction of Sandstones from 24/9-2 (in mg/g SAT)

Well name	Lower depth (m)	Sample type	Description	% Lith.	nC15	nC16	iC18	nC17	Pr	nC18	Ph	nC19	nC20	nC21	nC22	nC23	nC24
NOCS 24/9-2	2100	cut	sandstone/sand	20	51,02	73,87	20,60	64,09	37,18	34,66	17,03	14,33	7,46	2,57	1,25	0,60	0,00
NOCS 24/9-2	2103	cut	sandstone/sand	25	60,36	72,67	22,02	47,88	33,76	20,22	13,60	7,57	3,46	1,55	1,06	0,73	0,62

Well name	Lower depth (m)	Sample type	Description	% Lith.	nC25	nC26	nC27	nC28	nC29	nC30	nC31	nC32	nC33	nC34	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	0,78	0,60	0,62	0,00	0,00	0,00	0,00	0,00	0,00	0,00	C48/0011-2

Table 9B: Saturated Hydrocarbon Ratios (peak areas) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	Prist./ nC17	Prist./ Phyt.	(Prist./nC17)/ (Phyt./nC18)	CPI 1	Phytane/ nC18	nC17/ (nC17+nC27)	(Pristane+Phytane)/ (nC17+nC18)	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	0,58	2,18	1,18	0	0,49	1	0,55	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	0,71	2,48	1,05	1,75	0,67	0,99	0,7	C48/0011-2

Table 9Ca: Aromatic Hydrocarbons (peak areas) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	2MN	1MN	BPh	2EN	1EN	2.6+ 2.7DMN	1.6DMN	1.5DMN	1.3.7TMN	1.3.6TMN
NOCS 24/9-2	2100	cut	sandstone/sand	20	154511	133857	142298	124109	120209	576068	646998	222315	450914	620568
NOCS 24/9-2	2103	cut	sandstone/sand	25	96211	89215	113071	103350	95045	489150	561588	192874	420168	580486

Well name	Lower depth (m)	Sample type	Description	% Lith.	1.3.5TMN	1.4.6+ 2.3.6TMN	P	3MP	2MP	9MP	1MP	DBT	4MDBT	2+3 MDBT
NOCS 24/9-2	2100	cut	sandstone/sand	20	581234	529274	685110	305075	259119	239603	157189	162153	548011	134950
NOCS 24/9-2	2103	cut	sandstone/sand	25	540493	507826	609935	235826	212582	206052	133265	135965	447119	167060

Well name	Lower depth (m)	Sample type	Description	% Lith.	1MDBT	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	98630	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	89665	C48/0011-2

Table 9Cc: Aromatic Ratios (peak area) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	Rc	DBT/Ph	4/1 MDBT	(3+2)/ 1MDBT	F1	F2	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	1,15	2,59	0,22	1,65	0,78	0,72	0,87	0,24	5,56	1,37	0,6	0,3	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	1,08	2,54	0,2	1,6	0,71	0,67	0,83	0,22	4,99	1,86	0,6	0,3	C48/0011-2

Table 11a: Triterpane data from m/z 191 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Triterpane Peak Heights of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	23/3 (P)	24/3 (Q)	25/3 (R)	24/4 (S)	26/3 (T)	27Ts (A)	27Tm (B)	28ab (Z)	25nor30ab (Z1)
NOCS 24/9-2	2100	cut	sandstone/sand	20	57048	28637	11090	10940	5744	8841	9029	94102	16338
NOCS 24/9-2	2103	cut	sandstone/sand	25	72038	32867	11739	10177	5747	12831	11770	129845	21448

Well name	Lower depth (m)	Sample type	Description	% Lith.	29ab (C)	29Ts (C1)	30d (X)	29ba (D)	30ab (E)	30ba (F)	31abS (G)	31abR (H)	31ba (I)	32abS (J1)	32abR (J2)
NOCS 24/9-2	2100	cut	sandstone/sand	20	18015	9067	1641	7554	28874	2935	4718	7012	4230	2441	2334
NOCS 24/9-2	2103	cut	sandstone/sand	25	26688	12906	2417	11932	47415	4665	8885	12349	6239	4940	4199

Well name	Lower depth (m)	Sample type	Description	% Lith.	33abS (K1)	33abR (K2)	34abS (L1)	34abR (L2)	35abS (M1)	35abR (M2)	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	1800	1791	943	822	977	1060	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	3610	3117	1874	1480	1470	1636	C48/0011-2

Table 11b: Triterpanes data from m/z 177 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Triterpane Peak Heights of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	25nor28ab	25nor30ab	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	195128	10811	C48/10-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	227804	14279	C48/11-2

Table 11c: Sterane data from m/z 217 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Sterane Peak Heights of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	21a (u)	22a (v)	27dbS (a)	27dbR (b)	27daR (c)	27daS (d)	28dbS (e)	28dbR (f)
NOCS 24/9-2	2100	cut	sandstone/sand	20	19012,7	8861	5506	4524	1762	3732	2742	2106
NOCS 24/9-2	2103	cut	sandstone/sand	25	25029,8	10856	8581	7022	2689	5702	4189	3087

Well name	Lower depth (m)	Sample type	Description	% Lith.	28daR +27aaS (g)	29dbS +27bbR (h)	28daS +27bbS (i)	27aaR (j)	29dbR (k)	29daR (l)	28aaS (m)	29daS +28bbR (n)	28bbS (o)
NOCS 24/9-2	2100	cut	sandstone/sand	20	4341	4251	3209	12091	2964	1403	1387	3959	2344
NOCS 24/9-2	2103	cut	sandstone/sand	25	6578	6902	4633	18455	4986	2061	2247	5865	3595

Well name	Lower depth (m)	Sample type	Description	% Lith.	28aaR (p)	29aaS (q)	29bbR (r)	29bbS (s)	29aaR (t)	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	7696	1792	4870	2167	12079	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	10950	2762	7279	3623	17632	C48/0011-2

Table 11d: Sterane data from m/z 218 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Sterane Peak Heights of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	27bbR (h)	27bbS (i)	28bbR (n)	28bbS (o)	29bbR (r)	29bbS (s)	30bbR (x)	30bbS (y)	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	5080	3708	4559	3646	4896	3601	928	1013	C48/10-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	7720	5578	7169	5999	7613	6043	1637	1650	C48/11-2

Table 11e: Triterpane data from m/z 191 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Amount of Triterpanes in ng/g sat (ppb) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	23/3 (P)	24/3 (Q)	25/3 (R)	24/4 (S)	26/3 (T)	27Ts (A)	27Tm (B)	28ab (Z)
NOCS 24/9-2	2100	cut	sandstone/sand	20	145857	73217	28354	27970	14687	22604	23085	240596
NOCS 24/9-2	2103	cut	sandstone/sand	25	91819	41892	14963	12971	7325	16354	15002	165499

Well name	Lower depth (m)	Sample type	Description	% Lith.	25nor30ab (Z1)	29ab (C)	29Ts (C1)	30d (X)	29ba (D)	30ab (E)	30ba (F)	31abS (G)	31abR (H)
NOCS 24/9-2	2100	cut	sandstone/sand	20	41771	46080	23162	4196	19313	73823	7503	12062	17928
NOCS 24/9-2	2103	cut	sandstone/sand	25	27338	34016	15450	3081	15209	60435	5946	11325	15740

Well name	Lower depth (m)	Sample type	Description	% Lith.	31ba (I)	32abS (J1)	32abR (J2)	33abS (K1)	33abR (K2)	34abS (L1)	34abR (L2)	35abS (M1)	35abR (M2)	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	10816	6240	5967	4603	4580	2410	2102	2497	2710	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	7952	6297	5353	4601	3973	2388	1886	1873	2086	C48/0011-2

Table 11f: Triterpane data from m/z 177 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Amount of Triterpanes in ng/g sat (ppb) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	25nor28ab	25nor30ab	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	498893	27641	C48/10-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	290358	18200	C48/11-2

Table 11g: Sterane data from m/z 217 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Amount of Steranes in ng/g sat (ppb) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	21a (u)	22a (v)	27dbS (a)	27dbR (b)	27daR (c)	27daS (d)	28dbS (e)	28dbR (f)	28daR +27aaS (g)
NOCS 24/9-2	2100	cut	sandstone/sand	20	48611	22655	14079	11567	4504	9541	7010	5384	11100
NOCS 24/9-2	2103	cut	sandstone/sand	25	31903	13837	10937	8950	3427	7267	5340	3935	8384

Well name	Lower depth (m)	Sample type	Description	% Lith.	29dbS +27bbR (h)	28daS +27bbS (i)	27aaR (j)	29dbR (k)	29daR (l)	28aaS (m)	29daS +28bbR (n)	28bbS (o)	28aaR (p)
NOCS 24/9-2	2100	cut	sandstone/sand	20	10869	8205	30914	7579	3586	3545	10122	5994	19675
NOCS 24/9-2	2103	cut	sandstone/sand	25	8798	5906	23522	6355	2627	2864	7475	4583	13957

Well name	Lower depth (m)	Sample type	Description	% Lith.	29aaS (q)	29bbR (r)	29bbS (s)	29aaR (t)	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	4580	12452	5540	30883	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	3521	9278	4617	22474	C48/0011-2

Table 11h: Sterane data from m/z 218 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Sterane quantified in ng/g sat (ppb) of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	27bbR (h)	27bbS (i)	28bbR (n)	28bbS (o)	29bbR (r)	29bbS (s)	30bbR (x)	30bbS (y)	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	12987	9479	11655	9323	12519	9207	2372	2590	C48/10-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	9840	7109	9138	7646	9703	7703	2086	2103	C48/11-2

Table 11i: Amount of standard (d4 cholestne) and weight of sample of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	Standard	Amount	Weight	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	53578,4	2,0	14,6	C48/10-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	153836,2	2,0	10,2	C48/11-2

Table 11j: Triterpane data from m/z 191 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Ratios from peak heights of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	Ratio 1	Ratio 2	Ratio 3	Ratio 4	Ratio 5	Ratio 6	Ratio 7	Ratio 8	Ratio 9	Ratio 10	Ratio 11	Ratio 12	Ratio 13	Ratio 14
NOCS 24/9-2	2100	cut	sandstone/sand	20	1,02	0,51	0,22	0,62	0,38	0,06	3,26	5,22	0,77	0,99	0,91	0,45	0,22	51,12
NOCS 24/9-2	2103	cut	sandstone/sand	25	0,92	0,48	0,18	0,56	0,36	0,05	2,74	4,87	0,73	0,69	0,91	0,43	0,22	54,05

Well name	Lower depth (m)	Sample type	Description	% Lith.	27Ts/ (27Ts+27Tm)	30d/ (30d+29ba)	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	0,49	0,18	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	0,52	0,17	C48/0011-2

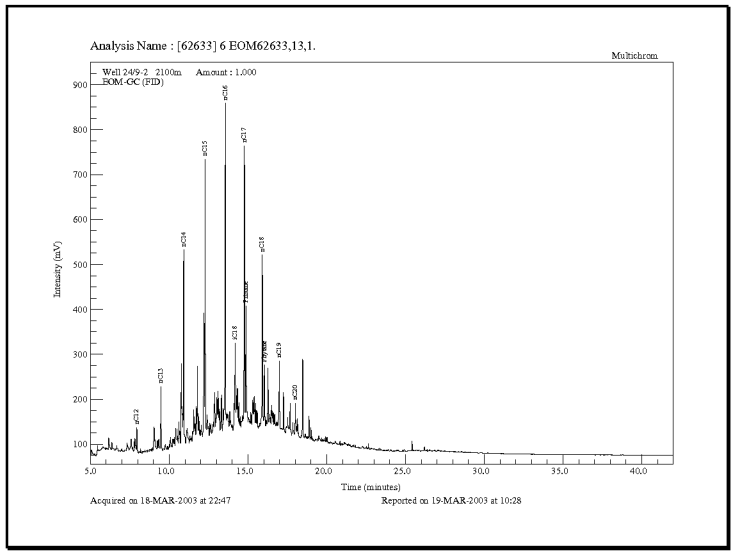
Table 11k: Triterpane data from m/z 217 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Ratios from peak heights of Sandstones from 24/9-2

Well name	Lower depth (m)	Sample type	Description	% Lith.	Ratio 1	Ratio 2	Ratio 3	Ratio 4	Ratio 5	Ratio 6	Ratio 7	Ratio 8	Ratio 9	Ratio 10	Sample number
NOCS 24/9-2	2100	cut	sandstone/sand	20	0,31	12,92	50,36	1,23	0,8	0,57	0,49	0,34	0,15	0,58	C48/0010-2
NOCS 24/9-2	2103	cut	sandstone/sand	25	0,32	13,54	51,67	1,21	0,8	0,53	0,45	0,35	0,16	0,62	C48/0011-2

Triterpane and Sterane ratios

	Triterpanes	Steranes
Ratio 1	27Tm/27Ts	27dβS/(27dβS+27ααR)
Ratio 2	27Tm/(27Tm+27Ts)	29ααS/(29ααS+29ααR)
Ratio 3	27Tm/(27Tm+30αβ+30βα)	2*(29ββR+29ββS)/(29ααS+29ααR+2*[29ββR+29ββS])
Ratio 4	29αβ/30αβ	(27dβS+27dβR+27dαR+27dαS)/(29dβS+29dβR+29dαR+29dαS)
Ratio 5	29αβ/(29αβ+30αβ)	(29ββR+29ββS)/(29ααS+29ββR+29ββS)
Ratio 6	30d/30αβ	21α+22α/(21α+22α+29ααS+29ββR+29ββS+29ααR)
Ratio 7	28αβ/30αβ	21α+22α/(21α+22α+28dαS+28ααS+29dαR+29ααS+29ββR+29ββS+29
Ratio 8	28αβ/29αβ	(29ββR+29ββS)/(29ααS+29ββR+29ββS+29ααR)
Ratio 9	28αβ/(28αβ+30αβ)	29ααS/29ααR
Ratio 10	24/3/30αβ	(29ββR+29ββS)/29ααR
Ratio 11	30αβ/(30βα+30αβ)	
Ratio 12	(29αβ+29βα)/(29αβ+29βα+30αβ+30βα)	
Ratio 13	(29βα+30βα)/(29αβ+30αβ)	
Ratio 14	32αβS/(32αβS+32αβR) %	

Appendix 2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nC14
nC18
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Intensity (uV)
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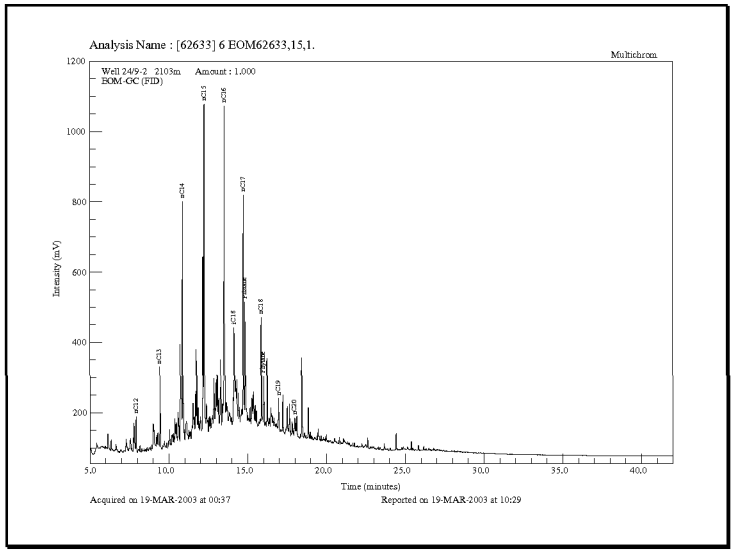
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nC16
nC17
nC18
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nC26
Intensity (mV)
Time (minutes)
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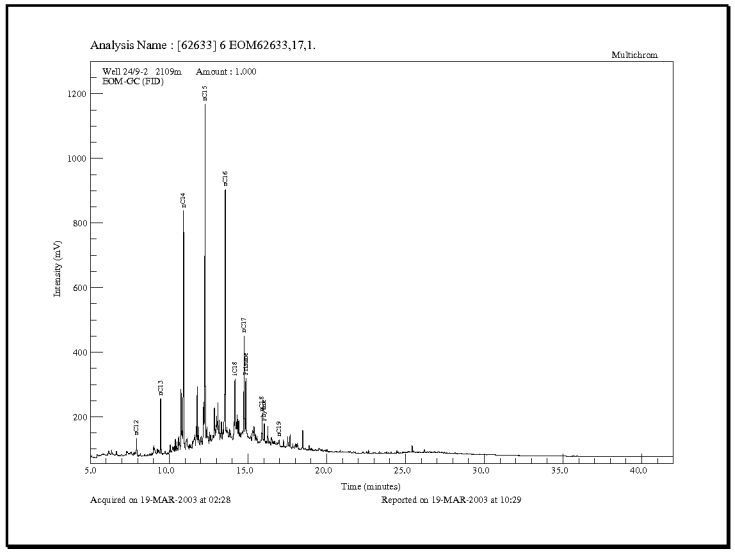
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EOM-GC (FID)
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iC18
nC13
nC12
nC19
Intensity (uV)
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1000
800
600
400
200
5.0
10.0
15.0
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35.0
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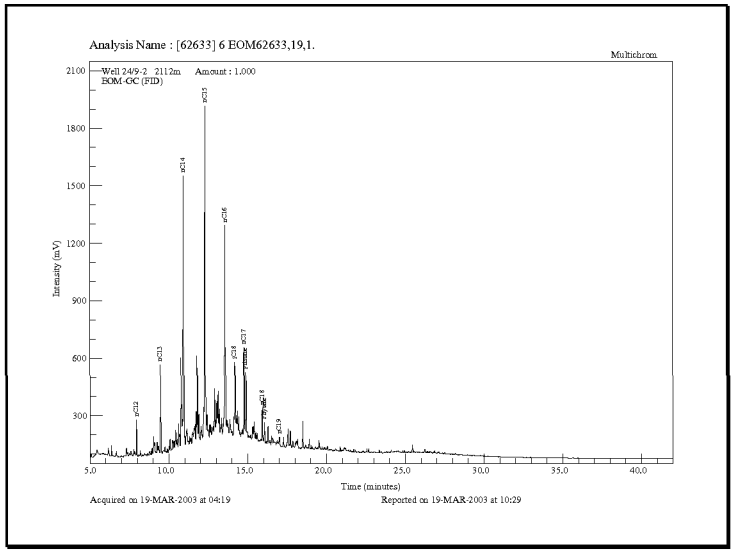
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900
600
300
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nC13
nC14
nC15
nC16
nC17
nC18
nC19
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10.0
15.0
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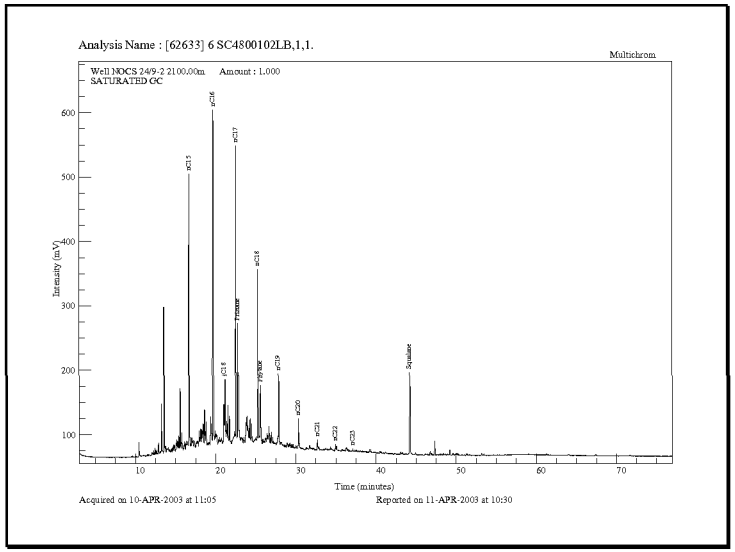
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nC17
Pristane
nC18
Phytane
nC19
nC20
nC21
nC22
nC23
nC28
Squalane
Intensity (mV)
600
500
400
300
200
100
10
20
30
40
50
60
70
Time (minutes)
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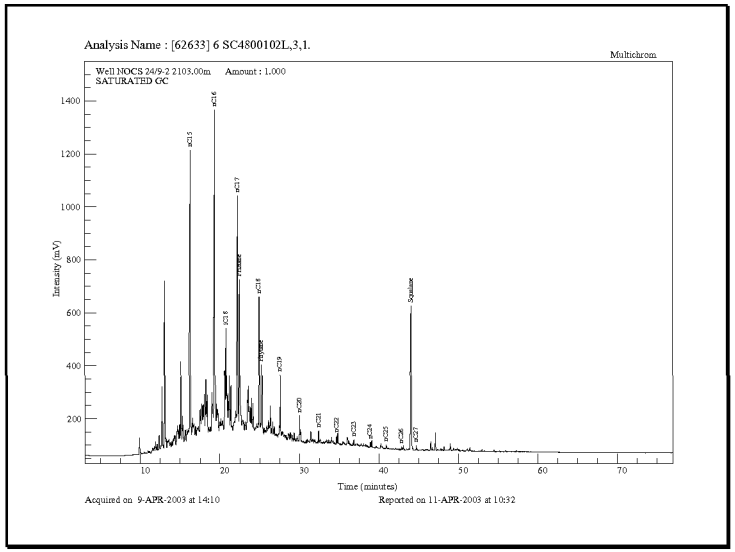
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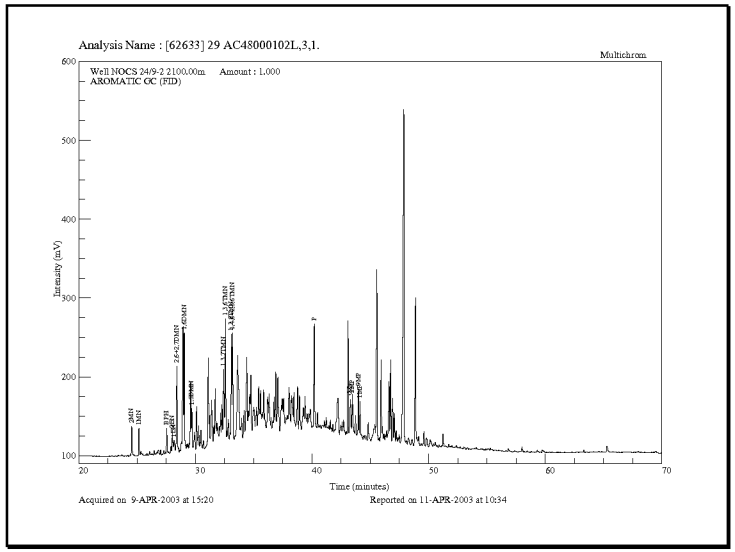
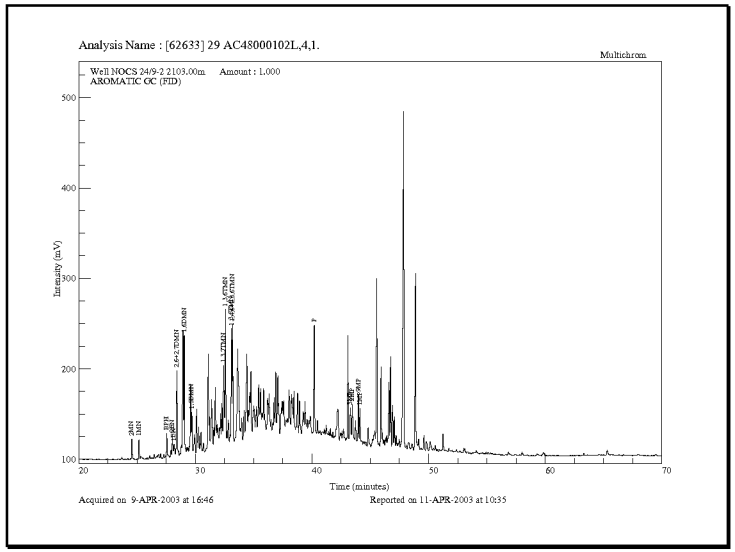
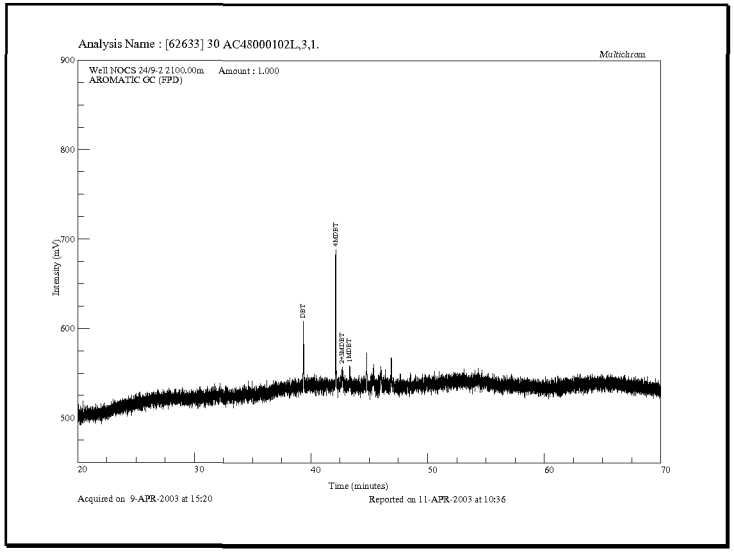
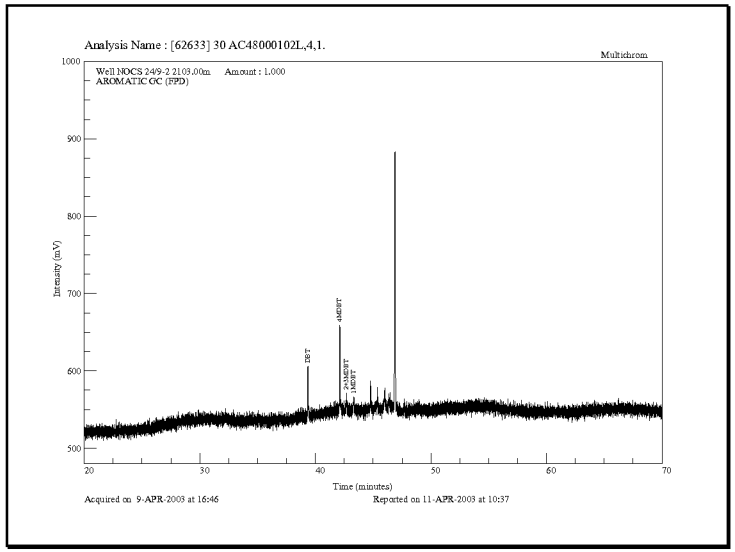
Well NOCS 24/9-2 2103.00m Amount : 1.000
SATURATED GC
Intensity (mV)
Time (minutes)
nC15
nC16
nC17
Pristane
nC18
Phytane
nC19
nC20
nC21
nC22
nC23
nC24
nC25
nC26
nC27
Squalane
Acquired on 9-APR-2003 at 14:10
Reported on 11-APR-2003 at 10:32

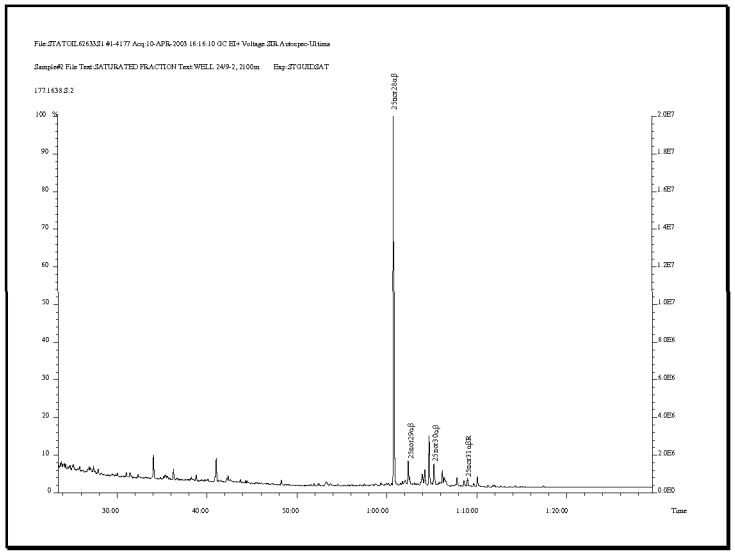

Analysis Name : [62633] 29 AC48000102L,3,1.
Multichrom
Well NOCS 24/9-2 2100.00m
AROMATIC GC (FID)
Amount : 1.000
Intensity (mV)
600
500
400
300
200
100
20
30
40
50
60
70
Time (minutes)
Acquired on 9-APR-2003 at 15:20
Reported on 11-APR-2003 at 10:34

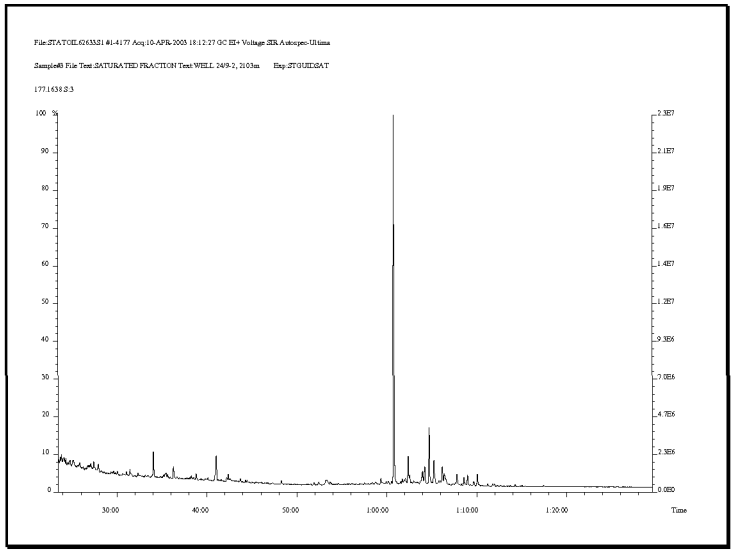

Analysis Name : [62633] 29 AC48000102L,4,1.
Multichrom
Well NOCS 24/9-2 2103.00m
AROMATIC GC (FID)
Amount : 1.000
Intensity (mV)
500
400
300
200
100
20
30
40
50
60
70
Time (minutes)
Acquired on 9-APR-2003 at 16:46
Reported on 11-APR-2003 at 10:55

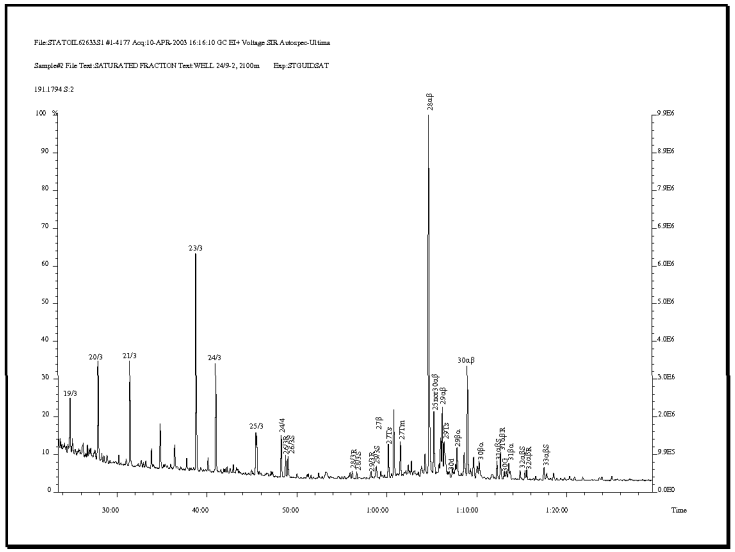

Analysis Name : [62633] 30 AC48000102L,3,1.
Multichrom
Well NOCS 24/9-2 2100.00m
AROMATIC GC (FPD)
Amount : 1.000
900
800
700
600
500
Intensity (mV)
DBT
4,6DMDBT
2,8DMDBT
1MDBT
20
30
40
50
60
70
Time (minutes)
Acquired on 9-APR-2003 at 15:20
Reported on 11-APR-2003 at 10:36

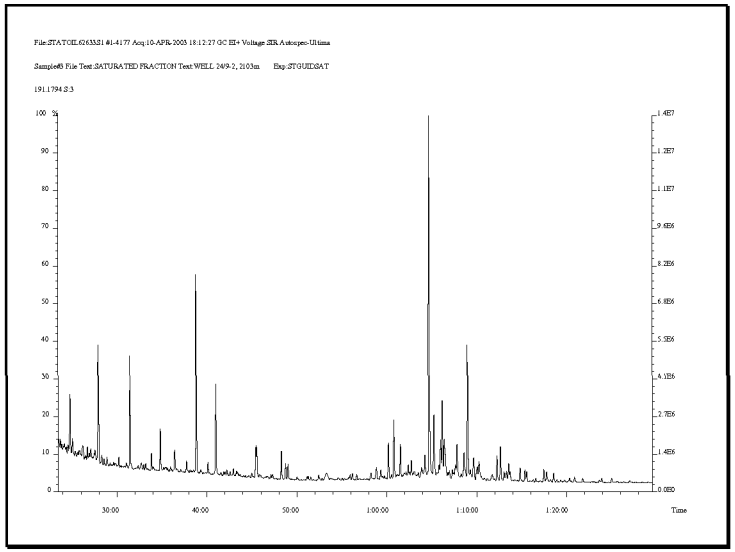

Analysis Name : [62633] 30 AC48000102L,4,1.
Multichrom
Well NOCS 24/9-2 2103.00m Amount : 1.000
AROMATIC GC (FPD)
1000
900
800
700
600
500
Intensity (mV)
DBT
AMDBT
2AMDBT
1AMDBT
20
30
40
50
60
70
Time (minutes)
Acquired on 9-APR-2003 at 16:46
Reported on 11-APR-2003 at 10:37

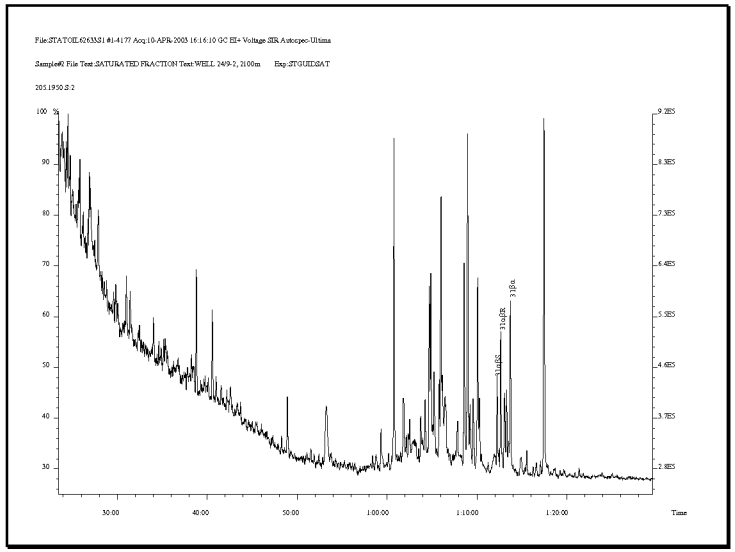
Appendix 3

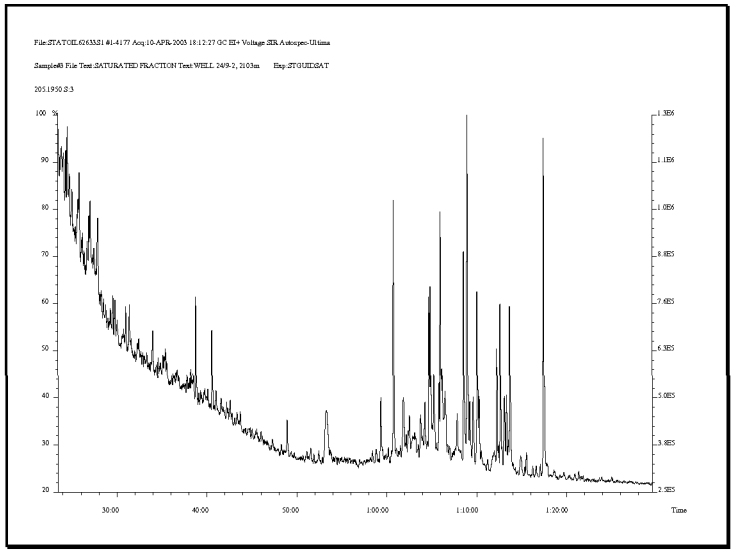

File:STATOIL/633S21 #1-4177 Acq:10-APR-2003 16:16:10 GC EI+ Voltage SIR Autospec-Ultima
Sample#0 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2100m Exp:STGUILSAT
177.1638 S:2
100 %
90
80
70
60
50
40
30
20
10
0
2.0E7
1.8E7
1.6E7
1.4E7
1.2E7
1.0E7
8.0E6
6.0E6
4.0E6
2.0E6
0.0E0
30:00
40:00
50:00
1:00:00
1:10:00
1:20:00
Time

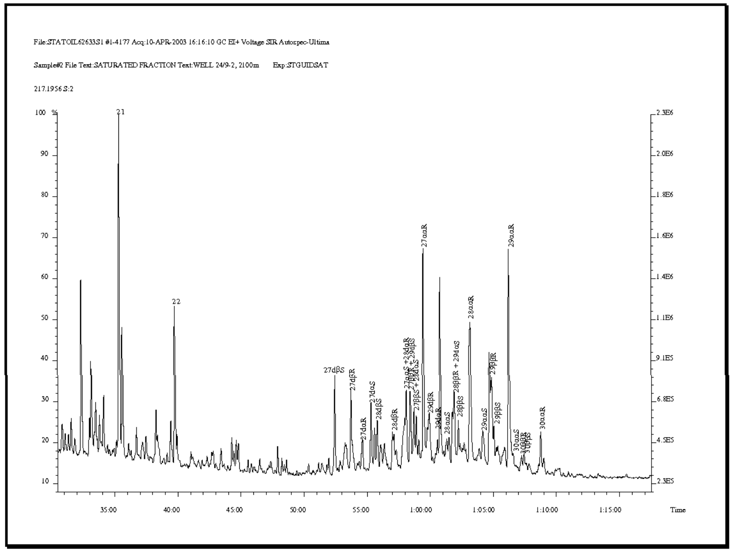

File:STATOIL6263S21 #1-4177 Acq:10-APR-2005 18:12:27 GC EI+ Voltage:SIR Autospec-Ultima
Sample#5 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2103m Exp:STGUELSAT
177.1638 S:3
100 %
90
80
70
60
50
40
30
20
10
0
2.3E7
2.1E7
1.9E7
1.6E7
1.4E7
1.2E7
9.3E6
7.0E6
4.7E6
2.3E6
0.0E0
30:00
40:00
50:00
1:00:00
1:10:00
1:20:00
Time

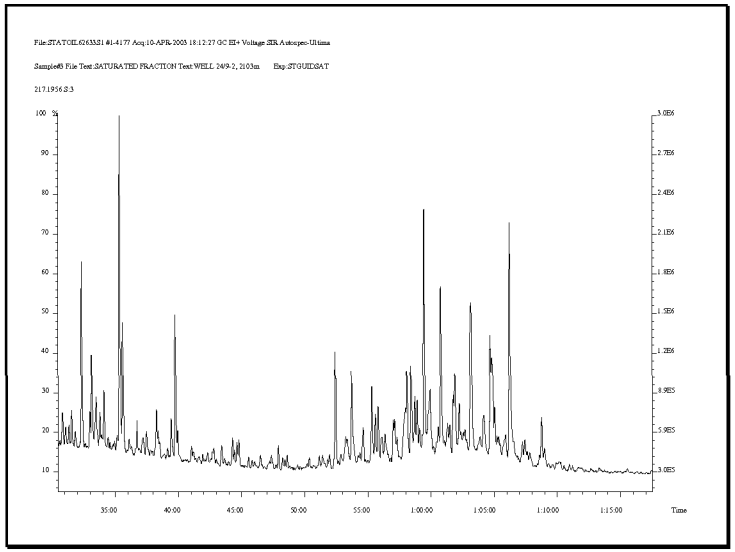

File:STATOIL\6233\21\41-4177 Acq:10-APR-2005 16:16:10 GC EI+ Voltage:SIR Autospec-Ultima
Sample:6 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2100m Exp:STGUELDSAT
191.1794 S:2
100 %
90
80
70
60
50
40
30
20
10
0
9.9E6
8.9E6
7.9E6
6.9E6
6.0E6
5.0E6
4.0E6
3.0E6
2.0E6
9.9E5
0.0E0
19/3
20/3
21/3
23/3
24/3
25/3
28αβ
30αβ
30:00
40:00
50:00
1:00:00
1:10:00
1:20:00
Time

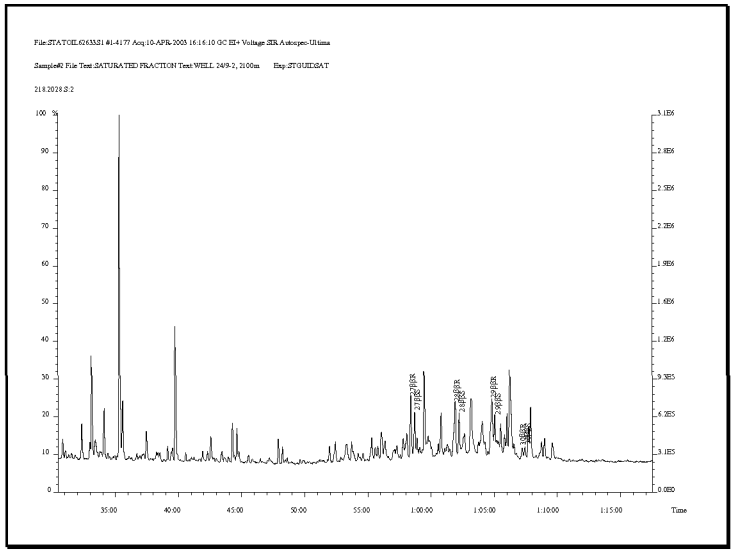

File:STATOIL6263X21 #1-4177 Acq:10-APR-2005 18:12:27 GC EI+ Voltage:SIR Autospec-Ultima
Sample#3 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2103m Exp:STGUIDSAT
191.1794 S:3
100 %
90
80
70
60
50
40
30
20
10
0
1.4E7
1.2E7
1.1E7
9.6E6
8.2E6
6.8E6
5.5E6
4.1E6
2.7E6
1.4E6
0.0E0
30:00
40:00
50:00
1:00:00
1:10:00
1:20:00
Time

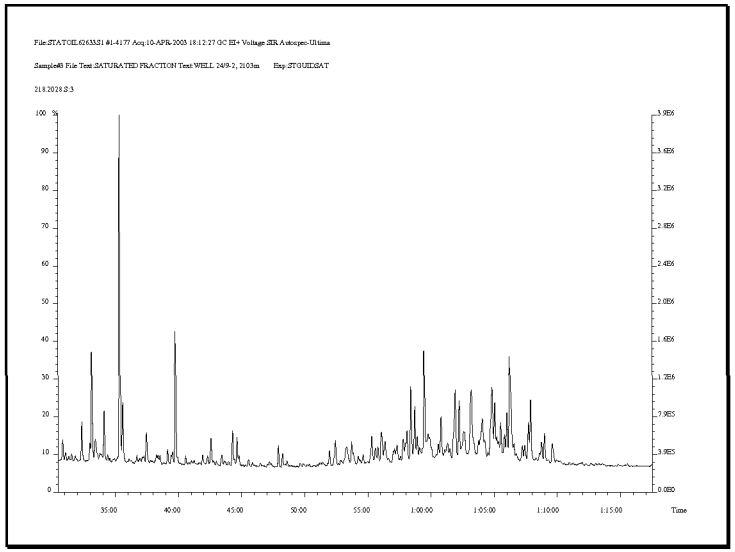

File:STATOIL6263S21 #1-4177 Acq:10-APR-2003 16:16:10 GC EI+ Voltage:SIR Autospec-Ultima
Sample#0 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2100m Exp:STGUIDSAT
205.1950.S:2
100 %
90
80
70
60
50
40
30
9.9E5
8.8E5
7.8E5
6.6E5
5.5E5
4.6E5
3.7E5
2.8E5
3.91e6
3.19e6
3.14e6
30.00
40.00
50.00
1:00.00
1:10.00
1:20.00
Time

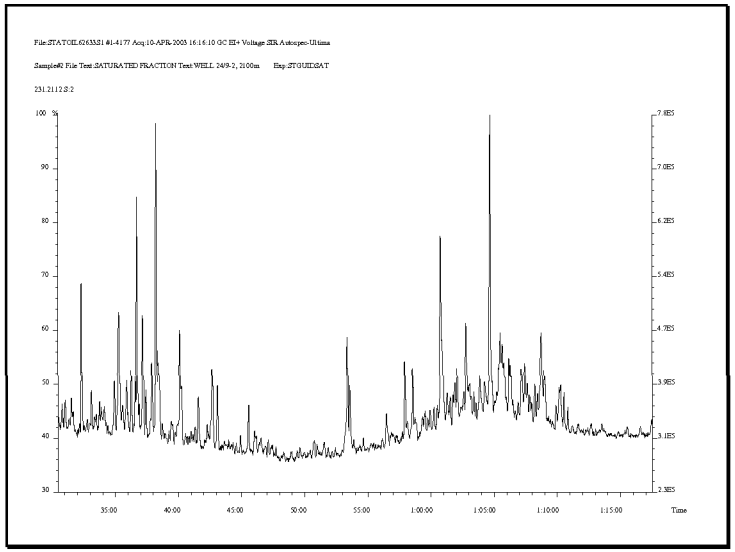

File:STATOIL6263X31 #1-4177 Acq:10-APR-2005 18:12:27 GC EI+ Voltage:SIR Autospec-Ultima
Sample#8 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2103m Exp:STGUELSAT
205.1950 S:3
100 %
90
80
70
60
50
40
30
20
1.3E6
1.1E6
1.0E6
8.8E5
7.6E5
6.3E5
5.0E5
3.8E5
2.5E5
30:00
40:00
50:00
1:00:00
1:10:00
1:20:00
Time

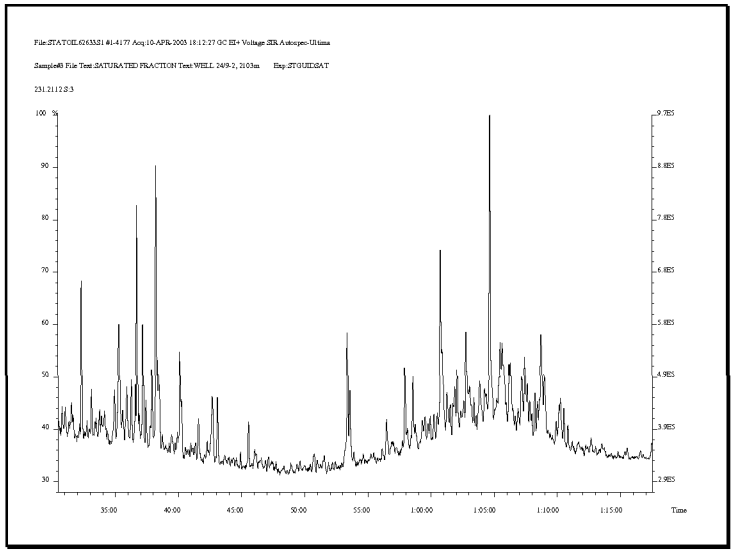

File:STATOIL62633S1 #1-4177 Acq:10-APR-2003 16:16:10 GC EI+ Voltage SIR Autospec-Ultima
Sample#2 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2100m Exp:STGUIDSAT
217.1956 S:2
100 %
90
80
70
60
50
40
30
20
10
21
22
27dβS
27dβR
27dαR
27dαS
28dβS
28dβR
27ααR
29dβR
28ααS
28ββR + 29dαS
28ββS
28ααR
29ααS
29ββR
29ββS
29ααR
30ααS
30ααR
35:00
40:00
45:00
50:00
55:00
1:00:00
1:05:00
1:10:00
1:15:00
Time
2.3E6
2.0E6
1.8E6
1.6E6
1.4E6
1.1E6
9.1E5
6.8E5
4.5E5
2.3E5

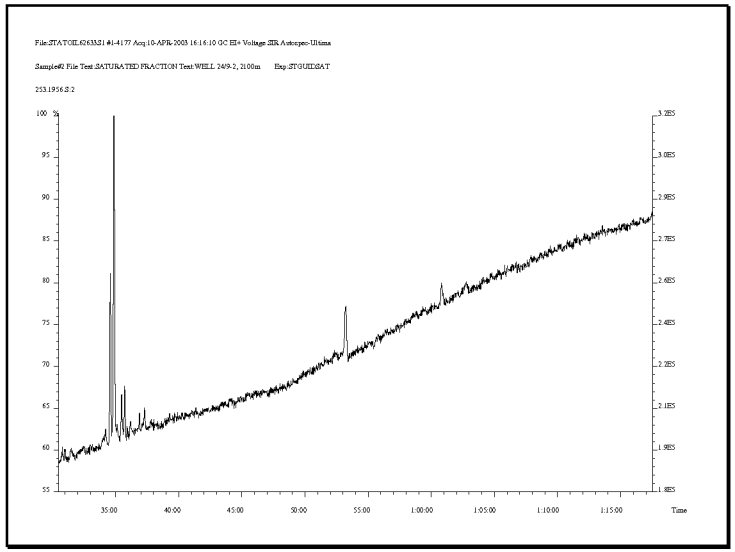

File:STATOIL6263X21 #1-4177 Acq:10-APR-2005 18:12:27 GC EI+ Voltage:SIR Autospec-Ultima
Sample#3 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2103m Exp:STGUIDSAT
217.1956 S:3
100 %
90
80
70
60
50
40
30
20
10
3.0E6
2.7E6
2.4E6
2.1E6
1.8E6
1.5E6
1.2E6
9.0E5
5.9E5
3.0E5
35:00
40:00
45:00
50:00
55:00
1:00:00
1:05:00
1:10:00
1:15:00
Time

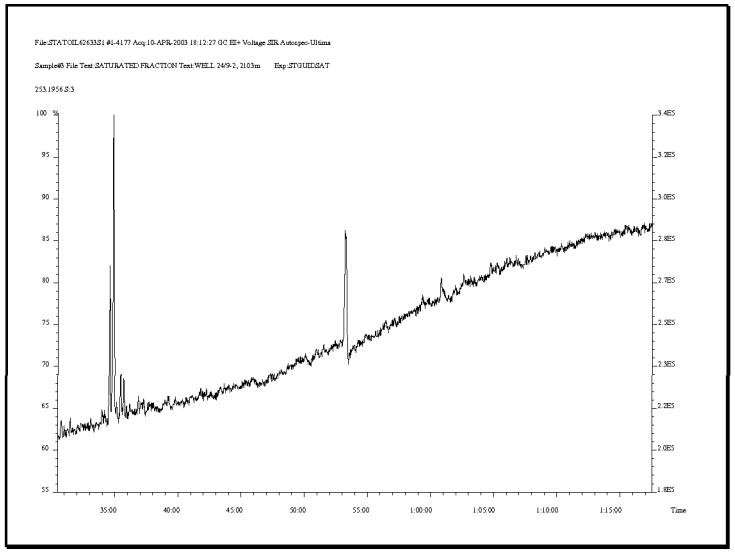

File:STATOIL/6533/21 #1-4177 Acq:10-APR-2005 16:16:10 GC EI+ Voltage:SIR Autospec-Ultima
Sample#5 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2100m Exp:STGUELSAT
218.2028.8:2
100 %
90
80
70
60
50
40
30
20
10
0
3.1E6
2.8E6
2.5E6
2.2E6
1.9E6
1.6E6
1.2E6
9.3E5
6.2E5
3.1E5
0.0E0
35:00
40:00
45:00
50:00
55:00
1:00:00
1:05:00
1:10:00
1:15:00
Time

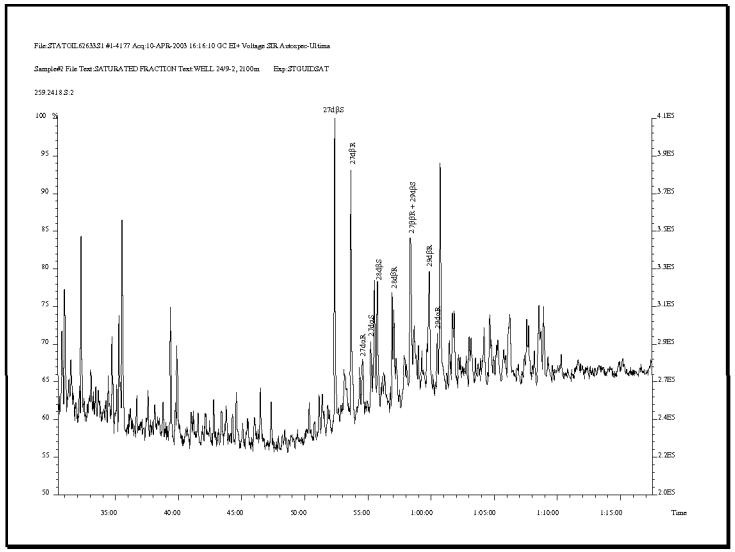

File:STATOIL6263X31#1-4177 Acq:10-APR-2005 18:12:27 GC EI+ Voltage:SIR Autospec-Ultima
Sample#8 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2103m Exp:STGUIDSAT
218.2028:8:3
100 %
90
80
70
60
50
40
30
20
10
0
3.9E6
3.6E6
3.2E6
2.8E6
2.4E6
2.0E6
1.6E6
1.2E6
7.9E5
3.9E5
0.0E0
35:00
40:00
45:00
50:00
55:00
1:00:00
1:05:00
1:10:00
1:15:00
Time

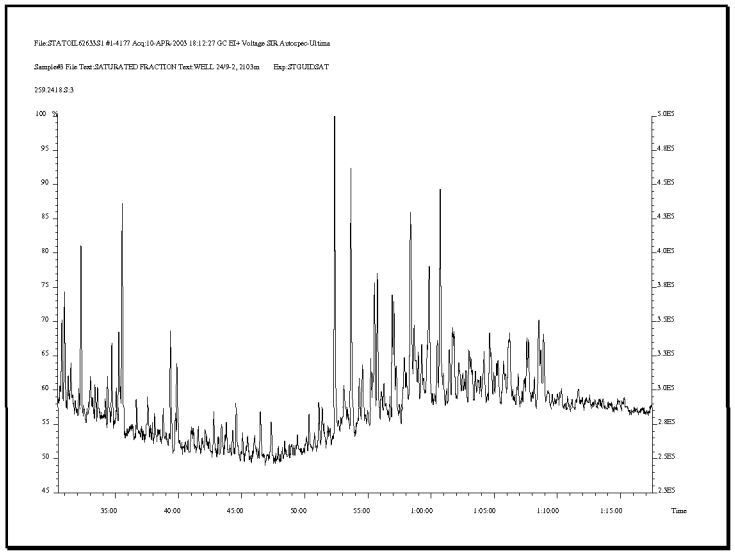

File:STATOIL\6263\S1 #1-4177 Acq:10-APR-2005 16:16:10 GC EI+ Voltage:SIR Autospec-Ultima
Sample#5 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2100m Exp:STGUILDSAT
231.2112.S:2
100 %
90
80
70
60
50
40
30
7.9E5
7.0E5
6.2E5
5.4E5
4.7E5
3.9E5
3.1E5
2.3E5
35:00
40:00
45:00
50:00
55:00
1:00:00
1:05:00
1:10:00
1:15:00
Time


File:STATOIL6263X31#1-4177 Acq:10-APR-2005 18:12:27 GC EI+ Voltage:SIR Autospec-Ultima
Sample#8 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2103m Exp:STGUELSAT
231.2112.8.3
100 %
90
80
70
60
50
40
30
9.7E5
8.8E5
7.8E5
6.8E5
5.8E5
4.9E5
3.9E5
2.9E5
35:00
40:00
45:00
50:00
55:00
1:00:00
1:05:00
1:10:00
1:15:00
Time


File:STATOIL6263A21 #1-417 Acq:10-APR-2003 16:16:10 GC EI+ Voltage:SIR Autospec-Ultima
Sample:#2 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2100m Exp:STGUIDSAT
253.1956:S:2
100 %
95
90
85
80
75
70
65
60
55
3.20E5
3.00E5
2.80E5
2.60E5
2.40E5
2.20E5
2.00E5
1.80E5
1.60E5
35:00
40:00
45:00
50:00
55:00
1:00:00
1:05:00
1:10:00
1:15:00
Time


File:STATOIL\263321 #1-4177 Acq:18-APR-2003 18:12:27 GC Hi+ Voltage SIR Autospec-Ultima
Sample#6 File Text:SATURATED FRACTION Text:WELL 24/9-2, 2103m Exp:STGUIDSAT
253.1956.8.3
100 %
95
90
85
80
75
70
65
60
55
3.4E5
3.2E5
3.0E5
2.8E5
2.7E5
2.5E5
2.3E5
2.2E5
2.0E5
1.8E5
35:00
40:00
45:00
50:00
55:00
1:00:00
1:05:00
1:10:00
1:15:00
Time


File:STATOIL6263S21 #1-4177 Acq:10-APR-2003 16:16:10 GC EI+ Voltage:SIR Autospec-Ultima
Sample#: File Text:SATURATED FRACTION Text:WELL 24/9-2, 3100m Exp:STGUILDSAT
259.2418.8.2
27dβS
24dβR
24dβS
24dβR
27dαR
29βββR + 29αβS
29αβR
29ααR
Time


File:STATOIL6763S31 #1-4177 Acq:10-APR-2005 18:12:27 GC EI+ Voltage:SIR Autospec-Ultima
Sample#8 File Text:SATURATED FRACTION Text:WELL 24/9-2, 3103m Exp:STGUIDSAT
259.2418.8.3
100 %
95
90
85
80
75
70
65
60
55
50
45
5.0E5
4.8E5
4.5E5
4.3E5
4.0E5
3.8E5
3.5E5
3.3E5
3.0E5
2.8E5
2.5E5
2.3E5
35:00
40:00
45:00
50:00
55:00
1:00:00
1:05:00
1:10:00
1:15:00
Time