

GEOCHEMICAL DATA REPORT

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TITLE

GEOCHEMICAL DATA REPORT
WELL NOCS 6405/10-1 'MIDNATTSOL'
ROCKS AND OILS

AUTHOR(S)

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GEOLAB PROJECT NO.

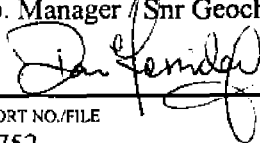
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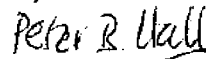
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FRONT PAGES

1 of 1

Table 1: Analytical Program for NOCS 6405/10-1

StatoilHydro

Well	Sample Depth / ID	Sample Type	Sample Code	Extraction Clean-Up	Lithology Description	Picking for screening	Prevepreparing	Leco TOC	RockEval	Thermal Extraction	Pyrolysis GC	Picking for Extraction	Introscon	Solvent Extraction	Topping	MPLC & Desasphaltene	EOM GC	Whole Oil GC	Sat GC (Quantitative)	Aro GC (Quantitative)	Sat GCMS (Quantitative)	Aro GCMS (Quantitative)	EOM GCMS	Carbon isotope of EOM & Sat/Aro fractions	Vitrinite Reflectance	S, Ni, V	API Gravity	Gas composition	Gas isotopes
			Table nos.:	3							6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
6405/10-1	1770.00	cut		x	x																								
	1800.00	cut		x	x																				x				
	1850.00	cut		x	x					x	x														x				
	1900.00	cut		x	x																				x				
	1950.00	cut		x	x																				x				
	1951.00	Gas bag																										x	x
	2000.00	cut		x	x																				x				
	2050.00	cut		x	x																				x				
	2100.00	cut		x	x																				x				
	2150.00	cut		x	x																				x				
	2200.00	cut		x	x																				x				
	2250.00	cut		x	x																				x				
	2275.00	Gas Bag																										x	x
	2300.00	cut		x	x																				x				
	2350.00	cut		x	x																				x				
	2356.00	Gas Bag																										x	x
	2398.00	Gas Bag																										x	x
	2400.00	cut		x	x																				x				
	2401.00	Gas Bag																										x	x
	2434.00	Gas Bag																										x	x
	2450.00	cut		x	x																				x				
	2460.00	Can. Cut																										x	x
	2490.00	Gas Bag																										x	x
	2500.00	cut		x	x																				x				
	2540.00	Can. cut																										x	x
	2550.00	cut		x	x																				x				
	2580.00	Can. cut																										x	x
	2600.00	cut + Gas bag		x	x																				x			x	x
	2650.00	cut		x	x																				x				
	2680.00	Can. cut																										x	x
	2700.00	cut + Gas bag		x	x																				x			x	x
	2727.00	Can. cut																										x	x
	2750.00	cut		x	x																				x				

Table 1: Analytical Program for NOCS 6405/10-1

Statoil-Hydro

Well	Sample Depth / ID	Sample Type	Sample Code	Extraction Clean-Up	Lithology Description	Picking for screening	Prepreparation	Leach TOC	Rock Eval	Thermal Extraction	Pyrolysis GC	Picking for Extraction	Introspect	Solvent Extraction	Topping	MPLC & Deasphaltene	EOM GC	Whole Oil GC	Sat GC (Quantitative)	Aro GC (Quantitative)	Sat GCMS (Quantitative)	Aro GCMS (Quantitative)	EOM GCMS	Carbon isotope of EOM & Sat/Aro fractions	Vitrinite Reflectance	S, Ni, V	API Gravity	Gas composition	Gas isotopes	
			Table nos.:	3						6								13		11	12	11/12		4						
	3078.00	cut		x						x	x																			
	3081.00	cut		x						x	x																			
	3084.00	cut		x						x	x																			
	3087.00	cut		x						x	x																			
	3090.00	cut		x						x	x																			
	3093.00	cut		x						x	x																			
	3095.00	cut		x						x	x																			
	3099.00	cut		x	x					x	x														x					
	3150.00	cut		x	x																				x					
	2994.40	Oil (condensate)																x												
	2991.50	Oil (condensate)																x												
		Gas (in Cylinder)																									x	x		
		Gas (in Cylinder)																									x	x		
	Totals			29	54					18	18			8	8**	2	2			1					29		28	28		
	*Gas composition & isotope analyses were performed at APT/IFE at client's request The gas composition and isotope data is appended as a report from APT																													
	** Deasphalting only, as program was halted due to extreme effects of mud additives.																													

Depth (m)	Sample Ref.

TOC %	Lithology description

1770.00	0010
	60 Sh/Clst: brn gy, calc, mrl, slt 0010-3L
	20 S/Sst : m gy, crs, l 0010-1L
	20 Ca : w 0010-2L
1800.00	0011
	85 Sh/Clst: lt gy to m gy, slt 0011-4L
	10 Cont : prp, dd, fib 0011-5L
	5 S/Sst : m gy, crs, l 0011-1L
	tr Ca : w 0011-2L
	tr Sh/Clst: brn gy, calc, mrl, slt 0011-3L
1850.00	0012
	100 S/Sst : lt gy to m gy to brn gy, slt, argill 0012-1L
1900.00	0013
	90 Sh/Clst: brn gy 0013-2L
	10 Sltst : lt gy, s, argill 0013-1L
1950.00	0014
	95 Sh/Clst: brn gy, slt 0014-2L
	5 Sltst : lt gy, s, argill 0014-1L
2000.00	0015
	95 Sh/Clst: brn gy, slt 0015-2L
	5 Sltst : lt gy, s, argill 0015-1L
2050.00	0016
	95 Sh/Clst: brn gy, slt 0016-2L
	5 Sltst : lt gy, s, argill 0016-1L

2100.00	0017
100 Sh/Clst: brn gy, slt	0017-2L
tr Sltst : lt gy, s, argill	0017-1L
2150.00	0018
100 Sh/Clst: brn gy, slt	0018-2L
tr Sltst : lt gy, s, argill	0018-1L
2200.00	0019
90 Sh/Clst: gy brn to brn gy, slt	0019-1L
10 Sh/Clst: lt gy to lt ol gy	0019-2L
2250.00	0020
55 Sh/Clst: gy brn to brn gy, slt	0020-1L
45 Sh/Clst: lt ol gy to lt bl gy to lt gy	0020-2L
2300.00	0021
95 Sh/Clst: lt ol gy to lt bl gy to lt gy	0021-2L
5 Sh/Clst: gy brn to brn gy, slt	0021-1L
2350.00	0022
90 Sh/Clst: lt ol gy to lt bl gy to lt gy	0022-2L
10 Sh/Clst: gy brn to brn gy, slt	0022-1L
2400.00	0023
100 Sh/Clst: lt ol gy to lt bl gy to lt gy	0023-2L
tr Sh/Clst: gy brn to brn gy, slt	0023-1L
2450.00	0024
75 Sh/Clst: lt ol gy to lt bl gy to lt gy	0024-2L
25 Cont : dd	0024-3L
tr Sh/Clst: gy brn to brn gy, slt	0024-1L

2500.00		0025
	75 Sh/Clst: lt ol gy to lt bl gy to lt gy, m gy	0025-1L
	25 Cont : dd	0025-2L
2550.00		0026
	70 Sh/Clst: gy red, lt ol gy to lt bl gy to lt gy, m gy	0026-1L
	30 Cont : dd	0026-2L
2600.00		0027
	80 Sh/Clst: lt ol gy to lt gy to m gy, slt	0027-1L
	20 Cont : dd	0027-2L
2650.00		0028
	85 Sh/Clst: lt gy to m gy, slt, s	0028-1L
	15 Cont : dd	0028-2L
2700.00		0029
	80 Sh/Clst: lt gy to lt ol gy to m gy, slt	0029-1L
	20 Cont : dd	0029-2L
2750.00		0030
	80 Sh/Clst: lt gy to lt ol gy to m gy, slt	0030-1L
	20 Cont : dd	0030-2L
2801.80 swc		0001
	100 Sh/Clst: m gy, slt	0001-1L
1.70	bulk	0001-0B
2814.00		0031

75 Sh/Clst: lt gy to lt ol gy to m gy, slt 0031-1L
20 Cont : dd 0031-2L
5 Cont : cem 0031-3L

2850.00 0032

80 Sh/Clst: lt gy to m gy, slt 0032-1L
20 Cont : dd 0032-2L

2901.00 0033

90 Sh/Clst: lt gy to m gy to brn gy, slt 0033-1L
10 Cont : dd 0033-2L

2944.00 swc 0002

100 Slst : m gy, s 0002-1L
1.07 bulk 0002-0B

2949.00 0034

80 Sh/Clst: lt gy to m gy to brn gy, slt 0034-1L
20 Cont : dd 0034-2L
tr Sh/Clst: gy red 0034-3L
tr S/Sst : lt gy, glauc 0034-4L

2962.90 swc 0003

100 Sh/Clst: m gy, slt 0003-1L
1.23 bulk 0003-0B

2985.30 swc 0004

100 Sh/Clst: m gy, slt 0004-1L
0.89 bulk 0004-0B

2994.00 0035

80 S/Sst : lt gy to w, cem, slt 0035-3L
10 Sh/Clst: lt gy to m gy to brn gy, slt 0035-1L

10 Cont : dd	0035-2L
2995.20 swc	0005
100 S/Sst : lt gy to w, cem, slt	0005-1L
1.27 bulk	0005-0B
3006.95 ccp	0006
100 S/Sst : lt gy to w, cem, slt, glauc	0006-1L
0.57 bulk	0006-0B
3014.10 ccp	0007
100 S/Sst : lt gy to w, cem, slt, glauc	0007-1L
1.24 bulk	0007-0B
3034.00 ccp	0008
100 S/Sst : lt gy to w, cem, slt, glauc	0008-1L
0.68 bulk	0008-0B
3048.00	0036
85 S/Sst : lt gy to w, cem, slt, glauc	0036-3L
10 Cont : dd	0036-2L
5 Sh/Clst: m gy to drk gy, slt	0036-1L
3051.00	0037
70 S/Sst : lt gy to w, cem, slt, glauc	0037-3L
20 Sh/Clst: m gy to drk gy, slt	0037-1L
10 Cont : dd	0037-2L
3054.00	0038
85 S/Sst : lt gy to w, cem, slt, glauc	0038-3L
10 Cont : dd	0038-2L
5 Sh/Clst: m gy to drk gy, slt	0038-1L

3057.00	0039
85 S/Sst : lt gy to w, cem, slt, glauc	0039-3L
10 Cont : dd	0039-2L
5 Sh/Clst: m gy to drk gy, slt	0039-1L
3060.00	0040
70 S/Sst : lt gy to w, cem, slt, glauc	0040-3L
20 Cont : dd	0040-2L
10 Sh/Clst: m gy to drk gy, slt	0040-1L
3063.00	0041
65 S/Sst : lt gy to w, cem, slt, glauc	0041-3L
20 Cont : dd	0041-2L
15 Sh/Clst: m gy to drk gy, slt	0041-1L
3066.00	0042
70 S/Sst : lt gy to w, cem, slt, glauc	0042-3L
20 Cont : dd	0042-2L
10 Sh/Clst: m gy to drk gy, slt	0042-1L
3069.00	0043
70 S/Sst : lt gy to w, cem, slt, glauc	0043-3L
20 Cont : dd	0043-2L
10 Sh/Clst: m gy to drk gy, slt	0043-1L
3072.00	0044
70 S/Sst : lt gy to w, cem, slt, glauc	0044-3L
25 Cont : dd	0044-2L
5 Sh/Clst: m gy to drk gy, slt	0044-1L
3075.00	0045
40 Sh/Clst: m gy to drk gy, slt	0045-1L
40 S/Sst : lt gy to w, cem, slt, glauc	0045-3L
20 Cont : dd	0045-2L
3078.00	0046
40 Sh/Clst: m gy to drk gy, slt	0046-1L

35 Cont : dd, cem 0046-2L
25 S/Sst : lt gy to w, cem, slt, glauc 0046-3L

3081.00 0047

60 Sh/Clst: m gy to drk gy, slt 0047-1L
20 Cont : dd 0047-2L
20 S/Sst : lt gy to w, cem, slt, glauc 0047-3L

3084.00 0048

55 Sh/Clst: m gy to drk gy, slt 0048-1L
25 S/Sst : lt gy to w, cem, slt, glauc 0048-3L
20 Cont : dd 0048-2L

3087.00 0049

40 Sh/Clst: lt gy to m gy, slt 0049-1L
40 S/Sst : lt gy to w, cem, slt, glauc 0049-3L
20 Cont : dd 0049-2L

3090.00 0050

55 Sh/Clst: lt gy to m gy to drk gy, slt 0050-1L
30 Cont : dd 0050-2L
15 S/Sst : lt gy to w, cem, slt, glauc 0050-3L

3093.00 0051

50 S/Sst : lt gy to w, cem, slt, glauc 0051-3L
40 Sh/Clst: lt gy to m gy to drk gy, slt 0051-1L
10 Cont : dd 0051-2L

3096.00 0052

40 Sh/Clst: lt gy to m gy to drk gy, slt 0052-1L
40 S/Sst : lt gy to w, cem, slt, glauc 0052-3L
20 Cont : dd 0052-2L

3099.00 0053

50 Sh/Clst: lt gy to m gy, slt 0053-1L
30 Cont : dd 0053-2L
20 S/Sst : lt gy to w, cem, slt, glauc 0053-3L

3150.00

0054

70 Sh/Clst: lt gy to m gy to drk gy, slt 0054-1L
20 Cont : dd 0054-2L
10 S/Sst : lt gy to w, cem, slt, glauc 0054-3L

Table4: **Vitrinite Reflectance Petrography**

Sample ID	R.o.Ave.	No.	Conf.	Vitrinite %	Liptinite %	Inertinite %
1770,00	NDP	0		0	0	100
1800,00	NDP	0		0	0	0
1850,00	1,23	1	Low	0	0	100
1900,00	NDP	0		0	0	0
1950,00	NDP	0		0	0	0
2000,00	NDP	0		0	0	0
2050,00	NDP	0		0	0	0
2100,00	0,30	1	Low	0	100	0
2150,00	0,31	1	Low	0	100	0
2200,00	NDP	0		0	0	0
2250,00	NDP	0		0	0	0
2300,00	NDP	0		0	0	0
2350,00	NDP	0		0	0	0
2400,00	NDP	0		0	0	0
2450,00	1,76	1	Low	0	0	100
2500,00	NDP	0		0	0	0
2550,00	NDP	0		0	0	0
2600,00	NDP	0		0	0	0
2650,00	0,64	1	Low	Tr	0	0
2700,00	0,67	1	Low	Tr	0	0
2750,00	NDP	0		0	0	0
2814,00	2,03	5	Low	0	0	100
2850,00	0,53	1	Low	0	Tr	0
2901,00	0,59	2	Low	Tr	0	Tr
2949,00	1,58	3	Low	0	0	Tr
2994,00	NDP	0		0	0	Tr
3048,00	0,64	3	Low	0	Tr	Tr
3099,00	1,40	2	Low	0	0	Tr
3150,00	NDP	0		0	0	0

Sample ID	Comments
1770,00	Red-brown clays and silts with darker clays. Both contain small degraded inertinite fragments, too small for measurement.
1800,00	Red-stained barren clays
1850,00	Red-brown, minute fragments of kerogen, mainly appear to be remnants following degradation. Single piece of degraded
1900,00	vitrinite – appears reworked.
1950,00	As 1850m.
2000,00	As 1850m.
2050,00	As 1850m.
2100,00	As 1850m.
2150,00	Single fragment of highly degraded kerogen. Otherwise red-brown clays.
2200,00	Single fragment of highly degraded kerogen. Otherwise red-brown clays.
2250,00	Red_brown clays with minor pyrite
2300,00	As 2200m.
2350,00	Pale coloured clay with no kerogen
2400,00	As 2200m.
2450,00	As 2200m.
2500,00	Single fragment of inertinite in otherwise barren clay
2550,00	Red-brown, barren clays
2600,00	Red-brown, barren clays
2650,00	Red-brown, barren clays
2700,00	Single particle of subangular vitrinite in pale-coloured clay.
2750,00	Single particle of rounded vitrinite in pale-coloured clay. Otherwise barren.
2814,00	Barren red clay
2850,00	Much less red clay than shallower samples. Small amount of inertinite. Some dark coloured clays with possible sapropelic
2901,00	groundmass and pyrite.
2949,00	Only a trace of red clay. Single particle of liptinite. Two subangular fragments of poorly preserved coal (vitrinite and inertinite).
2994,00	Trace of inertinite with mean reflectance of 1.58% Ro
3048,00	Pale coloured clay with trace of inertinite
3099,00	Pale coloured clay with some highly degraded, low reflecting vitrinite (?). Otherwise just a fragment of inertinite
3150,00	Pale coloured clay with two particles of inertinite and pyrite.
	Barren mix of red and pale coloured clays

Table 6 Pyrolysis GC

Well name	Sample	Type	Lithology	C1	C2-C5	C6-C14	C15+	GORP	Sample number
NOCS 6405/10-1	3051	cut	sandstone/sand	1,39	21,34	32,56	44,71	0,29	337/0037-3
NOCS 6405/10-1	3054	cut	sandstone/sand	1,54	24,63	33,89	39,94	0,35	337/0038-3
NOCS 6405/10-1	3057	cut	sandstone/sand	1,24	21,71	32,28	44,77	0,30	337/0039-3
NOCS 6405/10-1	3060	cut	sandstone/sand	1,32	25,30	35,11	38,27	0,36	337/0040-3
NOCS 6405/10-1	3063	cut	sandstone/sand	2,76	22,09	36,00	39,15	0,33	337/0041-3
NOCS 6405/10-1	3066	cut	sandstone/sand	1,41	21,99	32,63	43,97	0,31	337/0042-3
NOCS 6405/10-1	3069	cut	sandstone/sand	1,62	21,53	32,86	44,00	0,30	337/0043-3
NOCS 6405/10-1	3072	cut	sandstone/sand	1,50	24,19	34,57	39,75	0,35	337/0044-3
NOCS 6405/10-1	3075	cut	shale/claystone	1,49	24,66	35,49	38,36	0,35	337/0045-1
NOCS 6405/10-1	3078	cut	shale/claystone	1,41	23,46	35,53	39,60	0,33	337/0046-1
NOCS 6405/10-1	3081	cut	shale/claystone	1,83	26,12	32,68	39,37	0,39	337/0047-1
NOCS 6405/10-1	3084	cut	shale/claystone	1,74	23,53	34,90	39,83	0,34	337/0048-1
NOCS 6405/10-1	3087	cut	sandstone/sand	2,28	19,33	31,73	46,66	0,28	337/0049-3
NOCS 6405/10-1	3090	cut	shale/claystone	1,71	21,57	33,34	43,39	0,30	337/0050-1
NOCS 6405/10-1	3093	cut	sandstone/sand	1,72	22,32	33,91	42,06	0,32	337/0051-3
NOCS 6405/10-1	3096	cut	sandstone/sand	2,19	22,24	33,58	41,99	0,32	337/0052-3

Table 8a Extraction and Fractionation (MPLC) Data (weights) for NOCS 6405/10-1

Well	Sample ID (m)	Spl type	Description	Rock/Oil Extd g	EOM/Top .oil mg	Sat. mg	Aro. mg	NSO mg	Asph. mg	TOC(e) %	HC mg	Non-HC mg	Sample number
NOCS 6405/10-1	2801,80	swc	shale/claystone	6,6	129,90				0,95	1,70			337/0001-1
NOCS 6405/10-1	2944,00	swc	siltstone	9,6	170,50				1,42	1,07			337/0002-1
NOCS 6405/10-1	2962,90	swc	shale/claystone	10,1	208,30				1,02	1,23			337/0003-1
NOCS 6405/10-1	2985,30	swc	shale/claystone	10,0	89,00				0,62	0,89			337/0004-1
NOCS 6405/10-1	2995,20	swc	sandstone/sand	10,6	230,80	192,88	2,88	33,83	1,22	1,27	195,76	35,05	337/0005-1
NOCS 6405/10-1	3006,95	ccp	sandstone/sand	12,3	44,80				1,97	0,57			337/0006-1
NOCS 6405/10-1	3014,10	ccp	sandstone/sand	11,5	127,30				1,47	1,24			337/0007-1
NOCS 6405/10-1	3034,00	ccp	sandstone/sand	11,6	40,90				2,10	0,68			337/0008-1

Table 8d Fractionation Data from MPLC (fractions as a percentage of topped oil) for NOCS 6405/10-1

StatoilHydro

Well	Sample ID	Spl type	Description	Sat/EOM	Aro/EOM	Asph/EOM	NSO/EOM	HC/EOM	Non-HC/EOM	Sat/Aro	HC/Non-HC	Sample number
NOCS 6405/10-1	2801.80	swc	shale/claystone									
NOCS 6405/10-1	2944.00	swc	siltstone									
NOCS 6405/10-1	2962.90	swc	shale/claystone									
NOCS 6405/10-1	2985.30	swc	shale/claystone									
NOCS 6405/10-1	2995.20	swc	sandstone/sand	83.19	1.25	14.66	0.53	84.44	15.19	66.55	5.56	337/0005-1
NOCS 6405/10-1	3006.95	ccp	sandstone/sand									
NOCS 6405/10-1	3014.10	ccp	sandstone/sand									
NOCS 6405/10-1	3034.00	ccp	sandstone/sand									

(Separation work was halted mid-way due to evident insurmountable problems with organic mud additives)

Table 11a Triterpane data from m/z 191 fragmentograms
(Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Triterpane Peak Heights for NOCS 6405/10-1

StatoilHydro

Well	Sample ID	Spl type	Description	19/3	20/3	21/3 (N)	22/3 (O)	23/3 (P)	24/3 (Q)
NOCS 6405/10-1	2995.2	swc	sandstone/sand	168.6	216	244.1	111.9	406.5	299.8
Sample ID	25/3 (R)	24/4 (S)	26/3 (T)	26/3S	28/3R	28/3S	29/3R	29/3S	
2995.2	123.2	377.9	93.7	121.2	115.2	88.6	98.9	124.1	
Sample ID	27Ts (A)	27Tm (B)	28ab (Z)	25nor30ab (Z1)	29ab (C)	29Ts (C1)	30d (X)	29ba (D)	
2995.2	438.1	427.6	181.1	165.3	925.4	399.5	89.5	306.2	
Sample ID	30O	30ab (E)	30ba (F)	30G	31abS (G)	31abR (H)	31ba (I)	32abS (J1)	
2995.2		1389.9	221.4	93.4	347.7	457.4	141.8	193.3	
Sample ID	32abR (J2)	33abS (K1)	33abR (K2)	34abS (L1)	34abR (L2)	35abS (M1)	35abR (M2)	Sample number	
2995.2	173.2	128.8	125	88.2	73.5	44.2	66.2	337/0005-1	

Table 11b Triterpane data from m/z 177 fragmentograms
 (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
 Triterpane Peak Heights for NOCS 6405/10-1

StatoilHydro

<u>Well</u>	<u>Sample ID</u>	<u>Spl type</u>	<u>Description</u>	<u>25nor28ab</u>	<u>25nor30ab</u>	<u>Sample number</u>
NOCS 6405/10-1	2995.2	swc	sandstone/sand			337/0005-1

Table 11c Sterane data from m/z 217 fragmentograms
 (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
 Sterane peak heights for NOCS 6405/10-1

StatoilHydro

<u>Well</u>	<u>Sample ID</u>	<u>Spl type</u>	<u>Description</u>	<u>21a (u)</u>	<u>22a (v)</u>	<u>27dbS (a)</u>	<u>27dbR (b)</u>	<u>27daR (c)</u>	<u>27daS (d)</u>	<u>28dbS (e)</u>
NOCS 6405/10-1	2995.2	swc	sandstone/sand	417.3	200.5	537.4	513.5	171.8	152.7	362.6
<u>Sample ID</u>	<u>28dbR (f)</u>	<u>28daR+27aaS (g)</u>	<u>29dbS+27bbR (h)</u>	<u>27bbS+28daS (i)</u>	<u>27aaR (j)</u>	<u>29dbR (k)</u>	<u>29daR (l)</u>	<u>28aaS (m)</u>	<u>28bbR+29daS (n)</u>	
2995.2	279.9	563.3	427.9	218.3	1414.5	261.0	124.3	94.7	149.0	
<u>Sample ID</u>	<u>28bbS (o)</u>	<u>28aaR (p)</u>	<u>29aaS (q)</u>	<u>29bbR (r)</u>	<u>29bbS (s)</u>	<u>29aaR (t)</u>	<u>Sample number</u>			
2995.2	123.7	157.5	124.9	188.3	149.9	241.1	337/0005-1			

Table 11d Sterane data from m/z 218 fragmentograms
(Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Sterane peak heights for NOCS 6405/10-1

StatoilHydro

Well	Sample ID	Spl type	Description	27bbR (h)	27bbS (i)	28bbR (n)	28bbS (o)	29bbR (r)	29bbS (s)	30bbR (x)	30bbS (y)	Sample number
NOCS 6405/10-1	2995.2	swc	sandstone/sand	397.1	283.0	213.3	196.8	252.2	208.1	84.4	69.4	337/0005-1

Table 11e Triterpane data from m/z 191 fragmentograms
(Saturated Hydrocarbon Fraction GC-MS SIR analysis)
Amount of Triterpanes in ng/g oil (ppb) for NOCS 6405/10-1

StatoilHydro

Well	Sample ID	Spl type	Description	19/3	20/3	21/3 (N)	22/3 (O)	23/3 (P)	24/3 (Q)
NOCS 6405/10-1	2995.2	swc	sandstone/sand	361.9	463.7	524.0	240.3	872.9	643.8
Sample ID	25/3 (R)	24/4 (S)	26/3 (T)	26/3S	28/3R	28/3S	29/3R	29/3S	
2995.2	264.4	811.5	201.3	260.3	247.4	190.2	212.3	266.4	
Sample ID	27Ts (A)	27Tm (B)	28ab (Z)	25nor30ab (Z1)	29ab (C)	29Ts (C1)	30d (X)	29ba (D)	
2995.2	940.6	918.2	388.7	355.0	1986.9	857.8	192.3	657.4	
Sample ID	30O	30ab (E)	30ba (F)	30G	31abS (G)	31abR (H)	31ba (I)	32abS (J1)	
2995.2		2984.1	475.3	200.6	746.5	982.0	304.4	414.9	
Sample ID	32abR (J2)	33abS (K1)	33abR (K2)	34abS (L1)	34abR (L2)	35abS (M1)	35abR (M2)	Sample number	
2995.2	372.0	276.5	268.4	189.5	157.8	94.9	142.1	337/0005-1	

Table 11f Triterpane data from m/z 177 fragmentograms
 (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
 Amount of Triterpanes in ng/g oil (ppb) for NOCS 6405/10-1

StatoilHydro

Well	Sample ID	Spl type	Description	25nor28ab	25nor30ab	Sample number
NOCS 6405/10-1	2995.2	swc	sandstone/sand			337/0005-1

Table 11g Sterane data from m/z 217 fragmentograms
 (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
 Amount of steranes in ng/g oil (ppb) for NOCS 6405/10-1

StatoilHydro

Well	Sample ID	Spl type	Description	21a (u)	22a (v)	27dbS (a)	27dbR (b)	27daR (c)	27daS (d)
NOCS 6405/10-1	2995.2	swc	sandstone/sand	895.9	430.4	1153.8	1102.6	368.9	327.9

Sample ID	28dbS (e)	28dbR (f)	28daR+27aaS (g)	29dbS+27bbR (h)	27bbS+28daS (i)	27aaR (j)	29dbR (k)	29daR (l)
2995.2	778.6	601.0	1209.4	918.7	468.7	3037.1	560.3	267.0

Sample ID	28aaS (m)	28bbR+29daS (n)	28bbS (o)	28aaR (p)	29aaS (q)	29bbR (r)	29bbS (s)	29aaR (t)	Sample number
2995.2	203.4	319.9	265.6	338.3	268.3	404.2	321.9	517.7	337/0005-1

Table 11h Sterane data from m/z 218 fragmentograms
 (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
 Sterane Quantified in ng/g oil (ppb) for NOCS 6405/10-1

StatoilHydro

Well	Sample ID	Spl type	Description	27bbR (h)	27bbS (i)	28bbR (n)	28bbS (o)	29bbR (r)	29bbS (s)	30bbR (x)	30bbS (y)	Sample number
NOCS 6405/10-1	2995.2	swc	sandstone/sand	852.5	607.7	458.0	422.5	541.4	446.8	181.1	148.9	337/0005-1

Table 11i Triterpane data from m/z 191 fragmentograms
 (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
 Ratios from peak heights for NOCS 6405/10-1

StatoilHydro

Well	Sample ID	Spl type	Description	Ratio 1	Ratio 2	Ratio 3	Ratio 4	Ratio 5	Ratio 6
NOCS 6405/10-1	2995.2	swc	sandstone/sand	0.98	0.49	0.21	0.67	0.40	0.06

Well	Sample ID	Spl type	Description	Ratio 7	Ratio 8	Ratio 9	Ratio 10	Ratio 11	Ratio 12
NOCS 6405/10-1	2995.2	swc	sandstone/sand	0.13	0.20	0.12	0.22	0.86	0.43

Well	Sample ID	Spl type	Description	Ratio 13	Ratio 14	Sample number
NOCS 6405/10-1	2995.2	swc	sandstone/sand	0.23	52.73	337/0005-1

Table 11j Sterane data from m/z 217 fragmentograms
 (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
 Ratios from peak heights for NOCS 6405/10-1

StatoilHydro

Well	Sample ID	Spl type	Description	Ratio 1	Ratio 2	Ratio 3	Ratio 4	Ratio 5	Ratio 6
NOCS 6405/10-1	2995.2	swc	sandstone/sand	0.28	34.13	64.89	1.43	0.73	0.47

Well	Sample ID	Spl type	Description	Ratio 7	Ratio 8	Ratio 9	Ratio 10	Sample number
NOCS 6405/10-1	2995.2	swc	sandstone/sand	0.35	0.48	0.52	1.40	337/0005-1

Saturated Fraction GCMS Ratio definitions (SIM)

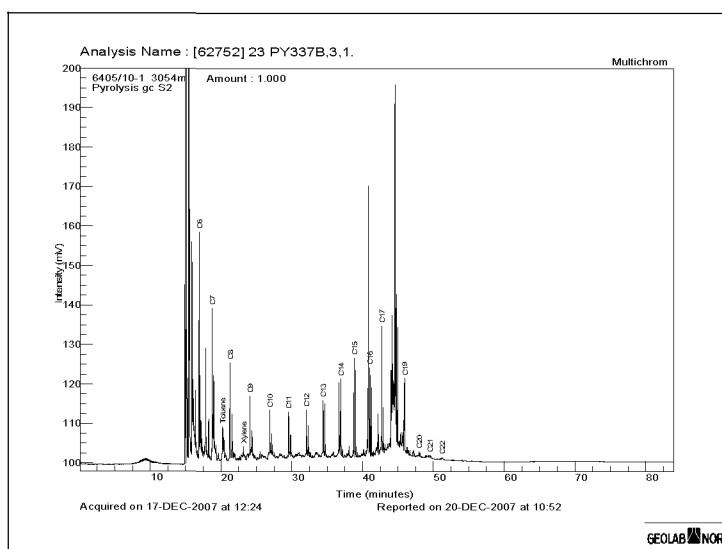
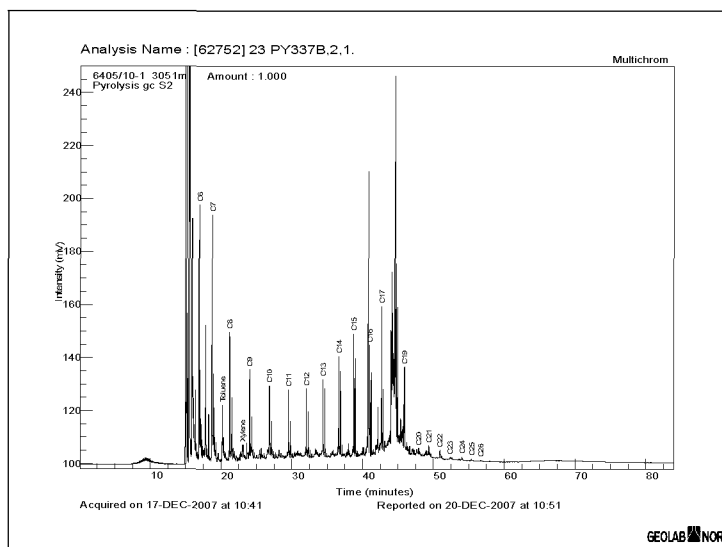
In Tables	Triterpanes	Steranes
Ratio 1	27Tm/27Ts	$27d\beta S / (27d\beta S + 27\alpha\alpha R)$
Ratio 2	27Tm/(27Tm+27Ts)	$29\alpha\alpha S / (29\alpha\alpha S + 29\alpha\alpha R)$
Ratio 3	27Tm/(27Tm+30 $\alpha\beta$ +30 $\beta\alpha$)	$2 * (29\beta\beta R + 29\beta\beta S) / (29\alpha\alpha S + 29\alpha\alpha R + 2 * [29\beta\beta R + 29\beta\beta S])$
Ratio 4	29 $\alpha\beta$ /30 $\alpha\beta$	$(27d\beta S + 27d\beta R + 27d\alpha R + 27d\alpha S) / (29d\beta S + 29d\beta R + 29d\alpha R + 29d\alpha S)$
Ratio 5	29 $\alpha\beta$ /(29 $\alpha\beta$ +30 $\alpha\beta$)	$(29\beta\beta R + 29\beta\beta S) / (29\alpha\alpha S + 29\beta\beta R + 29\beta\beta S)$
Ratio 6	30d/30 $\alpha\beta$	$21\alpha + 22\alpha / (21\alpha + 22\alpha + 29\alpha\alpha S + 29\beta\beta R + 29\beta\beta S + 29\alpha\alpha R)$
Ratio 7	28 $\alpha\beta$ /30 $\alpha\beta$	$21\alpha + 22\alpha / (21\alpha + 22\alpha + 28d\alpha S + 28\alpha\alpha S + 29d\alpha R + 29\alpha\alpha S + 29\beta\beta R + 29\beta\beta S + 29\alpha\alpha R)$
Ratio 8	28 $\alpha\beta$ /29 $\alpha\beta$	$(29\beta\beta R + 29\beta\beta S) / (29\alpha\alpha S + 29\beta\beta R + 29\beta\beta S + 29\alpha\alpha R)$
Ratio 9	28 $\alpha\beta$ /(28 $\alpha\beta$ +30 $\alpha\beta$)	$29\alpha\alpha S / 29\alpha\alpha R$
Ratio 10	24/3/30 $\alpha\beta$	$(29\beta\beta R + 29\beta\beta S) / 29\alpha\alpha R$
Ratio 11	30 $\alpha\beta$ /(30 $\beta\alpha$ +30 $\alpha\beta$)	
Ratio 12	(29 $\alpha\beta$ +29 $\beta\alpha$)/(29 $\alpha\beta$ +29 $\beta\alpha$ +30 $\alpha\beta$ +30 $\beta\alpha$)	
Ratio 13	(29 $\beta\alpha$ +30 $\beta\alpha$)/(29 $\alpha\beta$ +30 $\alpha\beta$)	
Ratio 14	32 $\alpha\beta$ S/(32 $\alpha\beta$ S+32 $\alpha\beta$ R) %	

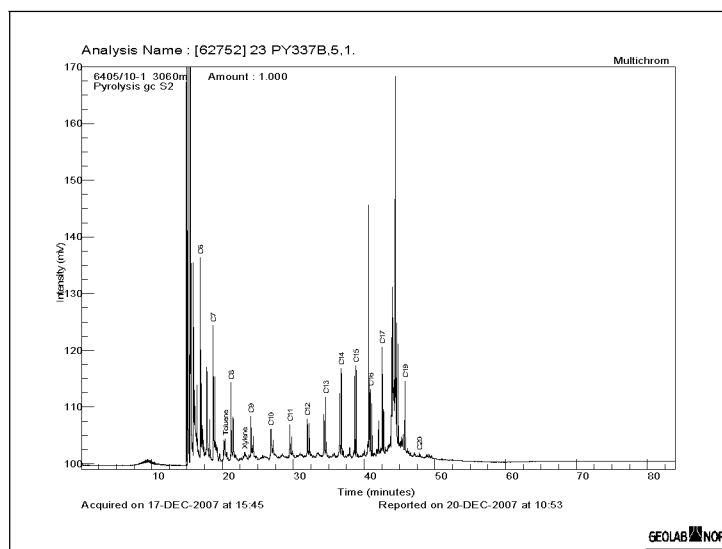
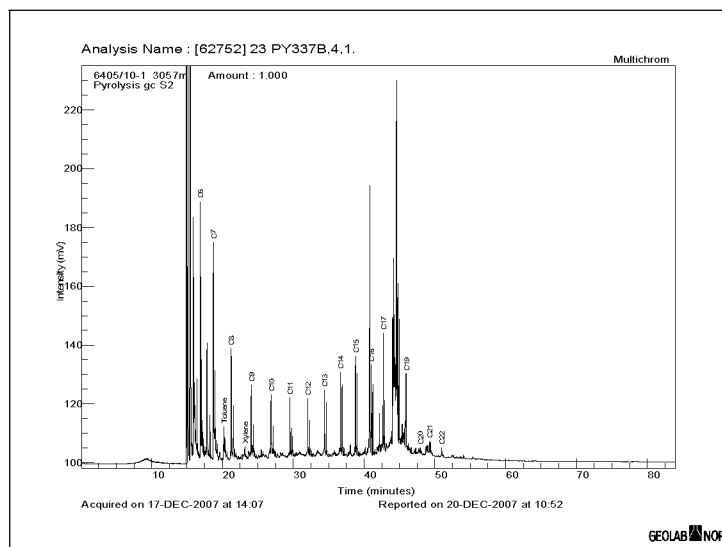
Table 13: Light Hydrocarbons Data, NOCS 6405/10-1 Oils

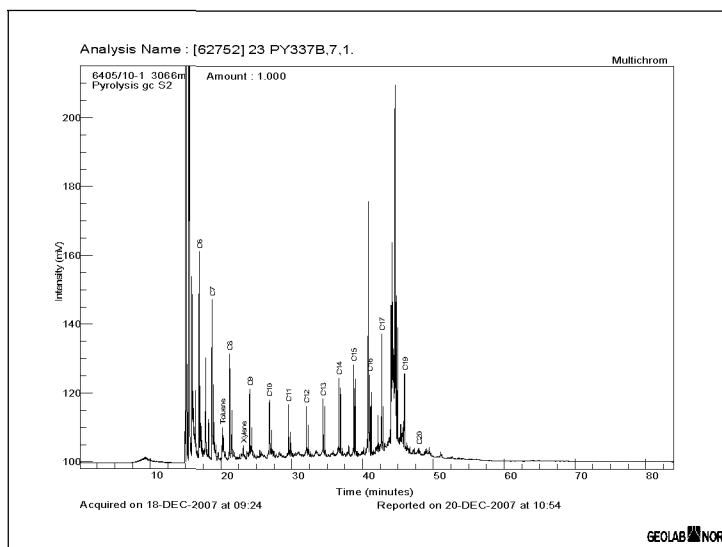
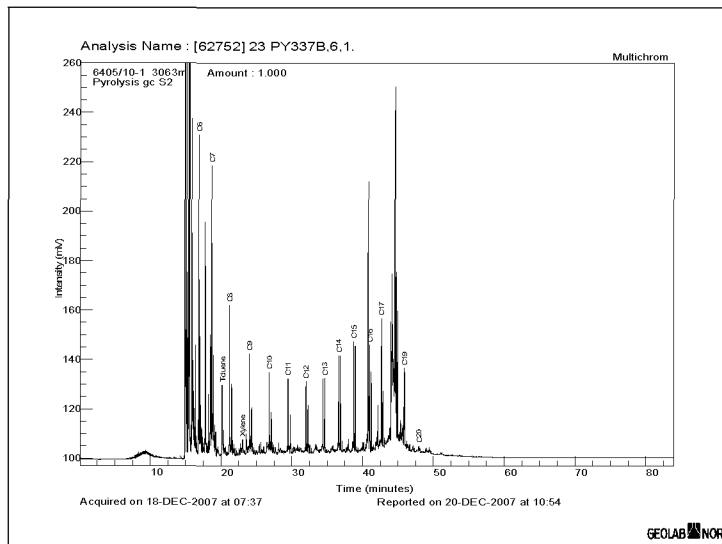
StatoilHydro

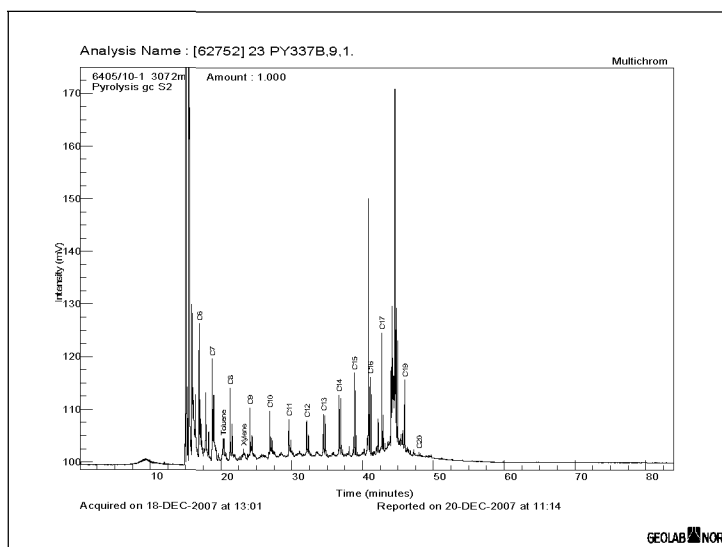
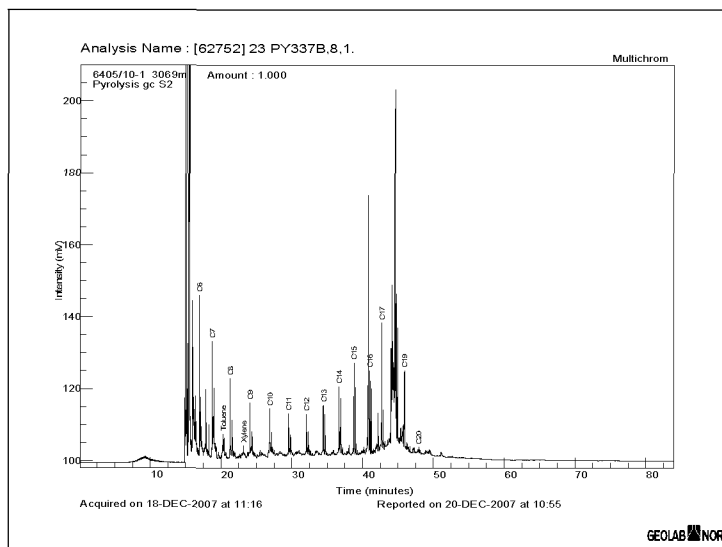
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NOCS 6405/10-1	2951.5	resid.con.					0.40	0.37			4.75	3.53	0.03	4.57	3.30
NOCS 6405/10-1	2994.4	resid.con.					0.43	0.37			4.85	3.50	0.03	4.44	3.01

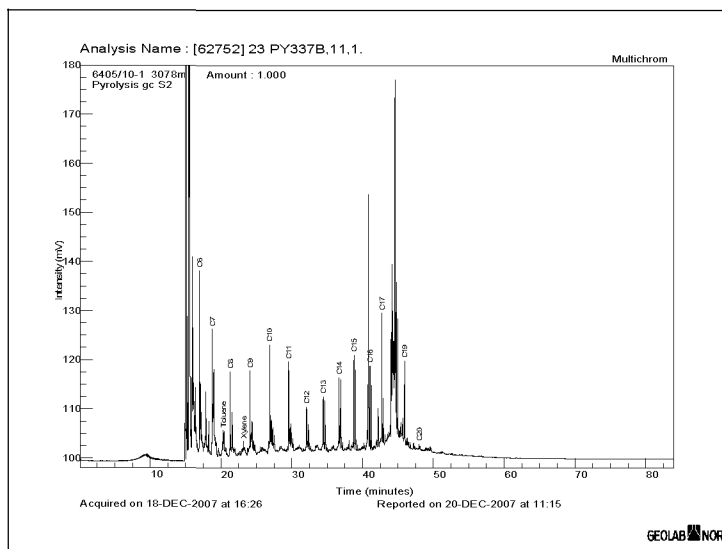
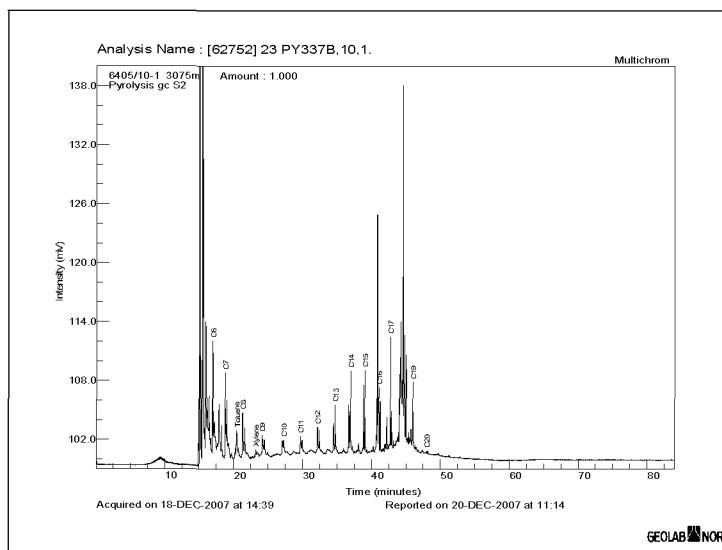
Well name	Depth	Desc	3MC6	1,3ciDMCyC5	1,3trDMCyC5	1,2trDMCyC5	nC7	MCyC6	Toi	nC8	p/m-Xyl	Sample number
NOCS 6405/10-1	2951.5	resid.con.	2.24	0.85	0.77	1.49	5.92	10.81	0.67	6.34	1.73	337/0056-0
NOCS 6405/10-1	2994.4	resid.con.	2.01	0.80	0.72	1.36	5.32	10.49	0.44	5.57	1.20	337/0055-0

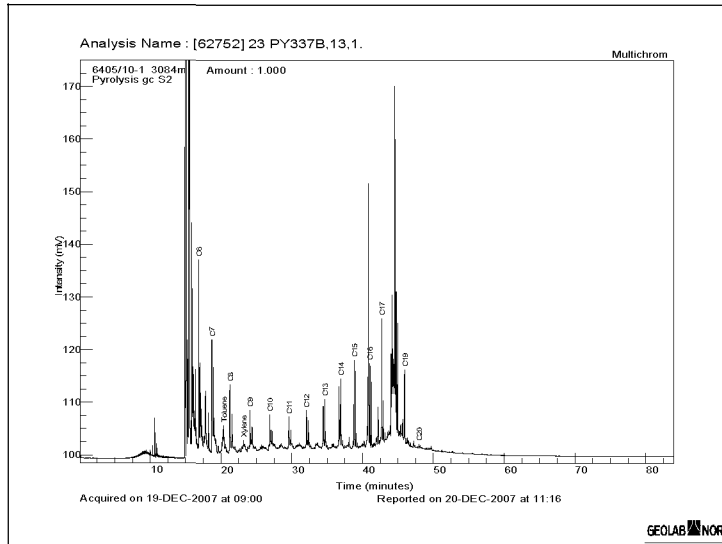
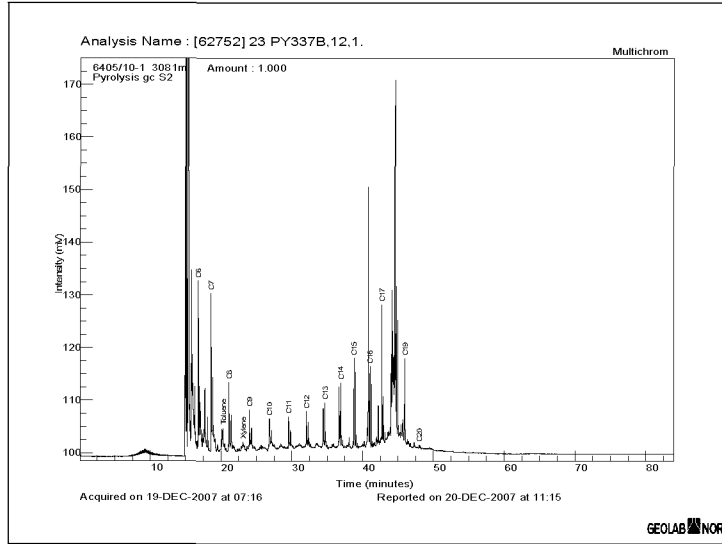


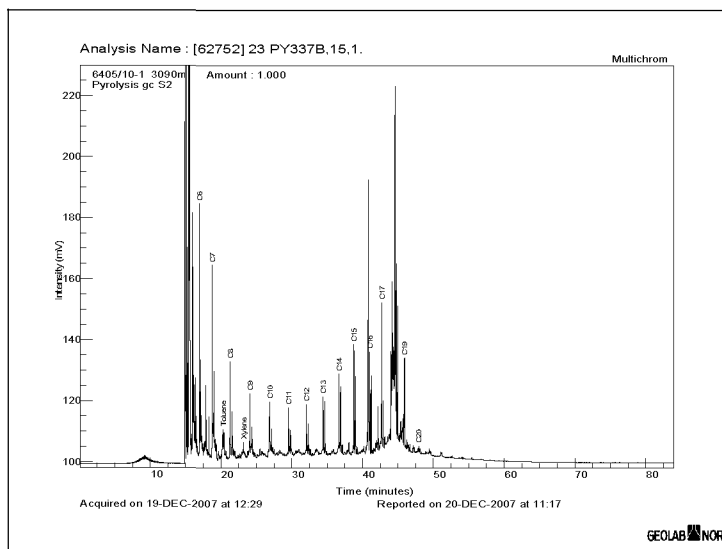
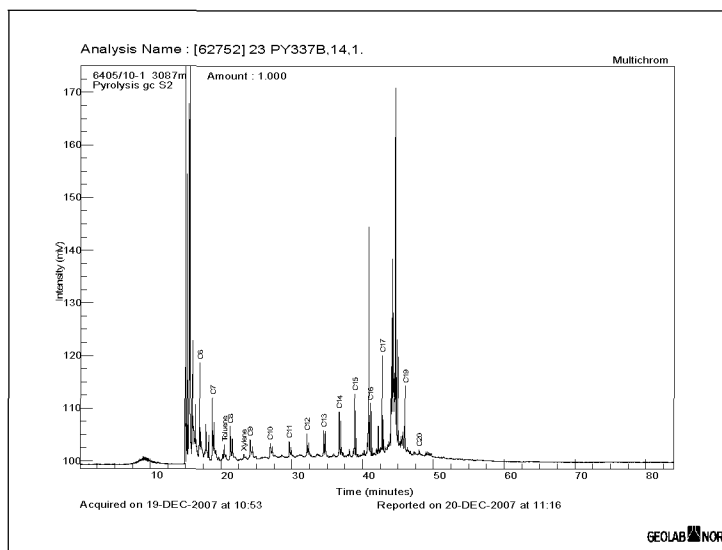


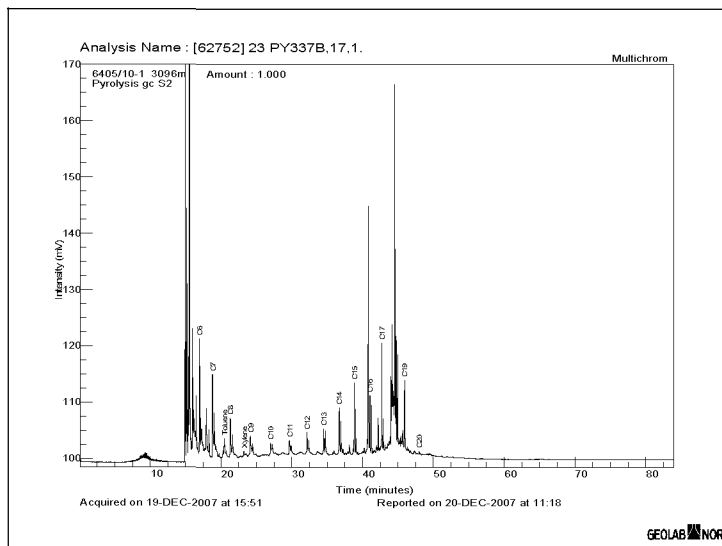
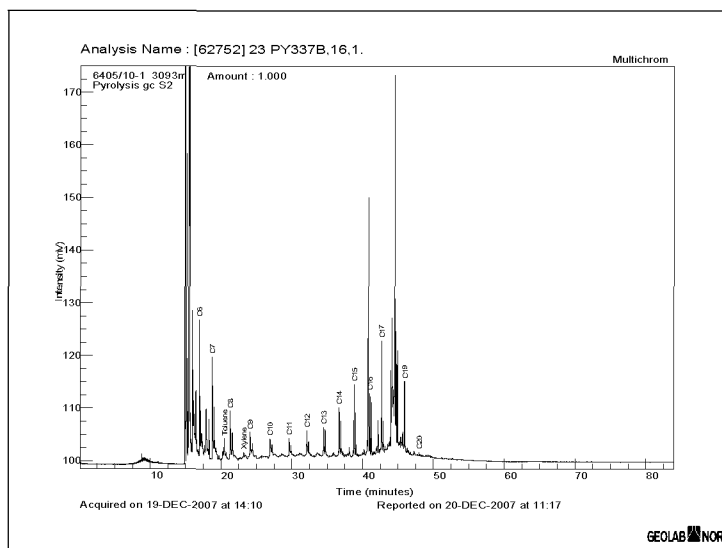


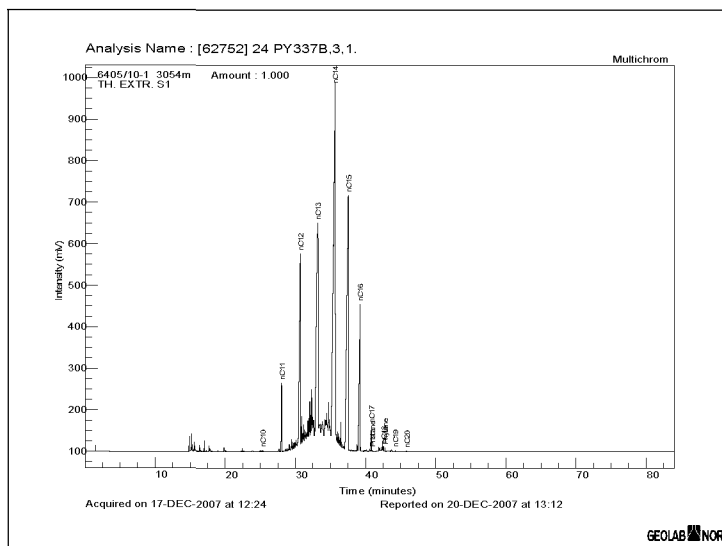
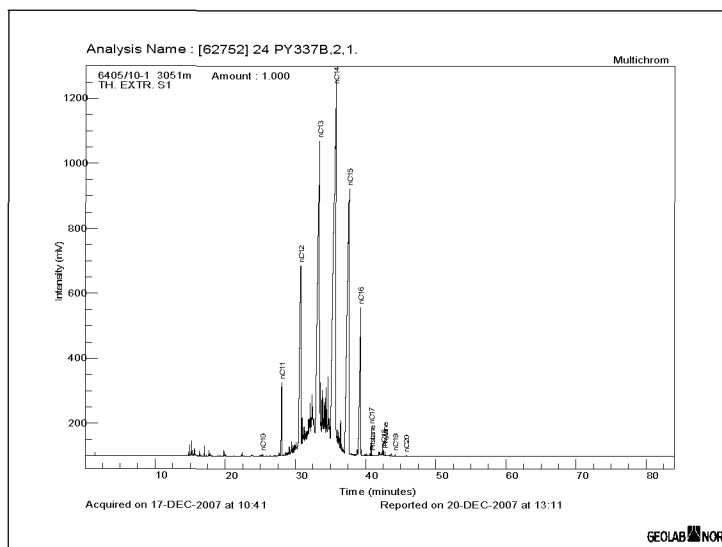


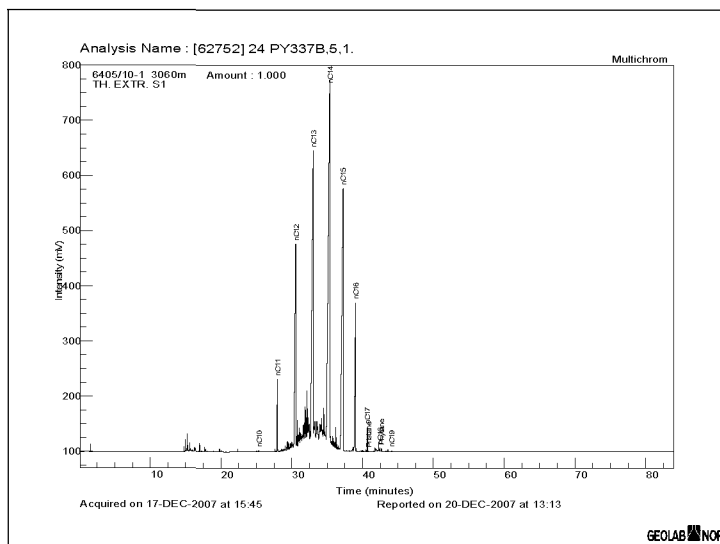
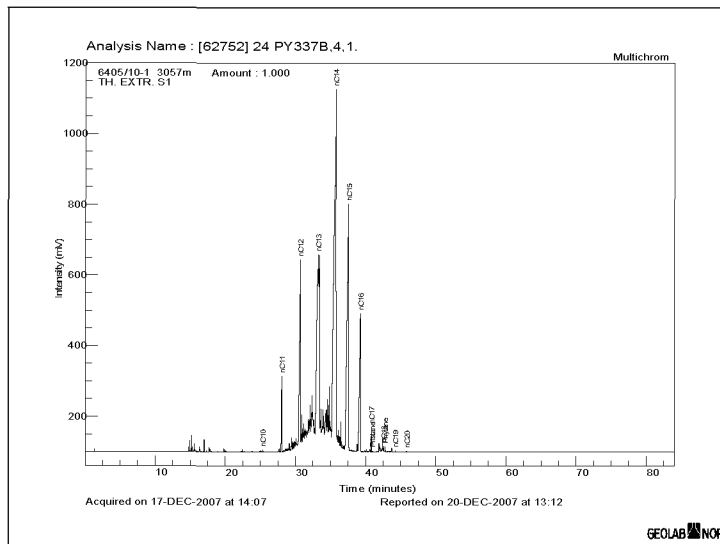


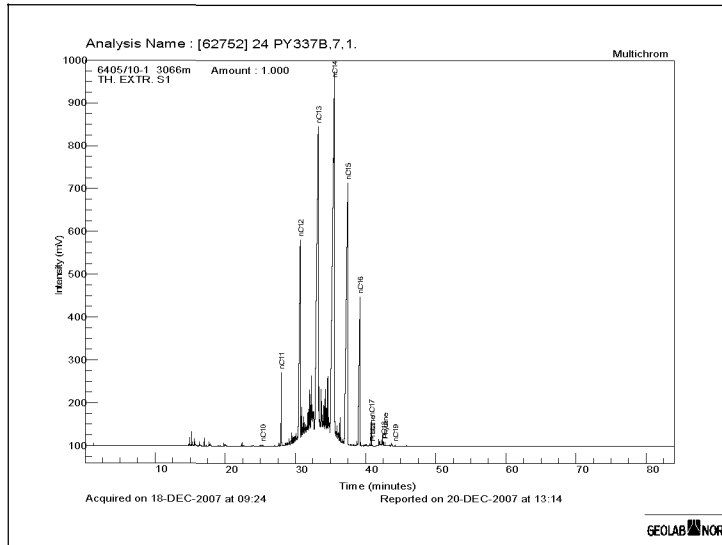
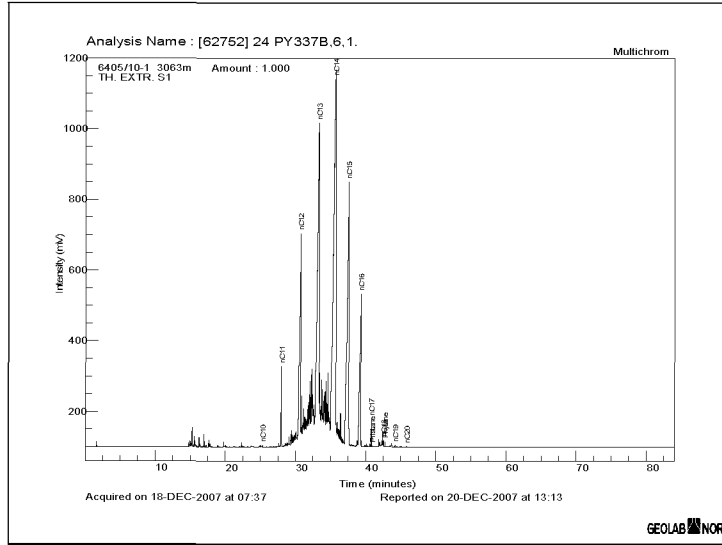


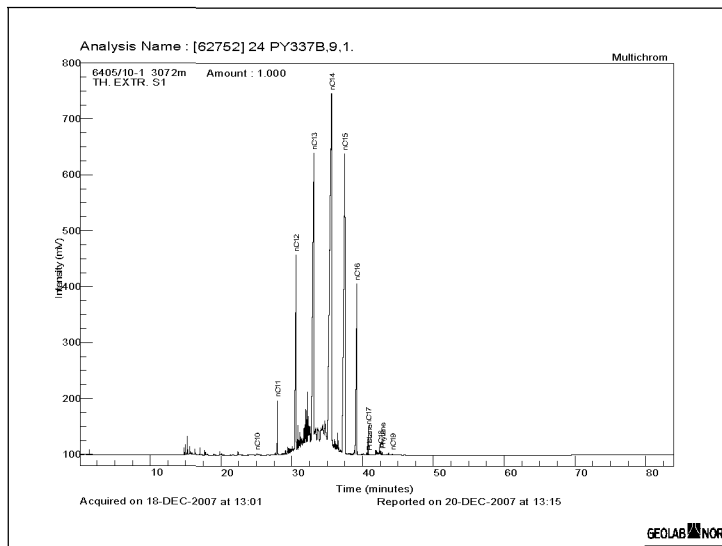
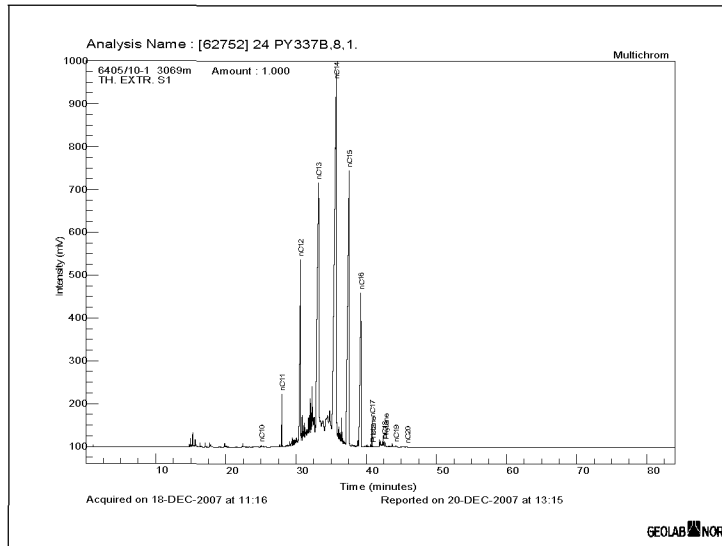


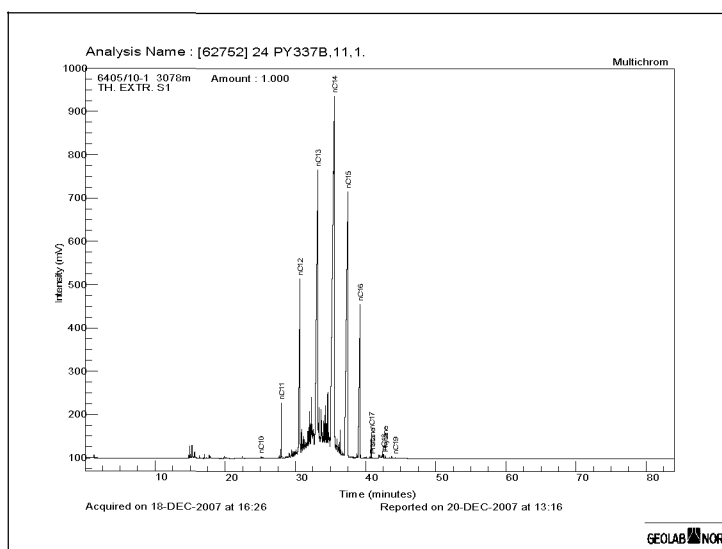
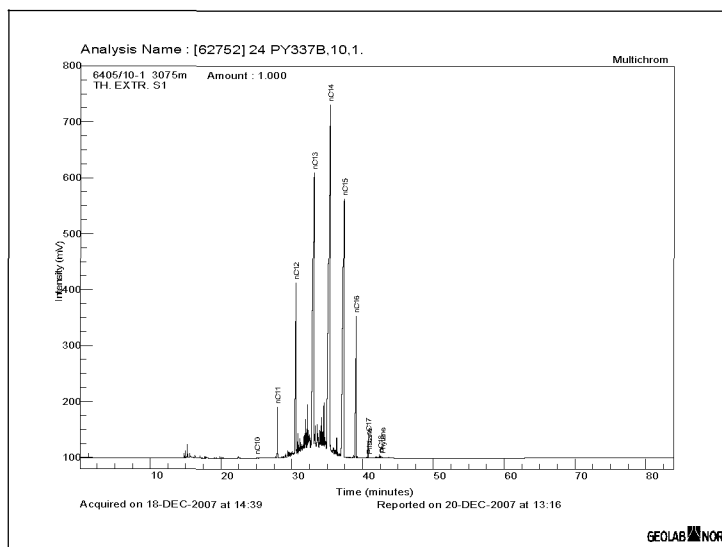


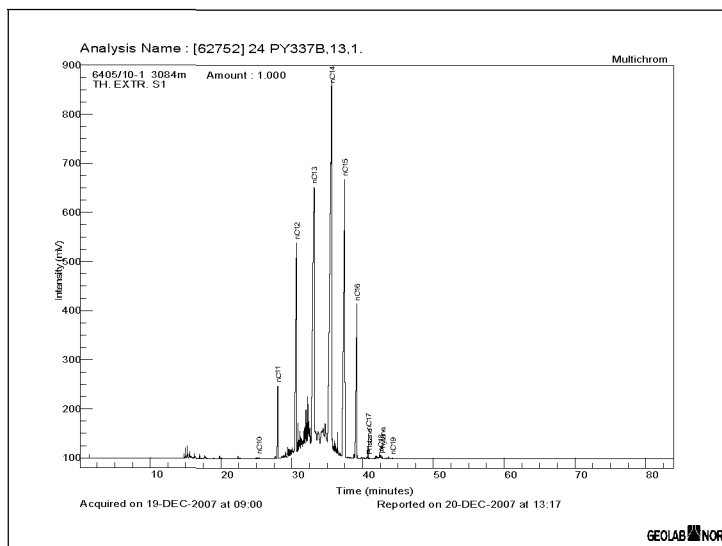
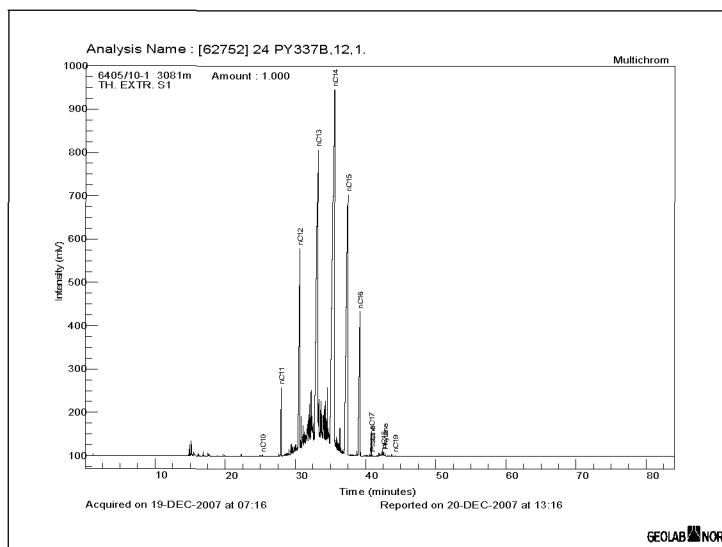


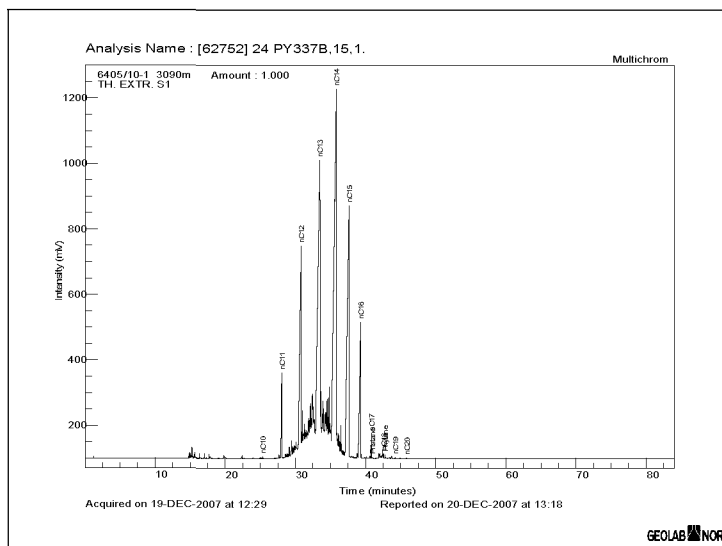
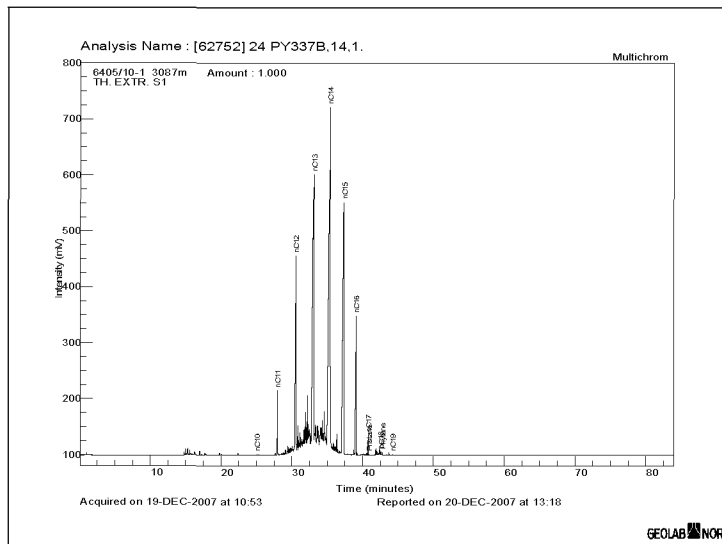


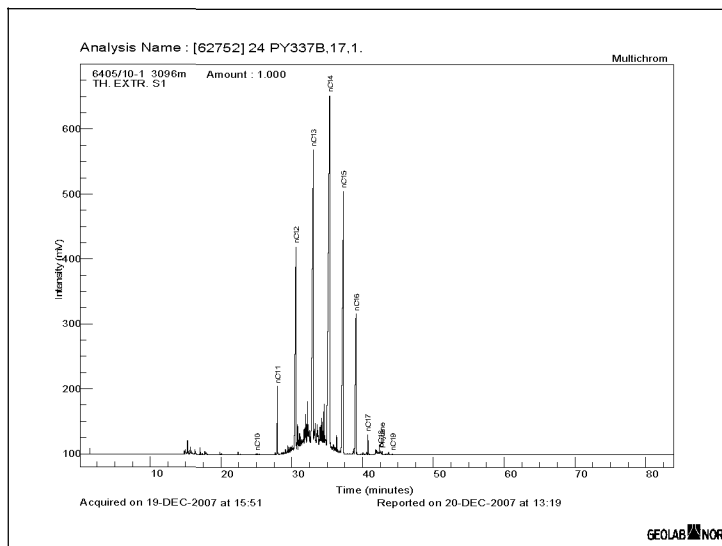
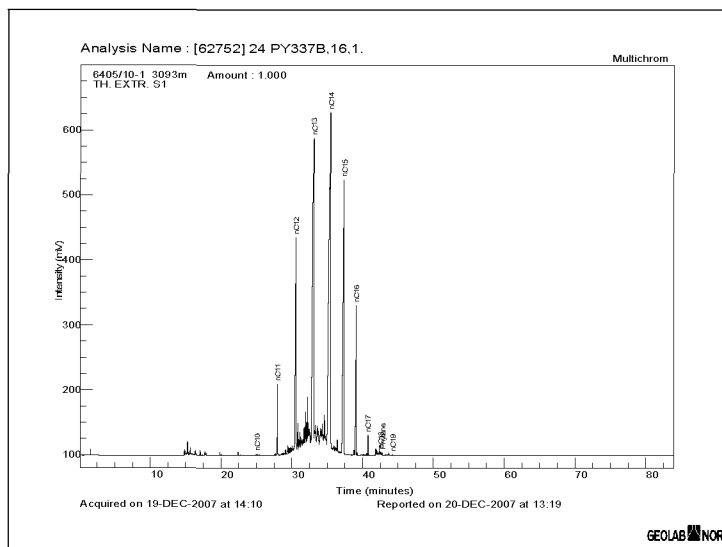




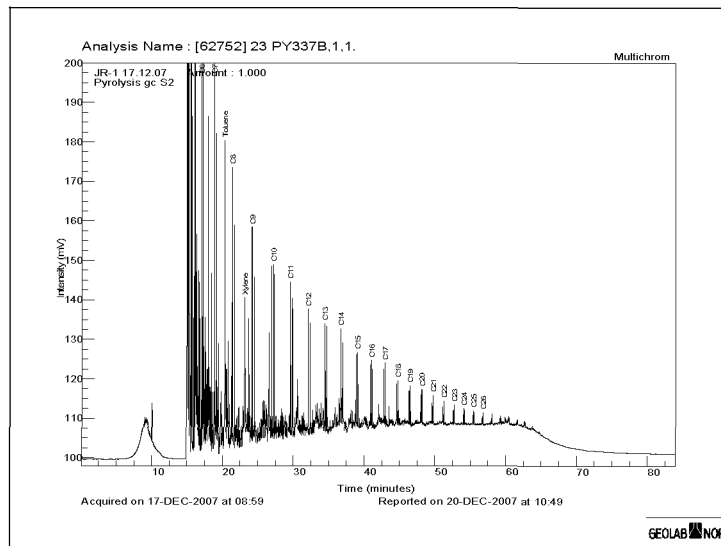


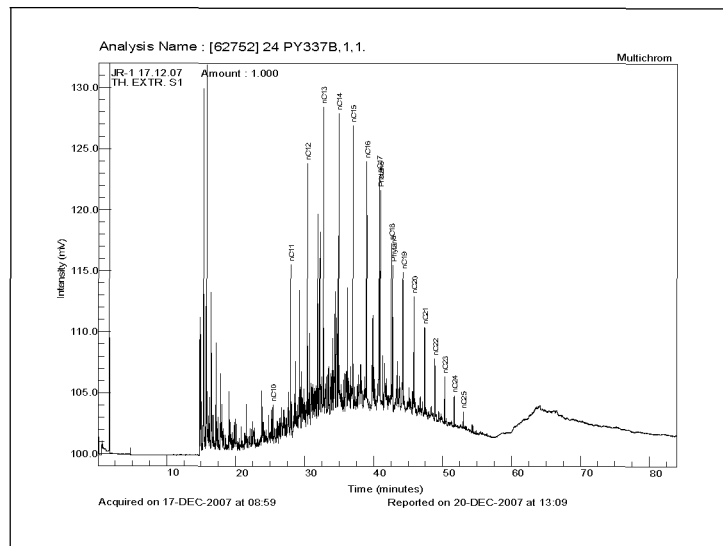


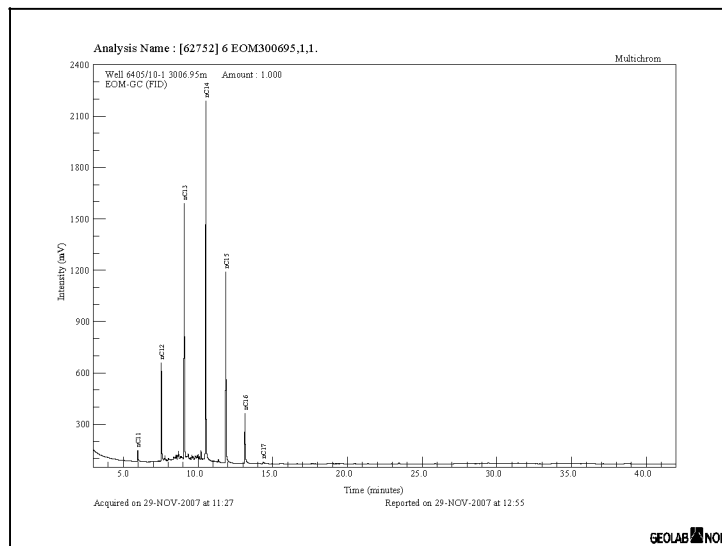
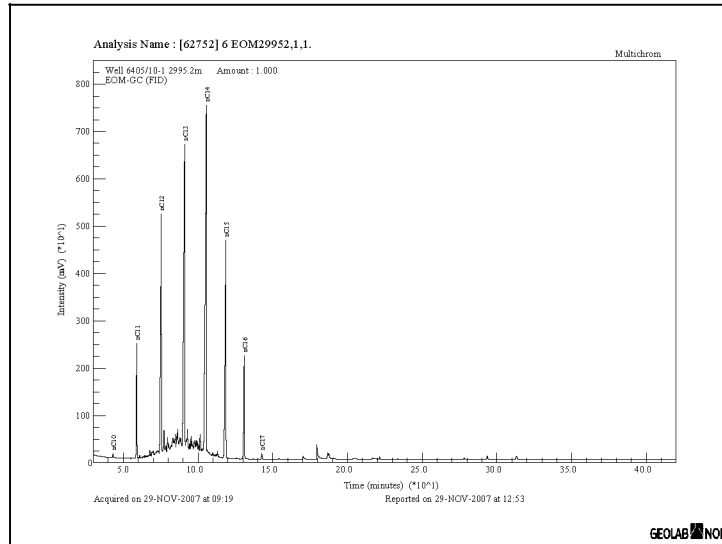


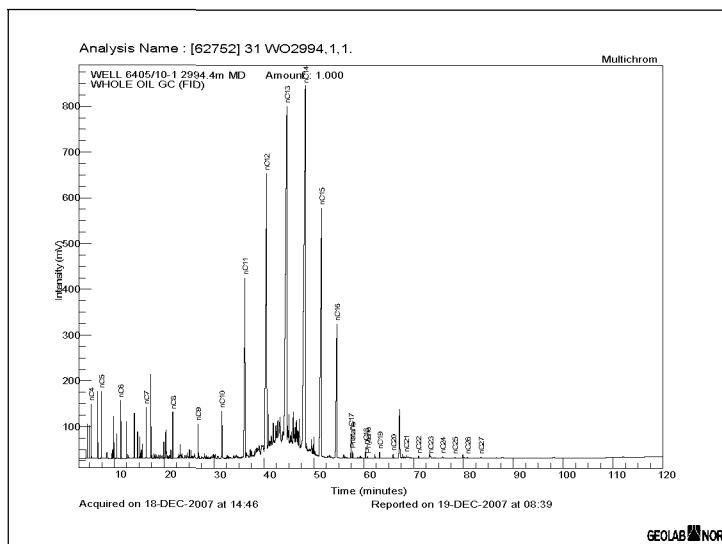
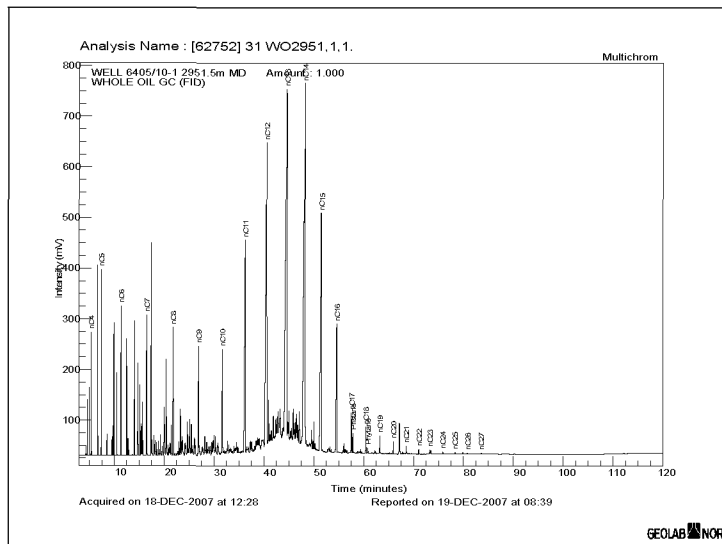


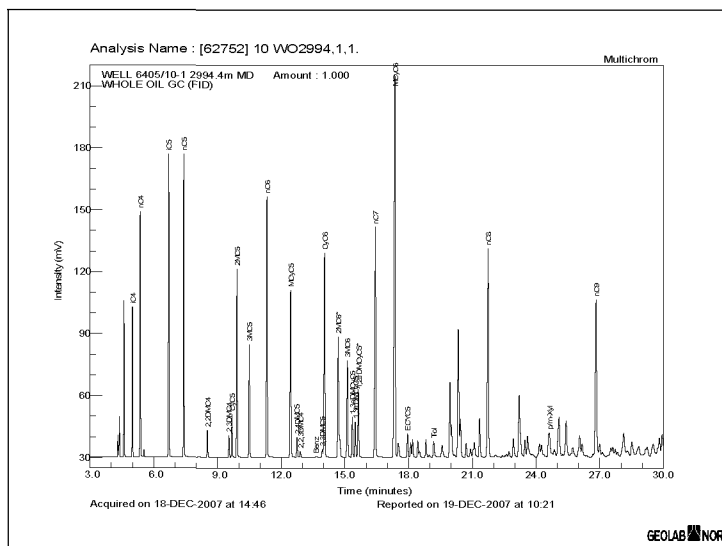
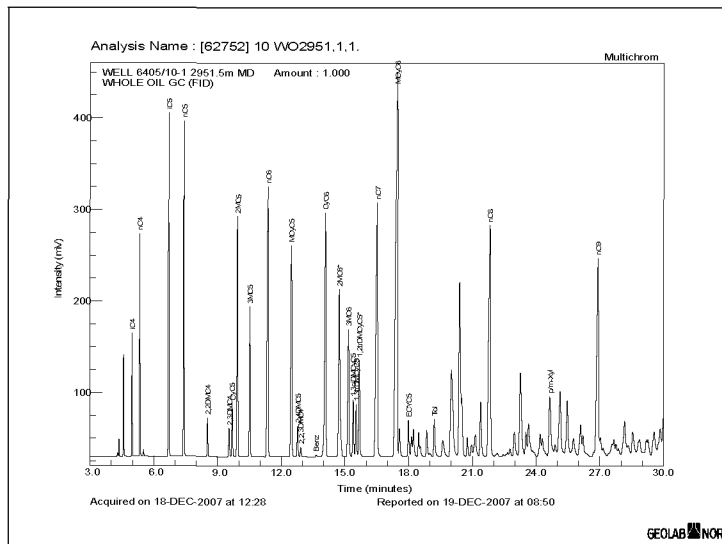
STD JR-1 S1 + S2



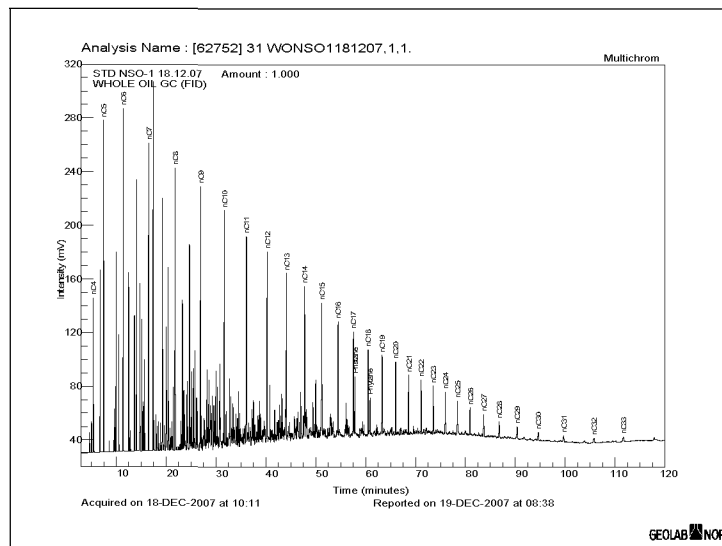


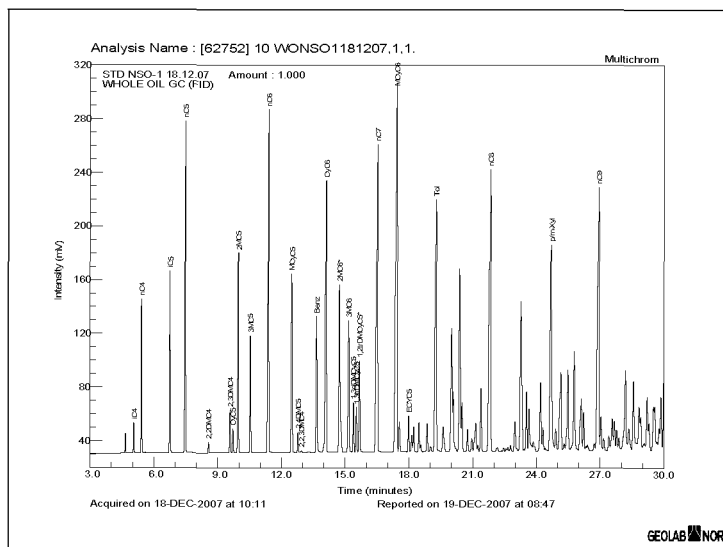


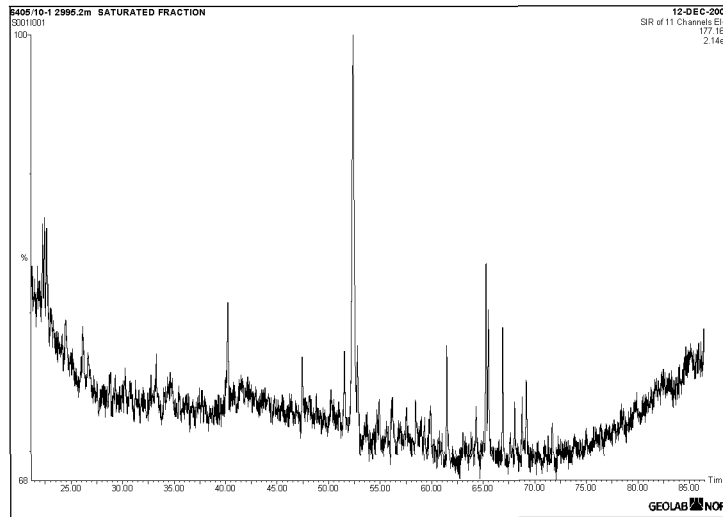
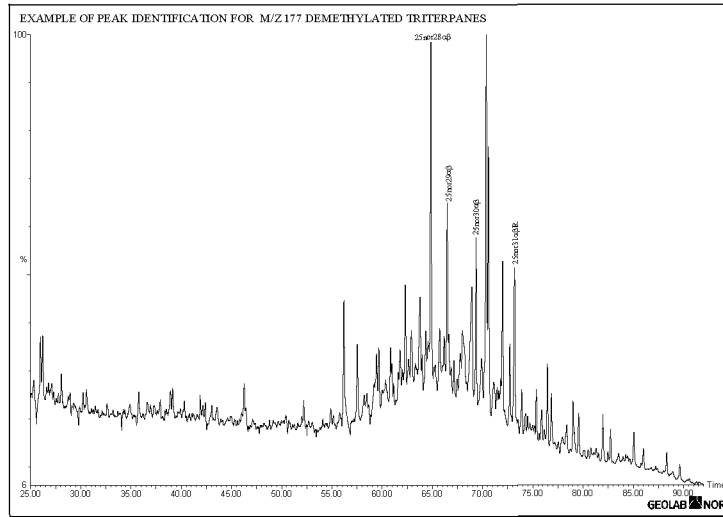


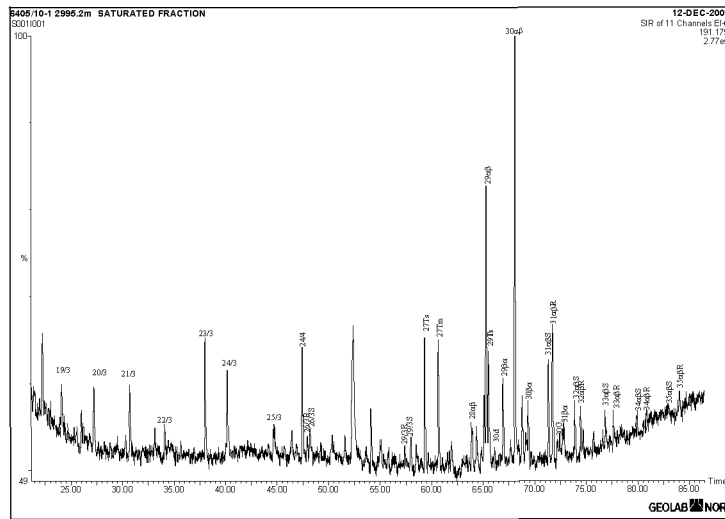
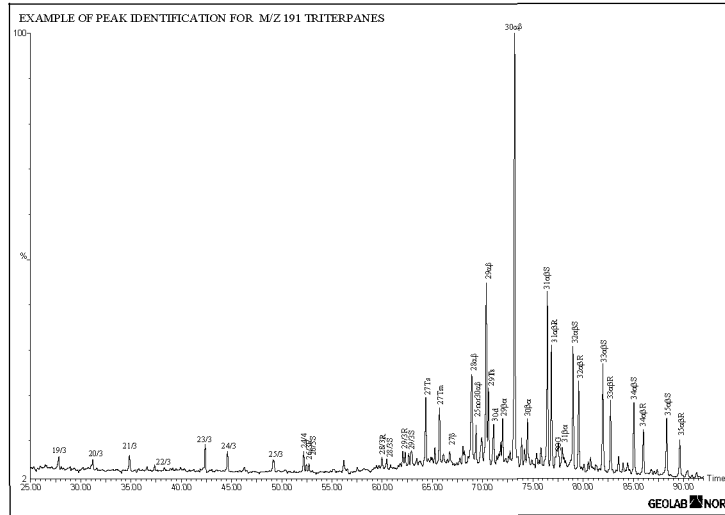


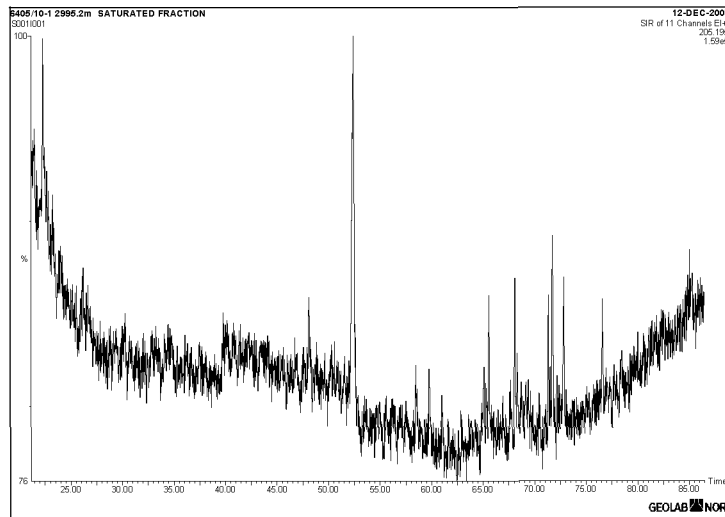
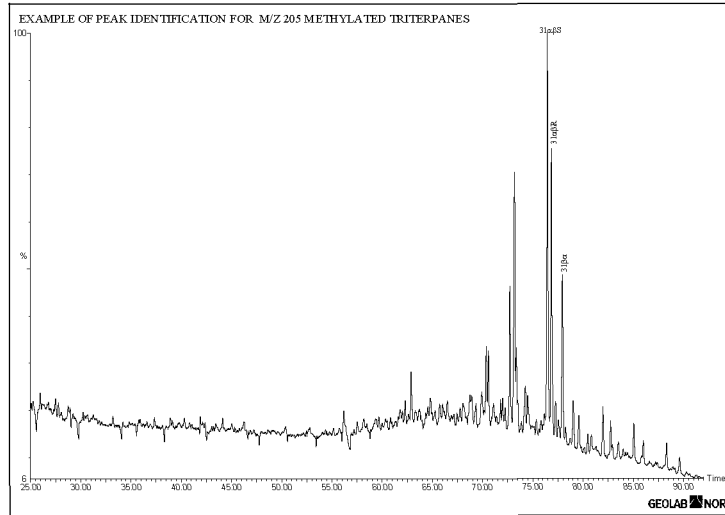
STD NSO-1

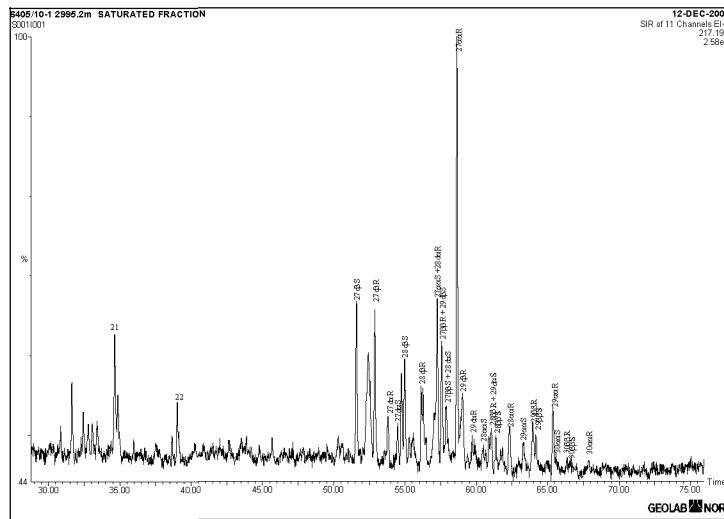
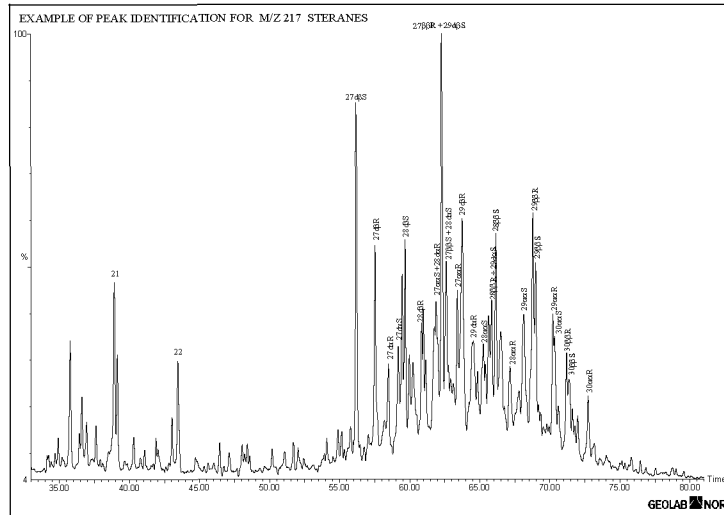


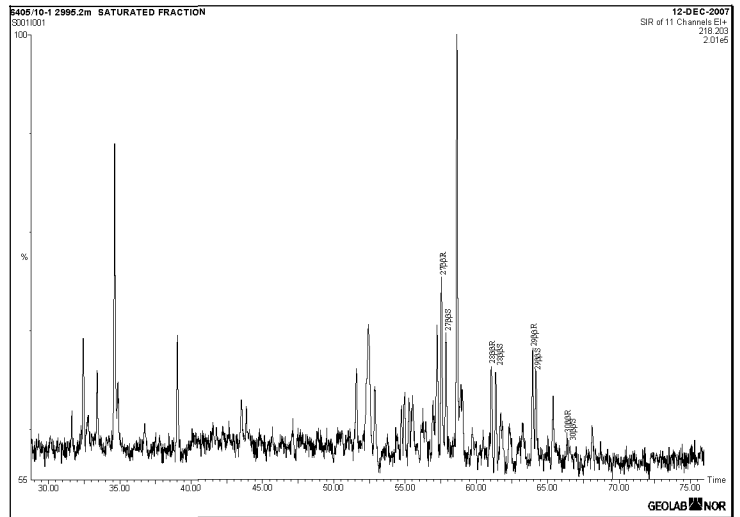
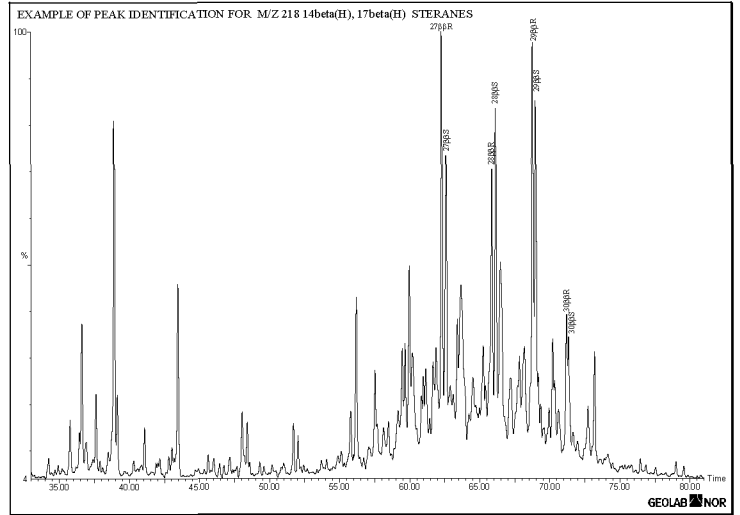


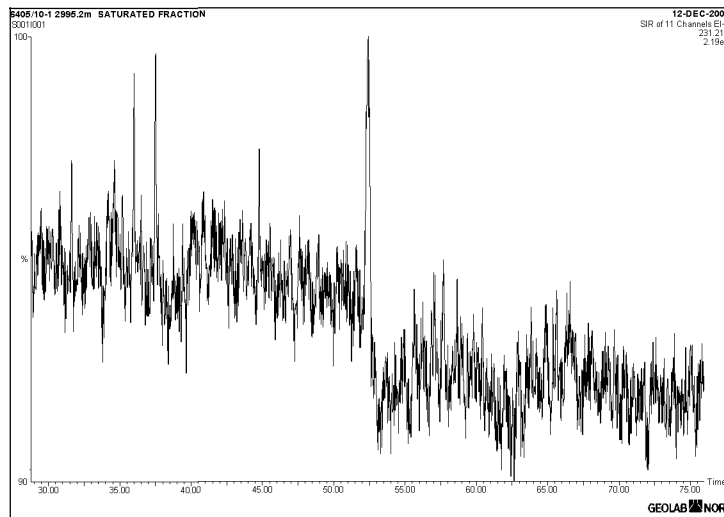
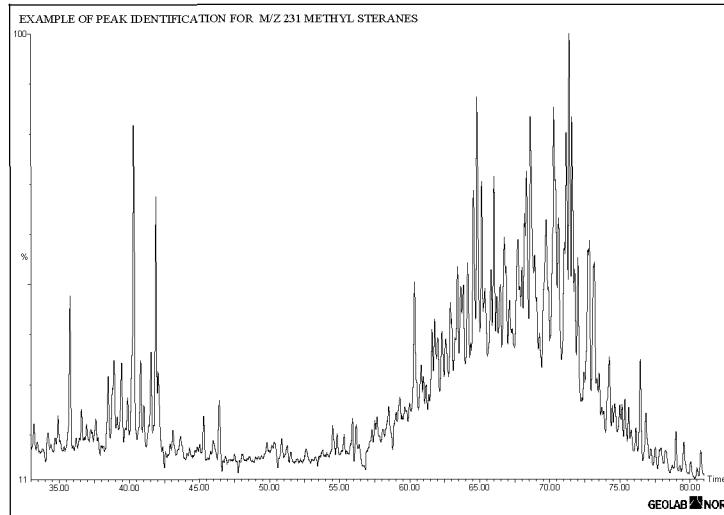


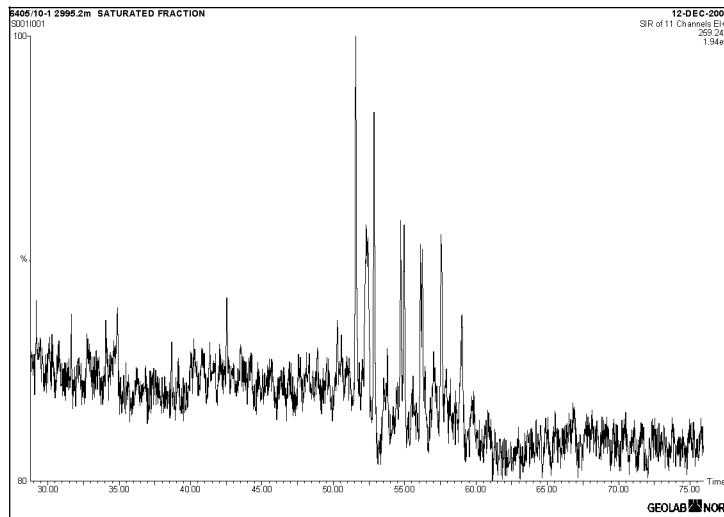
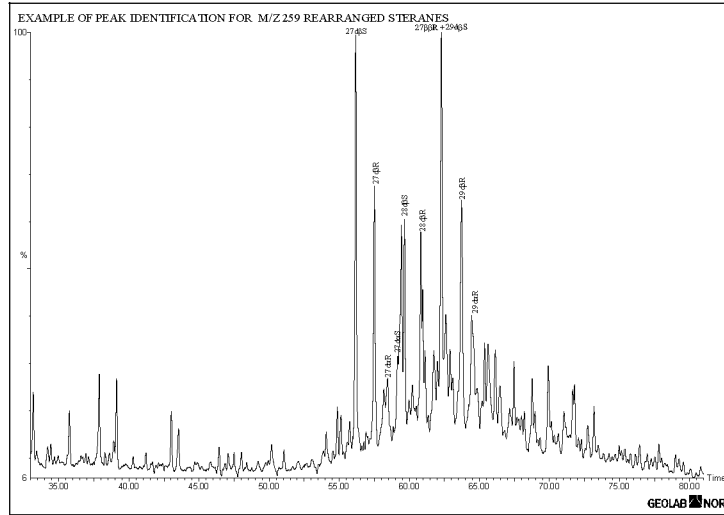


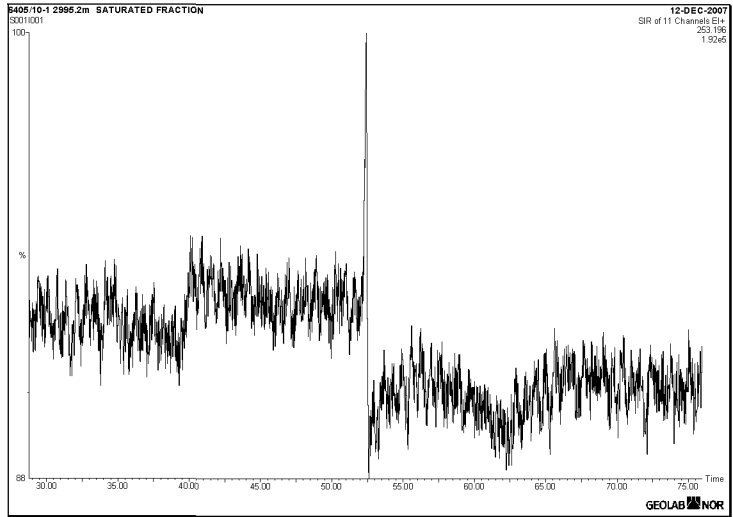
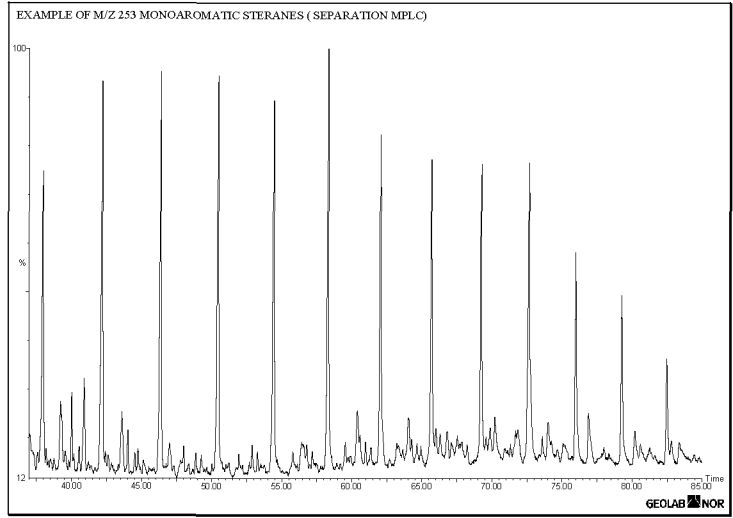






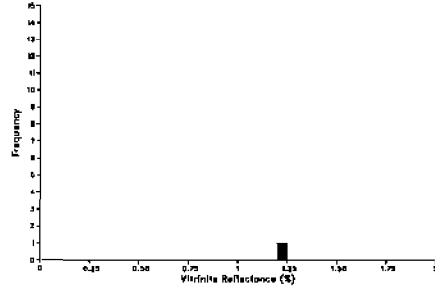






Vitrinite Reflectance Histogram

Well: MDCS 8403/10-1
Depth: 1850.00(m)

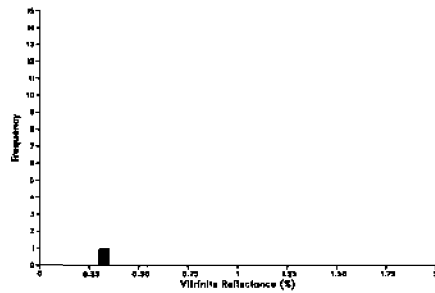


Statistics:			
	Mean	St.Dev.	n
Indigenous Population (from 1.220 to 1.240):	1.23	0.00	1
Population Two (from 0.000 to 0.000):	0.00	0.00	0
Population Three (from 0.000 to 0.000):	0.00	0.00	0

Readings:	
1.230	

Vitrinite Reflectance Histogram

Well: MDCS 8403/10-1
Depth: 2100.00(m)

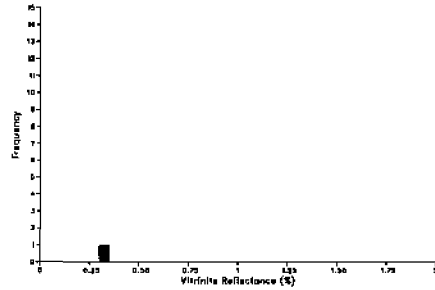


Statistics:			
	Mean	St.Dev.	n
Indigenous Population (from 0.280 to 0.310):	0.30	0.00	1
Population Two (from 0.000 to 0.000):	0.00	0.00	0
Population Three (from 0.000 to 0.000):	0.00	0.00	0

Readings:	
0.300	

Vitrinite Reflectance Histogram

Well: MDCS 8405/10-1
Depth: 2450.00(m)

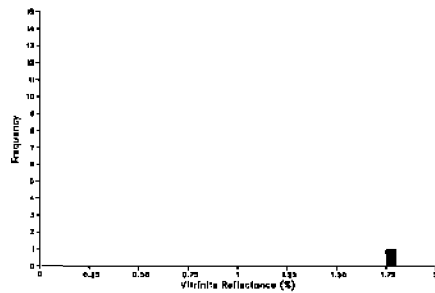


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.300 to 0.320):	0.31	0.00	1
Population Two (from 0.000 to 0.000):	0.00	0.00	0
Population Three (from 0.000 to 0.000):	0.00	0.00	0

Readings:
0.310

Vitrinite Reflectance Histogram

Well: MDCS 8405/10-1
Depth: 2450.00(m)

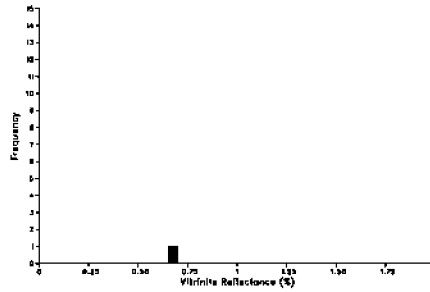


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 1.750 to 1.770):	1.76	0.00	1
Population Two (from 0.000 to 0.000):	0.00	0.00	0
Population Three (from 0.000 to 0.000):	0.00	0.00	0

Readings:
1.760

Vitrinite Reflectance Histogram

Well: MDCS 8403/10-1
Depth: 2700.00(m)

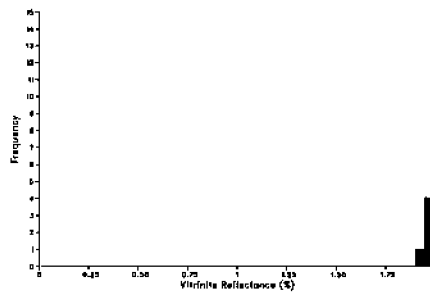


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.000 to 0.600):	0.57	0.00	1
Population Two (from 0.000 to 0.000):	0.00	0.00	0
Population Three (from 0.000 to 0.000):	0.00	0.00	0

Readings:
0.670

Vitrinite Reflectance Histogram

Well: MDCS 8403/10-1
Depth: 2814.00(m)

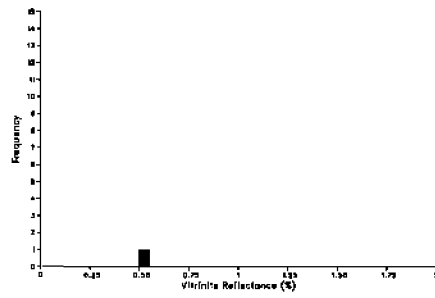


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 1.900 to 2.100):	2.03	0.08	5
Population Two (from 0.000 to 0.000):	0.00	0.00	0
Population Three (from 0.000 to 0.000):	0.00	0.00	0

Readings:
1.940 2.010 2.040 2.050 2.120

Vitrinite Reflectance Histogram

Well: MD05 8403/10-1
Depth: 2850.00(m)

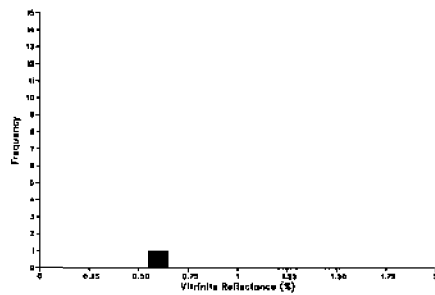


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.500 to 0.540):	0.53	0.00	1
Population Two (from 0.000 to 0.000):	0.00	0.00	0
Population Three (from 0.000 to 0.000):	0.00	0.00	0

Readings:
0.500

Vitrinite Reflectance Histogram

Well: MD05 8403/10-1
Depth: 2901.00(m)

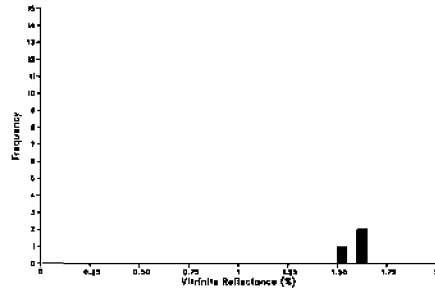


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.250 to 0.840):	0.60	0.05	1
Population Two (from 0.000 to 0.000):	0.00	0.00	0
Population Three (from 0.000 to 0.000):	0.00	0.00	0

Readings:
0.560 0.630

Vitrinite Reflectance Histogram

Well: MDCS 8405/10-1
Depth: 2949.00(m)

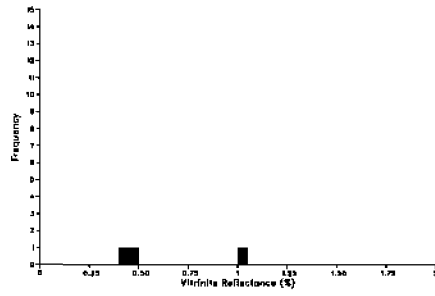


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 1.310 to 1.830):	1.58	0.09	3
Population Two (from 0.000 to 0.000):	0.00	0.00	0
Population Three (from 0.000 to 0.000):	0.00	0.00	0

Readings:
1.520 1.600 1.620

Vitrinite Reflectance Histogram

Well: MDCS 8405/10-1
Depth: 3049.00(m)

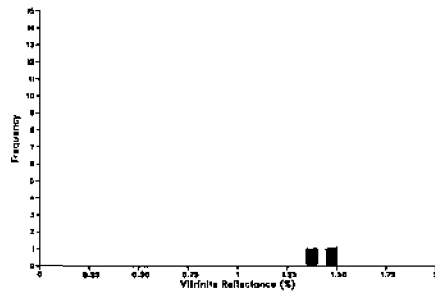


Statistics:	Mean	St.Dev.	n
Indigenous Population (from 0.420 to 1.030):	0.94	0.35	3
Population Two (from 0.000 to 0.000):	0.00	0.00	0
Population Three (from 0.000 to 0.000):	0.00	0.00	0

Readings:
0.450 0.450 1.000

Vitrinite Reflectance Histogram

Well: MDCS 8405/10-1
Depth: 3099.00(%)



Statistics:	Mean	St.Dev.	n
Indigenous Population (from 1.340 to 1.460):	1.45	0.07	2
Population Two (from 0.000 to 0.000):	0.00	0.00	0
Population Three (from 0.000 to 0.000):	0.00	0.00	0

Readings:
1.450 1.450