

GEOCHEMICAL REPORT ON WELL NOCS 1/9-7 T3

Authors:

Peter B. Hall
Ian Ferriday

Geolab Nor A/S
Hornebergveien 5
P.O. Box 5740 Fossegrenda
7002 Trondheim
Norway

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Chapter 1

INTRODUCTION

1.1 General Well Information

Cuttings samples from 3062-4986 m were sent for analysis. Cuttings samples were analysed by various techniques including headspace gas composition, total organic carbon (TOC) content, Rock-Eval pyrolysis, thermal extraction- and pyrolysis-gas chromatography, visual kerogen analysis and vitrinite reflectance measurement. These samples covered the interval from 4300 m to 4900 m. Four core samples were sent for analysis, two from 1/9-1 and two from 1/9-7 T3. The core samples were analysed by thermal extraction GC (GHM), solvent extraction, liquid chromatography (MPLC), gas chromatography (saturated and aromatic hydrocarbon fractions) and GC-MS analysis. A mineral oil-based mud system was used in drilling the well. This caused considerable problems and required the cuttings samples to be mini-extracted with various solvents to remove the oil before analysis. In addition, the cuttings samples were heavily contaminated with graphite, requiring careful picking.

Table 1: Analytical Program for NOCS 1/9-7 T3

ConocoPhillips

Well	Sample Depth (m)	Sample Type	Sample Code	Extraction Clean-Up	Lithology Description	Picking for screening	Provepreparing	Headspace Gas Composition	Leco TOC	RockEval	Thermal Extraction	Pyrolysis GC	Picking for Extraction	Iatroscan	Solvent Extraction	Topping	MPLC & Deasphaltene	EOM GC	Whole Oil GC	Sat GC	Aro GC	Sat GCMS	Aro GCMS	Vitrinite Reflectance	Visual kerogen	Gas composition & Gas Isotope
	Table nos.:																									
1/9-7T3	3112 gas	gas	X34/0001		3		X																			
1/9-7T3	3112 oil	oil	X34/0002																							
1/9-7T3	3107	ccp	X34/0003-1				X																			
1/9-7T3	3127.3	ccp	X34/0004-1				X																			
1/9-1	3074.6	ccp	X36/0001-1				X																			
1/9-1	3187	ccp	X36/0002-1				X																			
1/9-7T3	4310	cut	X34/0005-0	X		X		X																X		
1/9-7T3	4328	cut	X34/0006-0	X		X		X																	X	
1/9-7T3	4350	cut	X34/0007-0	X		X		X																	X	
1/9-7T3	4370	cut	X34/0008-0	X		X		X																		
1/9-7T3	4389	cut	X34/0009-0	X		X		X																	X	
1/9-7T3	4410	cut	X34/0010-0	X		X		X																X		
1/9-7T3	4431	cut	X34/0011-0	X		X		X																		
1/9-7T3	4449	cut	X34/0012-0	X		X		X																	X	
1/9-7T3	4470	cut	X34/0013-0	X		X		X																		
1/9-7T3	4488	cut	X34/0014-0	X		X		X																		
1/9-7T3	4509	cut	X34/0015-0	X		X		X																	X	
1/9-7T3	4530	cut	X34/0016-0	X		X		X																	X	
1/9-7T3	4551	cut	X34/0017-0	X		X		X																	X	
1/9-7T3	4572	cut	X34/0018-0	X		X		X																		
1/9-7T3	4590	cut	X34/0019-0	X		X		X																		
1/9-7T3	4605	cut	X34/0020-0	X		X		X																X		

Table 1: Analytical Program for NOCS 1/9-7 T3

ConocoPhillips

Well	Sample Depth (m)	Sample Type	Sample Code	Extraction Clean-Up	Lithology Description	Picking for screening	Provepreparing	Headspace Gas Composition	Leco TOC	RockEval	Thermal Extraction	Pyrolysis GC	Picking for Extraction	Iatroscan	Solvent Extraction	Topping	MPLC & Deasphaltene	EOM GC	Whole Oil GC	Sat GC	Aro GC	Sat GCMS	Aro GCMS	Vitrinite Reflectance	Visual kerogen	Gas composition & Gas Isotope
1/9-7T3	4610	cut	X34/0021-0		3			2	4	4									8	9	10	11	12	5	6	13
1/9-7T3	4630	cut	X34/0022-0	X		X		X	X	X																
1/9-7T3	4650	cut	X34/0023-0	X		X		X	X	X															X	
1/9-7T3	4670	cut	X34/0024-0	X		X		X	X	X																
1/9-7T3	4680		X34/0025-0					X																		
1/9-7T3	4690	cut	X34/0026-0	X		X		X	X	X																
1/9-7T3	4710	cut	X34/0027-0	X		X		X	X	X														X	X	
1/9-7T3	4731	cut	X34/0028-0	X		X		X	X	X																
1/9-7T3	4750	cut	X34/0029-0	X		X		X	X	X																
1/9-7T3	4760	cut	X34/0030-0	X		X		X	X	X																
1/9-7T3	4770	cut	X34/0031-0	X		X		X	X	X															X	
1/9-7T3	4790	cut	X34/0032-0	X		X		X	X	X																
1/9-7T3	4800	cut	X34/0033-0	X		X		X	X	X																
1/9-7T3	4809	cut	X34/0034-0	X		X		X	X	X														X		
1/9-7T3	4830	cut	X34/0035-0	X		X		X	X	X															X	
1/9-7T3	4851	cut	X34/0036-0					X																		
1/9-7T3	4860	cut	X34/0037-0					X																		
1/9-7T3	4869	cut	X34/0038-0					X																		
1/9-7T3	4890	cut	X34/0039-0					X																X		
1/9-7T3	4920	cut	X34/0040-0					X																		
1/9-7T3	4950	cut	X34/0041-0					X																		
1/9-7T3	4980	cut	X34/0042-0					X																		

Table 2 Headspace gas data for NOCS 1/9-7T3

ConocoPhillips

Well name	Lower depth (m)	C1	C2	C3	iC4	nC4	C5+	Sum C1-C4	Sum C2-C4	Wetness	iC4/nC4
1/9-7T3	4310	1344	190	77	10	17	18	1638	294	18.0	0.63
1/9-7T3	4328	313	86	35	3	6	19	444	130	29.4	0.55
1/9-7T3	4350	303	32	9	1	2	3	347	44	12.7	0.49
1/9-7T3	4370	458	51	16	2	3	61	530	72	13.5	0.46
1/9-7T3	4389	1041	165	60	7	12	20	1285	244	19.0	0.53
1/9-7T3	4410	880	149	51	5	9	9	1093	214	19.5	0.53
1/9-7T3	4430	4465	2156	970	87	159	78	7837	3372	43.0	0.54
1/9-7T3	4449	1153	232	84	9	16	21	1493	340	22.8	0.53
1/9-7T3	4470	1268	151	38	3	5	4	1465	197	13.4	0.61
1/9-7T3	4488	4510	3460	1940	232	347	170	10489	5979	57.0	0.67
1/9-7T3	4509	930	298	144	20	32	38	1424	494	34.7	0.62
1/9-7T3	4530	1169	220	83	9	18	22	1499	330	22.0	0.52
1/9-7T3	4551	907	145	59	9	15	18	1135	228	20.1	0.59
1/9-7T3	4571	536	114	45	5	10	18	711	175	24.6	0.52
1/9-7T3	4590	339	59	22	3	5	8	427	89	20.7	0.63
1/9-7T3	4605	2431	834	415	63	82	61	3824	1394	36.4	0.77
1/9-7T3	4610	492	86	47	9	10	9	645	153	23.6	0.83
1/9-7T3	4630	1167	193	88	17	19	16	1485	318	21.4	0.87
1/9-7T3	4650	3200	459	118	15	19	17	3810	610	16.0	0.76
1/9-7T3	4670	1791	1144	664	123	138	88	3860	2069	53.6	0.89
1/9-7T3	4680	1186	398	199	40	40	28	1863	676	36.3	0.99
1/9-7T3	4690	755	143	64	15	16	19	992	238	23.9	0.96
1/9-7T3	4710	1032	254	131	36	34	34	1486	454	30.6	1.06
1/9-7T3	4750	698	149	59	11	11	12	927	230	24.8	1.02
1/9-7T3	4760	2479	2033	798	103	111	49	5524	3045	55.1	0.92
1/9-7T3	4770	1799	1027	390	59	57	30	3333	1533	46.0	1.02
1/9-7T3	4790	514	128	54	11	13	18	719	205	28.5	0.83
1/9-7T3	4800	570	97	30	5	6	8	707	137	19.4	0.90
1/9-7T3	4809	3186	2815	1371	322	247	150	7942	4756	59.9	1.30
1/9-7T3	4830	290	68	30	10	9	16	407	116	28.6	1.01
1/9-7T3	4851	311	63	26	6	7	23	413	102	24.7	0.80
1/9-7T3	4860	382	75	27	6	7	11	496	114	22.9	0.87

Table 2 Headspace gas data for NOCS 1/9-7T3

ConocoPhillips

Well name	Lower depth (m)	C1	C2	C3	iC4	nC4	C5+	Sum C1-C4	Sum C2-C4	Wetness	iC4/nC4
1/9-7T3	4869	316	51	23	5	7	17	403	87	21.5	0.75
1/9-7T3	4890	175	26	8	2	2	9	212	37	17.5	0.77
1/9-7T3	4920	141	19	6	1	1	8	168	27	16.0	0.62
1/9-7T3	4950	34	7	4	1	2	7	48	14	28.8	0.58
1/9-7T3	4980	97	13	5	1	2	9	118	21	17.5	0.49

Table 3a: Samples for NOCS 1/9-7 T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	Sample number
1/9-1	3074.6	3074.6	ccp	bulk fraction		X36/0001-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	X36/0001-1
1/9-1	3187	3187	ccp	bulk fraction		X36/0002-0
1/9-1	3187	3187	ccp	carbonate	100	X36/0002-1
1/9-7T3	3107	3107	ccp	bulk fraction		X34/0003-0
1/9-7T3	3107	3107	ccp	carbonate	100.00	X34/0003-1
1/9-7T3	3112	3112	gas	bulk fraction		X34/0001-0
1/9-7T3	3112	3112	oil	condensate		X34/0002-0
1/9-7T3	3127.3	3127.3	ccp	bulk fraction		X34/0004-0
1/9-7T3	3127.3	3127.3	ccp	carbonate	100.00	X34/0004-1
1/9-7T3	4310	4310	cut	bulk fraction		X34/0005-0
1/9-7T3	4310	4310	cut	shale/claystone	100.00	X34/0005-1
1/9-7T3	4310	4328	cut	bulk fraction		X34/0006-0
1/9-7T3	4310	4328	cut	shale/claystone	100.00	X34/0006-1
1/9-7T3	4328	4350	cut	bulk fraction		X34/0007-0
1/9-7T3	4328	4350	cut	shale/claystone	60.00	X34/0007-1
1/9-7T3	4328	4350	cut	contaminant	40.00	X34/0007-2
1/9-7T3	4328	4350	cut	shale/claystone	tr	X34/0007-3
1/9-7T3	4350	4370	cut	bulk fraction		X34/0008-0
1/9-7T3	4350	4370	cut	shale/claystone	80.00	X34/0008-1
1/9-7T3	4350	4370	cut	contaminant	20.00	X34/0008-2
1/9-7T3	4350	4370	cut	shale/claystone	tr	X34/0008-3
1/9-7T3	4370	4389	cut	bulk fraction		X34/0009-0
1/9-7T3	4370	4389	cut	shale/claystone	80.00	X34/0009-1
1/9-7T3	4370	4389	cut	contaminant	20.00	X34/0009-2
1/9-7T3	4370	4389	cut	shale/claystone	tr	X34/0009-3
1/9-7T3	4389	4410	cut	bulk fraction		X34/0010-0
1/9-7T3	4389	4410	cut	shale/claystone	60.00	X34/0010-1
1/9-7T3	4389	4410	cut	contaminant	30.00	X34/0010-2
1/9-7T3	4389	4410	cut	shale/claystone	10.00	X34/0010-3
1/9-7T3	4410	4430	cut	bulk fraction		X34/0011-0
1/9-7T3	4410	4430	cut	shale/claystone	90.00	X34/0011-1
1/9-7T3	4410	4430	cut	contaminant	5.00	X34/0011-2

Table 3a: Samples for NOCS 1/9-7 T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	Sample number
1/9-7T3	4410	4430	cut	shale/claystone	5.00	X34/0011-3
1/9-7T3	4430	4449	cut	bulk fraction		X34/0012-0
1/9-7T3	4430	4449	cut	shale/claystone	100.00	X34/0012-1
1/9-7T3	4430	4449	cut	contaminant	tr	X34/0012-2
1/9-7T3	4430	4449	cut	shale/claystone	tr	X34/0012-3
1/9-7T3	4449	4470	cut	bulk fraction		X34/0013-0
1/9-7T3	4449	4470	cut	shale/claystone	80.00	X34/0013-1
1/9-7T3	4449	4470	cut	contaminant	20.00	X34/0013-2
1/9-7T3	4449	4470	cut	shale/claystone	tr	X34/0013-3
1/9-7T3	4449	4470	cut	carbonate	tr	X34/0013-4
1/9-7T3	4470	4488	cut	bulk fraction		X34/0014-0
1/9-7T3	4470	4488	cut	shale/claystone	90.00	X34/0014-1
1/9-7T3	4470	4488	cut	contaminant	10.00	X34/0014-2
1/9-7T3	4470	4488	cut	shale/claystone	tr	X34/0014-3
1/9-7T3	4470	4488	cut	carbonate	tr	X34/0014-4
1/9-7T3	4488	4509	cut	bulk fraction		X34/0015-0
1/9-7T3	4488	4509	cut	shale/claystone	100.00	X34/0015-1
1/9-7T3	4488	4509	cut	contaminant	tr	X34/0015-2
1/9-7T3	4509	4530	cut	bulk fraction		X34/0016-0
1/9-7T3	4509	4530	cut	shale/claystone	85.00	X34/0016-1
1/9-7T3	4509	4530	cut	contaminant	15.00	X34/0016-2
1/9-7T3	4509	4530	cut	shale/claystone	tr	X34/0016-3
1/9-7T3	4530	4551	cut	bulk fraction		X34/0017-0
1/9-7T3	4530	4551	cut	shale/claystone	95.00	X34/0017-1
1/9-7T3	4530	4551	cut	contaminant	5.00	X34/0017-2
1/9-7T3	4530	4551	cut	shale/claystone	tr	X34/0017-3
1/9-7T3	4551	4571	cut	bulk fraction		X34/0018-0
1/9-7T3	4551	4571	cut	shale/claystone	85.00	X34/0018-1
1/9-7T3	4551	4571	cut	contaminant	15.00	X34/0018-2
1/9-7T3	4551	4571	cut	shale/claystone	tr	X34/0018-3
1/9-7T3	4572	4590	cut	bulk fraction		X34/0019-0
1/9-7T3	4572	4590	cut	shale/claystone	85.00	X34/0019-1
1/9-7T3	4572	4590	cut	contaminant	15.00	X34/0019-2

Table 3a: Samples for NOCS 1/9-7 T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	Sample number
1/9-7T3	4572	4590	cut	shale/claystone	tr	X34/0019-3
1/9-7T3	4590	4605	cut	bulk fraction		X34/0020-0
1/9-7T3	4590	4605	cut	shale/claystone	95.00	X34/0020-1
1/9-7T3	4590	4605	cut	contaminant	5.00	X34/0020-2
1/9-7T3	4590	4605	cut	shale/claystone	tr	X34/0020-3
1/9-7T3	4605	4610	cut	bulk fraction		X34/0021-0
1/9-7T3	4605	4610	cut	shale/claystone	95.00	X34/0021-1
1/9-7T3	4605	4610	cut	contaminant	5.00	X34/0021-2
1/9-7T3	4605	4610	cut	shale/claystone	tr	X34/0021-3
1/9-7T3	4610	4630	cut	bulk fraction		X34/0022-0
1/9-7T3	4610	4630	cut	shale/claystone	85.00	X34/0022-1
1/9-7T3	4610	4630	cut	contaminant	5.00	X34/0022-2
1/9-7T3	4610	4630	cut	shale/claystone	10.00	X34/0022-3
1/9-7T3	4630	4650	cut	bulk fraction		X34/0023-0
1/9-7T3	4630	4650	cut	shale/claystone	95.00	X34/0023-1
1/9-7T3	4630	4650	cut	contaminant	5.00	X34/0023-2
1/9-7T3	4630	4650	cut	shale/claystone	tr	X34/0023-3
1/9-7T3	4650	4670	cut	bulk fraction		X34/0024-0
1/9-7T3	4650	4670	cut	shale/claystone	70.00	X34/0024-1
1/9-7T3	4650	4670	cut	contaminant	tr	X34/0024-2
1/9-7T3	4650	4670	cut	shale/claystone	30.00	X34/0024-3
1/9-7T3	4650	4670	cut	carbonate	tr	X34/0024-4
1/9-7T3	4670	4680	cut	bulk fraction		X34/0025-0
1/9-7T3	4670	4680	cut	shale/claystone	70.00	X34/0025-1
1/9-7T3	4670	4680	cut	contaminant	tr	X34/0025-2
1/9-7T3	4670	4680	cut	shale/claystone	30.00	X34/0025-3
1/9-7T3	4670	4680	cut	carbonate	tr	X34/0025-4
1/9-7T3	4680	4690	cut	bulk fraction		X34/0026-0
1/9-7T3	4680	4690	cut	shale/claystone	95.00	X34/0026-1
1/9-7T3	4680	4690	cut	contaminant	tr	X34/0026-2
1/9-7T3	4680	4690	cut	shale/claystone	5.00	X34/0026-3
1/9-7T3	4680	4690	cut	carbonate	tr	X34/0026-4
1/9-7T3	4690	4710	cut	bulk fraction		X34/0027-0

Table 3a: Samples for NOCS 1/9-7 T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	Sample number
1/9-7T3	4690	4710	cut	shale/claystone	90.00	X34/0027-1
1/9-7T3	4690	4710	cut	contaminant	tr	X34/0027-2
1/9-7T3	4690	4710	cut	shale/claystone	10.00	X34/0027-3
1/9-7T3	4690	4710	cut	carbonate	tr	X34/0027-4
1/9-7T3	4710	4731	cut	bulk fraction		X34/0028-0
1/9-7T3	4710	4731	cut	shale/claystone	90.00	X34/0028-1
1/9-7T3	4710	4731	cut	contaminant	5.00	X34/0028-2
1/9-7T3	4710	4731	cut	shale/claystone	5.00	X34/0028-3
1/9-7T3	4710	4731	cut	carbonate	tr	X34/0028-4
1/9-7T3	4731	4750	cut	bulk fraction		X34/0029-0
1/9-7T3	4731	4750	cut	shale/claystone	75.00	X34/0029-1
1/9-7T3	4731	4750	cut	contaminant	20.00	X34/0029-2
1/9-7T3	4731	4750	cut	shale/claystone	5.00	X34/0029-3
1/9-7T3	4731	4750	cut	carbonate	tr	X34/0029-4
1/9-7T3	4750	4760	cut	bulk fraction		X34/0030-0
1/9-7T3	4750	4760	cut	shale/claystone	85.00	X34/0030-1
1/9-7T3	4750	4760	cut	contaminant	15.00	X34/0030-2
1/9-7T3	4750	4760	cut	shale/claystone	tr	X34/0030-3
1/9-7T3	4750	4760	cut	carbonate	tr	X34/0030-4
1/9-7T3	4760	4770	cut	bulk fraction		X34/0031-0
1/9-7T3	4760	4770	cut	shale/claystone	60.00	X34/0031-1
1/9-7T3	4760	4770	cut	contaminant	30.00	X34/0031-2
1/9-7T3	4760	4770	cut	shale/claystone	10.00	X34/0031-3
1/9-7T3	4760	4770	cut	carbonate	tr	X34/0031-4
1/9-7T3	4770	4790	cut	bulk fraction		X34/0032-0
1/9-7T3	4770	4790	cut	shale/claystone	60.00	X34/0032-1
1/9-7T3	4770	4790	cut	contaminant	30.00	X34/0032-2
1/9-7T3	4770	4790	cut	shale/claystone	10.00	X34/0032-3
1/9-7T3	4770	4790	cut	carbonate	tr	X34/0032-4
1/9-7T3	4790	4800	cut	bulk fraction		X34/0033-0
1/9-7T3	4790	4800	cut	shale/claystone	55.00	X34/0033-1
1/9-7T3	4790	4800	cut	contaminant	40.00	X34/0033-2
1/9-7T3	4790	4800	cut	shale/claystone	5.00	X34/0033-3

Table 3a: Samples for NOCS 1/9-7 T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	Sample number
1/9-7T3	4790	4800	cut	carbonate	tr	X34/0033-4
1/9-7T3	4800	4809	cut	bulk fraction		X34/0034-0
1/9-7T3	4800	4809	cut	shale/claystone	80.00	X34/0034-1
1/9-7T3	4800	4809	cut	contaminant	5.00	X34/0034-2
1/9-7T3	4800	4809	cut	shale/claystone	15.00	X34/0034-3
1/9-7T3	4800	4809	cut	carbonate	tr	X34/0034-4
1/9-7T3	4809	4830	cut	bulk fraction		X34/0035-0
1/9-7T3	4809	4830	cut	shale/claystone	50.00	X34/0035-1
1/9-7T3	4809	4830	cut	contaminant	30.00	X34/0035-2
1/9-7T3	4809	4830	cut	shale/claystone	20.00	X34/0035-3
1/9-7T3	4809	4830	cut	carbonate	tr	X34/0035-4
1/9-7T3	4830	4851	cut	bulk fraction		X34/0036-0
1/9-7T3	4851	4860	cut	bulk fraction		X34/0037-0
1/9-7T3	4860	4869	cut	bulk fraction		X34/0038-0
1/9-7T3	4869	4890	cut	bulk fraction		X34/0039-0
1/9-7T3	4890	4920	cut	bulk fraction		X34/0040-0
1/9-7T3	4920	4950	cut	bulk fraction		X34/0041-0
1/9-7T3	4950	4980	cut	bulk fraction		X34/0042-0

Table 3b Brief Lithology Description for NOCS Well 1/9-7 T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	carbonate	contaminant	carbonaceous shale	medium grey shale
1/9-1	3074.6	3074.6	100			
1/9-1	3187.0	3187.0	100			
1/9-7T3	3107.0	3107.0	100			
1/9-7T3	3127.3	3127.3	100			
1/9-7T3	4310	4310			100	
1/9-7T3	4310	4328			100	
1/9-7T3	4328	4350		40	60	
1/9-7T3	4350	4370		20	80	
1/9-7T3	4370	4389		20	80	
1/9-7T3	4389	4410		30	60	10
1/9-7T3	4410	4430		5	90	5
1/9-7T3	4430	4449		0	100	
1/9-7T3	4449	4470	0	20	80	
1/9-7T3	4470	4488	0	10	90	
1/9-7T3	4488	4509		0	100	
1/9-7T3	4509	4530		15	85	
1/9-7T3	4530	4551		5	95	
1/9-7T3	4551	4571		15	85	
1/9-7T3	4572	4590		15	85	
1/9-7T3	4590	4605		5	95	
1/9-7T3	4605	4610		5	95	
1/9-7T3	4610	4630		5	85	10
1/9-7T3	4630	4650		5	95	
1/9-7T3	4650	4670	0	0	70	30
1/9-7T3	4680	4690	0	0	95	5
1/9-7T3	4690	4710	0	0	90	10
1/9-7T3	4710	4731	0	5	90	5
1/9-7T3	4731	4750	0	20	75	5
1/9-7T3	4750	4760	0	15	85	
1/9-7T3	4760	4770	0	30	60	10
1/9-7T3	4770	4790	0	30	60	10

Table 3b Brief Lithology Description for NOCS Well 1/9-7 T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	carbonate	contaminant	carbonaceous shale	medium grey shale
1/9-7T3	4790	4800	0	40	55	5
1/9-7T3	4800	4809	0	5	80	15
1/9-7T3	4809	4830	0	30	50	20

Table 4 Rock-Eval and TOC Analysis Data for NOCS 1/9-7 T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lith.	S1	S2	S3	TOC	Tmax	S2/S3	HI	OI	PP	PI	Sample number
NOCS 1/9-7T3	4310	4310	cut	bulk fraction		0.56	10.24	0.80	5.12	446	12.8	200	16	10.8	0.05	X34/0005-0
NOCS 1/9-7T3	4310	4328	cut	bulk fraction		0.42	9.12	0.54	6.63	442	16.9	138	8	9.5	0.04	X34/0006-0
NOCS 1/9-7T3	4328	4350	cut	bulk fraction		0.44	9.76	1.60	5.63	445	6.1	173	28	10.2	0.04	X34/0007-0
NOCS 1/9-7T3	4350	4370	cut	bulk fraction		0.45	9.56	1.03	4.46	442	9.3	214	23	10.0	0.04	X34/0008-0
NOCS 1/9-7T3	4370	4389	cut	bulk fraction		0.44	7.38	0.72	5.52	438	10.3	134	13	7.8	0.06	X34/0009-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		0.56	3.93	1.2	3.13	435	3.3	126	38	4.5	0.12	X34/0010-0
NOCS 1/9-7T3	4410	4430	cut	bulk fraction		0.62	6.31	1.35	6.19	455	4.7	102	22	6.9	0.09	X34/0011-0
NOCS 1/9-7T3	4430	4449	cut	bulk fraction		0.32	3.14	0.94	3.28	444	3.3	96	29	3.5	0.09	X34/0012-0
NOCS 1/9-7T3	4449	4470	cut	bulk fraction		0.51	3.43	1.11	3.05	440	3.1	112	36	3.9	0.13	X34/0013-0
NOCS 1/9-7T3	4470	4488	cut	bulk fraction		0.54	13.92	0.69	12.28	463	20.2	113	6	14.5	0.04	X34/0014-0
NOCS 1/9-7T3	4488	4509	cut	bulk fraction		0.28	3.38	1.15	3.12	442	2.9	108	37	3.7	0.08	X34/0015-0
NOCS 1/9-7T3	4509	4530	cut	bulk fraction		0.33	3.8	1.47	2.73	439	2.6	139	54	4.1	0.08	X34/0016-0
NOCS 1/9-7T3	4530	4551	cut	bulk fraction		0.34	8.46	1.18	5.66	449	7.2	149	21	8.8	0.04	X34/0017-0
NOCS 1/9-7T3	4551	4571	cut	bulk fraction		0.42	7.23	0.91	5.35	447	8.0	135	17	7.7	0.05	X34/0018-0
NOCS 1/9-7T3	4572	4590	cut	bulk fraction		0.41	4.25	1.45	3.72	443	2.9	114	39	4.7	0.09	X34/0019-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		0.45	7.57	0.82	7.41	453	9.2	102	11	8	0.06	X34/0020-0
NOCS 1/9-7T3	4610	4630	cut	bulk fraction		0.28	8	1.13	6.27	453	7.1	128	18	8.3	0.03	X34/0022-0
NOCS 1/9-7T3	4630	4650	cut	bulk fraction		0.31	7.24	0.95	5.45	449	7.6	133	17	7.5	0.04	X34/0023-0
NOCS 1/9-7T3	4650	4670	cut	bulk fraction		0.26	7.61	0.94	6.75	455	8.1	113	14	7.9	0.03	X34/0024-0
NOCS 1/9-7T3	4680	4690	cut	bulk fraction		0.22	6.64	1.23	4.43	446	5.4	150	28	6.9	0.03	X34/0026-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		0.27	7.6	1.34	7.27	459	5.7	105	18	7.9	0.03	X34/0027-0
NOCS 1/9-7T3	4710	4731	cut	bulk fraction		0.31	7.15	1.09	4.89	446	6.6	146	22	7.5	0.04	X34/0028-0
NOCS 1/9-7T3	4731	4750	cut	bulk fraction		0.36	7.61	1.3	5.58	448	5.9	136	23	8	0.05	X34/0029-0
NOCS 1/9-7T3	4750	4760	cut	bulk fraction		0.32	8.12	1.23	7.81	456	6.6	104	16	8.4	0.04	X34/0030-0
NOCS 1/9-7T3	4760	4770	cut	bulk fraction		0.44	7.98	1.07	7.52	457	7.5	106	14	8.4	0.05	X34/0031-0
NOCS 1/9-7T3	4770	4790	cut	bulk fraction		0.38	7.78	1.17	6.36	448	6.7	122	18	8.2	0.05	X34/0032-0
NOCS 1/9-7T3	4790	4800	cut	bulk fraction		0.48	7.43	1.5	5.72	445	5.0	130	26	7.9	0.06	X34/0033-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		0.3	6.78	0.63	7.33	450	10.8	92	9	7.1	0.04	X34/0034-0
NOCS 1/9-7T3	4809	4830	cut	bulk fraction		0.3	6.17	1.61	5.69	443	3.8	108	28	6.5	0.05	X34/0035-0

Table 5a Raw vitrinite reflectance data for NOCS 1/9-7T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	%Ro	Sample number
NOCS 1/9-7T3	4310	4310	cut	bulk fraction		0.72	X34/0005-0
NOCS 1/9-7T3	4310	4310	cut	bulk fraction		0.59	X34/0005-0
NOCS 1/9-7T3	4310	4310	cut	bulk fraction		0.7	X34/0005-0
NOCS 1/9-7T3	4310	4310	cut	bulk fraction		0.76	X34/0005-0
NOCS 1/9-7T3	4310	4310	cut	bulk fraction		0.83	X34/0005-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		0.69	X34/0010-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		0.79	X34/0010-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		0.8	X34/0010-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		0.66	X34/0010-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		0.9	X34/0010-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		0.87	X34/0010-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		0.66	X34/0010-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		0.79	X34/0010-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		1.23	X34/0010-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		1.54	X34/0010-0
NOCS 1/9-7T3	4488	4509	cut	bulk fraction		1.09	X34/0015-0
NOCS 1/9-7T3	4488	4509	cut	bulk fraction		1.27	X34/0015-0
NOCS 1/9-7T3	4488	4509	cut	bulk fraction		1.02	X34/0015-0
NOCS 1/9-7T3	4488	4509	cut	bulk fraction		1.07	X34/0015-0
NOCS 1/9-7T3	4488	4509	cut	bulk fraction		1.01	X34/0015-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		0.94	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1.01	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1.24	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1.15	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		0.97	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1.06	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1.02	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		0.82	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		0.96	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1.03	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1.26	X34/0020-0

Table 5a Raw vitrinite reflectance data for NOCS 1/9-7T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	%Ro	Sample number
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		0.92	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		0.87	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		0.99	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		0.97	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1.24	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		0.93	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1.06	X34/0020-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1.09	X34/0020-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.48	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		0.96	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.24	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.26	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.04	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.04	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		0.72	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		0.92	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.09	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.15	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.25	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.12	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.21	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		0.98	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		0.93	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.05	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.2	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1	X34/0027-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.19	X34/0027-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.21	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.46	X34/0034-0

Table 5a Raw vitrinite reflectance data for NOCS 1/9-7T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	%Ro	Sample number
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.37	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.6	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.18	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		0.95	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.48	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.26	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.76	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		0.73	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		0.91	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		0.97	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.62	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.19	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		0.79	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		0.94	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.12	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.28	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.07	X34/0034-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1	X34/0034-0
NOCS 1/9-7T3	4869	4890	cut	bulk fraction		1.05	X34/0039-0
NOCS 1/9-7T3	4869	4890	cut	bulk fraction		0.96	X34/0039-0
NOCS 1/9-7T3	4869	4890	cut	bulk fraction		1.29	X34/0039-0

Table 5b Vitrinite reflectance data for NOCS 1/9-7T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	%Ro	No. readings	Std.dev.	Fluor.	Sample number
NOCS 1/9-7T3	4310	4310	cut	bulk fraction		0.72	5	0.09	6	X34/0005-0
NOCS 1/9-7T3	4389	4410	cut	bulk fraction		0.89	10	0.28		X34/0010-0
NOCS 1/9-7T3	4488	4509	cut	bulk fraction		1.09	5	0.1		X34/0015-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction		1.03	20	0.12	7	X34/0020-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction		1.09	20	0.16		X34/0027-0
NOCS 1/9-7T3	4800	4809	cut	bulk fraction		1.19	20	0.29		X34/0034-0
NOCS 1/9-7T3	4869	4890	cut	bulk fraction		1.1	3	0.17		X34/0039-0

Table 5c Vitrinite Reflectance Maturity Comments for NOCS 1/9-7 T3

ConocoPhillips

Depth (m)	Lower Depth (m)	Vitrinite Reflectance			UV Fluorescence			Comments
		R.o.Ave.	No.	Conf.	Form	Content	Colour	
4310	4310	0.72	5	E	Spores	Trace	L-MO	Shale, pyritic. Phytoclasts as specks
4389	4410	0.77	8	E	-	-	-	Shale. Phytoclasts as specks
		1.39	2					
4488	4509	1.09	5	E	-	-	-	Shale. Iron oxide specks. Phytoclasts as specks
4590	4605	1.03	20	E	Spores?	Trace	DO	Shale
							(v.faint)	
4690	4710	1.09	20	D	Algae	Trace	MO	Shale
							(faint)	
4800	4809	1.19	20	D	Carbonate	Low	MO	Shale. Phytoclasts as specks
4869	4890	1.1	3	E	-	-	-	Shale. Phytoclasts as specks

Table 5d Vitrinite Reflectance Petrography Comments for NOCS 1/9-7 T3

ConocoPhillips

Upper Depth (m)	Lower Depth (m)	Amorphinite	Bitumen	Phytoclasts							Comments
				Content	Composition (%)				Vitr.	Inert./Reworked	
					Algae	Spores	Cuticle	Resin			
4310	4310	V.Rich	-	Vrt.Barren	-	Trace	-	-	Trace	Trace	-
4389	4410	Very Rich	-	Vrt.Barren	-	-	-	-	Trace	Trace	-
4488	4509	Very Rich	-	Vrt.Barren	-	-	-	-	Trace	-	-
4590	4605	Very Rich	-	Trace	-	Trace?	-	-	Tr. (Phyt.)	-	-
4690	4710	Rich	-	Trace	Trace	-	-	-	80	20	-
4800	4809	Rich	-	Trace	-	-	-	-	Tr. (Phyt.)	-	MO fluorescence from carbonate
4869	4890	Rich	-	Vrt.Barren	-	-	-	-	Tr.(Phyt.)	-	-

Table 6 Visual Kerogen Composition for NOCS 1/9-7 T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lithology	AM %	AP %	HE %	WO %	CO %	SCI	Sample number
NOCS 1/9-7T3	4310	4310	cut	bulk fraction	bulk fraction	60	5	5	10	20	NDP/7.0(??)	X34/0005-0
NOCS 1/9-7T3	4328	4350	cut	bulk fraction	bulk fraction	40	10	TR	10	40	NDP/(5.5-6.0??)	X34/0007-0
NOCS 1/9-7T3	4370	4389	cut	bulk fraction	bulk fraction	55	TR	5	5	35	NDP	X34/0009-0
NOCS 1/9-7T3	4430	4449	cut	bulk fraction	bulk fraction	65	TR	5	10	20	NDP/6.0-6.5(??)	X34/0012-0
NOCS 1/9-7T3	4488	4509	cut	bulk fraction	bulk fraction	80	TR	TR	10	10	NDP	X34/0015-0
NOCS 1/9-7T3	4530	4551	cut	bulk fraction	bulk fraction	85	TR	TR	5	10	NDP/7.0-7.5(??)	X34/0017-0
NOCS 1/9-7T3	4590	4605	cut	bulk fraction	bulk fraction	80	TR	5	5	10	NDP/6.5-7.0(??)	X34/0020-0
NOCS 1/9-7T3	4630	4650	cut	bulk fraction	bulk fraction	90	TR	TR	TR	10	NDP	X34/0023-0
NOCS 1/9-7T3	4690	4710	cut	bulk fraction	bulk fraction	75	5	TR	10	10	7.0(??)	X34/0027-0
NOCS 1/9-7T3	4760	4770	cut	bulk fraction	bulk fraction	70	TR	TR	10	20	NDP/5.0-5.5(??)	X34/0031-0
NOCS 1/9-7T3	4830	4851	cut	bulk fraction	bulk fraction	70	TR	TR	5	25	NDP/7.5-8.0(??)	X34/0036-0

Table 7a Extraction and Fractionation (MPLC) Data (weights) for NOCS 1/9-7 T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Sample Description	%Lith.	whole oil (mg)	Topped Oil	Sat (mg)	Aro (mg)	NSO (mg)	Asph (mg)	%TOC (e)	HC (mg)	Non-HC (mg)	Sample number
						for topping /	or EOM								
1/9-7T3	3112	3112	oil	oil		62.95	50.1	43.0	5.5	1.3	0.2		48.6	1.5	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	5.61	20.6	13.4	2.4	4.5	0.4	0.4	15.8	4.8	X36/0001-1

Table 7b Fractionation Data from MPLC (fractions as a percentage of topped oil) for NOCS 1/9-7 T3

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lith.	Aro/ Asph/ NSO/ HC/ Non-HC/ Sat/ HC/							Sample number	
						Sat/ EOM	EOM	EOM	EOM	EOM	EOM	Aro		Non-HC
1/9-7T3	3112	3112	oil	oil		85.92	11	0.4	2.66	96.9	3.06	7.79	31.68	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	64.86	11.8	1.72	21.62	76.7	23.34	5.5	3.28	X36/0001-1

Table 8a Saturated Hydrocarbon GC data (Peak Areas) for NOCS 1/9-7 T3 oil
and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lith.	nC15	nC16	Nor pristane	nC17	Pristane	nC18	Phytane	nC19
1/9-7T3	3112	3112	oil	oil		4601990	4237573	1623823	3658087	1846377	2845110	1010214	2251959
1/9-1	3074.6	3074.6	ccp	carbonate	100	991954	1675945	918008	2190738	1303247	2269803	986044	2272045

Table 8a Saturated Hydrocarbon GC data (Peak Areas) for NOCS 1/9-7 T3 oil
and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	nC20	nC21	nC22	nC23	nC24	nC25	nC26	nC27	nC28	nC29	nC30
1/9-7T3	3112	3112	oil	oil	1891425	1431239	1117365	921116	823389	789723	579829	487362	389601	299424	246702
1/9-1	3074.6	3074.6	ccp	carbonate	2245022	1903301	1611283	1E+06	1E+06	1E+06	965898	873352	676562	512344	404447

Table 8a Saturated Hydrocarbon GC data (Peak Areas) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	nC31	nC32	nC33	nC34	Sample number
1/9-7T3	3112	3112	oil	oil	194027	152666	153291	145689	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	351095	266579	287245	269760	X36/0001-1

Table 8b Saturated Hydrocarbon GC data (Peak Heights) for NOCS 1/9-7 T3 oil
and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lith.	nC15	nC16	Nor pristane	nC17	Pristane	nC18	Phytane	nC19	nC20
1/9-7T3	3112	3112	oil	oil		763637	698364	206976	633510	217534	552078	149597	470392	392499
1/9-1	3074.6	3074.6	ccp	carbonate	100	226139	351562	127438	432488	190602	448603	147236	467933	429667

Table 8b Saturated Hydrocarbon GC data (Peak Heights) for NOCS 1/9-7 T3 oil
and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	nC21	nC22	nC23	nC24	nC25	nC26	nC27	nC28	nC29
1/9-7T3	3112	3112	oil	oil	320469	282414	235992	207651	177272	139972	118062	93438	74690
1/9-1	3074.6	3074.6	ccp	carbonate	408611	356241	328063	286738	272628	237261	192082	153702	127517

Table 8b Saturated Hydrocarbon GC data (Peak Heights) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	nC30	nC31	nC32	nC33	nC34	Sample number
1/9-7T3	3112	3112	oil	oil	59482	46305	37112	25145	19226	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	101687	90048	72513	57901	46483	X36/0001-1

Table 8c Saturated Hydrocarbon GC data (Ratios from peak areas) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lith.	Prist./nC17	Prist./Phyt.	(Prist./nC17)/(Phyt./nC18)	CPI 1	Phytane/nC18	nC17/(nC17+nC27)	(Pristane+Phytane)/(nC17+nC18)	Sample number
1/9-7T3	3112	3112	oil	oil		0.50	1.83	1.42	1.08	0.36	0.88	0.44	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	0.59	1.32	1.37	1.09	0.43	0.71	0.51	X36/0001-1

Table 8d Saturated Hydrocarbon GC data (Ratios from peak heights) for NOCS 1/9-7 T3 oil
and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lith.	Prist./nC17	Prist./Phyt.	(Prist./nC17)/(Phyt./nC18)	CPI 1	Phytane/nC18	nC17/(nC17+nC27)	(Pristane+Phytane)/(nC17+nC18)	Sample number
1/9-7T3	3112	3112	oil	oil		0.34	1.45	1.27	1.05	0.27	0.84	0.31	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	0.44	1.29	1.34	1.04	0.33	0.69	0.38	X36/0001-1

Table 9a Aromatic Hydrocarbon GC data (Peak Areas) for NOCS 1/9-7 T3 oil
and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lith.	2MN	1MN	BPh	2EN	1EN	2.6+2.7 DMN	1.6DMN	1.5DMN
1/9-7T3	3112	3112	oil	oil		1839641	1062255	323172	264630	221847	1535180	1180366	255048
1/9-1	3074.6	3074.6	ccp	carbonate	100	20521	14867	19475	18232	8987	56993	54625	14799

Table 9a Aromatic Hydrocarbon GC data (Peak Areas) for NOCS 1/9-7 T3 oil
and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	1.4.6+2.3.6										
					1.3.7TMN	1.3.6TMN	1.3.5TMN	TMN	P	3MP	2MP	9MP	1MP	DBT	4MDBT
1/9-7T3	3112	3112	oil	oil	549812	717552	554744	572079	310829	183556	246002	192226	219473	0	0
1/9-1	3074.6	3074.6	ccp	carbonate	41755	61771	63547	86153	156799	179372	226661	237111	196696	0	0

Table 9a Aromatic Hydrocarbon GC data (Peak Areas) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	2+3 MDBT	1MDBT	Sample number
1/9-7T3	3112	3112	oil	oil	0	0	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	0	0	X36/0001-1

Table 9b Aromatic Hydrocarbon GC data (Peak Heights) for NOCS 1/9-7 T3 oil
and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lith.	2MN	1MN	BPh	2EN	1EN	2.6+2.7 DMN	1.6DMN	1.5DMN	1.3.7TMN	1.3.6TMN
1/9-7T3	3112	3112	oil	oil		367083	260449	77287	61071	24536	265005	261133	65108	121630	173694
1/9-1	3074.6	3074.6	ccp	carbonate	100	4034	3346	5159	3377	1538	10637	10405	3432	8959	15104

Table 9b Aromatic Hydrocarbon GC data (Peak Heights) for NOCS 1/9-7 T3 oil
and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	1.4.6+2.3.6								2+3		Sample number	
					1.3.5TMN	TMN	P	3MP	2MP	9MP	1MP	DBT	4MDBT	MDBT		1MDBT
1/9-7T3	3112	3112	oil	oil	130039	142064	60146	39959	42941	44185	41334	0	0	0	0	X34/0002-
1/9-1	3074.6	3074.6	ccp	carbonate	15466	18481	24695	37309	41464	52698	45854	0	0	0	0	X36/0001-

Table 9c Aromatic Hydrocarbon GC data (Ratios from peak areas) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lith.	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	Rc	DBT/Ph	4/1MDBT	(3+2)/1MDBT	F1	F2	Sample number
1/9-7T3	3112	3112	oil	oil		1.73	6.02	0.27	1.12	0.89	1.02	0.94	0	0	0	0.51	0.29	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	1.38	3.85	0.36	1.15	1.03	1.15	1.02	0.00	0.00	0.00	0.48	0.27	X36/0001-1

Table 9d Aromatic Hydrocarbon GC data (Ratios from peak heights) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lith.	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	Rc	DBT/ Ph	4/1 MDBT	(3+2)/ 1MDBT	F1	F2	Sample number
1/9-7T3	3112	3112	oil	oil		1.41	4.07	0.30	1.04	0.85	0.88	0.91	0.00	0.00	0.00	0.49	0.25	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	1.21	3.10	0.50	0.90	0.96	1.01	0.98	0.00	0.00	0.00	0.44	0.23	X36/0001-1

Table 10a Triterpane data from m/z 191 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)

ConocoPhillips

Triterpane Peak Heights for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	Upper depth (m)	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)	29ab (C)	29Ts (C1)	30d (X)
1/9-7T3	3112	3112	oil	oil		2429	1819	651	1041	716	3853	1698	478	887	5941	2911	1823
1/9-1	3074.6	3074.6	ccp	carbonate	100	10568	8025	3195	6044	2483	32181	9530	3582	5975	38768	26661.8	14477

Table 10a Triterpane data from m/z 191 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)

ConocoPhillips

Triterpane Peak Heights for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	29ba (D)	30ab (E)	30ba (F)	30G	31abS (G)	31abR (H)	31ba (I)	32abS (J1)	32abR (J2)	33abS (K1)	33abR (K2)	34abS (L1)	34abR (L2)	35abS (M1)	35abR (M2)	Sample number
1/9-7T3	546	10955	1674	1182	3605	2583	427	2460	1485	1924	1081	883	554	455	363	X34/0002-0
1/9-1	3606.8	86616	8507.1	4048	37261	25416	4125.5	27652	16491	19793	11196	10265	5684.1	5791.1	3703.3	X36/0001-1

Table 10b Triterpane data from m/z 177 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)

ConocoPhillips

Triterpane Peak Heights for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lith.	25nor28ab	25nor30ab	Sample number
1/9-7T3	3112	3112	oil	oil		0	612.8	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	1229	3222	X36/0001-1

Table 10c Sterane data from m/z 217 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)

ConocoPhillips

Sterane peak heights for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lith.	21a (u)	22a (v)	27dbS (a)	27dbR (b)	27daR (c)	27daS (d)	28dbS (e)	28dbR (f)
1/9-7T3	3112	3112	oil	oil		5167.4	1773.7	6261	4094	1909.5	1433.4	2606.1	1525.3
1/9-1	3074.6	3074.6	ccp	carbonate	100	24181	10217	34574	21897	10151	8729	15373	8347

Table 10c Sterane data from m/z 217 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)

ConocoPhillips

Sterane peak heights for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well	28daR	29dbS	28daS	27aaR	29dbR	29daR	28aaS	29daS	28bbS	28aaR
name	+27aaS (g)	+27bbR (h)	+27bbS (i)	(j)	(k)	(l)	(m)	+28bbR (n)	(o)	(p)
1/9-7T3	1053.6	4255	1844.6	1423.5	2283.7	826.8	672.9	1400.2	1684.4	714.9
1/9-1	8255	28471	14807.5	10800.4	14573.3	5204.6	5233.3	11740.6	13584.8	4702.9

Table 10c Sterane data from m/z 217 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)

ConocoPhillips

Sterane peak heights for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well	29aaS	29bbR	29bbS	29aaR	Sample
name	(q)	(r)	(s)	(t)	number
1/9-7T3	1161.6	1687	1423.2	1420.7	X34/0002-0
1/9-1	10440.2	14480.3	12919	10090.9	X36/0001-1

Table 10d Sterane data from m/z 218 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)

ConocoPhillips

Sterane peak heights for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	Upper depth (m)	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
1/9-7T3	3112	3112	oil	oil		3351.9	2198.4	1963	2048	2271	2261.9	610.2	560.1	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	29012	20222	17172	17943	20939	20631	6128	5287	X36/0001-1

Table 10e Triterpane data from m/z 191 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)
 Ratios from peak heights for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	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	Sample number
1/9-7T3	3112	3112	oil	oil		0.44	0.31	0	1	0.35	0.17	0.04	0.08	0.04	0	0.87	0.34	0.13	62.4	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	0	0	0	0	0	0	0	0	0	0	0.91	0.31	0.10	62.64	X36/0001-1

Table 10f Sterane data from m/z 217 fragmentograms (Saturated Hydrocarbon Fraction GC-MS SIR analysis)

ConocoPhillips

Ratios from peak heights for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	Upper depth (m)	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
1/9-7T3	3112	3112	oil	oil		0.81	44.98	71	2	0.73	0.55	0.42	0.55	0.82	2	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	1	51	73	1	1	0	0	1	1	3	X36/0001-1

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 11a: C1 and C2 Naphthalenes Peak Height data from m/z 142/156 fragmentograms

ConocoPhillips

Aromatic Hydrocarbon Fraction GC-MS SIR analysis) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lith.	2MN	1MN	2EN	1EN	2.6+2.7-DMN	1.3+1.7-DMN	1.6-DMN	2.3+1.4-DMN	1.5-DMN	1.2-DMN	Sample number
1/9-7T3	3112	3112	oil	oil		7792389	5867260	629554	140711	5406910	5438099	4458924	1966321	1331227	544102	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	19971	15742	4710	1885	34988	61847	33949	18396	11188	6367	X36/0001-1

Table 11b: C3 Naphthalenes Peak Height data from m/z 170 fragmentograms

ConocoPhillips

(Aromatic Hydrocarbon Fraction GC-MS SIR analysis) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lith.	1.3.7-TMN	1.3.6-TMN	1.3.5+1.4.6 TMN	2.3.6-TMN	1.6.7+1.2.7 TMN	1.2.6-TMN	1.2.4-TMN	1.2.5-TMN	Sample number
1/9-7T3	3112	3112	oil	oil		2443780	3408296	2532243	2875585	1669125	657228	153375.2	417083.9	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	36550	58333	56607	44601	40242	18932	5401	22933	X36/0001-1

Table 11c Phenanthrene and methyl phenanthrene Peak Height data from m/z 178/192 fragmentograms
 (Aromatic Hydrocarbon Fraction GC-MS SIR analysis) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lith. P	3MP	2MP	9MP	1MP	Sample number	
1/9-7T3	3112	3112	oil	oil		3740697	2503259	2995071	3358288	2663243	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	614071	951682	1242548	1869033	1435748	X36/0001-1

Table 11d: Dibenzothiophene and Methyl Dibenzothiophene Peak Height data from m/z 184/198 fragmentograms (Aromatic Hydrocarbon Fraction GC-MS SIR analysis) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lith.	DBT	4 MDBT	2+3 MDBT	1 MDBT	Sample number
1/9-7T3	3112	3112	oil	oil		144939.9	459166.9	83250	51327	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	14620	108447	15622	18921	X36/0001-1

Table 11e Triaromatic Sterane Peak Height data from m/z 231 fragmentograms
 (Aromatic Hydrocarbon Fraction GC-MS SIR analysis) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lith.	a1	b1	c1	d1	e1	f1	g1	Sample number
1/9-7T3	3112	3112	oil	oil		103848.6	75511.8	18242	46710	26429.4	19722.2	21164.4	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	60797	49468	11425	33121	19102	16819	17468	X36/0001-1

Table 11f Monoaromatic Sterane Peak Height data from m/z 253 fragmentograms
 (Aromatic Hydrocarbon Fraction GC-MS SIR analysis) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lith.	A1	B1	C1	D1	E1	F1	G1	H1	I1	Sample number
1/9-7T3	3112	3112	oil	oil		26408.5	15696.4	17544	12542	24953.2	8467.8	18520.1	12837.2	5008.7	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	7265	5261	5104	4289	7450	2337	6907	4384	1106	X36/0001-1

Table 11g Triaromatic Sterane Ratio data from peak heights in m/z 231 fragmentograms
 (Aromatic Hydrocarbon Fraction GC-MS SIR analysis) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

ConocoPhillips

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lith.	$a1/(a1+g1)$	$b1/(b1+g1)$	$(a1+b1)/$ $(a1+b1+c1+d1$	$a1/$ $(a1+e1+f1+g1)$	$a1/(a1+d1)$	Sample number
1/9-7T3	3112	3112	oil	oil		0.83	0.78	1	1	0.69	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	1	1	1	1	1	X36/0001-1

Table 11h Monoaromatic Sterane Ratios from peak heights in m/z 253 fragmentograms
(Aromatic Hydrocarbon Fraction GC-MS SIR analysis) for NOCS 1/9-7 T3 oil and NOCS 1/9-1 chalk 3074.6 m

Well name	Upper depth (m)	Lower depth (m)	Sample type	Description	%Lith.	A1/ (A1+E1)	B1/ (B1+E1)	A1/ (A1+E1+G1)	(A1+B1)/ (A1+B1+C1+D1+E1 +F1+G1+H1+I1)	Sample number
1/9-7T3	3112	3112	oil	oil		0.51	0.39	0	0	X34/0002-0
1/9-1	3074.6	3074.6	ccp	carbonate	100	0	0	0	0	X36/0001-1

Table 12a Gas Composition and Gas isotope Composition Data for NOCS 1/9-7 T3 oil

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Table 12a. Gas composition and Gas isotope Composition

Depth (m)	Sample type	%C1	%C2	%C3	%iC4	%nC4	iC5	nC5	%C5+
1/9-7T3 3112	gas	85.47	8.44	3.11	0.59	1.14	0.41	0.40	1.3

Depth (m)	Sample type	$\delta^{13}\text{C C1}$	$\delta^{13}\text{C C2}$	$\delta^{13}\text{C C3}$	$\delta^{13}\text{C iC4}$	$\delta^{13}\text{C nC4}$	$\delta^{13}\text{C iC5}$	$\delta^{13}\text{C nC5}$
1/9-7T3 3112	gas	-38.5	-28.6	-27.5	-29.4	-28.4	-28.61	-28.62

Table 12b Gasoline range %C4-C9 data from Whole oil gas chromatography of NOCS 1/9-7 T3 Oil

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Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	iC4	nC4	iC5	nC5	2,2DMC4	2,3DMC4	2MC5	3MC5	nC6	MCyC5	Benz	CyC6
1/9-7T3	3112	3112	oil	oil	0	0	0	0	0	0.25	0	0	5.54	1.59	1	2.44

Table 12b Gasoline range %C4-C9 data from Whole oil gas chromatography of NOCS 1/9-7 T3 Oil

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Well name	Upper depth (m)	Lower depth (m)	Sample type	Sample Desc	1,3ci		1,3tr	1,2tr	nC7	MCyC6	Tol	nC8	p/m-Xyl	Sample number	
					2MC6	3MC6	DMCyC5	DMCyC5							DMCyC5
1/9-7T3	3112	3112	oil	oil	2.87	2.14	0.35	0.32	0.67	6.57	4.96	4.87	6.52	5.82	X34/0002-0

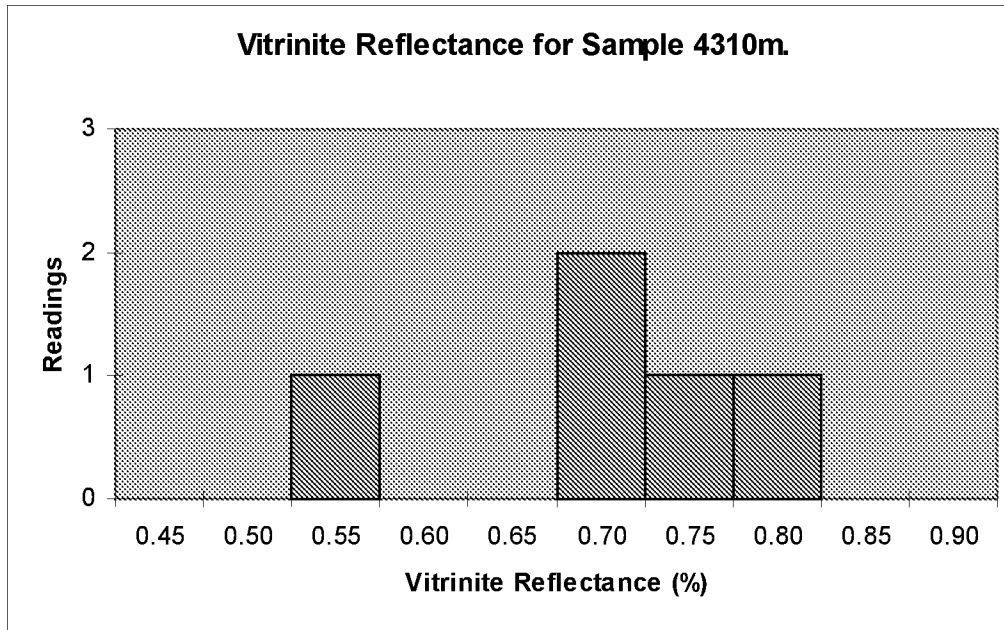
Table 12b Gasoline range %C4-C9 data from Whole oil gas chromatography of NOCS 1/9-7 T3 Oil

ConocoPhillips

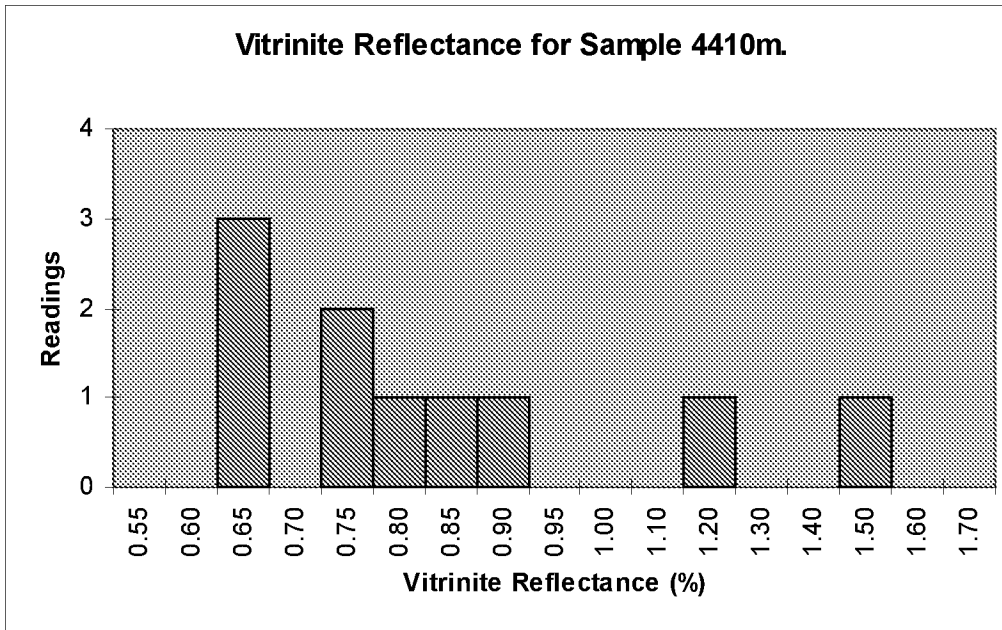
Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	Thompson Ratios	A	B	X	W	C	I	F	H	U	R	S
						1/9-7T3	3112	3112	oil	oil		0.17	0.74	0.89	3.77	1.64
						Peaks in ratio										
					A	Benzene/nC6										
					B	Toluene/nC7										
					X	m,p-Xylene/nC8										
					W	Benzene*10/CyC6										
					C	(nC6+nC7)/(CyC6+ MCyC6)										
					I	(2MC6+3MC6)/(13ciDMCyC5+13trDMCyC5+12trDMCyC5)										
					F	nC7/MCyC6										
					H	nC7*100/sum CyC6 to MCyC6										
					U	CyC6/MCyC5										
					R	nC7/2MC6										
					S	nC6/22DMC4										

APPENDIX 2

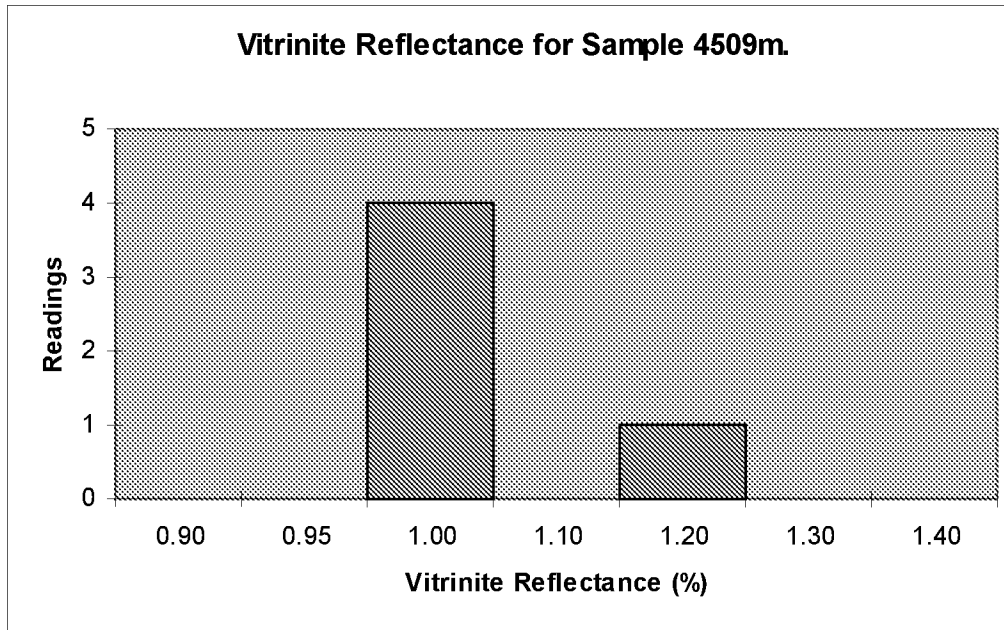
Vitrinite Reflectance for Sample 4310m.



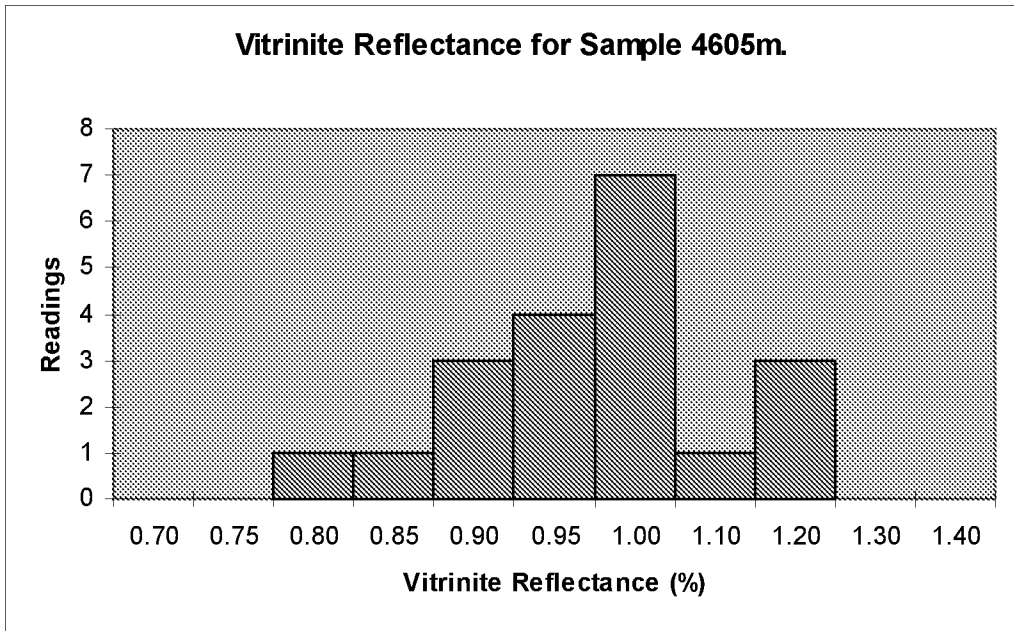
Vitrinite Reflectance for Sample 4410m.



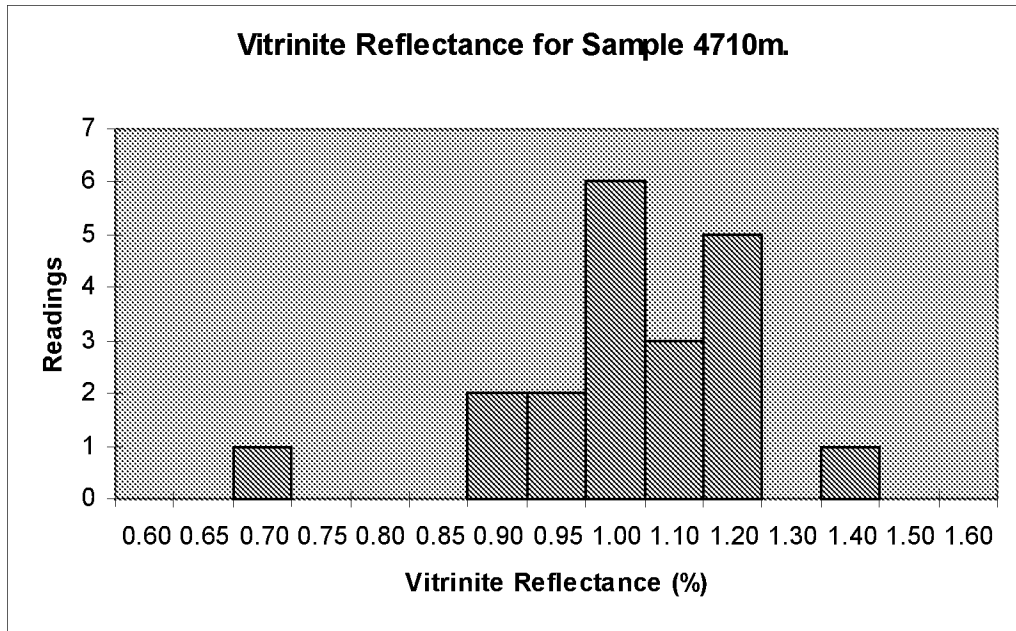
Vitrinite Reflectance for Sample 4509m.



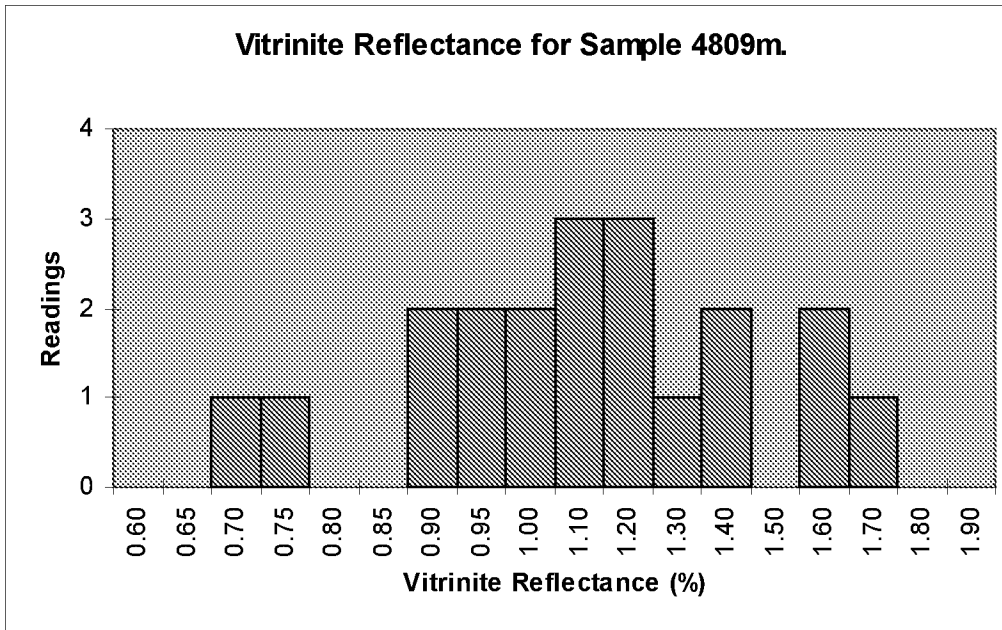
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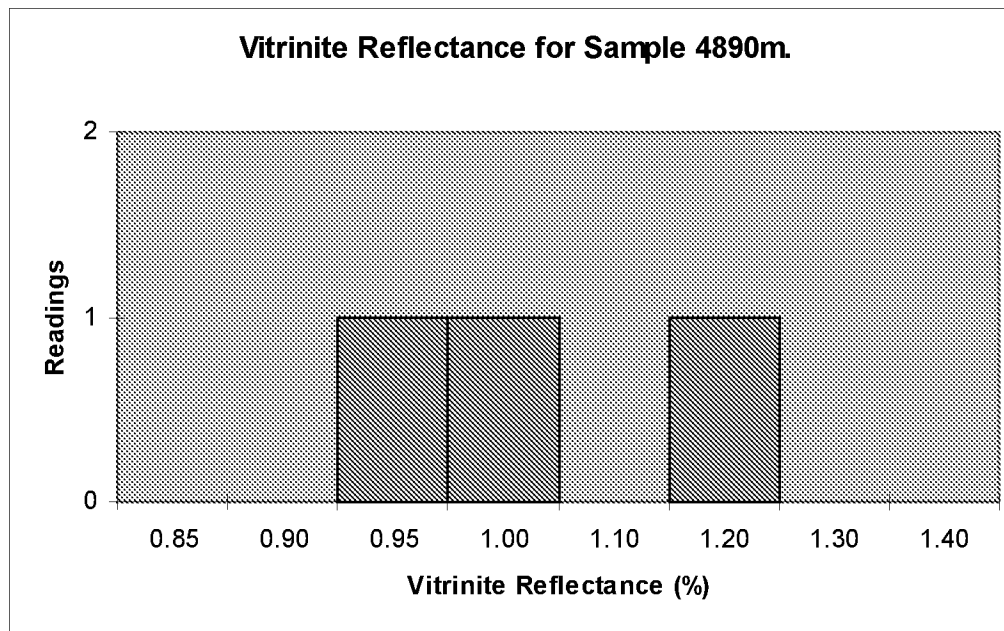


Vitrinite Reflectance for Sample 4710m.



Vitrinite Reflectance for Sample 4809m.

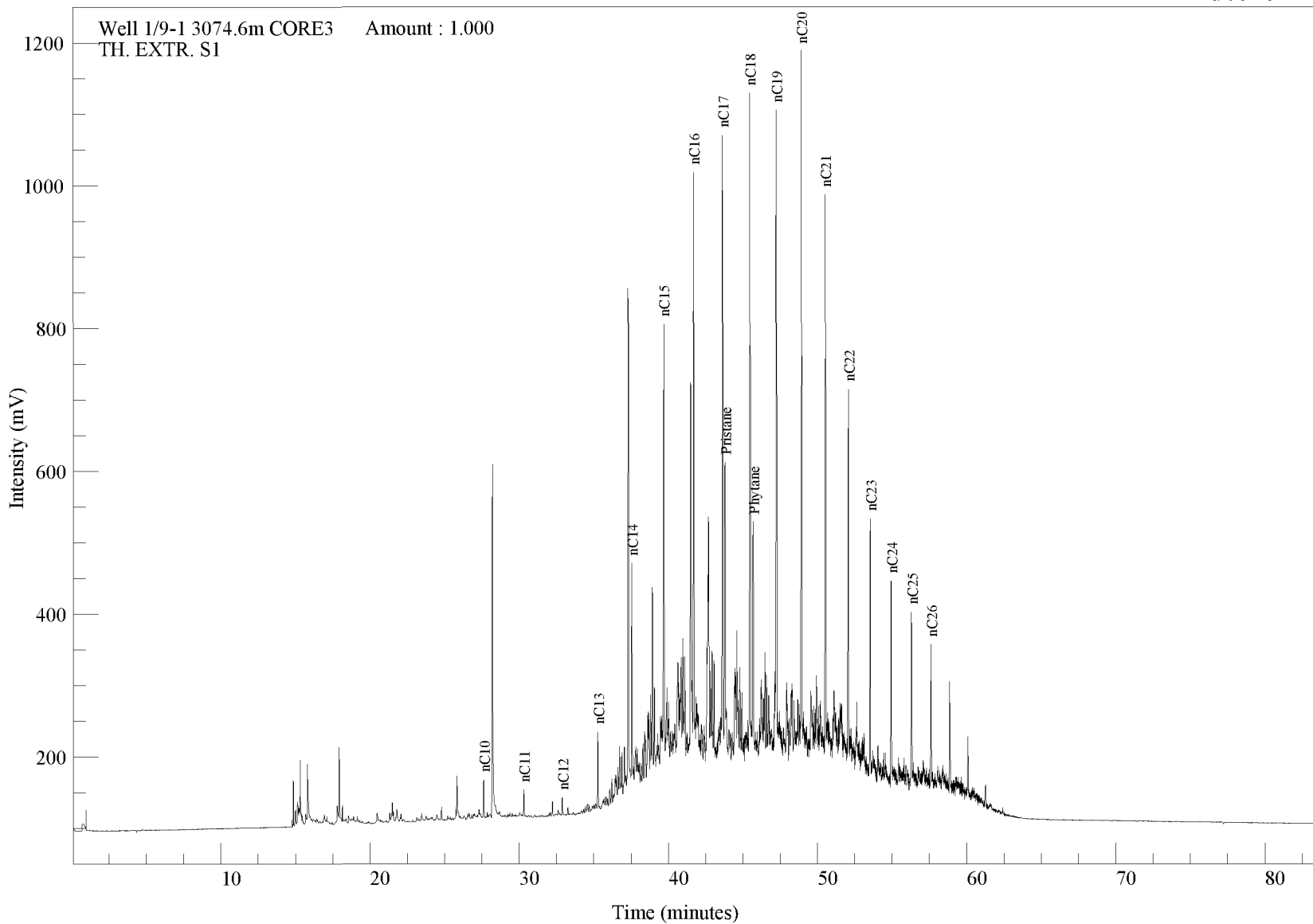




APPENDIX 3

Analysis Name : [62652] 24 PHIL30746,1,1.

Multichrom

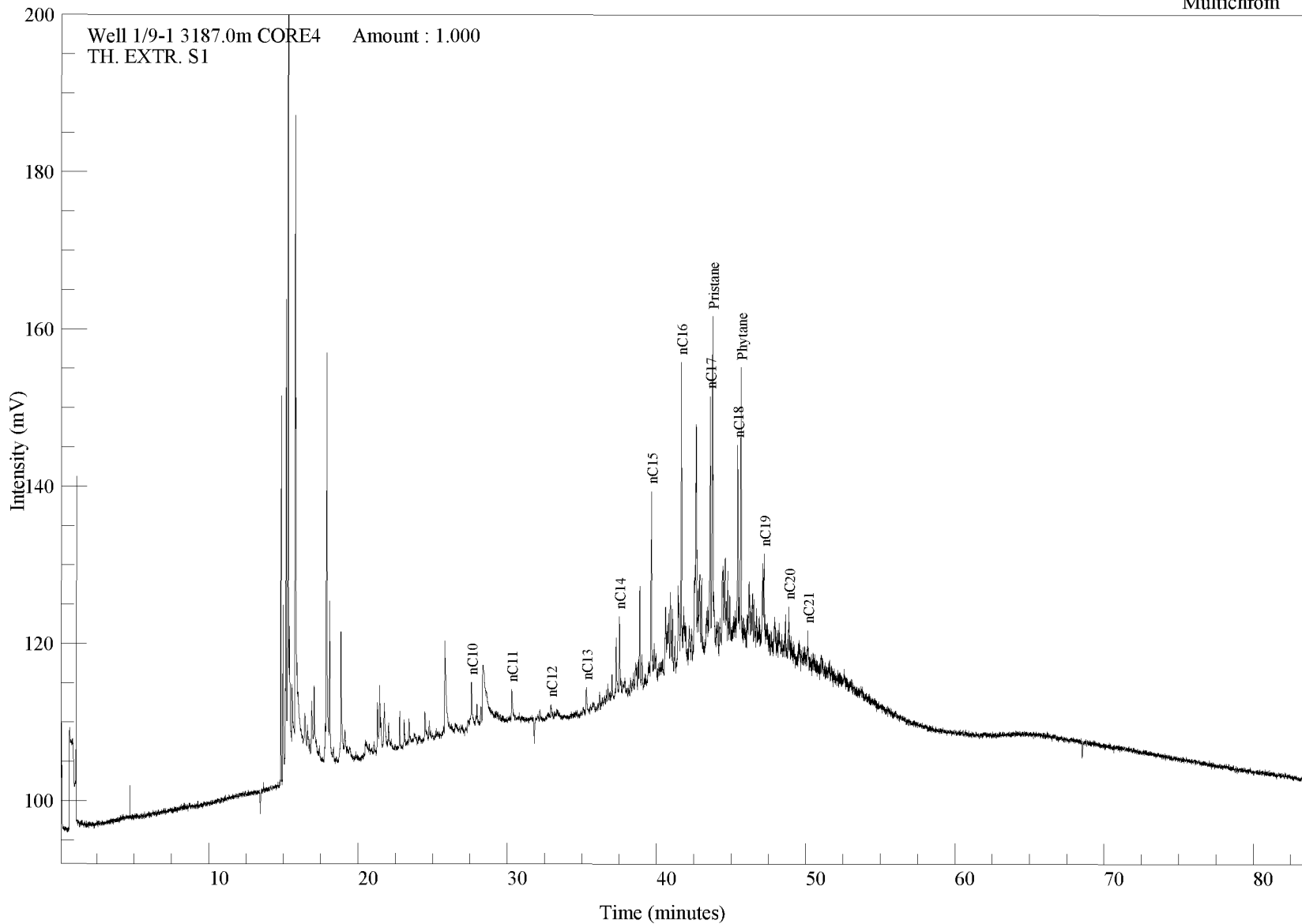


Acquired on 10-SEP-2003 at 11:00

Reported on 11-SEP-2003 at 10:00

Analysis Name : [62652] 24 PHIL3187B,1,1.

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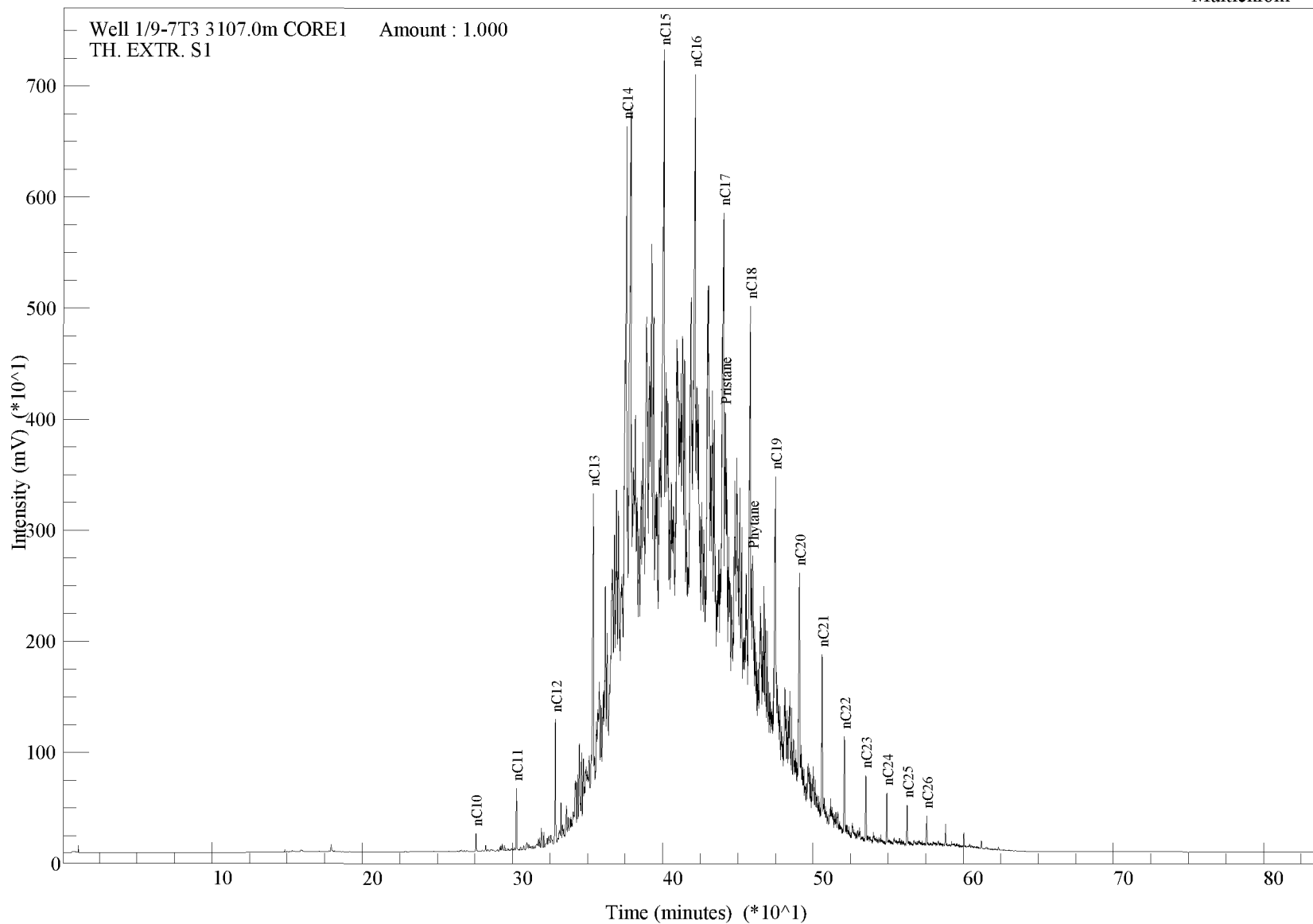


Acquired on 10-SEP-2003 at 14:52

Reported on 11-SEP-2003 at 10:05

Analysis Name : [62652] 24 PHIL3107A,1,1.

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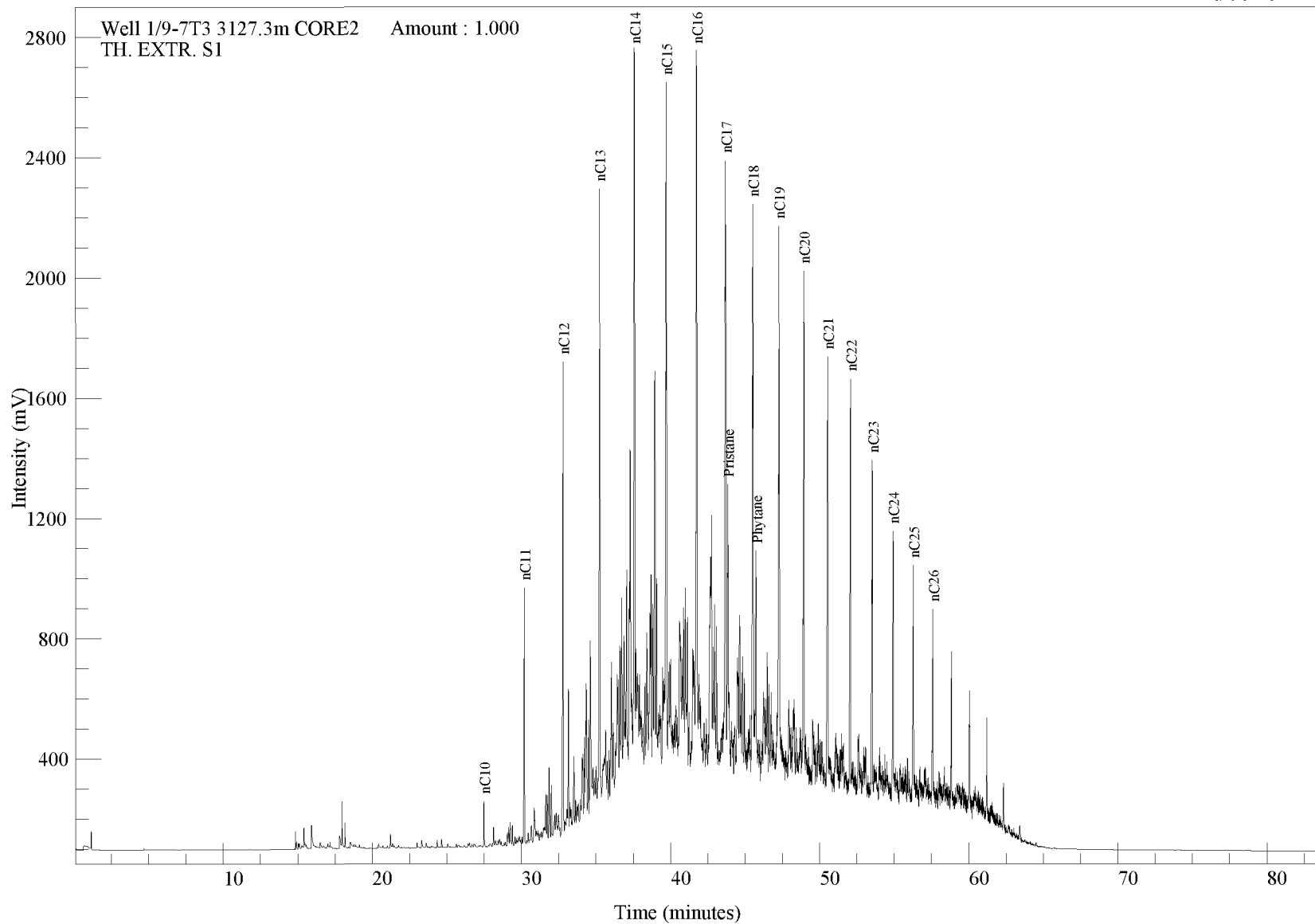


Acquired on 10-SEP-2003 at 09:13

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Analysis Name : [62652] 24 PHIL31273,1,1.

Multichrom



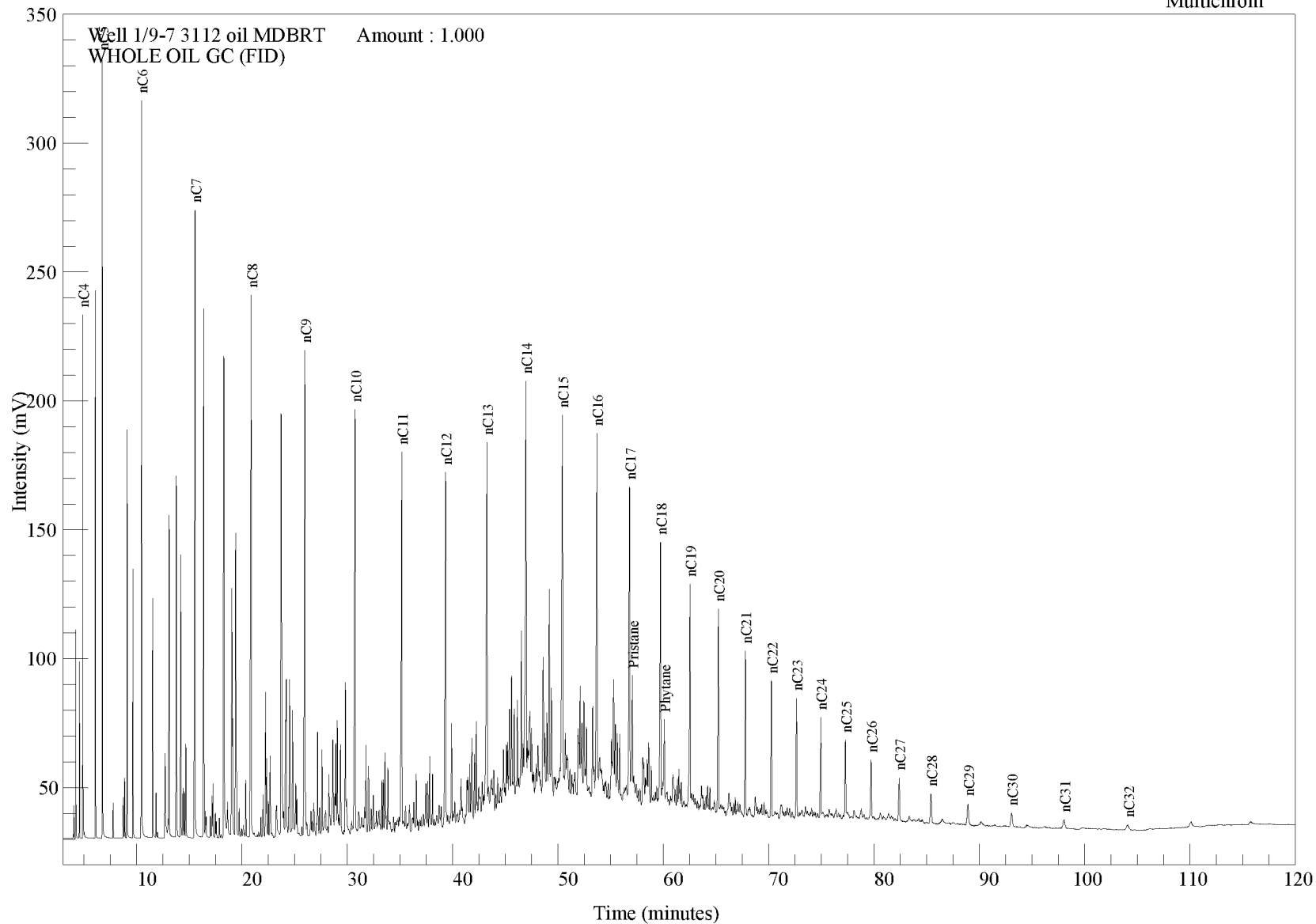
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Reported on 11-SEP-2003 at 09:58

APPENDIX 4

Analysis Name : [62652] 31 WO3112OIL,1,1.

Multichrom

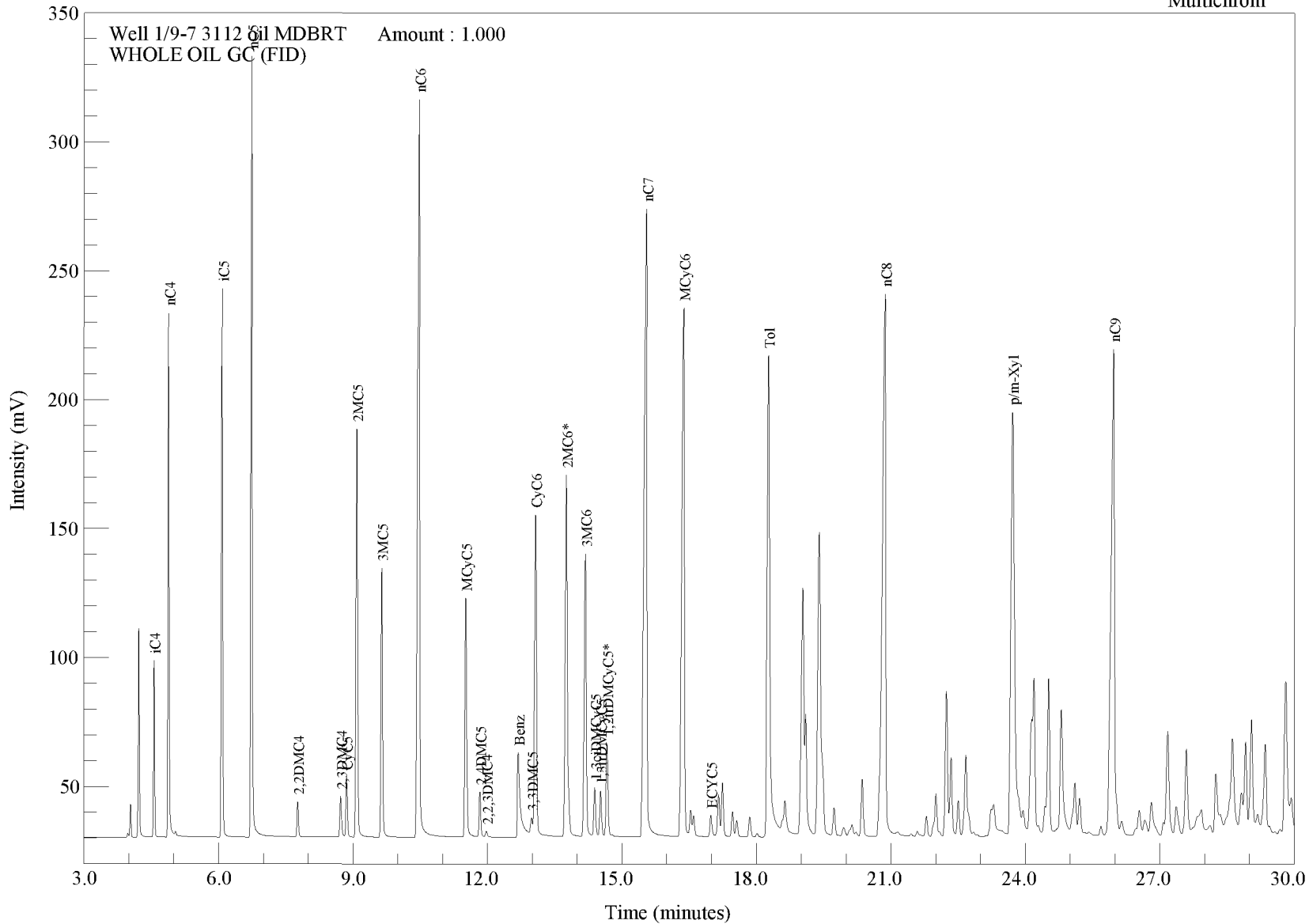


Acquired on 12-SEP-2003 at 13:23

Reported on 15-SEP-2003 at 14:04

Analysis Name : [62652] 10 WO3112OIL,1,1.

Multichrom

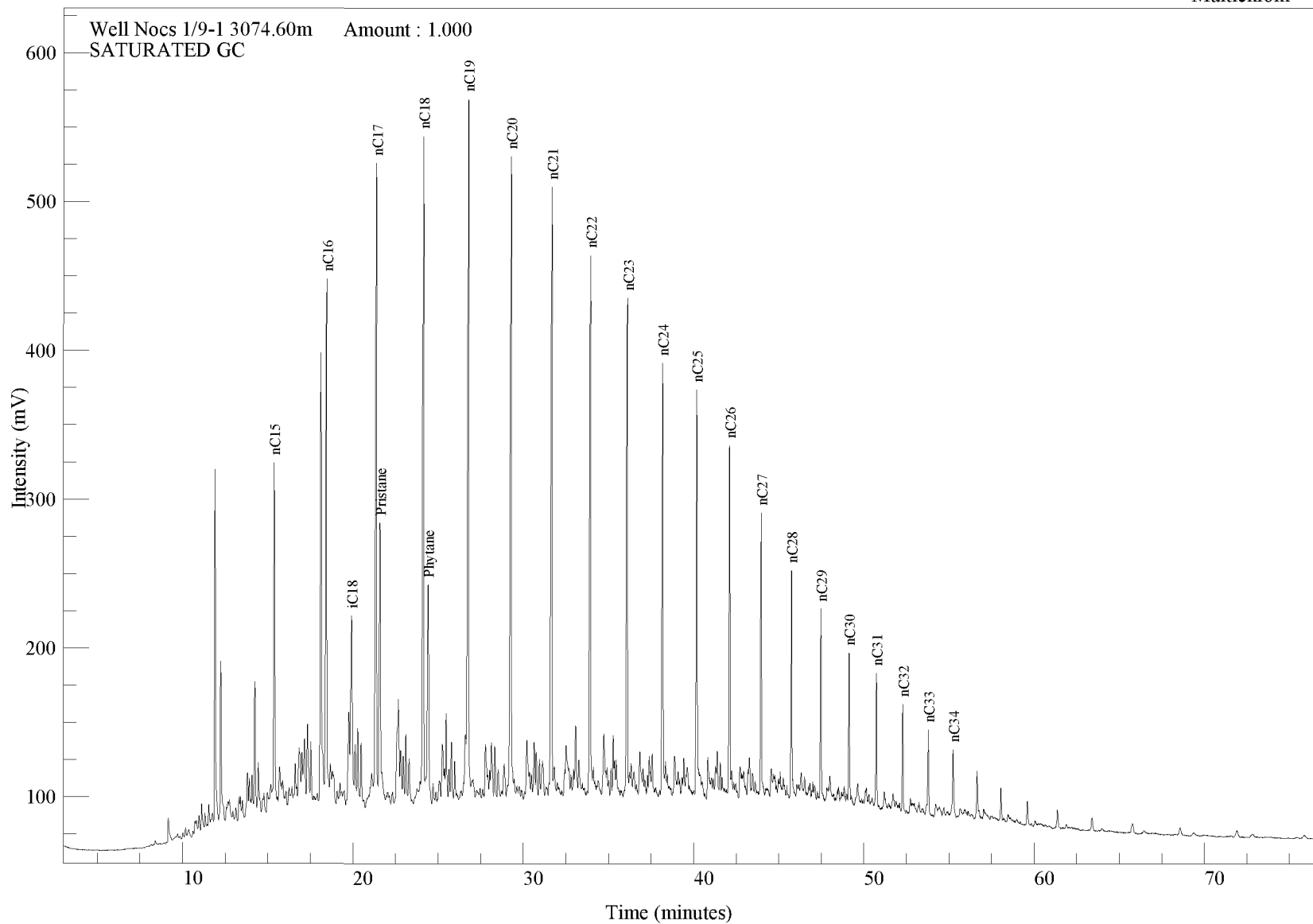


Acquired on 12-SEP-2003 at 13:23

Reported on 15-SEP-2003 at 14:59

Analysis Name : [62658] 6 SX1000010B,4,1.

Multichrom

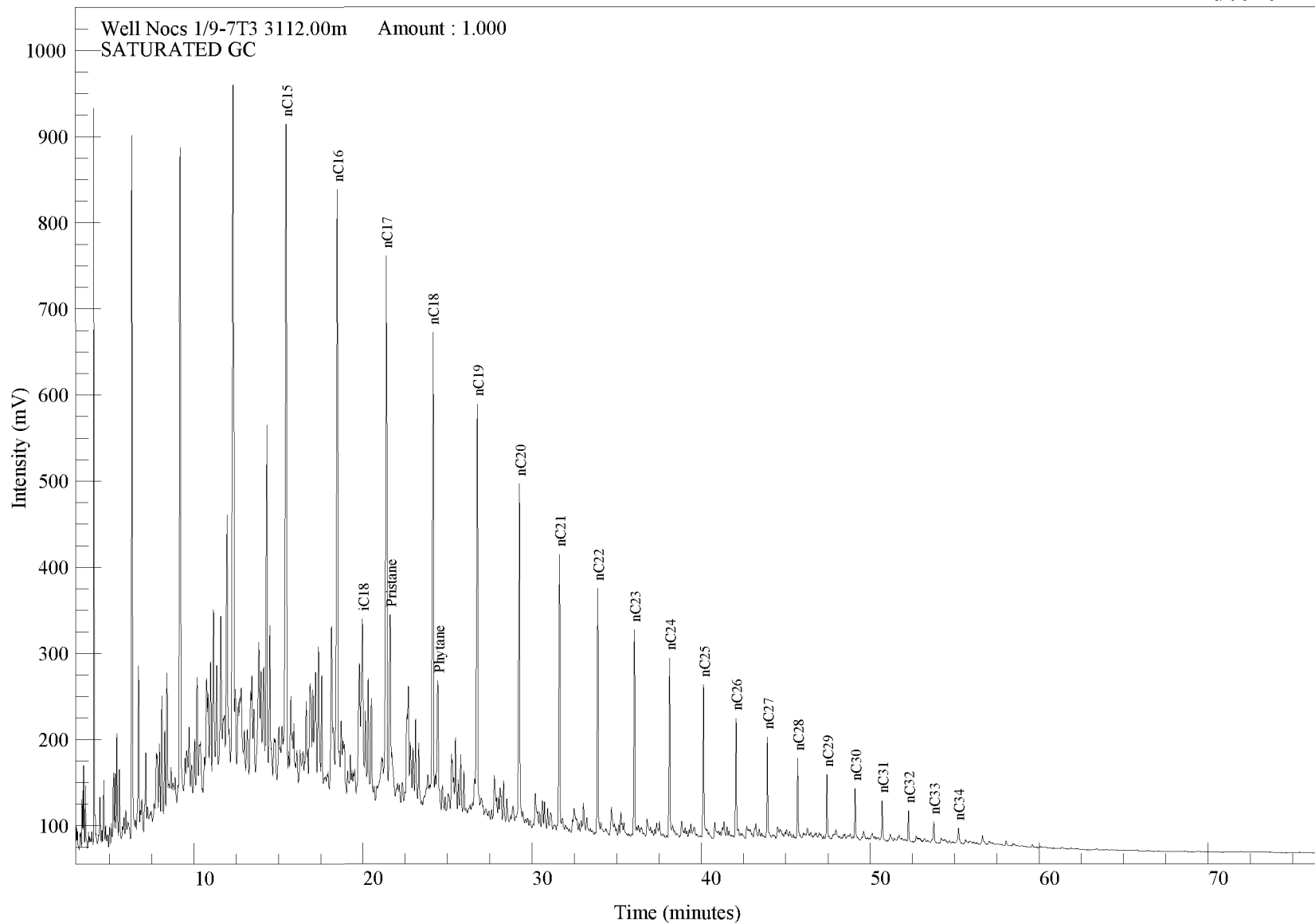


Acquired on 20-OCT-2003 at 16:36

Reported on 21-OCT-2003 at 13:14

Analysis Name : [62658] 6 SX1000010B,3,1.

Multichrom



Acquired on 20-OCT-2003 at 15:11

Reported on 21-OCT-2003 at 13:13