Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: **2900A.D**
Sample name: **35/11-12 2900m mud aro**
Data File Path: C:\HPCHEM\1\DATA\3511MUD\
Misc. info.:

Vial no.: 11
Method: MSD_A_E2
Operator: marian
Date: 10/5/2000 8:11

Response curve: y = ax+b
Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (if added):						
14)	11.82	136		d8N	30124	45
16)	18.12	164		d10BP	28274	40
59)	29.69	188		d10P	32125	45
79)	45.16	240		d12C	13332	45
Aryl isoprenoids:						
1)	20.22	133	0	C13AI	7	
2)	22.13	133	0	C14AI	3	
3)	26.45	133	0	C15AI	10	
4)	28.74	133	0	C16Ai	5	
5)	30.76	133	0	C17AI	5	
6)	33.80	133	0	C18AI	10	
7)	34.71	133	0	C19AI	9	
8)	37.78	133	0	C20AI	21	
9)	39.75	133	0	C21AI	8	
10)	42.73	133	0	C22AI	6	
11)	44.71	133	0	C23AI	4	
12)	55.74	133	0	C30AI	5	
13)	56.72	133	0	C31AI	8	
Naphthalenes:						
15)	11.91	128	a1	N	1479	2
17)	15.49	142	a2	2-MN	1029	1
18)	16.06	142	a2	1-MN	808	1
19)	18.68	156	a3	2-EN	67	0
20)	18.80	156	a3	1-EN	46	0
21)	19.02	156	a3	2.6+2.7-DMN	159	0
22)	19.48	156	a3	1.3+1.7-DMN	263	0
23)	19.59	156	a3	1.6-DMN	218	0
24)	20.08	156	a3	2.3+1.4-DMN	110	0
25)	20.19	156	a3	1.5-DMN	58	0
26)	20.57	156	a3	1.2-DMN	77	0
27)	22.26	170	a4	C3-N-1	16	0
28)	22.62	170	a4	C3-N-2	21	0
29)	22.74	170	a4	1.3.7-TMN	56	0
30)	22.87	170	a4	1.3.6-TMN	82	0
31)	23.35	170	a4	1.3.5+1.4.6-TMN	68	0
32)	23.44	170	a4	2.3.6-TMN	54	0
33)	23.84	170	a4	1.6.7+1.2.7-TMN	41	0
34)	23.90	170	a4	1.2.6-TMN	43	0
35)	24.33	170	a4	1.2.4-TMN	13	0
36)	24.55	170	a4	1.2.5-TMN	57	0
Biphenyls:						
37)	18.22	154	a5	BP	83	0
38)	21.52	168	a5	3-MBP	57	0
39)	21.78	168	a5	4-MBP	27	0
40)	21.83	182	a4	2.3'-DMBP	4	0
41)	22.05	182	a4	2.5-DMBP	3	0
42)	22.23	182	a4	2.4+2.4'-DMBP	5	0
43)	22.82	182	a4	2.3-DMBP	6	0
44)	24.20	182	a4	3-EBP	7	0
45)	24.55	182	a4	3.5-DMBP	13	0
46)	24.65	182	a4	3.3'-DMBP	27	0
47)	24.78	182	a4	4-EBP	6	0
48)	24.94	182	a4	3.4'-DMBP	21	0
49)	25.15	182	a4	4.4'-DMBP	7	0
50)	25.71	182	a4	3.4-DMBP	9	0

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Dibenzofuranes:						
51)	22.42	168	a5	DBF	72	0
52)	25.51	182	a4	MDBF-1	27	0
53)	25.88	182	a4	MDBF-2	23	0
54)	26.15	182	a4	MDBF-3	18	0
Fluorenes:						
55)	24.38	166	a6	F	75	0
56)	27.60	180	a6	C1-F-1	15	0
57)	27.83	180	a6	C1-F-2	40	0
58)	28.14	180	a6	1-MF	11	0
Dibenzothiophenes:						
60)	29.09	184	a7	DBT	25	0
61)	31.70	198	a7	4-MDBT	20	0
62)	32.21	198	a7	3+2-MDBT	7	0
63)	32.79	198	a7	1-MDBT	9	0
Phenanthrenes:						
64)	29.80	178	a8	P	307	0
65)	32.75	192	a9	3-MP	56	0
66)	32.88	192	a9	2-MP	68	0
67)	33.36	192	a9	9-MP	79	0
68)	33.48	192	a9	1-MP	64	0
69)	35.48	206	a10	2EP+9EP+3.6-DMP	15	0
70)	35.68	206	a10	1EP	19	0
71)	35.80	206	a10	2.6+2.7+3.5-DMP	12	0
72)	36.13	206	a10	1.3+2.10+3.9+3.10-DMI	65	0
73)	36.29	206	a10	1.6+2.5+2.9-DMP	34	0
74)	36.41	206	a10	1.7-DMP	31	0
75)	36.56	206	a10	2.3-DMP	11	0
76)	36.67	206	a10	1.9+4.9+4.10-DMP	15	0
77)	36.97	206	a10	1.8-DMP	8	0
Retene:						
78)	40.29	219	a8	Retene	41	0
Triaromatic steroids:						
80)	44.76	231	a11	20TA	8	0
81)	46.63	231	a11	21TA	6	0
82)	53.58	231	a11	S26TA	5	0
83)	54.79	231	a11	R26TA/S27TA	16	0
84)	55.77	231	a11	S28TA	5	0
85)	56.27	231	a11	R27TA	5	0
86)	57.51	231	a11	R28TA	5	0

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name:	**3000A.D**
Sample name:	**35/11-12 3000m mud aro**
Data File Path:	C:\HPCHEM\1\DATA\3511MUD\
Misc. info.:	
Vial no.:	12
Method:	MSD_A_E2
Operator:	marian
Date:	10/5/2000 9:39

Response curve: y = ax+b

Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (if added):						
14)	11.82	136		d8N	24974	42
16)	18.12	164		d10BP	23901	37
59)	29.68	188		d10P	26390	42
79)	45.15	240		d12C	11810	42
Aryl isoprenoids:						
1)	20.32	133	0	C13AI	4	
2)	22.13	133	0	C14AI	7	
3)	26.46	133	0	C15AI	14	
4)	28.76	133	0	C16Ai	3	
5)	30.76	133	0	C17AI	3	
6)	33.70	133	0	C18AI	4	
7)	34.76	133	0	C19AI	14	
8)	37.75	133	0	C20AI	6	
9)	39.75	133	0	C21AI	3	
10)	42.74	133	0	C22AI	5	
11)	44.75	133	0	C23AI	4	
12)	55.76	133	0	C30AI	6	
13)	56.74	133	0	C31AI	7	
Naphthalenes:						
15)	11.90	128	a1	N	2831	4
17)	15.49	142	a2	2-MN	2324	3
18)	16.05	142	a2	1-MN	2164	3
19)	18.68	156	a3	2-EN	198	0
20)	18.80	156	a3	1-EN	157	0
21)	19.02	156	a3	2.6+2.7-DMN	420	1
22)	19.48	156	a3	1.3+1.7-DMN	745	1
23)	19.58	156	a3	1.6-DMN	723	1
24)	20.08	156	a3	2.3+1.4-DMN	338	0
25)	20.19	156	a3	1.5-DMN	182	0
26)	20.57	156	a3	1.2-DMN	211	0
27)	22.25	170	a4	C3-N-1	43	0
28)	22.61	170	a4	C3-N-2	58	0
29)	22.73	170	a4	1.3.7-TMN	124	0
30)	22.87	170	a4	1.3.6-TMN	253	0
31)	23.35	170	a4	1.3.5+1.4.6-TMN	193	0
32)	23.42	170	a4	2.3.6-TMN	122	0
33)	23.84	170	a4	1.6.7+1.2.7-TMN	114	0
34)	23.90	170	a4	1.2.6-TMN	119	0
35)	24.35	170	a4	1.2.4-TMN	43	0
36)	24.55	170	a4	1.2.5-TMN	161	0
Biphenyls:						
37)	18.23	154	a5	BP	127	0
38)	21.52	168	a5	3-MBP	95	0
39)	21.78	168	a5	4-MBP	32	0
40)	21.82	182	a4	2.3'-DMBP	6	0
41)	22.04	182	a4	2.5-DMBP	4	0
42)	22.18	182	a4	2.4+2.4'-DMBP	5	0
43)	22.83	182	a4	2.3-DMBP	12	0
44)	24.22	182	a4	3-EBP	15	0
45)	24.55	182	a4	3.5-DMBP	13	0
46)	24.65	182	a4	3.3'-DMBP	26	0
47)	24.77	182	a4	4-EBP	5	0
48)	24.93	182	a4	3.4'-DMBP	27	0
49)	25.15	182	a4	4.4'-DMBP	6	0
50)	25.72	182	a4	3.4-DMBP	12	0

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Dibenzofuranes:						
51)	22.41	168	a5	DBF	94	0
52)	25.50	182	a4	MDBF-1	67	0
53)	25.86	182	a4	MDBF-2	45	0
54)	26.16	182	a4	MDBF-3	34	0
Fluorenes:						
55)	24.37	166	a6	F	177	0
56)	27.59	180	a6	C1-F-1	28	0
57)	27.83	180	a6	C1-F-2	94	0
58)	28.14	180	a6	1-MF	24	0
Dibenzothiophenes:						
60)	29.08	184	a7	DBT	58	0
61)	31.70	198	a7	4-MDBT	34	0
62)	32.23	198	a7	3+2-MDBT	13	0
63)	32.80	198	a7	1-MDBT	21	0
Phenanthrenes:						
64)	29.80	178	a8	P	589	1
65)	32.74	192	a9	3-MP	109	0
66)	32.88	192	a9	2-MP	109	0
67)	33.36	192	a9	9-MP	164	0
68)	33.48	192	a9	1-MP	146	0
69)	35.46	206	a10	2EP+9EP+3.6-DMP	26	0
70)	35.68	206	a10	1EP	24	0
71)	35.78	206	a10	2.6+2.7+3.5-DMP	14	0
72)	36.11	206	a10	1.3+2.10+3.9+3.10-DMI	83	0
73)	36.27	206	a10	1.6+2.5+2.9-DMP	52	0
74)	36.41	206	a10	1.7-DMP	51	0
75)	36.55	206	a10	2.3-DMP	16	0
76)	36.68	206	a10	1.9+4.9+4.10-DMP	26	0
77)	36.99	206	a10	1.8-DMP	15	0
Retene:						
78)	40.29	219	a8	Retene	68	0
Triaromatic steroids:						
80)	44.76	231	a11	20TA	17	0
81)	46.64	231	a11	21TA	12	0
82)	53.58	231	a11	S26TA	22	0
83)	54.79	231	a11	R26TA/S27TA	52	0
84)	55.79	231	a11	S28TA	19	0
85)	56.28	231	a11	R27TA	23	0
86)	57.53	231	a11	R28TA	19	0

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data

HYDRO

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name:	**3100A.D**
Sample name:	**35/11-12 3100m aro MUD**
Data File Path:	C:\HPCHEM\1\DATA\35_11_12\
Misc. info.:	
Vial no.:	33
Method:	MSD_A_E2
Operator:	marian
Date:	9/7/2000 19:36

Response curve: y = ax+b

Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (if added):						
14)	11.85	136		d8N	49298	45
16)	18.15	164		d10BP	48040	40
59)	29.73	188		d10P	69802	45
79)	45.20	240		d12C	32491	45
Aryl isoprenoids:						
1)	20.32	133	0	C13AI	7	
2)	22.17	133	0	C14AI	12	
3)	26.49	133	0	C15AI	30	
4)	28.74	133	0	C16Ai	24	
5)	30.79	133	0	C17AI	10	
6)	33.76	133	0	C18AI	11	
7)	34.71	133	0	C19AI	8	
8)	37.80	133	0	C20AI	16	
9)	39.78	133	0	C21AI	19	
10)	42.73	133	0	C22AI	14	
11)	44.74	133	0	C23AI	6	
12)	55.76	133	0	C30AI	9	
13)	56.74	133	0	C31AI	11	
Naphthalenes:						
15)	11.94	128	a1	N	5770	5
17)	15.53	142	a2	2-MN	5685	4
18)	16.08	142	a2	1-MN	4633	4
19)	18.72	156	a3	2-EN	526	0
20)	18.84	156	a3	1-EN	317	0
21)	19.07	156	a3	2.6+2.7-DMN	1536	1
22)	19.52	156	a3	1.3+1.7-DMN	2608	2
23)	19.63	156	a3	1.6-DMN	2438	2
24)	20.12	156	a3	2.3+1.4-DMN	1148	1
25)	20.23	156	a3	1.5-DMN	625	0
26)	20.61	156	a3	1.2-DMN	722	1
27)	22.12	170	a4	C3-N-1	432	0
28)	22.66	170	a4	C3-N-2	247	0
29)	22.78	170	a4	1.3.7-TMN	559	0
30)	22.91	170	a4	1.3.6-TMN	938	1
31)	23.39	170	a4	1.3.5+1.4.6-TMN	853	1
32)	23.47	170	a4	2.3.6-TMN	627	0
33)	23.89	170	a4	1.6.7+1.2.7-TMN	594	0
34)	23.94	170	a4	1.2.6-TMN	518	0
35)	24.38	170	a4	1.2.4-TMN	165	0
36)	24.59	170	a4	1.2.5-TMN	744	1
Biphenyls:						
37)	18.26	154	a5	BP	526	0
38)	21.56	168	a5	3-MBP	510	0
39)	21.82	168	a5	4-MBP	163	0
40)	21.88	182	a4	2.3'-DMBP	21	0
41)	22.07	182	a4	2.5-DMBP	11	0
42)	22.25	182	a4	2.4+2.4'-DMBP	20	0
43)	22.87	182	a4	2.3-DMBP	38	0
44)	24.25	182	a4	3-EBP	63	0
45)	24.59	182	a4	3.5-DMBP	69	0
46)	24.68	182	a4	3.3'-DMBP	176	0
47)	24.79	182	a4	4-EBP	22	0
48)	24.98	182	a4	3.4'-DMBP	128	0
49)	25.19	182	a4	4.4'-DMBP	21	0
50)	25.76	182	a4	3.4-DMBP	92	0

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Dibenzofuranes:						
51)	22.46	168	a5	DBF	450	0
52)	25.53	182	a4	MDBF-1	383	0
53)	25.91	182	a4	MDBF-2	397	0
54)	26.20	182	a4	MDBF-3	285	0
Fluorenes:						
55)	24.42	166	a6	F	756	0
56)	27.64	180	a6	C1-F-1	149	0
57)	27.87	180	a6	C1-F-2	668	0
58)	28.18	180	a6	1-MF	91	0
Dibenzothiophenes:						
60)	29.13	184	a7	DBT	303	0
61)	31.74	198	a7	4-MDBT	212	0
62)	32.25	198	a7	3+2-MDBT	87	0
63)	32.84	198	a7	1-MDBT	78	0
Phenanthrenes:						
64)	29.85	178	a8	P	5738	3
65)	32.79	192	a9	3-MP	1390	1
66)	32.92	192	a9	2-MP	1563	1
67)	33.40	192	a9	9-MP	2268	1
68)	33.53	192	a9	1-MP	2271	1
69)	35.50	206	a10	2EP+9EP+3.6-DMP	263	0
70)	35.74	206	a10	1EP	230	0
71)	35.83	206	a10	2.6+2.7+3.5-DMP	139	0
72)	36.17	206	a10	1.3+2.10+3.9+3.10-DMI	1059	1
73)	36.32	206	a10	1.6+2.5+2.9-DMP	613	0
74)	36.45	206	a10	1.7-DMP	720	0
75)	36.61	206	a10	2.3-DMP	210	0
76)	36.71	206	a10	1.9+4.9+4.10-DMP	422	0
77)	37.03	206	a10	1.8-DMP	197	0
Retene:						
78)	40.33	219	a8	Retene	759	0
Triaromatic steroids:						
80)	44.81	231	a11	20TA	72	0
81)	46.68	231	a11	21TA	59	0
82)	53.63	231	a11	S26TA	69	0
83)	54.82	231	a11	R26TA/S27TA	168	0
84)	55.83	231	a11	S28TA	90	0
85)	56.33	231	a11	R27TA	79	0
86)	57.56	231	a11	R28TA	104	0

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name:	**3200A.D**
Sample name:	***35/11-12 3200m mud aro***
Data File Path:	C:\HPCHEM\1\DATA\3511MUD\
Misc. info.:	
Vial no.:	13
Method:	MSD_A_E2
Operator:	marian
Date:	10/5/2000 11:07

Response curve: y = ax+b

Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (if added):						
14)	11.82	136		d8N	34199	44
16)	18.11	164		d10BP	31932	39
59)	29.68	188		d10P	39205	44
79)	45.16	240		d12C	16614	44
Aryl isoprenoids:						
1)	20.30	133	0	C13AI	5	
2)	22.13	133	0	C14AI	9	
3)	26.47	133	0	C15AI	13	
4)	28.69	133	0	C16Ai	3	
5)	30.74	133	0	C17AI	6	
6)	33.72	133	0	C18AI	7	
7)	34.77	133	0	C19AI	18	
8)	37.79	133	0	C20AI	14	
9)	39.76	133	0	C21AI	6	
10)	42.76	133	0	C22AI	5	
11)	44.76	133	0	C23AI	6	
12)	55.74	133	0	C30AI	7	
13)	56.77	133	0	C31AI	9	
Naphthalenes:						
15)	11.91	128	a1	N	7002	8
17)	15.49	142	a2	2-MN	5797	7
18)	16.04	142	a2	1-MN	4360	5
19)	18.68	156	a3	2-EN	407	0
20)	18.80	156	a3	1-EN	286	0
21)	19.02	156	a3	2.6+2.7-DMN	929	1
22)	19.48	156	a3	1.3+1.7-DMN	1695	2
23)	19.59	156	a3	1.6-DMN	1757	2
24)	20.08	156	a3	2.3+1.4-DMN	787	1
25)	20.19	156	a3	1.5-DMN	379	0
26)	20.57	156	a3	1.2-DMN	489	1
27)	22.25	170	a4	C3-N-1	108	0
28)	22.62	170	a4	C3-N-2	131	0
29)	22.73	170	a4	1.3.7-TMN	232	0
30)	22.87	170	a4	1.3.6-TMN	461	1
31)	23.35	170	a4	1.3.5+1.4.6-TMN	395	0
32)	23.42	170	a4	2.3.6-TMN	271	0
33)	23.84	170	a4	1.6.7+1.2.7-TMN	282	0
34)	23.90	170	a4	1.2.6-TMN	227	0
35)	24.33	170	a4	1.2.4-TMN	85	0
36)	24.55	170	a4	1.2.5-TMN	413	0
Biphenyls:						
37)	18.23	154	a5	BP	472	0
38)	21.52	168	a5	3-MBP	301	0
39)	21.78	168	a5	4-MBP	87	0
40)	21.84	182	a4	2.3'-DMBP	10	0
41)	22.05	182	a4	2.5-DMBP	6	0
42)	22.20	182	a4	2.4+2.4'-DMBP	8	0
43)	22.83	182	a4	2.3-DMBP	22	0
44)	24.21	182	a4	3-EBP	39	0
45)	24.54	182	a4	3.5-DMBP	25	0
46)	24.65	182	a4	3.3'-DMBP	68	0
47)	24.75	182	a4	4-EBP	9	0
48)	24.95	182	a4	3.4'-DMBP	43	0
49)	25.15	182	a4	4.4'-DMBP	10	0
50)	25.71	182	a4	3.4-DMBP	26	0

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Dibenzofuranes:						
51)	22.41	168	a5	DBF	439	0
52)	25.50	182	a4	MDBF-1	261	0
53)	25.87	182	a4	MDBF-2	213	0
54)	26.16	182	a4	MDBF-3	136	0
Fluorenes:						
55)	24.37	166	a6	F	721	1
56)	27.59	180	a6	C1-F-1	101	0
57)	27.83	180	a6	C1-F-2	333	0
58)	28.14	180	a6	1-MF	70	0
Dibenzothiophenes:						
60)	29.08	184	a7	DBT	132	0
61)	31.70	198	a7	4-MDBT	50	0
62)	32.20	198	a7	3+2-MDBT	22	0
63)	32.79	198	a7	1-MDBT	30	0
Phenanthrenes:						
64)	29.80	178	a8	P	1968	2
65)	32.74	192	a9	3-MP	321	0
66)	32.88	192	a9	2-MP	354	0
67)	33.36	192	a9	9-MP	536	1
68)	33.49	192	a9	1-MP	470	1
69)	35.45	206	a10	2EP+9EP+3.6-DMP	63	0
70)	35.69	206	a10	1EP	51	0
71)	35.79	206	a10	2.6+2.7+3.5-DMP	26	0
72)	36.13	206	a10	1.3+2.10+3.9+3.10-DMI	191	0
73)	36.27	206	a10	1.6+2.5+2.9-DMP	130	0
74)	36.41	206	a10	1.7-DMP	134	0
75)	36.57	206	a10	2.3-DMP	37	0
76)	36.67	206	a10	1.9+4.9+4.10-DMP	64	0
77)	36.98	206	a10	1.8-DMP	39	0
Retene:						
78)	40.29	219	a8	Retene	397	0
Triaromatic steroids:						
80)	44.77	231	a11	20TA	22	0
81)	46.62	231	a11	21TA	17	0
82)	53.60	231	a11	S26TA	23	0
83)	54.79	231	a11	R26TA/S27TA	59	0
84)	55.80	231	a11	S28TA	27	0
85)	56.28	231	a11	R27TA	26	0
86)	57.52	231	a11	R28TA	25	0

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data

HYDRO

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name:	**3300A.D**
Sample name:	**35/11-12 3300m mud aro**
Data File Path:	C:\HPCHEM\1\DATA\3511MUD\
Misc. info.:	
Vial no.:	14
Method:	MSD_A_E2
Operator:	marian
Date:	10/5/2000 12:36

Response curve: y = ax+b

Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (if added):						
14)	11.82	136		d8N	31657	45
16)	18.11	164		d10BP	30220	40
59)	29.69	188		d10P	38925	45
79)	45.16	240		d12C	16678	45
Aryl isoprenoids:						
1)	20.29	133	0	C13AI	3	
2)	22.12	133	0	C14AI	4	
3)	26.38	133	0	C15AI	3	
4)	28.77	133	0	C16Ai	6	
5)	30.77	133	0	C17AI	4	
6)	33.73	133	0	C18AI	4	
7)	34.49	133	0	C19AI	224	
8)	37.78	133	0	C20AI	10	
9)	39.72	133	0	C21AI	5	
10)	42.73	133	0	C22AI	4	
11)	44.73	133	0	C23AI	3	
12)	55.76	133	0	C30AI	5	
13)	56.74	133	0	C31AI	6	
Naphthalenes:						
15)	11.91	128	a1	N	5614	7
17)	15.49	142	a2	2-MN	4466	6
18)	16.04	142	a2	1-MN	3553	4
19)	18.68	156	a3	2-EN	324	0
20)	18.80	156	a3	1-EN	190	0
21)	19.03	156	a3	2.6+2.7-DMN	671	1
22)	19.48	156	a3	1.3+1.7-DMN	1295	2
23)	19.58	156	a3	1.6-DMN	1271	1
24)	20.08	156	a3	2.3+1.4-DMN	569	1
25)	20.19	156	a3	1.5-DMN	281	0
26)	20.57	156	a3	1.2-DMN	344	0
27)	22.26	170	a4	C3-N-1	68	0
28)	22.62	170	a4	C3-N-2	89	0
29)	22.74	170	a4	1.3.7-TMN	170	0
30)	22.87	170	a4	1.3.6-TMN	329	0
31)	23.35	170	a4	1.3.5+1.4.6-TMN	291	0
32)	23.44	170	a4	2.3.6-TMN	175	0
33)	23.84	170	a4	1.6.7+1.2.7-TMN	208	0
34)	23.90	170	a4	1.2.6-TMN	174	0
35)	24.33	170	a4	1.2.4-TMN	56	0
36)	24.55	170	a4	1.2.5-TMN	300	0
Biphenyls:						
37)	18.23	154	a5	BP	352	0
38)	21.52	168	a5	3-MBP	224	0
39)	21.78	168	a5	4-MBP	66	0
40)	21.83	182	a4	2.3'-DMBP	7	0
41)	22.03	182	a4	2.5-DMBP	4	0
42)	22.20	182	a4	2.4+2.4'-DMBP	7	0
43)	22.84	182	a4	2.3-DMBP	16	0
44)	24.21	182	a4	3-EBP	26	0
45)	24.55	182	a4	3.5-DMBP	22	0
46)	24.63	182	a4	3.3'-DMBP	46	0
47)	24.75	182	a4	4-EBP	9	0
48)	24.95	182	a4	3.4'-DMBP	40	0
49)	25.16	182	a4	4.4'-DMBP	8	0
50)	25.70	182	a4	3.4-DMBP	24	0

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Dibenzofuranes:						
51)	22.42	168	a5	DBF	344	0
52)	25.50	182	a4	MDBF-1	197	0
53)	25.87	182	a4	MDBF-2	164	0
54)	26.17	182	a4	MDBF-3	108	0
Fluorenes:						
55)	24.38	166	a6	F	587	1
56)	27.60	180	a6	C1-F-1	72	0
57)	27.83	180	a6	C1-F-2	259	0
58)	28.14	180	a6	1-MF	61	0
Dibenzothiophenes:						
60)	29.09	184	a7	DBT	95	0
61)	31.70	198	a7	4-MDBT	46	0
62)	32.23	198	a7	3+2-MDBT	20	0
63)	32.79	198	a7	1-MDBT	21	0
Phenanthrenes:						
64)	29.80	178	a8	P	1741	2
65)	32.75	192	a9	3-MP	244	0
66)	32.88	192	a9	2-MP	281	0
67)	33.36	192	a9	9-MP	454	1
68)	33.49	192	a9	1-MP	402	0
69)	35.47	206	a10	2EP+9EP+3.6-DMP	53	0
70)	35.70	206	a10	1EP	38	0
71)	35.80	206	a10	2.6+2.7+3.5-DMP	22	0
72)	36.13	206	a10	1.3+2.10+3.9+3.10-DMI	151	0
73)	36.27	206	a10	1.6+2.5+2.9-DMP	95	0
74)	36.41	206	a10	1.7-DMP	98	0
75)	36.56	206	a10	2.3-DMP	34	0
76)	36.68	206	a10	1.9+4.9+4.10-DMP	52	0
77)	36.98	206	a10	1.8-DMP	31	0
Retene:						
78)	40.29	219	a8	Retene	249	0
Triaromatic steroids:						
80)	44.75	231	a11	20TA	13	0
81)	46.64	231	a11	21TA	13	0
82)	53.59	231	a11	S26TA	13	0
83)	54.80	231	a11	R26TA/S27TA	33	0
84)	55.80	231	a11	S28TA	16	0
85)	56.29	231	a11	R27TA	15	0
86)	57.52	231	a11	R28TA	13	0

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name:	**NSO1_47A.D**
Sample name:	**nso1-ref 47 aro**
Data File Path:	C:\HPCHEM\1\DATA\35_11_12\
Misc. info.:	
Vial no.:	18
Method:	MSD_A_E2
Operator:	marian
Date:	9/7/2000 9:19

Response curve: y = ax+b

Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (if added):						
14)	11.85	136		d8N	31973	48
16)	18.15	164		d10BP	27493	42
59)	29.76	188		d10P	45528	48
79)	45.25	240		d12C	29924	48
Aryl isoprenoids:						
1)	20.25	133	0	C13AI	8760	
2)	22.06	133	0	C14AI	6002	
3)	26.36	133	0	C15AI	3634	
4)	28.77	133	0	C16Ai	4997	
5)	30.72	133	0	C17AI	927	
6)	33.80	133	0	C18AI	1647	
7)	34.65	133	0	C19AI	2436	
8)	37.84	133	0	C20AI	1528	
9)	39.72	133	0	C21AI	1233	
10)	42.76	133	0	C22AI	1468	
11)	44.76	133	0	C23AI	698	
12)	55.73	133	0	C30AI	204	
13)	56.78	133	0	C31AI	339	
Naphthalenes:						
15)	11.95	128	a1	N	693229	951
17)	15.58	142	a2	2-MN	872587	1278
18)	16.12	142	a2	1-MN	676299	990
19)	18.74	156	a3	2-EN	67532	93
20)	18.85	156	a3	1-EN	32040	44
21)	19.10	156	a3	2.6+2.7-DMN	343840	472
22)	19.57	156	a3	1.3+1.7-DMN	488292	671
23)	19.68	156	a3	1.6-DMN	451097	620
24)	20.17	156	a3	2.3+1.4-DMN	178188	245
25)	20.26	156	a3	1.5-DMN	115352	158
26)	20.63	156	a3	1.2-DMN	73576	101
27)	22.16	170	a4	C3-N-1	87306	122
28)	22.68	170	a4	C3-N-2	34572	48
29)	22.81	170	a4	1.3.7-TMN	156555	219
30)	22.96	170	a4	1.3.6-TMN	243586	340
31)	23.44	170	a4	1.3.5+1.4.6-TMN	196055	274
32)	23.51	170	a4	2.3.6-TMN	163194	228
33)	23.93	170	a4	1.6.7+1.2.7-TMN	119743	167
34)	23.98	170	a4	1.2.6-TMN	78576	110
35)	24.42	170	a4	1.2.4-TMN	23737	33
36)	24.62	170	a4	1.2.5-TMN	81402	114
Biphenyls:						
37)	18.29	154	a5	BP	196995	190
38)	21.59	168	a5	3-MBP	179713	173
39)	21.84	168	a5	4-MBP	63342	61
40)	21.89	182	a4	2.3'-DMBP	7389	10
41)	22.10	182	a4	2.5-DMBP	3389	5
42)	22.28	182	a4	2.4+2.4'-DMBP	6664	9
43)	22.90	182	a4	2.3-DMBP	13433	19
44)	24.29	182	a4	3-EBP	17865	25
45)	24.61	182	a4	3.5-DMBP	28420	40
46)	24.72	182	a4	3.3'-DMBP	66461	93
47)	24.83	182	a4	4-EBP	6532	9
48)	25.01	182	a4	3.4'-DMBP	55703	78
49)	25.22	182	a4	4.4'-DMBP	11091	15
50)	25.79	182	a4	3.4-DMBP	27748	39

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Dibenzofuranes:						
51)	22.48	168	a5	DBF	43544	42
52)	25.57	182	a4	MDBF-1	58151	81
53)	25.94	182	a4	MDBF-2	37431	52
54)	26.24	182	a4	MDBF-3	29381	41
Fluorenes:						
55)	24.44	166	a6	F	73568	86
56)	27.68	180	a6	C1-F-1	27469	32
57)	27.93	180	a6	C1-F-2	101690	119
58)	28.23	180	a6	1-MF	17178	20
Dibenzothiophenes:						
60)	29.16	184	a7	DBT	40548	12
61)	31.79	198	a7	4-MDBT	51005	16
62)	32.31	198	a7	3+2-MDBT	14966	5
63)	32.89	198	a7	1-MDBT	15096	5
Phenanthrenes:						
64)	29.89	178	a8	P	267974	236
65)	32.84	192	a9	3-MP	94178	98
66)	32.98	192	a9	2-MP	115901	120
67)	33.47	192	a9	9-MP	148326	154
68)	33.59	192	a9	1-MP	126438	131
69)	35.56	206	a10	2EP+9EP+3.6-DMP	22249	22
70)	35.79	206	a10	1EP	27485	27
71)	35.89	206	a10	2.6+2.7+3.5-DMP	15255	15
72)	36.24	206	a10	1.3+2.10+3.9+3.10-DMI	116475	115
73)	36.38	206	a10	1.6+2.5+2.9-DMP	64704	64
74)	36.52	206	a10	1.7-DMP	65544	65
75)	36.67	206	a10	2.3-DMP	18758	19
76)	36.78	206	a10	1.9+4.9+4.10-DMP	38427	38
77)	37.08	206	a10	1.8-DMP	15156	15
Retene:						
78)	40.39	219	a8	Retene	64932	57
Triaromatic steroids:						
80)	44.86	231	a11	20TA	10771	4
81)	46.73	231	a11	21TA	11489	4
82)	53.69	231	a11	S26TA	12034	4
83)	54.89	231	a11	R26TA/S27TA	34818	12
84)	55.88	231	a11	S28TA	15689	5
85)	56.38	231	a11	R27TA	15717	5
86)	57.60	231	a11	R28TA	18633	6

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: **NSO1_38A.D**
Sample name: **nso1-ref 38 aro**
Data File Path: C:\HPCHEM\1\DATA\35_11_12\
Misc. info.:

Vial no.: 18
Method: MSD_A_E2
Operator: marian
Date: 9/6/2000 20:06

Response curve: y = ax+b
Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (if added):						
14)	11.86	136		d8N	27516	48
16)	18.16	164		d10BP	25121	42
59)	29.76	188		d10P	43410	48
79)	45.25	240		d12C	26176	48
Aryl isoprenoids:						
1)	20.25	133	0	C13AI	7864	
2)	22.06	133	0	C14AI	5529	
3)	26.35	133	0	C15AI	3431	
4)	28.77	133	0	C16Ai	4488	
5)	30.73	133	0	C17AI	810	
6)	33.79	133	0	C18AI	1525	
7)	34.83	133	0	C19AI	6071	
8)	37.84	133	0	C20AI	1319	
9)	39.71	133	0	C21AI	1067	
10)	42.76	133	0	C22AI	1303	
11)	44.74	133	0	C23AI	691	
12)	55.74	133	0	C30AI	141	
13)	56.75	133	0	C31AI	242	
Naphthalenes:						
15)	11.95	128	a1	N	591631	943
17)	15.57	142	a2	2-MN	796586	1277
18)	16.12	142	a2	1-MN	582842	934
19)	18.74	156	a3	2-EN	62465	94
20)	18.85	156	a3	1-EN	29686	45
21)	19.09	156	a3	2.6+2.7-DMN	312905	470
22)	19.57	156	a3	1.3+1.7-DMN	464592	698
23)	19.68	156	a3	1.6-DMN	407098	612
24)	20.16	156	a3	2.3+1.4-DMN	166603	250
25)	20.26	156	a3	1.5-DMN	101657	153
26)	20.64	156	a3	1.2-DMN	64922	98
27)	22.16	170	a4	C3-N-1	81768	125
28)	22.68	170	a4	C3-N-2	31972	49
29)	22.82	170	a4	1.3.7-TMN	140270	214
30)	22.96	170	a4	1.3.6-TMN	226415	346
31)	23.43	170	a4	1.3.5+1.4.6-TMN	179350	274
32)	23.51	170	a4	2.3.6-TMN	148542	227
33)	23.92	170	a4	1.6.7+1.2.7-TMN	107872	165
34)	23.98	170	a4	1.2.6-TMN	73440	112
35)	24.41	170	a4	1.2.4-TMN	21327	33
36)	24.63	170	a4	1.2.5-TMN	73778	113
Biphenyls:						
37)	18.29	154	a5	BP	179281	189
38)	21.58	168	a5	3-MBP	167685	177
39)	21.85	168	a5	4-MBP	58484	62
40)	21.89	182	a4	2.3'-DMBP	6643	10
41)	22.10	182	a4	2.5-DMBP	3203	5
42)	22.27	182	a4	2.4+2.4'-DMBP	5987	9
43)	22.90	182	a4	2.3-DMBP	12439	19
44)	24.29	182	a4	3-EBP	15728	24
45)	24.61	182	a4	3.5-DMBP	24854	38
46)	24.72	182	a4	3.3'-DMBP	63066	96
47)	24.83	182	a4	4-EBP	6038	9
48)	25.01	182	a4	3.4'-DMBP	48205	74
49)	25.22	182	a4	4.4'-DMBP	10017	15
50)	25.79	182	a4	3.4-DMBP	25083	38

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Dibenzofuranes:						
51)	22.48	168	a5	DBF	38430	40
52)	25.57	182	a4	MDBF-1	52042	80
53)	25.94	182	a4	MDBF-2	32605	50
54)	26.23	182	a4	MDBF-3	27490	42
Fluorenes:						
55)	24.45	166	a6	F	65928	84
56)	27.68	180	a6	C1-F-1	25047	32
57)	27.92	180	a6	C1-F-2	97689	125
58)	28.22	180	a6	1-MF	16963	22
Dibenzothiophenes:						
60)	29.17	184	a7	DBT	39667	13
61)	31.78	198	a7	4-MDBT	46181	15
62)	32.31	198	a7	3+2-MDBT	13283	4
63)	32.89	198	a7	1-MDBT	13862	4
Phenanthrenes:						
64)	29.90	178	a8	P	251917	233
65)	32.84	192	a9	3-MP	84042	91
66)	32.98	192	a9	2-MP	100852	110
67)	33.47	192	a9	9-MP	135276	147
68)	33.59	192	a9	1-MP	117749	128
69)	35.56	206	a10	2EP+9EP+3.6-DMP	18864	20
70)	35.78	206	a10	1EP	24340	25
71)	35.88	206	a10	2.6+2.7+3.5-DMP	14641	15
72)	36.23	206	a10	1.3+2.10+3.9+3.10-DMI	107744	112
73)	36.38	206	a10	1.6+2.5+2.9-DMP	60159	62
74)	36.51	206	a10	1.7-DMP	60772	63
75)	36.66	206	a10	2.3-DMP	16131	17
76)	36.77	206	a10	1.9+4.9+4.10-DMP	33463	35
77)	37.08	206	a10	1.8-DMP	13951	14
Retene:						
78)	40.39	219	a8	Retene	59144	55
Triaromatic steroids:						
80)	44.85	231	a11	20TA	9870	4
81)	46.72	231	a11	21TA	10842	4
82)	53.67	231	a11	S26TA	10818	4
83)	54.88	231	a11	R26TA/S27TA	32467	13
84)	55.88	231	a11	S28TA	14986	6
85)	56.37	231	a11	R27TA	14100	6
86)	57.59	231	a11	R28TA	16525	7

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name: **NSO1_55A.D**
Sample name: **nso1-ref 55 aro**
Data File Path: C:\HPCHEM\1\DATA\35_11_12\
Misc. info.:

Vial no.: 18
Method: MSD_A_E2
Operator: marian
Date: 9/7/2000 21:04

Response curve: y = ax+b
Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (if added):						
14)	11.86	136		d8N	39314	48
16)	18.18	164		d10BP	31817	42
59)	29.78	188		d10P	56372	48
79)	45.28	240		d12C	38323	48
Aryl isoprenoids:						
1)	20.26	133	0	C13AI	10206	
2)	22.08	133	0	C14AI	6832	
3)	26.37	133	0	C15AI	4231	
4)	28.79	133	0	C16Ai	5379	
5)	30.74	133	0	C17AI	1235	
6)	33.81	133	0	C18AI	1968	
7)	34.68	133	0	C19AI	3298	
8)	37.70	133	0	C20AI	1771	
9)	39.75	133	0	C21AI	1460	
10)	42.78	133	0	C22AI	2282	
11)	44.79	133	0	C23AI	932	
12)	55.75	133	0	C30AI	354	
13)	56.69	133	0	C31AI	350	
Naphthalenes:						
15)	11.97	128	a1	N	863704	964
17)	15.59	142	a2	2-MN	1076547	1362
18)	16.14	142	a2	1-MN	844206	1068
19)	18.75	156	a3	2-EN	81728	97
20)	18.87	156	a3	1-EN	38325	45
21)	19.12	156	a3	2.6+2.7-DMN	445872	529
22)	19.59	156	a3	1.3+1.7-DMN	557220	661
23)	19.70	156	a3	1.6-DMN	589617	700
24)	20.18	156	a3	2.3+1.4-DMN	211585	251
25)	20.29	156	a3	1.5-DMN	149431	177
26)	20.64	156	a3	1.2-DMN	88964	106
27)	22.18	170	a4	C3-N-1	101787	123
28)	22.70	170	a4	C3-N-2	39619	48
29)	22.84	170	a4	1.3.7-TMN	188385	227
30)	22.98	170	a4	1.3.6-TMN	302435	365
31)	23.46	170	a4	1.3.5+1.4.6-TMN	233710	282
32)	23.53	170	a4	2.3.6-TMN	195242	236
33)	23.95	170	a4	1.6.7+1.2.7-TMN	137867	166
34)	24.00	170	a4	1.2.6-TMN	98928	119
35)	24.43	170	a4	1.2.4-TMN	27826	34
36)	24.65	170	a4	1.2.5-TMN	99456	120
Biphenyls:						
37)	18.30	154	a5	BP	245881	204
38)	21.60	168	a5	3-MBP	225407	187
39)	21.85	168	a5	4-MBP	74812	62
40)	21.91	182	a4	2.3'-DMBP	8663	10
41)	22.12	182	a4	2.5-DMBP	4112	5
42)	22.29	182	a4	2.4+2.4'-DMBP	8376	10
43)	22.91	182	a4	2.3-DMBP	16429	20
44)	24.30	182	a4	3-EBP	22066	27
45)	24.63	182	a4	3.5-DMBP	32894	40
46)	24.73	182	a4	3.3'-DMBP	80122	97
47)	24.85	182	a4	4-EBP	7775	9
48)	25.03	182	a4	3.4'-DMBP	69285	84
49)	25.24	182	a4	4.4'-DMBP	12787	15
50)	25.81	182	a4	3.4-DMBP	33214	40

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Dibenzofuranes:						
51)	22.49	168	a5	DBF	49916	41
52)	25.59	182	a4	MDBF-1	69524	84
53)	25.96	182	a4	MDBF-2	45407	55
54)	26.25	182	a4	MDBF-3	35702	43
Fluorenes:						
55)	24.47	166	a6	F	88256	89
56)	27.70	180	a6	C1-F-1	33462	34
57)	27.95	180	a6	C1-F-2	131211	132
58)	28.24	180	a6	1-MF	21011	21
Dibenzothiophenes:						
60)	29.19	184	a7	DBT	50950	13
61)	31.81	198	a7	4-MDBT	62938	16
62)	32.34	198	a7	3+2-MDBT	18056	4
63)	32.91	198	a7	1-MDBT	18954	5
Phenanthrenes:						
64)	29.93	178	a8	P	334016	238
65)	32.87	192	a9	3-MP	109804	92
66)	33.00	192	a9	2-MP	137168	115
67)	33.49	192	a9	9-MP	180093	151
68)	33.62	192	a9	1-MP	156405	131
69)	35.59	206	a10	2EP+9EP+3.6-DMP	26719	21
70)	35.81	206	a10	1EP	33404	27
71)	35.91	206	a10	2.6+2.7+3.5-DMP	19199	15
72)	36.27	206	a10	1.3+2.10+3.9+3.10-DMI	139726	112
73)	36.41	206	a10	1.6+2.5+2.9-DMP	80736	65
74)	36.55	206	a10	1.7-DMP	75442	60
75)	36.69	206	a10	2.3-DMP	22424	18
76)	36.80	206	a10	1.9+4.9+4.10-DMP	46251	37
77)	37.11	206	a10	1.8-DMP	18683	15
Retene:						
78)	40.42	219	a8	Retene	77090	55
Triaromatic steroids:						
80)	44.88	231	a11	20TA	12697	3
81)	46.74	231	a11	21TA	15177	4
82)	53.71	231	a11	S26TA	13876	4
83)	54.91	231	a11	R26TA/S27TA	41471	11
84)	55.91	231	a11	S28TA	19879	5
85)	56.41	231	a11	R27TA	19343	5
86)	57.62	231	a11	R28TA	23524	6

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name:	**NSO1_11A.D**
Sample name:	**nso1 _11ref .aro**
Data File Path:	C:\HPCHEM\1\DATA\3511MUD\
Misc. info.:	
Vial no.:	8
Method:	MSD_A_E2
Operator:	marian
Date:	10/5/2000 3:47

Response curve: y = ax+b
Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (if added):						
14)	11.82	136		d8N	23649	48
16)	18.12	164		d10BP	19462	42
59)	29.71	188		d10P	37298	48
79)	45.19	240		d12C	22993	48
Aryl isoprenoids:						
1)	20.21	133	0	C13AI	6383	
2)	22.17	133	0	C14AI	2191	
3)	26.48	133	0	C15AI	8154	
4)	28.73	133	0	C16Ai	3732	
5)	30.77	133	0	C17AI	908	
6)	33.73	133	0	C18AI	1189	
7)	34.80	133	0	C19AI	5134	
8)	37.79	133	0	C20AI	964	
9)	39.77	133	0	C21AI	3321	
10)	42.72	133	0	C22AI	1177	
11)	44.79	133	0	C23AI	676	
12)	55.77	133	0	C30AI	573	
13)	56.72	133	0	C31AI	251	
Naphthalenes:						
15)	11.91	128	a1	N	514824	955
17)	15.52	142	a2	2-MN	615314	1273
18)	16.07	142	a2	1-MN	478005	989
19)	18.69	156	a3	2-EN	50466	98
20)	18.81	156	a3	1-EN	24538	48
21)	19.05	156	a3	2.6+2.7-DMN	259008	503
22)	19.52	156	a3	1.3+1.7-DMN	397843	772
23)	19.63	156	a3	1.6-DMN	342767	665
24)	20.12	156	a3	2.3+1.4-DMN	131456	255
25)	20.21	156	a3	1.5-DMN	81364	158
26)	20.59	156	a3	1.2-DMN	52553	102
27)	22.27	170	a4	C3-N-1	25424	50
28)	22.65	170	a4	C3-N-2	25983	51
29)	22.77	170	a4	1.3.7-TMN	124319	245
30)	22.91	170	a4	1.3.6-TMN	192254	379
31)	23.39	170	a4	1.3.5+1.4.6-TMN	158942	314
32)	23.46	170	a4	2.3.6-TMN	119796	236
33)	23.88	170	a4	1.6.7+1.2.7-TMN	88180	174
34)	23.93	170	a4	1.2.6-TMN	59064	117
35)	24.37	170	a4	1.2.4-TMN	17467	34
36)	24.57	170	a4	1.2.5-TMN	64664	128
Biphenyls:						
37)	18.24	154	a5	BP	146977	200
38)	21.54	168	a5	3-MBP	149258	203
39)	21.80	168	a5	4-MBP	47763	65
40)	21.85	182	a4	2.3'-DMBP	5317	10
41)	22.06	182	a4	2.5-DMBP	2535	5
42)	22.23	182	a4	2.4+2.4'-DMBP	4841	10
43)	22.85	182	a4	2.3-DMBP	9788	19
44)	24.24	182	a4	3-EBP	13437	27
45)	24.56	182	a4	3.5-DMBP	20255	40
46)	24.67	182	a4	3.3'-DMBP	50185	99
47)	24.79	182	a4	4-EBP	4595	9
48)	24.97	182	a4	3.4'-DMBP	39533	78
49)	25.19	182	a4	4.4'-DMBP	7429	15
50)	25.74	182	a4	3.4-DMBP	20538	41

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Dibenzofuranes:						
51)	22.43	168	a5	DBF	30973	42
52)	25.52	182	a4	MDBF-1	41162	81
53)	25.89	182	a4	MDBF-2	27860	55
54)	26.19	182	a4	MDBF-3	21110	42
Fluorenes:						
55)	24.41	166	a6	F	49930	82
56)	27.63	180	a6	C1-F-1	20461	34
57)	27.87	180	a6	C1-F-2	76621	126
58)	28.18	180	a6	1-MF	12626	21
Dibenzothiophenes:						
60)	29.11	184	a7	DBT	30768	12
61)	31.73	198	a7	4-MDBT	37675	14
62)	32.26	198	a7	3+2-MDBT	10699	4
63)	32.83	198	a7	1-MDBT	11191	4
Phenanthrenes:						
64)	29.84	178	a8	P	205821	222
65)	32.79	192	a9	3-MP	68832	87
66)	32.92	192	a9	2-MP	80229	101
67)	33.41	192	a9	9-MP	112636	142
68)	33.54	192	a9	1-MP	91185	115
69)	35.50	206	a10	2EP+9EP+3.6-DMP	15068	18
70)	35.73	206	a10	1EP	20298	25
71)	35.83	206	a10	2.6+2.7+3.5-DMP	11085	13
72)	36.18	206	a10	1.3+2.10+3.9+3.10-DMI	86181	104
73)	36.33	206	a10	1.6+2.5+2.9-DMP	50232	61
74)	36.46	206	a10	1.7-DMP	45670	55
75)	36.61	206	a10	2.3-DMP	12803	15
76)	36.72	206	a10	1.9+4.9+4.10-DMP	26732	32
77)	37.02	206	a10	1.8-DMP	11457	14
Retene:						
78)	40.33	219	a8	Retene	45786	49
Triaromatic steroids:						
80)	44.80	231	a11	20TA	7678	3
81)	46.67	231	a11	21TA	8719	4
82)	53.63	231	a11	S26TA	8299	4
83)	54.82	231	a11	R26TA/S27TA	25291	11
84)	55.83	231	a11	S28TA	12160	5
85)	56.32	231	a11	R27TA	10929	5
86)	57.55	231	a11	R28TA	12935	6

Aromatic hydrocarbons

GC/MS detection HP-6890/5973

Compound data

Norsk Hydro E&P Research Centre, Bergen, Norway
Petroleum Geochemistry Laboratories

Data file name:	**NSO1_18A.D**
Sample name:	***nso1 _18ref .aro***
Data File Path:	C:\HPCHEM\1\DATA\3511MUD\
Misc. info.:	
Vial no.:	8
Method:	MSD_A_E2
Operator:	marian
Date:	10/5/2000 14:04

Response curve: y = ax+b

Response factor groups: a1...a11, responses as defined in method

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Internal standard (if added):						
14)	11.83	136		d8N	26996	48
16)	18.12	164		d10BP	21185	42
59)	29.73	188		d10P	41389	48
79)	45.21	240		d12C	26086	48
Aryl isoprenoids:						
1)	20.22	133	0	C13AI	7419	
2)	22.17	133	0	C14AI	2459	
3)	26.49	133	0	C15AI	8824	
4)	28.73	133	0	C16Ai	4009	
5)	30.77	133	0	C17AI	994	
6)	33.75	133	0	C18AI	1635	
7)	34.71	133	0	C19AI	507	
8)	37.80	133	0	C20AI	1258	
9)	39.78	133	0	C21AI	3238	
10)	42.72	133	0	C22AI	1374	
11)	44.71	133	0	C23AI	589	
12)	55.78	133	0	C30AI	546	
13)	56.74	133	0	C31AI	138	
Naphthalenes:						
15)	11.93	128	a1	N	587463	954
17)	15.53	142	a2	2-MN	748482	1423
18)	16.08	142	a2	1-MN	558406	1061
19)	18.71	156	a3	2-EN	58750	105
20)	18.81	156	a3	1-EN	25558	46
21)	19.07	156	a3	2.6+2.7-DMN	291695	520
22)	19.53	156	a3	1.3+1.7-DMN	437627	780
23)	19.64	156	a3	1.6-DMN	377735	673
24)	20.12	156	a3	2.3+1.4-DMN	149062	266
25)	20.23	156	a3	1.5-DMN	93925	167
26)	20.60	156	a3	1.2-DMN	57760	103
27)	22.28	170	a4	C3-N-1	27240	49
28)	22.65	170	a4	C3-N-2	29960	54
29)	22.77	170	a4	1.3.7-TMN	135703	246
30)	22.91	170	a4	1.3.6-TMN	208152	377
31)	23.39	170	a4	1.3.5+1.4.6-TMN	175978	319
32)	23.47	170	a4	2.3.6-TMN	127912	232
33)	23.88	170	a4	1.6.7+1.2.7-TMN	101299	184
34)	23.94	170	a4	1.2.6-TMN	68864	125
35)	24.37	170	a4	1.2.4-TMN	19461	35
36)	24.59	170	a4	1.2.5-TMN	66695	121
Biphenyls:						
37)	18.25	154	a5	BP	163421	204
38)	21.55	168	a5	3-MBP	156491	195
39)	21.81	168	a5	4-MBP	54228	68
40)	21.86	182	a4	2.3'-DMBP	5961	11
41)	22.07	182	a4	2.5-DMBP	2703	5
42)	22.23	182	a4	2.4+2.4'-DMBP	5217	9
43)	22.86	182	a4	2.3-DMBP	10556	19
44)	24.25	182	a4	3-EBP	14512	26
45)	24.58	182	a4	3.5-DMBP	22862	41
46)	24.67	182	a4	3.3'-DMBP	53828	98
47)	24.79	182	a4	4-EBP	5150	9
48)	24.97	182	a4	3.4'-DMBP	42598	77
49)	25.19	182	a4	4.4'-DMBP	8609	16
50)	25.75	182	a4	3.4-DMBP	22491	41

#	Rt.min.	m/z	Rf.	Name	Height	Amount ng/mg
Dibenzofuranes:						
51)	22.44	168	a5	DBF	36338	45
52)	25.53	182	a4	MDBF-1	44897	81
53)	25.89	182	a4	MDBF-2	31289	57
54)	26.19	182	a4	MDBF-3	25127	46
Fluorenes:						
55)	24.41	166	a6	F	59711	90
56)	27.64	180	a6	C1-F-1	22045	33
57)	27.88	180	a6	C1-F-2	86658	131
58)	28.18	180	a6	1-MF	14879	23
Dibenzothiophenes:						
60)	29.12	184	a7	DBT	34400	12
61)	31.75	198	a7	4-MDBT	42006	14
62)	32.26	198	a7	3+2-MDBT	11595	4
63)	32.85	198	a7	1-MDBT	11967	4
Phenanthrenes:						
64)	29.86	178	a8	P	224597	218
65)	32.79	192	a9	3-MP	77046	88
66)	32.94	192	a9	2-MP	91365	104
67)	33.42	192	a9	9-MP	130093	148
68)	33.55	192	a9	1-MP	104099	119
69)	35.51	206	a10	2EP+9EP+3.6-DMP	17397	19
70)	35.74	206	a10	1EP	21944	24
71)	35.84	206	a10	2.6+2.7+3.5-DMP	11956	13
72)	36.20	206	a10	1.3+2.10+3.9+3.10-DMI	94414	103
73)	36.34	206	a10	1.6+2.5+2.9-DMP	52867	58
74)	36.47	206	a10	1.7-DMP	52773	57
75)	36.62	206	a10	2.3-DMP	14620	16
76)	36.74	206	a10	1.9+4.9+4.10-DMP	29028	32
77)	37.03	206	a10	1.8-DMP	12099	13
Retene:						
78)	40.35	219	a8	Retene	54468	53
Triaromatic steroids:						
80)	44.82	231	a11	20TA	8675	3
81)	46.68	231	a11	21TA	9509	4
82)	53.64	231	a11	S26TA	8787	3
83)	54.85	231	a11	R26TA/S27TA	27652	11
84)	55.84	231	a11	S28TA	13391	5
85)	56.34	231	a11	R27TA	12347	5
86)	57.56	231	a11	R28TA	13994	6

Vitrinite Reflectance Analyses – NOCS Well 35/11-12

Applied Petroleum Technology AS
P. O. Box 123
2027 Kjeller
Norway

Volume 1 of 1 .

Report Title:

Vitrinite Reflectance Analyses – NOCS Well 35/11-12.

Client: **Norsk Hydro ASA**

Report Number: APT00-003
Clients Reference: Linda Schulz
Classification: Confidential
Distribution: **Norsk Hydro (3)** **APT (2)**
Date: 15th September 2000

1 Introduction

This report gives the result of routine vitrinite reflectance analyses of 21 samples from well 35/11-12 offshore Norway.

2 Material

The material was provided from the client as 21 cuttings samples (DC).
Information on stratigraphy in well 35/11-12 was not provided from the client.

3 Analytical techniques

3.1 Preparation

The cuttings samples were then treated with hydrochloric and hydrofluoric acid prior to further preparation. The aim was to avoid soft and expanding mineral phases in order to ensure good polishing quality. The sample material resulting from the acid was embedded in an epoxy resin to make briquettes, ground flat and polished using 0.25 micron diamond paste and magnesium oxide as the two final steps.

3.2 Analysis

The analytical equipment being used was a Zeiss MPM 03 photometer microscope equipped with an Epiplan-Neofluar 40/0.90 oil objective. The sensitive measuring spot was kept constant for all measurements at about 2.5 micron in diameter. The measurements were made through a green band pass filter (546 nm) and in oil immersion (refractive index 1.515 at 18°C). The readings were made without a polarizer and using a stationary stage. This procedure is called measurement of random reflectance (%Rm). The photometer is calibrated daily against a standard of known reflectance (%Rm= 0.588) and routinely (daily) checked against two other standards of significant different reflectances (%Rm=0.879 and 1.696). A deviation from these values of less than ±0.01 and ±0.02 respectively is considered as acceptable. The calibration is routinely

checked during the course of measurements at least every hour, and a deviation of less than ±0.005 is considered as acceptable.

For each sample at least 20 points were measured if possible, and quality ratings are given to various important aspects which may affect the measurements. These aspects are abundance of vitrinite, uncertainties in the identification of indigenous vitrinite, type of vitrinite, particle size, particle surface quality and abundance of pyrite.

3.3 Presentation of results

The raw data from the measurements are presented in appendix for each sample both as tabulated data and histograms. A true vitrinite population is selected among the readings based on observations made during the measurements, and arithmetic mean values and standard deviation are calculated for this population and other populations. A quality rating is given to the true population. The results are listed in table 1. Figure 1 shows a vitrinite reflectance versus depth plot, both in linear and logarithmic scale.

4 Results

The samples were mostly of moderate quality with some disturbance from hydrocarbon staining deeper than 2900m. It has been possible to establish a fairly reliable vitrinite reflectance towards depth trend for well 35/11-12.

Table 1. Vitrinite reflectance data table well 35/11-12

Analysis type:	Vitrinite reflectance
Well:	35/11-12
Number of samples:	21
Time period for analysis:	aug.00
Analysis performed by:	K. Aasgaard, IFE
Analysis ordered by:	Hydro Bergen

IFE sample code	Start depth (m)	End depth (m)	Sample type	Lithology	Vitr. refl. (%Rm)	Stand. dev.	Number of readings	Sample description	Sample quality	Sample prep.
20001337	1297	1300	DC	clyst	0,21	0,03	22	ooo-o+	M	HF
20001338	1397	1400	DC	clyst	0,22	0,03	22	ooo-o+	M	HF
20001339	1497	1500	DC	clyst	0,24	0,03	22	ooooo+	G/M	HF
20001340	1597	1600	DC	clyst	0,32	0,05	25	oooo-+	M	HF
20001341	1687	1690	DC	clyst	0,26	0,05	19	ooo--+	M	HF
20001342	1797	1800	DC	clyst	0,31	0,05	20	ooo-o+	M	HF
20001343	1897	1900	DC	clyst/sst	0,36	0,02	4	-±o-oo	P	HF
20001344	1992	1995	DC	clyst/sst	0,37	0,06	23	oooo-+	M	HF
20001345	2097	2100	DC	clyst	0,43	0,07	20	ooo-o+	M/G	HF
20001346	2197	2200	DC	clyst	0,49	0,06	23	ooo-o+	M	HF
20001347	2297	2300	DC	clyst	0,46	0,06	16	-oo-o+	M	HF
20001348	2397	2400	DC	clyst	0,51	0,06	21	ooo-o+	M	HF
20001349	2497	2500	DC	clyst	0,57	0,09	21	ooooo+	G	HF
20001350	2597	2600	DC	clyst/sst	0,61	0,05	9	-±o-oo	P	HF
20001351	2687	2690	DC	clyst/sst	0,57	0,07	23	ooo-o+	M	HF
20001352	2807	2810	DC	clyst	0,55	0,04	20	ooo-o+	M	HF
20001353	2905	2907	DC	clyst	0,51	0,03	4	-o---+	P	HF
20001354	2997	3000	DC	clyst	0,63	0,08	22	o±o--+	P	HF
20001355	3080	3100	DC	clyst	0,62	0,07	12	-oo--+	Pst	HF
20001356	3195	3197	DC	clyst	0,62	0,06	25	ooo--+	Mst	HF
20001357	3295	3297	DC	clyst	0,72	0,04	7	-±±--+	Pst	HF

Legend to vitrinite reflectance data table

Lithology code		Sample quality		Sample preparation	
Sandstone	sst	G	good	HF	sample treated with hydrofluoric
Siltstone	slst	M	moderate		acid prior to analysis
Claystone	clyst	P	poor	bulk	sample treated as bulk rock
Shale	sh	st	hydrocarbon staining		
Limestone	lst				
Coal	coal				

Sample description and measurement evaluation (- o +)			Options
oooooo	1	Abundance of vitrinite	- o
123456	2	Identification of vitrinite	- o +
	3	Type of vitrinite	- o +
	4	Vitrinite fragment size	- o
	5	Vitrinite surface quality	- o
	6	Abundance of pyrite	o +

Options legend:		
	-	may give too low vitrinite reflectance sample value
	o	reliable vitrinite reflectance sample value
	+	may give too high vitrinite reflectance sample value