

Aromatic hydrocarbon gas chromatography: peak heights

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	2MN	1MN	BPh	2EN	1EN	2.6+2.7DMN	1.6DMN	1.5DMN
NOCS 6506/6-1	1972	2008	cut	shale/claystone	60	0	0	0	0	0	0	0	0
NOCS 6506/6-1	3599.8	3599.8	swc	shale/claystone	100	8493	9433	2006	8255	5854	16778	30336	8539
NOCS 6506/6-1	4368	4386	cut	shale/claystone	100	0	0	1525	0	0	3010	3438	0
NOCS 6506/6-1	4440	4450	cut	shale/claystone	100	0	0	0	0	0	4989	4189	0
NOCS 6506/6-1	4750	4770	cut	shale/claystone	95	0	0	0	0	0	0	0	0
NOCS 6506/6-1	5230	5230	ccp	shale/claystone	100	0	0	0	0	0	0	0	0
NOCS 6506/6-1	5267	5267	ccp	other	30	0	0	0	0	0	0	0	0
NOCS 6506/6-1	5400	5439	cut	bulk fraction		0	0	0	0	0	0	0	0

Aromatic hydrocarbon gas chromatography: peak heights

Lower depth (m)	1.3.7TMN	1.3.6TMN	1.3.5TMN	1.4.6+2.3.6TMN	P	3MP	2MP	9MP	1MP	DBT	4MDBT	2+3MDBT	1MDBT	Sample number
2008	0	0	4270	5604	0	0	0	0	0	0	0	0	0	U01/0004-2
3599.8	7828	18297	14951	17337	52043	15219	18833	17103	18475	0	0	0	0	U01/0106-1
4386	2557	4755	3385	3672	7264	4132	7528	3274	3121	0	0	0	0	U01/0175-1
4450	4315	7473	4941	6229	16040	8977	12565	5948	4672	0	0	0	0	U01/0179-1
4770	0	0	0	0	3456	2362	4618	0	0	0	0	0	0	U01/0195-1
5230	0	0	0	0	19405	5096	8498	0	0	0	0	0	0	U01/0131-1
5267	0	0	0	0	19643	4309	8407	0	0	0	0	0	0	U01/0162-2
5439	0	0	0	0	14163	3693	4545	0	0	0	0	0	0	U01/0212-0

Aromatic hydrocarbon gas chromatography: peak height ratios

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	Rc	DBT/Ph	4/1MDBT
NOCS 6506/6-1	1972	2008	cut	shale/claystone	60	0	0	0	0	0	0	0	0	0
NOCS 6506/6-1	3599.8	3599.8	swc	shale/claystone	100	0.9	1.96	0.07	1.02	0.58	0.64	0.75	0	0
NOCS 6506/6-1	4368	4386	cut	shale/claystone	100	0	0	0.44	2.41	1.28	1.65	1.17	0	0
NOCS 6506/6-1	4440	4450	cut	shale/claystone	100	0	0	0	2.69	1.21	1.41	1.13	0	0
NOCS 6506/6-1	4750	4770	cut	shale/claystone	95	0	0	0	0	3.03	4.01	2.22	0	0
NOCS 6506/6-1	5230	5230	ccp	shale/claystone	100	0	0	0	0	1.05	1.31	1.03	0	0
NOCS 6506/6-1	5267	5267	ccp	other	30	0	0	0	0	0.97	1.28	0.98	0	0
NOCS 6506/6-1	5400	5439	cut	bulk fraction		0	0	0	0	0.87	0.96	0.92	0	0

Aromatic hydrocarbon gas chromatography: peak height ratios

Lower depth (m)	(3+2)/1MDBT	F1	F2	Sample number
2008	0	0	0	U01/0004-2
3599.8	0	0.49	0.27	U01/0106-1
4386	0	0.65	0.42	U01/0175-1
4450	0	0.67	0.39	U01/0179-1
4770	0	1	0.66	U01/0195-1
5230	0	1	0.63	U01/0131-1
5267	0	1	0.66	U01/0162-2
5439	0	1	0.55	U01/0212-0

Table 11 Whole Oil GC

Well name	Upper depth (m)	Lower depth (m)	Desc	Desc	iC4	nC4	iC5	nC5	2,2DMC4	2,3DMC4	2MC5	3MC5	nC6
6506/6-1	5169	5169	fil	4L FMT	0	0	0	0	0.38	0.12	0	0	0.85

Table 11 Whole Oil GC

Lower depth (m)	Desc	Desc	MCyC5	Benz	CyC6	2MC6	3MC6	1,3ciDMCy	1,3trDMCy	1,2trDMCy	nC7	MCyC6	Tol
5169	fil	4L FMT	0.81	8.39	0.89	1.16	1.01	0.19	0.12	0.35	1.62	1.59	13.76

Table 11 Whole Oil GC

Lower depth (m)	Desc	Desc	nC8	p/m-Xyl	Sample number
5169	fil	4L FMT	2.05	4.89	U22/0001-0

Table 12a GC-MS m/z 191 Triterpane peak height ratios

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	Ratio 1	Ratio 2	Ratio 3	Ratio 4	Ratio 5	Ratio 6	Ratio 7	Ratio 8	Ratio 9
NOCS 6506/6-1	1972	2008	cut	shale/claystone	60	1.57	0.61	0.18	0.9	0.47	0.14	0.1	0.11	0.09
NOCS 6506/6-1	3599.8	3599.8	swc	shale/claystone	100	3.8	0.79	0.2	0.81	0.45	0.03	0.05	0.07	0.05
NOCS 6506/6-1	4368	4386	cut	shale/claystone	100	2.39	0.7	0.16	0.67	0.4	0.02	0.03	0.04	0.03
NOCS 6506/6-1	4440	4450	cut	shale/claystone	100	3.35	0.77	0.16	0.65	0.4	0.02	0.02	0.03	0.02
NOCS 6506/6-1	4750	4770	cut	shale/claystone	95	2.96	0.75	0.18	0.72	0.42	0.02	0.02	0.03	0.02
NOCS 6506/6-1	5230	5230	ccp	shale/claystone	100	1.12	0.53	0.22	0.69	0.41	0.08	0.08	0.11	0.07
NOCS 6506/6-1	5267	5267	ccp	other	30	3.06	0.75	0.19	0.77	0.44	0.01	0.02	0.02	0.02
NOCS 6506/6-1	5400	5439	cut	bulk fraction		1.55	0.61	0.18	0.66	0.4	0.04	0.04	0.06	0.04

Table 12a GC-MS m/z 191 Triterpane peak height ratios

Lower depth (m)	Ratio 10	Ratio 11	Ratio 12	Ratio 13	Ratio 14	Sample number
2008	0.18	0.51	0.36	0.62	51.94	U01/0004-2
3599.8	0.03	0.86	0.44	0.15	59.64	U01/0106-1
4386	0.12	0.82	0.39	0.19	59.65	U01/0175-1
4450	0.1	0.8	0.38	0.21	55.45	U01/0179-1
4770	0.15	0.82	0.4	0.18	57.22	U01/0195-1
5230	0.26	0.86	0.4	0.15	58.6	U01/0131-1
5267	0.14	0.84	0.42	0.14	55.88	U01/0162-2
5439	0.26	0.86	0.39	0.15	60.24	U01/0212-0

Table 12b GC-MS m/z 217 Sterane peak height ratios

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	Ratio 1	Ratio 2	Ratio 3	Ratio 4	Ratio 5	Ratio 6	Ratio 7	Ratio 8	Ratio 9
NOCS 6506/6-1	1972	2008	cut	shale/claystone	60	0.04	7.62	32.94	0.71	0.76	0.19	0.16	0.2	0.08
NOCS 6506/6-1	3599.8	3599.8	swc	shale/claystone	100	0.7	43.33	59.32	1.47	0.63	0.53	0.41	0.42	0.76
NOCS 6506/6-1	4368	4386	cut	shale/claystone	100	0.27	23.24	55.19	0.92	0.73	0.49	0.39	0.38	0.3
NOCS 6506/6-1	4440	4450	cut	shale/claystone	100	0.32	28.84	57.15	1.23	0.7	0.59	0.49	0.4	0.41
NOCS 6506/6-1	4750	4770	cut	shale/claystone	95	0.34	26.46	56.07	1.2	0.71	0.55	0.45	0.39	0.36
NOCS 6506/6-1	5230	5230	ccp	shale/claystone	100	0.58	37.06	70.92	1.14	0.77	0.56	0.44	0.55	0.59
NOCS 6506/6-1	5267	5267	ccp	other	30	0.61	42.56	65.96	1.67	0.69	0.57	0.44	0.49	0.74
NOCS 6506/6-1	5400	5439	cut	bulk fraction		0.37	22.06	56.81	1.06	0.75	0.6	0.5	0.4	0.28

Table 12b GC-MS m/z 217 Sterane peak height ratios

Lower depth (m)	Ratio 10	Sample number
2008	0.27	U01/0004-2
3599.8	1.29	U01/0106-1
4386	0.8	U01/0175-1
4450	0.94	U01/0179-1
4770	0.87	U01/0195-1
5230	1.94	U01/0131-1
5267	1.69	U01/0162-2
5439	0.84	U01/0212-0

Table 12c GC-MS m/z 191 triterpane peak heights

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	23/3 (P)	24/3 (Q)	25/3 (R)	24/4 (S)	26/3 (T)	27Ts (A)	27Tm (B)
NOCS 6506/6-1	1972	2008	cut	shale/claystone	60	2479.3	1331	2279.5	1226	466.3	2065.1	3235.9
NOCS 6506/6-1	3599.8	3599.8	swc	shale/claystone	100	4631.7	1988.5	725.6	10328.6	634.5	5745.2	21835.7
NOCS 6506/6-1	4368	4386	cut	shale/claystone	100	1828.4	834.8	286	599.6	213.2	658.3	1571.5
NOCS 6506/6-1	4440	4450	cut	shale/claystone	100	1874	959.5	338.9	799.8	253.8	687.6	2305.3
NOCS 6506/6-1	4750	4770	cut	shale/claystone	95	2115.5	981.6	330	737.1	267.1	612.4	1811.1
NOCS 6506/6-1	5230	5230	ccp	shale/claystone	100	11851.4	6737.7	2190.8	5403.6	1661.9	7327.2	8240.8
NOCS 6506/6-1	5267	5267	ccp	other	30	1119.1	539.5	225.3	687.8	176.3	357.1	1092.7
NOCS 6506/6-1	5400	5439	cut	bulk fraction		2933	1303	367.6	727	243.3	844	1309.4

Table 12c GC-MS m/z 191 triterpane peak heights

Lower depth (m)	28ab (Z)	25nor30ab (Z1)	29ab (C)	29Ts (C1)	30d (X)	29ba (D)	30O	30ab (E)	30ba (F)	30G	31abS (G)	31abR (H)	31ba (I)
2008	724.2	664.3	6791.9	4166.9	1027.2	1499.4	1386.5	7516	7303.8	486.9	1705.9	2257.7	916.2
3599.8	3870.7	703.5	59236.6	10616.7	2474.2	8232.6	493.2	73324.5	11942.1	3728.9	21772.3	14537.5	4187.9
4386	202.2	239.4	4684.4	627.7	171.4	655.6	190.7	6948.2	1501.4	1950.1	1480.1	1009.9	256
4450	181.1	289	6230.9	550.4	178	932.3	0	9526.5	2362.2	3877.2	1621.5	1169.4	304
4770	162.1	219	4870	513.9	143.2	600.7	158.6	6765.3	1520.8	2135.4	1260.7	834.5	214.9
5230	2055.6	6923.2	17884.2	5252.2	2096.4	2536.4	1361.4	25940.2	4087.2	2795.8	6736	4153	994.9
5267	72.1	49.2	3007.5	246.7	41.6	272.6	42.3	3897.1	714.9	770.7	698.7	472.9	94.2
5439	208.8	520	3381.2	662.4	201.9	479.2	324.4	5096.5	827.8	734.1	1150.1	747.1	163.7

Table 12c GC-MS m/z 191 triterpane peak heights

Lower depth (m)	32abS (J1)	32abR (J2)	33abS (K1)	33abR (K2)	34abS (L1)	34abR (L2)	35abS (M1)	35abR (M2)	Sample number
2008	1119.1	1035.3	646.3	633.2	445	323	434.1	427.9	U01/0004-2
3599.8	9100	6157.8	4059.8	2667.5	2109.4	1163.5	711.8	399.3	U01/0106-1
4386	740.9	501.1	427.6	302.7	238.4	156	158.4	105.7	U01/0175-1
4450	666.1	535.1	394.1	299.4	180.2	129.5	119.5	69.5	U01/0179-1
4770	591	441.9	314.9	245	149.6	99.4	104.1	67.1	U01/0195-1
5230	3823.7	2701.2	2678.2	1577.8	1678.6	924.9	1120.5	654.5	U01/0131-1
5267	283.7	223.9	163.3	105.7	91.7	49.2	69.6	40.8	U01/0162-2
5439	611.7	403.7	383	225.7	185.8	122.8	109.9	66.7	U01/0212-0

Table 12d GC-MS m/z 217 peak heights

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	21a (u)	22a (v)	27dbS (a)	27dbR (b)	27daR (c)	27daS (d)	28dbS (e)
NOCS 6506/6-1	1972	2008	cut	shale/claystone	60	3127.3	1174.9	882.1	690.3	334.8	1289.1	798.3
NOCS 6506/6-1	3599.8	3599.8	swc	shale/claystone	100	8768.6	2051.1	7553	4265.7	1769	1928.4	3591.4
NOCS 6506/6-1	4368	4386	cut	shale/claystone	100	1198.7	477	472.3	326.9	128.1	172.5	234.2
NOCS 6506/6-1	4440	4450	cut	shale/claystone	100	1659.2	614.4	544.1	339.2	151.4	173.4	254.4
NOCS 6506/6-1	4750	4770	cut	shale/claystone	95	1327.7	501.5	530.9	345.7	126	151.9	243.7
NOCS 6506/6-1	5230	5230	ccp	shale/claystone	100	11818.7	4833	7432.9	4581.1	1770.6	2000.5	3443.9
NOCS 6506/6-1	5267	5267	ccp	other	30	543.3	236.2	497.5	278.7	109.6	127.4	174
NOCS 6506/6-1	5400	5439	cut	bulk fraction		1770.3	664.4	575.5	385.8	143.5	163.4	266

Table 12d GC-MS m/z 217 peak heights

Lower depth (m)	28dbR (f)	28daR+27aaS (g)	29dbS+27bbR (h)	28daS+27bbS (i)	27aaR (j)	29dbR (k)	29daR (l)	28aaS (m)	29daS+28bbR (n)	28bbS (o)
2008	351.9	4805.8	1206.2	776.5	19488.5	851.5	449.2	570.7	1987.5	853.2
3599.8	2047.9	2803.8	4365.7	2389.4	3268.2	3192.6	1121.8	1989.7	1892.1	1950.7
4386	137.2	488.3	445.9	302.9	1279	276.2	129.7	228.5	341.1	311.3
4450	140.2	423.5	425.9	270.3	1155.8	253.5	47.4	262.4	253.6	281.6
4770	116.1	395.5	367.9	275.4	1042.7	245.6	111.1	202.8	239.4	232.3
5230	1748.6	2620.2	6070.5	3906.4	5305.3	3781.7	1377.8	1251	2653.1	3426.1
5267	93.8	154.5	283.8	218.3	322	141.7	53.8	90.1	125.8	163.5
5439	145.5	401.9	488	342.1	998.8	309.5	120.5	137.9	282	305.1

Table 12d GC-MS m/z 217 peak heights

Lower depth (m)	28aaR (p)	29aaS (q)	29bbR (r)	29bbS (s)	29aaR (t)	Sample number
2008	7745.2	1135.9	3011.6	650.9	13776.9	U01/0004-2
3599.8	1945.9	2362.6	2264.3	1712	3090.4	U01/0106-1
4386	624.7	254.9	382.8	292.6	842	U01/0175-1
4450	615.9	273.1	351	280.5	673.9	U01/0179-1
4770	550.5	238.9	323.4	252.9	664	U01/0195-1
5230	2101.7	2217.6	3987.3	3311	3766.2	U01/0131-1
5267	142.7	125	153	131.5	168.6	U01/0162-2
5439	510.1	217.1	382.5	264.6	766.7	U01/0212-0

Table 12e GC-MS m/z 177 peak heights

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	25nor28ab	25nor30ab	Sample number
NOCS 6506/6-1	1972	2008	cut	shale/claystone	60	1205.2	438.5	U01/0004-2
NOCS 6506/6-1	3599.8	3599.8	swc	shale/claystone	100	256.4	120.7	U01/0106-1
NOCS 6506/6-1	4368	4386	cut	shale/claystone	100	143.4	141.1	U01/0175-1
NOCS 6506/6-1	4440	4450	cut	shale/claystone	100	149.4	162.9	U01/0179-1
NOCS 6506/6-1	4750	4770	cut	shale/claystone	95	131.9	95.3	U01/0195-1
NOCS 6506/6-1	5230	5230	ccp	shale/claystone	100	2285.3	4141.9	U01/0131-1
NOCS 6506/6-1	5267	5267	ccp	other	30	62	38.9	U01/0162-2
NOCS 6506/6-1	5400	5439	cut	bulk fraction		238.3	278.7	U01/0212-0

Table 12f GC-MS m/z 218 peak heights

Well name	Upper depth (m)	Lower depth (m)	Sample type	Desc	%Lithology	27bbR (h)	27bbS (i)	28bbR (n)	28bbS (o)	29bbR (r)	29bbS (s)
NOCS 6506/6-1	1972	2008	cut	shale/claystone	60	1082.1	889.5	1447.9	4091.7	2103.5	1432.2
NOCS 6506/6-1	3599.8	3599.8	swc	shale/claystone	100	3504.3	2893	2907.5	3154.9	3000.2	2764.7
NOCS 6506/6-1	4368	4386	cut	shale/claystone	100	502.8	433.7	383.9	430.7	523.5	462.5
NOCS 6506/6-1	4440	4450	cut	shale/claystone	100	508.3	382.9	387.1	425.1	486.7	406.9
NOCS 6506/6-1	4750	4770	cut	shale/claystone	95	480.6	403.5	370.1	442.9	466.2	401.1
NOCS 6506/6-1	5230	5230	ccp	shale/claystone	100	6707.6	5392.2	4151.9	5131.2	5717.3	5393.1
NOCS 6506/6-1	5267	5267	ccp	other	30	341.6	315.8	211.7	247.9	226.8	214.5
NOCS 6506/6-1	5400	5439	cut	bulk fraction		552.5	458.1	405.6	488.8	536.2	487.9

Table 12f GC-MS m/z 218 peak heights

Lower depth (m)	30bbR (x)	30bbS (y)	Sample number
2008	223.9	1679.4	U01/0004-2
3599.8	358.6	398.3	U01/0106-1
4386	80.3	73.9	U01/0175-1
4450	61.2	59.2	U01/0179-1
4770	70.5	71.1	U01/0195-1
5230	1081.8	1089	U01/0131-1
5267	31.8	33.7	U01/0162-2
5439	86.9	85.3	U01/0212-0

Table 13 Gas Isotope composition ($\delta^{13}\text{C}$ - ‰)

Sample	Sample depth (m)	$\delta^{13}\text{C}$ methane	$\delta^{13}\text{C}$ ethane
4L FMT	5169	-40.1	-24.8
10324-AA	5169	-31.2	-33.2