

Table 3: Lithology description for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2594.76	ccp					0034
			100	S/Sst : pl gy brn		0034-1L
2595.26	ccp					0035
			100	S/Sst : pl gy brn		0035-1L
2595.78	ccp					0036
			100	S/Sst : pl gy brn		0036-1L
2601.00						0063
	1.69		55	Sh/Clst: m gy		0063-1L
			35	Cont : dd		0063-2L
			10	Sh/Clst: gy red		0063-5L
			tr	Ca : brn gy		0063-3L
			tr	Sh/Clst: brn blk to drk gy		0063-4L
2604.00						0064
	2.12		75	Sltst : lt gy to m gy, s		0064-1L
			25	Cont : dd		0064-2L
			tr	Ca : brn gy		0064-3L
			tr	Sh/Clst: gy red		0064-4L
			tr	Sh/Clst: dsk y brn, carb		0064-5L
2607.00						0065
	2.58		55	Sltst : lt gy, s, argill		0065-1L
			45	Cont : dd		0065-2L
			tr	Ca : brn gy		0065-3L
			tr	Sh/Clst: gy red		0065-4L
2610.00						0066
	1.82		85	S/Sst : lt gy, f, slt		0066-1L
			15	Cont : dd		0066-2L
			tr	Ca : brn gy		0066-3L

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2613.00						0067	
	2.22	80	Sltst	:	lt gy, s, argill	0067-1L	
		20	Cont	:	dd	0067-2L	
		tr	Ca	:	brn gy	0067-3L	
2616.00						0068	
	1.82	70	Sltst	:	lt gy, s, argill	0068-1L	
		20	Cont	:	dd	0068-2L	
		10	S/Sst	:	w, kln	0068-4L	
		tr	Ca	:	brn gy	0068-3L	
		tr	Sh/Clst:	:	m gy	0068-5L	
2634.00					Lror	0069	
	0.91	90	S/Sst	:	lt gy, f, slt	0069-1L	
		10	Cont	:	dd	0069-2L	
		tr	Ca	:	brn gy	0069-3L	
		tr	S/Sst	:	w, kln	0069-4L	
2637.00						0070	
	1.01	80	S/Sst	:	lt gy to w, f, slt	0070-1L	
		20	Cont	:	dd	0070-2L	
		tr	Ca	:	brn gy	0070-3L	
2643.00						0071	
	1.19	90	Sltst	:	lt gy to m gy, s, argill	0071-1L	
		10	Cont	:	dd	0071-2L	
		tr	Ca	:	brn gy	0071-3L	
2646.00						0072	
	1.38	90	Sh/Clst:	:	lt gy to m gy, slt	0072-1L	
		10	Cont	:	dd	0072-2L	
		tr	Ca	:	brn gy	0072-3L	

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2649.00						0073
	1.35	90	Sh/Clst:	lt gy to m gy, slt		0073-1L
		10	Cont	: dd		0073-2L
		tr	Ca	: brn gy		0073-3L
2652.00						0074
	1.47	90	Sh/Clst:	lt gy to m gy, slt		0074-1L
		10	Cont	: dd		0074-2L
		tr	Ca	: brn gy		0074-3L
2658.00						0075
	1.47	80	Sh/Clst:	lt gy to m gy, slt		0075-1L
		10	Cont	: dd		0075-2L
		10	S/Sst	: w to lt gy, kln		0075-4L
		tr	Ca	: brn gy		0075-3L
2661.00						0076
	1.79	80	Sh/Clst:	lt gy to m gy, slt		0076-1L
		10	Cont	: dd		0076-2L
		10	S/Sst	: w to lt gy, kln		0076-4L
		tr	Ca	: brn gy		0076-3L
2676.00						0077
	1.47	70	Sh/Clst:	lt gy to m gy, slt		0077-1L
		20	S/Sst	: w to lt gy, kln		0077-3L
		10	Cont	: dd		0077-2L
2679.00						0078
	1.40	95	Sh/Clst:	lt gy to m gy, slt		0078-1L
		5	Cont	: dd		0078-2L
		tr	S/Sst	: w to lt gy, kln		0078-3L
2682.00						0079
	1.43	90	Sh/Clst:	lt gy to m gy, slt		0079-1L
		10	Cont	: dd		0079-2L
		tr	S/Sst	: w to lt gy, kln		0079-3L

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample
Int	Cvd	TOC%	%	Lithology description		
2685.00						0080
	1.43	95	Sh/Clst:	lt gy to m gy, slt		0080-1L
		5	Cont	: dd		0080-2L
			tr S/Sst	: w to lt gy, kln		0080-3L
2688.00						0081
	2.00	95	Sh/Clst:	lt gy to m gy, slt		0081-1L
		5	Cont	: dd		0081-2L
			tr Sh/Clst:	gy red		0081-3L
2691.00						0082
	1.66	85	Sh/Clst:	lt gy to m gy, slt		0082-1L
		15	Cont	: dd		0082-2L
2694.00						0083
	1.94	95	Sh/Clst:	lt gy to m gy, slt		0083-1L
		5	Cont	: dd		0083-2L
2700.00						0084
	1.82	90	Sh/Clst:	lt gy to m gy, slt		0084-1L
		10	Cont	: dd		0084-2L
			tr S/Sst	: w to lt gy		0084-3L
2703.00						0085
	1.98	90	Sh/Clst:	lt gy to m gy, slt		0085-1L
		10	Cont	: dd		0085-2L
2706.00						0086
	2.50	80	Sh/Clst:	lt gy to m gy, slt		0086-1L
		20	Cont	: dd, prp		0086-2L

Table 3: Lithology description for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2709.00						0087	
	1.98	70	Sh/Clst: lt gy to m gy, slt			0087-1L	
		30	Cont : dd			0087-2L	
2730.00						0088	
		70	S/Sst : w to lt gy, kln			0088-4L	
		10	Sh/Clst: lt gy to m gy, slt			0088-1L	
		10	Cont : dd			0088-2L	
		10	Sh/Clst: drk gy to dsk y brn, slt			0088-3L	
2733.00						0089	
	1.99	60	S/Sst : w to lt gy, kln			0089-4L	
		20	Sh/Clst: lt gy to m gy, slt			0089-1L	
		20	Cont : dd			0089-2L	
		tr	Sh/Clst: drk gy to dsk y brn, slt			0089-3L	
2739.00						0090	
	1.30	35	Sh/Clst: lt gy to m gy, slt			0090-1L	
		35	S/Sst : w to lt gy, kln			0090-4L	
		30	Cont : dd			0090-2L	
		tr	Sh/Clst: drk gy to dsk y brn, slt			0090-3L	
2742.00						0091	
	1.88	40	Cont : dd			0091-2L	
		30	Sh/Clst: lt gy to m gy, slt			0091-1L	
		30	S/Sst : w to lt gy, kln			0091-4L	
		tr	Sh/Clst: drk gy to dsk y brn, slt			0091-3L	
2745.00						0095	
	1.81	80	S/Sst : w to lt gy, kln			0095-3L	
		15	Sh/Clst: lt gy to m gy, slt, s			0095-2L	
		5	Cont : dd			0095-1L	

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Depth unit of measure: m

Depth	Type	Grp	Frm	Age	Trb	Sample	
Int Cvd	TOC%	%	Lithology description				
2748.00						0092	
	1.76	65	Sh/Clst: lt gy to m gy, slt			0092-1L	
		20	S/Sst : w to lt gy, kln			0092-3L	
		15	Cont : dd			0092-2L	
2751.00						0093	
	1.93	60	Sh/Clst: lt gy to m gy, slt			0093-1L	
		25	S/Sst : w to lt gy, kln			0093-3L	
		15	Cont : dd			0093-2L	
2757.00						0094	
	1.42	45	Sh/Clst: lt gy to m gy, slt			0094-1L	
		35	S/Sst : w to lt gy, kln			0094-3L	
		20	Cont : dd			0094-2L	

Table 4 : Thermal Maturity Data for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	Vitrinite Reflectance (%)	Number of Readings	Standard Deviation (%)	Spore Fluorescence Colour	SCI	Tmax (°C)	Sample
600.00	cut	bulk	0.27	22	0.04	3	3.0(??)	-	0039-0B
900.00	cut	bulk	0.28	8	0.03	3.5	3.5(??)	-	0040-0B
1200.00	cut	bulk	0.29	23	0.04	-	-	-	0041-0B
1350.00	cut	bulk	0.29	21	0.06	4-4.5	4.0-4.5	-	0042-0B
1550.00	cut	bulk	0.31	23	0.05	-	-	-	0043-0B
1750.00	cut	bulk	NDP	-	-	4-4.5	4.0-4.5(?)	-	0044-0B
1970.00	cut	bulk	0.33	2	0.02	-	-	-	0045-0B
2070.00	cut	bulk	0.34	9	0.06	4.5-5	4.5-5.0(?)	-	0046-0B
2170.00	cut	bulk	0.40	18	0.05	-	-	-	0047-0B
2270.00	cut	bulk	0.44	18	0.09	-	-	-	0048-0B
2370.00	cut	bulk	0.40	20	0.08	5-5.5	5.0-5.5	417	0052-0B
2469.00	cut	bulk	0.46	13	0.07	5.5-6	5.5-6.0	433	0058-0B
2497.86	ccp	bulk	0.37	3	0.03	5.5	5.5(?)	426	0002-0B
2576.38	ccp	bulk	0.46	15	0.05	5.5-6	5.5-6.0	438	0022-0B
2691.00	cut	bulk	0.48	6	0.10	5.5	5.5(?)	431	0082-0B
2757.00	cut	bulk	0.37	10	0.05	5.5-6	5.5-6.0	436	0094-0B

Table 5A: Rock-Eval table for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2340.00	cut	Sh/Clst: m gy	3.31	1.40	-	-	1.39	101	-	4.7	0.70	432	0049-1L
2350.00	cut	Sh/Clst: m gy	3.86	1.68	-	-	1.52	111	-	5.5	0.70	431	0050-1L
2360.00	cut	Sltst : drk gy to brn blk	8.18	32.16	-	-	7.86	409	-	40.3	0.20	417	0051-5L
2370.00	cut	Sltst : drk gy to brn blk	0.29	24.08	-	-	6.73	358	-	24.4	0.01	417	0052-4L
2375.00	cut	Sltst : drk gy to brn blk	1.27	23.80	-	-	7.30	326	-	25.1	0.05	419	0053-4L
2380.00	cut	Sltst : drk gy to brn blk	3.64	14.76	-	-	5.94	248	-	18.4	0.20	420	0054-4L
2460.00	cut	Sltst : lt gy	3.18	1.83	-	-	1.27	144	-	5.0	0.63	433	0055-1L
2463.00	cut	Sltst : lt gy	7.34	2.19	-	-	1.63	134	-	9.5	0.77	433	0056-1L
2466.00	cut	Sltst : lt gy	6.26	2.26	-	-	1.38	164	-	8.5	0.73	430	0057-1L
2469.00	cut	Sltst : lt gy to m gy	5.24	2.25	-	-	1.72	131	-	7.5	0.70	433	0058-1L
2472.00	cut	Sh/Clst: lt gy to m gy	10.41	1.82	-	-	1.85	98	-	12.2	0.85	430	0059-1L
2478.00	cut	Sh/Clst: m gy	2.72	3.46	-	-	1.86	186	-	6.2	0.44	437	0060-1L
2481.00	cut	Sltst : lt gy to m gy	7.83	4.95	-	-	2.14	231	-	12.8	0.61	441	0061-1L
2484.00	cut	Sltst : lt gy to m gy	7.67	5.94	-	-	2.11	282	-	13.6	0.56	443	0062-1L
2496.40	ccp	bulk	14.79	0.23	-	-	-	-	-	15.0	0.98	573	0001-0B
2497.86	ccp	Sh/Clst: drk gy	22.08	1.09	-	-	0.91	120	-	23.2	0.95	426	0002-1L

Table 5A: Rock-Eval table for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2499.12	ccp	bulk	26.87	0.57	-	-	-	-	-	27.4	0.98	521	0003-0B
2504.90	ccp	bulk	22.20	0.60	-	-	-	-	-	22.8	0.97	513	0004-0B
2506.56	ccp	bulk	18.32	0.48	-	-	-	-	-	18.8	0.97	534	0005-0B
2511.38	ccp	bulk	23.06	0.49	-	-	-	-	-	23.5	0.98	557	0006-0B
2517.64	ccp	bulk	22.15	0.45	-	-	-	-	-	22.6	0.98	546	0007-0B
2520.73	ccp	bulk	29.45	0.49	-	-	-	-	-	29.9	0.98	424	0008-0B
2532.66	ccp	bulk	24.87	0.17	-	-	-	-	-	25.0	0.99	588	0009-0B
2534.97	ccp	bulk	38.75	0.26	-	-	-	-	-	39.0	0.99	510	0010-0B
2537.42	ccp	bulk	35.07	0.34	-	-	-	-	-	35.4	0.99	419	0011-0B
2541.21	ccp	bulk	28.66	0.33	-	-	-	-	-	29.0	0.99	427	0012-0B
2544.39	ccp	bulk	22.40	0.34	-	-	-	-	-	22.7	0.99	585	0013-0B
2546.70	ccp	bulk	34.55	0.31	-	-	-	-	-	34.9	0.99	418	0014-0B
2551.76	ccp	bulk	33.14	0.32	-	-	-	-	-	33.5	0.99	481	0015-0B
2555.17	ccp	bulk	29.08	0.37	-	-	-	-	-	29.5	0.99	537	0016-0B
2558.94	ccp	bulk	24.76	0.80	-	-	-	-	-	25.6	0.97	436	0017-0B
2564.13	ccp	bulk	11.29	1.21	-	-	-	-	-	12.5	0.90	429	0018-0B

Table 5A: Rock-Eval table for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2566.38	ccp	bulk	10.96	0.60	-	-	-	-	-	11.6	0.95	437	0019-0B
2569.12	ccp	bulk	6.94	0.62	-	-	-	-	-	7.6	0.92	439	0020-0B
2570.07	ccp	bulk	10.64	0.38	-	-	-	-	-	11.0	0.97	435	0021-0B
2576.38	ccp	bulk	0.72	1.37	-	-	1.01	136	-	2.1	0.34	438	0022-0B
2577.33	ccp	bulk	10.53	0.51	-	-	-	-	-	11.0	0.95	432	0023-0B
2578.30	ccp	bulk	8.43	0.43	-	-	-	-	-	8.9	0.95	430	0024-0B
2579.06	ccp	bulk	7.21	0.34	-	-	-	-	-	7.6	0.95	429	0025-0B
2579.53	ccp	bulk	28.64	1.01	-	-	-	-	-	29.6	0.97	412	0026-0B
2580.59	ccp	bulk	30.46	1.17	-	-	-	-	-	31.6	0.96	408	0027-0B
2581.80	ccp	bulk	29.43	1.03	-	-	-	-	-	30.5	0.97	408	0028-0B
2583.60	ccp	bulk	37.25	1.82	-	-	-	-	-	39.1	0.95	322	0029-0B
2584.82	ccp	bulk	37.06	1.54	-	-	-	-	-	38.6	0.96	324	0030-0B
2585.51	ccp	bulk	28.87	1.04	-	-	-	-	-	29.9	0.97	407	0031-0B
2586.41	ccp	bulk	21.56	0.62	-	-	-	-	-	22.2	0.97	409	0032-0B
2586.85	ccp	bulk	20.64	0.93	-	-	-	-	-	21.6	0.96	422	0033-0B
2594.76	ccp	bulk	14.93	0.49	-	-	-	-	-	15.4	0.97	423	0034-0B

Table 5A: Rock-Eval table for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2595.26	ccp	bulk	19.08	0.57	-	-	-	-	-	19.6	0.97	515	0035-0B
2595.78	ccp	bulk	5.85	0.32	-	-	-	-	-	6.2	0.95	424	0036-0B
2601.00	cut	Sh/Clst: m gy	9.77	3.01	-	-	1.69	178	-	12.8	0.76	436	0063-1L
2604.00	cut	Sltst : lt gy to m gy	8.13	4.99	-	-	2.12	235	-	13.1	0.62	434	0064-1L
2607.00	cut	Sltst : lt gy	17.02	5.43	-	-	2.58	210	-	22.5	0.76	433	0065-1L
2610.00	cut	S/Sst : lt gy	2.39	4.16	-	-	1.82	229	-	6.6	0.36	433	0066-1L
2613.00	cut	Sltst : lt gy	5.74	5.62	-	-	2.22	253	-	11.4	0.51	431	0067-1L
2616.00	cut	Sltst : lt gy	11.80	5.28	-	-	1.82	290	-	17.1	0.69	433	0068-1L
2634.00	cut	S/Sst : lt gy	1.27	2.02	-	-	0.91	222	-	3.3	0.39	432	0069-1L
2637.00	cut	S/Sst : lt gy to w	4.10	1.93	-	-	1.01	191	-	6.0	0.68	432	0070-1L
2643.00	cut	Sltst : lt gy to m gy	6.50	3.35	-	-	1.19	282	-	9.9	0.66	434	0071-1L
2646.00	cut	Sh/Clst: lt gy to m gy	4.03	3.69	-	-	1.38	267	-	7.7	0.52	430	0072-1L
2649.00	cut	Sh/Clst: lt gy to m gy	6.22	3.61	-	-	1.35	267	-	9.8	0.63	432	0073-1L
2652.00	cut	Sh/Clst: lt gy to m gy	6.79	4.34	-	-	1.47	295	-	11.1	0.61	433	0074-1L
2658.00	cut	Sh/Clst: lt gy to m gy	5.87	3.71	-	-	1.47	252	-	9.6	0.61	434	0075-1L
2661.00	cut	Sh/Clst: lt gy to m gy	6.28	4.63	-	-	1.79	259	-	10.9	0.58	434	0076-1L

Table 5A: Rock-Eval table for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2676.00	cut	Sh/Clst: lt gy to m gy	7.78	3.45	-	-	1.47	235	-	11.2	0.69	434	0077-1L
2679.00	cut	Sh/Clst: lt gy to m gy	6.33	3.85	-	-	1.40	275	-	10.2	0.62	432	0078-1L
2682.00	cut	Sh/Clst: lt gy to m gy	6.65	4.30	-	-	1.43	301	-	11.0	0.61	430	0079-1L
2685.00	cut	Sh/Clst: lt gy to m gy	1.22	5.04	-	-	1.43	352	-	6.3	0.19	431	0080-1L
2688.00	cut	Sh/Clst: lt gy to m gy	3.92	7.08	-	-	2.00	354	-	11.0	0.36	430	0081-1L
2691.00	cut	Sh/Clst: lt gy to m gy	0.66	6.15	-	-	1.66	370	-	6.8	0.10	431	0082-1L
2694.00	cut	Sh/Clst: lt gy to m gy	6.61	6.73	-	-	1.94	347	-	13.3	0.50	432	0083-1L
2700.00	cut	Sh/Clst: lt gy to m gy	0.89	7.73	-	-	1.82	425	-	8.6	0.10	429	0084-1L
2703.00	cut	Sh/Clst: lt gy to m gy	0.95	9.17	-	-	1.98	463	-	10.1	0.09	430	0085-1L
2706.00	cut	Sh/Clst: lt gy to m gy	4.90	11.31	-	-	2.50	452	-	16.2	0.30	432	0086-1L
2709.00	cut	Sh/Clst: lt gy to m gy	0.65	9.11	-	-	1.98	460	-	9.8	0.07	431	0087-1L
2730.00	com	bulk	4.71	9.71	-	-	3.25	299	-	14.4	0.33	427	0096-0B
2733.00	cut	Sh/Clst: lt gy to m gy	5.64	6.13	-	-	1.99	308	-	11.8	0.48	432	0089-1L
2739.00	cut	Sh/Clst: lt gy to m gy	0.29	3.40	-	-	1.30	262	-	3.7	0.08	439	0090-1L
2742.00	cut	Sh/Clst: lt gy to m gy	3.26	6.44	-	-	1.88	343	-	9.7	0.34	436	0091-1L
2745.00	cut	Sh/Clst: lt gy to m gy	3.10	5.44	-	-	1.81	301	-	8.5	0.36	438	0095-2L

Table 5A: Rock-Eval table for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
2748.00	Sh/Clst: lt gy to m gy	4.52	4.61	-	-	1.76	262	-	9.1	0.50	437	0092-1L
2751.00	Sh/Clst: lt gy to m gy	5.16	6.10	-	-	1.93	316	-	11.3	0.46	436	0093-1L
2757.00	Sh/Clst: lt gy to m gy	0.36	3.67	-	-	1.42	258	-	4.0	0.09	436	0094-1L

Table 5B: Rock-Eval table for well BLACK VEN MARL

Depth unit of measure: m

Depth	Typ	Form	Lithology	S1	S2	S3	S2/S3	TOC	HI	OI	PP	PI	Tmax	Sample
1.00	n/a		bulk	0.32	20.12	-	-	-	-	-	20.4	0.02	423	0223-0B
2.00	n/a		bulk	0.33	20.20	-	-	-	-	-	20.5	0.02	422	0224-0B

Table 6 : Pyrolysis GC Data (S2 peak) as Percentage of Total Area for Well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	C1	C2-C5	C6-C14	C15+	S2 from Rock-Eval	Sample
2360.00	cut	Sltst : drk gy to brn blk	4.64	20.56	35.05	39.75	32.16	0051-5L
2370.00	cut	Sltst : drk gy to brn blk	4.65	17.99	35.16	42.20	24.08	0052-4L
2375.00	cut	Sltst : drk gy to brn blk	5.47	21.48	34.76	38.29	23.80	0053-4L
2380.00	cut	Sltst : drk gy to brn blk	5.35	20.97	34.79	38.88	14.76	0054-4L
2483.00	cut	Sltst : lt gy to m gy	3.86	24.01	40.92	31.20	5.94	0062-1L
2616.00	cut	Sltst : lt gy	4.36	26.15	40.32	29.17	5.28	0068-1L
2688.00	cut	Sh/Clst: lt gy to m gy	3.69	20.23	39.83	36.25	7.08	0081-1L
2706.00	cut	Sh/Clst: lt gy to m gy	2.92	15.97	34.66	46.45	11.31	0086-1L
2730.00	com	bulk	5.44	20.94	34.07	39.55	9.71	0096-0B
2742.00	cut	Sh/Clst: lt gy to m gy	4.05	19.63	39.60	36.73	6.44	0091-1L

Table 7: Visual Kerogen Composition Data for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	Amorphous			Algal/Phytoplankton					Herbaceous				Woody				Coaly			SCI	Sample
			AM%	FA	HA	AP%	Cy	Ta	Bo	Di	De	HE%	SP	Cu	De	WO%	FL	NF	De	CO%	FS		
600.00	cut	S/Sst	NDP	*	*	NDP	?				NDP	*	*	*	NDP	*	**		NDP	*	**	3.0(??)	0039-1L
900.00	cut	S/Sst	NDP	*	*	NDP	*				NDP	*	*	*	NDP	*	**		NDP	*	**	3.5(??)	0040-1L
1350.00	cut	Sh/Clst	60	*	*	15	*	?	*	*	10	*	*		15	*	**		TR	*		4.0-4.5	0042-1L
1750.00	cut	Sh/Clst	65	**	*	10	*		*		15	*	*		5		*		5	*		4.0-4.5(?)	0044-1L
2070.00	cut	Sh/Clst	70	*	**	5	*		*	*	10	*	*	*	5	*	**		10	*	**	4.5-5.0(?)	0046-2L
2340.00	cut	Sh/Clst	40	*	**	5	*		?		15	*	*	*	15	*	**		25	*	**	5.0	0049-1L
2370.00	cut	Sltst	20	*	*	15	*		*	*	15	**	*		30	*	**		20	*	**	5.0-5.5	0052-4L
2469.00	cut	Sltst	30	*	**	10	*		*	*	15	*	*	*	15	*	**		30	*	**	5.5-6.0	0058-1L
2497.86	ccp	Sh/Clst	10		*	TR	?				10	**	*		5	*	**		75	*	**	5.5(?)	0002-1L
2576.38	ccp	Sh/Clst	35	*	*	10	*		*	*	20	*	*		15	*	*		20	*	**	5.5-6.0	0022-1L
2691.00	cut	Sh/Clst	40	**	*	20	*		*		30	**	*		10	**	*		5	*	*	5.5(?)	0082-1L
2757.00	cut	Sh/Clst	45	**	*	5	*		*	*	15	*	*		20	*	**		15	**	*	5.5-6.0	0094-1L

Table 8a: MPLC Bulk Composition: Weight of EOM and Fraction for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	Rock Extracted (g)	EOM (mg)	Sat (mg)	Aro (mg)	Asph (mg)	NSO (mg)	HC (mg)	Non-HC (mg)	TOC (e) (%)	Sample
2551.76	ccp	bulk	10.1	530.3	-	-	-	-	-	-	-	0015-0B
2570.07	ccp	bulk	10.8	93.0	-	-	-	-	-	-	-	0021-0B
2577.33	ccp	bulk	10.2	118.6	-	-	-	-	-	-	-	0023-0B
2579.06	ccp	bulk	9.5	52.0	-	-	-	-	-	-	0.31	0025-0B
2579.53	ccp	bulk	5.7	198.8	-	-	-	-	-	-	-	0026-0B
2583.60	ccp	bulk	10.6	546.5	441.6	62.0	8.6	34.3	503.6	42.9	1.61	0029-0B
2585.51	ccp	bulk	5.4	156.5	-	-	-	-	-	-	-	0031-0B
2586.41	ccp	bulk	6.9	242.3	-	-	-	-	-	-	-	0032-0B
2586.85	ccp	bulk	9.6	141.0	-	-	-	-	-	-	0.69	0033-0B
2595.26	ccp	bulk	10.2	267.5	-	-	-	-	-	-	-	0035-0B

Table 8b: MPLC Bulk Composition: Concentration of EOM and Fraction (wt ppm rock) for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
2551.76	ccp	bulk	52556	-	-	-	-	-	-	0015-0B
2570.07	ccp	bulk	8643	-	-	-	-	-	-	0021-0B
2577.33	ccp	bulk	11638	-	-	-	-	-	-	0023-0B
2579.06	ccp	bulk	5467	-	-	-	-	-	-	0025-0B
2579.53	ccp	bulk	35061	-	-	-	-	-	-	0026-0B
2583.60	ccp	bulk	51556	41659	5846	813	3236	47506	4050	0029-0B
2585.51	ccp	bulk	28768	-	-	-	-	-	-	0031-0B
2586.41	ccp	bulk	35166	-	-	-	-	-	-	0032-0B
2586.85	ccp	bulk	14672	-	-	-	-	-	-	0033-0B
2595.26	ccp	bulk	26174	-	-	-	-	-	-	0035-0B

Table 8c: MPLC Bulk Composition: Concentration of EOM and Fraction (mg/g TOC(e)) for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	EOM	Sat	Aro	Asph	NSO	HC	Non-HC	Sample
2551.76	ccp	bulk	-	-	-	-	-	-	-	0015-0B
2570.07	ccp	bulk	-	-	-	-	-	-	-	0021-0B
2577.33	ccp	bulk	-	-	-	-	-	-	-	0023-0B
2579.06	ccp	bulk	1763.85	-	-	-	-	-	-	0025-0B
2579.53	ccp	bulk	-	-	-	-	-	-	-	0026-0B
2583.60	ccp	bulk	3202.27	2587.53	363.16	50.54	201.04	2950.69	251.58	0029-0B
2585.51	ccp	bulk	-	-	-	-	-	-	-	0031-0B
2586.41	ccp	bulk	-	-	-	-	-	-	-	0032-0B
2586.85	ccp	bulk	2126.41	-	-	-	-	-	-	0033-0B
2595.26	ccp	bulk	-	-	-	-	-	-	-	0035-0B

Table 8d: MPLC Bulk Composition: Material extracted from the rock (%) for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	Sat	Aro	Asph	NSO	Total	HC	Non-HC	Recov. MPLC	Recov. Asph	Sample
2551.76	ccp	bulk	-	-	-	-	-	-	-	-	-	0015-0B
2570.07	ccp	bulk	-	-	-	-	-	-	-	-	-	0021-0B
2577.33	ccp	bulk	-	-	-	-	-	-	-	-	-	0023-0B
2579.06	ccp	bulk	-	-	-	-	-	-	-	-	-	0025-0B
2579.53	ccp	bulk	-	-	-	-	-	-	-	-	-	0026-0B
2583.60	ccp	bulk	80.80	11.34	1.58	6.28	100.00	92.14	7.86	-	0.02	0029-0B
2585.51	ccp	bulk	-	-	-	-	-	-	-	-	-	0031-0B
2586.41	ccp	bulk	-	-	-	-	-	-	-	-	-	0032-0B
2586.85	ccp	bulk	-	-	-	-	-	-	-	-	-	0033-0B
2595.26	ccp	bulk	-	-	-	-	-	-	-	-	-	0035-0B

Table 8e: MPLC Bulk Composition: Ratios for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	Sat	HC	Asp	Sample
			Aro	Non-HC	NSO	
2551.76	ccp	bulk	-	-	-	0015-0B
2570.07	ccp	bulk	-	-	-	0021-0B
2577.33	ccp	bulk	-	-	-	0023-0B
2579.06	ccp	bulk	-	-	-	0025-0B
2579.53	ccp	bulk	-	-	-	0026-0B
2583.60	ccp	bulk	7.13	11.73	0.25	0029-0B
2585.51	ccp	bulk	-	-	-	0031-0B
2586.41	ccp	bulk	-	-	-	0032-0B
2586.85	ccp	bulk	-	-	-	0033-0B
2595.26	ccp	bulk	-	-	-	0035-0B

Table 9a² Peak areas of Saturated Hydrocarbon Gas Chromatography of Core sample from NOCS well 6407/6-5

Upper depth	Lower depth	Sample type	Desc	%Lithology	nC15	nC16	Norpristane	nC17	Pristane	nC18	Phytane	nC19	nC20
2583.6	2583.6	ccp	bulk fraction		3088441	2771177	1146634	2474805	1663447	1877262	797918	1568970	1216886

Table 9a² Peak areas of Saturated Hydrocarbon Gas Chromatography of Core sample from NOCS well 6407/6-5

nC21	nC22	nC23	nC24	nC25	nC26	nC27	nC28	nC29	nC30	nC31	nC32	nC33	nC34	Sample number
932658	765412	602634	494704	398249	306200	239162	207776	172040	112211	86643	63086	65275	60709	T77/0029-0

Table 9B: Saturated Hydrocarbon Ratios (peak area) for well NOCS 6407/6-5

Depth unit of measure: m

Depth	Typ	Lithology	$\frac{\text{Pristane}}{\text{nC17}}$	$\frac{\text{Pristane}}{\text{Phytane}}$	$\frac{\text{Pristane/nC17}}{\text{Phytane/nC18}}$	$\frac{\text{Phytane}}{\text{nC18}}$	CPI1	$\frac{\text{nC17}}{\text{nC17+nC27}}$	Sample
2583.60	ccp	bulk	0.67	2.08	1.58	0.43	1.05	0.91	0029-0B

Depth unit of measure: m

Depth	Lithology	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Ratio6	Ratio7	Ratio8	Ratio9	Rat.10	Rat.11	Rat.12	Rat.13	Rat.14	Sample
2583.60	bulk	0.68	0.40	0.12	0.36	0.26	0.15	0.05	0.13	0.05	0.19	0.92	0.27	0.10	60.01	0029-0

List of Triterpane Distribution Ratios

Ratio 1: 27Tm / 27Ts

Ratio 2: 27Tm / 27Tm+27Ts

Ratio 3: 27Tm / 27Tm+30aβ+30βa

Ratio 4: 29aβ / 30aβ

Ratio 5: 29aβ / 29aβ+30aβ

Ratio 6: 30d / 30aβ

Ratio 7: 28aβ / 30aβ

Ratio 8: 28aβ / 29aβ

Ratio 9: 28aβ / 28aβ+30aβ

Ratio 10: 24/3 / 30aβ

Ratio 11: 30aβ / 30aβ+30βa

Ratio 12: 29aβ+29βa / 29aβ+29βa+30aβ+30βa

Ratio 13: 29βa+30βa / 29aβ+30aβ

Ratio 14: 32aβS / 32aβS+32aβR (%)

Table 11b: Variation in Sterane Distribution (peak height) SIR for Well NOCS 6407/6-5

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Ratio3</u>	<u>Ratio4</u>	<u>Ratio5</u>	<u>Ratio6</u>	<u>Ratio7</u>	<u>Ratio8</u>	<u>Ratio9</u>	<u>Ratio10</u>	<u>Sample</u>
2583.60	bulk	0.86	49.89	78.61	1.64	0.79	0.56	0.39	0.65	1.00	3.67	0029-0

List of Sterane Distribution Ratios

Ratio 1: $27d\beta S / 27d\beta S + 27aaR$

Ratio 2: $29aaS / 29aaS + 29aaR$ (%)

Ratio 3: $2 * (29\beta\beta R + 29\beta\beta S) / (29aaS + 29aaR + 2 * (29\beta\beta R + 29\beta\beta S))$ (%)

Ratio 4: $27d\beta S + 27d\beta R + 27daR + 27daS / 29d\beta S + 29d\beta R + 29daR + 29daS$

Ratio 5: $29\beta\beta R + 29\beta\beta S / 29\beta\beta R + 29\beta\beta S + 29aaS$

Ratio 6: $21a + 22a / 21a + 22a + 29aaS + 29\beta\beta R + 29\beta\beta S + 29aaR$

Ratio 7: $21a + 22a / 21a + 22a + 28daS + 28aaS + 29daR + 29aaS + 29\beta\beta R + 29\beta\beta S + 29aaR$

Ratio 8: $29\beta\beta R + 29\beta\beta S / 29aaS + 29\beta\beta R + 29\beta\beta S + 29aaR$

Ratio 9: $29aaS / 29aaR$

Ratio 10: $29\beta\beta R + 29\beta\beta S / 29aaR$

Depth unit of measure: m

Depth	Lithology	23/3	24/3	25/3	24/4	26/3	27Ts	27Tm	28aβ	25nor30aβ	Sample
		29aβ	29Ts	30d	29βa	300	30aβ	30βa	30G	31aβS	
		31aβR	32aβS	32aβR	33aβS	33aβR	34aβS	34aβR	35aβS	35aβR	
2583.60	bulk	31694.4	25167.6	9020.0	14952.0	5832.2	29401.2	19876.2	6231.7	3297.0	0029-0
		46329.6	24058.7	19041.4	5426.7	595.2	129532.5	11581.2	6511.7	50002.5	
		30711.6	32852.2	21892.3	21685.1	13703.0	14479.6	9750.7	14491.1	8702.7	

Table 11d: Raw sterane data (peak height) m/z 217 SIR for Well NOCS 6407/6-5

Depth unit of measure: m

Depth	Lithology	21a	22a	27d β S	27d β R	27daR	27daS	28d β S	28d β R	28daR*	Sample
		29d β S*	28daS*	27aaR	29d β R	29daR	28aaS	29daS*	28 β β S		
		28aaR	29aaS	29 β β R	29 β β S	29aaR					

2583.60	bulk	31324.7	10266.2	46356.0	30241.8	11406.7	12185.3	19003.1	11407.1	8944.9	0029-0
		27098.6	19624.8	7612.5	19437.5	7048.2	4908.7	7465.4	11878.0		
		2852.9	5750.3	11075.1	10102.5	5775.5					

* 28daR coel with 27aaS, 29d β S coel with 27 β β R, 28daS coel with 27 β β S, 29daS coel with 28 β β R

Table 11f: Raw triterpane data (peak height) m/z 177 SIR for Well NOCS 6407/6-5

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>25nor28aβ</u>	<u>25nor30aβ</u>	<u>Sample</u>
2583.60	bulk	5379.1	1582.4	0029-0

Table 11e: Raw sterane data (peak height) m/z 218 SIR for Well NOCS 6407/6-5

Depth unit of measure: m

<u>Depth</u>	<u>Lithology</u>	<u>27βBR</u>	<u>27βBS</u>	<u>28βBR</u>	<u>28βBS</u>	<u>29βBR</u>	<u>29βBS</u>	<u>30βBR</u>	<u>30βBS</u>	<u>Sample</u>
2583.60	bulk	20278.9	23217.8	13362.2	18604.2	17930.2	16406.8	4447.6	4576.0	0029-0

1 Introduction

This report gives the result of routine vitrinite reflectance analyses of 16 samples from well 6407/6-5 offshore Norway.

2 Material

The material was provided from the client as 14 cuttings samples and 2 core chips. Information on stratigraphy in well 6407/6-5 was not provided from the client.

3 Analytical techniques

3.1 Preparation

The sample material was embedded in an epoxy resin to make briquettes, dried and then dry grounded to a flat surface. The sample surface was impregnated with a somewhat thinned epoxy, dried and finally 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. There is one data sheet with raw data for each sample. The results are listed in table 1. Figure 1 shows a vitrinite reflectance versus depth plot.

4 Results

For the interval 2070-2757mRKB, the samples were partly poor in vitrinite and contained hydrocarbon staining (Table 1 and data sheets) which made analysis problematic. Except for the deepest sample with two alternative populations, the analysis results indicate a fairly reliable maturity trend for well 6407/6-5.

Table 1. Vitrinite reflectance data table well 6407/6-5

Analysis type:		Vitrinite reflectance							
Well:		6407/6-5							
Number of samples:		16							
Time period for analysis:		mar.00							
Analysis performed by:		K. Aasgaard, IFE							
Analysis ordered by:		Geolab Nor							
IFE sample code	Depth (m)	Sample type	Lithology	Vitr. refl. (%Rm)	Stand. dev.	Number of readings	Sample description	Sample quality	Sample prep.
20000298	600	DC	sst/clyst	0,28	0,04	22	ooo-oo	M	bulk
20000299	900	DC	sst/clyst	0,28	0,03	8	-oo-oo	P	bulk
20000300	1200	DC	clyst/sst	0,29	0,04	23	ooo-oo	M/G	bulk
20000301	1350	DC	clyst/sst	0,29	0,06	21	ooo-oo	M	bulk
20000302	1550	DC	clyst/sst	0,31	0,05	23	ooo-o+	M	bulk
20000303	1750	DC	sst/clyst	barren					bulk
20000304	1970	DC	clyst	0,34	0,02	2	-oo-o	P	bulk
20000305	2070	DC	clyst	0,35	0,06	9	-oo-o	Pst	bulk
20000306	2170	DC	sh	0,40	0,05	18	-oo-o	Mst	bulk
20000307	2270	DC	sh	0,44	0,09	18	-±o-o	Pst	bulk
20000308	2370	DC	sh	0,41	0,08	20	oo---+	Pst	bulk
20000309	2469	DC	clyst/sst	0,46	0,07	13	-oo--+	Mst	bulk
20000310	2497,86	COCH	sh	0,38	0,03	3	-o---+	Pst	bulk
20000311	2576,2	COCH	sh	0,46	0,05	15	-oo--+	M	bulk
20000312	2691	DC	sh	0,48	0,10	6	-oo-o	Pst	bulk
20000313	2757	DC	sh	0,38	0,05	10	o±-o+	Pst	bulk
20000313	alternative population			0,58	0,06	20			

Legend to vitrinite reflectance data table

Lithology code		Sample quality		Sample preparation		
Sandstone	sst	G	good	HF	sample treated with hydrofluoric acid prior to analysis	
Siltstone	slst	M	moderate			
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		
000000	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			

Table 8a: MPLC Bulk Composition: Weight of Oil and Fraction for NOCS 6407/6-5

Well	Description	Whole oil (mg)	Light (mg)	Topped (mg)	Sat (mg)	Aro (mg)	Asph (mg)	NSO (mg)	HC (mg)	Non-HC (mg)	Sample
6407/6-5	condensate	103.5	36.2	67.3	58.0	8.1	0.1	1.1	66.1	1.2	T86/0001
6407/6-5	oil	80.5	17.3	63.2	45.0	16.2	0.3	1.7	61.2	2.0	T86/0002

Table 8b: MPLC Bulk Composition: Comparison of topped oil (%) for NOCS 6407/6-5

Well	Description	Sat	Aro	Asph	NSO	Total	HC	Non-HC	Recov. MPLC	Recov. Asph	Sample
6407/6-5	condensate	86.16	12.08	0.15	1.61	100.00	98.24	1.76	0.97	0.76	T86/0001
6407/6-5	oil	71.13	25.70	0.47	2.69	100.00	96.84	3.16	1.16	0.91	T86/0002

Table 8c: MPLC Bulk Composition: Ratios in topped oil for NOCS 6407/6-5

Well	Description	Sat	HC	Asp	Sample
		Aro	Non-HC	NSO	
6407/6-5	condensate	7.13	55.85	0.09	T86/0001
6407/6-5	oil	2.77	30.60	0.18	T86/0002

Table 8F: Iatroscan TLC Bulk Composition: Rel. percentages of sep. fractions for well NOCS 6407/6-5

Depth unit of measure: m

<u>Depth</u>	<u>Typ</u>	<u>Lithology</u>	<u>Sat HC</u>	<u>Aro HC</u>	<u>NSO</u>	<u>Asp</u>	<u>Total</u>	<u>HC</u>	<u>Non-HC</u>	<u>Recov. Iatr.</u>	<u>Recov. Asp.</u>	<u>Sample</u>
2382.50	oil	bulk	84.19	14.75	0.91	0.15	100.00	98.95	1.05	0.33	0.76	0037-0B
2581.00	oil	bulk	64.54	31.47	3.52	0.47	100.00	96.01	3.99	0.80	0.91	0038-0B

sample	nC15 mg/g sat	nC16 mg/g sat	iC18 mg/g sat	nC17 mg/g sat	Pr mg/g sat	nC18 mg/g sat	Ph mg/g sat	nC19 mg/g sat	nC20 mg/g sat	nC21 mg/g sat	nC22 mg/g sat	nC23 mg/g sat	nC24 mg/g sat	nC25 mg/g sat	nC26 mg/g sat	nC27 mg/g sat	nC28 mg/g sat	nC29 mg/g sat	nC30 mg/g sat	nC31 mg/g sat	nC32 mg/g sat	nC33 mg/g sat	nC34 mg/g sat
2382.50m	28.01	21.86	8.37	17.24	13.99	11.98	5.92	10.01	6.53	4.55	3.19	2.26	1.66	1.14	0.79	0.50	0.34	0.24	0.20	0.09	0.12	0.05	0.05
2581.00m	18.38	17.57	7.01	16.71	13.30	15.06	8.49	14.97	12.27	10.06	9.32	8.20	7.15	6.06	5.11	3.78	3.27	2.72	1.91	1.58	1.18	1.24	1.05

Table 9a² Peak areas of Quantitative Saturated Hydrocarbon Gas Chromatography of Condensate and Oil from NOCS well 6407/6-5

	nC15	nC16	iC18	nC17	pristane	nC18	phytane	nC19	nC20	nC21	nC22	nC23	nC24	nC25	nC26
2382.50m	5950942	4645158	1779531	3662507	2971903	2545439	1257403	2126386	1388256	966760	677332	480675	352281	242115	168929
2581.00m	3387936	3239460	1291348	3079939	2451054	2776201	1564776	2759842	2261246	1854017	1717951	1511077	1317712	1117420	942711

Table 9a² Peak areas of Quantitative Saturated Hydrocarbon Gas Chromatography of Condensate and Oil from NOCS well 6407/6-5

	nC27	nC28	nC29	nC30	nC31	nC32	nC33	nC34
2382.50m	106219	72588	51619	43449	19909	26256	9567	10051
2581.00m	696810	602354	501175	352967	290322	216783	228870	193598

Table 9B: Saturated Hydrocarbon Ratios (peak area) for NOCS 6407/6-5

Well	Description	Pristane	Pristane	Pristane/nC17	Phytane	CPI1	nC17	Sample
		nC17	Phytane	Phytane/nC18	nC18		nC17+nC27	
6407/6-5	condensate	0.81	2.36	1.64	0.49	1.00	0.97	T86/0001
6407/6-5	oil	0.80	1.57	1.41	0.56	1.02	0.82	T86/0002

Table 9Cb: Aromatic Hydrocarbon Ratios (peak area) for NOCS 6407/6-5

Well	Description	F1	F2	Sample
6407/6-5	condensate	0.65	0.39	T86/0001
6407/6-5	oil	0.57	0.34	T86/0002

Table 9Ca: Aromatic Hydrocarbon Ratios (peak area) for NOCS 6407/6-5

Well	Description	MNR	DMNR	BPhR	2/1MP	MPI1	MPI2	Rc	DBT/P	4/1MDBT	(3+2) /1MDBT	Sample
6407/6-5	condensate	1.62	6.79	0.23	3.14	0.47	0.57	0.68	-	-	-	T86/0001
6407/6-5	oil	1.50	4.39	0.21	1.91	1.28	1.53	1.17	-	-	-	T86/0002

Table 10a: Tabulation of carbon isotope data on oils for NOCS 6407/6-5

Well	Descript.	Whole oil	Topped oil	Saturated	Aromatic	NSO	Asphaltenes	Sample
6407/6-5	condensate	-	-28.23	-28.24	-26.58	-35.37	-28.46	T77/0037
6407/6-5	oil	-	-28.12	-28.25	-27.33	-27.97	-28.03	T77/0038

Table 10b: Tabulation of cv values from carbon isotope data for NOCS 6407/6-5

Well	Descript.	Saturated	Aromatic	cv value	Sample
6407/6-5	condensate	-28.24	-26.58	0.79	T77/0037
6407/6-5	oil	-28.25	-27.33	-0.85	T77/0038

Table 11a: Variation in Triterpane Distribution (peak height) SIR for NOCS 6407/6-5

Well	Descript.	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Ratio6	Ratio7	Ratio8	Ratio9	Rat.10	Rat.11	Rat.12	Rat.13	Rat.14	Sample
6407/6-5	condensate	0.62	0.38	0.17	0.48	0.32	0.17	0.05	0.11	0.05	0.64	0.90	0.33	0.12	60.06	T77/0037
6407/6-5	oil	0.62	0.38	0.11	0.34	0.26	0.17	0.05	0.15	0.05	0.09	0.92	0.26	0.10	60.54	T77/0038

List of Triterpane Distribution Ratios

Ratio 1: 27Tm / 27Ts

Ratio 2: 27Tm / 27Tm+27Ts

Ratio 3: 27Tm / 27Tm+30aβ+30βa

Ratio 4: 29aβ / 30aβ

Ratio 5: 29aβ / 29aβ+30aβ

Ratio 6: 30d / 30aβ

Ratio 7: 28aβ / 30aβ

Ratio 8: 28aβ / 29aβ

Ratio 9: 28aβ / 28aβ+30aβ

Ratio 10: 24/3 / 30aβ

Ratio 11: 30aβ / 30aβ+30βa

Ratio 12: 29aβ+29βa / 29aβ+29βa+30aβ+30βa

Ratio 13: 29βa+30βa / 29aβ+30aβ

Ratio 14: 32aβS / 32aβS+32aβR (%)

Table 11b: Variation in Sterane Distribution (peak height) SIR for NOCS 6407/6-5

Well	Descript.	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Ratio6	Ratio7	Ratio8	Ratio9	Ratio10	Sample
6407/6-5	condensate	0.68	48.21	78.35	2.51	0.79	0.81	0.68	0.64	0.93	3.49	T77/0037
6407/6-5	oil	0.81	51.48	78.41	1.32	0.78	0.34	0.23	0.64	1.06	3.74	T77/0038

List of Sterane Distribution Ratios

Ratio 1: $27d\beta S / 27d\beta S + 27aaR$

Ratio 2: $29aaS / 29aaS + 29aaR$ (%)

Ratio 3: $2 * (29\beta\beta R + 29\beta\beta S) / (29aaS + 29aaR + 2 * (29\beta\beta R + 29\beta\beta S))$ (%)

Ratio 4: $27d\beta S + 27d\beta R + 27daR + 27daS / 29d\beta S + 29d\beta R + 29daR + 29daS$

Ratio 5: $29\beta\beta R + 29\beta\beta S / 29\beta\beta R + 29\beta\beta S + 29aaS$

Ratio 6: $21a + 22a / 21a + 22a + 29aaS + 29\beta\beta R + 29\beta\beta S + 29aaR$

Ratio 7: $21a + 22a / 21a + 22a + 28daS + 28aaS + 29daR + 29aaS + 29\beta\beta R + 29\beta\beta S + 29aaR$

Ratio 8: $29\beta\beta R + 29\beta\beta S / 29aaS + 29\beta\beta R + 29\beta\beta S + 29aaR$

Ratio 9: $29aaS / 29aaR$

Ratio 10: $29\beta\beta R + 29\beta\beta S / 29aaR$

Table 11c: Raw triterpane data (peak height) m/z 191 SIR for NOCS 6407/6-5

Well	Descript.	23/3	24/3	25/3	24/4	26/3	27Ts	27Tm	28aß	25nor30aß	Sample
		29aß	29Ts	30d	29ßa	300	30aß	30ßa	30G	31aßS	
		31aßR	32aßS	32aßR	33aßS	33aßR	34aßS	34aßR	35aßS	35aßR	
6407/6-5	condensate	61606.6	47526.8	14852.8	25054.0	9751.8	28196.1	17447.4	3997.4	3517.4	T77/0037
		35537.3	15290.7	12416.7	4897.6	1272.7	73971.1	8493.7	5464.1	19524.2	
		11975.4	10904.1	7250.7	5546.6	3413.8	2764.8	1647.3	1862.9	1183.2	
6407/6-5	oil	140730.4	125635.0	60952.3	105146.0	42560.6	316267.2	197458.6	72819.0	36193.0	T77/0038
		495115.6	300241.4	247592.0	68158.3	19338.3	1443556.0	119660.8	56957.6	686268.8	
		445639.8	480883.2	313453.8	325598.6	218675.6	236839.3	156971.5	244515.5	158034.2	

Table 11d: Raw sterane data (peak height) m/z 217 SIR for NOCS 6407/6-5

Well	Descript.	21a	22a	27dßS	27dßR	27daR	27daS	28dßS	28dßR	28daR*	Sample
		29dßS*	28daS*	27aaR	29dßR	29daR	28aaS	29daS*	28ßßS		
		28aaR	29aaS	29ßßR	29ßßS	29aaR					
6407/6-5	condensate	83728.5	24878.4	72529.9	56278.0	17960.5	14773.8	20111.8	14999.5	19373.9	T77/0037
		30571.3	16009.2	33815.9	20009.2	7360.6	4468.5	6313.8	9592.0		
		2361.0	4324.7	8591.2	7643.7	4645.4					
6407/6-5	oil	188059.6	68516.7	530703.0	311128.6	147683.0	140386.8	207960.7	152907.5	120363.6	T77/0038
		372961.8	198065.4	121855.3	268055.2	103383.9	65587.2	109149.9	141027.2		
		35192.2	90427.4	165403.7	153613.9	85236.1					

* 28daR coel with 27aaS, 29dßS coel with 27ßßR, 28daS coel with 27ßßS, 29daS coel with 28ßßR

Table 11e: Raw sterane data (peak height) m/z 218 SIR for NOCS 6407/6-5

Well	Descript.	27 β SR	27 β SS	28 β SR	28 β SS	29 β SR	29 β SS	30 β SR	30 β SS	Sample
6407/6-5	condensate	19166.8	19015.3	10273.0	13227.0	12661.8	11412.5	2235.1	2144.3	T77/0037
6407/6-5	oil	266784.4	231605.4	180580.0	214137.4	250665.3	235983.3	66426.9	66669.3	T77/0038

Table 11f: Raw triterpane data (peak height) m/z 177 SIR for NOCS 6407/6-5

Well	Descript.	25nor28a β	25nor30a β	Sample
6407/6-5	condensate	3822.9	1627.3	T77/0037
6407/6-5	oil	50664.9	14597.7	T77/0038

Table 11g: Amount of triterpanes (ppb) m/z 191 SIR for NOCS 6407/6-5

Well	Descript.	23/3	24/3	25/3	24/4	26/3	27Ts	27Tm	28a β	25nor30a β	Sample
		29a β	29Ts	30d	29 β a	300	30a β	30 β a	30G	31a β S	
		31a β R	32a β S	32a β R	33a β S	33a β R	34a β S	34a β R	35a β S	35a β R	
6407/6-5	condensate	17510.1	13508.2	4221.5	7120.9	2771.7	8014.0	4959.0	1136.2	999.7	T77/0037
		10100.6	4346.0	3529.1	1392.0	361.7	21024.4	2414.1	1553.0	5549.2	
		3403.7	3099.2	2060.8	1576.5	970.3	785.8	468.2	529.5	336.3	
6407/6-5	oil	30383.2	27124.1	13159.4	22700.6	9188.7	68281.0	42630.6	15721.4	7813.9	T77/0038
		106893.7	64821.0	53454.2	14715.1	4175.1	311658.6	25834.3	12296.9	148163.0	
		96212.0	103821.0	67673.6	70295.6	47211.3	51100.8	33889.6	52790.0	34119.0	

Table 11h: Amount of steranes (ppb) m/z 217 SIR for NOCS 6407/6-5

Well	Descript.	21a	22a	27dBS	27dBR	27daR	27daS	28dBS	28dBR	28daR*	Sample
		29dBS*	28daS*	27aaR	29dBR	29daR	28aaS	29daS*	28BS		
		28aaR	29aaS	29BR	29BS	29aaR					
6407/6-5	condensate	23797.6	7071.0	20614.7	15995.5	5104.8	4199.1	5716.3	4263.2	5506.5	T77/0037
		8689.1	4550.2	9611.3	5687.1	2092.1	1270.1	1794.5	2726.3		
		671.0	1229.2	2441.8	2172.5	1320.3					
6407/6-5	oil	40601.4	14792.5	114576.9	67171.6	31884.2	30309.0	44898.0	33012.2	25986.1	T77/0038
		80521.1	42761.6	26308.1	57872.2	22320.2	14160.0	23565.1	30447.3		
		7597.9	19522.9	35710.1	33164.7	18402.2					

* 28daR coel with 27aaS, 29dBS coel with 27BR, 28daS coel with 27BS, 29daS coel with 28BR

Table 11i: Amount of standard and weight of sample for NOCS 6407/6-5

Well	Descript.	Standard	Amount	Weight	Sample
6407/6-5	condensate	230172.7	1.400	21.4	T77/0037
6407/6-5	oil	272461.8	1.400	23.8	T77/0038

Table 12a: Variation in Triaromatic Sterane Distribution (peak height) for NOCS 6407/6-5

Well	Descript.	Ratio1	Ratio2	Ratio3	Ratio4	Ratio5	Sample
6407/6-5	condensate	0.73	0.67	0.49	0.48	0.61	T77/0037
6407/6-5	oil	0.53	0.51	0.27	0.26	0.35	T77/0038

Ratio1: $a1 / a1 + g1$

Ratio2: $b1 / b1 + g1$

Ratio3: $a1 + b1 / a1 + b1 + c1 + d1 + e1 + f1 + g1$

Ratio4: $a1 / a1 + e1 + f1 + g1$

Ratio5: $a1 / a1 + d1$

Table 12b: Variation in Monoaromatic Sterane Distribution (peak height) for NOCS 6407/6-5

Well	Descript.	Ratio1	Ratio2	Ratio3	Ratio4	Sample
6407/6-5	condensate	0.65	0.47	0.54	0.45	T77/0037
6407/6-5	oil	0.40	0.29	0.27	0.23	T77/0038

Ratio1: A1 / A1 + E1
 Ratio2: B1 / B1 + E1

Ratio3: A1 / A1 + E1 + G1
 Ratio4: A1+B1 / A1+B1+C1+D1+E1+F1+G1+H1+I1

Table 12c: Aromatisation of Steranes (peak height) for NOCS 6407/6-5

<u>Well</u>	<u>Descript.</u>	<u>Ratio1</u>	<u>Ratio2</u>	<u>Sample</u>
6407/6-5	condensate	0.51	0.91	T77/0037
6407/6-5	oil	0.53	0.91	T77/0038

$$\text{Ratio1: } \frac{\text{C1+D1+E1+F1+G1+H1+I1}}{\text{C1+D1+E1+F1+G1+H1+I1} + \text{c1+d1+e1+f1+g1}}$$

$$\text{Ratio2: } \text{g1} / \text{g1} + \text{I1}$$

Table 12d: Raw triaromatic sterane data (peak height) m/z 231 for NOCS 6407/6-5

Well	Descript.	a1	b1	c1	d1	e1	f1	g1	Sample
6407/6-5	condensate	7353.9	5648.4	1241.8	4696.6	2921.9	2145.1	2768.7	T77/0037
6407/6-5	oil	88987.9	79800.5	37830.1	164323.2	85424.6	93129.2	78131.7	T77/0038

Table 12e: Raw monoaromatic sterane data (peak height) m/z 253 for NOCS 6407/6-5

Well	Descript.	A1	B1	C1	D1	E1	F1	G1	H1	I1	Sample
6407/6-5	condensate	8013.7	3861.7	2721.4	2228.7	4308.9	792.5	2593.3	1390.8	267.6	T77/0037
6407/6-5	oil	95264.8	57923.2	103423.6	73369.6	140544.0	28287.0	113218.1	53568.2	7822.5	T77/0038

Table 13a Light Hydrocarbons from Whole Oil GC for NOCS 6407/6-5

Well	Description	2,2DMC4	2,3DMC4	nC6	MCyC5	Benz	Sample
6407/6-5	condensate	0.02	0.09	2.08	1.66	0.10	T77/0037
6407/6-5	oil	0.07	0.64	4.40	4.13	0.67	T77/0038

Table 13b Light Hydrocarbons from Whole Oil GC for NOCS 6407/6-5

Well	Description	CyC6	2MC6	3MC6	1,3ci- DMCyC5	1,3tr- DMCyC5	1,2tr- DMCyC5	nC7	MCyC6	Tol	nC8	p/m- Xylene	Sample
6407/6-5	condensate	3.19	1.61	1.19	0.54	0.52	1.19	4.06	10.05	2.93	7.84	6.84	T77/0037
6407/6-5	oil	6.47	2.21	1.54	0.81	0.75	1.62	4.63	11.54	3.47	4.78	4.17	T77/0038

Table 13c Thompson's indices for NOCS 6407/6-5

Well	Description	A	B	X	W	C	I	F	H	U	R	S	Sample
6407/6-5	condensate	0.05	0.72	0.87	0.31	0.46	1.24	0.40	18.09	1.92	2.52	104.00	T77/0037
6407/6-5	oil	0.15	0.75	0.87	1.04	0.50	1.18	0.40	15.33	1.57	2.10	62.86	T77/0038

THOMPSON'S INDICES

$$A = \frac{\text{Benzene}}{nC6}$$

$$B = \frac{\text{Toluene}}{nC7}$$

$$X = \frac{\text{p/m-xylene}}{nC8}$$

$$W = \frac{\text{Benzene} * 10}{\text{CyC6}}$$

$$C = \frac{nC6 + nC7}{\text{CyC6} + \text{MCyC6}}$$

$$I = \frac{2MC6 + 3MC6}{1,3ciDMCyC5 + 1,3trDMCyC5 + 1,2trDMCyC5}$$

$$F = \frac{nC7}{\text{MCyC6}}$$

$$H = \frac{nC7 * 100}{\text{CyC6} + 2MC6 + 2,3DMC4 + 3MC6 + 1,3ciDMCyC5 + 1,3trDMCyC5 + 1,2trDMCyC5 + nC7 + \text{MCyC6}}$$

$$U = \frac{\text{CyC6}}{\text{MCyC5}}$$

$$R = \frac{nC7}{2MC6}$$

$$S = \frac{nC6}{2,2DMC4}$$

Table 14a Volume Composition of gas samples (normalised values) NOCS 6407/6-5

Bottle No.	Sample Depth (m)	C1	C2	C3	iC4	nC4	iC5	nC5	CO2	ΣC1-C5	Wetness	iC4/nC4
98-06	2382.5	81.4	8.7	5.3	0.8	1.9	0.51	0.61	0.9	99.1	0.18	0.42
98-11	2581	79.6	10.8	5.9	0.72	1.5	0.33	0.42	0.8	99.2	0.2	0.47

Table 14b Isotopic Composition of gas samples NOCS 6407/6-5

Bottle No.	Sample Depth (m)	Methane δD	Methane δ ¹³ C	Ethane δ ¹³ C	Propane δ ¹³ C	Iso-Butane δ ¹³ C	N-butane δ ¹³ C	CO2 δ ¹³ C	CO2 δ ¹⁸ O
98-06	2382.5	-233	-45	-31.6	-30.4	-28.3	-30.4	-16.5	-7
98-11	2581	-200	-47.7	-32.6	-30.9	-	-30.5	-20.8	-7.1
34	2581	-227	-45.9	-31.8	-30.5	-29.2	-30.3	-17.1	-11.4
		‰SMOW	‰PDB	‰PDB	‰PDB	‰PDB	‰PDB	‰PDB	‰PDB