Well: 2/4-18R

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf /Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
940208	PSPUD					/		/					SPUD MUD
940209	PSPUD					/		/					SPUD MUD
940210	PSPUD					/		/					SPUD MUD
940211	PSPUD					/		/					SPUD MUD
940212	PSPUD					/		/					SPUD MUD
940213	PSPUD					/		/					SPUD MUD
940214	PSPUD					/		/					SPUD MUD
940215	PSPUD					/		/					SPUD MUD
940216	PSPUD					/		/					SPUD MUD
940217	PSPUD					/		/					SPUD MUD
940218	PSPUD					/		/					SPUD MUD
940219	36"		1.06			/		/					SPUD MUD
940220	36"		1.06			/		/					SPUD MUD
940221	28"	232.0	1.05			/		/					SPUD MUD
940222	28"	410.0	1.10	6.0	20.0	16/23	9.0	/			.3	6.0	SPUD MUD
940223	28"	521.0	1.10	6.0	20.0	15/17	8.7	/		13000		6.0	SPUD MUD
940224	28"	521.0	1.10	5.0	20.0	15/17	9.0	/		13000		6.0	SPUD MUD
940225	28"	521.0	1.10	5.0	20.0	15/17	9.0	/		13000		6.0	SPUD MUD
940226	28"	521.0	1.10	5.0	20.0	15/17	9.0	/		13000		6.0	SPUD MUD
940227	17 1/2"	521.0	1.09	5.0	20.0	16/17	9.0	/		13000		5.0	SPUD MUD
940228	17 1/2"	744.0	1.20	9.0	20.0	15/17	8.7	/		9600	.7	7.0	GEL MUD
940301	17 1/2"	1008.0	1.20	11.0	22.0	17/25	8.3	/		14000	.5	11.0	GEL MUD
940302	26"	1008.0	1.20	8.0	22.0	18/22	8.1	/		13000	.7	12.0	GEL MUD
940303	26"	1008.0	1.20	10.0	18.0	15/18	8.1	/		13000	.7	12.0	GEL MUD
940304	26"	1008.0	1.20	10.0	17.0	13/16	8.1	/		13000		12.0	GEL MUD
940305	26"	1008.0	1.40	26.0	11.0	10/15		/	****	140000		19.0	PSEUDO OIL BASED
940306	26"	1008.0	1.40	26.0	12.0	10/15		/	****	140000		19.0	PSEUDO OIL BASED

Well: 2/4-18R

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf /Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
940307	17 1/2"	1030.0	1.40	23.0	18.0	10/18		/		131000		18.0	PSEUDO OIL BASED
940308	17 1/2"	1570.0	1.50	27.0	24.0	15/25		/		172000		21.5	PSEUDO OIL BASED
940309	17 1/2"	1893.0	1.60	35.0	25.0	18/29		/		163000		26.5	PSEUDO OIL BASED
940310	17 1/2"	1893.0	1.60	36.0	28.0	19/29		/		167000		27.0	PSEUDO OIL BASED
940311	17 1/2"	1893.0	1.60	37.0	30.0	18/35		/		176000		27.0	PSEUDO OIL BASED
940312	17 1/2"	1893.0	1.60	38.0	22.0	15/22		/		166000		28.0	PSEUDO OIL BASED
940313	17 1/2"	2947.0	1.60	37.0	30.0	18/35		/		176000		27.0	PSEUDO OIL BASED
940314	17 1/2"	2983.0	1.60	38.0	18.0	14/22		/		158000		27.0	PSEUDO OIL BASED
940315	17 1/2"	2983.0	1.60	38.0	18.0	14/22		/		158000		27.0	PSEUDO OIL BASED
940316	17 1/2"	2998.0	1.60	37.0	19.0	14/22		/		149000		28.0	PSEUDO OIL BASED
940317	17 1/2"	3190.0	1.60	37.0	16.0	12/20		/		181000		28.0	PSEUDO OIL BASED
940318	17 1/2"	3230.0	1.60	36.0	16.0	11/18		/		195000		27.0	PSEUDO OIL BASED
940319	17 1/2"	3230.0	1.60	35.0	15.0	11/18		/		195000		27.0	PSEUDO OIL BASED
940320	17 1/2"	3230.0	1.60	35.0	15.0	11/18		/		195000		27.0	PSEUDO OIL BASED
940321	17 1/2"	3230.0	1.60	35.0	15.0	11/18		/		195000		27.0	PSEUDO OIL BASED
940322	17 1/2"	3230.0	1.60	35.0	15.0	11/18		/		195000		27.0	PSEUDO OIL BASED
940323	17 1/2"	3230.0	1.60	29.0	13.0	2/6		/				20.0	HI TEMP POLYMER
940324	12 1/4"	3251.0	1.60	25.0	10.0	3/8	11.5	.6/	760	6300		20.0	HI TEMP POLYMER
940325	12 1/4"	3340.0	1.61	30.0	20.0	4/15	11.0	.1/	760	68000	1.0	21.0	HI TEMP POLYMER
940326	12 1/4"	3385.0	1.61	30.0	15.0	4/14	11.2	.4/1.3	720	7200	.3	21.0	HI TEMP POLYMER
940327	12 1/4"	3443.0	1.61	28.0	17.0	3/23	10.9	.1/.4	640	6800	.3	21.0	HI TEMP POLYMER
940328	12 1/4"	3549.0	1.60	24.0	11.0	3/24	10.4	.3/1.1	660	6600	.1	21.0	HI TEMP POLYMER
940329	12 1/4"	3549.0	1.61	27.0	13.0	5/32	10.4	.3/1.2	720	6600	.3	21.0	HI TEMP POLYMER
940330	12 1/4"	3549.0	1.61	21.0	10.0	4/10	10.2	.2/1.2	520	6100		22.0	HI TEMP POLYMER
940331	12 1/4"	3490.0	1.61	21.0	11.0	3/10	10.3	.5/1.4	560	6100		22.0	HI TEMP POLYMER
940401	12 1/4"	3917.0	1.61	24.0	11.0	3/10	10.3	.3/1.4	480	6300		22.5	HI TEMP POLYMER
940402	12 1/4"	3996.0	1.60	25.0	12.0	3/10	11.2	.6/2.1	400	6300		22.5	HI TEMP POLYMER

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Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf /Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
940403	12 1/4"	4067.0	1.60	30.0	12.0	4/12	10.5	.5/1.8	400	6200		22.5	HI TEMP POLYMER
940404	12 1/4"	4124.0	1.60	29.0	11.0	3/9	10.6	.5/1.8	400	6300		22.5	HI TEMP POLYMER
940405	12 1/4"	4142.0	1.60	29.0	11.0	3/10	10.4	.5/2.0	320	6300		22.5	HI TEMP POLYMER
940406	12 1/4"	4142.0	1.61	28.0	12.0	3/10	10.6	.5/2.0	360	6300		23.0	HI TEMP POLYMER
940407	12 1/4"	4208.0	1.60	27.0	11.0	3/17	10.9	.7/2.4	320	6300		23.0	HI TEMP POLYMER
940408	12 1/4"	4283.0	1.60	29.0	12.0	3/16	10.1	.4/1.8	440	7000		23.0	HI TEMP POLYMER
940409	12 1/4"	4283.0	1.60	26.0	11.0	3/11	10.6	.4/2.0	280	6300		23.5	HI TEMP POLYMER
940410	12 1/4"	4352.0	1.60	26.0	9.0	3/12	10.3	.5/2.6	480	6200		23.5	HI TEMP POLYMER
940411	12 1/4"	4353.0	1.60	22.0	9.0	3/12	10.0	.4/2.4	520	6200		23.0	HI TEMP POLYMER
940412	12 1/4"	4398.0	1.60	26.0	9.0	4/15	10.6	.4/3.0	320	6400		23.5	HI TEMP POLYMER
940413	12 1/4"	4398.0	1.62	24.0	9.0	3/13	10.0	.3/2.6	360	6300		24.5	HI TEMP POLYMER
940414	12 1/4"	4398.0	1.62	23.0	9.0	3/12	10.2	.1/2.2	360	6200		24.0	HI TEMP POLYMER
940415	12 1/4"	4426.0	1.62	22.0	9.0	3/11	10.3	.5/2.8	320	6000		25.0	HI TEMP POLYMER
940416	12 1/4"	4433.0	1.62	25.0	10.0	3/15	10.0	.3/2.7	360	6200		26.0	HI TEMP POLYMER
940417	12 1/4"	4468.0	1.64	25.0	9.0	4/14	10.6	.7/3.8	360	6300		26.0	HI TEMP POLYMER
940418	12 1/4"	4501.0	1.64	27.0	10.0	4/17	10.9	.6/4.0	320	6600		27.0	HI TEMP POLYMER
940419	12 1/4"	4501.0	1.66	30.0	11.0	4/18	10.7	.8/3.4	40	6200		27.0	HI TEMP POLYMER
940420	12 1/4"	4504.0	1.66	24.0	10.0	3/14	10.8	.8/3.6	160	6500		27.0	HI TEMP POLYMER
940421	12 1/4"	4504.0	1.66	22.0	9.0	3/8	11.5	.7/3.6	240	6400		26.0	HI TEMP POLYMER
940422	12 1/4"	4504.0	1.66	22.0	9.0	3/8	11.5	.7/3.5	240	6400		26.0	HI TEMP POLYMER
940423	12 1/4"	4504.0	1.66	22.0	9.0	3/10	11.5	.7/3.5	240	6400		26.0	HI TEMP POLYMER
940424	12 1/4"	4524.0	1.66	23.0	8.0	3/10	11.1	.9/3.7	200	6700		26.0	HI TEMP POLYMER
940425	12 1/4"	4541.0	1.68	24.0	10.0	4/18	10.9	1.2/5.4	280	6200		28.0	HI TEMP POLYMER
940426	12 1/4"	4541.0	1.68	24.0	9.0	4/18	11.0	.4/3.6	160	6300		27.0	HI TEMP POLYMER
940427	12 1/4"	4541.0	1.68	24.0	10.0	4/17	11.0	.7/4.2	240	6500		28.0	HI TEMP POLYMER
940428	12 1/4"	4557.0	1.68	23.0	11.0	5/21	10.6	.5/3.8	360	6400		28.0	HI TEMP POLYMER
940429	12 1/4"	4583.0	1.74	25.0	10.0	3/17	10.9	.7/4.5	200	6700		30.0	HI TEMP POLYMER

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Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf /Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
940430	12 1/4"	4584.0	1.75	25.0	8.0	4/17	10.6	1.2/5.4	200	6800		30.0	HI TEMP POLYMER
940501	12 1/4"	4602.0	1.76	24.0	11.0	3/14	10.6	1.0/4.5	140	7100		31.0	HI TEMP POLYMER
940502	12 1/4"	4602.0	1.76	26.0	10.0	3/14	10.8	1.2/4.6	160	7200		30.0	HI TEMP POLYMER
940503	12 1/4"	4602.0	1.76	24.0	10.0	4/14	10.7	.8/4.7	200	6700		30.0	HI TEMP POLYMER
940504	12 1/4"	4621.0	1.76	23.0	11.0	5/16	10.5	.8/4.2	260	6200		31.0	HI TEMP POLYMER
940505	12 1/4"	4632.0	1.82	24.0	8.0	4/16	10.5	1.0/4.6	400	6300		32.5	HI TEMP POLYMER
940506	12 1/4"	4632.0	1.82	23.0	8.0	4/15	10.9	1.0/4.6	400	6300		33.0	HI TEMP POLYMER
940507	12 1/4"	4632.0	1.82	23.0	15.0	6/22	10.4	1.0/4.4	400	6400		33.0	HI TEMP POLYMER
940508	12 1/4"	4632.0	1.82	23.0	8.0	3/14	10.6	.9/3.7	280	6300		33.0	HI TEMP POLYMER
940509	12 1/4"	4632.0	1.82	22.0	8.0	4/18	10.2	.8/3.9	320	6200		33.0	HI TEMP POLYMER
940510	12 1/4"	4632.0	1.82	23.0	11.0	5/18	10.3	.8/3.9	320	6300		33.0	HI TEMP POLYMER
940511	12 1/4"	4632.0	1.82	21.0	9.0	4/17	10.0	.4/3.4	480	6400		33.0	HI TEMP POLYMER
940512	12 1/4"	4632.0	1.82	21.0	9.0	4/17	10.0	/	280	6400		33.0	HI TEMP POLYMER
940513	12 1/4"	4632.0	1.82	21.0	9.0	4/17	10.0	.4/3.4	240	6400		33.0	HI TEMP POLYMER
940514	12 1/4"	4632.0	1.82	21.0	9.0	4/17	10.0	.4/3.4	280	6400		33.0	HI TEMP POLYMER
940515	12 1/4"	4632.0	1.82	22.0	8.0	4/18	10.2	.6/4.1	200	6500		33.0	HI TEMP POLYMER
940516	8 1/2"	4635.0	1.82	25.0	10.0	5/24	10.9	.8/3.9	600	6500		33.0	HI TEMP POLYMER
940517	8 1/2"	4635.0	1.82	19.0	10.0	2/19	12.9	2.9/4.9	280	2600		30.0	HI TEMP POLYMER
940518	8 1/2"	4651.0	1.90	21.0	6.0	2/3	11.9	1.8/4.8	360	3200		30.0	HI TEMP POLYMER
940519	8 1/2"	4687.0	1.90	28.0	17.0	5/9	10.8	1.2/3.8	380	3200		30.0	HI TEMP POLYMER
940520	8 1/2"	4711.0	1.94	32.0	19.0	6/12	10.2	.6/3.6	360	3600		33.0	HI TEMP POLYMER
940521	8 1/2"	4746.0	1.95	33.0	25.0	8/18	10.3	.7/3.5	520	3400		34.0	HI TEMP POLYMER
940522	8 1/2"	4711.0	1.95	31.0	22.0	7/18	10.5	.8/3.8	360	3400		33.0	HI TEMP POLYMER
940523	8 1/2"	4804.0	1.97	31.0	24.0	9/21	10.2	.8/4.0	320	3500		34.0	HI TEMP POLYMER
940524	8 1/2"	4804.0	1.97	35.0	19.0	7/23	9.8	.7/3.9	180	3200		34.0	HI TEMP POLYMER
940525	8 1/2"	4804.0	1.97	29.0	17.0	6/17	9.9	.6/3.8	360	3800		34.0	HI TEMP POLYMER
940526	8 1/2"	4832.0	2.00	31.0	17.0	7/18	10.5	.8/3.8	320	3600		35.0	HI TEMP POLYMER

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Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf /Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
940527	8 1/2"	4867.0	2.00	32.0	16.0	7/21	10.9	1.0/4.0	440	3300		35.5	HI TEMP POLYMER
940528	8 1/2"	4897.0	2.00	28.0	27.0	12/34	10.1	.7/4.5	400	3900		36.0	HI TEMP POLYMER
940529	8 1/2"	4930.0	2.00	22.0	18.0	10/28	10.7	.8/3.5	280	2800		36.0	HI TEMP POLYMER
940530	8 1/2"	4930.0	2.03	23.0	22.0	12/31	10.0	.7/4.0	280	3000		36.5	HI TEMP POLYMER
940531	8 1/2"	4944.0	2.02	21.0	18.0	13/34	10.4	.8/3.6	200	2800		36.5	HI TEMP POLYMER
940601	8 1/2"	5001.0	2.02	22.0	19.0	15/35	10.8	.8/3.9	440	2900		36.5	HI TEMP POLYMER
940602	8 1/2"	5041.0	2.04	21.0	20.0	16/42	10.4	.7/3.6	280	3000		36.5	HI TEMP POLYMER
940603	8 1/2"	5041.0	2.04	23.0	22.0	15/40	10.4	.7/3.6	280	3000		36.5	HI TEMP POLYMER
940604	8 1/2"	5105.0	2.02	17.0	6.0	7/32	11.3	1.1/3.7	480	3000		36.0	HI TEMP POLYMER
940605	8 1/2"	5105.0	2.02	17.0	6.0	6/29	10.6	1.0/3.6	480	3000		36.5	HI TEMP POLYMER
940606	8 1/2"	5114.0	2.02	16.0	6.0	3/22	11.2	1.1/4.0	440	2800		36.0	HI TEMP POLYMER
940607	8 1/2"	5114.0	2.02	17.0	7.0	3/23	10.4	.8/3.2	720	2700		34.0	HI TEMP POLYMER
940608	8 1/2"	4832.0	2.02	18.0	6.0	3/24	10.1	.5/3.2	600	3200		34.0	HI TEMP POLYMER
940609	8 1/2"	4832.0	2.02	17.0	6.0	3/26	10.8	.7/3.9	720	3800		34.0	HI TEMP POLYMER
940610	8 1/2"	4832.0	2.02	17.0	7.0	3/26	10.8	.7/3.9	480	3600		36.5	HI TEMP POLYMER
940611	8 1/2"	4832.0	2.02	18.0	6.0	4/27	10.8	.8/3.6	600	3400		36.5	HI TEMP POLYMER
940612	8 1/2"	4832.0	2.02	19.0	9.0	3/28	11.1	.6/3.0	640	3200		36.0	HI TEMP POLYMER
940613	8 1/2"	4832.0	2.02	20.0	8.0	6/31	10.0	.4/3.5	640	3200		36.0	HI TEMP POLYMER
940614	8 1/2"	4832.0	2.02	20.0	8.0	6/31	10.0	.4/3.5	640	3200		36.0	HI TEMP POLYMER
940615	8 1/2"	4832.0	2.02	16.0	5.0	3/24	11.1	.8/3.8	560	3100		36.5	HI TEMP POLYMER
940616	8 1/2"	4832.0	2.02	17.0	6.0	3/32	10.3	.7/3.5	640	3400		36.5	HI TEMP POLYMER
940617	8 1/2"	4832.0	2.02	17.0	6.0	3/32	10.3	.7/3.5	640	3400		36.5	HI TEMP POLYMER
940618	8 1/2"	4832.0	2.02	17.0	6.0	3/32	10.3	.7/3.5	640	3400		36.5	HI TEMP POLYMER
940619	8 1/2"	4832.0	2.02	17.0	3.0	2/26	10.8	.8/4.2	640	3200		36.0	HI TEMP POLYMER
940620	8 1/2"	4832.0	2.02	18.0	3.0	4/40	11.5	1.6/5.2	480	3200		36.0	HI TEMP POLYMER
940621	8 1/2"	4832.0	2.02	18.0	3.0	4/40	11.5	1.6/5.2	480	3200		36.0	HI TEMP POLYMER
940622	8 1/2"	4832.0	2.02	18.0	3.0	4/40	11.5	1.6/5.2	480	3200		36.0	HI TEMP POLYMER

Well: 2/4-18R

Date	Hole size	Hole depth	Mud weight	PV	YP	Gel strength	pH	Alkalinity Pf /Mf	Ca++ mg/l	Cl- mg/l	Sand %	Solids %	Mudtype
940623	8 1/2"	4832.0	2.04	17.0	6.0	3/38	11.2	1.1/4.5	720	3000		36.0	HI TEMP POLYMER
940624	8 1/2"	4832.0	2.04	17.0	6.0	3/37	10.8	.8/4.2	640	2900		36.0	HI TEMP POLYMER
940625	8 1/2"	5221.0	2.04	17.0	4.0	2/33	10.9	.8/4.2	720	2700		37.0	HI TEMP POLYMER
940626	8 1/2"	5221.0	2.04	20.0	8.0	10/42	11.1	1.1/4.5	720	2700		37.0	HI TEMP POLYMER
940627	8 1/2"	5221.0	2.04	21.0	10.0	11/46	11.2	1.1/4.6	720	2700		37.0	HI TEMP POLYMER
940628	8 1/2"	5221.0	2.04	20.0	10.0	10/36	11.5	1.2/4.5	720	2500		37.0	HI TEMP POLYMER
940629	8 1/2"	5221.0	2.04	26.0	16.0	4/42	10.6	.5/3.5	400	2500		37.0	HI TEMP POLYMER
940630	8 1/2"	5221.0	2.04	25.0	10.0	4/32	10.7	.6/3.5	400	2500		37.0	HI TEMP POLYMER
940701	8 1/2"		1.82	20.0	10.0	5/28	10.0	.4/3.0	400	2500		32.0	HI TEMP POLYMER
940702	8 1/2"		1.82	22.0	12.0	8/30	10.0	.4/3.0	400	2500		32.0	HI TEMP POLYMER
940703	P&A		1.82	19.0	11.0	3/30	10.0	.5/3.0	400	2500		32.0	HI TEMP POLYMER
940704	P&A		1.82	20.0	10.0	5/25	10.0	.5/3.0	400	2500		32.0	HI TEMP POLYMER
940705	P&A		1.82	20.0	10.0	5/25	10.0	.5/3.0	400	2500		32.0	HI TEMP POLYMER
940706	P&A		1.82			/		/					HI TEMP POLYMER
940709	P&A		1.82			/		/					HI TEMP POLYMER

Materials	Unit	38" Hole	28" Hole	26" Hole	17 1/2" Hole	12 1/4" Hole	8 1/2" Hole	Total
Bacban III	5 kg	-	-	-	3	10	3	16
Barite	ton	52	29	97	332	907	1440	2857
Bentonite	ton	37	24	31	10	10	3	115
CaCl2	25 kg	-	-	-	760	-	-	760
Caustic	25 kg	11	24	11	3	297	236	582
Celpol Reg	25 kg	7	-	-	-	-	-	7
Citric Acid	25 kg	-	-	-	-	-	8	8
Conqor 404	200 Lt	-	-	-	3	2	-	5
Drillthin	25 lb	-	-	-	-	-	320	320
Kwikseal M	40 lb	-	-	-	-	10	30	40
Lime	20 kg	-	-	-	560	501	592	1653
Mica C	25 kg	-	1	-	-	-	-	1
Mica F	25 kg	-	-	-	-	10	49	59
Novamod	187 kg	-	-	-	6	-	-	6
Novamul	195 kg	-	-	-	48	-	-	48
Novasol	m3	-	-	-	91	-	-	91
Novawet	182 kg	-	-	-	5	-	-	5
Nutplug C	25 kg	-	-	-	-	-	55	55
Nutplug F	25 kg	-	-	-	-	-	49	49
Perfect Seal	25 kg	-	-	-	-	-	42	42

Table 6.2.2 Mud Materials Used

Materials	Unit	38" Hole	28" Hole	26" Hole	17 1/2" Hole	12 1/4" Hole	8 1/2" Hole	Total
Polydrill	25 kg	-	-	-	-	1092	678	1770
Polysal	25 kg	-	-	600	-	-	-	600
Prempac	25 kg	-	-	-	-	140	19	159
Renax 100	200 Lt	-	-	-	1	-	-	1
Resinex	25 kg	-	-	-	-	1010	896	1906
Sil. Defoamer	200 Lt	-	-	-	-	2	-	2
Sil Defoamer	25 Lt	-	-	-	-	41	127	168
Soda Ash	25 kg	1	-	-	-	-	-	1
Sod. Bicarb	25 kg	-	-	-	-	-	25	25
Spersene CF	25 kg	-	-	-	-	1260	1125	2385
XCD Polymer	25 kg	3	-	-	4	23	35	65
VG 69	25 kg	-	-	-	30	-	-	30

Table 6.2.2 cont. Mud Materials Used

ife

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Private
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REPORT NO.
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REPORT TITLE
VITRINITE REFLECTANCE
WELL 2/4-18R
OFFSHORE NORWAY

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APPROVED BY	Henning Qvale	1994-09-28	Henning Qvale

1 Introduction

This report gives the result of routine vitrinite reflectance analyses on 52 samples covering the interval from 1000 to 5301 mRKB in well 2/4-18R offshore Norway.

2 Material

2.1 Samples

The material was provided from the client as 52 washed cuttings. The sample positions are indicated in figure 1.

2.2 Geological information and casing points

Information on the stratigraphy and casing points was not supplied from the client.

3 Analytical techniques

3.1 Preparation

The cuttings samples were 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 treatment 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. The 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 are calculated for this population and other populations. A quality rating is given to the true population. The results are listed in table 1.

The results are presented as vitrinite reflectance versus depht plots on linear and semilogarithmic scales (figure 1). A vitrinite reflectance versus depth trend is interpreted manually on the linear plot and transferred to the semilogarithmic plot. The interpreted trend is also listed in table 2.

4 Results

There has been a problem with oil impregnated vitrinite and staining from the top of the well and down to the top of the chalk at about 3300mRKB. First, this problem complicates the preparation of the samples because an oil film will protect parts of the mineral phases from being dissolved during acid treatment, and thereby lower the effect of organic matter isolation. Second, the residue of oily organic matter/minerals is difficult to embed in epoxy resin and results in a caved and partly stained surface. And third, impregnation and staining lead to lowered vitrinite reflection for some samples, that is especially between 2500mRKB and 3000mRKB.
The whole well down to about 4500mRKB is very poor in vitrinite, and the vitrinite reflectance for many of the samples is based on only a few measured points. The well below 4500mRKB shows vitrinite of moderate to good quality and vitrinite amounts enough to give reliable vitrinite reflectance values for these samples.
In spite of the problems it has been possible to establish a fairly reliable vitrinite reflectance versus depth trend for well 2/4-18R.

Table 1 Vitrinite reflectance data

Well 2/4-18R								
IFE no.	**Depth, mRKB**	**Sample type**	**Lithology**	**%Rm**	**Std. dev.**	**N**	**Quality**	**Preparation**
SA 1260	1000	cut	clst	0.25	0.06	25	M	HF
SA 1261	1100	cut	clst	0.24	0.05	14	P	HF
SA 1262	1200	cut	clst	0.20	0.04	5	P	HF
SA 1263	1300	cut	clst	0.24	0.05	8	P	HF
SA 1264	1400	cut	clst	0.24	0.04	7	P	HF
SA 1265	1500	cut	clst				barren	HF
SA 1266	1600	cut	clst	0.27	0.07	2	P	HF
SA 1267	1700	cut	clst	0.34	0.05	5	P	HF
SA 1268	1800	cut	clst				barren	HF
SA 1269	1900	cut	clst	0.31	0.08	3	P	HF
SA 1270	2000	cut	clst	0.38	0.16	3	P	HF
SA 1271	2100	cut	clst	0.39	0.08	4	P	HF
SA 1272	2200	cut	clst	0.46	0.01	6	P	HF
SA 1273	2300	cut	clst	0.48	0.14	30	P	HF
SA 1274	2400	cut	clst	0.45	0.00	1	P	HF
SA 1275	2500	cut	clst	0.37	0.05	6	P	HF
SA 1276	2600	cut	clst	0.32	0.02	3	P	HF
SA 1277	2700	cut	clst	0.33	0.06	26	P	HF
SA 1278	2800	cut	clst	0.58	0.00	2	P	HF
SA 1279	2900	cut	clst	0.44	0.04	8	P	HF
SA 1280	3000	cut	clst	0.65	0.10	28	P	HF
SA 1281	3100	cut	clst				barren	HF
SA 1282	3200	cut	clst				barren	HF
SA 1283	3300	cut	lst	0.65	0.08	7	P	HF
SA 1284	3400	cut	lst				barren	HF
SA 1285	3500	cut	lst/clst	0.83	0.03	3	P	HF
SA 1286	3600	cut	lst	0.84	0.09	7	P	HF
SA 1287	3700	cut	lst				barren	HF
SA 1288	3800	cut	lst	0.88	0.00	1	P	HF
SA 1289	3900	cut	lst				barren	HF
SA 1290	4000	cut	lst	0.84	0.00	2	P	HF
SA 1291	4100	cut	lst	0.94	0.06	4	P	HF
SA 1292	4200	cut	lst/clst				barren	HF
SA 1293	4300	cut	lst/clst				barren	HF
SA 1294	4400	cut	lst/clst	0.91	0.07	7	P	HF
SA 1295	4500	cut	clst	0.95	0.04	6	P	HF
SA 1296	4550	cut	clst	1.07	0.08	11	P	HF
SA 1297	4600	cut	clst	0.99	0.06	8	P	HF
SA 1298	4650	cut	clst/sst	1.09	0.07	17	M	HF
SA 1299	4700	cut	clst	1.07	0.06	13	M	HF
SA 1300	4749	cut	clst	1.30	0.16	25	P	HF

G	Good quality	**P**	Poor quality	**A**	Mud additive	**HF**	HF-treated
M	Moderate quality	**X**	Not vitrinite	**Barren**	Barren of vitrinite	**Bulk**	Bulk rock

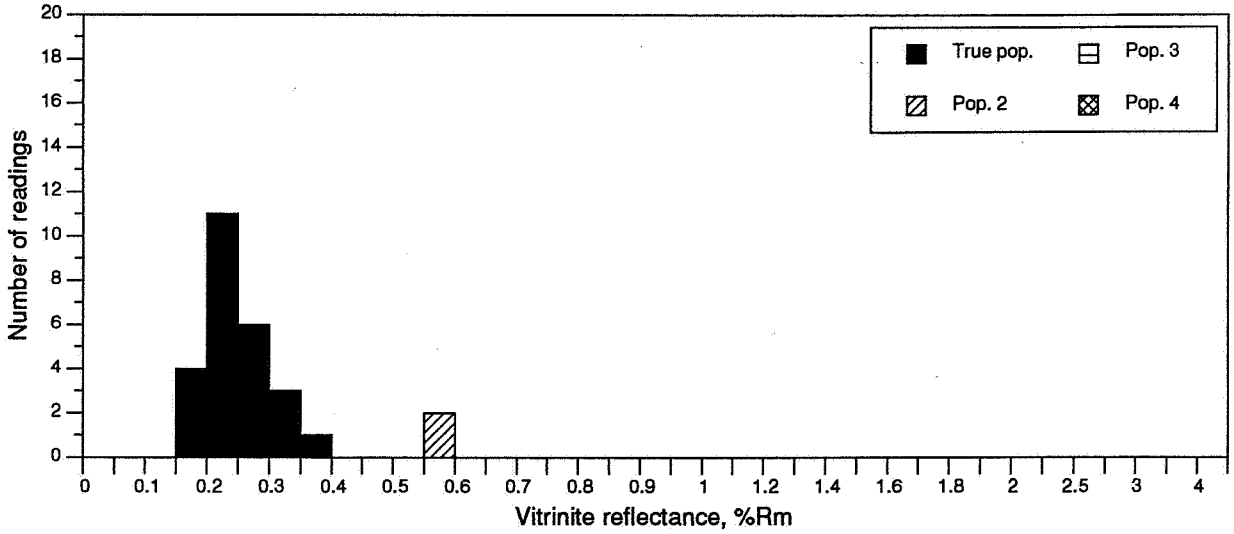
Table 1 Vitrinite reflectance data, continued

Well 2/4-18R								
IFE no.	**Depth, mRKB**	**Sample type**	**Lithology**	**%Rm**	**Std. dev.**	**N**	**Quality**	**Preparation**
SA 1301	4800	cut	sh/sst	1.18	0.07	13	P	HF
SA 1302	4851	cut	sh/sst	1.28	0.11	23	M	HF
SA 1303	4899	cut	sst	1.29	0.08	3	M	HF
SA 1304	4950	cut	sst/sh	1.24	0.05	11	P	HF
SA 1305	5001	cut	sst/sh	1.20	0.09	24	P	HF
SA 1306	5049	cut	sst	1.32	0.06	11	M	HF
SA 1307	5100	cut	sst	1.39	0.13	30	P	HF
SA 1308	5151	cut	sst	1.41	0.14	21	M	HF
SA 1309	5199	cut	sh	1.58	0.14	21	M	HF
SA 1310	5250	cut	sh	1.73	0.20	29	M	HF
SA 1311	5301	cut	sh	1.67	0.20	30	M	HF

G	Good quality	**P**	Poor quality	**A**	Mud additive	**HF**	HF-treated
M	Moderate quality	**X**	Not vitrinite	**Barren**	Barren of vitrinite	**Bulk**	Bulk rock

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1260	**2/4-18R**	**1000**	cut	clst	6.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**M**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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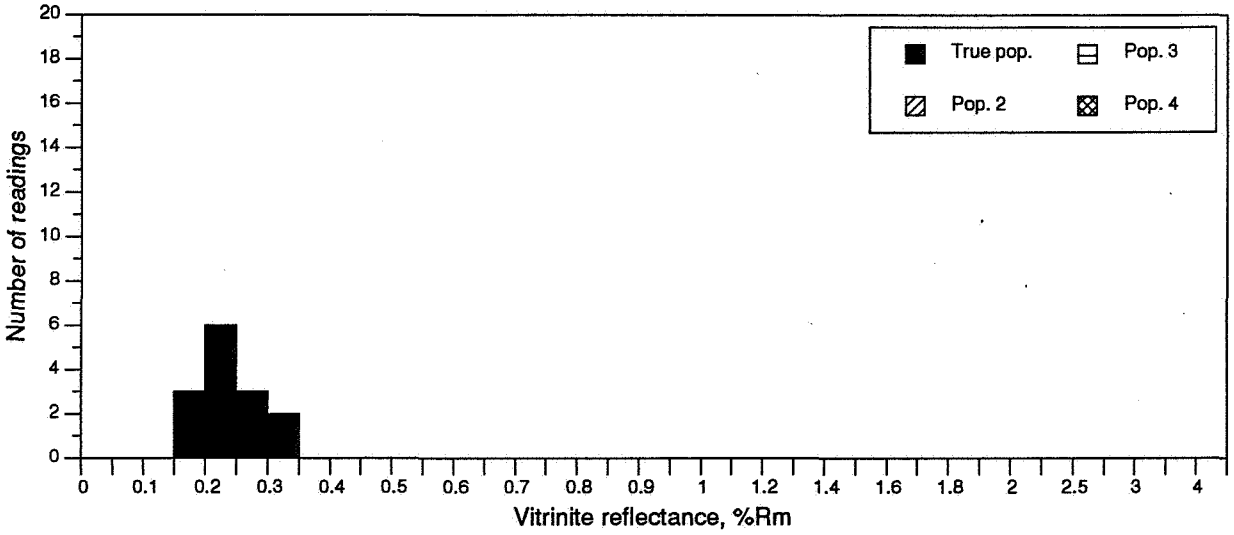
%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.25±0.06**	0.56±0.00		
Individual	0.16	0.56		
measurements	0.17	0.56		
3	0.17			
4	0.19			
5	0.20			
6	0.20			
7	0.20			
8	0.20			
9	0.21			
10	0.22			
11	0.22			
12	0.23			
13	0.23			
14	0.23			
15	0.24			
16	0.25			
17	0.27			
18	0.27			
19	0.29			
20	0.29			
21	0.29			
22	0.32			
23	0.34			
24	0.34			
25	0.35			
26				
27				
28				
29				
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1261	**2/4-18R**	**1100**	cut	clst	6.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.24±0.05**			
Individual	0.17			
measurements	0.17			
3	0.17			
4	0.20			
5	0.20			
6	0.21			
7	0.23			
8	0.24			
9	0.25			
10	0.26			
11	0.27			
12	0.29			
13	0.30			
14	0.32			
15				
16				
17				
18				
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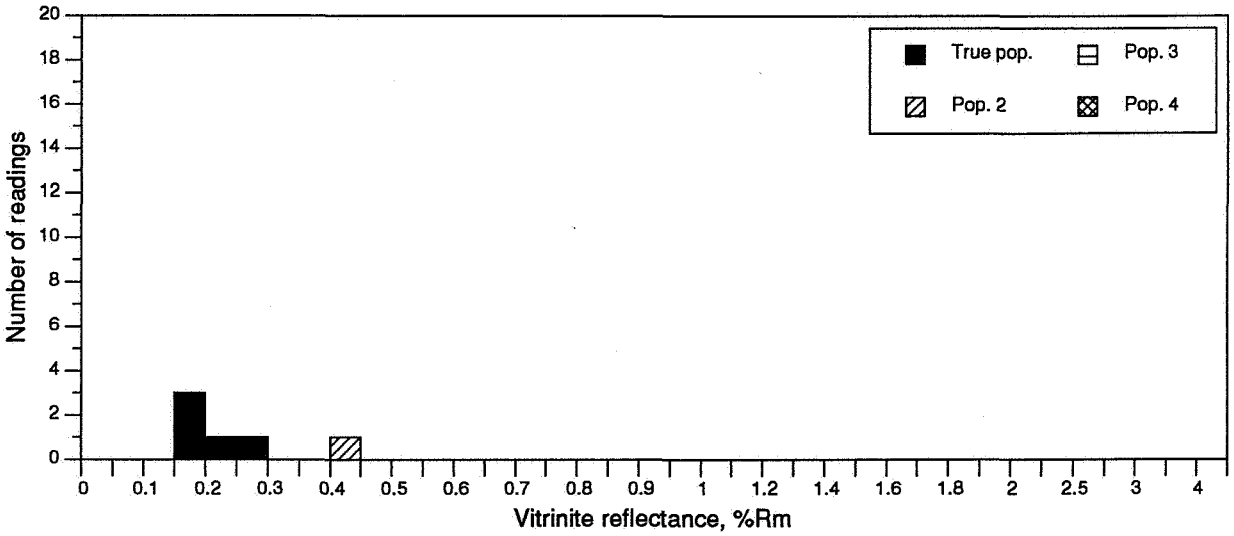
24				
25				
26				
27				
28				
29				
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1262	**2/4-18R**	**1200**	**cut**	**clst**	6.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**P**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.20±0.04**	0.43		
Individual	0.17	0.43		
measurements	0.18			
3	0.18			
4	0.20			
5	0.27			
6				
7				
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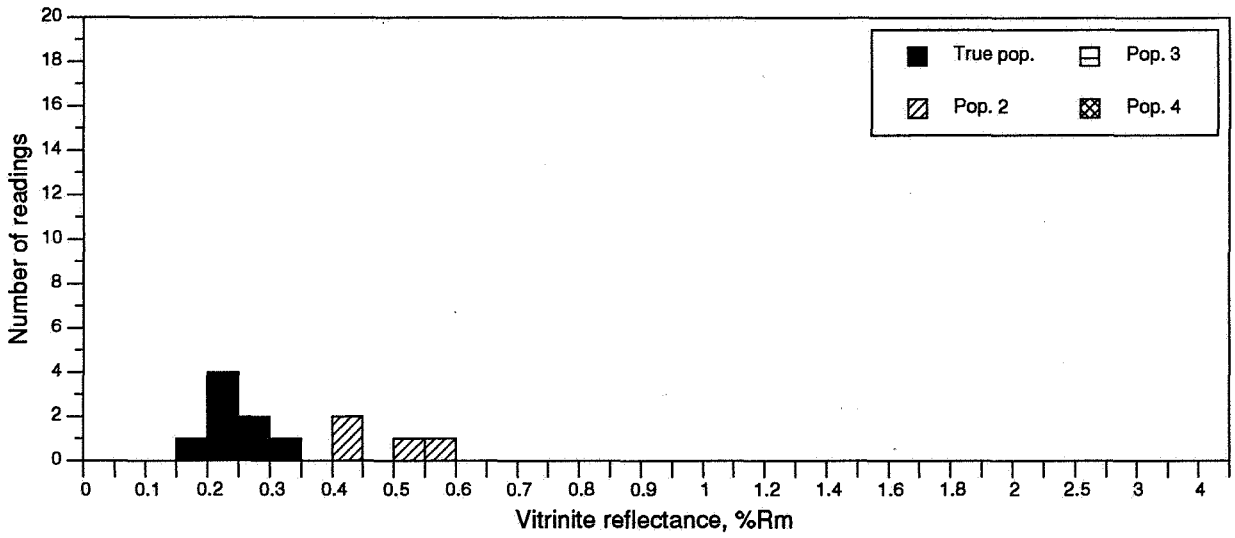
26				
27				
28				
29				
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1263	**2/4-18R**	**1300**	cut	clst	14.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.24±0.05**	0.48±0.08		
Individual	0.17	0.41		
measurements	0.20	0.41		
3	0.20	0.52		
4	0.20	0.56		
5	0.23			
6	0.26			
7	0.27			
8	0.32			
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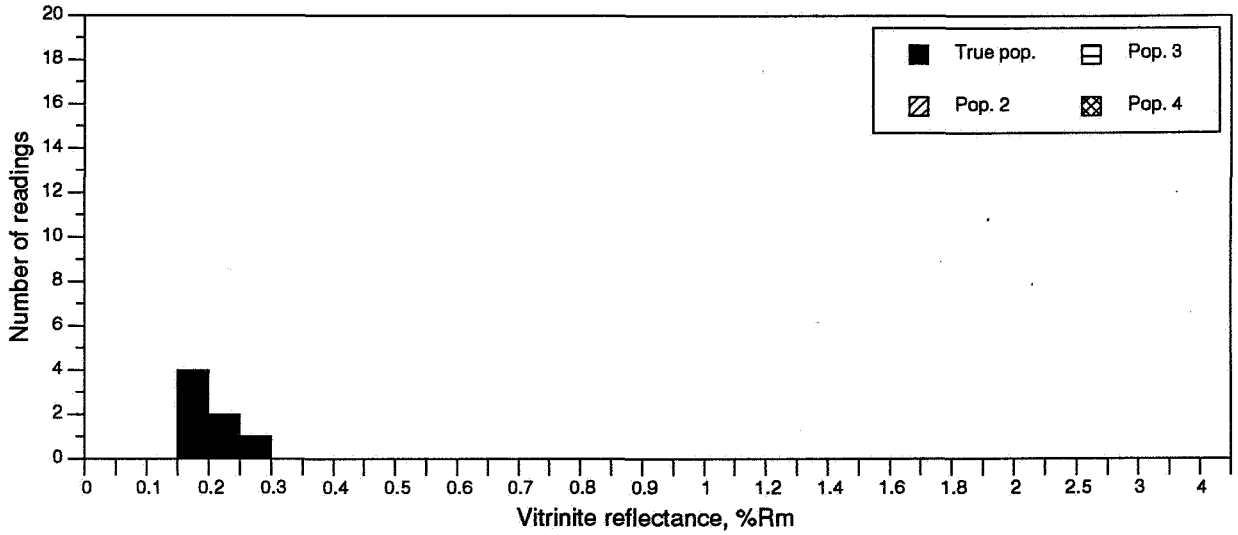
29				
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1264	**2/4-18R**	**1400**	cut	clst	14.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.20±0.04**			
Individual	0.16			
measurements	0.17			
3	0.17			
4	0.18			
5	0.21			
6	0.22			
7	0.27			
8				
9				
10				
11				
12				
13				
14				
15				
16				
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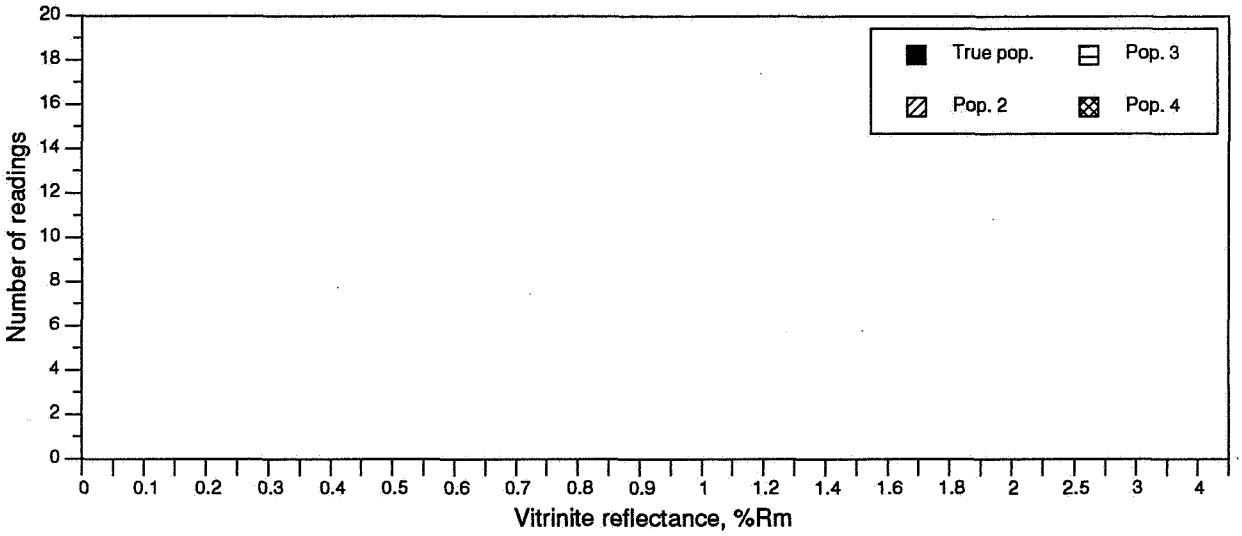
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1265	**2/4-18R**	**1500**	cut	clst	14.9.94



Quality rating	
Abundance of vitrinite	
Identification of vitrinite	
Type of vitrinite	
Particle size	
Particle surface quality	
Abundance of pyrite	
Average sample quality	**X**

	Legend to quality rating
o	No effect on the readings
-	*Possibly to low readings*
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.				
Individual measurements				
3				
4				
5				
6				
7				
8				
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10				
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12				
13				
14				
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16				
17				
18				
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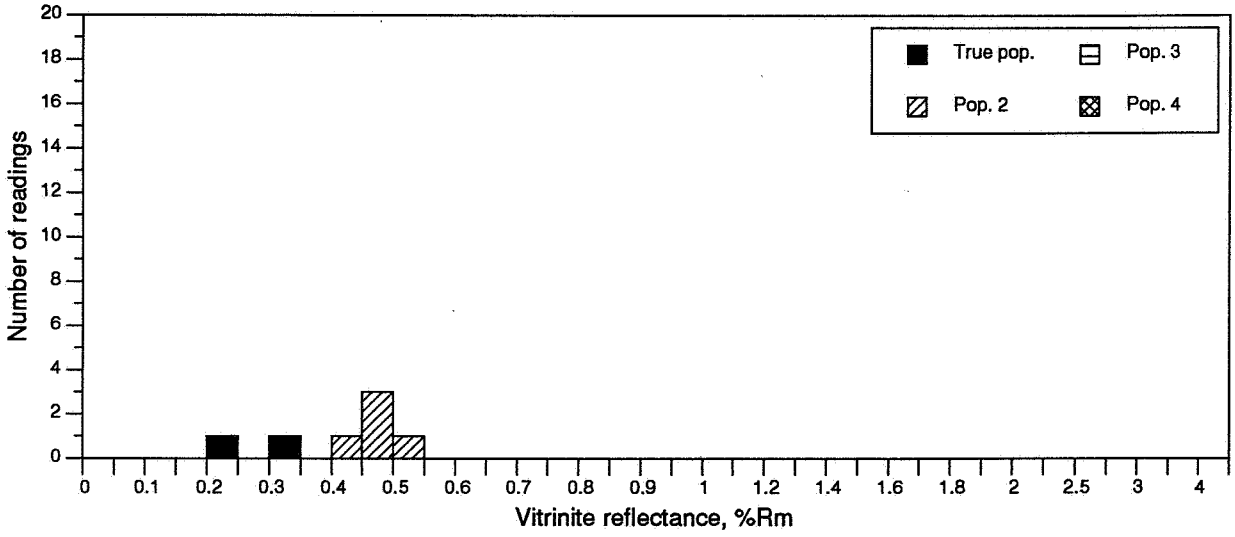
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1266	**2/4-18R**	**1600**	cut	clst	16.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.27±0.07**	0.47±0.04		
Individual	0.22	0.40		
measurements	0.32	0.45		
3		0.47		
4		0.47		
5		0.52		
6				
7				
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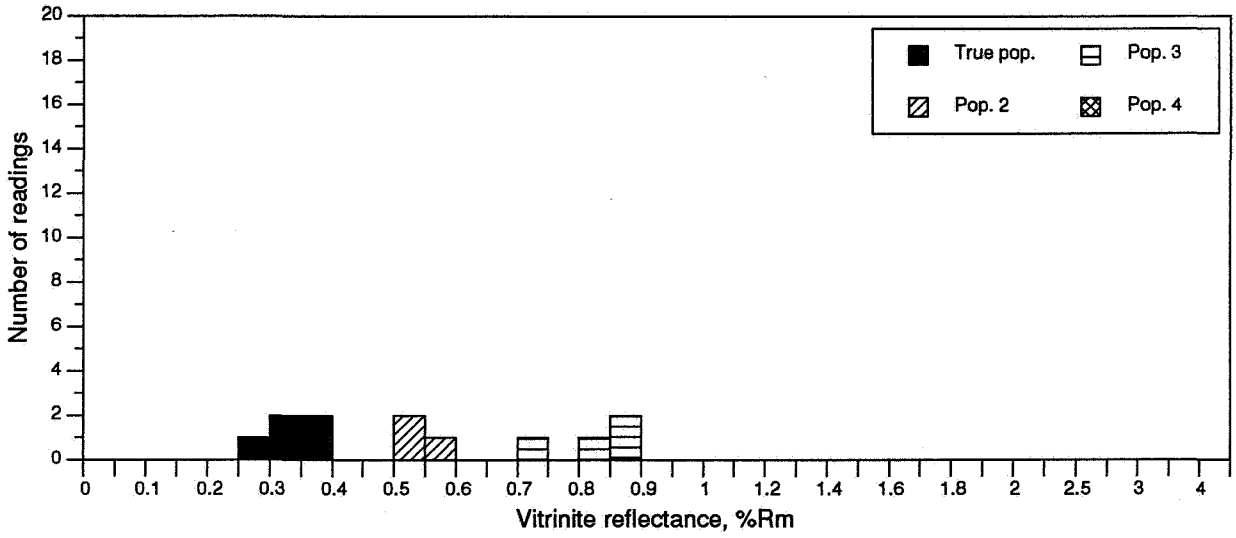
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1267	**2/4-18R**	**1700**	cut	clst	16.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.34±0.05**	0.53±0.03	0.83±0.06	
Individual	0.26	0.51	0.74	
measurements	0.33	0.52	0.84	
3	0.33	0.56	0.85	
4	0.38		0.88	
5	0.39			
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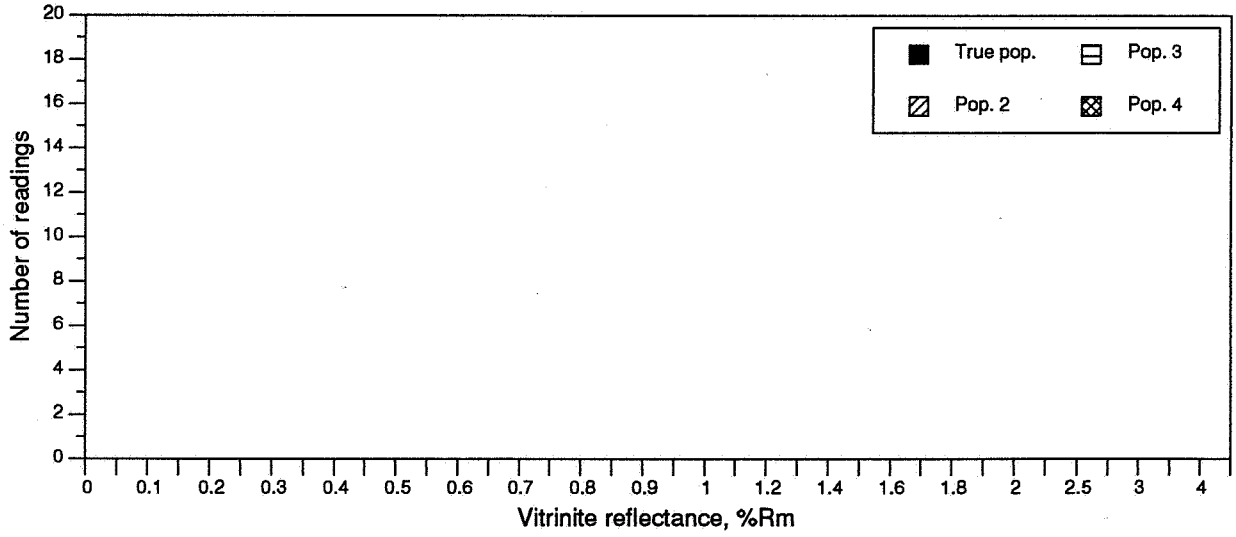
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1268	**2/4-18R**	**1800**	cut	clst	16.9.94



Quality rating	
Abundance of vitrinite	
Identification of vitrinite	
Type of vitrinite	
Particle size	
Particle surface quality	
Abundance of pyrite	
Average sample quality	**X**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.				
Individual measurements				
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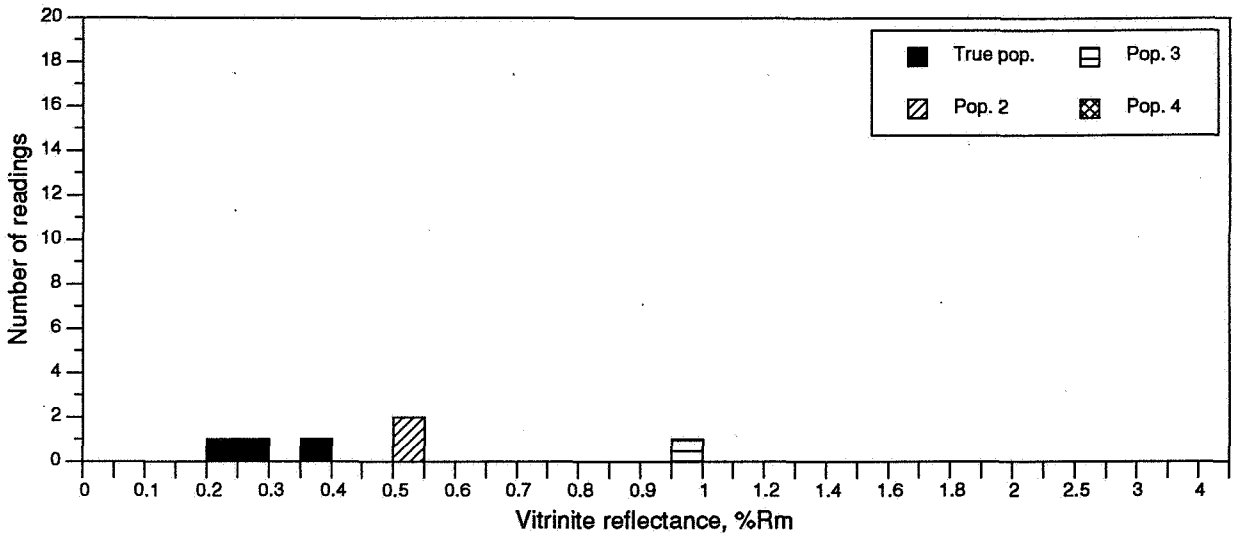
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1269	**2/4-18R**	**1900**	cut	clst	16.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.31±0.08**	0.53±0.03	0.97	
Individual	0.23	0.50	0.97	
measurements	0.29	0.54		
3	0.39			
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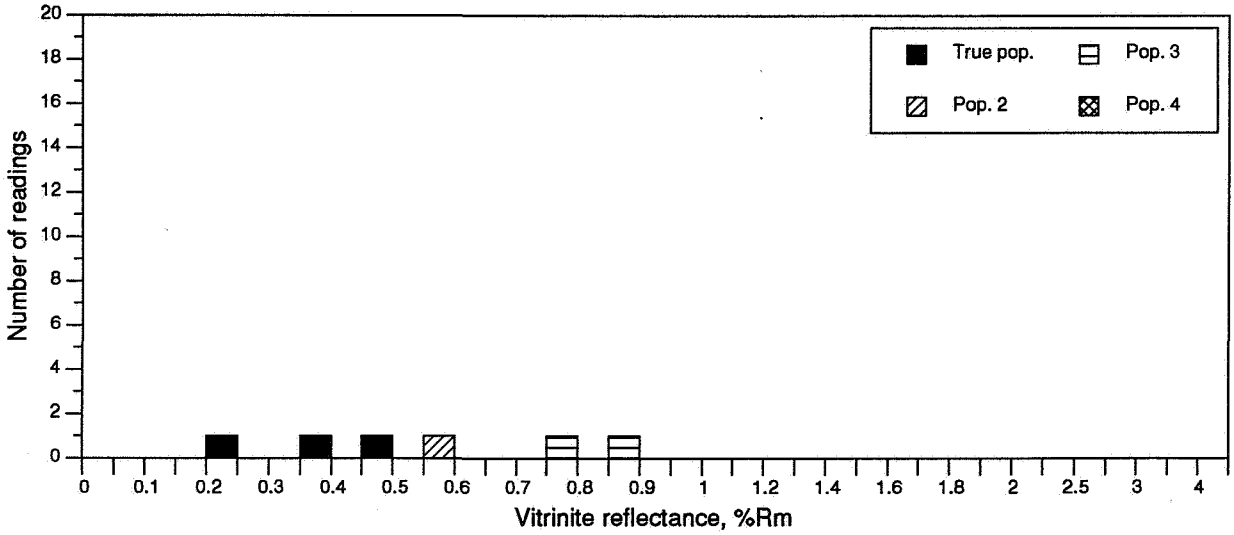
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1270	**2/4-18R**	**2000**	cut	clst	16.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.38±0.16**	0.58	0.82±0.07	
Individual	0.20	0.58	0.77	
measurements	0.36		0.86	
3	0.45			
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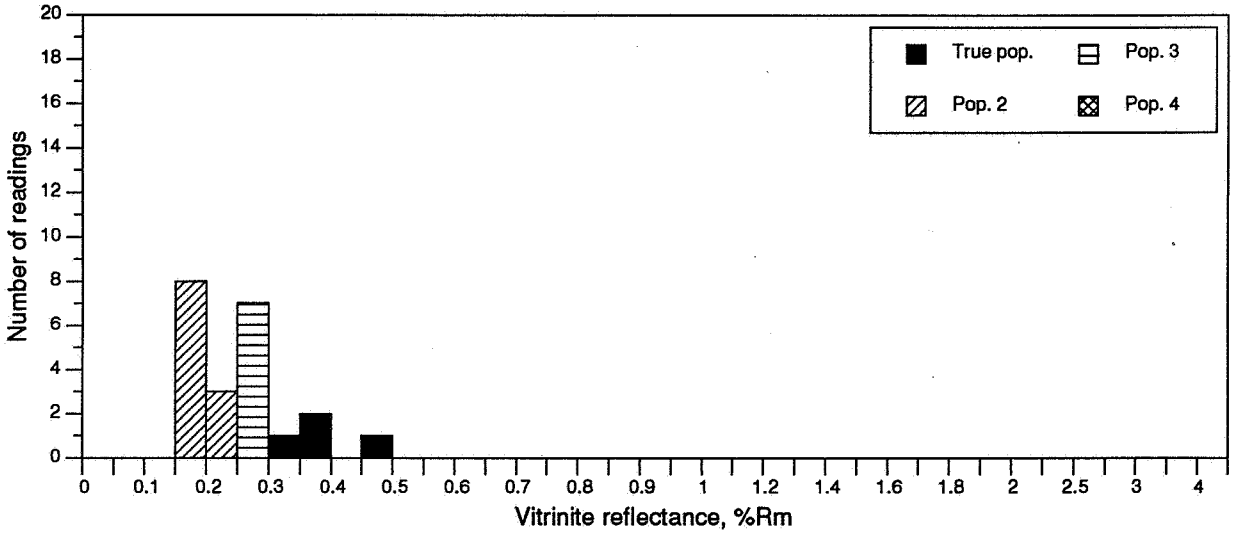
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1271	**2/4-18R**	**2100**	cut	clst	16.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.39±0.08**	0.20±0.02	0.27±0.02	
Individual	0.30	0.15	0.25	
measurements	0.36	0.17	0.26	
3	0.39	0.18	0.26	
4	0.49	0.19	0.27	
5		0.19	0.28	
6		0.19	0.28	
7		0.19	0.29	
8		0.19		
9		0.21		
10		0.23		
11		0.24		
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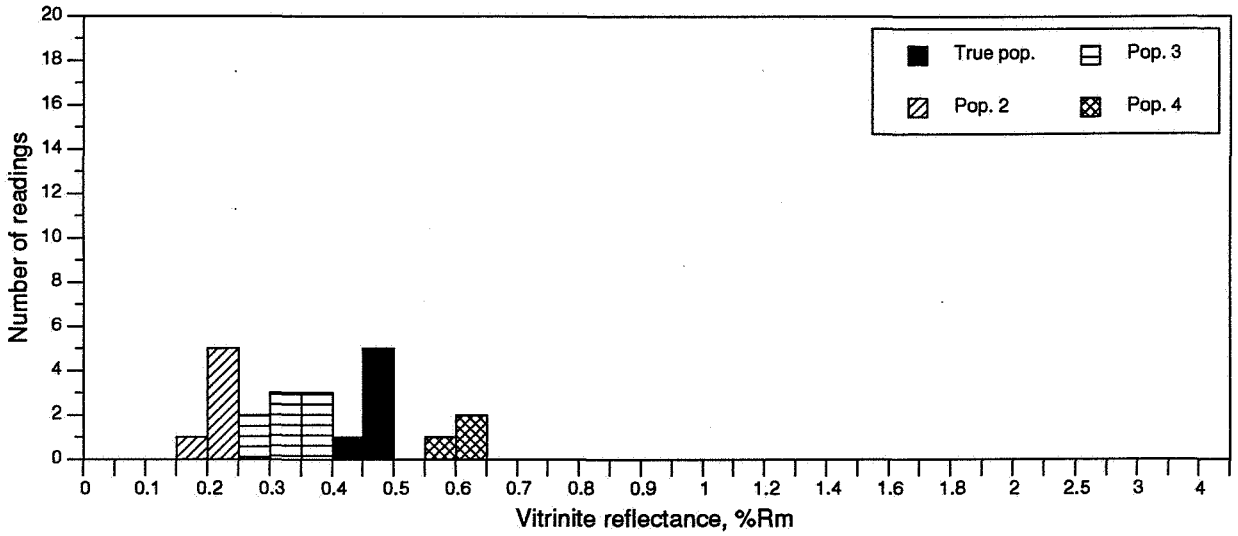
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1272	**2/4-18R**	**2200**	cut	clst	16.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.46±0.01**	0.21±0.02	0.34±0.05	0.61±0.05
Individual	0.44	0.19	0.28	0.55
measurements	0.45	0.20	0.29	0.61
3	0.45	0.20	0.31	0.64
4	0.46	0.22	0.34	
5	0.46	0.22	0.34	
6	0.46	0.23	0.38	
7			0.39	
8			0.39	
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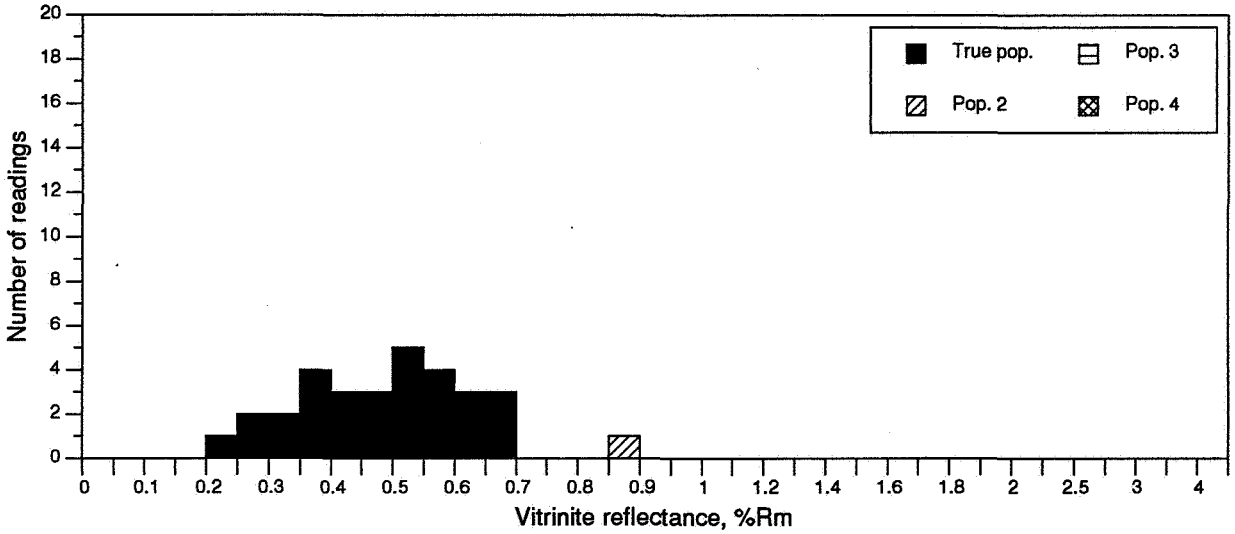
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1273	**2/4-18R**	**2300**	cut	clst	19.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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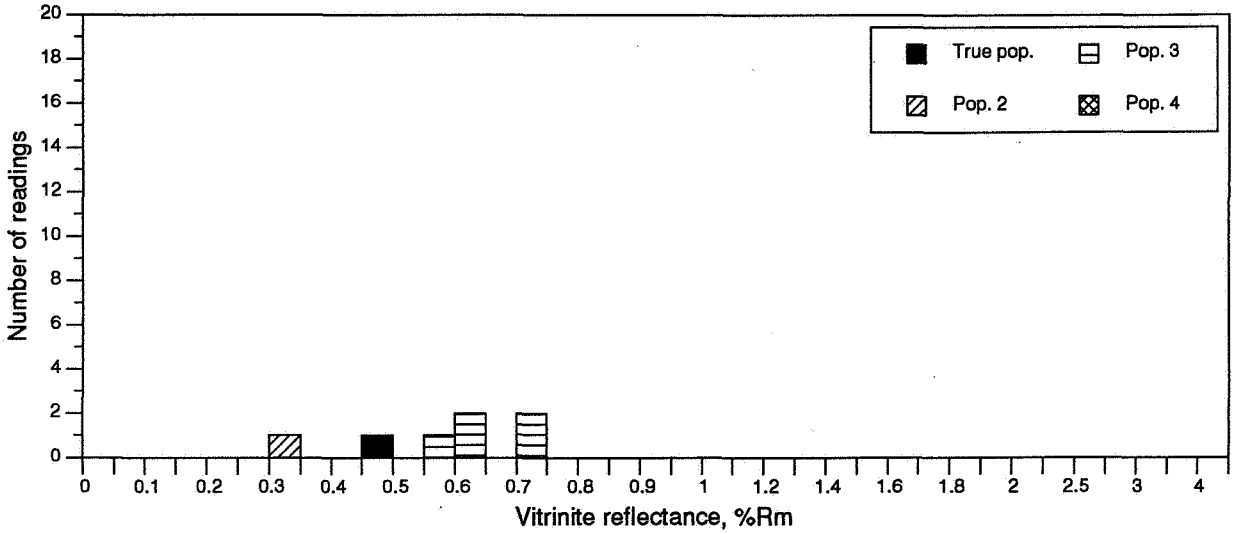
%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.48±0.14**	0.89		
Individual	0.22	0.89		
measurements	0.28			
3	0.29			
4	0.30			
5	0.31			
6	0.35			
7	0.35			
8	0.38			
9	0.39			
10	0.41			
11	0.44			
12	0.44			
13	0.45			
14	0.46			
15	0.48			
16	0.50			
17	0.50			
18	0.50			
19	0.53			
20	0.54			
21	0.55			
22	0.56			
23	0.57			
24	0.59			
25	0.60			
26	0.61			
27	0.62			
28	0.63			
29	0.66			
30	0.68			

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1274	**2/4-18R**	**2400**	cut	clst	19.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.45**	0.34	0.65±0.08	
Individual	0.45	0.34	0.55	
measurements			0.61	
3			0.61	
4			0.72	
5			0.73	
6				
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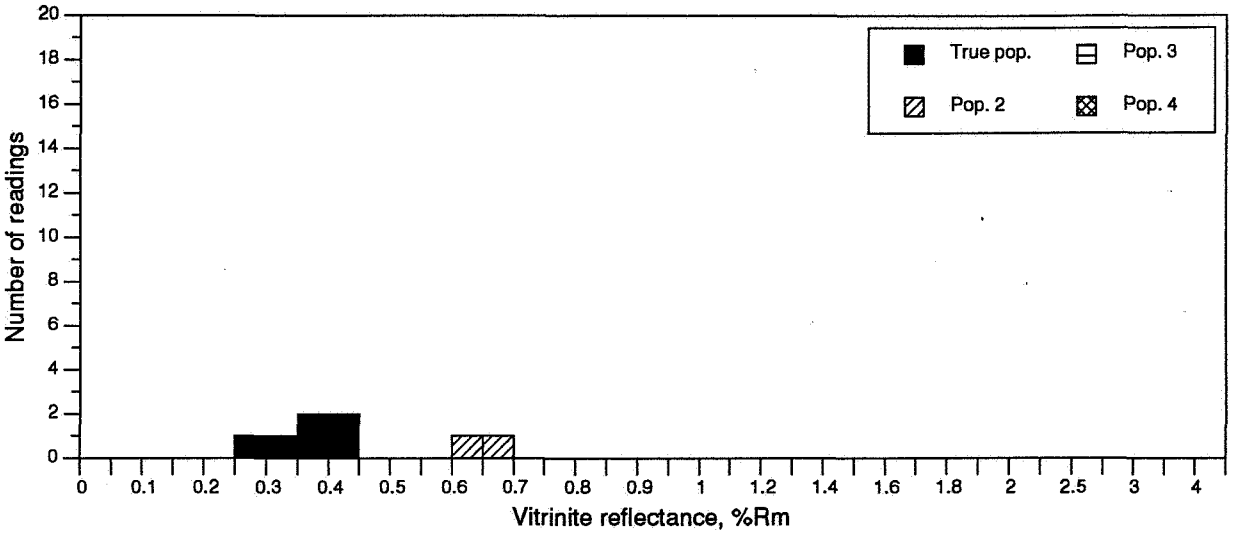
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1275	**2/4-18R**	**2500**	cut	clst	14.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.37±0.05**	0.67±0.04		
Individual	0.29	0.63		
measurements	0.33	0.69		
3	0.35			
4	0.39			
5	0.40			
6	0.42			
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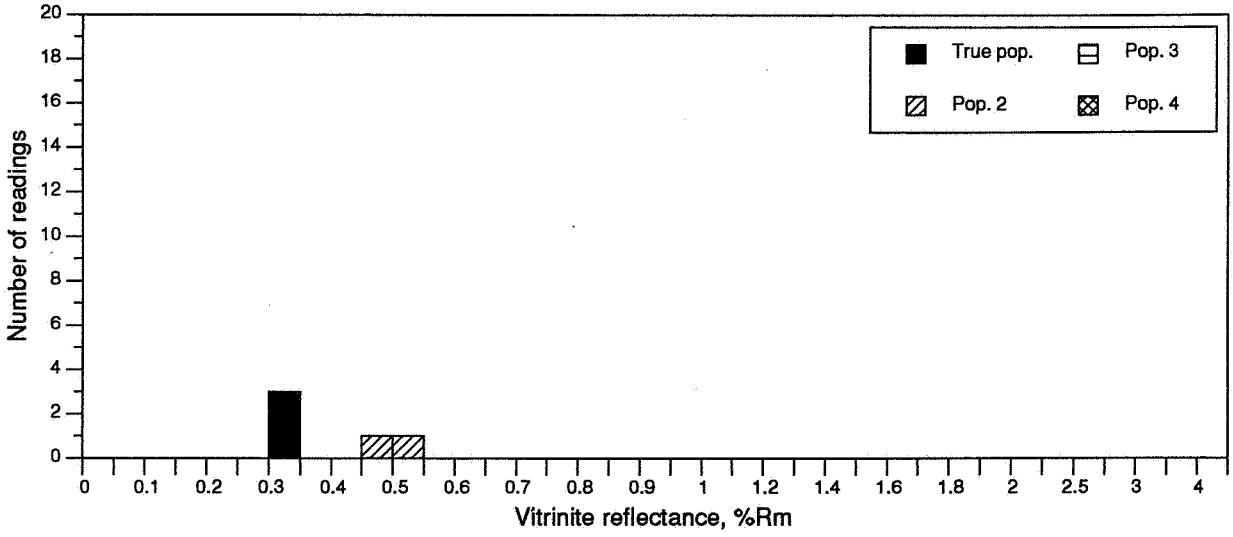
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1276	**2/4-18R**	**2600**	cut	clst	14.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.32±0.02**	0.50±0.02		
Individual	0.30	0.48		
measurements	0.32	0.52		
3	0.33			
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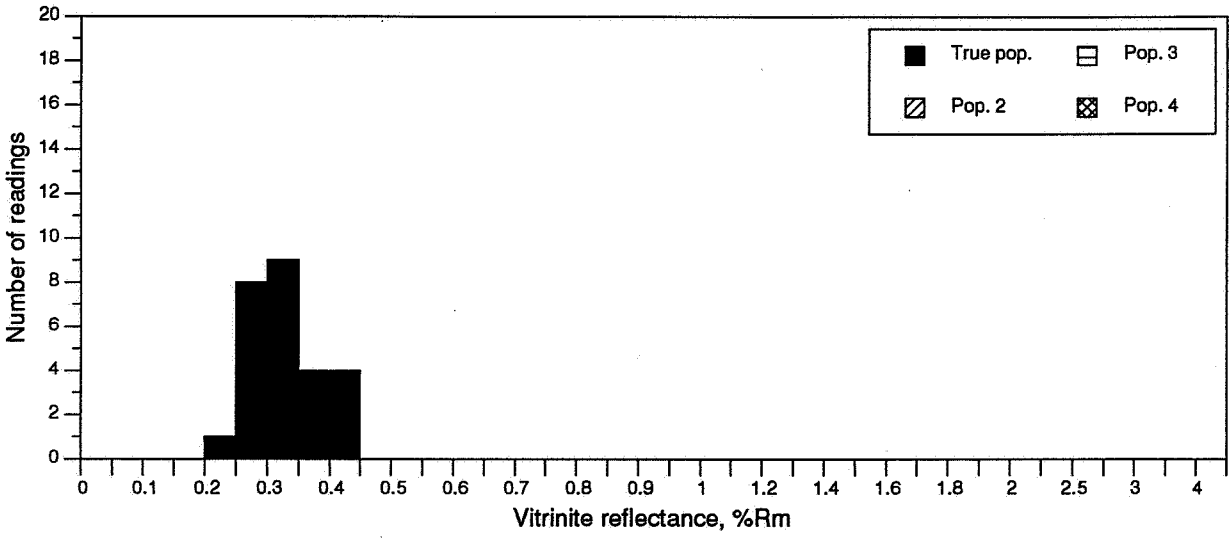
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1277	**2/4-18R**	**2700**	cut	clst	15.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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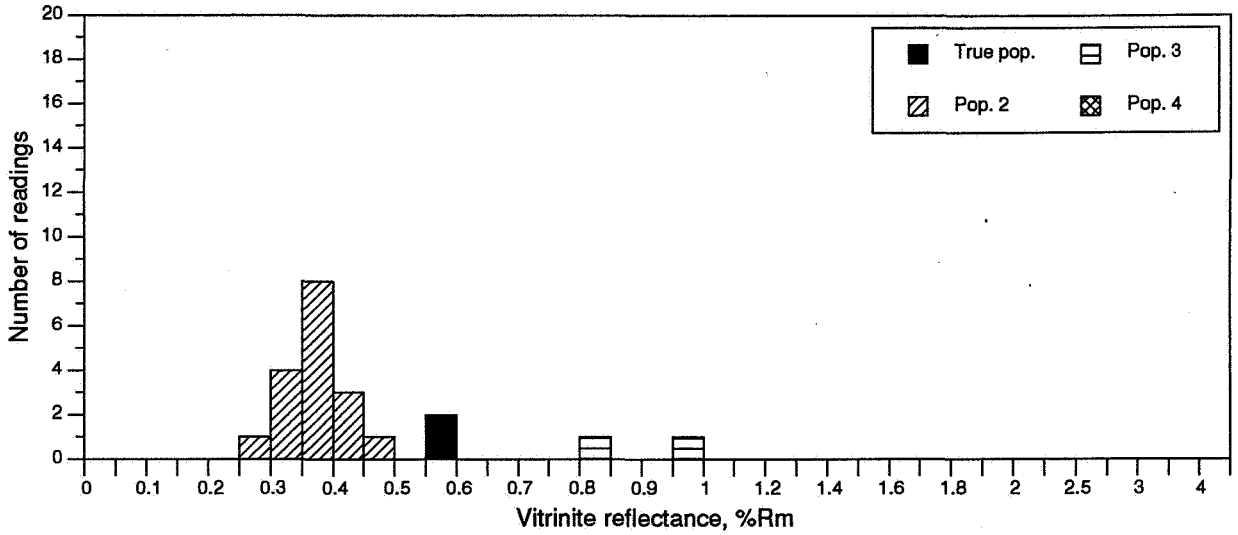
%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.33±0.06**			
Individual	0.23			
measurements	0.25			
3	0.26			
4	0.26			
5	0.26			
6	0.28			
7	0.29			
8	0.29			
9	0.29			
10	0.31			
11	0.32			
12	0.32			
13	0.32			
14	0.32			
15	0.33			
16	0.33			
17	0.33			
18	0.34			
19	0.35			
20	0.36			
21	0.36			
22	0.39			
23	0.41			
24	0.42			
25	0.42			
26	0.44			
27				
28				
29				
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1278	**2/4-18R**	**2800**	cut	clst	19.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.58±0.00**	0.37±0.05	0.89±0.10	
Individual	0.57	0.29	0.82	
measurements	0.58	0.30	0.96	
3		0.31		
4		0.32		
5		0.34		
6		0.35		
7		0.35		
8		0.35		
9		0.36		
10		0.37		
11		0.38		
12		0.38		
13		0.39		
14		0.40		
15		0.41		
16		0.41		
17		0.48		
18				
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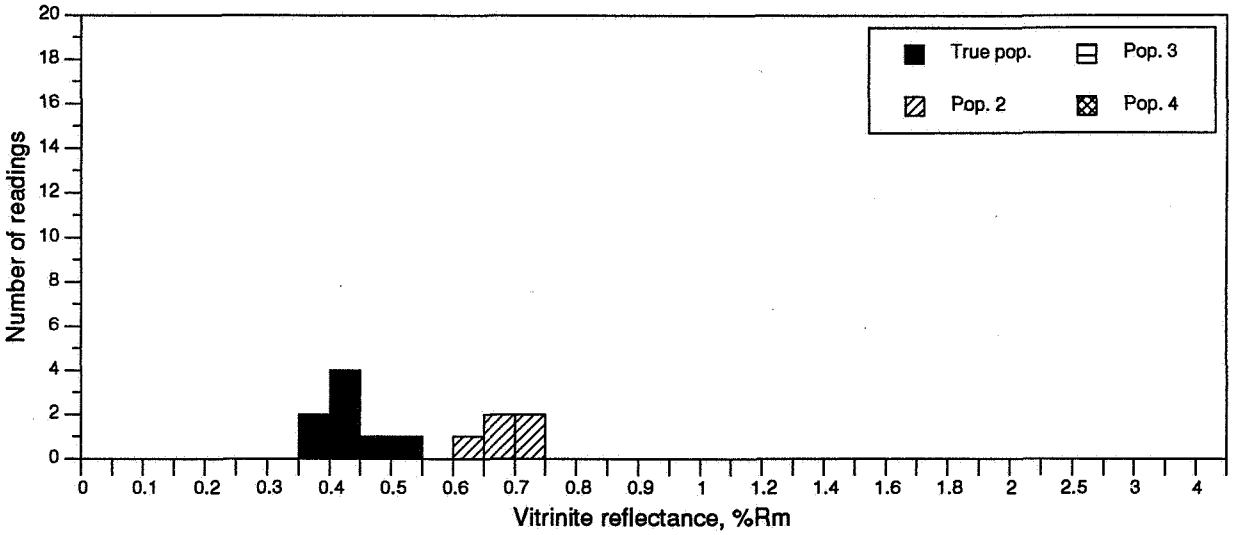
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1279	**2/4-18R**	**2900**	cut	clst	19.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**P**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.44±0.04**	0.68±0.05		
Individual	0.38	0.60		
measurements	0.39	0.66		
3	0.41	0.68		
4	0.44	0.70		
5	0.44	0.73		
6	0.44			
7	0.48			
8	0.51			
9				
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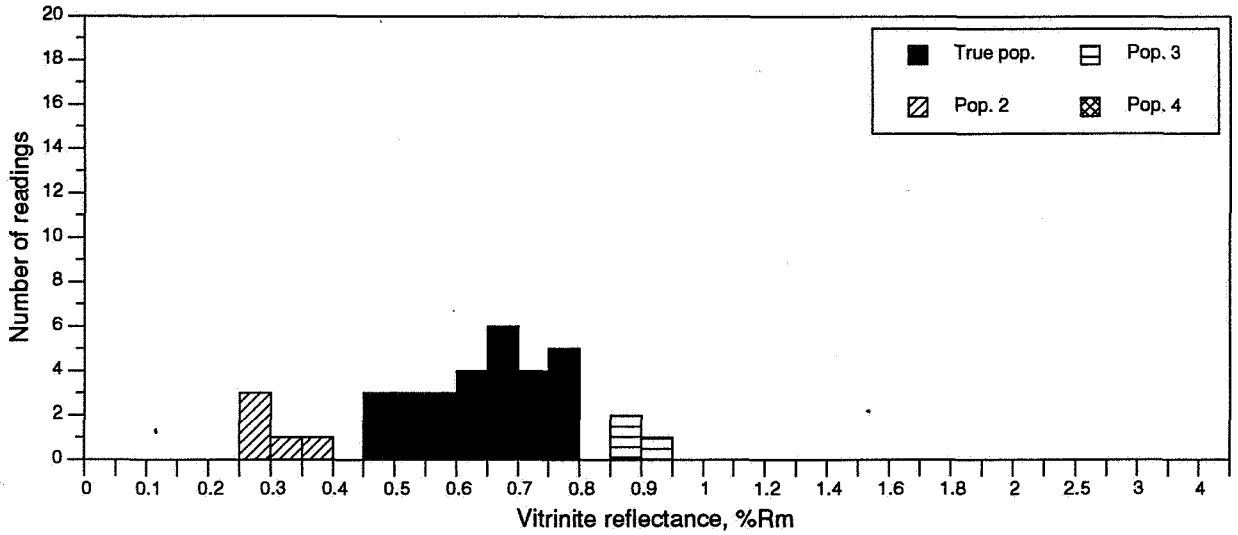
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1280	**2/4-18R**	**3000**	cut	clst	19.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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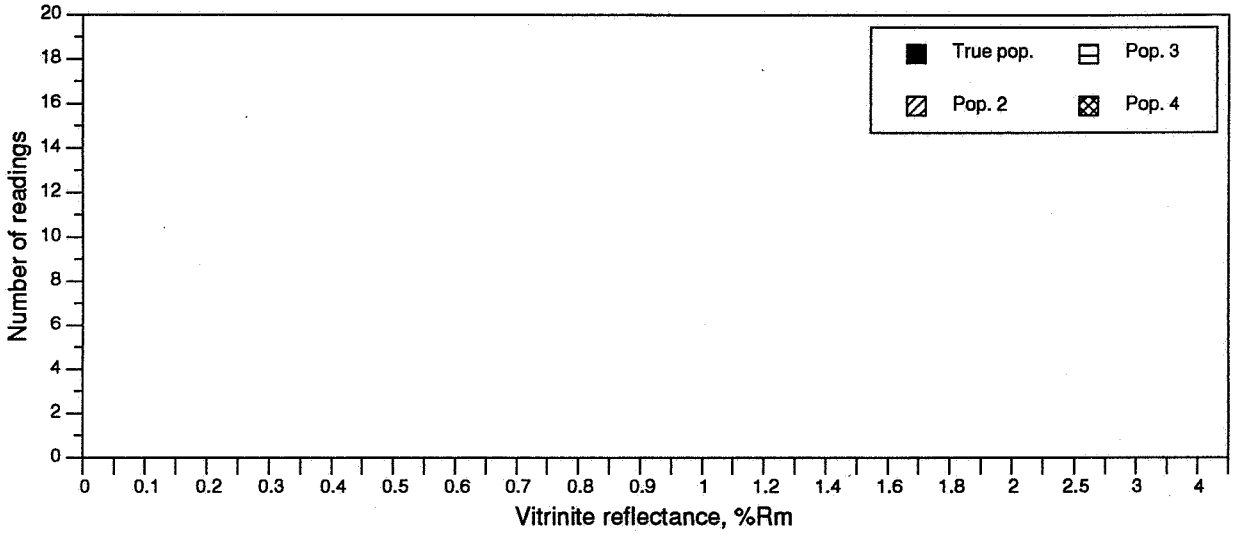
%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.65±0.10**	0.30±0.06	0.89±0.02	
Individual	0.47	0.25	0.86	
measurements	0.47	0.25	0.88	
3	0.50	0.28	0.90	
4	0.52	0.31		
5	0.54	0.38		
6	0.54			
7	0.57			
8	0.57			
9	0.57			
10	0.60			
11	0.63			
12	0.63			
13	0.63			
14	0.66			
15	0.66			
16	0.66			
17	0.66			
18	0.68			
19	0.70			
20	0.72			
21	0.72			
22	0.73			
23	0.74			
24	0.75			
25	0.76			
26	0.78			
27	0.79			
28	0.79			
29				
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1281	**2/4-18R**	**3100**	cut	clst	19.9.94



Quality rating	
Abundance of vitrinite	
Identification of vitrinite	
Type of vitrinite	
Particle size	
Particle surface quality	
Abundance of pyrite	
Average sample quality	**X**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.				
Individual measurements				
3				
4				
5				
6				
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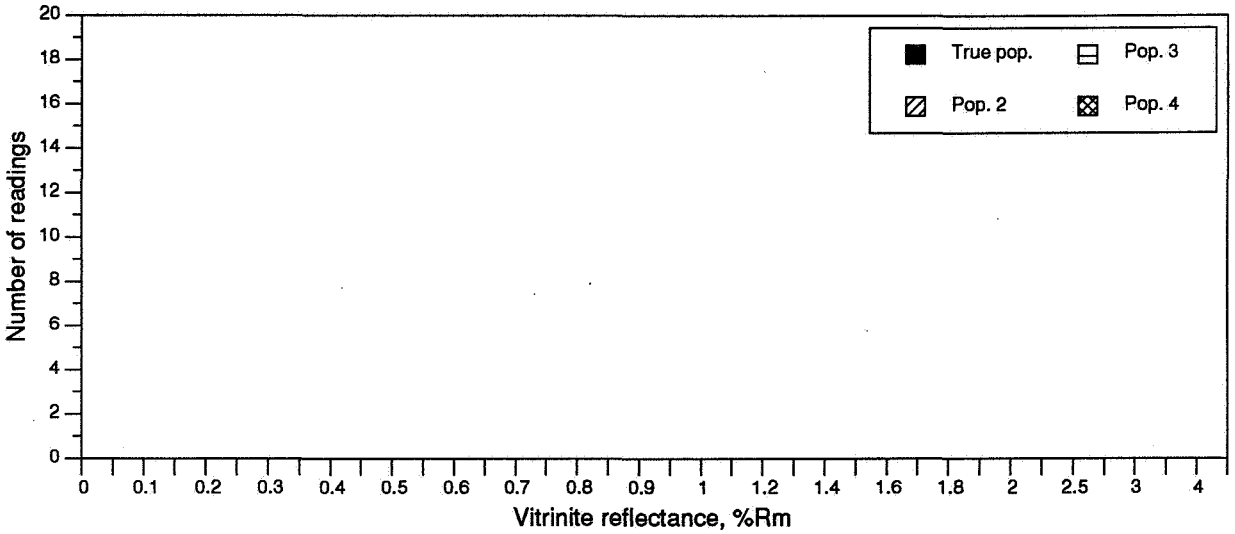
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1282	**2/4-18R**	**3200**	cut	clst	19.9.94



Quality rating	
Abundance of vitrinite	
Identification of vitrinite	
Type of vitrinite	
Particle size	
Particle surface quality	
Abundance of pyrite	
Average sample quality	**X**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.				
Individual measurements				
3				
4				
5				
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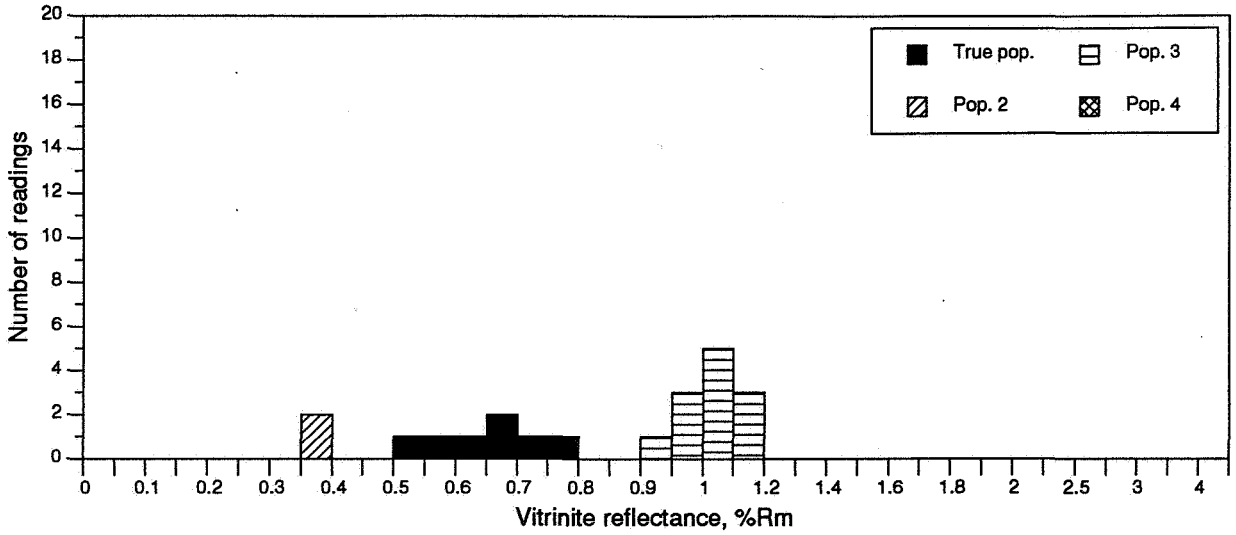
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1283	**2/4-18R**	**3300**	cut	lst	21.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.65±0.08**	0.37±0.02	1.04±0.07	
Individual	0.53	0.35	0.94	
measurements	0.56	0.38	0.96	
3	0.63		0.97	
4	0.67		0.98	
5	0.67		1.00	
6	0.72		1.02	
7	0.76		1.03	
8			1.04	
9			1.07	
10			1.14	
11			1.14	
12			1.16	
13				
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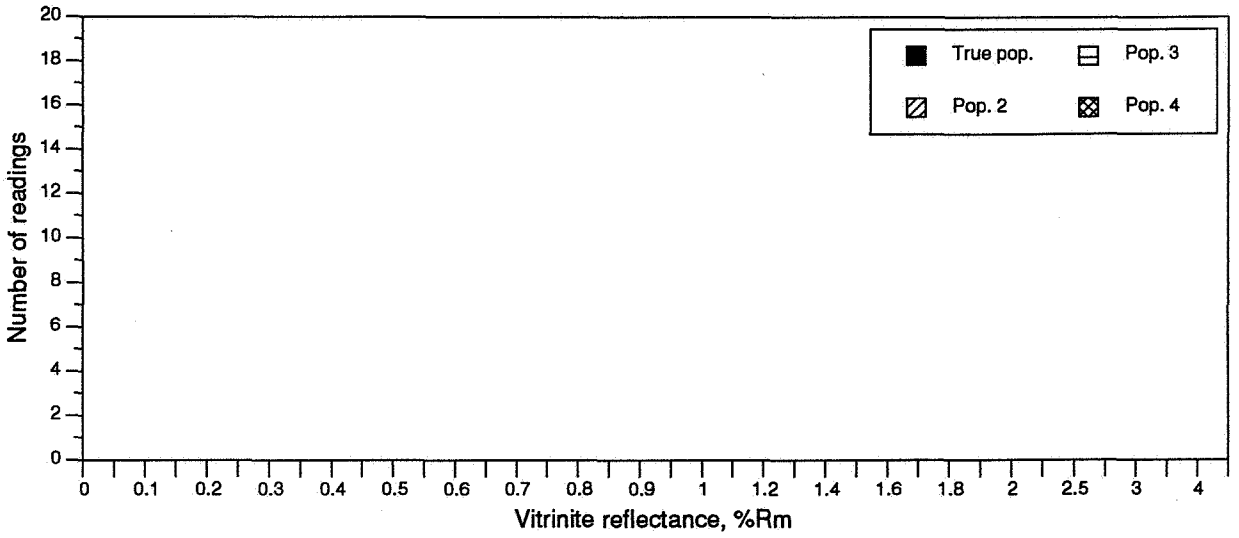
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1284	**2/4-18R**	**3400**	cut	lst	21.9.94



Quality rating	
Abundance of vitrinite	
Identification of vitrinite	
Type of vitrinite	
Particle size	
Particle surface quality	
Abundance of pyrite	
Average sample quality	**X**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.				
Individual measurements				
3				
4				
5				
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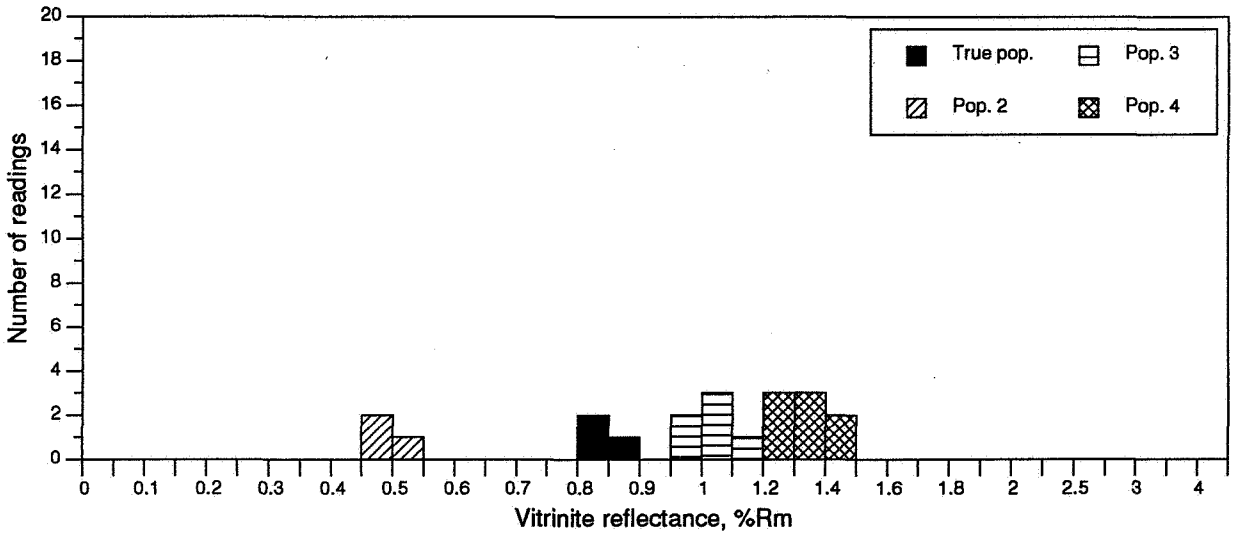
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1285	**2/4-18R**	**3500**	cut	lst/clst	27.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.83±0.03**	0.48±0.03	1.05±0.06	1.34±0.09
Individual	0.80	0.45	0.96	1.22
measurements	0.81	0.47	0.99	1.27
3	0.87	0.51	1.05	1.28
4			1.06	1.30
5			1.08	1.34
6			1.13	1.35
7				1.44
8				1.49
9				
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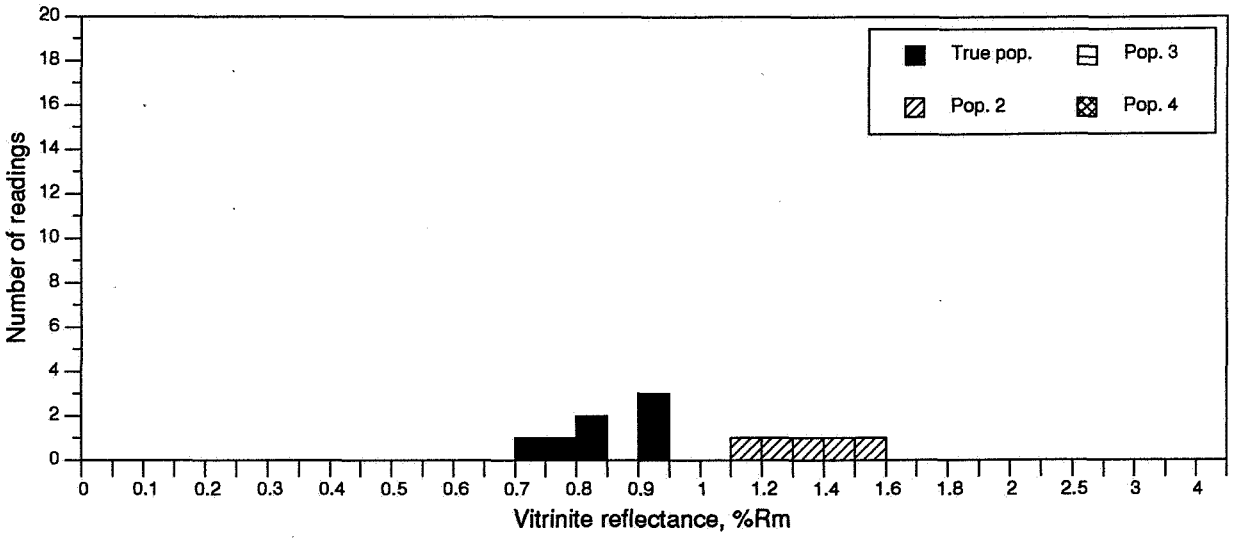
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1286	**2/4-18R**	**3600**	cut	lst	27.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.84±0.09**	1.37±0.15		
Individual	0.70	1.16		
measurements	0.76	1.27		
3	0.80	1.37		
4	0.84	1.48		
5	0.91	1.55		
6	0.92			
7	0.92			
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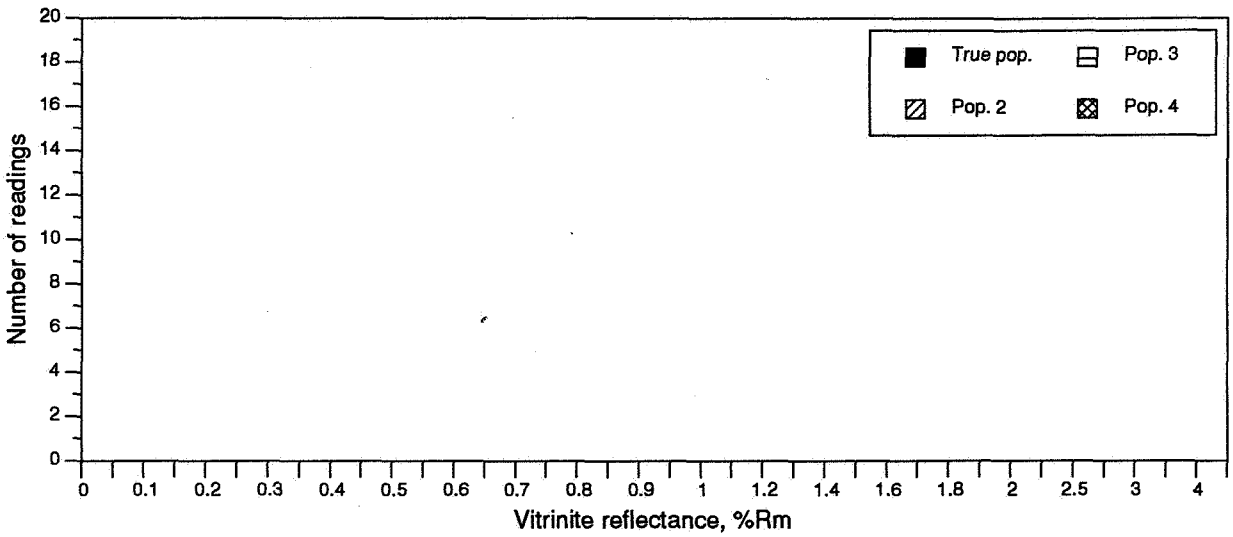
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1287	**2/4-18R**	**3700**	cut	lst	27.9.94



Quality rating	
Abundance of vitrinite	
Identification of vitrinite	
Type of vitrinite	
Particle size	
Particle surface quality	
Abundance of pyrite	
Average sample quality	**X**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.				
Individual measurements				
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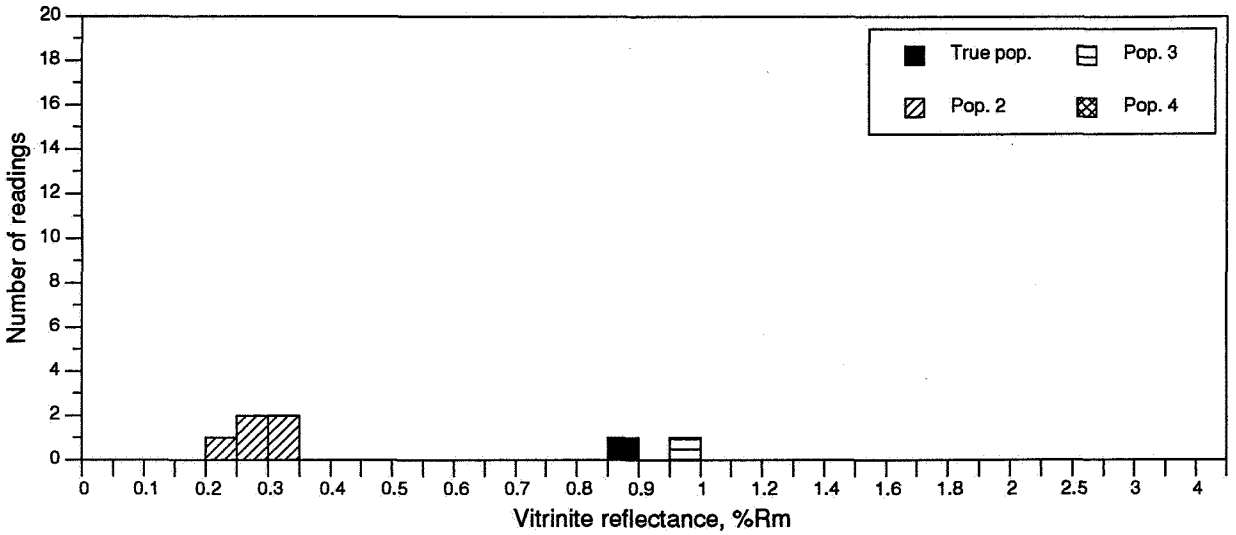
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1288	**2/4-18R**	**3800**	cut	lst	23.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.88**	0.29±0.04	0.97	
Individual	0.88	0.24	0.97	
measurements		0.25		
3		0.26		
4		0.31		
5		0.34		
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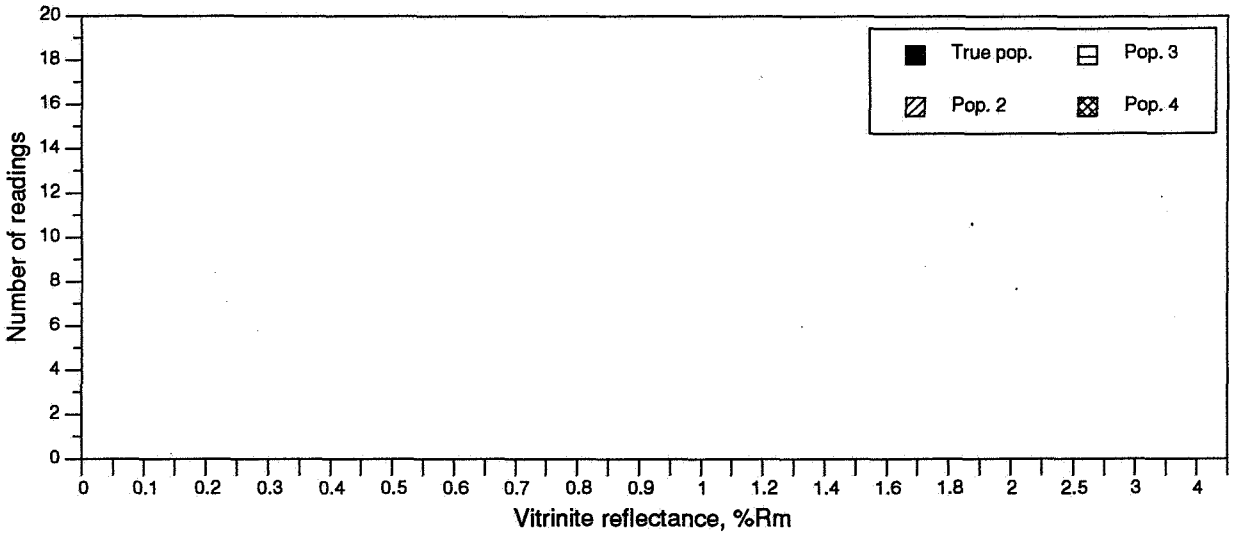
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1289	**2/4-18R**	**3900**	cut	lst	23.9.94



Quality rating	
Abundance of vitrinite	
Identification of vitrinite	
Type of vitrinite	
Particle size	
Particle surface quality	
Abundance of pyrite	
Average sample quality	**X**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	*Good quality*
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.				
Individual				
measurements				
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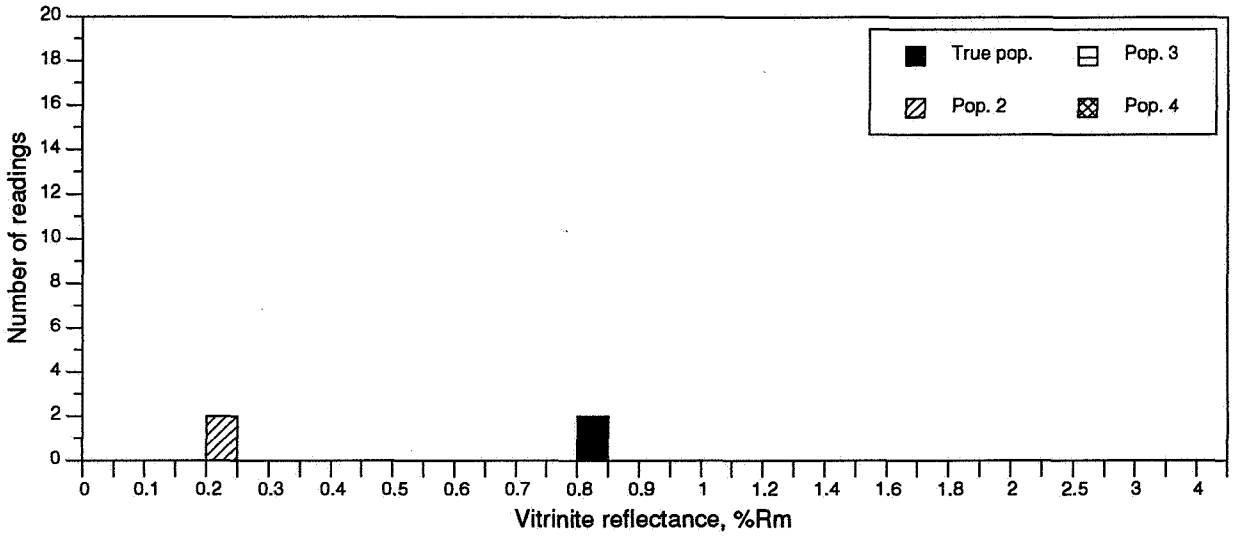
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1290	**2/4-18R**	**4000**	cut	lst	23.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.84±0.00**	0.23±0.00		
Individual	0.83	0.22		
measurements	0.84	0.22		
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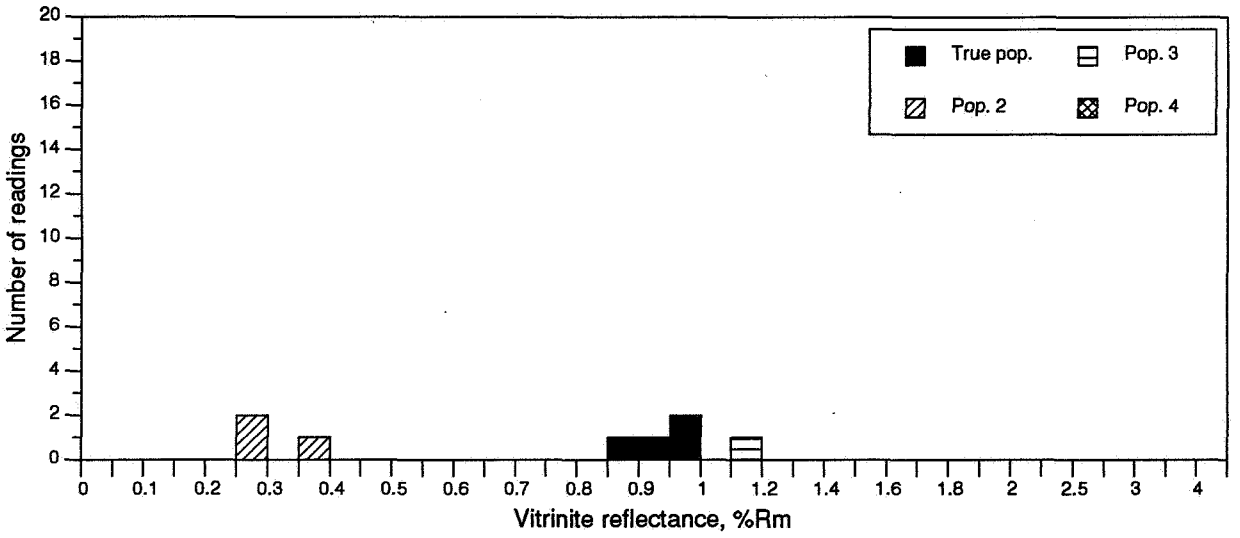
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1291	**2/4-18R**	**4100**	cut	lst	23.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.94±0.06**	0.30±0.05	1.19	
Individual	0.85	0.26	1.19	
measurements	0.94	0.29		
3	0.97	0.35		
4	0.98			
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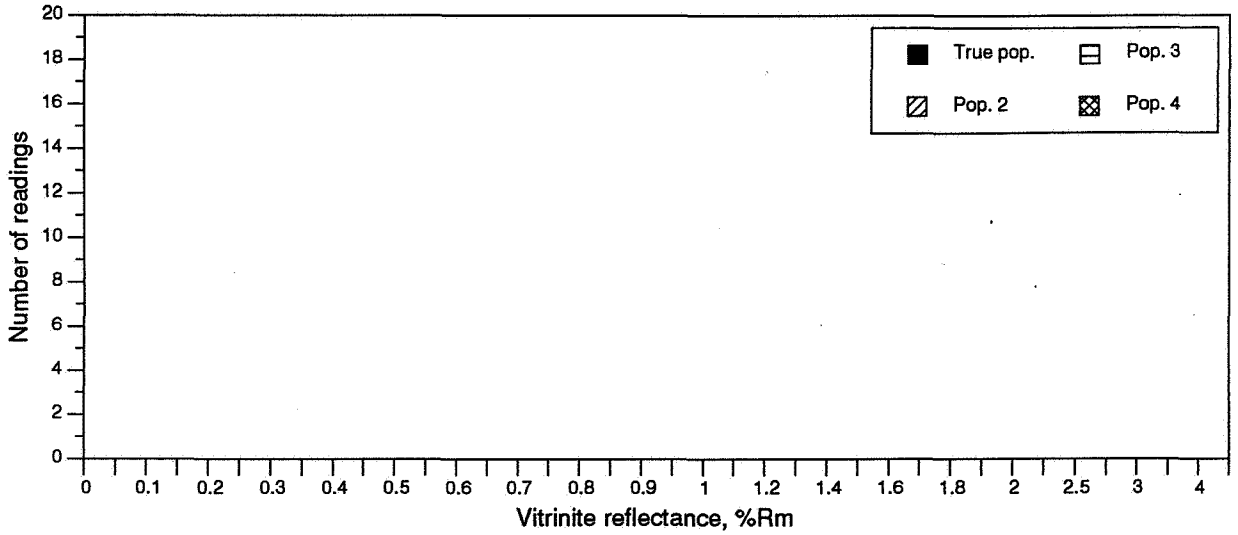
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1292	**2/4-18R**	**4200**	cut	lst/clst	23.9.94



Quality rating	
Abundance of vitrinite	
Identification of vitrinite	
Type of vitrinite	
Particle size	
Particle surface quality	
Abundance of pyrite	
Average sample quality	**X**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.				
Individual measurements				
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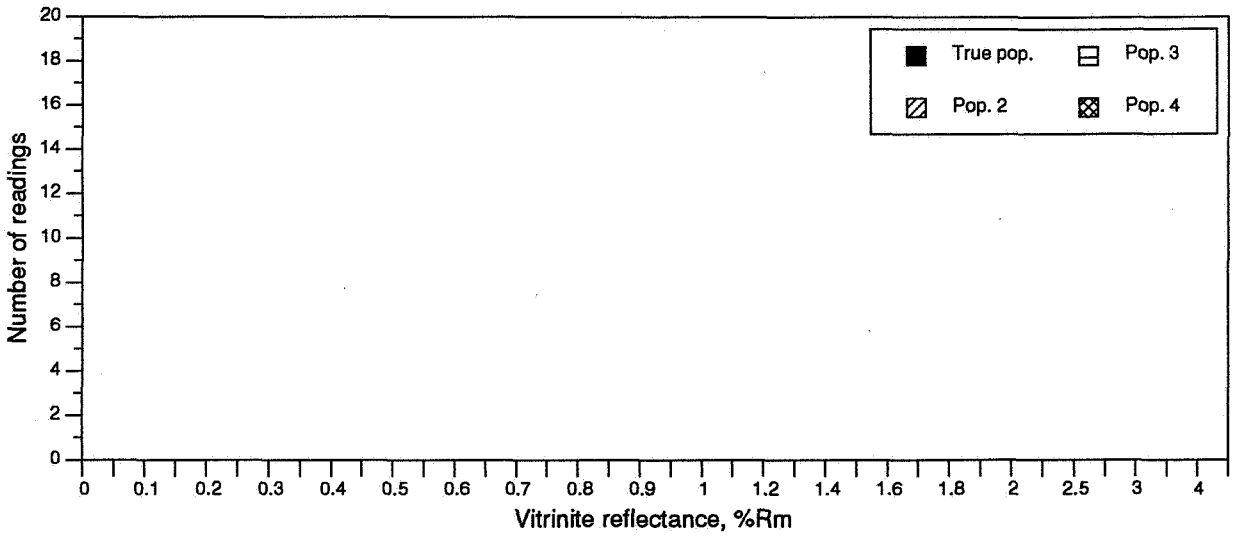
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1293	**2/4-18R**	**4300**	**cut**	**lst/clst**	23.9.94



Quality rating	
Abundance of vitrinite	
Identification of vitrinite	
Type of vitrinite	
Particle size	
Particle surface quality	
Abundance of pyrite	
Average sample quality	**X**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.				
Individual measurements				
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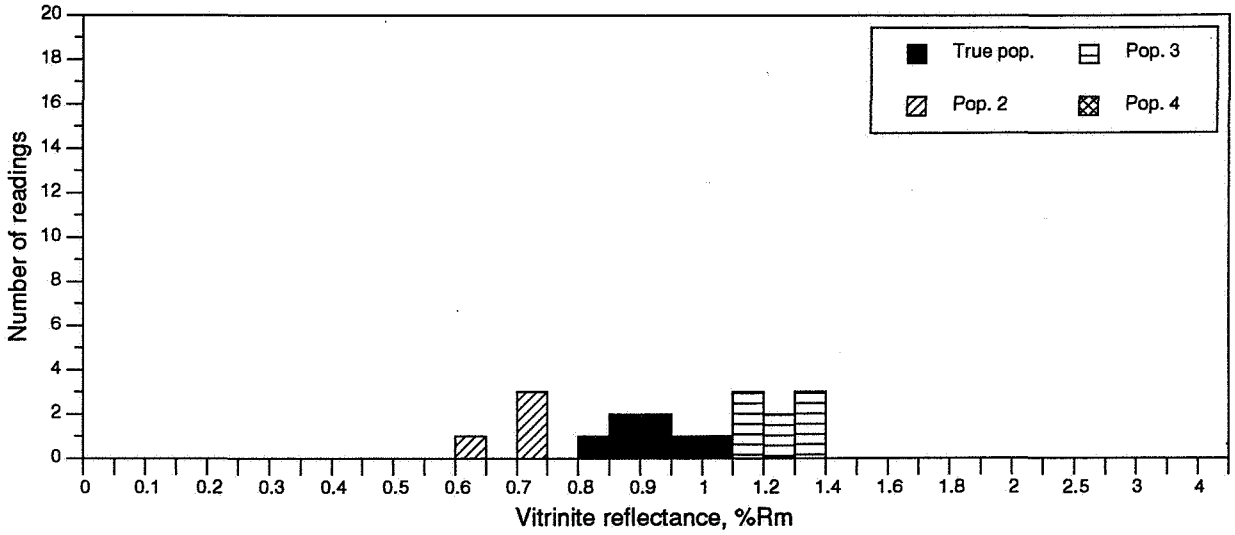
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1294	**2/4-18R**	**4400**	cut	lst/clst	22.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**X**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.91±0.07**	0.69±0.05	1.25±0.10	
Individual	0.80	0.61	1.12	
measurements	0.85	0.70	1.12	
3	0.87	0.70	1.19	
4	0.91	0.72	1.24	
5	0.94		1.27	
6	0.97		1.31	
7	1.02		1.36	
8			1.38	
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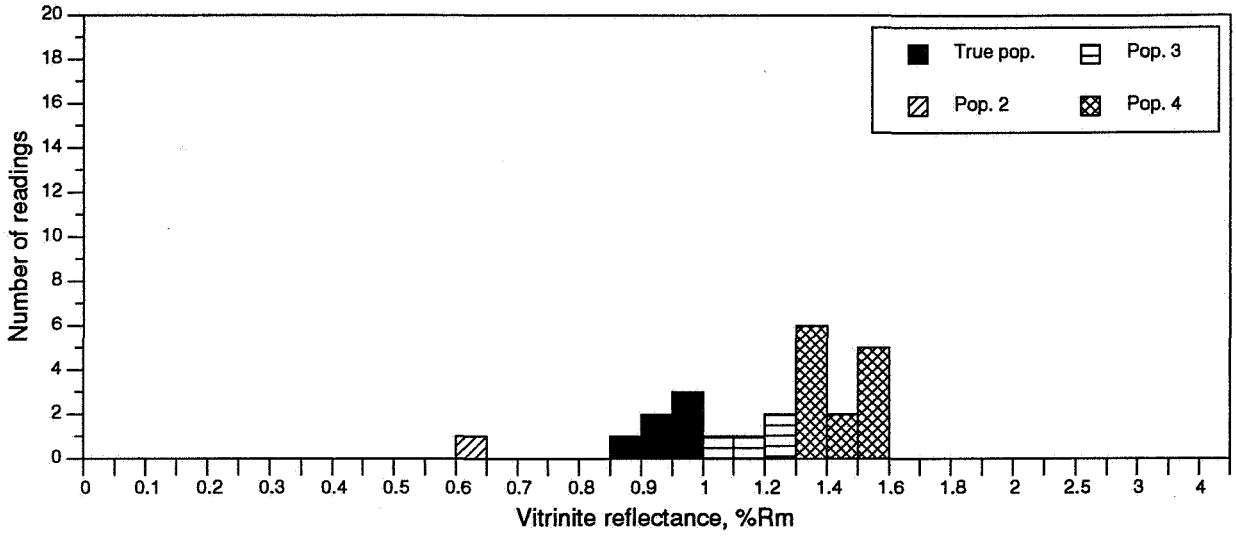
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1295	**2/4-18R**	**4500**	cut	clst	22.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**P**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.95±0.04**	0.63	1.19±0.06	1.43±0.10
Individual	0.87	0.63	1.09	1.30
measurements	0.94		1.15	1.30
3	0.94		1.22	1.32
4	0.96		1.22	1.33
5	0.96		1.24	1.35
6	0.98			1.36
7				1.41
8				1.49
9				1.50
10				1.51
11				1.53
12				1.54
13				1.56
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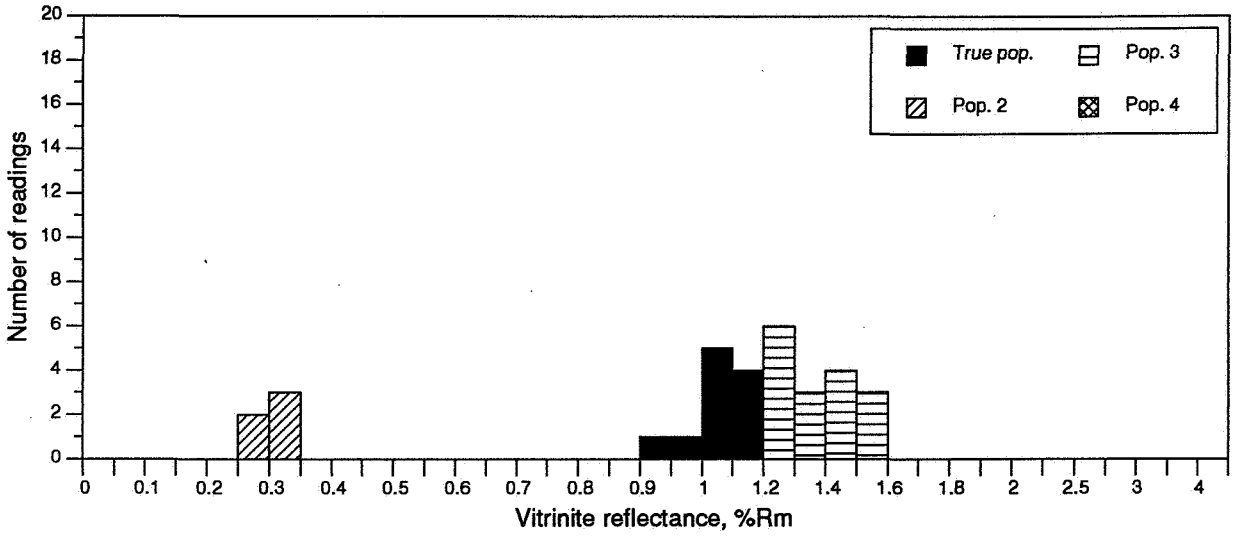
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1296	**2/4-18R**	**4550**	cut	clst	22.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	-
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.07±0.08**	0.30±0.03	1.39±0.10	
Individual	0.90	0.26	1.20	
measurements	0.99	0.29	1.23	
3	1.01	0.31	1.25	
4	1.02	0.31	1.26	
5	1.02	0.34	1.27	
6	1.09		1.28	
7	1.09		1.33	
8	1.13		1.34	
9	1.14		1.37	
10	1.14		1.43	
11	1.16		1.44	
12			1.46	
13			1.48	
14			1.50	
15			1.50	
16			1.57	
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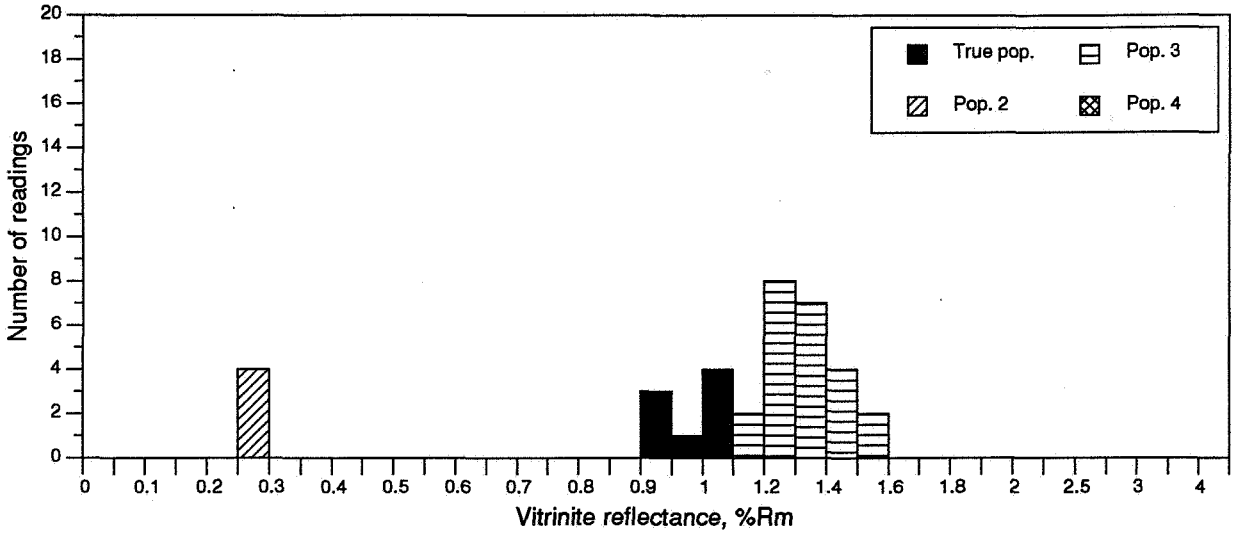
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1297	**2/4-18R**	**4600**	cut	clst	22.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**0.99±0.06**	0.29±0.02	1.32±0.11	
Individual	0.91	0.26	1.17	
measurements	0.92	0.29	1.19	
3	0.93	0.29	1.20	
4	0.98	0.29	1.21	
5	1.00		1.21	
6	1.01		1.22	
7	1.05		1.22	
8	1.08		1.25	
9			1.27	
10			1.28	
11			1.30	
12			1.31	
13			1.33	
14			1.33	
15			1.35	
16			1.36	
17			1.36	
18			1.42	
19			1.43	
20			1.43	
21			1.46	
22			1.51	
23			1.55	
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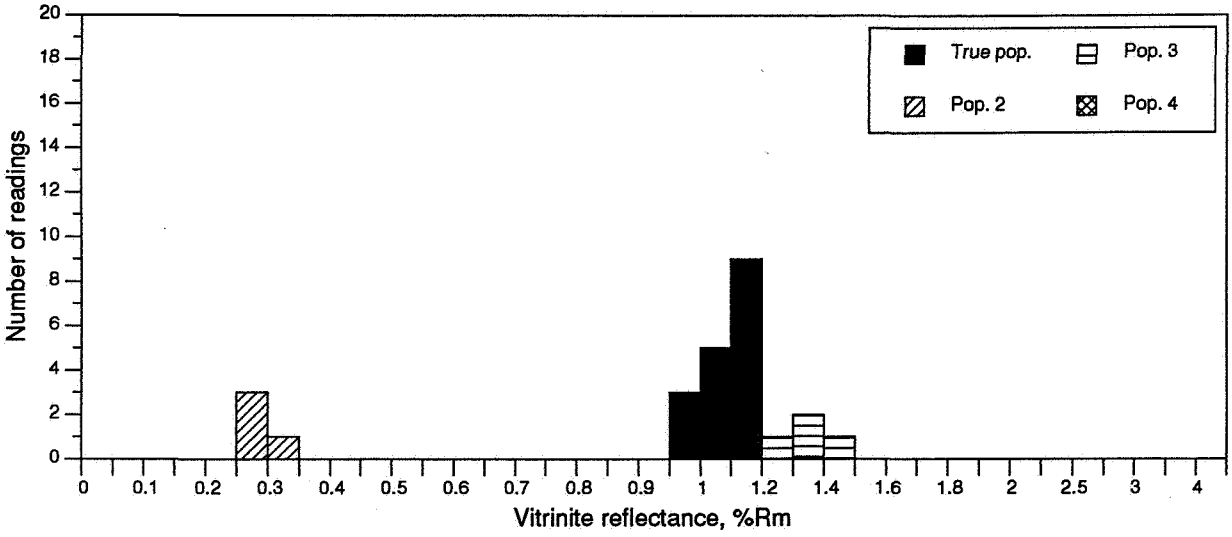
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1298	**2/4-18R**	**4650**	cut	clst/sst	22.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**M**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.09±0.07**	0.31±0.03	1.36±0.06	
Individual	0.98	0.28	1.28	
measurements	0.99	0.29	1.35	
3	0.99	0.29	1.36	
4	1.01	0.34	1.43	
5	1.01			
6	1.05			
7	1.08			
8	1.08			
9	1.10			
10	1.10			
11	1.12			
12	1.13			
13	1.13			
14	1.16			
15	1.17			
16	1.18			
17	1.18			
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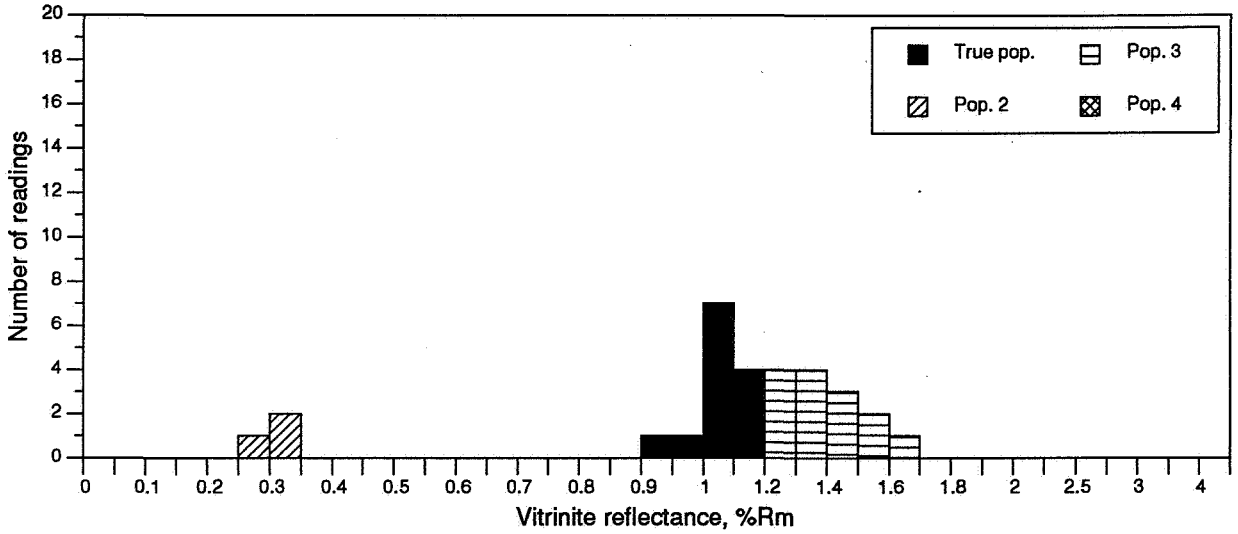
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1299	**2/4-18R**	**4700**	cut	clst	22.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**M**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.07±0.06**	0.31±0.01	1.39±0.12	
Individual	0.94	0.29	1.24	
measurements	0.95	0.31	1.25	
3	1.02	0.31	1.28	
4	1.06		1.29	
5	1.08		1.30	
6	1.08		1.33	
7	1.09		1.35	
8	1.09		1.37	
9	1.09		1.40	
10	1.11		1.44	
11	1.11		1.49	
12	1.13		1.50	
13	1.13		1.55	
14			1.65	
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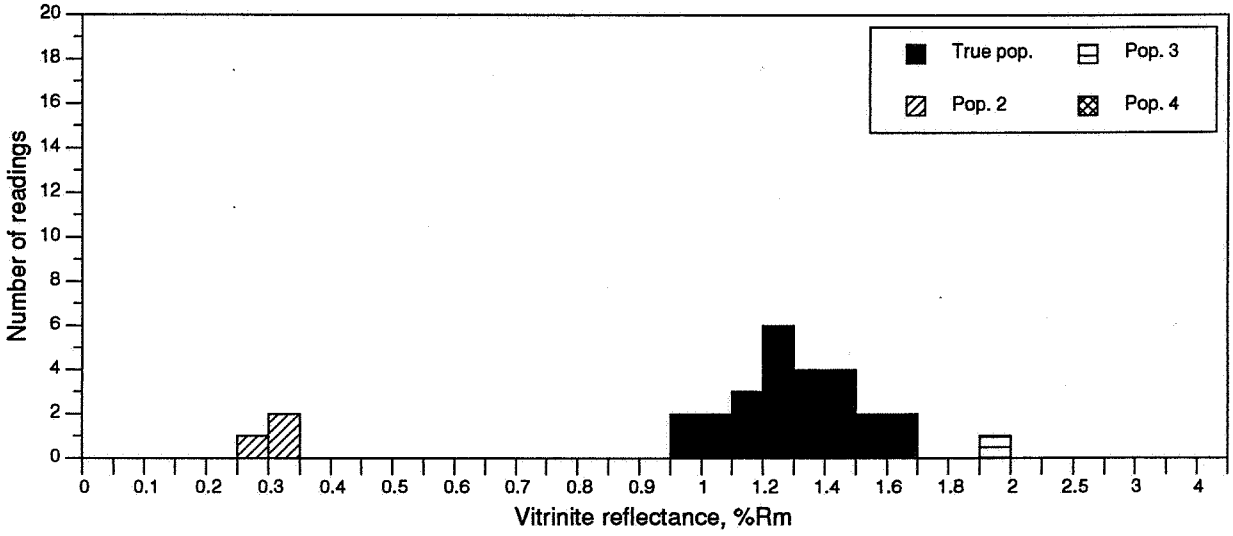
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1300	**2/4-18R**	**4749**	cut	clst	26.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.30±0.16**	0.31±0.03	1.93	
Individual	0.97	0.27	1.93	
measurements	0.98	0.30		
3	1.05	0.34		
4	1.08			
5	1.10			
6	1.13			
7	1.18			
8	1.24			
9	1.24			
10	1.25			
11	1.27			
12	1.29			
13	1.29			
14	1.32			
15	1.33			
16	1.34			
17	1.38			
18	1.42			
19	1.44			
20	1.46			
21	1.49			
22	1.54			
23	1.56			
24	1.61			
25	1.63			
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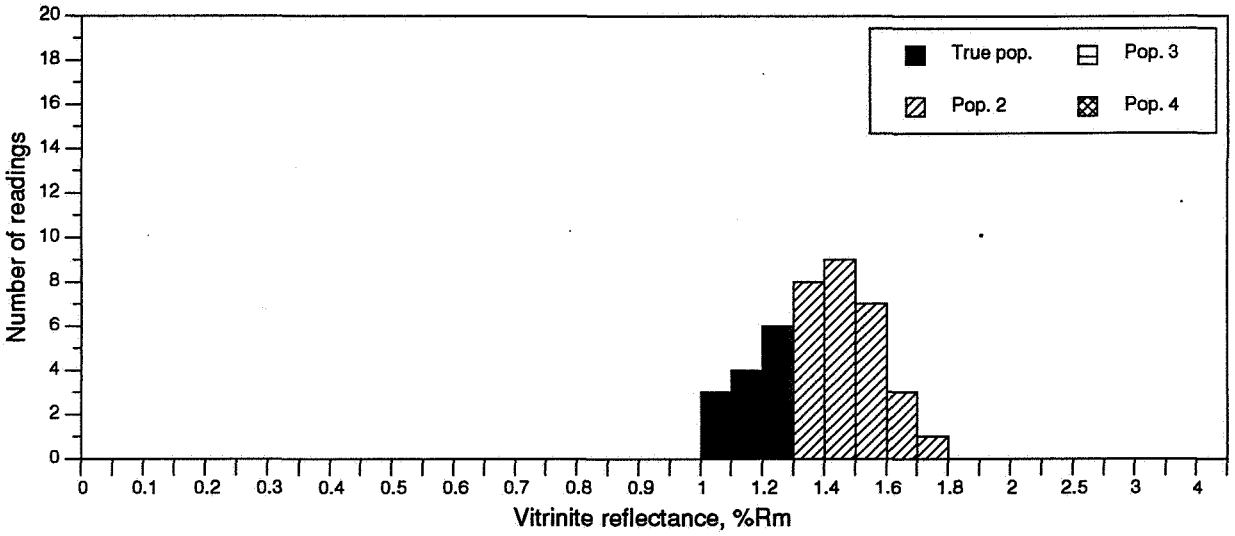
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1301	**2/4-18R**	**4800**	cut	sh/sst	15.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	o
Particle size	o
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.18±0.07**	1.48±0.11		
Individual	1.08	1.32		
measurements	1.08	1.33		
3	1.09	1.34		
4	1.13	1.35		
5	1.14	1.36		
6	1.15	1.36		
7	1.19	1.37		
8	1.20	1.38		
9	1.21	1.41		
10	1.21	1.41		
11	1.23	1.41		
12	1.25	1.44		
13	1.29	1.47		
14		1.47		
15		1.47		
16		1.48		
17		1.49		
18		1.50		
19		1.52		
20		1.53		
21		1.54		
22		1.54		
23		1.56		
24		1.59		
25		1.60		
26		1.64		
27		1.67		
28		1.74		
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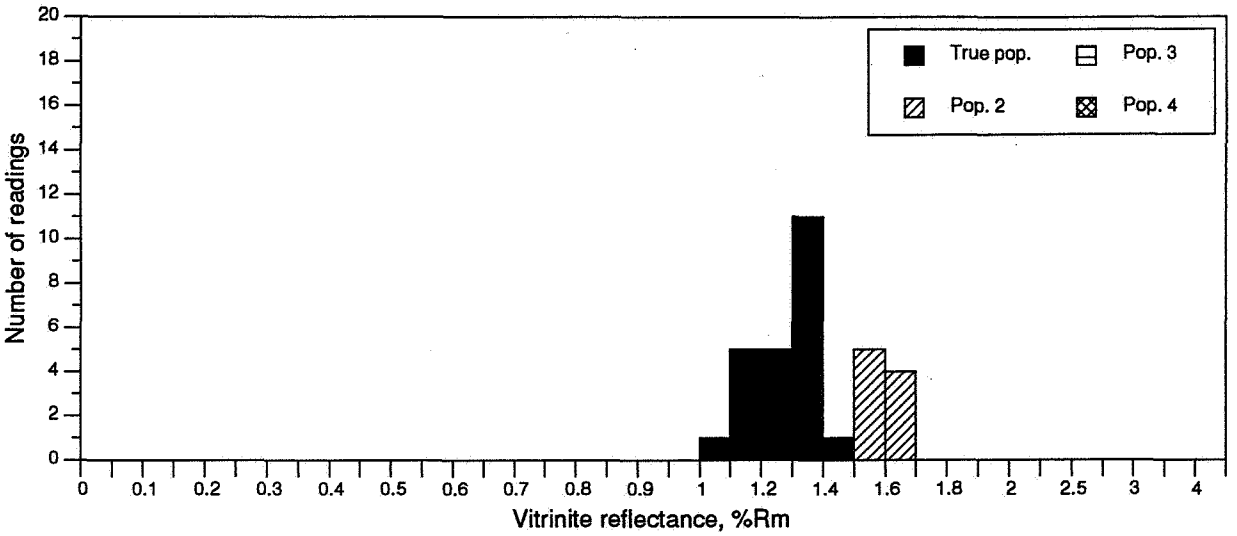
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1302	**2/4-18R**	**4851**	cut	sh/sst	15.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	o
Particle size	o
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**M**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.28±0.11**	1.55±0.06		
Individual	1.05	1.46		
measurements	1.11	1.49		
3	1.12	1.50		
4	1.17	1.52		
5	1.18	1.54		
6	1.18	1.57		
7	1.20	1.58		
8	1.21	1.58		
9	1.22	1.64		
10	1.26			
11	1.27			
12	1.31			
13	1.31			
14	1.33			
15	1.35			
16	1.36			
17	1.37			
18	1.37			
19	1.38			
20	1.38			
21	1.38			
22	1.38			
23	1.44			
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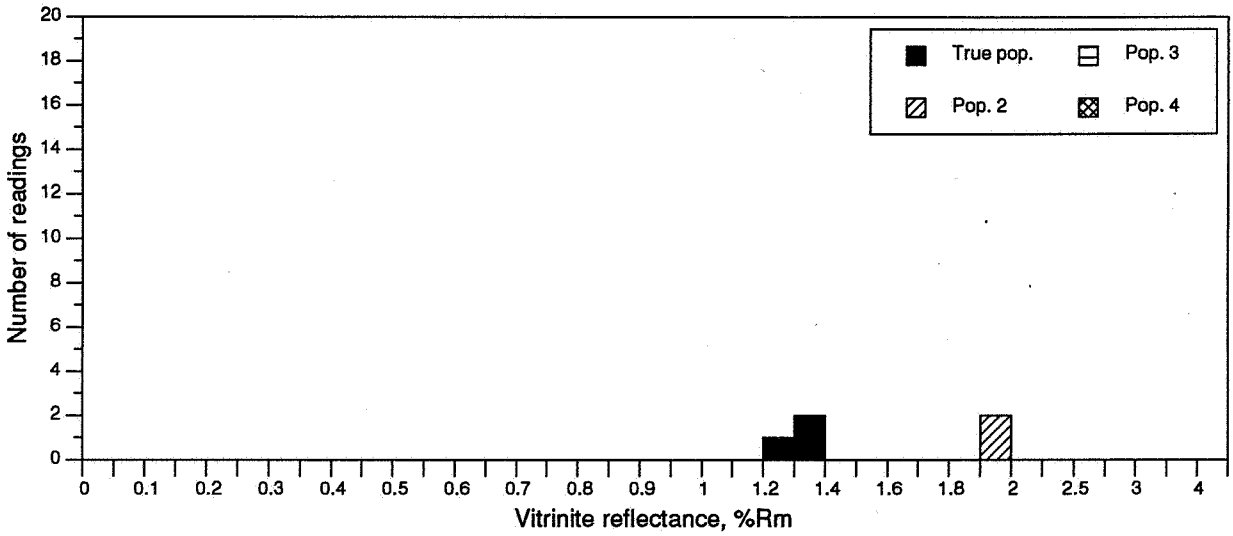
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1303	**2/4-18R**	**4899**	cut	sst	15.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**M**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.29±0.08**	1.98±0.01		
Individual	1.20	1.96		
measurements	1.31	1.98		
3	1.35			
4				
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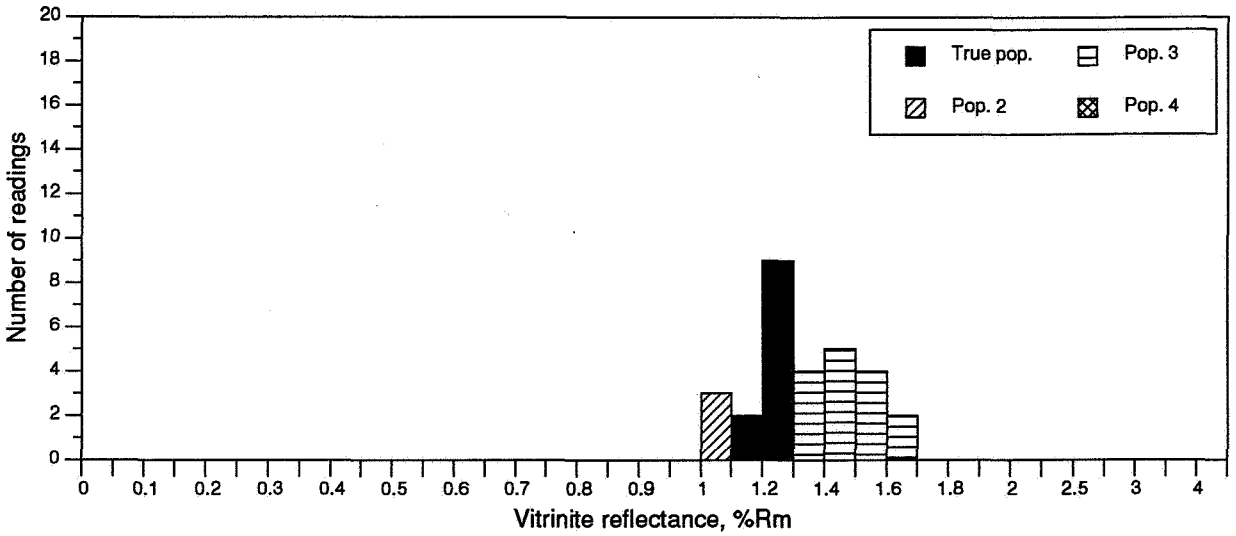
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1304	**2/4-18R**	**4950**	cut	sst/sh	15.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.24±0.05**	1.03±0.01	1.48±0.09	
Individual	1.17	1.01	1.37	
measurements	1.19	1.02	1.37	
3	1.20	1.03	1.39	
4	1.20		1.39	
5	1.20		1.40	
6	1.22		1.41	
7	1.25		1.43	
8	1.26		1.48	
9	1.27		1.49	
10	1.27		1.52	
11	1.34		1.53	
12			1.54	
13			1.58	
14			1.60	
15			1.63	
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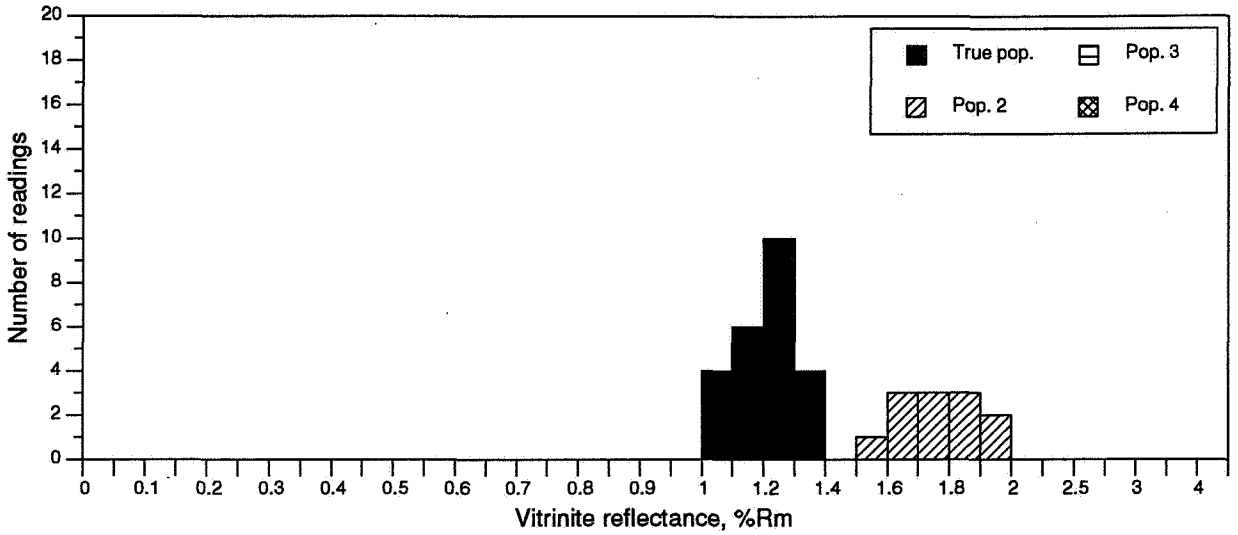
Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1305	**2/4-18R**	**5001**	cut	sst/sh	15.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	±
Type of vitrinite	±
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**P**

Legend to quality rating	
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.20±0.09**	1.76±0.13		
Individual	1.02	1.58		
measurements	1.04	1.62		
3	1.07	1.62		
4	1.07	1.63		
5	1.12	1.72		
6	1.14	1.73		
7	1.15	1.73		
8	1.16	1.84		
9	1.16	1.84		
10	1.18	1.85		
11	1.20	1.93		
12	1.20	1.99		
13	1.23			
14	1.23			
15	1.24			
16	1.24			
17	1.24			
18	1.26			
19	1.27			
20	1.27			
21	1.30			
22	1.31			
23	1.31			
24	1.39			
25				
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28				
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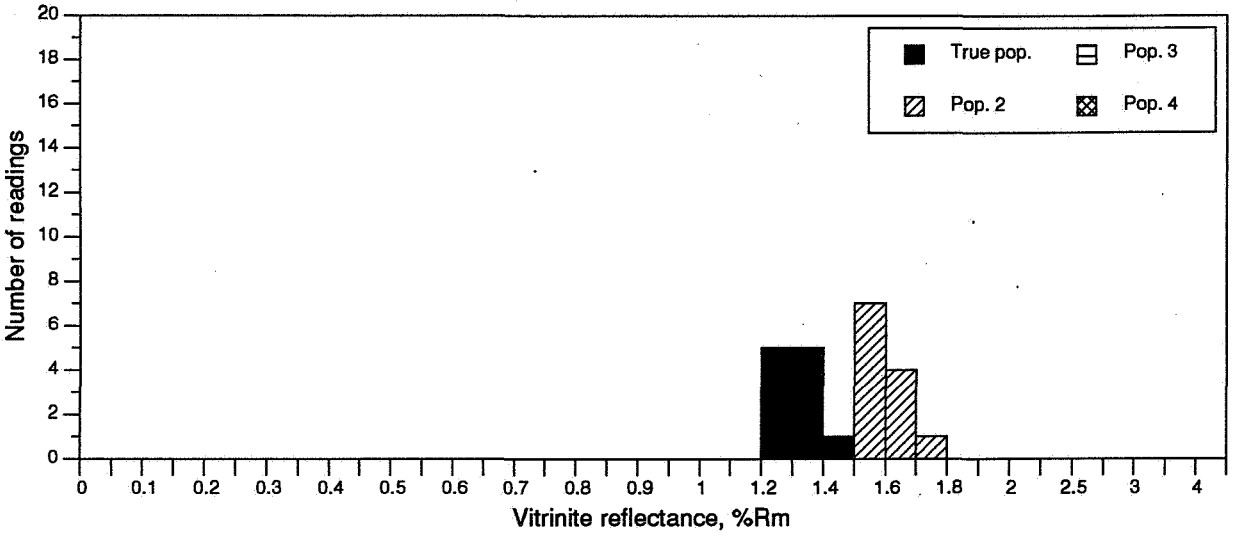
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1306	**2/4-18R**	**5049**	cut	sst	15.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**M**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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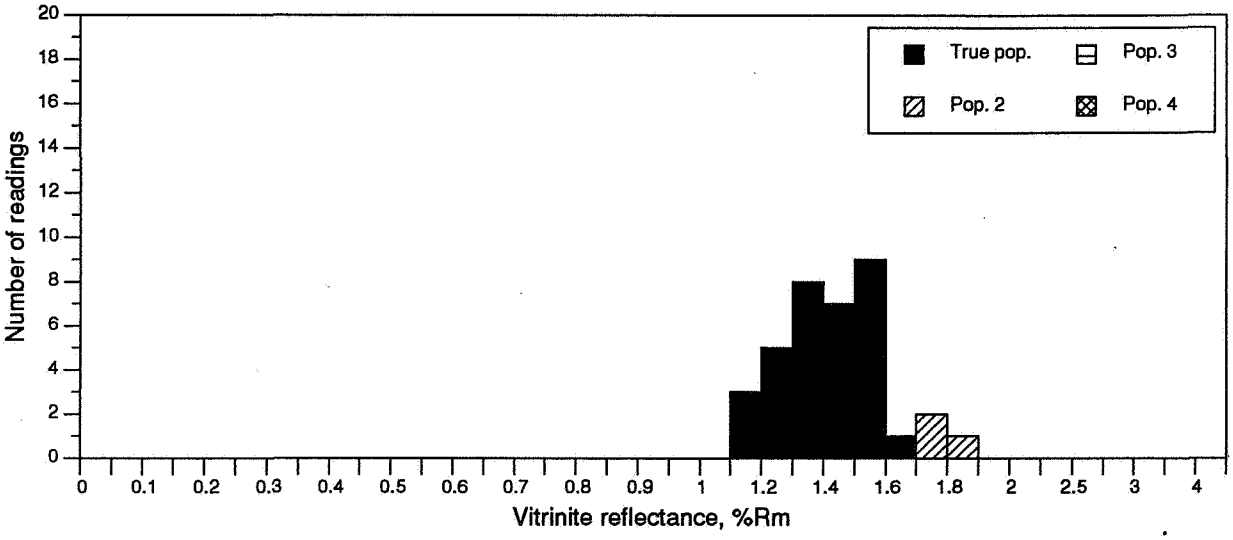
%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.32±0.06**	1.60±0.05		
Individual	1.20	1.53		
measurements	1.24	1.54		
3	1.28	1.55		
4	1.29	1.57		
5	1.29	1.58		
6	1.31	1.58		
7	1.35	1.58		
8	1.35	1.60		
9	1.37	1.61		
10	1.38	1.62		
11	1.41	1.67		
12		1.70		
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1307	**2/4-18R**	**5100**	cut	clst	26.9.94



Quality rating	
Abundance of vitrinite	o
Identification of vitrinite	±
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**P**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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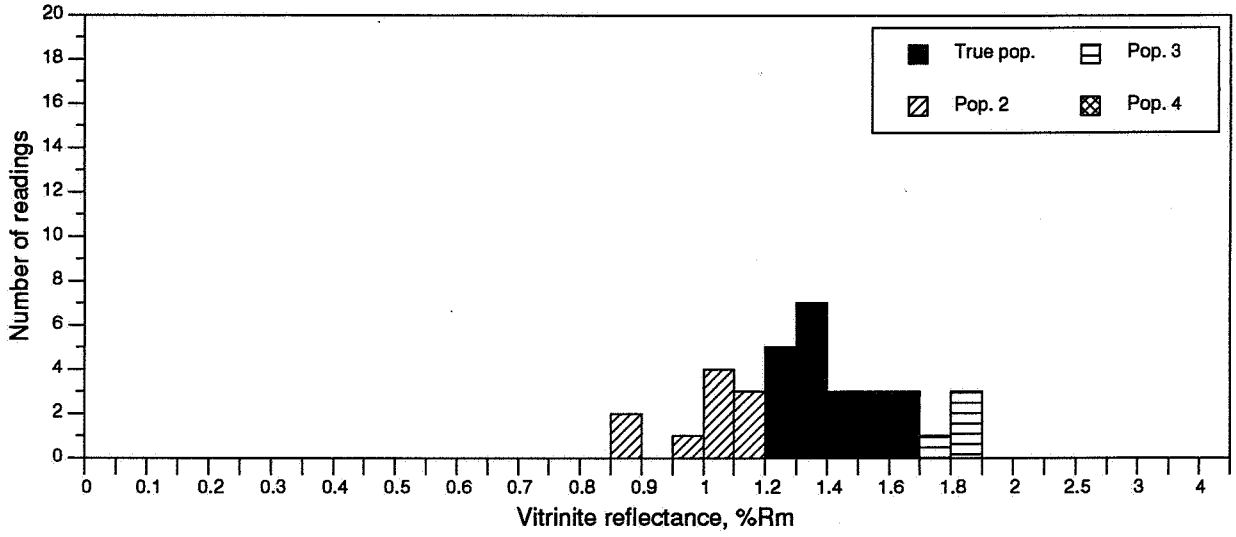
%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.39±0.13**	1.79±0.07		
Individual	1.13	1.72		
measurements	1.17	1.79		
3	1.19	1.85		
4	1.20			
5	1.23			
6	1.26			
7	1.28			
8	1.32			
9	1.32			
10	1.32			
11	1.33			
12	1.34			
13	1.35			
14	1.35			
15	1.42			
16	1.44			
17	1.45			
18	1.46			
19	1.46			
20	1.46			
21	1.48			
22	1.50			
23	1.50			
24	1.50			
25	1.52			
26	1.53			
27	1.55			
28	1.55			
29	1.56			
30	1.63			

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1308	**2/4-18R**	**5151**	cut	sst	26.9.94



Quality rating	
Abundance of vitrinite	-
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**M**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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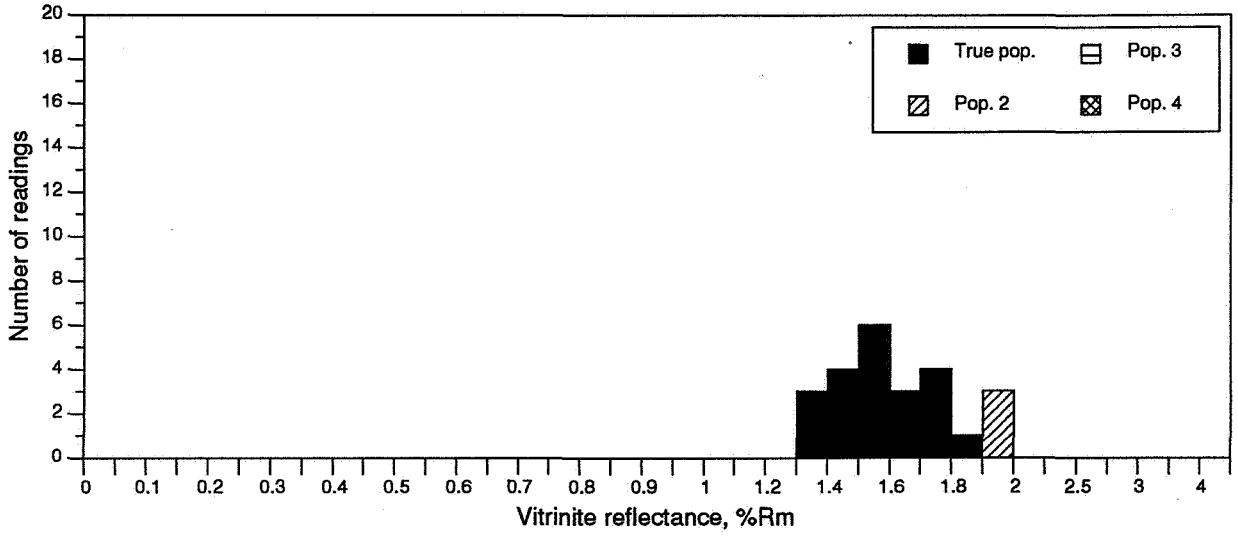
%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.41±0.14**	1.03±0.10	1.84±0.05	
Individual	1.20	0.88	1.76	
measurements	1.20	0.89	1.85	
3	1.26	0.97	1.86	
4	1.28	1.01	1.88	
5	1.28	1.02		
6	1.30	1.06		
7	1.30	1.08		
8	1.31	1.11		
9	1.31	1.13		
10	1.36	1.14		
11	1.38			
12	1.39			
13	1.41			
14	1.43			
15	1.46			
16	1.53			
17	1.55			
18	1.56			
19	1.60			
20	1.65			
21	1.66			
22				
23				
24				
25				
26				
27				
28				
29				
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1309	**2/4-18R**	**5199**	cut	sh	26.9.94



Quality rating	
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	+
Average sample quality	**M**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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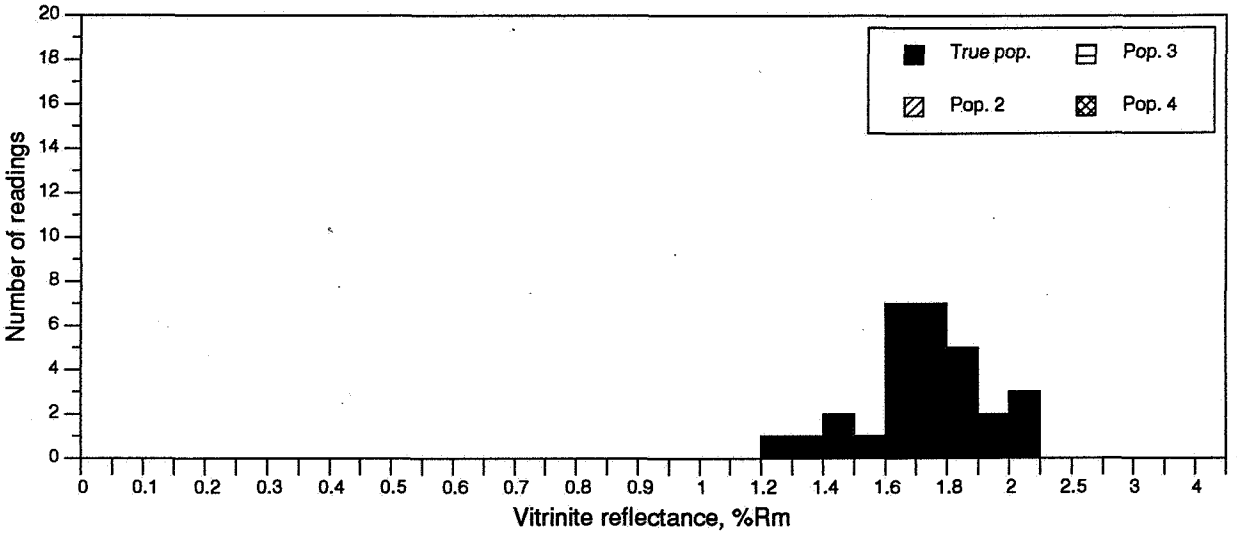
%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.58±0.14**	1.95±0.02		
Individual	1.37	1.93		
measurements	1.38	1.95		
3	1.39	1.96		
4	1.41			
5	1.46			
6	1.48			
7	1.49			
8	1.54			
9	1.55			
10	1.56			
11	1.56			
12	1.57			
13	1.58			
14	1.65			
15	1.66			
16	1.69			
17	1.70			
18	1.71			
19	1.78			
20	1.78			
21	1.82			
22				
23				
24				
25				
26				
27				
28				
29				
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1310	**2/4-18R**	**5250**	cut	sh	26.9.94



Quality rating	
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	o
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**M**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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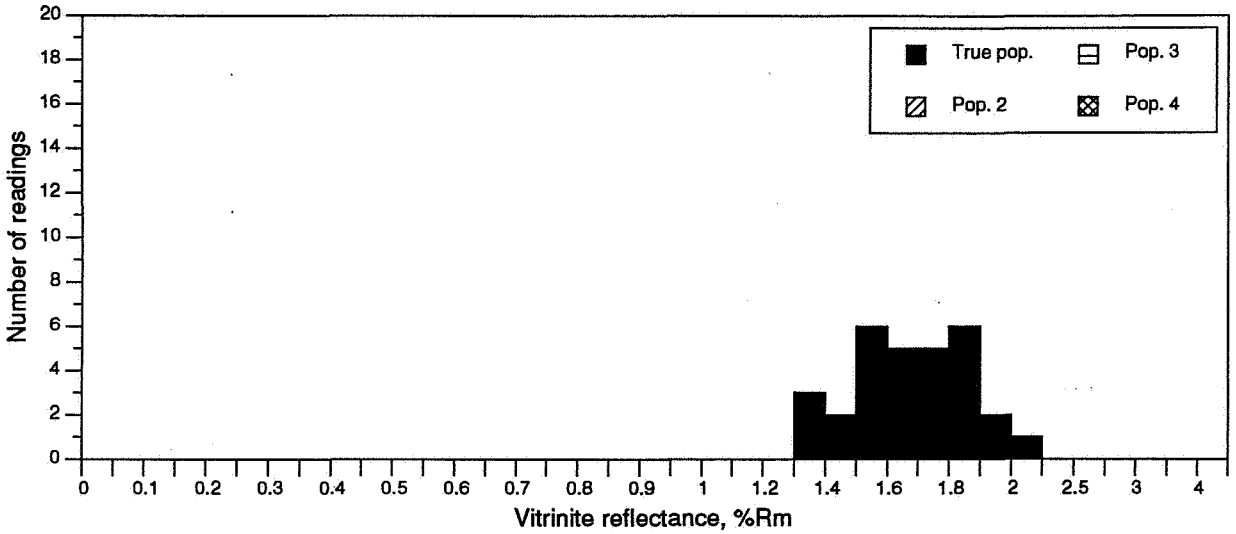
%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.73±0.20**			
Individual	1.24			
measurements	1.38			
3	1.43			
4	1.43			
5	1.51			
6	1.64			
7	1.66			
8	1.67			
9	1.67			
10	1.68			
11	1.68			
12	1.70			
13	1.70			
14	1.71			
15	1.73			
16	1.74			
17	1.75			
18	1.76			
19	1.79			
20	1.80			
21	1.83			
22	1.83			
23	1.85			
24	1.87			
25	1.91			
26	1.98			
27	2.01			
28	2.07			
29	2.11			
30				

Vitrinite reflectance sample data sheet

IFE no.	Well	Depth, mRKB	Sample type	Lithology	Date of analysis
SA 1311	**2/4-18R**	**5301**	cut	sh	26.9.94



Quality rating	
Abundance of vitrinite	o
Identification of vitrinite	o
Type of vitrinite	o
Particle size	-
Particle surface quality	-
Abundance of pyrite	o
Average sample quality	**M**

	Legend to quality rating
o	No effect on the readings
-	Possibly to low readings
+	Possibly to high readings
G	Good quality
M	Moderate quality
P	Poor quality
X	Not vitrinite
A	Mud additive

Comments

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%Rm Readings	POP. 1	POP. 2	POP. 3	POP. 4
Mean±std.dev.	**1.67±0.20**			
Individual	1.30			
measurements	1.35			
3	1.39			
4	1.43			
5	1.47			
6	1.52			
7	1.52			
8	1.54			
9	1.55			
10	1.58			
11	1.59			
12	1.62			
13	1.62			
14	1.65			
15	1.66			
16	1.67			
17	1.73			
18	1.73			
19	1.74			
20	1.75			
21	1.76			
22	1.80			
23	1.81			
24	1.83			
25	1.86			
26	1.87			
27	1.88			
28	1.93			
29	1.98			
30	2.07			

BA-95-491-1
16 MARS 1995
REGISTRERT
OLJEDIREKTORATET

GEOCHEM GROUP LIMITED

REPORT 95/9234/01/01

A GEOCHEMICAL EVALUATION OF THE 2/4-18R WELL, NORTH SEA (NORWEGIAN SECTOR)

Prepared for

SAGA PETROLEUM a.s.

JANUARY 1995

INTRODUCTION

This report presents the results of a geochemical evaluation of well 2/4-18R drilled by Saga Petroleum a.s. in the Norwegian Sector of the North Sea.

ANALYTICAL

Four hundred and thirty (430) canned ditch cuttings samples from the section between 1020 metres and 5301 metres in well 2/4-18R were made available for this study. The canned samples were collected at intervals of ten metres above 4710 metres and every nine metres below this depth. No samples were received from 2580 metres, 2730 metres, 2930 metres and 2960 - 2980 metres. The samples which arrived at the Geochem Group's laboratories in four batches between the 30th March, 1994 and the 1st July, 1994 were assigned the Geochem Group job number 9234. Lists of the samples received by Geochem were submitted to the client by fax within two working

days of sample receipt. Sample depths are reported relative to KB.

Geochem were authorised to perform headspace and occluded gas analyses for all samples from 3000 metres to T.D. and to perform headspace gas isotope analyses for thirteen specified samples from the interval between 4370 - 5223 metres. In addition, lithological descriptions were requested for all of the samples from 4500 metres to T.D. These data were forwarded by facsimile to Mr N Mills, Saga Petroleum a.s., Sandvika who selected samples for total organic carbon and Rock Eval pyrolysis analyses and for C_{15+} extraction with iatroscan. Samples for GC, GC MS and carbon isotope analyses were selected by the client on the basis of the above results.

The following analyses were carried out during the course of this study:

Analysis	Sample Type			
	Cuttings	SWC	Core	Fluid
Headspace gas	237	-	-	-
Occluded gas	238	-	-	-
Carbon isotopes on headspace gas	11	-	-	-
Sample preparation, description and picking	96	-	-	-
Total organic carbon content	62	-	-	-
Rock Eval pyrolysis analysis	62	-	-	-
C_{15+} extraction with iatroscan	49	-	-	-
Liquid chromatographic separation	12	-	-	-
GC analysis - saturates fraction	12	-	-	-
GC analysis - aromatics fraction	12	-	-	-
GC MS - saturates fraction	12	-	-	-
Carbon isotope - saturates	12	-	-	-
Carbon isotope - aromatics	12	-	-	-

The results of these analyses are presented as tables 1 through 17 and graphically in figures 1 through 14.

PERSONNEL

The following Geochem Group personnel were involved in this project:

Project co-ordination:	P Walko
Geochemical interpretation and report preparation:	P Walko
Sample preparation and analysis:	Supervised by J Jones

TABLE 1
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
WELL: 2/4-18R				
9234-330	4370m	A 95% LIMESTONE - platy, firm, no F, no C, very pale orange. B 5% Claystone.	10YR8/2	
9234-333	4400m	A 95% LIMESTONE - platy, firm, no F, no C, very pale orange. B 5% Claystone.	10YR8/2	
9234-334	4410m	A 95% LIMESTONE - as 333A, no F, no C, very pale orange. B 5% Claystone.	10YR8/2	
9234-335	4420m	A100% LIMESTONE - platy, firm, no F, no C, pale yellowish brown to very pale orange.	10YR6/2-10YR8/2	
9234-336	4430m	A100% LIMESTONE - as 335A, no F, slow blooming C, pale yellowish brown to very pale orange.	10YR6/2-10YR8/2	
9234-337	4440m	A100% LIMESTONE - as 335A, no F, no C, pale yellowish brown to very pale orange.	10YR6/2-10YR8/2	
9234-339	4460m	A 95% LIMESTONE - as 335A, no F, slow blooming C, pale yellowish brown to very pale orange. B 5% Claystone.	10YR6/2-10YR8/2	
9234-340	4470m	A 95% LIMESTONE - as 335A, no F, no C, pale yellowish brown to very pale orange. B 5% Claystone.	10YR6/2-10YR8/2	
9234-343	4500m	A 85% LIMESTONE - platy, firm to mod hard, no F, no C, very pale orange. B 15% CLAYSTONE - fissile, firm, mod calc, dark grey to medium olive grey.	10YR8/2 N3 - 5Y5/1	1.04
9234-344	4510m	A 90% LIMESTONE - as 343A, faint gold F, no C, very pale orange. B 10% CLAYSTONE - as 343B, dark grey to medium olive grey.	10YR8/2 N3 - 5Y5/1	0.91
9234-345	4520m	A 95% LIMESTONE - as 343A, no F, no C, very pale orange. B 5% Claystone.	10YR8/2	
9234-346	4530m	A 95% LIMESTONE - as 343A, faint gold F, no C, very pale orange.	10YR8/2	

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
		B 5% Claystone.		
9234-347	4540m	A 95% LIMESTONE - as 343A, no F, no C, very pale orange. B 5% Claystone.	10YR8/2	
9234-348	4550m	A 60% LIMESTONE - platy, firm to mod hard, no F, no C, very pale orange. B 40% CLAYSTONE - fissile to platy, firm, mod to v calc, dark grey to medium grey.	10YR8/2 N3 - N5	0.56
9234-349	4560m	A 60% CLAYSTONE - as 348B, dark grey to medium grey. B 40% LIMESTONE - as 348A, no F, no C, very pale orange.	N3 - N5 10YR8/2	0.94
9234-350	4570m	A 80% CLAYSTONE - as 348B, dark grey to medium grey. B 20% LIMESTONE - as 348A, no F, slow blooming C, very pale orange.	N3 - N5 10YR8/2	0.59
9234-351	4580m	A 95% CLAYSTONE - as 348B, dark grey to medium grey. B 5% Limestone.	N3 - N5	0.79
9234-352	4590m	A 95% CLAYSTONE - as 348B, dark grey to medium grey. B 5% Limestone.	N3 - N5	0.49
9234-353	4600m	A 90% CLAYSTONE - fissile, firm, mod to v calc, medium dark grey to medium light grey. B 8% LIMESTONE - platy, firm to mod hard, no F, no C, very pale orange. C 2% Dark grey claystone.	N4 - N6 10YR8/2	0.66, 0.68
9234-354	4610m	A 90% CLAYSTONE - as 353A, medium dark grey to medium light grey. B 5% Limestone. C 5% Dark grey claystone.	N4 - N6	0.43 0.75
9234-355	4620m	A 90% CLAYSTONE - as 353A, medium dark grey to medium light grey. B 5% Limestone. C 5% Dark grey claystone.	N4 - N6	0.45
9234-356	4630m	A 60% CLAYSTONE - as 353A, medium dark grey to medium light grey.	N4 - N6	0.44

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
		B 30% SAND - v fine grained, sub-angular, common carbonate grains, no F, no C, medium light grey to very light grey.	N6 - N8	
		C 5% Limestone.		
		D 5% Dark grey claystone.		
9234-357	4640m	A100% SAND - fine grained, sub-angular, common carbonate grains, common lithics including limestone and claystone, trace coal (?LCM), pale yellowish brown.	10YR6/2	
9234-358	4650m	A 90% SAND - as 357A, no F, no C, pale yellowish brown.	10YR6/2	
		B 10% CLAYSTONE - fissile, firm, sl to mod calc, medium dark grey.	N4	0.46
9234-359	4660m	A 80% SAND - as 357A, no F, no C, pale yellowish brown.	10YR6/2	
		B 20% CLAYSTONE - as 358B, medium dark grey.	N4	0.21
9234-360	4670m	A 70% CLAYSTONE - as 358B, medium dark grey.	N4	0.26
		B 30% SAND - as 357A, no F, no C, pale yellowish brown.	10YR6/2	
9234-361	4680m	A 70% SAND - as 357A, no F, no C, pale yellowish brown.	10YR6/2	
		B 20% CLAYSTONE - as 358B, medium dark grey.	N4	0.26, 0.27
		C 10% CALC CLAYSTONE - blocky, mod soft, pale yellowish brown.	10YR6/2	0.33
9234-362	4690m	A 90% CLAYSTONE - fissile, firm, sl calc, medium dark grey.	N4	0.63
		B 5% Sand.		
		C 5% Calc claystone.		
9234-363	4700m	A 35% CLAYSTONE - as 362A, medium dark grey.	N4	0.36
		B 30% CALC CLAYSTONE - as 361C, pale yellowish brown.	10YR6/2	
		C 30% SAND - as 357A, no F, no C, pale yellowish brown.	10YR6/2	
		D 5% Limestone.		
9234-364	4710m	A 40% SAND - as 357A, no F, no C, pale yellowish brown.	10YR6/2	
		B 30% CALC CLAYSTONE - AS 361C, pale yellowish brown.	10YR6/2	0.32

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
		C 25% CLAYSTONE - as 362A, medium dark grey. D 5% Limestone, trace coal.	N4	0.74
9234-365	4719m	A 70% SAND - as 357A, no F, no C, pale yellowish brown. B 20% CLAYSTONE - as 362A, medium dark grey. C 5% Coaly claystone. D 5% Calc claystone.	10YR6/2 N4	0.36
9234-366	4728m	A 65% SAND - fine grained, sub-angular common lithics, no F, no C, pale yellowish brown. B 30% CLAYSTONE - fissile, firm, sl to mod calc, medium dark grey to medium grey. C 5% Coaly claystone.	10YR6/2 N4 - N5	0.27 8.05
9234-367	4737m	A 65% SAND - as 366A, no F, no C, pale yellowish brown. B 30% CLAYSTONE - as 366B, medium dark grey to medium grey. C 5% Coaly claystone.	10YR6/2 N4 - N5	0.28 7.42
9234-368	4746m	A 60% CLAYSTONE - as 366B, medium dark grey to medium grey. B 35% SAND - as 366A, no F, no C, pale yellowish brown. C 5% Coaly claystone, coal.	N4 - N5 10YR6/2	0.35 6.39
9234-369	4755m	A 95% CLAYSTONE - fissile, firm, sl calc, medium grey. B 5% Sand.	N5	0.25
9234-370	4764m	A 80% SAND - v fine grained, sub-angular, translucent, no F, no C, white. B 20% CLAYSTONE - as 369A, medium grey.	N9 N5	0.28
9234-371	4773m	A 80% SAND - as 370A, no F, no C, white. B 20% CLAYSTONE - fissile, firm, sl calc, medium dark grey.	N9 N4	0.22
9234-372	4782m	A100% SAND - as 370A, no F, no C, white.	N9	
9234-373	4791m	A 80% CLAYSTONE - as 371B, medium dark grey. B 20% SAND - as 370A, no F, no C, white.	N4 N9	0.31, 0.30
9234-374	4800m	A 70% CLAYSTONE - as 371B, medium dark grey. B 30% SAND - as 370A, no F, no C, white.	N4 N9	0.29

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
9234-375	4809m	A 90% SAND - as 370A, no F, no C, white. B 5% Light grey claystone. C 5% Coaly claystone.	N9	3.55
9234-376	4818m	A 95% SAND - as 370A, no F, no C, white. B 5% Claystone.	N9	
9234-377	4827m	A 80% SAND - as 370A, no F, no C, white. B 18% CLAYSTONE - as 371B, medium dark grey. C 2% Coaly Claystone.	N9 N4	0.37
9234-378	4836m	A 90% SAND - as 370A, no F, no C, white. B 8% CLAYSTONE - as 371B, medium dark grey. C 2% Coaly claystone.	N9 N4	
9234-379	4845m	A 85% SAND - as 370A, no F, no C, white. B 10% CLAYSTONE - as 371B, medium dark grey. C 5% Coaly Claystone.	N9 N4	3.55, 3.63
9234-380	4854m	A 80% SAND - fine grained, sub-angular, translucent, no F, no C, very light grey. B 15% CLAYSTONE - fissile, firm, sl to mod calc, dark grey to olive grey. C 5% Coaly claystone.	N8 N3 - 5Y4/1	
9234-381	4863m	A 85% SAND - as 380A, no F, no C, very light grey. B 10% CLAYSTONE - as 380B, dark grey to olive grey. C 5% Coaly claystone.	N8 N3 - 5Y4/1	
9234-382	4872m	A 60% SAND - as 380A, no F, no C, very light grey. B 20% CLAYSTONE - platy to blocky, firm, non to sl calc, silty, coaly, greyish black. C 20% CLAYSTONE - fissile to platy, firm, sl to v calc, medium dark grey to medium light grey.	N8 N2 N4 - N6	
9234-383	4881m	A 60% SAND - as 380A, no F, no C, very light grey. B 20% CLAYSTONE - as 382B, greyish black. C 18% CLAYSTONE - as 382C, medium dark grey to medium light grey. D 2% Calc claystone, limestone.	N8 N2 N4 - N6	3.77

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
9234-384	4890m	A100% SAND - as 380A, no F, no C, very light grey.	N8	
9234-385	4899m	A100% SAND - as 380A, no F, no C, very light grey.	N8	
9234-386	4908m	A100% SAND - as 380A, no F, no C, very light grey.	N8	
9234-387	4917m	A100% SAND - as 380A, no F, no C, very light grey.	N8	
9234-388	4926m	A100% SAND - as 380A, no F, no C, very light grey.	N8	
9234-389	4935m	A 98% SAND - as 380A, no F, no C, very light grey. B 2% Coaly claystone.	N8	
9234-390	4944m	A 85% SAND - fine grained, sub-angular, translucent, no F, no C, white.	N9	
		B 10% CLAYSTONE - platy, mod hard, non-calc, silty, coaly, greyish black.	N2	3.22
		C 5% Medium grey claystone.		0.87
9234-391	4953m	A 70% SAND - as 390A, no F, no C, white. B 25% CLAYSTONE - as 390B, greyish black. C 5% Medium grey sandstone.	N9 N2	3.70
9234-392	4962m	A 70% SAND - as 390A, no F, no C, white. B 25% CLAYSTONE - as 390B, greyish black. C 5% Medium grey claystone.	N9 N2	3.51
9234-393	4971m	A 60% SAND - as 390A, no F, no C, white. B 35% CLAYSTONE - as 390B, greyish black. C 5% Medium grey claystone.	N9 N2	2.96
9234-394	4980m	A 85% SAND - as 390A, no F, no C, white. B 15% CLAYSTONE - as 390B, greyish black.	N9 N2	
9234-395	4989m	A 70% CLAYSTONE - as 390B, greyish black. B 25% SAND - as 390A, no F, no C, white. C 5% Medium grey claystone.	N2 N9	3.23
9234-396	4998m	A 60% SAND - as 390A, no F, no C, white. B 40% CLAYSTONE - as 390B, greyish black.	N9 N2	3.01, 2.95
9234-397	5007m	A 60% SAND - as 390A, no F, no C, white. B 35% CLAYSTONE - as 390B, greyish black. C 5% Calc claystone.	N9 N2	2.49

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE		TOTAL ORGANIC CARBON (Wt. %)
9234-398	5016m	A 85% SAND - as 390A, no F, no C, white. B 10% CLAYSTONE - as 390B, greyish black. C 5% Calc claystone.	N9 N2		2.72
9234-399	5025m	A 95% SAND - as 390A, no F, no C, white. B 5% Claystone.	N9		
9234-400	5034m	A 90% SAND - as 390A, no F, no C, white. B 10% CLAYSTONE - as 390B, greyish black.	N9 N2		
9234-401	5043m	A 85% SAND - fine grained, sub-angular, translucent, no F, no C, white. B 10% CLAYSTONE - platy, mod hard, non-calc, greyish black to dark grey. C 5% Calc claystone.	N9 N2 N3	-	
9234-402	5052m	A 85% SAND - as 401A, no F, no C, white. B 10% CLAYSTONE - as 401B, greyish black to dark grey. C 5% Calc claystone.	N9 N2 N3	-	
9234-403	5061m	A 90% SAND - as 401A, no F, no C, white. B 5% Claystone. C 5% Calc claystone.	N9		
9234-404	5070m	A 95% SAND - as 401A, no F, no C, white. B 5% CLAYSTONE - calc claystone.	N9		
9234-405	5079m	A 85% SAND - as 401A, no F, no C, white. B 10% CLAYSTONE - as 401B, greyish black to dark grey. C 5% Calc claystone.	N9 N2 N3	-	4.46
9234-406	5088m	A 85% SAND - as 401A, no F, no C, white. B 10% CLAYSTONE - as 401B, greyish black to dark grey. C 5% Calc claystone.	N9 N2 N3	-	
9234-407	5097m	A 80% SAND - as 401A, no F, no C, white. B 15% CLAYSTONE - as 401B, greyish black to dark grey. C 5% Calc claystone.	N9 N2 N3	-	3.72
9234-408	5106m	A 60% SAND - as 401A, no F, no C, white. B 35% CLAYSTONE - as 401B, greyish black to dark grey. C 5% Calc claystone.	N9 N2 N3	-	2.65
9234-409	5115m	A 85% CLAYSTONE - as 401B, greyish black to dark grey. B 5% Brown sandstone.	N2 N3	-	2.84

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE		TOTAL ORGANIC CARBON (Wt. %)
		C 5% Sand. D 5% Calc claystone.			
9234-410	5124m	A 65% SAND - fine grained, sub-angular, occ cemented with quartz/calcite, no F, no C, very light grey. B 30% CLAYSTONE - platy, firm, non-calc, greyish black to dark grey. C 5% Calc claystone.	N8 N2 N3	-	2.28
9234-411	5133m	A 95% SAND - as 410A, no F, no C, very light grey. B 5% Claystone.	N8		
9234-412	5142m	A 88% SAND - as 410A, no F, no C, very light grey. B 10% CLAYSTONE - as 410B, greyish black to dark grey. C 2% Calc claystone.	N8 N2 N3	-	
9234-413	5151m	A 90% SAND - as 410A, no F, no C, very light grey. B 10% SILTY CLAYSTONE - platy, mod hard, non-calc, sig cavings, greyish black to medium dark grey.	N8 N2 N4	-	
9234-414	5160m	A 90% SAND - as 410A, no F, no C, very light grey. B 10% SILTY CLAYSTONE - as 413B, greyish black to medium dark grey.	N8 N2 N4	-	2.14, 2.13
9234-415	5170m	A 70% SAND - as 410A, no F, no C, very light grey. B 30% SILTY CLAYSTONE - as 413B, greyish black to medium dark grey.	N8 N2 N4	-	
9234-416	5179m	A 70% SAND - as 410A, no F, no C, very light grey. B 38% CLAYSTONE - platy, mod hard, non-calc, silty, greyish black to medium dark grey. C 2% Limestone.	N8 N2 N4	-	2.97
9234-417	5188m	A 80% SAND - as 410A, no F, no C, very light grey. B 18% CLAYSTONE - as 416B, greyish black to medium dark grey. C 2% Limestone.	N8 N2 N4	-	
9234-418	5196m	A 98% SAND - as 410A, no F, no C, very light grey. B 2% Claystone.	N8		

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
9234-419	5205m	A 75% CLAYSTONE - platy, mod hard, sl to mod calc, silty, greyish black to dark grey. B 25% SAND - fine grained, sub-angular, occ cemented with quartz/calcite no F, no C, very light grey.	N2 N3 N8	- 3.42
9234-420	5214m	A 85% SAND - as 419B, no F, no C, very light grey. B 15% CLAYSTONE - as 419A, greyish black to dark grey.	N8 N2 N3	-
9234-421	5223m	A 65% SAND - as 419B, no F, no C, very light grey. B 35% CLAYSTONE - as 419A, greyish black to dark grey.	N8 N2 N3	- 2.25
9234-422	5232m	A 85% CLAYSTONE - platy, mod hard, non-calc, silty, abundant cavings, dark grey to medium dark grey. B 15% SAND - fine grained, sub-angular, occ cemented with quartz/calcite, no F, no C.	N3 N4	-
9234-423	5241m	A 60% SAND - as 422B, no F, no C, very light grey. B 40% CLAYSTONE - as 422A, dark grey to medium dark grey.	N8 N3 N4	-
9234-424	5250m	A 70% CLAYSTONE - fissile to platy, firm, non-calc, greyish black to dark grey. B 30% SAND - as 422B, no F, no C, very light grey.	N2 N3 N8	- 3.51
9234-425	5259m	A 60% CLAYSTONE - as 424A, greyish black to dark grey. B 40% SAND - as 422B, no F, no C, very light grey.	N2 N3 N8	- 2.91
9234-426	5268m	A 65% CLAYSTONE - as 424A, greyish black to dark grey. B 35% SAND - as 422B, no F, no C, very light grey.	N2 N3 N8	- 4.56
9234-427	5277m	A 85% CLAYSTONE - as 424A, greyish black to dark grey. B 15% SAND - as 422B, no F, no C, very light grey.	N2 N3 N8	- 4.26
9234-428	5286m	A 90% CLAYSTONE - as 424A, greyish black to dark grey.	N2 N3	- 4.85, 4.76

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 1
ORGANIC CARBON RESULTS AND GROSS LITHOLOGIC DESCRIPTIONS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	GROSS LITHOLOGIC DESCRIPTION	G S A COLOUR CODE	TOTAL ORGANIC CARBON (Wt. %)
		B 10% SAND - as 422B, no F, no C, very light grey.	N8	
9234-429	5295m	A 60% CLAYSTONE - as 424A, greyish black to dark grey. B 40% SAND - as 422B, no F, no C, very light grey.	N2 N3 N8	- 2.24
9234-430	5301m	A 85% CLAYSTONE - as 424A, greyish black to dark grey. B 15% SAND - as 422B, no F, no C, very light grey.	N2 N3 N8	- 4.22

Abbreviations = arenaceous, argillaceous, calcareous, Cut, dolomite, Fluorescence, foraminifera fossiliferous, Lost Circulation Material, moderately, occasionally, slightly, very

TABLE 2
ROCKEVAL PYROLYSIS DATA

9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	TOC (%)	S1 (mg/g)	S2 (mg/g)	S3 (mg/g)	PRODUCTION INDEX	HYDROGEN INDEX	OXYGEN INDEX	TMAX (°C)
WELL: 2/4-18R									
9234-343B	4500m	1.04	1.16	0.96	0.48	0.55	92.3	46.2	438
9234-344B	4510m	0.91	0.77	0.89	0.74	0.46	97.8	81.3	437
9234-348B	4550m	0.56	0.65	0.54	0.51	0.55	96.4	91.1	439
9234-349A	4560m	0.94	0.65	0.95	0.65	0.41	101.1	69.1	441
9234-350A	4570m	0.59	0.58	0.47	0.49	0.55	79.7	83.1	432
9234-351A	4580m	0.79	0.54	0.85	0.44	0.39	107.6	55.7	445
9234-352A	4590m	0.49	0.32	0.30	0.45	0.52	61.2	91.8	428
9234-353A	4600m	0.67	0.25	0.49	0.37	0.34	73.1	55.2	431
9234-354A	4610m	0.43	0.11	0.23	0.35	0.32	53.5	81.4	432
9234-354C	4610m	0.75	0.29	0.50	0.42	0.37	66.7	56.0	435
9234-355A	4620m	0.45	0.18	0.24	0.22	0.43	53.3	48.9	436
9234-356A	4630m	0.44	0.35	0.42	0.37	0.45	95.5	84.1	449
9234-358B	4650m	0.46	0.32	0.26	0.39	0.55	56.5	84.8	445
9234-359B	4660m	0.21	0.27	0.25	0.17	0.52	119.0	81.0	443
9234-360A	4670m	0.26	0.13	0.24	0.23	0.35	92.3	88.5	452
9234-361B	4680m	0.27	0.15	0.24	0.25	0.38	88.9	92.6	434
9234-361C	4680m	0.33	0.18	0.42	0.22	0.30	127.3	66.7	435
9234-362A	4690m	0.63	0.39	0.37	0.17	0.51	58.7	27.0	456
9234-363A	4700m	0.36	0.33	0.32	0.21	0.51	88.9	58.3	451
9234-364B	4710m	0.32	0.24	0.19	0.25	0.56	59.4	78.1	430
9234-364C	4710m	0.74	0.36	0.57	0.45	0.39	77.0	60.8	454
9234-365B	4719m	0.36	0.36	0.28	0.24	0.56	77.8	66.7	428
9234-366B	4728m	0.27	0.18	0.24	0.28	0.43	88.9	103.7	445
9234-366C	4728m	8.05	11.32	11.39	0.14	0.50	141.5	1.7	445
9234-367B	4737m	0.28	0.47	0.26	0.25	0.64	92.9	89.3	447
9234-367C	4737m	7.42	4.71	9.25	0.23	0.34	124.7	3.1	448
9234-368A	4746m	0.35	0.13	0.29	0.36	0.31	82.9	102.9	441
9234-368C	4746m	6.39	4.35	6.93	0.35	0.39	108.5	5.5	443
9234-369A	4755m	0.25	0.25	0.19	0.22	0.57	76.0	88.0	443
9234-370B	4764m	0.28	0.09	0.18	0.24	0.33	64.3	85.7	432
9234-371B	4773m	0.22	0.14	0.12	0.21	0.54	54.5	95.5	481
9234-373A	4791m	0.31	0.12	0.22	0.24	0.35	71.0	77.4	445
9234-374A	4800m	0.29	0.12	0.21	0.17	0.36	72.4	58.6	434
9234-375C	4809m	3.55	1.88	3.07	0.17	0.38	86.5	4.8	457
9234-377B	4827m	0.37	0.13	0.24	0.17	0.35	64.9	45.9	440
9234-379C	4845m	3.59	1.47	3.18	0.15	0.32	88.6	4.2	454
9234-383B	4881m	3.77	1.90	3.48	0.16	0.35	92.3	4.2	454
9234-390B	4944m	3.22	1.51	2.21	0.17	0.41	68.6	5.3	454
9234-390C	4944m	0.87	0.26	0.95	0.30	0.21	109.2	34.5	449
9234-391B	4953m	3.70	2.26	2.30	0.12	0.50	62.2	3.2	448
9234-392B	4962m	3.51	1.45	2.17	0.10	0.40	61.8	2.8	453
9234-393B	4971m	2.96	2.11	1.96	0.20	0.52	66.2	6.8	452
9234-395A	4989m	3.23	2.13	1.61	0.12	0.57	49.8	3.7	446
9234-396B	4998m	2.98	1.66	1.77	0.38	0.48	59.4	12.8	447
9234-397B	5007m	2.49	0.89	2.08	0.36	0.30	83.5	14.5	457
9234-398B	5016m	2.72	1.01	1.38	0.43	0.42	50.7	15.8	449
9234-405B	5079m	4.46	1.74	2.56	0.54	0.40	57.4	12.1	455
9234-407B	5097m	3.72	1.90	2.29	0.46	0.45	61.6	12.4	454
9234-408B	5106m	2.65	1.34	1.48	0.63	0.48	55.8	23.8	447
9234-409A	5115m	2.84	1.24	1.59	0.48	0.44	56.0	16.9	452
9234-410B	5124m	2.28	0.89	1.44	0.57	0.38	63.2	25.0	454
9234-414B	5160m	2.14	0.66	1.21	0.56	0.35	56.5	26.2	450
9234-416B	5179m	2.97	0.81	1.65	0.53	0.33	55.6	17.8	450

PRODUCTION INDEX = S1 / (S1 + S2) HYDROGEN INDEX = 100 x S2 / TOC

OXYGEN INDEX = 100 x S3 / TOC

TABLE 2
ROCKEVAL PYROLYSIS DATA

9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	TOC (%)	S1 (mg/g)	S2 (mg/g)	S3 (mg/g)	PRODUCTION INDEX	HYDROGEN INDEX	OXYGEN INDEX	TMAX (°C)
9234-419A	5205m	3.42	0.93	1.30	0.67	0.42	38.0	19.6	455
9234-421B	5223m	2.25	0.97	1.75	0.54	0.36	77.8	24.0	454
9234-424A	5250m	3.51	1.39	2.39	0.62	0.37	68.1	17.7	454
9234-425A	5259m	2.91	0.81	2.09	0.40	0.28	71.8	13.7	454
9234-426A	5268m	4.56	1.30	2.15	0.32	0.38	47.1	7.0	449
9234-427A	5277m	4.26	1.31	2.03	0.35	0.39	47.7	8.2	448
9234-428A	5286m	4.81	1.32	2.08	1.55	0.39	43.2	32.2	456
9234-429A	5295m	2.24	0.96	1.19	0.23	0.45	53.1	10.3	449
9234-430A	5301m	4.22	1.14	1.69	1.02	0.40	40.0	24.2	453

PRODUCTION INDEX = S1 / (S1 + S2)

HYDROGEN INDEX = 100 x S2 / TOC

OXYGEN INDEX = 100 x S3 / TOC

TABLE 3

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN HEAD SPACE GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
WELL: 2/4-18R											
9234-193	3000m	680	77	280	100	181	1319	639	48.4	133	0.55
9234-194	3010m	4600	249	989	351	620	6809	2209	32.4	775	0.57
9234-195	3020m	4276	369	1491	527	1015	7677	3401	44.3	1806	0.52
9234-196	3030m	519	79	290	97	178	1164	645	55.4	126	0.54
9234-197	3040m	972	122	429	152	242	1917	945	49.3	248	0.63
9234-198	3050m	1150	214	929	385	556	3233	2083	64.4	626	0.69
9234-199	3060m	380	54	204	86	122	846	466	55.1	92	0.70
9234-200	3070m	1514	261	956	403	540	3675	2161	58.8	583	0.75
9234-201	3080m	673	106	452	203	289	1724	1051	60.9	343	0.70
9234-202	3090m	1019	148	478	199	294	2139	1120	52.3	218	0.67
9234-203	3100m	698	136	459	165	251	1708	1010	59.1	334	0.66
9234-204	3110m	459	97	255	90	147	1048	590	56.3	147	0.62
9234-205	3120m	286	44	120	48	80	578	292	50.5	42	0.60
9234-206	3130m	183	35	83	28	51	380	197	51.9	37	0.56
9234-207	3140m	134	31	110	35	49	358	224	62.5	35	0.71
9234-208	3150m	721	293	636	128	315	2093	1372	65.5	133	0.41
9234-209	3160m	824	344	708	126	282	2284	1460	63.9	148	0.45
9234-210	3170m	924	314	517	75	179	2009	1085	54.0	86	0.42
9234-211	3180m	552	170	296	48	136	1201	649	54.0	56	0.35
9234-212	3190m	416	136	323	60	170	1104	689	62.4	182	0.35
9234-213	3200m	458	144	354	53	187	1196	738	61.7	157	0.28
9234-214	3210m	250	76	194	32	145	698	448	64.2	78	0.22
9234-215	3220m	373	99	271	47	176	967	594	61.4	90	0.27
9234-216	3230m	742	165	464	79	282	1732	990	57.2	239	0.28
9234-217	3240m	179	27	97	27	152	483	304	62.9	254	0.18
9234-218	3250m	363	94	253	43	210	962	599	62.2	247	0.20
9234-219	3260m	176	34	82	9	57	357	182	50.8	45	0.15
9234-220	3270m	134	25	53	8	47	268	134	50.0	42	0.18
9234-221	3280m	64	11	21	3	14	114	50	43.7	13	0.22
9234-222	3290m	96	17	30	2	15	160	64	40.0	9	0.13
9234-223	3300m	61	10	21	2	9	103	42	40.7	9	0.20
9234-224	3310m	138	21	26	7	23	216	77	35.9	19	0.30

TABLE 3

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN HEAD SPACE GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-225	3320m	53	5	8	0	3	69	15	22.2	3	0.00
9234-226	3330m	35	2	2	0	0	38	3	9.1	0	0.00
9234-227	3340m	222	29	13	0	0	264	42	16.0	0	0.00
9234-228	3350m	85	10	10	0	0	105	20	19.0	0	0.00
9234-229	3360m	28	2	2	0	0	31	3	10.5	0	0.00
9234-230	3370m	77	8	8	0	0	92	15	16.3	0	0.00
9234-231	3380m	84	8	6	0	0	98	13	13.5	0	0.00
9234-232	3390m	134	17	17	0	0	168	35	20.7	0	0.00
9234-233	3400m	132	8	8	0	0	148	16	10.8	0	0.00
9234-234	3410m	60	12	16	2	4	94	34	35.8	9	0.50
9234-235	3420m	95	10	13	0	0	118	23	19.4	0	0.00
9234-236	3430m	139	29	49	6	17	241	102	42.2	26	0.33
9234-237	3440m	261	23	20	6	15	325	64	19.6	20	0.40
9234-238	3450m	57	4	4	0	0	65	8	12.9	0	0.00
9234-239	3460m	62	9	14	2	9	95	34	35.2	11	0.20
9234-240	3470m	114	29	34	4	17	198	84	42.6	19	0.25
9234-241	3480m	85	9	11	2	9	115	31	26.4	0	0.25
9234-242	3490m	65	9	10	1	6	91	26	29.0	6	0.25
9234-243	3500m	64	6	6	1	3	79	16	19.6	4	0.50
9234-244	3510m	71	6	4	0	1	82	12	14.3	0	0.00
9234-245	3520m	91	8	4	1	3	108	17	15.6	4	0.50
9234-246	3530m	54	5	4	0	3	65	12	17.6	1	0.00
9234-247	3540m	120	10	10	0	5	145	25	17.0	0	0.00
9234-248	3550m	131	9	6	1	3	150	19	12.9	3	0.50
9234-249	3560m	250	13	9	1	4	277	28	9.9	1	0.33
9234-250	3570m	109	6	6	1	4	126	17	13.6	0	0.33
9234-251	3580m	213	11	7	1	3	235	23	9.6	1	0.50
9234-252	3590m	237	18	20	4	9	288	51	17.7	16	0.50
9234-253	3600m	193	20	11	0	0	224	31	13.9	0	0.00
9234-254	3610m	566	38	28	0	0	632	66	10.4	0	0.00
9234-255	3620m	325	25	12	0	0	361	37	10.2	0	0.00
9234-256	3630m	160	11	7	0	0	178	18	10.1	0	0.00
9234-257	3640m	249	20	9	0	0	278	29	10.6	0	0.00
9234-258	3650m	312	21	9	0	0	342	30	8.7	0	0.00

TABLE 3

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN HEAD SPACE GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-259	3660m	124	10	4	0	0	137	13	9.7	0	0.00
9234-260	3670m	181	10	7	0	0	199	17	8.8	0	0.00
9234-261	3680m	138	9	7	0	0	154	16	10.3	0	0.00
9234-262	3690m	106	10	4	0	0	120	14	11.7	0	0.00
9234-263	3700m	149	10	4	0	0	163	14	8.9	0	0.00
9234-264	3710m	42	3	1	0	0	46	4	8.8	0	0.00
9234-265	3720m	91	7	4	0	0	102	11	10.9	0	0.00
9234-266	3730m	75	6	3	0	0	85	10	11.3	0	0.00
9234-267	3740m	99	6	3	0	0	108	9	8.7	0	0.00
9234-268	3750m	81	7	5	0	0	94	12	13.2	0	0.00
9234-269	3760m	130	8	4	0	0	141	11	8.0	0	0.00
9234-270	3770m	117	5	3	0	0	125	8	6.1	0	0.00
9234-271	3780m	124	6	4	0	0	134	10	7.7	0	0.00
9234-272	3790m	87	5	3	0	0	96	8	8.6	0	0.00
9234-273	3800m	50	3	3	0	0	57	7	11.8	0	0.00
9234-274	3810m	96	6	4	0	0	105	9	8.9	0	0.00
9234-275	3820m	112	9	6	1	1	129	18	13.8	0	1.00
9234-276	3830m	366	29	21	0	0	416	50	12.1	0	0.00
9234-277	3840m	273	24	19	0	0	316	43	13.6	0	0.00
9234-278	3850m	227	17	11	0	0	255	28	11.1	0	0.00
9234-279	3860m	140	11	9	0	0	160	20	12.7	0	0.00
9234-280	3870m	49	3	3	0	0	55	7	11.8	0	0.00
9234-281	3880m	83	5	5	0	0	92	9	10.2	0	0.00
9234-282	3890m	165	11	9	0	0	184	19	10.5	0	0.00
9234-283	3900m	60	3	3	0	0	66	6	9.1	0	0.00
9234-284	3910m	67	3	3	0	0	74	6	8.7	0	0.00
9234-285	3920m	59	3	1	0	0	63	4	6.3	0	0.00
9234-286	3930m	52	2	0	0	0	53	2	3.1	0	0.00
9234-287	3940m	61	4	4	0	0	69	8	12.1	0	0.00
9234-288	3950m	61	4	4	0	0	69	8	11.4	0	0.00
9234-289	3960m	83	4	2	0	0	89	6	6.5	0	0.00
9234-290	3970m	112	6	4	0	0	122	10	8.2	0	0.00
9234-291	3980m	72	2	2	0	0	75	3	4.3	0	0.00
9234-292	3990m	57	2	2	0	0	60	3	5.3	0	0.00

TABLE 3

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN HEAD SPACE GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-293	4000m	183	8	8	0	0	199	16	8.0	0	0.00
9234-294	4010m	94	4	2	0	0	99	6	5.7	0	0.00
9234-295	4020m	145	8	11	0	2	166	21	12.7	0	0.00
9234-296	4030m	99	8	10	0	0	116	17	14.8	0	0.00
9234-297	4040m	83	19	9	0	0	111	28	25.4	0	0.00
9234-298	4050m	81	5	7	0	2	94	13	13.8	0	0.00
9234-299	4060m	67	4	4	0	0	76	9	11.8	0	0.00
9234-300	4070m	67	16	7	0	0	90	23	25.5	0	0.00
9234-301	4080m	161	12	14	0	2	189	28	14.6	0	0.00
9234-302	4090m	131	9	9	0	0	148	17	11.6	0	0.00
9234-303	4100m	46	3	4	0	0	53	7	12.8	0	0.00
9234-304	4110m	146	10	12	0	2	171	24	14.3	2	0.00
9234-305	4120m	96	7	10	2	2	117	21	17.9	2	1.00
9234-306	4130m	48	9	4	0	0	61	13	20.9	0	0.00
9234-307	4140m	75	3	3	0	0	81	7	8.0	0	0.00
9234-308	4150m	59	3	3	0	0	65	6	9.5	0	0.00
9234-309	4160m	82	3	5	0	0	90	8	9.3	0	0.00
9234-310	4170m	118	4	4	0	0	126	7	5.6	0	0.00
9234-311	4180m	130	6	4	0	0	139	9	6.8	0	0.00
9234-312	4190m	43	1	0	0	0	44	1	3.1	0	0.00
9234-313	4200m	115	2	2	0	0	119	3	2.9	0	0.00
9234-314	4210m	78	2	2	0	0	81	3	3.9	0	0.00
9234-315	4220m	51	5	3	0	0	59	8	13.2	0	0.00
9234-316	4230m	84	2	2	0	0	88	3	3.9	0	0.00
9234-317	4240m	108	4	2	0	0	114	6	5.2	0	0.00
9234-318	4250m	65	5	5	0	0	75	10	13.3	0	0.00
9234-319	4260m	158	11	9	0	2	180	23	12.5	2	0.00
9234-320	4270m	152	18	18	2	2	192	40	20.9	5	1.00
9234-321	4280m	85	7	11	0	0	103	18	17.3	0	0.00
9234-322	4290m	101	13	15	1	3	134	33	24.4	7	0.50
9234-323	4300m	125	12	10	0	2	150	24	16.3	2	0.00
9234-324	4310m	89	15	10	1	3	119	30	25.0	1	0.50
9234-325	4320m	75	6	6	0	0	87	12	13.8	2	0.00
9234-326	4330m	101	5	3	0	0	109	8	7.5	2	0.00

TABLE 3

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN HEAD SPACE GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-327	4340m	67	5	3	0	0	75	8	10.9	0	0.00
9234-328	4350m	373	24	24	0	2	425	51	12.1	17	0.00
9234-329	4360m	130	10	19	4	17	180	50	28.0	54	0.22
9234-330	4370m	338	92	84	12	74	598	261	43.6	227	0.16
9234-331	4380m	344	105	150	30	170	799	455	56.9	606	0.17
9234-332	4390m	287	56	97	23	130	592	305	51.5	343	0.18
9234-333	4400m	277	199	788	211	1480	2956	2679	90.6	3406	0.14
9234-334	4410m	707	194	680	190	1239	3011	2304	76.5	2368	0.15
9234-335	4420m	2474	1105	2538	800	5066	11983	9509	79.4	15663	0.16
9234-336	4430m	927	486	1928	715	4834	8889	7962	89.6	19364	0.15
9234-337	4440m	1017	314	503	244	1730	3808	2791	73.3	5414	0.14
9234-338	4450m	1222	419	812	402	2862	5718	4496	78.6	7371	0.14
9234-339	4460m	1608	627	1564	730	5062	9590	7983	83.2	15865	0.14
9234-340	4470m	2078	490	1353	750	5040	9711	7633	78.6	15649	0.15
9234-341	4480m	562	212	456	145	932	2307	1744	75.6	2415	0.16
9234-342	4490m	6051	2528	4782	1751	11529	26642	20591	77.3	39620	0.15
9234-343	4500m	8475	3610	5745	2070	13180	33080	24605	74.4	28279	0.16
9234-344	4510m	4280	1758	2095	347	2448	10928	6648	60.8	5999	0.14
9234-345	4520m	4125	1443	1623	297	2076	9564	5439	56.9	6940	0.14
9234-346	4530m	5139	1748	2007	393	2705	11993	6853	57.1	7930	0.15
9234-347	4540m	6898	2266	2675	455	2829	15123	8226	54.4	9150	0.16
9234-348	4550m	1342	455	479	102	466	2845	1503	52.8	1085	0.22
9234-349	4560m	2697	1063	1043	189	832	5824	3127	53.7	2151	0.23
9234-350	4570m	2252	1048	1139	194	867	5499	3247	59.0	2528	0.22
9234-351	4580m	1147	378	361	59	246	2191	1044	47.6	479	0.24
9234-352	4590m	1122	516	721	146	616	3121	1999	64.1	1577	0.24
9234-353	4600m	1068	458	522	90	405	2543	1475	58.0	1072	0.22
9234-354	4610m	1177	377	398	84	393	2429	1252	51.5	1012	0.21
9234-355	4620m	1393	572	619	118	548	3250	1857	57.1	1402	0.21
9234-356	4630m	1144	373	364	61	257	2200	1055	48.0	497	0.24
9234-357	4640m	807	241	224	44	173	1488	681	45.8	1623	0.25
9234-358	4650m	92	55	105	31	80	362	271	74.7	330	0.38
9234-359	4660m	125	64	108	29	74	400	275	68.7	220	0.40
9234-360	4670m	169	76	107	25	61	439	269	61.4	156	0.42

TABLE 3

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN HEAD SPACE GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-361	4680m	153	39	45	10	22	269	116	43.2	52	0.44
9234-362	4690m	844	296	371	93	447	2050	1206	58.8	801	0.21
9234-363	4700m	1725	786	1551	349	1733	6144	4420	71.9	2231	0.20
9234-365	4719m	1105	648	1090	262	1368	4473	3368	75.3	3533	0.19
9234-366	4728m	1543	1094	1785	422	2196	7040	5498	78.1	5366	0.19
9234-367	4737m	1178	715	970	206	1180	4249	3071	72.3	1420	0.17
9234-368	4746m	1217	622	770	159	760	3529	2311	65.5	1494	0.21
9234-369	4755m	1143	795	1356	309	1661	5264	4122	78.3	5106	0.19
9234-370	4764m	2746	1643	2114	411	2149	9063	6317	69.7	7138	0.19
9234-371	4773m	682	311	348	71	301	1712	1030	60.2	675	0.24
9234-372	4782m	470	164	152	24	122	931	461	49.5	512	0.20
9234-373	4791m	788	532	652	125	561	2658	1870	70.4	1858	0.22
9234-374	4800m	3592	2539	3651	773	3543	14098	10506	74.5	16461	0.22
9234-375	4809m	6531	10215	23855	4636	25262	70500	63969	90.7	79267	0.18
9234-376	4818m	8967	8286	19530	4575	23983	65341	56374	86.3	117567	0.19
9234-377	4827m	11046	6729	13101	2947	14480	48303	37257	77.1	64538	0.20
9234-378	4836m	4776	5191	10114	2324	11035	33440	28664	85.7	35856	0.21
9234-379	4845m	12189	19664	43487	9982	46393	131716	119527	90.7	147908	0.22
9234-380	4854m	7436	11924	21600	4219	19334	64512	57077	88.5	49956	0.22
9234-381	4863m	15328	27661	48745	10159	44730	146622	131294	89.5	114702	0.23
9234-382	4872m	14325	23780	46502	10136	45618	140361	126036	89.8	126595	0.22
9234-383	4881m	61092	53810	96594	20244	110425	342164	281073	82.1	193225	0.18
9234-384	4890m	6641	4344	5920	1162	5495	23562	16921	71.8	32723	0.21
9234-385	4899m	4296	1682	3041	828	4096	13943	9647	69.2	45942	0.20
9234-386	4908m	2281	1141	2220	933	2428	9004	6722	74.7	13939	0.38
9234-387	4917m	16531	14427	35990	8433	40687	116068	99537	85.8	153674	0.21
9234-388	4926m	2204	1624	2989	633	2837	10286	8083	78.6	12589	0.22
9234-389	4935m	5940	7065	9554	1895	7709	32162	26222	81.5	18132	0.25
9234-390	4944m	7408	13111	17827	3241	12513	54099	46692	86.3	21609	0.26
9234-391	4953m	1248772	2244963	2719990	480599	1639253	8333576	7084804	85.0	2265886	0.29
9234-392	4962m	8436	17220	24004	4924	21283	75869	67433	88.9	41317	0.23
9234-393	4971m	497882	812154	1053836	214354	755790	3334016	2836134	85.1	2563708	0.28
9234-394	4980m	120658	194224	270401	54924	187343	827550	706892	85.4	594091	0.29
9234-395	4989m	12028	20934	26033	4561	15218	78773	66745	84.7	20259	0.30

TABLE 3

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN HEAD SPACE GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-396	4998m	7518	11331	11305	1630	5403	37187	29669	79.8	9679	0.30
9234-397	5007m	6565	6731	6370	883	2842	23390	16826	71.9	3232	0.31
9234-398	5016m	189239	309636	374906	56155	200899	1130835	941596	83.3	327396	0.28
9234-399	5025m	16772	18788	21265	3968	15314	76107	59334	78.0	25466	0.26
9234-400	5034m	4925	7410	9625	1756	5739	29455	24530	83.3	7211	0.31
9234-401	5043m	8657	8181	7845	1186	4187	30056	21399	71.2	6224	0.28
9234-402	5052m	535	763	1417	268	1173	4156	3621	87.1	2700	0.23
9234-403	5061m	97859	100467	115153	18803	68762	401045	303185	75.6	180347	0.27
9234-404	5070m	3337	4356	6222	1163	4665	19742	16405	83.1	14023	0.25
9234-405	5079m	27320	31316	30950	5360	17088	112034	84714	75.6	45491	0.31
9234-406	5088m	2158	3849	4954	890	2526	14377	12219	85.0	4129	0.35
9234-407	5097m	5592	8761	11415	2041	6087	33896	28304	83.5	9153	0.34
9234-408	5106m	16833	13079	10955	1807	5561	48236	31402	65.1	5279	0.33
9234-409	5115m	3576	4526	5236	844	2813	16996	13420	79.0	4048	0.30
9234-410	5124m	2112	1959	2115	610	1825	8621	6509	75.5	5696	0.33
9234-411	5133m	2386	1554	1620	349	1171	7081	4695	66.3	4116	0.30
9234-412	5142m	6837	5226	4085	526	2135	18808	11972	63.7	2027	0.25
9234-413	5151m	4186	4447	3741	464	1701	14540	10353	71.2	3363	0.27
9234-414	5160m	2430	3496	4573	826	2862	14187	11757	82.9	6957	0.29
9234-415	5170m	1478	997	1017	295	791	4577	3099	67.7	2556	0.37
9234-416	5179m	4247	2917	2921	807	1859	12751	8504	66.7	3825	0.43
9234-417	5188m	2791	1812	1851	610	1431	8495	5704	67.1	3871	0.43
9234-418	5196m	2588	2276	2744	818	2087	10513	7925	75.4	5916	0.39
9234-419	5205m	231630	104506	40371	5660	13627	395795	164164	41.5	23864	0.42
9234-420	5214m	32879	16775	9259	1618	4276	64808	31929	49.3	8688	0.38
9234-421	5223m	12674	15547	13953	2031	8664	52869	40195	76.0	6586	0.23
9234-422	5232m	24604	34416	24116	6190	22413	111740	87135	78.0	26529	0.28
9234-423	5241m	27296	14806	6308	873	2387	51669	24373	47.2	3037	0.37
9234-424	5250m	38885	25940	15344	2773	7861	90804	51919	57.2	13031	0.35
9234-425	5259m	26910	29605	28461	5040	15589	105606	78695	74.5	22960	0.32
9234-426	5268m	66490	53244	50095	12158	24972	206959	140469	67.9	39983	0.49
9234-427	5277m	38426	31441	32444	10213	19941	132464	94038	71.0	25836	0.51
9234-428	5286m	16440	13071	13281	4395	7362	54548	38108	69.9	7991	0.60
9234-429	5295m	38037	16484	40129	7609	15444	117703	79666	67.7	21111	0.49

TABLE 3

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN HEAD SPACE GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-430	5301m	161864	176763	128634	39086	104897	611243	449379	73.5	138165	0.37

TABLE 4
CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN CUTTINGS GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
WELL: 2/4-18R											
9234-193	3000m	25	16	144	88	192	465	440	94.6	642	0.46
9234-194	3010m	33	15	117	84	137	386	353	91.4	107	0.61
9234-195	3020m	45	21	182	119	190	556	512	92.0	161	0.63
9234-196	3030m	27	10	141	87	167	432	405	93.7	186	0.52
9234-197	3040m	35	18	116	85	124	378	342	90.6	94	0.68
9234-198	3050m	28	12	106	96	141	382	354	92.6	122	0.68
9234-199	3060m	28	2	6	8	20	64	36	56.3	234	0.40
9234-200	3070m	77	40	281	92	212	702	625	89.0	194	0.44
9234-201	3080m	16	2	9	11	16	54	38	70.8	29	0.71
9234-202	3090m	41	12	26	17	48	144	103	71.7	254	0.35
9234-203	3100m	14	2	16	11	18	61	47	77.8	27	0.63
9234-204	3110m	36	5	47	32	45	165	129	78.1	72	0.70
9234-205	3120m	21	5	9	7	16	58	37	63.6	163	0.44
9234-206	3130m	16	2	20	16	20	75	59	78.4	33	0.80
9234-207	3140m	16	2	26	14	31	89	73	81.8	35	0.47
9234-208	3150m	28	13	103	43	111	298	270	90.6	208	0.38
9234-209	3160m	58	30	214	70	152	524	466	88.9	110	0.46
9234-210	3170m	79	56	318	93	217	763	684	89.6	201	0.43
9234-211	3180m	130	62	246	64	172	674	544	80.7	149	0.37
9234-212	3190m	64	31	124	33	124	376	312	83.0	72	0.27
9234-213	3200m	33	24	157	43	142	399	366	91.6	222	0.31
9234-214	3210m	63	11	11	4	17	107	44	41.1	71	0.22
9234-215	3220m	102	23	59	11	54	249	147	59.1	102	0.21
9234-216	3230m	62	14	72	24	77	249	187	75.0	124	0.31
9234-217	3240m	65	7	80	62	376	590	525	89.0	2647	0.17
9234-218	3250m	85	11	94	34	190	414	329	79.5	1538	0.18
9234-219	3260m	34	3	37	11	62	148	113	76.9	179	0.18
9234-220	3270m	28	3	31	8	53	123	95	77.3	151	0.16
9234-221	3280m	19	2	10	3	16	50	31	61.3	45	0.20
9234-222	3290m	30	4	15	6	23	77	47	61.0	60	0.25
9234-223	3300m	56	10	31	14	44	155	99	64.0	181	0.32
9234-224	3310m	35	7	19	9	28	99	63	64.3	73	0.33

TABLE 4

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN CUTTINGS GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-225	3320m	58	5	13	0	5	81	23	28.1	18	0.00
9234-226	3330m	14	2	5	2	5	28	14	50.0	3	0.33
9234-227	3340m	13	2	4	0	7	27	13	50.0	7	0.00
9234-228	3350m	32	5	5	0	2	45	12	27.8	7	0.00
9234-229	3360m	21	2	5	2	3	33	11	35.0	13	0.50
9234-230	3370m	17	2	8	4	13	43	26	60.9	58	0.29
9234-231	3380m	47	8	11	2	6	73	26	35.9	15	0.33
9234-232	3390m	66	10	19	2	15	112	46	41.4	93	0.13
9234-233	3400m	56	8	16	2	12	94	38	40.4	72	0.17
9234-234	3410m	44	7	16	4	14	85	41	47.9	44	0.25
9234-235	3420m	44	6	34	8	46	137	93	68.1	82	0.17
9234-236	3430m	55	9	29	6	23	122	67	54.8	58	0.25
9234-237	3440m	81	9	9	0	3	102	20	20.0	38	0.00
9234-238	3450m	78	21	23	8	27	158	80	50.7	61	0.31
9234-239	3460m	46	12	23	5	27	113	67	59.4	48	0.20
9234-240	3470m	42	8	40	11	53	154	111	72.6	183	0.20
9234-241	3480m	54	9	24	7	31	124	70	56.1	33	0.21
9234-242	3490m	40	9	26	7	32	115	75	65.4	69	0.23
9234-243	3500m	34	7	11	4	16	72	38	52.9	43	0.27
9234-244	3510m	41	7	15	4	21	88	47	53.3	72	0.21
9234-245	3520m	52	11	13	4	11	91	39	43.1	39	0.38
9234-246	3530m	59	13	13	5	14	104	45	43.2	40	0.36
9234-247	3540m	36	7	12	3	10	68	31	46.3	13	0.33
9234-248	3550m	54	10	21	6	21	112	58	52.0	49	0.29
9234-249	3560m	55	12	16	6	23	112	57	50.6	44	0.25
9234-250	3570m	66	10	16	4	17	113	47	41.8	44	0.25
9234-251	3580m	55	11	18	6	23	113	58	51.3	41	0.25
9234-252	3590m	87	16	24	7	27	160	73	45.8	69	0.25
9234-253	3600m	116	20	31	17	88	272	156	57.3	689	0.19
9234-254	3610m	125	25	19	9	22	200	75	37.5	31	0.43
9234-255	3620m	71	14	14	9	14	122	51	41.5	41	0.67
9234-256	3630m	66	7	9	0	0	81	16	19.4	56	0.00
9234-257	3640m	90	14	14	5	11	133	43	32.2	41	0.40
9234-258	3650m	119	18	15	6	6	164	45	27.3	45	1.00

TABLE 4
CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN CUTTINGS GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-259	3660m	46	6	6	2	6	65	19	29.4	38	0.33
9234-260	3670m	56	7	9	2	3	77	21	27.3	21	0.50
9234-261	3680m	81	11	9	2	9	113	32	28.0	50	0.25
9234-262	3690m	50	4	6	0	0	60	10	16.7	36	0.00
9234-263	3700m	48	6	8	0	2	64	17	25.8	33	0.00
9234-264	3710m	42	5	5	1	4	58	16	27.9	19	0.33
9234-265	3720m	74	9	9	2	6	100	26	25.9	59	0.33
9234-266	3730m	87	13	10	2	5	116	29	25.0	19	0.33
9234-267	3740m	58	8	6	2	6	80	22	27.5	2	0.25
9234-268	3750m	46	5	4	0	0	55	9	16.1	27	0.00
9234-269	3760m	24	4	6	0	0	34	9	27.8	0	0.00
9234-270	3770m	44	5	6	0	0	55	11	19.4	0	0.00
9234-271	3780m	45	4	6	0	0	56	10	18.5	199	0.00
9234-272	3790m	43	7	3	0	0	53	10	18.8	0	0.00
9234-273	3800m	80	10	7	0	0	97	17	17.2	0	0.00
9234-274	3810m	51	6	8	2	8	73	23	30.8	103	0.25
9234-275	3820m	61	6	6	0	0	73	12	16.3	0	0.00
9234-276	3830m	95	13	11	0	0	119	24	20.0	29	0.00
9234-277	3840m	203	31	24	5	19	282	79	28.0	67	0.25
9234-278	3850m	78	11	7	0	0	96	17	18.2	0	0.00
9234-279	3860m	75	9	7	0	0	90	16	17.5	0	0.00
9234-280	3870m	42	5	5	0	0	52	10	18.8	8	0.00
9234-281	3880m	44	5	5	0	0	53	9	17.6	0	0.00
9234-282	3890m	56	4	4	0	0	64	9	13.3	0	0.00
9234-283	3900m	62	11	36	18	86	212	151	70.9	230	0.21
9234-284	3910m	24	0	0	0	0	24	0	0.0	0	0.00
9234-285	3920m	4	3	0	0	0	7	3	40.0	0	0.00
9234-286	3930m	40	5	5	0	0	50	10	20.0	7	0.00
9234-287	3940m	111	21	4	0	0	137	25	18.5	0	0.00
9234-288	3950m	47	6	6	0	0	59	12	20.0	10	0.00
9234-289	3960m	70	12	8	0	0	89	19	21.7	6	0.00
9234-290	3970m	40	4	0	0	0	44	4	9.1	0	0.00
9234-291	3980m	29	3	6	0	0	39	10	25.0	0	0.00
9234-292	3990m	21	0	0	0	0	21	0	0.0	0	0.00

TABLE 4
CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN CUTTINGS GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-293	4000m	50	8	8	0	0	66	16	24.0	5	0.00
9234-294	4010m	41	4	4	2	6	56	15	26.7	15	0.33
9234-295	4020m	124	15	13	0	0	151	27	18.1	0	0.00
9234-296	4030m	128	13	13	0	0	154	27	17.3	0	0.00
9234-297	4040m	67	9	11	0	0	87	19	22.4	0	0.00
9234-298	4050m	115	11	15	0	0	142	26	18.4	0	0.00
9234-299	4060m	110	12	12	0	0	134	24	17.8	0	0.00
9234-300	4070m	120	14	21	4	25	184	64	34.6	417	0.14
9234-301	4080m	262	25	30	0	0	318	55	17.4	0	0.00
9234-302	4090m	220	19	26	0	0	265	45	16.9	0	0.00
9234-303	4100m	123	12	15	0	0	150	27	18.0	0	0.00
9234-304	4110m	305	22	31	0	0	358	53	14.8	0	0.00
9234-305	4120m	277	26	30	0	0	333	56	16.8	0	0.00
9234-306	4130m	91	9	11	0	0	111	20	17.9	0	0.00
9234-307	4140m	164	15	18	0	0	197	33	16.5	0	0.00
9234-308	4150m	119	14	14	0	0	147	28	18.9	0	0.00
9234-309	4160m	37	0	0	0	0	37	0	0.0	0	0.00
9234-310	4170m	42	4	0	0	0	46	4	7.7	0	0.00
9234-311	4180m	45	4	4	0	0	53	8	14.3	0	0.00
9234-312	4190m	208	0	0	0	0	208	0	0.0	0	0.00
9234-313	4200m	30	0	0	0	0	30	0	0.0	0	0.00
9234-314	4210m	21	0	0	0	0	21	0	0.0	0	0.00
9234-315	4220m	17	0	0	0	0	17	0	0.0	0	0.00
9234-316	4230m	27	0	0	0	0	27	0	0.0	0	0.00
9234-317	4240m	30	4	0	0	0	33	4	11.8	0	0.00
9234-318	4250m	95	13	12	2	5	127	32	25.0	8	0.33
9234-319	4260m	73	15	11	0	0	99	26	26.4	0	0.00
9234-320	4270m	359	50	30	0	5	445	85	19.2	0	0.00
9234-321	4280m	171	27	23	1	5	229	58	25.1	37	0.25
9234-322	4290m	171	28	22	3	12	237	65	27.7	39	0.25
9234-323	4300m	244	38	26	0	0	308	64	20.9	51	0.00
9234-324	4310m	116	18	12	1	3	150	34	22.8	7	0.50
9234-325	4320m	33	3	5	0	0	41	8	18.5	0	0.00
9234-326	4330m	44	5	5	0	0	54	10	18.2	15	0.00

TABLE 4

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN CUTTINGS GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-327	4340m	47	8	11	0	0	67	20	29.3	3	0.00
9234-328	4350m	88	5	10	0	0	102	15	14.3	0	0.00
9234-329	4360m	130	12	12	6	23	182	52	28.7	120	0.25
9234-330	4370m	109	27	53	13	74	276	167	60.6	378	0.18
9234-331	4380m	128	20	50	28	144	370	242	65.5	2179	0.19
9234-332	4390m	178	23	48	15	36	300	122	40.7	531	0.43
9234-333	4400m	120	35	366	234	1715	2470	2349	95.1	12672	0.14
9234-334	4410m	143	37	422	300	2151	3052	2909	95.3	16079	0.14
9234-335	4420m	590	159	1057	756	4585	7147	6558	91.7	37298	0.16
9234-336	4430m	266	51	220	185	1237	1959	1693	86.4	10197	0.15
9234-337	4440m	126	85	466	532	3536	4745	4619	97.4	29908	0.15
9234-338	4450m	763	208	898	994	6441	9303	8540	91.8	40238	0.15
9234-339	4460m	732	225	813	1007	6411	9188	8456	92.0	36217	0.16
9234-340	4470m	659	195	730	898	5406	7888	7229	91.6	32862	0.17
9234-341	4480m	273	72	355	295	1861	2856	2583	90.5	18115	0.16
9234-342	4490m	686	143	372	342	2492	4035	3349	83.0	30250	0.14
9234-343	4500m	958	449	2397	1905	12588	18296	17338	94.8	105648	0.15
9234-344	4510m	354	281	842	256	1830	3563	3209	90.1	10136	0.14
9234-345	4520m	359	161	672	292	1959	3444	3085	89.6	15034	0.15
9234-346	4530m	595	256	1077	473	3102	5502	4907	89.2	23366	0.15
9234-347	4540m	751	136	638	488	3515	5528	4777	86.4	32128	0.14
9234-348	4550m	229	131	597	281	1725	2963	2734	92.3	12740	0.16
9234-349	4560m	276	148	623	257	1564	2867	2591	90.4	14412	0.16
9234-350	4570m	172	106	629	278	1642	2828	2656	93.9	15040	0.17
9234-351	4580m	169	106	439	148	847	1708	1539	90.1	6464	0.17
9234-352	4590m	199	165	788	278	1541	2971	2772	93.3	10385	0.18
9234-353	4600m	216	158	835	323	1913	3446	3230	93.7	15777	0.17
9234-354	4610m	271	136	529	212	1258	2406	2135	88.7	9421	0.17
9234-355	4620m	213	104	468	177	1069	2032	1819	89.5	9463	0.17
9234-356	4630m	144	72	303	113	653	1285	1141	88.8	5013	0.17
9234-357	4640m	115	14	31	14	61	234	119	50.7	2999	0.22
9234-358	4650m	111	23	59	34	118	345	234	68.0	1567	0.29
9234-359	4660m	101	24	81	43	132	381	280	73.4	1107	0.32
9234-360	4670m	88	25	102	47	161	424	336	79.2	973	0.29

TABLE 4

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN CUTTINGS GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WEINESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-361	4680m	108	20	56	27	94	304	196	64.5	687	0.28
9234-362	4690m	206	65	146	77	488	983	777	79.0	4586	0.16
9234-363	4700m	381	157	796	420	2996	4750	4368	92.0	16168	0.14
9234-364	4710m	347	127	524	255	1846	3099	2753	88.8	10225	0.14
9234-365	4719m	292	175	1047	613	4291	6418	6126	95.5	23642	0.14
9234-366	4728m	430	437	2020	972	6385	10244	9814	95.8	31106	0.15
9234-367	4737m	103	116	531	225	1720	2693	2591	96.2	9973	0.13
9234-368	4746m	329	355	1303	519	3466	5973	5643	94.5	16261	0.15
9234-369	4755m	281	191	1131	535	3562	5699	5419	95.1	22165	0.15
9234-370	4764m	234	209	949	428	2612	4432	4198	94.7	13930	0.16
9234-371	4773m	237	143	390	139	848	1757	1519	86.5	6761	0.16
9234-372	4782m	126	43	98	31	219	518	391	75.6	3703	0.14
9234-373	4791m	274	145	516	188	1129	2252	1978	87.8	11346	0.17
9234-374	4800m	718	158	750	348	2372	4347	3628	83.5	29913	0.15
9234-375	4809m	1204	171	1147	821	5937	9280	8076	87.0	57885	0.14
9234-376	4818m	885	112	325	203	1434	2959	2074	70.1	32350	0.14
9234-377	4827m	798	113	235	141	948	2234	1436	64.3	17850	0.15
9234-378	4836m	1007	171	543	275	2056	4050	3044	75.2	26932	0.13
9234-379	4845m	3871	610	2185	1475	10004	18145	14274	78.7	98631	0.15
9234-380	4854m	1541	295	1843	1124	7840	12643	11102	87.8	72937	0.14
9234-381	4863m	5712	1098	4314	2152	14318	27594	21882	79.3	123253	0.15
9234-382	4872m	4372	895	3701	1952	12088	23007	18636	81.0	101931	0.16
9234-383	4881m	2364	473	946	717	4041	8540	6176	72.3	55434	0.18
9234-384	4890m	1273	228	525	302	1814	4143	2870	69.3	29439	0.17
9234-385	4899m	619	87	87	61	357	1211	593	48.9	18840	0.17
9234-386	4908m	342	31	73	37	232	714	372	52.1	8522	0.16
9234-387	4917m	1586	214	259	259	1647	3965	2379	60.0	55586	0.16
9234-388	4926m	435	53	122	137	839	1586	1151	72.6	11704	0.16
9234-389	4935m	347	191	770	313	1746	3366	3020	89.7	10050	0.18
9234-390	4944m	751	1155	5597	2448	12250	22200	21449	96.6	51385	0.20
9234-391	4953m	12159	19439	85827	31903	153395	302723	290563	96.0	495442	0.21
9234-392	4962m	592	373	2954	1601	8241	13760	13169	95.7	27339	0.19
9234-393	4971m	20130	4961	26515	17039	87759	156404	136274	87.1	719597	0.19
9234-394	4980m	14689	3953	16616	9248	45604	90109	75420	83.7	271865	0.20

TABLE 4

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN CUTTINGS GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-395	4989m	5960	8917	32832	11260	47587	106556	100596	94.4	101364	0.24
9234-396	4998m	3643	5327	1795	5900	26616	43281	39638	91.6	71547	0.22
9234-397	5007m	7753	3203	9210	3120	15320	38607	30853	79.9	50978	0.20
9234-398	5016m	15860	3869	24121	15755	76982	136588	120728	88.4	310473	0.20
9234-399	5025m	3814	849	2403	1125	5617	13807	9993	72.4	32993	0.20
9234-400	5034m	2488	1522	4729	1772	7633	18144	15656	86.3	22801	0.23
9234-401	5043m	1581	4519	15194	4941	23302	49537	47956	96.8	53321	0.21
9234-402	5052m	614	689	4313	1810	9843	17269	16655	96.4	29123	0.18
9234-403	5061m	8327	2288	9379	4956	27420	52369	44042	84.1	139629	0.18
9234-404	5070m	4356	3646	27357	11784	51032	98174	93818	95.6	120242	0.23
9234-405	5079m	3919	5948	24995	9318	35372	79552	75632	95.1	78431	0.26
9234-406	5088m	1914	1423	5299	2031	7791	18458	16544	89.6	18269	0.26
9234-407	5097m	3202	4478	18148	6440	24136	56404	53202	94.3	42499	0.27
9234-408	5106m	1068	3861	9918	2773	9780	27399	26332	96.1	9521	0.28
9234-409	5115m	1560	3440	13116	4569	20723	43408	41848	96.4	51063	0.22
9234-410	5124m	1316	1667	5248	2569	10250	21051	19735	93.8	37141	0.25
9234-411	5133m	4304	1671	3877	1330	6154	17336	13032	75.2	26528	0.22
9234-412	5142m	1462	2246	11875	3741	20051	39374	37913	96.3	42522	0.19
9234-413	5151m	2653	4569	16269	5390	25091	53972	51319	95.1	49501	0.21
9234-414	5160m	5058	2879	11426	4399	20639	44401	39343	88.6	56699	0.21
9234-415	5170m	1903	1280	3959	1944	6913	15999	14097	88.1	16987	0.28
9234-416	5179m	3696	4749	14132	6263	19427	48267	44571	92.3	36611	0.32
9234-417	5188m	6255	3711	11652	5264	16643	43524	37270	85.6	39605	0.32
9234-418	5196m	1620	2051	7907	3925	13218	28719	27100	94.4	37633	0.30
9234-419	5205m	10699	57457	63498	11839	25806	169299	158600	93.7	16831	0.46
9234-420	5214m	5580	9535	21947	6803	29277	73142	67562	92.4	70250	0.23
9234-421	5223m	1137	3501	10287	3316	15457	33698	32560	96.6	27938	0.21
9234-422	5232m	1887	10868	26096	15835	70040	124726	122839	98.5	127774	0.23
9234-423	5241m	16847	29755	29221	4785	12215	92823	75976	81.8	11092	0.39
9234-424	5250m	4639	23683	40806	13768	50561	133458	128819	96.5	90331	0.27
9234-425	5259m	3221	14811	39902	14228	51283	123445	120224	97.4	101393	0.28
9234-426	5268m	7653	42982	80543	35324	87291	253793	246140	97.0	107017	0.40
9234-427	5277m	4888	35829	22964	33078	83460	180218	175330	97.3	101622	0.40
9234-428	5286m	8279	40393	58787	38164	79164	224788	216508	96.3	75956	0.48

TABLE 4

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS IN CUTTINGS GAS

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-429	5295m	4306	20482	72486	31024	118855	247154	242848	98.3	215687	0.26
9234-430	5301m	10500	55373	54900	82243	213805	416821	406321	97.5	306190	0.38

TABLE 5

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS (A + B + D)

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
WELL: 2/4-18R											
9234-193	3000m	705	93	423	188	373	1783	1078	60.5	775	0.50
9234-194	3010m	4633	264	1106	435	757	7195	2562	35.6	882	0.57
9234-195	3020m	4321	390	1672	646	1205	8234	3913	47.5	1967	0.54
9234-196	3030m	546	89	432	184	345	1596	1050	65.8	312	0.53
9234-197	3040m	1007	140	545	236	366	2294	1287	56.1	342	0.65
9234-198	3050m	1178	225	1035	481	697	3615	2438	67.4	748	0.69
9234-199	3060m	408	56	210	94	142	910	502	55.2	326	0.66
9234-200	3070m	1591	301	1237	495	752	4377	2786	63.7	777	0.66
9234-201	3080m	689	108	461	215	305	1778	1089	61.2	373	0.70
9234-202	3090m	1060	160	505	215	342	2282	1222	53.6	471	0.63
9234-203	3100m	712	138	474	176	269	1769	1057	59.8	361	0.66
9234-204	3110m	495	102	303	122	192	1213	718	59.2	219	0.64
9234-205	3120m	308	50	129	55	95	637	329	51.7	205	0.57
9234-206	3130m	199	37	104	45	71	455	256	56.3	69	0.63
9234-207	3140m	150	33	136	49	79	447	297	66.4	69	0.62
9234-208	3150m	749	306	738	171	426	2391	1642	68.7	340	0.40
9234-209	3160m	882	374	922	196	434	2808	1926	68.6	258	0.45
9234-210	3170m	1003	370	834	169	397	2772	1769	63.8	287	0.43
9234-211	3180m	682	232	542	112	308	1875	1193	63.6	205	0.36
9234-212	3190m	480	167	447	93	294	1481	1001	67.6	254	0.32
9234-213	3200m	492	167	512	96	329	1596	1104	69.2	380	0.29
9234-214	3210m	313	88	206	36	162	804	492	61.1	149	0.22
9234-215	3220m	474	122	330	59	230	1215	741	61.0	192	0.25
9234-216	3230m	804	179	536	103	359	1981	1177	59.4	364	0.29
9234-217	3240m	244	35	177	90	528	1073	829	77.3	2901	0.17
9234-218	3250m	448	105	346	77	400	1376	928	67.4	1785	0.19
9234-219	3260m	210	37	119	20	119	505	295	58.4	224	0.17
9234-220	3270m	162	28	84	17	101	391	229	58.6	193	0.17
9234-221	3280m	83	13	31	6	31	164	80	49.0	58	0.21
9234-222	3290m	126	21	45	8	38	236	111	46.8	69	0.20
9234-223	3300m	117	21	52	16	52	258	141	54.7	190	0.30
9234-224	3310m	174	28	45	16	52	314	141	44.8	92	0.32

TABLE 5

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS (A + B + D)

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-225	3320m	112	10	20	0	8	150	38	25.4	20	0.00
9234-226	3330m	49	3	7	2	5	66	17	26.3	3	0.33
9234-227	3340m	235	31	18	0	7	291	55	19.1	7	0.00
9234-228	3350m	117	15	15	0	2	149	32	21.7	7	0.00
9234-229	3360m	49	3	7	2	3	63	15	23.1	13	0.50
9234-230	3370m	94	9	15	4	13	135	41	30.6	58	0.29
9234-231	3380m	131	15	17	2	6	171	39	23.1	15	0.33
9234-232	3390m	199	27	37	2	15	281	81	29.0	93	0.13
9234-233	3400m	188	16	24	2	12	242	54	22.3	72	0.17
9234-234	3410m	104	19	32	5	18	179	74	41.6	53	0.30
9234-235	3420m	139	15	48	8	46	255	116	45.5	82	0.17
9234-236	3430m	195	38	78	12	41	363	168	46.4	84	0.29
9234-237	3440m	343	32	29	6	17	427	84	19.7	58	0.33
9234-238	3450m	135	25	27	8	27	223	88	39.6	61	0.31
9234-239	3460m	108	21	37	7	35	209	101	48.3	58	0.20
9234-240	3470m	156	38	74	15	69	351	196	55.7	202	0.21
9234-241	3480m	139	17	35	9	39	240	100	41.8	33	0.22
9234-242	3490m	104	18	37	9	38	206	101	49.3	75	0.23
9234-243	3500m	98	13	17	6	18	152	54	35.5	47	0.31
9234-244	3510m	112	13	19	4	22	171	59	34.5	72	0.20
9234-245	3520m	143	20	17	6	14	199	56	28.2	43	0.40
9234-246	3530m	113	18	17	5	17	170	57	33.3	41	0.31
9234-247	3540m	157	16	21	3	15	213	56	26.4	13	0.22
9234-248	3550m	184	19	27	7	24	262	77	29.5	52	0.31
9234-249	3560m	305	25	25	7	28	389	84	21.6	45	0.26
9234-250	3570m	175	16	22	6	22	240	65	26.9	44	0.27
9234-251	3580m	268	23	26	7	26	349	81	23.2	43	0.28
9234-252	3590m	324	33	44	11	35	448	124	27.7	84	0.31
9234-253	3600m	309	40	43	17	88	497	187	37.7	689	0.19
9234-254	3610m	691	63	47	9	22	832	141	16.9	31	0.43
9234-255	3620m	396	39	25	9	14	483	87	18.1	41	0.67
9234-256	3630m	226	18	16	0	0	260	34	13.0	56	0.00
9234-257	3640m	339	34	23	5	11	411	72	17.6	41	0.40
9234-258	3650m	431	39	24	6	6	506	74	14.7	45	1.00

TABLE 5

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS (A + B + D)

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-259	3660m	170	15	10	2	6	202	32	16.0	38	0.33
9234-260	3670m	237	17	16	2	3	275	38	13.9	21	0.50
9234-261	3680m	219	20	16	2	9	267	47	17.8	50	0.25
9234-262	3690m	156	14	10	0	0	180	24	13.3	36	0.00
9234-263	3700m	196	17	12	0	2	227	31	13.6	33	0.00
9234-264	3710m	84	8	7	1	4	104	20	19.5	19	0.33
9234-265	3720m	165	17	13	2	6	201	37	18.3	59	0.33
9234-266	3730m	162	19	13	2	5	201	39	19.2	19	0.33
9234-267	3740m	156	14	9	2	6	188	31	16.7	2	0.25
9234-268	3750m	127	12	9	0	0	149	21	14.3	27	0.00
9234-269	3760m	154	11	9	0	0	175	21	11.8	0	0.00
9234-270	3770m	162	9	9	0	0	180	18	10.2	0	0.00
9234-271	3780m	170	10	10	0	0	190	21	10.9	199	0.00
9234-272	3790m	130	12	7	0	0	148	18	12.2	0	0.00
9234-273	3800m	130	13	10	0	0	154	23	15.2	0	0.00
9234-274	3810m	146	11	11	2	8	178	32	17.9	103	0.25
9234-275	3820m	173	15	12	1	1	202	30	14.7	0	1.00
9234-276	3830m	461	42	32	0	0	536	74	13.9	29	0.00
9234-277	3840m	476	55	43	5	19	598	122	20.4	67	0.25
9234-278	3850m	305	28	17	0	0	351	46	13.0	0	0.00
9234-279	3860m	215	20	16	0	0	251	36	14.4	0	0.00
9234-280	3870m	91	8	8	0	0	107	16	15.2	8	0.00
9234-281	3880m	127	9	9	0	0	145	19	12.9	0	0.00
9234-282	3890m	220	15	13	0	0	248	28	11.2	0	0.00
9234-283	3900m	122	14	39	18	86	279	157	56.2	230	0.21
9234-284	3910m	92	3	3	0	0	98	6	6.6	0	0.00
9234-285	3920m	63	5	1	0	0	70	7	9.4	0	0.00
9234-286	3930m	92	7	5	0	0	104	12	11.3	7	0.00
9234-287	3940m	172	25	8	0	0	206	34	16.3	0	0.00
9234-288	3950m	108	10	10	0	0	128	20	15.4	10	0.00
9234-289	3960m	153	15	10	0	0	178	25	14.1	6	0.00
9234-290	3970m	152	10	4	0	0	166	14	8.4	0	0.00
9234-291	3980m	101	5	8	0	0	114	13	11.3	0	0.00
9234-292	3990m	78	2	2	0	0	81	3	3.9	0	0.00

TABLE 5

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS (A + B + D)

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-293	4000m	233	16	16	0	0	265	32	12.0	5	0.00
9234-294	4010m	135	8	6	2	6	156	21	13.3	15	0.33
9234-295	4020m	269	23	23	0	2	318	48	15.2	0	0.00
9234-296	4030m	227	21	23	0	0	271	44	16.2	0	0.00
9234-297	4040m	150	28	19	0	0	198	48	24.1	0	0.00
9234-298	4050m	197	16	21	0	2	236	39	16.6	0	0.00
9234-299	4060m	177	16	16	0	0	210	33	15.6	0	0.00
9234-300	4070m	187	30	28	4	25	274	87	31.6	417	0.14
9234-301	4080m	424	37	44	0	2	506	83	16.4	0	0.00
9234-302	4090m	351	28	34	0	0	413	62	15.0	0	0.00
9234-303	4100m	169	15	19	0	0	203	34	16.7	0	0.00
9234-304	4110m	451	33	43	0	2	529	77	14.6	2	0.00
9234-305	4120m	373	33	40	2	2	450	77	17.1	2	1.00
9234-306	4130m	139	17	16	0	0	172	33	19.0	0	0.00
9234-307	4140m	239	18	21	0	0	278	39	14.0	0	0.00
9234-308	4150m	178	17	17	0	0	212	34	16.1	0	0.00
9234-309	4160m	119	3	5	0	0	127	8	6.6	0	0.00
9234-310	4170m	161	7	4	0	0	172	11	6.2	0	0.00
9234-311	4180m	175	9	8	0	0	191	17	8.8	0	0.00
9234-312	4190m	251	1	0	0	0	252	1	0.5	0	0.00
9234-313	4200m	145	2	2	0	0	148	3	2.4	0	0.00
9234-314	4210m	98	2	2	0	0	101	3	3.1	0	0.00
9234-315	4220m	68	5	3	0	0	76	8	10.2	0	0.00
9234-316	4230m	112	2	2	0	0	115	3	3.0	0	0.00
9234-317	4240m	138	8	2	0	0	148	10	6.7	0	0.00
9234-318	4250m	160	18	17	2	5	202	42	20.7	8	0.33
9234-319	4260m	231	26	21	0	2	280	49	17.4	2	0.00
9234-320	4270m	511	69	48	2	7	637	125	19.7	5	0.25
9234-321	4280m	256	34	34	1	5	332	75	22.7	37	0.25
9234-322	4290m	272	42	37	4	15	370	98	26.5	46	0.30
9234-323	4300m	369	51	37	0	2	458	89	19.4	52	0.00
9234-324	4310m	205	33	22	3	6	269	64	23.8	9	0.50
9234-325	4320m	108	9	11	0	0	128	20	15.3	2	0.00
9234-326	4330m	145	10	8	0	0	163	18	11.0	16	0.00

TABLE 5

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS (A + B + D)

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-327	4340m	114	13	15	0	0	142	28	19.5	3	0.00
9234-328	4350m	461	29	34	0	2	527	66	12.5	17	0.00
9234-329	4360m	259	21	31	10	41	362	103	28.3	174	0.24
9234-330	4370m	446	119	137	25	147	874	428	48.9	605	0.17
9234-331	4380m	471	126	200	57	314	1168	697	59.7	2786	0.18
9234-332	4390m	465	79	145	38	165	892	427	47.9	874	0.23
9234-333	4400m	397	234	1154	445	3195	5426	5028	92.7	16078	0.14
9234-334	4410m	850	232	1102	490	3389	6063	5213	86.0	18447	0.14
9234-335	4420m	3064	1264	3596	1556	9652	19130	16067	84.0	52962	0.16
9234-336	4430m	1193	537	2147	900	6071	10848	9655	89.0	29561	0.15
9234-337	4440m	1142	399	969	776	5266	8553	7411	86.6	35323	0.15
9234-338	4450m	1985	626	1710	1397	9303	15021	13036	86.8	47609	0.15
9234-339	4460m	2340	852	2378	1737	11473	18778	16439	87.5	52082	0.15
9234-340	4470m	2737	685	2083	1648	10445	17599	14862	84.4	48512	0.16
9234-341	4480m	835	284	810	440	2793	5162	4327	83.8	20530	0.16
9234-342	4490m	6737	2672	5155	2092	14021	30677	23939	78.0	69869	0.15
9234-343	4500m	9433	4058	8142	3976	25767	51376	41943	81.6	133927	0.15
9234-344	4510m	4634	2039	2936	604	4278	14491	9857	68.0	16135	0.14
9234-345	4520m	4484	1604	2295	589	4035	13008	8524	65.5	21974	0.15
9234-346	4530m	5734	2004	3084	866	5807	17495	11761	67.2	31296	0.15
9234-347	4540m	7648	2402	3313	943	6344	20651	13002	63.0	41278	0.15
9234-348	4550m	1571	586	1076	383	2192	5808	4237	73.0	13825	0.18
9234-349	4560m	2973	1210	1666	446	2395	8691	5718	65.8	16563	0.19
9234-350	4570m	2424	1154	1767	472	2509	8327	5903	70.9	17568	0.19
9234-351	4580m	1316	483	800	206	1093	3899	2583	66.2	6942	0.19
9234-352	4590m	1321	681	1509	424	2157	6091	4771	78.3	11962	0.20
9234-353	4600m	1284	616	1357	413	2318	5989	4704	78.6	16849	0.18
9234-354	4610m	1448	513	926	296	1652	4835	3387	70.0	10433	0.18
9234-355	4620m	1606	677	1087	295	1617	5281	3676	69.6	10865	0.18
9234-356	4630m	1288	445	667	174	909	3484	2196	63.0	5510	0.19
9234-357	4640m	922	254	254	58	234	1722	800	46.5	4622	0.25
9234-358	4650m	202	78	164	65	198	707	505	71.4	1897	0.33
9234-359	4660m	227	88	189	72	206	782	555	71.0	1327	0.35
9234-360	4670m	258	102	208	73	222	862	605	70.1	1129	0.33

TABLE 5

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS (A + B + D)

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-361	4680m	261	59	101	36	116	574	313	54.5	739	0.31
9234-362	4690m	1050	361	517	170	935	3033	1983	65.4	5387	0.18
9234-363	4700m	2106	943	2347	769	4729	10894	8788	80.7	18398	0.16
9234-364	4710m	347	127	524	255	1846	3099	2753	88.8	10225	0.14
9234-365	4719m	1396	823	2137	875	5660	10891	9495	87.2	27175	0.15
9234-366	4728m	1973	1532	3805	1395	8581	17285	15312	88.6	36472	0.16
9234-367	4737m	1281	831	1500	431	2899	6942	5661	81.5	11393	0.15
9234-368	4746m	1547	977	2073	678	4227	9501	7954	83.7	17755	0.16
9234-369	4755m	1423	986	2487	844	5224	10964	9540	87.0	27271	0.16
9234-370	4764m	2980	1852	3062	839	4760	13495	10514	77.9	21069	0.18
9234-371	4773m	919	453	738	209	1149	3469	2550	73.5	7436	0.18
9234-372	4782m	597	207	250	55	341	1449	853	58.8	4215	0.16
9234-373	4791m	1061	676	1168	314	1691	4910	3848	78.4	13204	0.19
9234-374	4800m	4311	2698	4401	1121	5915	18445	14134	76.6	46374	0.19
9234-375	4809m	7735	10386	25002	5457	31199	79780	72045	90.3	137152	0.17
9234-376	4818m	9852	8398	19856	4778	25417	68300	58448	85.6	149918	0.19
9234-377	4827m	11843	6841	13336	3088	15428	50536	38693	76.6	82388	0.20
9234-378	4836m	5783	5362	10657	2599	13091	37491	31708	84.6	62787	0.20
9234-379	4845m	16060	20274	45672	11457	56397	149860	133801	89.3	246540	0.20
9234-380	4854m	8977	12219	23443	5342	27174	77155	68179	88.4	122893	0.20
9234-381	4863m	21039	28759	53059	12311	59048	174216	153177	87.9	237955	0.21
9234-382	4872m	18697	24675	50203	12088	57706	163368	144672	88.6	228526	0.21
9234-383	4881m	63455	54282	97539	20961	114467	350704	287249	81.9	248659	0.18
9234-384	4890m	7914	4572	6445	1464	7309	27705	19791	71.4	62162	0.20
9234-385	4899m	4915	1769	3128	889	4453	15154	10239	67.6	64782	0.20
9234-386	4908m	2623	1171	2294	970	2660	9717	7094	73.0	22460	0.36
9234-387	4917m	18117	14640	36249	8693	42334	120033	101916	84.9	209261	0.21
9234-388	4926m	2638	1678	3111	770	3675	11872	9234	77.8	24293	0.21
9234-389	4935m	6287	7255	10324	2207	9455	35529	29242	82.3	28182	0.23
9234-390	4944m	8159	14266	23424	5688	24762	76300	68141	89.3	72994	0.23
9234-391	4953m	1260931	2264401	2805817	512502	1792648	8636299	7375368	85.4	2761328	0.29
9234-392	4962m	9028	17594	26958	6525	29524	89629	80601	89.9	68656	0.22
9234-393	4971m	518012	817115	1080351	231393	843549	3490420	2972408	85.2	3283305	0.27
9234-394	4980m	135347	198177	287017	64172	232947	917660	782313	85.3	865956	0.28

TABLE 5

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS (A + B + D)

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-395	4989m	17988	29851	58865	15821	62805	185329	167341	90.3	121623	0.25
9234-396	4998m	11160	16659	13100	7529	32019	80468	69308	86.1	81226	0.24
9234-397	5007m	14318	9934	15580	4003	18162	61997	47679	76.9	54210	0.22
9234-398	5016m	205099	313505	399027	71910	277881	1267423	1062324	83.8	637868	0.26
9234-399	5025m	20586	19637	23668	5092	20931	89914	69328	77.1	58459	0.24
9234-400	5034m	7413	8933	14354	3527	13372	47599	40186	84.4	30012	0.26
9234-401	5043m	10238	12700	23038	6127	27489	79593	69355	87.1	59546	0.22
9234-402	5052m	1149	1452	5730	2078	11015	21425	20276	94.6	31822	0.19
9234-403	5061m	106186	102755	124532	23760	96182	453413	347227	76.6	319976	0.25
9234-404	5070m	7693	8002	33579	12946	55697	117917	110223	93.5	134265	0.23
9234-405	5079m	31240	37263	55945	14678	52460	191586	160346	83.7	123922	0.28
9234-406	5088m	4071	5272	10253	2921	10317	32835	28763	87.6	22398	0.28
9234-407	5097m	8794	13239	29564	8481	30223	90300	81506	90.3	51652	0.28
9234-408	5106m	17901	16940	20872	4580	15342	75635	57734	76.3	14800	0.30
9234-409	5115m	5136	7966	18353	5413	23536	60404	55268	91.5	55111	0.23
9234-410	5124m	3428	3627	7363	3179	12076	29672	26244	88.4	42836	0.26
9234-411	5133m	6690	3226	5497	1679	7325	24417	17727	72.6	30644	0.23
9234-412	5142m	8298	7471	15959	4268	22186	58183	49884	85.7	44548	0.19
9234-413	5151m	6839	9016	20010	5854	26792	68511	61672	90.0	52864	0.22
9234-414	5160m	7487	6375	15999	5225	23501	58588	51101	87.2	63656	0.22
9234-415	5170m	3381	2277	4977	2239	7703	20577	17196	83.6	19542	0.29
9234-416	5179m	7944	7666	17053	7069	21287	61018	53075	87.0	40436	0.33
9234-417	5188m	9046	5523	13503	5874	18074	52020	42974	82.6	43477	0.33
9234-418	5196m	4208	4327	10650	4742	15305	39232	35024	89.3	43549	0.31
9234-419	5205m	242329	161963	103870	17499	39433	565093	322764	57.1	40695	0.44
9234-420	5214m	38459	26310	31206	8421	33553	137950	99491	72.1	78937	0.25
9234-421	5223m	13812	19048	24241	5346	24121	86567	72755	84.0	34524	0.22
9234-422	5232m	26491	45284	50212	22025	92454	236466	209974	88.8	154303	0.24
9234-423	5241m	44143	44561	35529	5658	14602	144492	100349	69.4	14129	0.39
9234-424	5250m	43524	49624	56151	16541	58423	224261	180738	80.6	103362	0.28
9234-425	5259m	30131	44416	68363	19268	66872	229051	198920	86.8	124353	0.29
9234-426	5268m	74143	96225	130639	47481	112263	460752	386609	83.9	147001	0.42
9234-427	5277m	43314	67269	55408	43290	103401	312682	269368	86.1	127459	0.42
9234-428	5286m	24719	53464	72069	42559	86526	279336	254617	91.2	83947	0.49

TABLE 5

CONCENTRATION (µL GAS / Kg ROCK) OF C_1-C_7 HYDROCARBONS (A + B + D)

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	C_1 Methane	C_2 Ethane	C_3 Propane	iC_4 Isobutane	nC_4 Butane	TOTAL C_1-C_4	TOTAL C_2-C_4	% GAS WETNESS	TOTAL C_5-C_7	$\frac{iC_4}{nC_4}$
9234-429	5295m	42343	36966	112615	38633	134299	364857	322514	88.4	236797	0.29
9234-430	5301m	172363	232136	183534	121329	318702	1028064	855700	83.2	444355	0.38

TABLE 6

CONCENTRATION (PPM) OF EXTRACTED C_{15+} MATERIAL IN ROCK

JOB 9234	LITHO			HYDROCARBONS			NON HYDROCARBONS			
GEOCHEM SAMPLE NUMBER		DEPTH/ IDENTITY	TOTAL EXTRACT	Saturates	Aromatics	TOTAL	Preciptd. Asphaltenes	Eluted NSO s	Non-Eluted NSO s	TOTAL
WELL: 2/4-18R										
9234-330A		4370m	541	311	38	349	66	124	2	192
9234-333A		4400m	615	321	32	353	69	189	4	262
9234-334A		4410m	923	606	61	668	68	183	4	255
9234-335A		4420m	1432	1007	129	1137	83	205	7	295
9234-336A		4430m	1428	1000	114	1113	200	108	7	315
9234-337A		4440m	1228	895	105	1000	97	126	5	228
9234-339A		4460m	2795	1783	514	2297	142	342	14	498
9234-340A		4470m	736	467	59	527	71	137	2	210
9234-343A		4500m	901	586	83	669	86	141	5	232
9234-344A		4510m	1124	741	77	818	115	185	6	306
9234-346A		4530m	1605	1270	103	1373	89	138	5	232
9234-350B		4570m	1332	668	49	717	262	343	10	615
9234-357A		4640m	1169	815	89	904	80	180	4	264
9234-358A		4650m	2963	1615	224	1839	89	1023	12	1124
9234-359A		4660m	547	336	23	359	61	124	4	189
9234-361A		4680m	602	269	38	307	96	194	5	295
9234-362A		4690m	467	207	33	241	62	161	3	226
9234-370A		4764m	615	333	48	381	84	148	2	235
9234-372A		4782m	406	213	35	248	59	96	2	157
9234-375A		4809m	925	507	79	586	103	232	5	339
9234-378A		4836m	727	456	43	499	121	103	3	227
9234-381A		4863m	1761	1158	222	1379	104	271	6	381
9234-382A		4872m	1648	1112	178	1289	89	263	7	359
9234-383		4881m	3082	2086	378	2464	148	461	9	618
9234-384A		4890m	108	26	3	29	54	22	2	79
9234-385A		4899m	303	155	11	166	64	71	2	138
9234-386A		4908m	201	82	5	87	62	50	1	114
9234-387A		4917m	347	174	15	188	77	80	2	159
9234-388A		4926m	265	107	14	121	85	58	1	144
9234-389A		4935m	373	219	27	246	55	70	2	127
9234-396		4998m	2180	1475	220	1695	199	277	9	485
9234-397		5007m	1431	915	130	1045	168	214	3	386

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed

TABLE 6
CONCENTRATION (PPM) OF EXTRACTED C_{15+} MATERIAL IN ROCK

JOB 9234	LITHO			HYDROCARBONS			NON HYDROCARBONS			
GEOCHEM SAMPLE NUMBER		DEPTH/ IDENTITY	TOTAL EXTRACT	Saturates	Aromatics	TOTAL	Preciptd. Asphaltenes	Eluted NSO s	Non-Eluted NSO s	TOTAL
9234-398A		5016m	1146	719	93	812	124	206	5	334
9234-400A		5034m	697	452	67	519	70	104	4	178
9234-402A		5052m	1155	790	86	877	98	176	4	278
9234-403A		5061m	1556	1083	140	1224	92	234	6	332
9234-404A		5070m	1997	1461	155	1617	101	273	6	380
9234-407		5097m	2668	1724	249	1973	198	489	8	695
9234-408		5106m	3403	2366	414	2780	116	493	14	623
9234-409		5115m	3266	2291	381	2672	190	390	13	593
9234-410		5124m	3073	1779	371	2150	195	722	7	924
9234-411		5133m	2045	1224	183	1406	160	471	8	639
9234-412		5142m	1925	1135	172	1307	144	466	8	618
9234-413		5151m	1765	1132	145	1276	157	325	7	489
9234-415		5170m	1781	926	167	1093	287	396	5	688
9234-420A		5214m	2184	895	300	1194	419	568	2	990
9234-420B		5214m	3792	2130	475	2605	641	535	10	1186
9234-421A		5223m	1054	534	95	629	233	188	4	425
9234-421B		5223m	3420	2138	517	2655	564	194	6	764

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed

TABLE 7

COMPOSITION (NORMALISED %) OF C_{15+} MATERIAL

GEOCHEM SAMPLE NUMBER	LITHO	DEPTH/ IDENTITY	HYDROCARBONS		NON HYDROCARBONS		
			Saturates	Aromatics	Preciptd. Asphaltenes	Eluted NSO s	Non-Eluted NSO s
WELL: 2/4-18R							
9234-330A		4370m	57.43	7.11	12.12	22.97	0.36
9234-333A		4400m	52.22	5.15	11.24	30.80	0.59
9234-334A		4410m	65.71	6.64	7.32	19.88	0.45
9234-335A		4420m	70.34	9.04	5.82	14.31	0.48
9234-336A		4430m	69.98	7.97	14.01	7.56	0.48
9234-337A		4440m	72.88	8.53	7.86	10.30	0.43
9234-339A		4460m	63.77	18.41	5.08	12.23	0.51
9234-340A		4470m	63.47	8.02	9.66	18.57	0.27
9234-343A		4500m	65.10	9.18	9.52	15.65	0.54
9234-344A		4510m	65.89	6.87	10.22	16.45	0.56
9234-346A		4530m	79.14	6.41	5.55	8.57	0.32
9234-350B		4570m	50.13	3.67	19.69	25.72	0.79
9234-357A		4640m	69.76	7.61	6.82	15.43	0.37
9234-358A		4650m	54.51	7.56	2.99	34.53	0.40
9234-359A		4660m	61.39	4.14	11.18	22.62	0.66
9234-361A		4680m	44.77	6.26	16.00	32.17	0.80
9234-362A		4690m	44.43	7.08	13.22	34.55	0.73
9234-370A		4764m	54.10	7.74	13.69	24.07	0.39
9234-372A		4782m	52.53	8.67	14.62	23.68	0.49
9234-375A		4809m	54.83	8.52	11.10	25.04	0.51
9234-378A		4836m	62.75	5.95	16.64	14.23	0.44
9234-381A		4863m	65.75	12.59	5.93	15.41	0.31
9234-382A		4872m	67.46	10.77	5.37	15.98	0.41
9234-383		4881m	67.68	12.28	4.80	14.95	0.30
9234-384A		4890m	23.87	3.15	50.45	20.72	1.80
9234-385A		4899m	51.03	3.62	21.19	23.39	0.78
9234-386A		4908m	40.63	2.71	30.93	25.06	0.68
9234-387A		4917m	50.00	4.25	22.16	23.07	0.52
9234-388A		4926m	40.32	5.40	32.02	21.74	0.53
9234-389A		4935m	58.76	7.10	14.75	18.76	0.62
9234-396		4998m	67.67	10.09	9.13	12.71	0.40
9234-397		5007m	63.94	9.08	11.77	14.99	0.22
9234-398A		5016m	62.72	8.11	10.77	17.99	0.41
9234-400A		5034m	64.76	9.65	10.11	14.96	0.52
9234-402A		5052m	68.45	7.48	8.49	15.25	0.34
9234-403A		5061m	69.63	9.02	5.90	15.05	0.40
9234-404A		5070m	73.17	7.78	5.07	13.66	0.31
9234-407		5097m	64.60	9.35	7.43	18.32	0.30
9234-408		5106m	69.53	12.17	3.42	14.49	0.41
9234-409		5115m	70.17	11.67	5.81	11.96	0.40
9234-410		5124m	57.88	12.07	6.33	23.50	0.22
9234-411		5133m	59.82	8.93	7.82	23.05	0.38
9234-412		5142m	58.94	8.96	7.47	24.22	0.41
9234-413		5151m	64.12	8.19	8.90	18.39	0.42
9234-415		5170m	51.98	9.38	16.13	22.21	0.29
9234-420A		5214m	40.96	13.73	19.18	26.02	0.11
9234-420B		5214m	56.17	12.54	16.90	14.12	0.27
9234-421A		5223m	50.70	9.01	22.09	17.83	0.36
9234-421B		5223m	62.53	15.11	16.50	5.67	0.18

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed

TABLE 8
SIGNIFICANT C_{15+} RATIOS

JOB 9234 / GEOCHEM SAMPLE NUMBER	LITHO	DEPTH/ IDENTITY	EXTR. TOC (%)	mg/g TOC						HYDROCARBONS % TOTAL EXTRACT	SATURATES / AROMATICS
				TOTAL EXTRACT	SATURATES	AROMATICS	TOTAL HYDROCARBONS	ELUTED NSO s	ASPHALTENES		
WELL: 2/4-18R											
9234-330A		4370m	0.20	270.46	155.33	19.23	174.56	62.13	32.79	64.54	8.08
9234-333A		4400m	0.19	323.83	169.12	16.68	185.80	99.73	36.40	57.38	10.14
9234-334A		4410m	0.18	512.55	336.80	34.06	370.85	101.88	37.52	72.35	9.89
9234-335A		4420m	0.20	716.03	503.69	64.72	568.40	102.49	41.69	79.38	7.78
9234-336A		4430m	0.17	840.23	587.99	67.00	654.98	63.50	117.75	77.95	8.78
9234-337A		4440m	0.19	646.21	470.94	55.12	526.06	66.55	50.80	81.41	8.54
9234-339A		4460m	0.27	1035.19	660.19	190.55	850.74	126.61	52.58	82.18	3.46
9234-340A		4470m	0.17	433.23	274.97	34.74	309.71	80.47	41.87	71.49	7.91
9234-343A		4500m	0.17	529.84	344.94	48.66	393.60	82.90	50.46	74.29	7.09
9234-344A		4510m	0.27	416.25	274.29	28.59	302.88	68.49	42.56	72.76	9.59
9234-346A		4530m	0.31	517.62	409.66	33.19	442.85	44.38	28.72	85.55	12.34
9234-350B		4570m	0.22	605.53	303.56	22.25	325.81	155.75	119.20	53.81	13.64
9234-357A		4640m	1.29	90.60	63.20	6.90	70.10	13.98	6.18	77.37	9.16
9234-358A		4650m	2.12	139.75	76.19	10.57	86.76	48.26	4.18	62.08	7.21
9234-359A		4660m	1.34	40.83	25.07	1.69	26.76	9.24	4.57	65.53	14.82
9234-361A		4680m	1.33	45.26	20.26	2.83	23.09	14.56	7.24	51.03	7.16
9234-362A		4690m	0.47	99.35	44.15	7.03	51.18	34.32	13.13	51.51	6.28
9234-370A		4764m	0.45	136.74	73.97	10.59	84.56	32.92	18.72	61.84	6.99
9234-372A		4782m	0.22	184.33	96.84	15.99	112.83	43.66	26.95	61.21	6.06
9234-375A		4809m	1.02	90.70	49.73	7.72	57.46	22.71	10.07	63.35	6.44
9234-378A		4836m	1.19	61.06	38.31	3.63	41.94	8.69	10.16	68.69	10.55
9234-381A		4863m	0.83	212.11	139.46	26.71	166.17	32.69	12.59	78.34	5.22
9234-382A		4872m	1.05	156.92	105.86	16.91	122.77	25.08	8.43	78.23	6.26
9234-383		4881m	1.35	228.32	154.52	28.03	182.55	34.13	10.95	79.95	5.51
9234-384A		4890m	0.23	46.79	11.17	1.48	12.65	9.69	23.60	27.03	7.57
9234-385A		4899m	0.13	233.39	119.11	8.44	127.55	54.58	49.45	54.65	14.11
9234-386A		4908m	0.09	222.93	90.58	6.04	96.62	55.86	68.94	43.34	15.00
9234-387A		4917m	0.14	247.89	123.95	10.54	134.49	57.18	54.95	54.25	11.76
9234-388A		4926m	0.12	220.77	89.01	11.93	100.93	47.99	70.68	45.72	7.46
9234-389A		4935m	0.16	233.38	137.15	16.58	153.73	43.79	34.42	65.87	8.27
9234-396		4998m	1.34	162.67	110.09	16.41	126.50	20.68	14.86	77.76	6.71
9234-397		5007m	0.81	176.65	112.94	16.04	128.99	26.48	20.79	73.02	7.04

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed

TABLE 8
SIGNIFICANT C_{15+} RATIOS

JOB 9234 GEOCHEM SAMPLE NUMBER	LITHO	DEPTH/ IDENTITY	EXTR. TOC (%)	mg/g TOC						HYDROCARBONS % TOTAL EXTRACT	SATURATES / AROMATICS
				TOTAL EXTRACT	SATURATES	AROMATICS	TOTAL HYDROCARBONS	ELUTED NSO s	ASPHALTENES		
9234-398A		5016m	0.63	181.97	114.13	14.75	128.88	32.74	19.61	70.83	7.74
9234-400A		5034m	0.73	95.55	61.88	9.22	71.09	14.29	9.65	74.41	6.71
9234-402A		5052m	0.55	209.91	143.68	15.69	159.38	32.02	17.81	75.93	9.16
9234-403A		5061m	0.81	192.06	133.73	17.32	151.05	28.90	11.34	78.65	7.72
9234-404A		5070m	1.11	179.90	131.64	14.00	145.63	24.57	9.13	80.95	9.41
9234-407		5097m	1.51	176.72	114.16	16.52	130.68	32.37	13.13	73.95	6.91
9234-408		5106m	2.55	133.44	92.78	16.23	109.01	19.33	4.56	81.70	5.71
9234-409		5115m	2.66	122.76	86.14	14.32	100.46	14.68	7.13	81.83	6.02
9234-410		5124m	3.35	91.74	53.10	11.07	64.17	21.56	5.81	69.95	4.80
9234-411		5133m	1.99	102.77	61.48	9.18	70.66	23.69	8.03	68.76	6.70
9234-412		5142m	1.33	144.77	85.33	12.96	98.29	35.07	10.81	67.90	6.58
9234-413		5151m	1.30	135.80	87.07	11.12	98.19	24.97	12.08	72.30	7.83
9234-415		5170m	1.50	118.76	61.73	11.15	72.88	26.38	19.16	61.36	5.54
9234-420A		5214m	1.62	134.81	55.22	18.51	73.73	35.08	25.85	54.69	2.98
9234-420B		5214m	2.71	139.91	78.59	17.55	96.13	19.76	23.64	68.71	4.48
9234-421A		5223m	0.80	131.73	66.79	11.87	78.67	23.48	29.10	59.72	5.63
9234-421B		5223m	1.99	171.84	107.46	25.97	133.43	9.74	28.35	77.65	4.14

S-shale, SS-sandstone, L-limestone, D-dolomite, M-mixed

TABLE 9

COMPOSITION (NORMALISED %) OF C_{15+} SATURATE (PARAFFIN - NAPHTHENE) HYDROCARBONS

GEOCHEM SAMPLE NUMBER	330A	336A	339A	346A	358A	383
DEPTH	4370m	4430m	4460m	4530m	4650m	4881m
SAMPLE TYPE						
nC15	8.85	6.40	3.99	7.05	10.69	10.23
nC16	8.31	8.55	6.27	8.90	10,08	10.40
nC17	7.70	8.12	7.30	8.47	2.49	9.95
nC18	7.56	7.31	14.39	4.12	8.01	8.63
nC19	13.92	9.39	22.70	2.08	26.78	8.81
nC20	7.02	8.46	8.11	9.08	6.44	7.26
nC21	6.07	7.49	5.98	7.36	4.68	6.65
nC22	5.21	6.19	4.83	6.42	4.43	5.72
nC23	5.11	6.26	4.43	6.42	4.25	5.58
nC24	4.67	5.17	3.45	5.87	3.46	4.63
nC25	4.00	4.69	3.29	5.62	3.95	4.02
nC26	3.97	4.29	3.07	5.30	2.91	3.53
nC27	3.40	3.48	2.57	4.47	4.07	2.93
nC28	2.83	3.00	1.90	3.69	1.94	2.44
nC29	2.65	2.80	1.68	3.38	1.03	2.30
nC30	2.13	2.10	1.48	2.81	2.00	1.81
nC31	2.08	2.13	1.43	2.85	0.67	1.77
nC32	1.68	1.74	1.14	2.28	1.28	1.33
nC33	1.32	1.27	0.96	1.85	0.49	0.98
nC34	0.88	0.82	0.65	1.24	0.18	0.67
nC35	0.62	0.35	0.38	0.75	0.18	0.35
Paraffin	41.72	16.18	35.72	37.63	9.26	13.64
Isoprenoid	5.51	4.33	6.39	4.95	1.81	1.59
Naphthene	52.77	79.49	57.89	57.47	88.93	84.77
CPI 1 Index	1.00	1.04	1.03	1.01	1.16	1.04
CPI 2 Index	1.02	1.04	1.04	1.04	1.07	1.05
CPI 3 Index	1.00	0.95	1.03	0.99	1.68	0.98
Prist/Phytane	1.09	1.10	0.47	0.74	1.04	0.95
Prist/nC17	1.03	0.84	0.76	0.85	4.00	0.39
Phytane/nC18	0.96	0.85	0.82	0.95	1.19	0.47

Job Number : 9234

$$C.P.I.\ 1 = \frac{1}{2}\left[\frac{C21 + C23 + C25 + C27}{C20 + C22 + C24 + C26} + \frac{C21 + C23 + C25 + C27}{C22 + C24 + C26 + C28}\right]$$

$$C.P.I.\ 2 = \frac{1}{2}\left[\frac{C25 + C27 + C29 + C31}{C24 + C26 + C28 + C30} + \frac{C25 + C27 + C29 + C31}{C26 + C28 + C30 + C32}\right]$$

$$C.P.I.\ 3 = \frac{2x\ (C27)}{C26 + C28}$$

CT - ditch cuttings CO - core SWC - sidewall core

TABLE 9

COMPOSITION (NORMALISED %) OF C_{15+} SATURATE (PARAFFIN - NAPHTHENE) HYDROCARBONS

GEOCHEM SAMPLE NUMBER	396	403	411	412	413	420
DEPTH	4998m	5061m	5133m	5142m	5151m	5214m
SAMPLE TYPE						
nC15	11.46	11.63	9.87	12.08	9.73	8.51
nC16	11.07	12.01	9.98	11.54	10.23	9.12
nC17	10.41	3.53	9.50	11.29	10.62	8.49
nC18	8.42	4.45	8.83	10.44	10.31	8.39
nC19	9.01	9.14	9.08	8.80	0.89	7.91
nC20	7.85	8.40	7.27	8.14	8.53	6.80
nC21	6.88	7.54	6.59	7.10	7.52	6.32
nC22	5.96	6.71	5.74	5.53	6.78	5.81
nC23	5.38	5.80	5.39	4.86	6.36	5.48
nC24	4.70	5.44	4.61	4.74	5.00	5.07
nC25	3.57	4.45	3.91	3.89	4.26	4.33
nC26	3.42	0.11	3.57	3.22	0.12	4.12
nC27	3.13	4.45	3.07	2.67	2.95	3.60
nC28	2.81	2.79	2.56	0.00	6.59	3.28
nC29	0.41	2.93	2.25	2.19	2.05	2.88
nC30	0.29	2.76	1.80	1.46	1.55	2.52
nC31	1.76	2.82	1.93	0.06	1.47	2.24
nC32	1.37	2.21	1.51	0.30	0.81	1.98
nC33	1.02	1.71	1.21	0.97	0.74	1.41
nC34	0.72	1.05	0.79	0.49	3.41	1.03
nC35	0.35	0.08	0.55	0.24	0.08	0.70
Paraffin	17.84	12.59	43.48	14.08	14.18	44.92
Isoprenoid	1.63	2.63	5.71	1.37	1.69	5.63
Naphthene	80.53	84.78	50.81	84.55	84.14	49.45
CPI 1 Index	0.99	1.28	1.02	1.11	1.09	0.99
CPI 2 Index	0.96	1.59	1.04	1.35	1.00	0.98
CPI 3 Index	1.00	3.07	1.00	1.66	0.88	0.97
Prist/Phytane	1.44	1.11	1.03	1.10	1.09	1.30
Prist/nC17	0.48	0.38	0.47	0.30	0.31	0.48
Phytane/nC18	0.42	0.50	0.49	0.30	0.29	0.38

Job Number : 9234

$$C.P.I.\ 1 = \frac{1}{2}\left[\frac{C21 + C23 + C25 + C27}{C20 + C22 + C24 + C26} + \frac{C21 + C23 + C25 + C27}{C22 + C24 + C26 + C28}\right]$$

$$C.P.I.\ 2 = \frac{1}{2}\left[\frac{C25 + C27 + C29 + C31}{C24 + C26 + C28 + C30} + \frac{C25 + C27 + C29 + C31}{C26 + C28 + C30 + C32}\right]$$

$$C.P.I.\ 3 = \frac{2x\ (C27)}{C26 + C28}$$

CT - ditch cuttings CO - core SWC - sidewall core

TABLE 10

ADDITIONAL SATURATES RATIOS

GEOCHEM SAMPLE NUMBER	DEPTH	SAMPLE TYPE	A/B* A = $\frac{pr}{nC_{17}}$ B = $\frac{Ph}{nC_{18}}$	$\frac{nC_{17}}{nC_{17} + nC_{27}}$
9234-330A	4370m	Cuttings	1.07	0.69
9234-336A	4430m	Cuttings	0.99	0.70
9234-339A	4460m	Cuttings	0.93	0.74
9234-346A	4530m	Cuttings	0.90	0.66
9234-358A	4650m	Cuttings	3.36	0.38
9234-383	4881m	Cuttings	0.83	0.76
9234-396	4998m	Cuttings	1.14	0.77
9234-403A	5061m	Cuttings	0.76	0.44
9234-411	5113m	Cuttings	0.96	0.76
9234-412	5142m	Cuttings	1.00	0.81
9234-413	5151m	Cuttings	1.07	0.78
9234-420A	5214m	Cuttings	1.26	0.70

*Values frequently unreliable due to co-eluting contamination

Table No. 11

AROMATICS RATIOS

Well 2/4-18R

Geochem Job No. 9234

Sample No	Depth m	M.P.I. 1	F 1	F 2
358A	4650	0.80	0.45	0.22
383	4881	0.81	0.47	0.26
396	4998	0.79	0.46	0.21
403A	5061	0.94	0.51	0.27
411	5133	1.01	0.52	0.27
412	5142	0.99	0.54	0.26
413	5151	0.97	0.54	0.27
420A	5214	1.04	0.54	0.29

$$MPI\ 1 = \frac{3/2(2\text{-}MP + 3\text{-}MP)}{P + 1\text{-}MP + 9\text{-}MP}$$

$$F\ 1 = \frac{3\text{-}MP + 2MP}{3\text{-}MP + 2\text{-}MP + 9\text{-}MP + 1\text{-}MP}$$

$$F\ 2 = \frac{2\text{-}MP}{3\text{-}MP + 2\text{-}MP + 9\text{-}MP + 1\text{-}MP}$$

TABLE 12

BIOMARKER ABUNDANCES - STERANES (PEAK AREAS), M/Z 217

GEOCHEM SAMPLE NUMBER		9234-330A	9234-336A	9234-339A	9234-346A
DEPTH (m)		4370	4430	4460	4530
SAMPLE TYPE		Cuttings	Cuttings	Cuttings	Cuttings
PEAK	27dβS	305	946	471	509
	27dβR	232	650	309	342
	28dαR + 27$\alpha\alpha$S	168	284	203	168
	27$\alpha\alpha$R	117	95	116	60
	29dβS + 27$\beta\beta$R	342	676	386	332
	29dβR	217	440	245	202
	28$\alpha\alpha$R	60	54	32	43
	29$\alpha\alpha$S	118	149	74	75
	29$\beta\beta$R	123	244	110	114
	29$\beta\beta$S	98	146	83	93
	29$\alpha\alpha$R	117	115	73	36

TABLE 12

BIOMARKER ABUNDANCES - STERANES (PEAK AREAS), M/Z 217

GEOCHEM SAMPLE NUMBER		9234-358A	9234-383	9234-396	9234-403A
DEPTH (m)		4650	4881	4998	5061
SAMPLE TYPE		Cuttings	Cuttings	Cuttings	Cuttings
PEAK	27dβS	546	887	549	1007
	27dβR	398	569	383	626
	28dαR + 27$\alpha\alpha$S	250	480	254	508
	27$\alpha\alpha$R	169	208	157	327
	29dβS + 27$\beta\beta$R	427	684	504	863
	29dβR	224	497	352	564
	28$\alpha\alpha$R	58	112	102	198
	29$\alpha\alpha$S	115	239	160	304
	29$\beta\beta$R	127	318	189	441
	29$\beta\beta$S	131	276	127	226
	29$\alpha\alpha$R	193	187	115	245

TABLE 12

BIOMARKER ABUNDANCES - STERANES (PEAK AREAS), M/Z 217

GEOCHEM SAMPLE NUMBER		9234-411	9234-412	9234-413	9234-420A
DEPTH (m)		5133	5142	5151	5214
SAMPLE TYPE		Cuttings	Cuttings	Cuttings	Cuttings
PEAK	27dβS	169	373	462	250
	27dβR	91	254	315	178
	28dαR + 27$\alpha\alpha$S	92	125	260	91
	27$\alpha\alpha$R	57	105	151	40
	29dβS + 27$\beta\beta$R	140	289	453	178
	29dβR	83	161	260	141
	28$\alpha\alpha$R	112	85	87	25
	29$\alpha\alpha$S	239	87	121	38
	29$\beta\beta$R	318	67	173	42
	29$\beta\beta$S	276	70	124	45
	29$\alpha\alpha$R	187	50	133	25

TABLE 13

BIOMARKER ABUNDANCES - STERANES (PEAK AREAS), M/Z 218

GEOCHEM SAMPLE NUMBER		9234-330A	9234-336A	9234-339A	9234-346A
DEPTH (m)		4370	4430	4460	4530
SAMPLE TYPE		Cuttings	Cuttings	Cuttings	Cuttings
PEAK	27ββR	194	405	212	194
	27ββS	136	270	129	98
	28ββR	87	187	82	83
	28ββS	113	244	92	109
	29ββR	118	249	113	99
	29ββS	103	195	92	89
	30ββR	12	32	12	7
	30ββS	10	43	11	8

TABLE 13

BIOMARKER ABUNDANCES - STERANES (PEAK AREAS), M/Z 218

GEOCHEM SAMPLE NUMBER		9234-358A	9234-383	9234-396	9234-403A
DEPTH (m)		4650	4881	4998	5061
SAMPLE TYPE		Cuttings	Cuttings	Cuttings	Cuttings
PEAK	27ββR	338	537	350	626
	27ββS	231	366	238	458
	28ββR	158	250	144	300
	28ββS	141	286	154	351
	29ββR	141	274	177	375
	29ββS	170	285	121	395
	30ββR	18	43	34	49
	30ββS	82	48	21	41

TABLE 13

BIOMARKER ABUNDANCES - STERANES (PEAK AREAS), M/Z 218

GEOCHEM SAMPLE NUMBER		9234-411	9234-412	9234-413	9234-420A
DEPTH (m)		5133	5142	5151	5214
SAMPLE TYPE		Cuttings	Cuttings	Cuttings	Cuttings
PEAK	27ββR	91	215	259	94
	27ββS	61	147	190	72
	28ββR	39	78	154	45
	28ββS	37	87	164	43
	29ββR	45	98	166	44
	29ββS	37	95	187	41
	30ββR	2	12	27	14
	30ββS	2	10	24	10

TABLE 14

BIOMARKER ABUNDANCES - TRITERPANES (PEAK AREAS)

GEOCHEM SAMPLE NUMBER		9234-330A	9234A-336A	9234A-339A	9234-346A
DEPTH (m)		4370	4430	4460	4530
SAMPLE TYPE		Cuttings	Cuttings	Cuttings	Cuttings
M/Z 191	23/3	187	370	285	248
	24/3	125	229	151	171
	25/3	202	233	165	183
	24/4	108	186	157	127
	26/3	200	232	142	186
	27Ts	247	538	272	254
	27Tm	445	110	183	140
	28$\alpha\beta$	74	75	46	38
	25 nor 30$\alpha\beta$	93	78	79	71
	29$\alpha\beta$	864	267	425	259
	29Ts	247	427	254	126
	30d	72	281	110	85
	29$\beta\alpha$	159	32	78	66
	Oleanane 30 O*	90	0	39	0
	30$\alpha\beta$	1047	416	425	312
	30$\beta\alpha$	217	16	60	40
	30G	22	32	23	29
	31$\alpha\beta$S	426	166	167	137
	31$\alpha\beta$R	288	145	147	92
	32$\alpha\beta$S/32$\alpha\beta$R	173/97	72/43	81/55	51/48
	33$\alpha\beta$S/33$\alpha\beta$R	102/58	57/22	35/27	29/14
	34$\alpha\beta$S/34$\alpha\beta$R	39/16	24/10	20/15	14/11
	35$\alpha\beta$S/35$\alpha\beta$R	21/6	0/0	13/13	0/0
M/Z 177	25 nor 28$\alpha\beta$	70	0	79	42
	25 nor 30$\alpha\beta$	83	0	52	0

* Tentatively identified by retention time only

TABLE 14

BIOMARKER ABUNDANCES - TRITERPANES (PEAK AREAS)

GEOCHEM SAMPLE NUMBER		9234-358A	9234-383	9234-396	9234-403A
DEPTH (m)		4650	4881	4998	5061
SAMPLE TYPE		Cuttings	Cuttings	Cuttings	Cuttings
M/Z 191	23/3	757	839	604	1161
	24/3	417	417	259	570
	25/3	472	594	353	639
	24/4	480	662	543	878
	26/3	375	454	376	565
	27Ts	251	612	409	784
	27Tm	541	526	335	642
	28$\alpha\beta$	74	227	170	300
	25 nor 30$\alpha\beta$	146	383	362	499
	29$\alpha\beta$	984	1075	776	1398
	29Ts	210	381	214	627
	30d	24	173	110	160
	29$\beta\alpha$	463	224	202	287
	Oleanane 30 O*	0	137	134	197
	30$\alpha\beta$	709	1068	666	1495
	30$\beta\alpha$	601	145	101	220
	30G	42	25	15	34
	31$\alpha\beta$S	205	333	172	509
	31$\alpha\beta$R	1884	274	158	375
	32$\alpha\beta$S/32$\alpha\beta$R	44/43	117/93	87/55	258/147
	33$\alpha\beta$S/33$\alpha\beta$R	30/63	59/31	31/21	174/78
	34$\alpha\beta$S/34$\alpha\beta$R	0/0	0/0	0/0	64/33
	35$\alpha\beta$S/35$\alpha\beta$R	0/0	0/0	0/0	40/33
M/Z 177	25 nor 28$\alpha\beta$	135	236	124	264
	25 nor 30$\alpha\beta$	70	269	213	392

* Tentatively identified by retention time only

TABLE 14

BIOMARKER ABUNDANCES - TRITERPANES (PEAK AREAS)

GEOCHEM SAMPLE NUMBER		9234-411	9234-412	9234-413	9234-420A
DEPTH (m)		5133	5142	5151	5214
SAMPLE TYPE		Cuttings	Cuttings	Cuttings	Cuttings
M/Z 191	23/3	208	545	411	172
	24/3	105	278	242	125
	25/3	73	290	299	97
	24/4	143	328	371	172
	26/3	102	198	247	185
	27Ts	154	264	406	153
	27Tm	119	226	377	93
	28$\alpha\beta$	58	69	137	57
	25 nor 30$\alpha\beta$	93	209	412	82
	29$\alpha\beta$	260	443	803	212
	29Ts	111	206	364	75
	30d	20	77	132	53
	29$\beta\alpha$	115	136	249	37
	Oleanane 30 O*	30	46	104	0
	30$\alpha\beta$	253	406	741	121
	30$\beta\alpha$	55	71	135	32
	30G	12	22	27	0
	31$\alpha\beta$S	76	102	211	67
	31$\alpha\beta$R	218	211	366	55
	32$\alpha\beta$S/32$\alpha\beta$R	27/16	48/38	82/41	24/11
	33$\alpha\beta$S/33$\alpha\beta$R	17/9	26/13	43/27	0/0
	34$\alpha\beta$S/34$\alpha\beta$R	9/7	18/12	20/11	0/0
	35$\alpha\beta$S/35$\alpha\beta$R	0/0	0/0	0/0	0/0
M/Z 177	25 nor 28$\alpha\beta$	70	155	245	62
	25 nor 30$\alpha\beta$	72	160	297	67

* Tentatively identified by retention time only

TABLE 15

BIOMARKER MOLECULAR RATIOS

GEOCHEM SAMPLE NUMBER			9234-330A	9234-336A	9234-339A	9234-346A
DEPTH			4370m	4430m	4460m	4530m
M/Z	PEAKS	IDENTITY				
191	27 Tm/27 Ts		1.80	0.20	0.67	0.55
191	31 $\alpha\beta$S/(31$\alpha\beta$S+31$\alpha\beta$R)	C_{31}hH-S/R	0.60	0.53	0.53	0.60
191	32 $\alpha\beta$S/(32$\alpha\beta$S+32$\alpha\beta$R)	C_{32}hH-S/R	0.64	0.63	0.60	0.52
178 192	MPI 1	MP Index	-	-	-	-
178 192	MPI 2	MP Index	-	-	-	-
217	29$\alpha\alpha\alpha$S/29$\alpha\alpha\alpha$R	C_{29} $\alpha\alpha$ St	1.01	1.30	1.01	2.08
217	29$\beta\beta$/(29$\alpha\alpha$+29$\beta\beta$)	C_{29} St	0.48	0.60	0.57	0.65
191	29$\alpha\beta$/30$\alpha\beta$	NorH	0.83	0.64	1.00	0.83
191	28$\alpha\beta$/30$\alpha\beta$	Bisnorh	0.07	0.18	0.11	0.12
191	hH/(27Ts,27Tm,29$\alpha\beta$, 30$\alpha\beta$)	hH/H	0.47	0.40	0.44	0.41
191	Tricyclic Terpanes/(27Ts, 27Tm, 29$\alpha\beta$, 30$\alpha\beta$)	Tricyclics	0.32	0.94	0.69	0.95
191	24/4:23/3	C_{24}/C_{23}	0.58	0.50	0.55	0.51
191	35$\alpha\beta$/34$\alpha\beta$	35/34 hH	0.49	0.00	0.74	0.00
218	27$\beta\beta$:28$\beta\beta$:29$\beta\beta$	$\beta\beta$ St	44:27:29	44:28:29	47:24:28	43:29:28
191 217	(27Ts,27Tm,29$\alpha\beta$,30$\alpha\beta$) 27$\alpha\beta$S→30$\alpha\alpha$R	H/St	1.37	0.35	0.62	0.49

hH = Homohopanes H = Hopanes M = methyl

TABLE 15

BIOMARKER MOLECULAR RATIOS

GEOCHEM SAMPLE NUMBER			9234-358A	9234-383	9234-396	9234-403A
DEPTH			4650m	4881m	4998m	5061m
M/Z	PEAKS	IDENTITY				
191	27 Tm/27 Ts		2.16	0.86	0.82	0.82
191	31 $\alpha\beta$S/(31$\alpha\beta$S+31$\alpha\beta$R)	C_{31}hH-S/R	0.10	0.55	0.52	0.58
191	32 $\alpha\beta$S/(32$\alpha\beta$S+32$\alpha\beta$R)	C_{32}hH-S/R	0.51	0.56	0.61	0.64
178 192	MPI 1	MP Index	-	-	-	-
178 192	MPI 2	MP Index	-	-	-	-
217	29$\alpha\alpha\alpha$S/29$\alpha\alpha\alpha$R	C_{29} $\alpha\alpha$ St	0.60	1.28	1.39	1.24
217	29$\beta\beta$/(29$\alpha\alpha$+29$\beta\beta$)	C_{29} St	0.46	0.58	0.53	0.55
191	29$\alpha\beta$/30$\alpha\beta$	NorH	1.39	1.01	1.17	0.94
191	28$\alpha\beta$/30$\alpha\beta$	Bisnorh	0.10	0.21	0.26	0.20
191	hH/(27Ts,27Tm,29$\alpha\beta$, 30$\alpha\beta$)	hH/H	0.91	0.28	0.24	0.40
191	Tricyclic Terpanes/(27Ts, 27Tm, 29$\alpha\beta$, 30$\alpha\beta$)	Tricyclics	1.01	0.90	0.98	0.88
191	24/4:23/3	C_{24}/C_{23}	0.63	0.79	0.09	0.76
0.69 191	35$\alpha\beta$/34$\alpha\beta$	35/34 hH	0.00	0.00	0.00	0.75
218	27$\beta\beta$:28$\beta\beta$:29$\beta\beta$	$\beta\beta$ St	48:25:26	45:27:28	50:25:25	43:26:31
191 217	(27Ts,27Tm,29$\alpha\beta$,30$\alpha\beta$) 27$\alpha\beta$S→30$\alpha\alpha$R	H/St	0.94	0.74	0.76	0.81

hH = Homohopanes H = Hopanes M = methyl

TABLE 15

BIOMARKER MOLECULAR RATIOS

GEOCHEM SAMPLE NUMBER			9234-411	9234-412	9234-413	9234-420A
DEPTH			5133m	5142m	5151m	5214m
M/Z	PEAKS	IDENTITY				
191	27 Tm/27 Ts		0.77	0.86	0.93	0.61
191	31 $\alpha\beta$S/(31$\alpha\beta$S+31$\alpha\beta$R)	C_{31}hH-S/R	0.26	0.33	0.37	0.55
191	32 $\alpha\beta$S/(32$\alpha\beta$S+32$\alpha\beta$R)	C_{32}hH-S/R	0.63	0.56	0.67	0.69
178 192	MPI 1	MP Index	-	-	-	-
178 192	MPI 2	MP Index	-	-	-	-
217	29$\alpha\alpha\alpha$S/29$\alpha\alpha\alpha$R	C_{29} $\alpha\alpha$ St	0.73	1.21	0.91	1.52
217	29$\beta\beta$/(29$\alpha\alpha$+29$\beta\beta$)	C_{29} St	0.58	0.50	0.54	0.58
191	29$\alpha\beta$/30$\alpha\beta$	NorH	1.03	1.09	1.08	1.75
191	28$\alpha\beta$/30$\alpha\beta$	Bisnorh	0.23	0.17	0.18	0.47
191	hH/(27Ts,27Tm,29$\alpha\beta$, 30$\alpha\beta$)	hH/H	0.48	0.35	0.34	0.27
191	Tricyclic Terpanes/(27Ts, 27Tm, 29$\alpha\beta$, 30$\alpha\beta$)	Tricyclics	0.80	1.22	0.67	1.30
191	24/4:23/3	C_{24}/C_{23}	0.69	0.60	0.90	1.00
0.69 191	35$\alpha\beta$/34$\alpha\beta$	35/34 hH	0.00	0.00	0.00	0.00
218	27$\beta\beta$:28$\beta\beta$:29$\beta\beta$	$\beta\beta$ St	49:25:26	50:23:27	40:28:32	49:26:25
191 217	(27Ts,27Tm,29$\alpha\beta$,30$\alpha\beta$) 27$\alpha\beta$S→30$\alpha\alpha$R	H/St	0.93	0.80	0.92	0.55

hH = Homohopanes H = Hopanes M = methyl

TABLE 16

CARBON ISOTOPE COMPOSITIONS (‰ PDB) OF C_1-C_4 HYDROCARBONS IN HEADSPACE GAS

GEOCHEM SAMPLE NUMBER	DEPTH (m)	C_1	C_2	C_3	C_4
9234-330	4370	-	-	-	-
9234-334	4410	-29.49*	-	-	-28.78*
9234-336	4430	-	-	-	-
9234-340	4470	-29.58*	-28.80*	-28.74*	-28.87*
9234-362	4690	-31.31*	-25.34*	-29.50*	-29.48*
9234-367	4737	-32.52*	-31.54*	-29.39*	-29.79*
9234-383	4881	-31.84*	-30.14*	-29.56*	-30.21*
9234-392	4962	-29.42	-28.13*	-27.96	-29.78
9234-399	5025	-29.10	-28.53*	-26.08*	-28.50*
9234-402	5052	-26.63*	-24.95	-23.85*	-31.89*
9234-408	5106	-29.63	-25.51*	-25.37	-26.04
9234-412	5142	-31.94	-29.25*	-28.73*	-28.23*
9234-421	5223	-30.07	-27.54	-27.60	-29.46

* Very small sample - treat data with caution

TABLE 17
CARBON ISOTOPE COMPOSITIONS (‰,PDB)

JOB 9234 GEOCHEM SAMPLE NUMBER	DEPTH/ IDENTITY	TOTAL EXTRACT WHOLE OIL	SATURATES	AROMATICS	NSO	ASPHALTENES	KEROGEN	PYROLYSATE (S2)
WELL: 2/4-18R								
9234-330A	4370m		-27.82	-27.56				
9234-336A	4430m		-27.72	-27.28				
9234-339A	4460m		-28.06	-26.60				
9234-346A	4530m		-28.50	-27.43				
9234-358A	4650m		-28.68	-28.68				
9234-383	4881m		-29.26	-29.03				
9234-396	4998m		-29.01	-28.38				
9234-403A	5061m		-28.33	-27.79				
9234-411	5133m		-28.74	-27.61				
9234-412	5142m		-28.72	-27.47				
9234-413	5151m		-28.49	-28.23				
9234-420A	5214m		-28.49	-28.03				
9234-420A	5214m			-28.12				