

FINAL CORE ANALYSIS REPORT

PARA et al CAMERON

M-49

AGAT[®] Laboratories



CORE SERVICES DIVISION



FINAL CORE ANALYSIS REPORT

PARA et al CAMERON

M-49

Prepared for:

PARAMOUNT RESOURCES LTD.

RC11019

April, 2003

"In Pursuit of Excellence"

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Sample Handling and Analysis Information

Abbreviations

Core Log

CORE ANALYSIS DATA

PARA et al CAMERON
M-49

COMPANY : PARAMOUNT RESOURCES LTD.
 LOCATION : M-49
 FORMATION : KEG RIVER DOLOMITE
 WELL NAME : PARA et al CAMERON
 DRILLING FLUID : WATER BASE MUD

PAGE : 1
 DATE : 17-Apr-2003
 W/O No : RC11019

ROUTINE CORE ANALYSIS

Sample	interval		Rep Thick (m)	Sample Length (m)	Gas Permeability				Capacity Kmax mD·m	Porosity	Capacity Ø·m	Density (Kg/m³)		Residual Saturation		Remarks
	Top	Base			Kmax (mD)	K90 (mD)	Kv (mD)	Bulk				Grain	Oil	Water		
CORE NO. 1 1457.00 - 1470.00 (CUT / RECEIVED = 13.00 / 12.10 m TOTAL BOXES = 12)																
001	1457.00	1457.14	0.14	0.07	0.81		0.10		0.11	0.015	0.002	2790	2830	0.698	0.155	dol:vf-fxln:scatppvugs:styl:fracs
002	1457.14	1457.38	0.24	0.09	21.0		9.36		5.04	0.043	0.010	2720	2840	0.264	0.106	dol:vf-fxln:scatppvugs:styl:fracs
001P	1457.38	1457.70	0.32	0.09	377.		154.		121.	0.078	0.025	2610	2830	0.268	0.032	dol:vf-fxln:vugs:styl:fracs
003	1457.70	1458.12	0.42	0.08	8.75	*	0.69		13.4	0.015	0.006	2800	2840	0.561	0.156	dol:vf-fxln:scatppvugs:fracs
004	1458.12	1458.52	0.40	0.06	966.	*	956.	*	30.9	0.037	0.015	2710	2820	0.277	0.092	dol:vf-fxln:scatppvugs:styl:fracs
005	1458.52	1458.65	0.13	0.07	4.13		0.19		0.05	0.049	0.006	2700	2840	0.209	0.046	dol:vf-fxln:vugs:styl:fracs
002P	1458.65	1458.85	0.20	0.10	75.8		20.2		15.9	0.092	0.018	2580	2840	0.206	0.028	dol:vf-fxln:vugs:styl:fracs
006	1458.85	1459.06	0.21	0.05	166.		142.		108.	0.081	0.017	2610	2840	0.149	0.027	dol:vf-fxln:vugs:styl:fracs
003P	1459.06	1459.38	0.32	0.11	12.4		12.1		6.48	0.055	0.018	2690	2840	0.493	0.047	dol:vf-fxln:vugs:styl:fracs
007	1459.38	1459.65	0.27	0.11	112.		109.		104.	0.054	0.015	2680	2840	0.208	0.042	dol:vf-fxln:vugs:fracs
SP004P	1459.65	1460.20	0.55	-	1.17		-		-	0.069	0.038	2650	2850	0.282	0.033	dol:vf-fxln:vugs:fracs
SP008	1460.20	1460.50	0.30	-	0.05		-		-	0.029	0.009	2760	2850	0.358	0.119	dol:vf-fxln:scatppvugs:styl:fracs
SP005P	1460.50	1460.85	0.35	-	5.19		-		-	0.065	0.023	2670	2860	0.290	0.039	dol:vf-fxln:vugs:fracs
009	1460.85	1461.20	0.35	0.08	1.11	*	0.11		5.13	0.015	0.005	2790	2830	0.700	0.156	dol:vf-fxln:styl:fracs
010	1461.20	1461.73	0.53	0.11	0.16		0.13		0.27	0.015	0.008	2800	2840	0.624	0.156	dol:vf-fxln:styl:fracs
006P	1461.73	1462.50	0.77	0.07	1940.	*	1240.	*	1630.	0.089	0.069	2590	2840	0.116	0.026	dol:vf-fxln:vugs:fracs
007P	1462.50	1462.78	0.28	0.07	153.		69.8		19.1	0.088	0.025	2590	2840	0.194	0.026	dol:vf-fxln:vugs:fracs
011	1462.78	1462.90	0.12	0.11	1830.		279.		62.7	0.160	0.019	2380	2830	0.083	0.013	dol:vf-fxln:vugs:styl:fracs
012	1462.90	1463.35	0.45	0.06	3.36	*	1.83	*	0.40	0.005	0.002	2810	2820	0.234	0.468	dol:vf-fxln:styl:fracs

* - affected by fracture or crack as mentioned in remarks



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ROUTINE CORE ANALYSIS

Sample	interval (m)		Rep Thick (m)	Sample Length (m)	Gas Permeability					Capacity Kmax mD·m	Porosity	Capacity Ø·m	Density (Kg/m³)		Residual Saturation		Remarks	
	Top	Base			Kmax (mD)	K90 (mD)	Kv (mD)	Bulk	Grain				Oil	Water				
013	1463.35	1463.95	0.60	0.11	3.10	*	0.58	*	2.42	*	1.86	0.005	0.003	2820	2830	0.236	0.472	dol:vf-fxln:fracs
014	1463.95	1464.55	0.60	0.08	0.77		0.65		0.49		0.46	0.029	0.017	2760	2840	0.359	0.080	dol:vf-fxln:styl:fracs
008P	1464.55	1464.73	0.18	0.09	538.		258.		31.4		96.8	0.053	0.010	2690	2840	0.293	0.045	dol:vf-fxln:vugs:styl:fracs
015	1464.73	1465.30	0.57	0.06	6.09		3.06		68.5	*	3.47	0.056	0.032	2670	2830	0.179	0.040	dol:vf-fxln:vugs:fracs
009P	1465.30	1465.73	0.43	0.09	4.82		0.67		5.13	*	2.07	0.033	0.014	2740	2830	0.370	0.082	dol:vf-fxln:scatvugs:fracs
016	1465.73	1466.00	0.27	0.07	4.01		3.63		4.71	*	1.08	0.026	0.007	2770	2840	0.402	0.089	dol:vf-fxln:styl:fracs
017	1466.00	1466.43	0.43	0.07	0.09		0.04		1.82	*	0.04	0.014	0.006	2790	2830	0.665	0.166	dol:vf-fxln:scatvugs:styl:fracs
018	1466.43	1466.58	0.15	0.08	0.04		0.02		0.01		0.01	0.026	0.004	2750	2830	0.398	0.177	dol:vf-fxln:scatvugs:styl:fracs
019	1466.58	1466.97	0.39	0.08	0.03		0.01		<.01		0.01	0.005	0.002	2810	2830	0.235	0.470	dol:vf-fxln:styl:fracs
020	1466.97	1467.23	0.26	0.09	0.06		0.06		<.01		0.02	0.005	0.001	2820	2830	0.188	0.235	dol:vf-fxln:fracs
021	1467.23	1467.38	0.15	0.08	2.57		0.36		0.01		0.39	0.031	0.005	2750	2840	0.334	0.074	dol:vf-fxln:scatppvugs:styl:fracs
010P	1467.38	1467.84	0.46	0.12	18.8		6.99		0.03		8.65	0.039	0.018	2720	2830	0.493	0.110	dol:vf-fxln:vugs:styl:fracs
022	1467.84	1468.08	0.24	0.09	0.21		0.06		0.02		0.05	0.017	0.004	2790	2830	0.616	0.137	dol:vf-fxln:scatppvugs:styl:fracs
023	1468.08	1468.33	0.25	0.11	0.58		0.48		0.40		0.15	0.020	0.005	2790	2840	0.524	0.117	dol:vf-fxln:styl:fracs
SP024	1468.33	1468.60	0.27	-	0.03		-		-		0.01	0.032	0.009	2750	2840	0.432	0.072	dol:vf-fxln:ppvugs
011P	1468.60	1468.86	0.26	0.12	6.92		6.43		0.05		1.80	0.034	0.009	2750	2840	0.469	0.085	dol:vf-fxln:scatppvugs:styl:fracs
SP025	1468.86	1469.10	0.24	-	0.06		-		-		0.01	0.049	0.012	2710	2840	0.231	0.046	dol:vf-fxln:ppvugs
LC	1469.10	1470.00	0.90	-	-		-		-		-	-	-	-	-	-	-	Lost core

* - affected by fracture or crack as mentioned in remarks



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CORE ANALYSIS - QUALITY CONTROL REPORT

CORE NO. 1 1457.00 - 1470.00 (CUT / RECEIVED = 13.00 / 12.10 m TOTAL BOXES = 12)

001	1457.00 - 1457.14	
002	1457.14 - 1457.38	
	- KMax (21.0) IS OUTSIDE FOUR STANDARD DEVIATIONS (0.39 - 13.9)	Horizontal fractures;results verified
001P	1457.38 - 1457.70	
003	1457.70 - 1458.12	
004	1458.12 - 1458.52	
005	1458.52 - 1458.65	
	- K90 (0.19) IS OUTSIDE FOUR STANDARD DEVIATIONS (0.91 - 32.6)	results verified
	- Kv (0.05) IS OUTSIDE FOUR STANDARD DEVIATIONS (0.59 - 21.3)	results verified
002P	1458.65 - 1458.85	
	- K90 (20.2) IS OUTSIDE FOUR STANDARD DEVIATIONS (58.3 - 2100)	results verified
	- Kv (15.9) IS OUTSIDE FOUR STANDARD DEVIATIONS (42 - 1510)	results verified
006	1458.85 - 1459.06	
003P	1459.06 - 1459.38	
007	1459.38 - 1459.65	
	- KMax (112.) IS OUTSIDE FOUR STANDARD DEVIATIONS (1.16 - 41.7)	horizontal fractures;results verified
	- K90 (109.) IS OUTSIDE FOUR STANDARD DEVIATIONS (1.47 - 52.9)	horizontal fractures;results verified
	- Kv (104.) IS OUTSIDE FOUR STANDARD DEVIATIONS (0.97 - 34.9)	vertical fractures;results verified
SP004P	1459.65 - 1460.20	
	- KMax (1.17) IS OUTSIDE FOUR STANDARD DEVIATIONS (5.2 - 187)	results verified
SP008	1460.20 - 1460.50	
	- KMax (0.05) IS OUTSIDE FOUR STANDARD DEVIATIONS (0.1 - 3.43)	results verified
SP005P	1460.50 - 1460.85	
009	1460.85 - 1461.20	



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CORE ANALYSIS - QUALITY CONTROL REPORT

010	1461.20 - 1461.73	
006P	1461.73 - 1462.50	
007P	1462.50 - 1462.78	
- Kv (19.1)	IS OUTSIDE FOUR STANDARD DEVIATIONS (28.2 - 1020)	results verified
011	1462.78 - 1462.90	
- KMax (1830.)	IS OUTSIDE FOUR STANDARD DEVIATIONS (10000 - 10000)	results verified
- K90 (279.)	IS OUTSIDE FOUR STANDARD DEVIATIONS (10000 - 10000)	results verified
- Kv (62.7)	IS OUTSIDE FOUR STANDARD DEVIATIONS (10000 - 10000)	results verified
012	1462.90 - 1463.35	
013	1463.35 - 1463.95	
014	1463.95 - 1464.55	
008P	1464.55 - 1464.73	
- KMax (538.)	IS OUTSIDE FOUR STANDARD DEVIATIONS (1.05 - 37.8)	horizontal fractures;results verified
- K90 (258.)	IS OUTSIDE FOUR STANDARD DEVIATIONS (1.33 - 48)	horizontal fractures;results verified
015	1464.73 - 1465.30	
009P	1465.30 - 1465.73	
016	1465.73 - 1466.00	
- KMax (4.01)	IS OUTSIDE FOUR STANDARD DEVIATIONS (0.07 - 2.54)	horizontal fractures;results verified
- K90 (3.63)	IS OUTSIDE FOUR STANDARD DEVIATIONS (0.1 - 3.52)	horizontal fractures;results verified
017	1466.00 - 1466.43	
018	1466.43 - 1466.58	
- KMax (0.04)	IS OUTSIDE FOUR STANDARD DEVIATIONS (0.07 - 2.54)	results verified
- K90 (0.02)	IS OUTSIDE FOUR STANDARD DEVIATIONS (0.1 - 3.52)	results verified
- Kv (0.01)	IS OUTSIDE FOUR STANDARD DEVIATIONS (0.06 - 2.17)	results verified
019	1466.58 - 1466.97	
020	1466.97 - 1467.23	
021	1467.23 - 1467.38	
- Kv (0.01)	IS OUTSIDE FOUR STANDARD DEVIATIONS (0.1 - 3.57)	stylite;results verified
010P	1467.38 - 1467.84	

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CORE ANALYSIS - QUALITY CONTROL REPORT

- KMax (18.8) IS OUTSIDE FOUR STANDARD DEVIATIONS (0.26 - 9.31)
- Kv (0.03) IS OUTSIDE FOUR STANDARD DEVIATIONS (0.22 - 7.89)

022 1467.84 - 1468.08

023 1468.08 - 1468.33

SP024 1468.33 - 1468.60

- KMax (0.03) IS OUTSIDE FOUR STANDARD DEVIATIONS (0.13 - 4.62)

011P 1468.60 - 1468.86

- KMax (6.92) IS OUTSIDE FOUR STANDARD DEVIATIONS (0.16 - 5.65)

- Kv (0.05) IS OUTSIDE FOUR STANDARD DEVIATIONS (0.13 - 4.81)

SP025 1468.86 - 1469.10

- KMax (0.06) IS OUTSIDE FOUR STANDARD DEVIATIONS (0.7 - 25.3)

LC 1469.10 - 1470.00

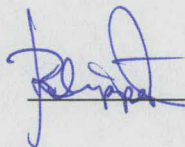
horizontal fractures;results verified
results verified

results verified

horizontal fractures;results verified
results verified

results verified

Approved :



Quality Control Supervisor

17-APR-2003

Date

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CALCULATED DATA REPORT

Sample	interval (m)		Rep Thick (m)	Rep Cuml. (m)	Porosity	Porosity *		Wt. Avg. Porosity (Arith.)	Kmax (mD)	Kmax *		Wt.Avg Kmax (Arith.)
	Top	Base				Rep. Ø·m	Thickness Cuml.			Rep mD·m	Thickness Cuml.	
CORE NO. 1 1457.00 - 1470.00 (CUT / RECEIVED = 13.00 / 12.10 m TOTAL BOXES = 12)												
001	1457.00	1457.14	0.14	0.14	0.015	0.002	0.002	0.014	0.81	0.11	0.11	0.81
002	1457.14	1457.38	0.24	0.38	0.043	0.010	0.012	0.032	21.0	5.04	5.15	13.6
001P	1457.38	1457.70	0.32	0.70	0.078	0.025	0.037	0.053	377.	121.	126.	180.
003	1457.70	1458.12	0.42	1.12	0.015	0.006	0.043	0.038	8.75	3.68	129.	116.
004	1458.12	1458.52	0.40	1.52	0.037	0.015	0.058	0.038	966.	386.	516.	339.
005	1458.52	1458.65	0.13	1.65	0.049	0.006	0.064	0.039	4.13	0.54	516.	313.
002P	1458.65	1458.85	0.20	1.85	0.092	0.018	0.082	0.044	75.8	15.2	532.	287.
006	1458.85	1459.06	0.21	2.06	0.081	0.017	0.099	0.048	166.	34.9	566.	275.
003P	1459.06	1459.38	0.32	2.38	0.055	0.018	0.117	0.049	12.4	3.97	570.	240.
007	1459.38	1459.65	0.27	2.65	0.054	0.015	0.132	0.050	112.	30.2	601.	227.
SP004P	1459.65	1460.20	0.55	3.20	0.069	0.038	0.170	0.053	1.17	0.64	601.	188.
SP008	1460.20	1460.50	0.30	3.50	0.029	0.009	0.179	0.051	0.05	0.02	601.	172.
SP005P	1460.50	1460.85	0.35	3.85	0.065	0.023	0.202	0.052	5.19	1.82	603.	157.
009	1460.85	1461.20	0.35	4.20	0.015	0.005	0.207	0.049	1.11	0.39	603.	144.
010	1461.20	1461.73	0.53	4.73	0.015	0.008	0.215	0.045	0.16	0.08	604.	128.
006P	1461.73	1462.50	0.77	5.50	0.089	0.069	0.284	0.052	1940.	1490.	2100.	382.
007P	1462.50	1462.78	0.28	5.78	0.088	0.025	0.309	0.053	153.	42.8	2140.	370.
011	1462.78	1462.90	0.12	5.90	0.160	0.019	0.328	0.056	1830.	220.	2360.	400.

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CALCULATED DATA REPORT

Sample	interval (m)		Rep Thick (m)	Rep Cuml. (m)	Porosity	Porosity *		Wt. Avg. Porosity (Arith.)	Kmax (mD)	Kmax *		Wt. Avg Kmax (Arith.)
	Top	Base				Rep. Ø·m	Thickness Cuml.			Rep mD·m	Thickness Cuml.	
012	1462.90	1463.35	0.45	6.35	0.005	0.002	0.330	0.052	3.36	1.51	2360.	372.
013	1463.35	1463.95	0.60	6.95	0.005	0.003	0.333	0.048	3.10	1.86	2360.	340.
014	1463.95	1464.55	0.60	7.55	0.029	0.017	0.350	0.046	0.77	0.46	2360.	313.
008P	1464.55	1464.73	0.18	7.73	0.053	0.010	0.360	0.047	538.	96.8	2460.	318.
015	1464.73	1465.30	0.57	8.30	0.056	0.032	0.392	0.047	6.09	3.47	2460.	296.
009P	1465.30	1465.73	0.43	8.73	0.033	0.014	0.406	0.047	4.82	2.07	2460.	282.
016	1465.73	1466.00	0.27	9.00	0.026	0.007	0.413	0.046	4.01	1.08	2460.	273.
017	1466.00	1466.43	0.43	9.43	0.014	0.006	0.419	0.044	0.09	0.04	2460.	261.
018	1466.43	1466.58	0.15	9.58	0.026	0.004	0.423	0.044	0.04	0.01	2460.	257.
019	1466.58	1466.97	0.39	9.97	0.005	0.002	0.425	0.043	0.03	0.01	2460.	247.
020	1466.97	1467.23	0.26	10.23	0.005	0.001	0.426	0.042	0.06	0.02	2460.	240.
021	1467.23	1467.38	0.15	10.38	0.031	0.005	0.431	0.042	2.57	0.39	2460.	237.
010P	1467.38	1467.84	0.46	10.84	0.039	0.018	0.449	0.041	18.8	8.65	2470.	228.
022	1467.84	1468.08	0.24	11.08	0.017	0.004	0.453	0.041	0.21	0.05	2470.	223.
023	1468.08	1468.33	0.25	11.33	0.020	0.005	0.458	0.040	0.58	0.15	2470.	218.
SP024	1468.33	1468.60	0.27	11.60	0.032	0.009	0.467	0.040	0.03	0.01	2470.	213.
011P	1468.60	1468.86	0.26	11.86	0.034	0.009	0.476	0.040	6.92	1.80	2470.	208.
SP025	1468.86	1469.10	0.24	12.10	0.049	0.012	0.488	0.040	0.06	0.01	2470.	204.
LC	1469.10	1470.00	0.90	-	-	-	-	-	-	-	-	-

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STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

GROUPING BY POROSITY RANGES

Porosity Range		Samples		Metres		Wt. Avg. Porosity (Arith.)	Wt. Avg. Kmax		Frequency %	
		In Range	Cuml.	In Range	Cuml.		(Arith.)	Geom	In Rng	Cuml.
0.001 -	0.0190	6	6	1.99	1.99	0.012	0.16	0.10	23.01	23.01
0.020 -	0.0390	9	15	2.68	4.67	0.029	2.23	0.71	30.98	53.99
0.040 -	0.0599	7	22	1.95	6.62	0.052	71.9	9.95	22.54	76.53
0.060 -	0.0799	3	25	1.22	7.84	0.070	101.	8.16	14.10	90.64
0.080 -	0.0999	3	28	0.69	8.53	0.087	135.	128.	7.98	98.61
0.160 -	0.1799	1	29	0.12	8.65	0.160	1830.	1830.	1.39	100.00



COMPANY : PARAMOUNT RESOURCES LTD.
 LOCATION : M-49
 FORMATION : KEG RIVER DOLOMITE
 WELL NAME : PARA et al CAMERON
 DRILLING FLUID : WATER BASE MUD

PAGE : 9
 DATE : 17-Apr-2003
 W/O No : RC11019

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

GROUPING BY PERMEABILITY RANGES

Permeability Range		Samples		Metres		Wt. Avg. Porosity (Arith.)	Wt. Avg. Kmax		Frequency %	
		In Range	Cuml.	In Range	Cuml.		(Arith.)	Geom	In Rng	Cuml.
0.020 -	0.0390	2	2	0.66	0.66	0.016	0.03	0.03	7.24	7.24
0.040 -	0.0790	4	6	0.95	1.61	0.027	0.05	0.05	10.43	17.67
0.080 -	0.1590	1	7	0.43	2.04	0.014	0.09	0.09	4.72	22.39
0.160 -	0.3190	2	9	0.77	2.81	0.016	0.18	0.17	8.45	30.85
0.320 -	0.6390	1	10	0.25	3.06	0.020	0.58	0.58	2.74	33.59
0.640 -	1.2490	3	13	1.29	4.35	0.045	0.94	0.93	14.16	47.75
2.500 -	4.9990	4	17	0.98	5.33	0.033	4.16	4.08	10.76	58.51
5.000 -	9.9990	3	20	1.18	6.51	0.054	6.01	5.97	12.95	71.46
10.000 -	19.9990	2	22	0.78	7.29	0.046	16.2	15.8	8.56	80.02
20.000 -	39.9990	1	23	0.24	7.53	0.043	21.0	21.0	2.63	82.66
40.000 -	79.9990	1	24	0.20	7.73	0.092	75.8	75.7	2.20	84.85
80.000 -	159.9990	2	26	0.55	8.28	0.071	133.	131.	6.04	90.89
160.000 -	319.9990	1	27	0.21	8.49	0.081	166.	166.	2.31	93.19
320.000 -	639.9990	2	29	0.50	8.99	0.069	435.	428.	5.49	98.68
1280.000 -	2559.9990	1	30	0.12	9.11	0.160	1830.	1830.	1.32	100.00



COMPANY : PARAMOUNT RESOURCES LTD.
 LOCATION : M-49
 FORMATION : KEG RIVER DOLOMITE
 WELL NAME : PARA et al CAMERON
 DRILLING FLUID : WATER BASE MUD

PAGE : 10
 DATE : 17-Apr-2003
 W/O No : RC11019

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM
POROSITY-METRES OF STORAGE CAPACITY LOST FOR SELECTED POROSITY CUT OFF

Porosity Cut off	Metres		Capacity Lost		Capacity Remaining		Wt. Avg. Arith.	
	Lost	Remaining	Por-Metres	%	Por-Metres	%	Mean	Median
-	0.00	12.10	-	0.00	0.487	100.00	0.040	
0.020	4.06	8.04	0.045	9.28	0.442	90.72	0.055	
0.040	7.35	4.75	0.151	31.08	0.336	68.92	0.071	
0.060	9.30	2.80	0.253	52.05	0.233	47.95	0.083	
0.080	10.52	1.58	0.339	69.64	0.148	30.36	0.094	
0.100	11.98	0.12	0.468	96.06	0.019	3.94	0.160	
0.120	11.98	0.12	0.468	96.06	0.019	3.94	0.160	
0.140	11.98	0.12	0.468	96.06	0.019	3.94	0.160	
0.160	12.10	0.00	0.487	100.00	-	0.00	0.00	

Total Storage Capacity in Porosity-Metres = 0.487

COMPANY : PARAMOUNT RESOURCES LTD.
 LOCATION : M-49
 FORMATION : KEG RIVER DOLOMITE
 WELL NAME : PARA et al CAMERON
 DRILLING FLUID : WATER BASE MUD

PAGE : 11
 DATE : 17-Apr-2003
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STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

MILLIDARCY-METRES OF FLOW CAPACITY FOR SELECTED PERMEABILITY CUT OFF

Permeability Cut off	Metres		Capacity Lost		Capacity Remaining		Wt. Avg. Arith.	
	Lost	Remaining	mD-m	%	mD-m	%	Mean	Median
0.020	0.00	9.11	0.000	0.00	590.609	100.00	0.000	
0.040	0.81	8.30	0.026	0.00	590.584	100.00	0.026	
0.080	1.61	7.50	0.071	0.01	590.539	99.99	0.097	
0.160	2.57	6.54	0.194	0.03	590.415	99.97	0.291	
0.320	2.81	6.30	0.245	0.04	590.365	99.96	0.536	
0.640	3.06	6.05	0.390	0.07	590.220	99.93	0.925	
1.250	4.35	4.76	1.609	0.27	589.001	99.73	2.534	
2.500	4.35	4.76	1.609	0.27	589.001	99.73	4.143	
5.000	5.33	3.78	5.686	0.96	584.923	99.04	9.829	
10.000	6.51	2.60	12.773	2.16	577.836	97.84	22.602	
20.000	7.29	1.82	25.389	4.30	565.220	95.70	47.991	
40.000	7.53	1.58	30.429	5.15	560.180	94.85	78.421	
80.000	7.73	1.38	45.589	7.72	545.020	92.28	124.010	
160.000	8.28	0.83	118.669	20.09	471.940	79.91	242.679	
320.000	8.49	0.62	153.529	26.00	437.080	74.00	396.209	
640.000	8.99	0.12	371.009	62.82	219.600	37.18	767.218	
1280.000	8.99	0.12	371.009	62.82	219.600	37.18	1138.227	
2560.000	9.11	0.00	590.609	100.00	0.000	0.00	1728.837	

Total Flow Capacity in MilliDarcy-Metres (Arithmetic) = 590.609



COMPANY : PARAMOUNT RESOURCES LTD.
LOCATION : M-49
FORMATION : KEG RIVER DOLOMITE
WELL NAME : PARA et al CAMERON
DRILLING FLUID : WATER BASE MUD

PAGE : 12
DATE : 17-Apr-2003
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SUMMARY OF CORE DATA REPORT
PERMEABILITY RANGES, MILLIDARCY

	Total	100.00 +	10.00 - 99.99	1.00 - 9.99	0.50 - 0.99	0.10 - 0.49	0.01 - 0.09	< 0.01
Thickness (m)	9.110001	1.38	1.22	2.71	0.99	0.77	2.04	0.00
Fraction of Analyzed Core		0.151	0.134	0.297	0.109	0.085	0.224	0.000
Porosity Thickness (por-m)	0.387	0.110	0.064	0.134	0.025	0.012	0.042	0.000
Permeability Thickness (mD-m)	590.61	545.02	32.82	11.81	0.72	0.14	0.11	0.00
Wt. Average Porosity	0.042	0.080	0.053	0.049	0.025	0.016	0.021	0.000
Wt. Average Permeability	64.83	394.94	26.90	4.36	0.73	0.18	0.05	0.00
Wt. Average Residual Oil	0.349	0.192	0.401	0.343	0.449	0.622	0.375	0.000
Wt. Average Residual Water	0.131	0.040	0.079	0.169	0.100	0.150	0.200	0.000

Wt. Average (geom.) Kmax. mD for all Samples = 2.21

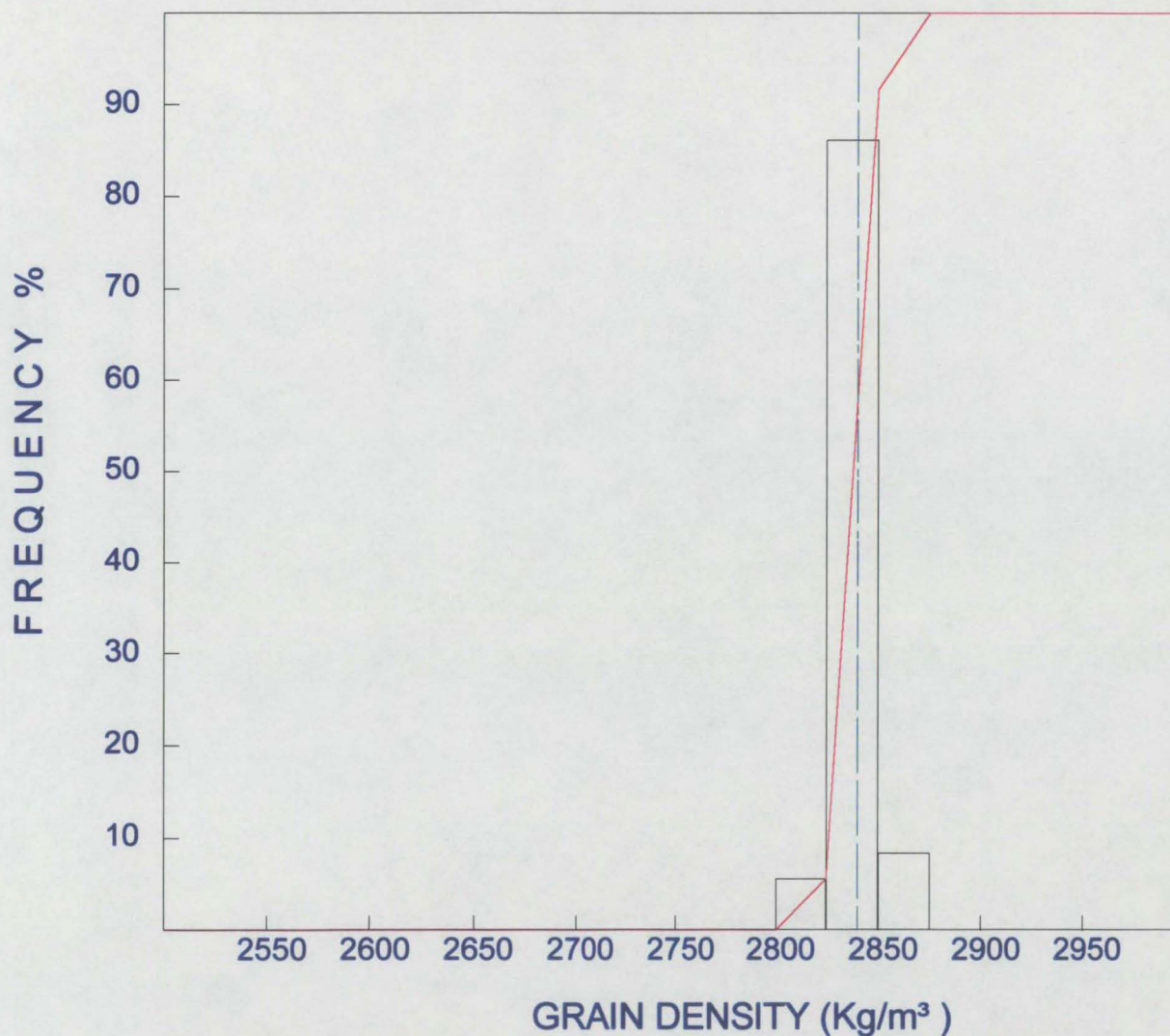
Wt. Average (harm.) Kmax. mD for all Samples = 0.18



Company : PARAMOUNT RESOURCES LTD.
Location : M-49
Well Name : PARA et al CAMERON
Interval : 1457.00-1470.00
Formation : KEG RIVER DOLOMITE

FIGURE : 1
Date : 17-Apr-2003
AGAT Job : RC11019

GRAIN DENSITY DISTRIBUTION



Arithmetic Mean
Median
Cum. Frequency %

.....

—————

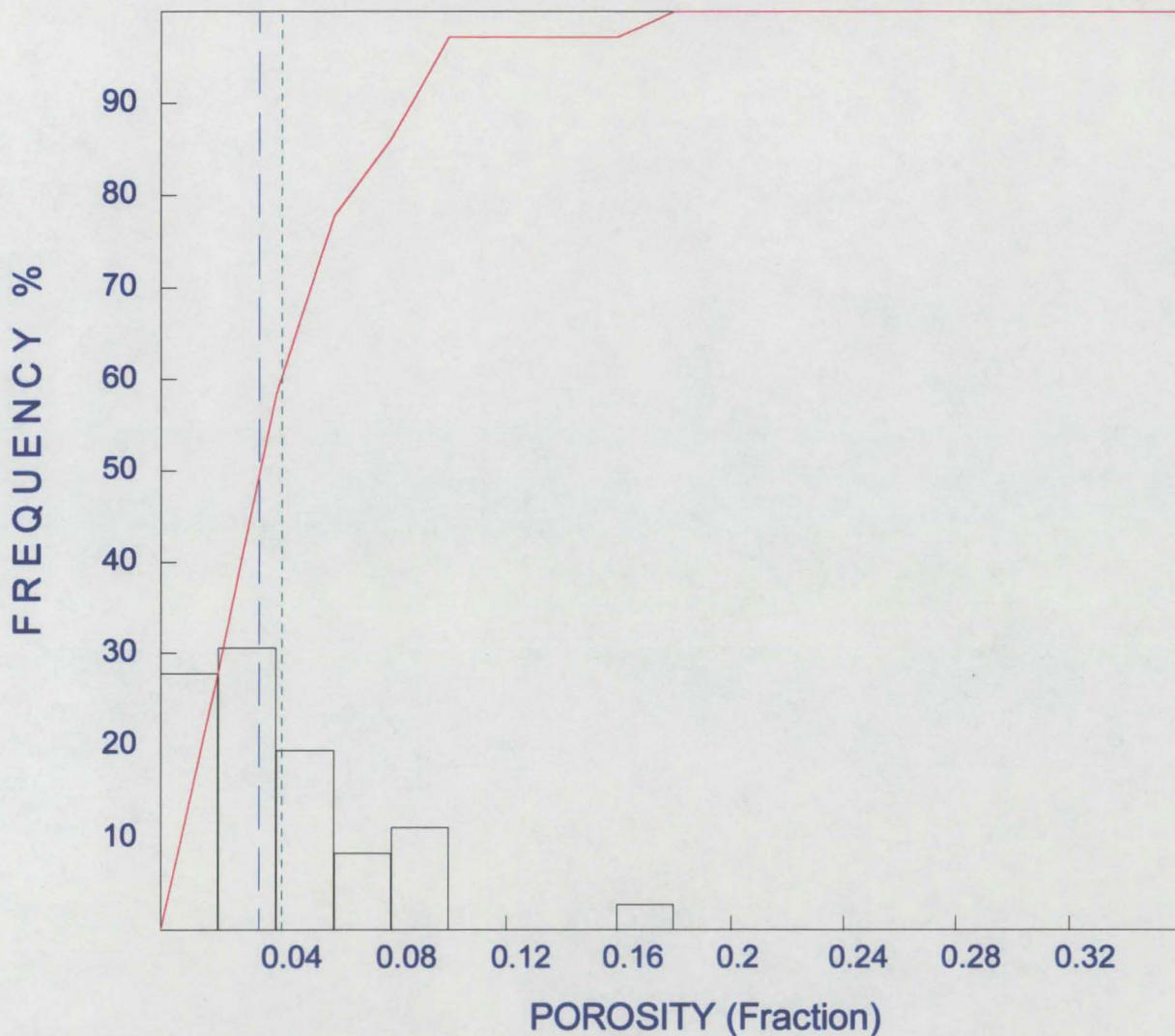
Mean: 2840
Median: 2840



Company : PARAMOUNT RESOURCES LTD.
Location : M-49
Well Name : PARA et al CAMERON
Interval : 1457.00-1470.00
Formation : KEG RIVER DOLOMITE

FIGURE : 2
Date : 17-Apr-2003
AGAT Job : RC11019

POROSITY DISTRIBUTION



Arithmetic Mean
Median
Cum. Frequency %

.....

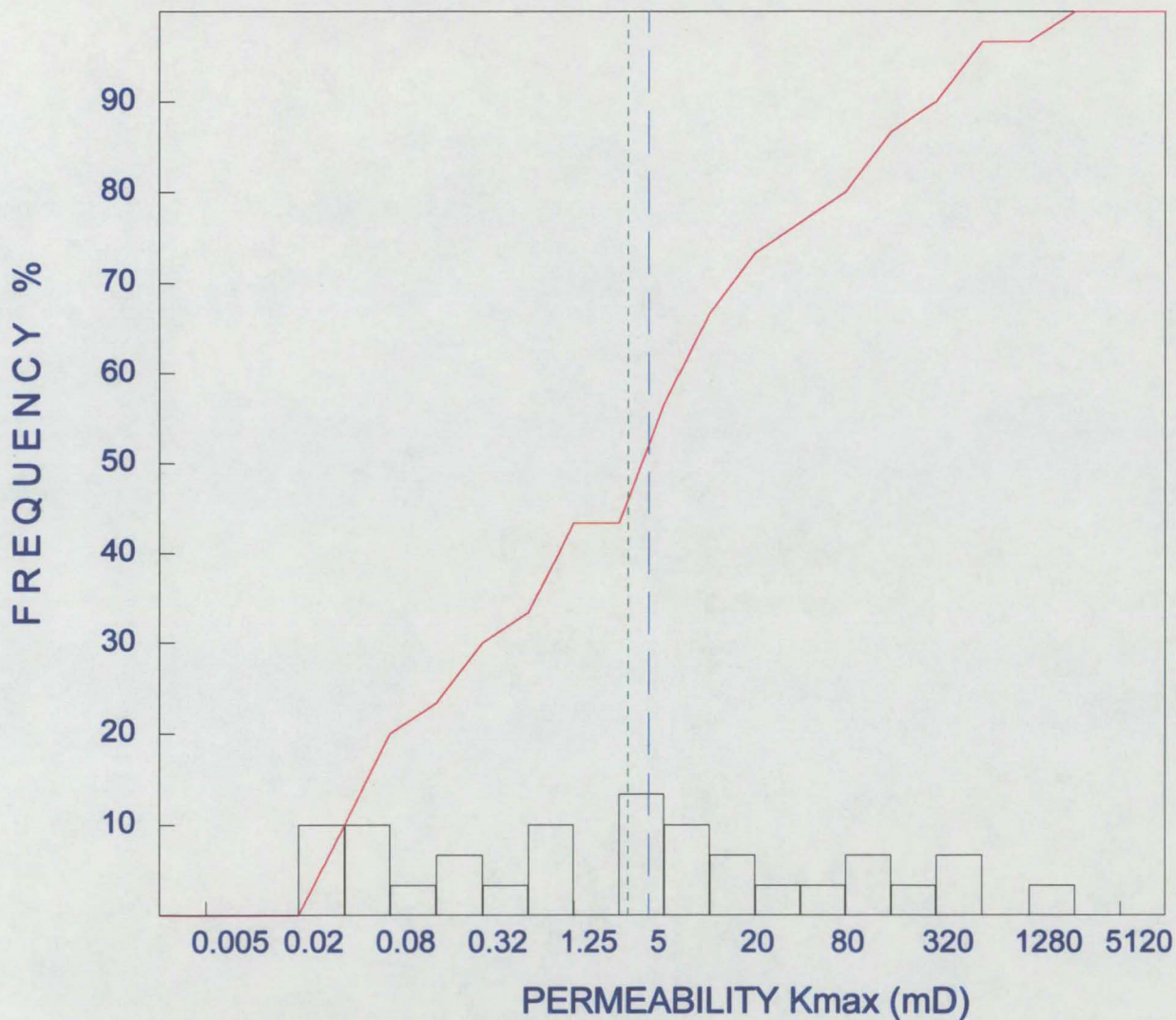
—————

Mean: 0.042
Median: 0.034

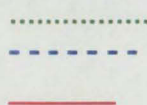
Company : PARAMOUNT RESOURCES LTD.
Location : M-49
Well Name : PARA et al CAMERON
Interval : 1457.00-1470.00
Formation : KEG RIVER DOLOMITE

FIGURE : 3
Date : 17-Apr-2003
AGAT Job : RC11019

PERMEABILITY Kmax DISTRIBUTION



Arithmetic Mean
Median
Cum. Frequency %



Mean: 2.94
Median: 4.07



Company : PARAMOUNT RESOURCES LTD.

Location : M-49

Well Name : PARA et al CAMERON

Interval : 1457.00-1470.00

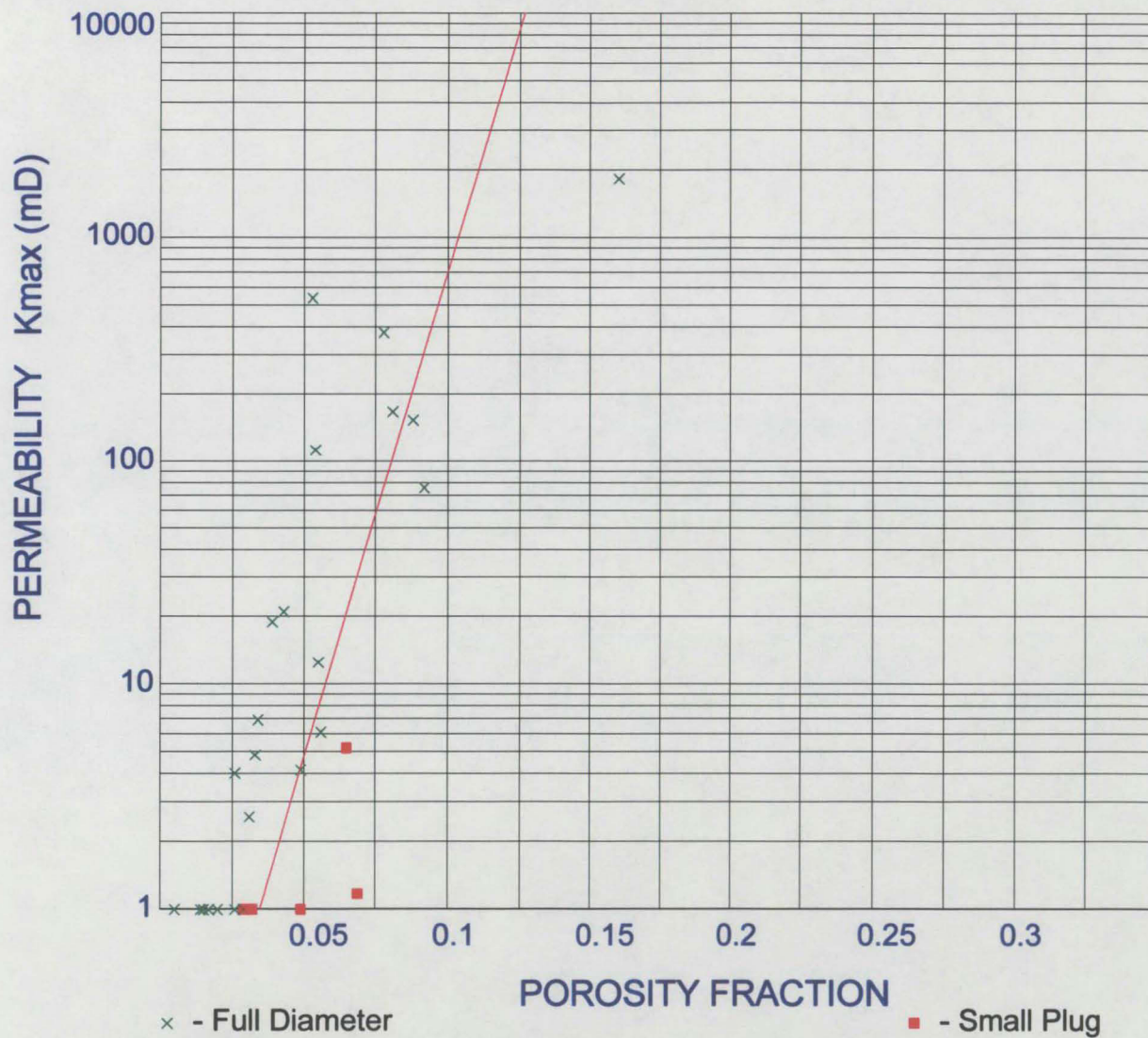
Formation : KEG RIVER DOLOMITE

FIGURE : 4

Date : 17-Apr-2003

AGAT Job : RC11019

POROSITY-PERMEABILITY CORRELATION



Equation of Line : $\text{Log (Kmax)} = -1.5 + 43.43 * \text{Porosity}$
Correlation Coefficient $r = 0.77$

GENERAL LITHOLOGICAL DESCRIPTIONS

Company : PARAMOUNT RESOURCES LTD.
 Well : PARA et al CAMERON
 Location : M-49
 Formation : KEG RIVER DOLOMITE
 Drilling Fluid : WATER BASE MUD

DATE: 04-17-2003
 W/O Number : RC11019
 Cored Interval : 1) 1457.00-1470.00m

Recovery : 1) 12.10m

GENERAL LITHOLOGICAL DESCRIPTIONS

CORE	DEPTH INTERVAL	CORE ANALYSIS	LITHOLOGY	REMARKS
1	1457.00-1458.65	001P 001-005	Dolomite (Mudstone/ Wackestone)	Medium to light grey dolo-mudstone/wackestone; hard; microcrystalline to fine crystalline; rare small to medium size vugs/molds; occasional stylolitized argillaceous laminae; local horizontal and vertical fractures; gradational base; original texture destroyed due to pervasive dolomitization. Poor to fair intercrystalline and vuggy porosity (locally tight); patchy oil stain with yellow fluorescence; patchy yellow chloroethane cut.
1	1458.65-1460.85	002P-SP005P 006-SP008	Dolomite (Floatstone /Wackestone)	Medium grey dolomite; minor to abundant <u>Amphipora</u> fragments in a dolo-mudstone matrix; towards the base scattered coral fragments; trace brachiopod and gastropod shell fragments; common horizontal and vertical fractures (locally rubbly); local small to medium size vugs/molds; occasional stylolitized argillaceous laminae; gradational base. Fair to poor interparticle/intercrystalline and vuggy porosity (locally tight); patchy to even oil stain with orange-yellow fluorescence; patchy to even yellow chloroethane cut.
1	1460.85-1469.10	006P-011P 009-SP025	Dolomite (Mudstone/ Wackestone)	Medium to light grey dolomite; scattered bivalve and <u>Amphipora</u> fragments; common small to medium size vugs/molds (locally lined with druzy dolomite or filled with sparry calcite); at about 1463.00m ten centimetres thick <u>Amphipora</u> floatstone/packstone bed; local small to medium size vugs/molds; occasional stylolitized argillaceous laminae; rare medium amplitude stylolites; local horizontal and vertical fractures; original texture destroyed due to pervasive dolomitization. Tight (locally poor to good intercrystalline/interparticle and vuggy porosity); patchy oil stain with yellow fluorescence; patchy yellow chloroethane cut.
1	1469.10-1470.00	NA	LC	Lost core.

SAMPLE HANDLING

AGAT LABORATORIES CORE SERVICES

SAMPLE HANDLING AND ANALYSIS INFORMATION

Company : PARAMOUNT RESOURCES LTD.
Well : PARA et al CAMERON
Location : M-49

Coring Equipment : Diamond
Coring Fluid : Water Base Mud
Core Diameter : 0.10 m
Total Cored : 13.00 m
Total Recovered : 12.10 m

W/O Number : RC11019
Date : 17-Apr-2003

HANDLING

Core Transported in : Boxes
Cutting Solution : Water
Cleaning Solvent : Toluene
Extraction : Vapour Phase
Cleaning Time : 456 hours
Drying Equipment : Convection oven
Drying Time/Temp : 48 hours @ 108°C

ANALYSIS

Grain volume measured by Boyle's Law using helium
Bulk volume measured by calipering on right-cylindrical samples
Fluid saturation by retort on end pieces
Permeability measured on .10m full diameter samples
Permeability measured on 38.1mm diameter drilled plugs
Full diameter core sandblasted kh measurements

REMARKS

2 SETS OF COLOR/UV PHOTOS (PLUS REPORT/PHOTO IMAGES ON CD)



ABBREVIATIONS

COMMON ABBREVIATIONS

abnt	Abundant	C	Coarse (ly)	f	Fine (ly)
abv	Above	calc	Calcite (areous)	fau	Fauna
Alg	Algae (al)	carb	Carbonaceous	Fe	Iron-Ferruginous
alt	Altered (ing)	cbl	Cobble (64-256 mm)	Fe-mag	Ferromagnesian
amor	Amorphous	Ceph	Cephalopod	fenst	Fenestral
Amph	Amphipora	cgl	Conglomerate	fis	Fissile
ang	Angular	chk	Chalk (y)	fl	Fill (ed)
anhy	Anhydrite (ic)	chlor	Chlorite	fld	Feldspar (thic)
app	Appear	cht	Chert	flk	Flake
apr	Apparent	chty	Cherty	flky	Flaky
aprox	Approximate (ly)	cl	Clastic	flor	Fluorescence
arg	Argillaceous	cln	Clean	flt	Fault (ed)
ark	Arkose (ic)	clr	Clear	fltq	Floating
asph	Asphalt (ic)	cly	Clay (ey)	foram	Foraminifera
AST	Assigned similar to (no actual sample taken)	com	Common	fos	Fossil (iferous)
apha	Aphanitic	coq	Coquina	fr	Fair
		Cor	Coral	frac	Fracture (ed)
bcm	Become (ing)	crbnt	Carbonate	frag	Fragment (al)
bd	Bed	Crin	Crinoid (al)	fri	Friable
bdd	Bedded	crm	Cream	frmwk	Framework
bdg	Bedding	crpxl	Cryptocrystalline	fros	Frosted
Belm	Belemnites	ctc	Contact		
bent	Bentonite (ic)	deb	Debris	g	Good
bf	Buff	decr	Decrease (ing)	Gast	Gastropod
biocl	Bioclastic	desi	Desiccation	gl	Glass (y)
bioturb	Bioturbated	dism	Disseminated	glau	Glauconite (ic)
bit	Bitumen (inous)	dk	Dark (er)	gn	Green
bl	Blue (ish)	dns	Dense (er)	gr	Grain (ed)
blk	Black	dol	Dolomite (ic)	gran	Granular
blky	Blocky	drsy	Drusy	grd	Grade (ed)
bnd	Band (ed)	dtrl	Detrital (us)	grnl	Granule (2-4 mm)
Brac	Brachiopod			gy	Grey
brec	Breccia (ted)	elg	Elongate	gyp	Gypsum (iferous)
bri	Bright	euhed	Euhedral		
brit	Brittle				
brn	Brown				
Bry	Bryozoa				
bulb	Bulbous				
bur	Burrowed				

COMMON ABBREVIATIONS (CONTINUED)

hd	Hard	m	Medium	pk	Pink
hfrac	Horizontal Fracture	mar	Maroon	plag	Plagioclase
hi	High	mas	Massive	plcy	Pelecypod
hrtl	Horizontal	mat	Material, matter	pl	Plant
hvy	Heavy	mica	Mica (ceous)	plty	Platy
hydc	Hydrocarbon	mic	Micro	por	Porous (sity)
ig	Igneous	mky	Milky	pos	Possible (ility)
imbed	Imbedded	mnr	Minor	p-p	Pin-Point
imp	Impression	mnrl	Mineral (ized)	pred	Predominant (ly)
incl	Included (sion)	mnut	Minute	prim	Primary
incr	Increase	Mol	Mollusca	prob	Probable (ly)
indst	Indistinct	mot	Mottled	prom	Prominent (ly)
intbd	Interbedded	mrly	Marly	pt	Part (ly)
intcl	Intraclast (s)	mtx	Matrix	ptch	Patch (es)
intfrag	Interfragmental	n	No, none, non	ptg	Parting
intgran	Intergranular	nod	Nodule	purp	Purple
intlam	Interlaminated	num	Numerous	pyr	Pyrite (ic) (ized)
intr	Intrusion (ive)	o	Oil	pyrbit	Pyrobitumen
intv	Interval	occ	Occasional	qtz	Quartz
intxl	Intercrystalline	od	Odor	qtzc	Quartzitic
ireg	Irregular	ool	Oolite (ic)	qtzs	Quartzose
ird	Iridescent	op	Opaque	rd	Round (ed)
intrsk	Intraskeletal	org	Organic	repl	Replaced (ing) (ment)
kao	Kaolin	orng	Orange	rexl	Recrystallized
lam	Laminated	orth	Orthoclase	rmn	Remains (nant)
lchd	Leached	Ost	Ostracod	rr	Rare
len	Lentil (cular)	ovgth	Overgrowth	rsns	Resinous
lith	Lithographic	ox	Oxidized	rthy	Earthy
lmy	Limy	p	Preliminary (as suffix)	s	Small
lrg	Large (er)	pbl	Pebble (4-64 mm)	sa	Salt (y)
ls	Limestone	pel	Pellet	S	Sulphur
lse	Loose	perm	permeability	s&p	Salt & Pepper
lstr	Lustre	pet	Petroleum (iferous)	sat	Saturated
lt	Light (er)	phos	Phosphate (ic)	sb	Sub

COMMON ABBREVIATIONS (CONTINUED)

sc	Scales	tab	Tabular	xbd	Cross-bedded
scat	Scattered	tex	Texture	xbdg	Cross-bedding
sd	Sand (1/16 - 2mm)	Tham	Thamnopora	xl	Crystal (line)
sdv	Sandy	thk	Thick	xlam	Cross-laminated
sec	Secondary	thn	Thin		
sed	Sediment (ary)	thru	Throughout	yel	Yellow
sft	Soft	tr	Trace		
sh	Shale	trns	Translucent	zn	Zone
shad	Shadow	trnsp	Transparent		
shy	Shaly	tt	Tight	*	Broken core
sid	Siderite (ic)	tub	Tubular	/	With
sil	Silica			> 10000	Permeability over 10000 mD
sks	Slickensided	uncons	Unconsolidated	< 0.01	Permeability less than 0.01 mD
sl	Slight (ly)	unident	Unidentifiable	CC	Cracked Core
sln	Solution	up	Upper	DR	Drilled
slt	Silt			LC	Lost Core
sltst	Siltstone	v	Very	RU	Rubble
slty	Silty	var	Variable	mD	milliDarcy
sm	Smooth	vcol	Varicolored		
SP	Small Plug (as prefix)	vfrac	Vertical Fracture		
sp	Spot (ted) (ty)	vgt	Varigated		
spec	Speck (led)	vn	Vein		
spl	Sample	vrtl	Vertical		
srt	Sort (ed) (ing)	vug	Vug (gy) (ular)		
strg	Stringer				
Strom	Stromatoporoid	w	Well		
stromlt	Stromatolite	wh	White		
struc	Structure	wk	Weak		
styl	Stylolite (ic)	wthrd	Weathered		
suc	Sucrosic	wtr	Water		
sug	Sugary	wvy	Wavy		
sup	Supported	wxy	Waxy		
surf	Surface	wsrt	Well sorted		
sz	Size				



CORE LOG

COMPANY : PARAMOUNT RESOURCES LTD.

LOCATION : M-49

WELL : PARA et al CAMERON

FORMATION : KEG RIVER DOLOMITE

FIELD :

JOB : RC11019

DEPTH SCALE 1 : 240

AGAT® Laboratories



RECOVERY : 12.10 M

CORED INTERVAL : 1457.00-1470.00

DRLG. FLD. : WATER BASE MUD

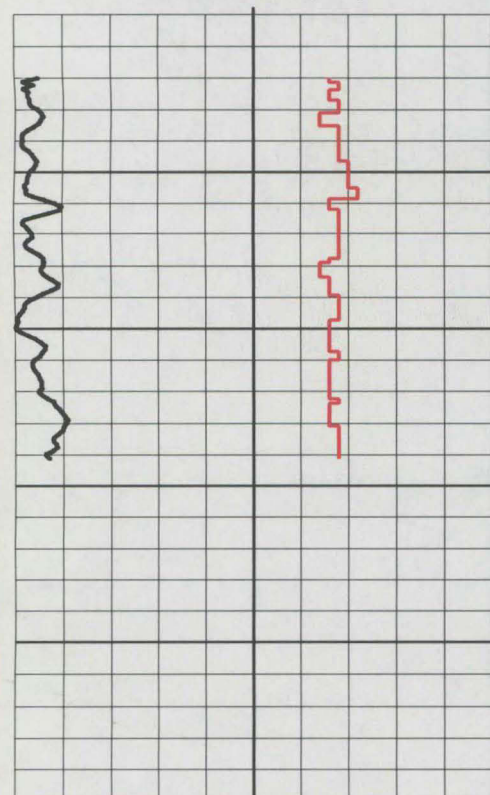
ELEVATION : KB:

GRD :

DATE : 17-Apr-2003

CORE LOG

2500 GRAIN DENSITY (Kg/m³) 3000
0 GAMMA RAY (API) 150



Depth

1460

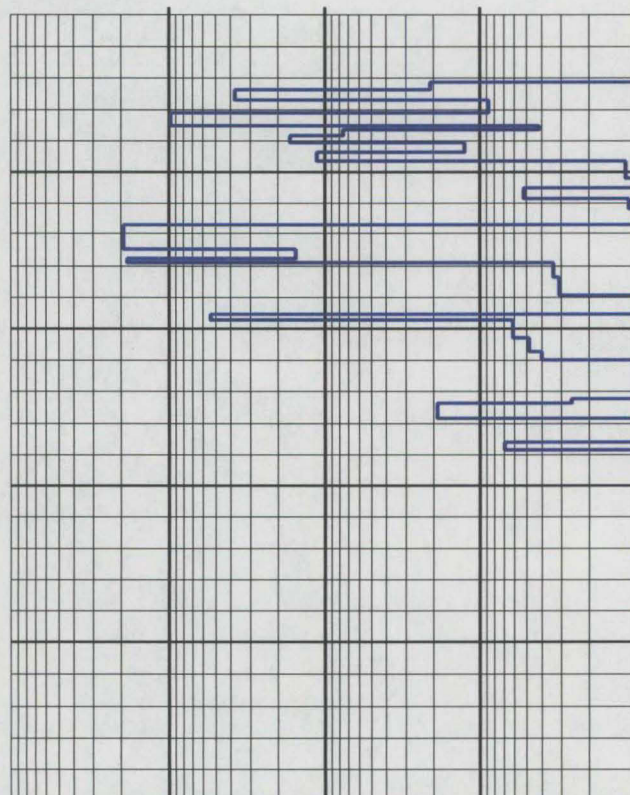
1465

1470

1475

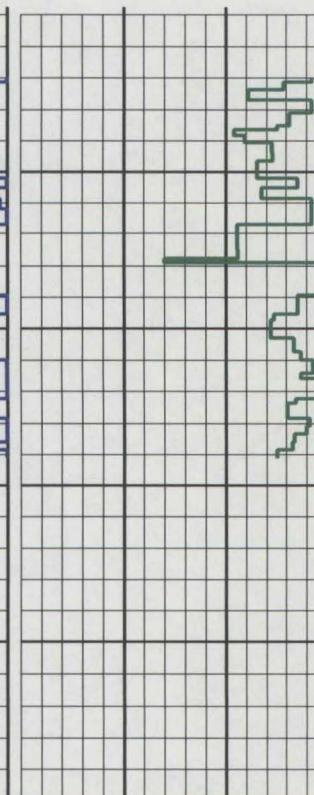
Permeability-Kmax (mD)

10000



Porosity (frac)

1 0.3



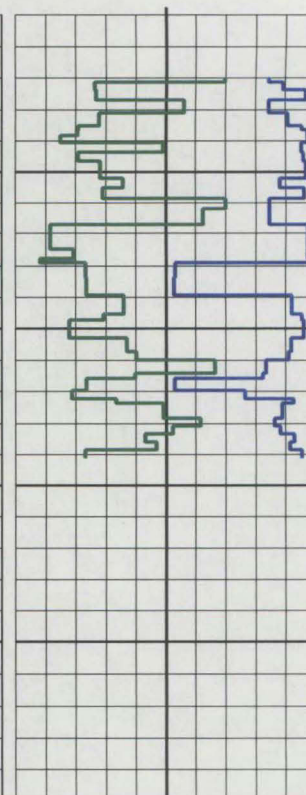
Sat'n (frac PV)

Water (Sw)

Oil (So)

0

1



COMPANY : PARAMOUNT RESOURCES LTD.

LOCATION : M-49

WELL : PARA et al CAMERON

FORMATION : KEG RIVER DOLOMITE

FIELD :

JOB : RC11019

DEPTH SCALE 1 : 240

AGAT® Laboratories



RECOVERY : 12.10 M

CORED INTERVAL : 1457.00-1470.00

DRLG. FLD. : WATER BASE MUD

ELEVATION : KB:

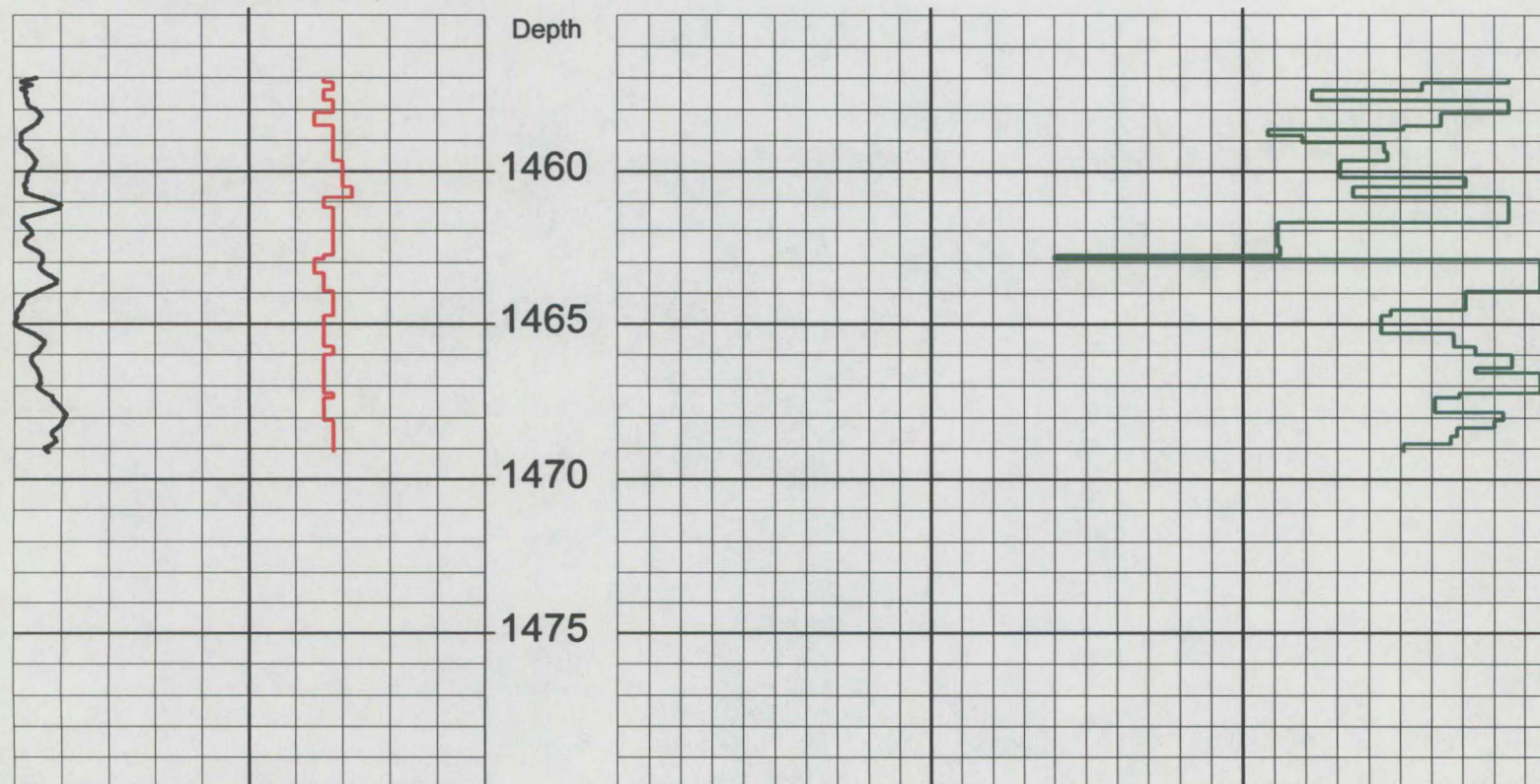
GRD :

DATE : 17-Apr-2003

CORE LOG

2500 GRAIN DENSITY (Kg/m³) 3000
0 GAMMA RAY (API) 150

0.3 Porosity (fraction) 0



COMPANY : PARAMOUNT RESOURCES LTD.

LOCATION : M-49

WELL : PARA et al CAMERON

FORMATION : KEG RIVER DOLOMITE

FIELD :

JOB : RC11019

DEPTH SCALE 1 : 240

AGAT® Laboratories



RECOVERY : 12.10 m

CORED INTERVAL : 1457.00-1470.00 m

DRLG. FLD. : WATER BASE MUD

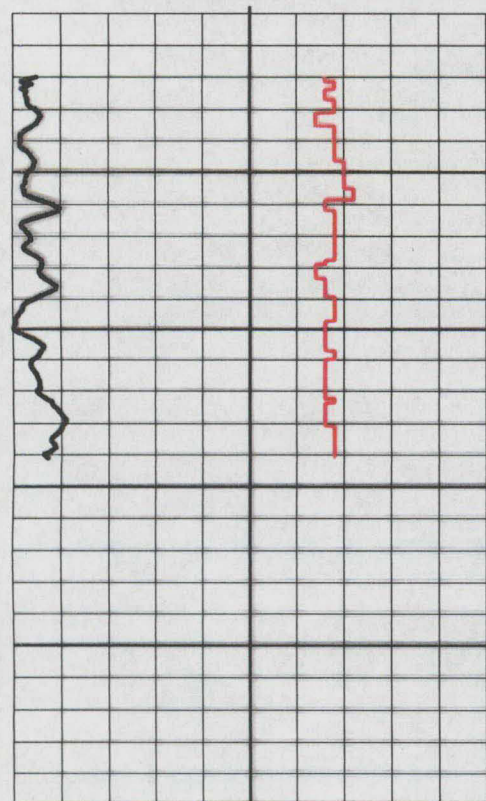
ELEVATION : KB:

GRD :

DATE : 17-Apr-2003

CORE LOG

2500 GRAIN DENSITY (Kg/m³) 3000
0 GAMMA RAY (API) 150



Depth

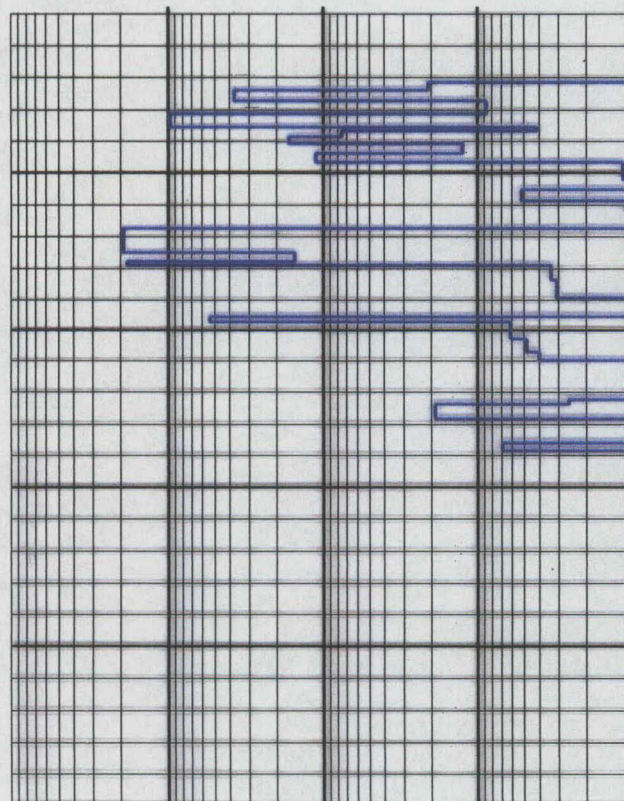
1460

1465

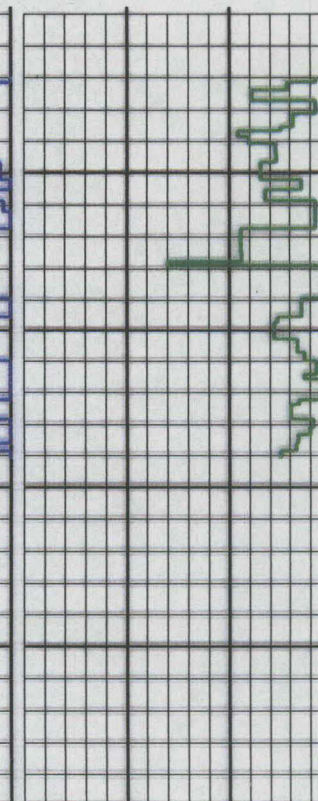
1470

1475

10000 Permeability-Kmax (mD)



1 0.3 Porosity (frac)



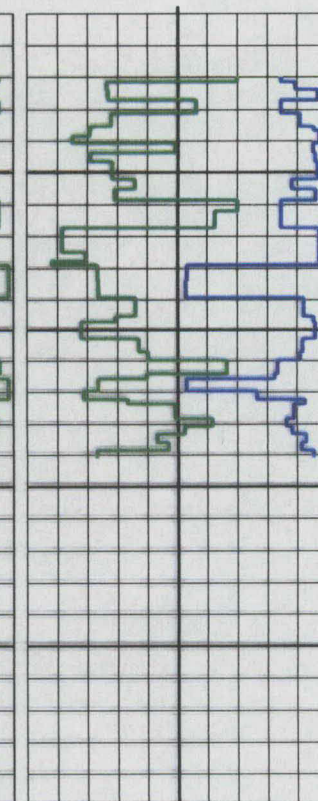
Sat'n (frac PV)

Water (Sw)

0

Oil (So)

1



COMPANY : PARAMOUNT RESOURCES LTD.

LOCATION : M-49

WELL : PARA et al CAMERON

FORMATION : KEG RIVER DOLOMITE

FIELD :

JOB : RC11019

DEPTH SCALE 1 : 240



RECOVERY : 12.10 m

CORED INTERVAL : 1457.00-1470.00 m

DRLG. FLD. : WATER BASE MUD

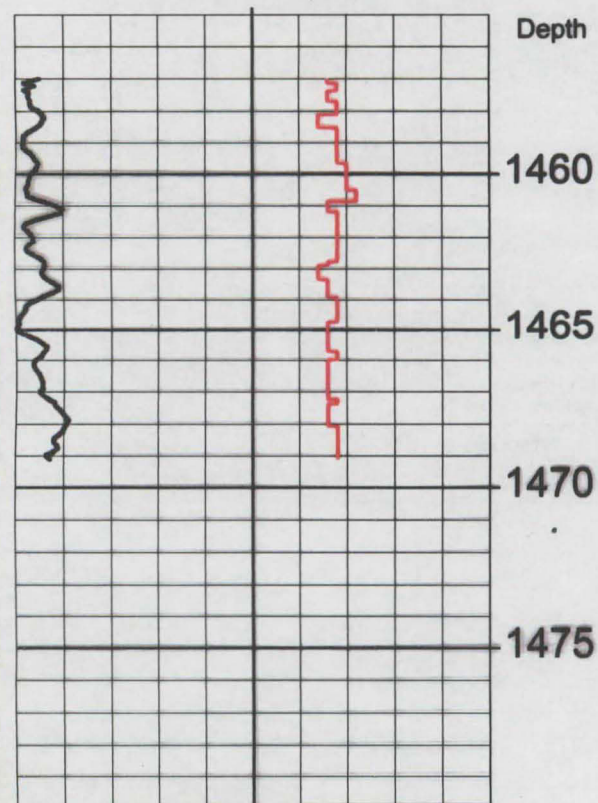
ELEVATION : KB:

GRD :

DATE : 17-Apr-2003

CORE LOG

2500 GRAIN DENSITY (Kg/m³) 3000
0 GAMMA RAY (API) 150



0.3 Porosity (fraction) 0

