



CCI/5598/88

ANALYSIS & TESTING
OF EIGHT SAMPLES FOR
PETROGRAPHIC ANALYSIS

DURROON 1
PELICAN 2
PELICAN 4
PELICAN 5
AROO 1



SEPTEMBER 1991

ORIGIN: Department of Resources & Energy JOB NO: A7970
DESCRIPTION: 8 Samples for Petrographic Analysis DATE REC'D: 10/9/91
REPORTED TO: Mr Peter Baillie

OUR REFERENCE

YOUR REFERENCE

A7970/78521	Durroom 1 Core 4 8421-24' Coal
A7970/78522	Pellicam-2 9787'
A7970/78523	Pellicam-2 Core 3 9917'
A7970/78524	Pellicam-4 Core 1 9351' Coal from Stringers
A7970/78525	Pellicam-4 Core 2 9371' Coal from Thick Bed
A7970/78526	Pellicam-4 Core 2 9365' Coal from 2' Thick Bed
A7970/78527	Pellicam-5 2791.7m Coal
A7970/78528	Aroo-1 Core 1 9527' Coal

REPORTED BY: *Andra Atkinson*

DATED: 3/10/91



COAL PETROGRAPHIC ANALYSIS

CLIENT:
SAMPLE SAMPLE 78521

REPORT # A7970
DATE 19/09/91

Maceral Group	%	%mmf	Maceral Sub Group	Maceral Textinite	%	%mmf
ISO7404/BS6127/AS2856			Telovitrinite	Textinite		
				Textu-ulminite		
				Eu-ulminite		
				Telocollinite	2.0	4.0
				Attrinite		
Vitrinite	16.1	31.8	Detrovitrinite	Densinite		
				Desmocollinite	14.1	27.8
				Corpogelinite		Trace
			Gelovitrinite	Porigelinite		
				Eugelinite		
				Sporinite	1.4	2.8
Exinite/ Liptinite	1.7	3.4		Cutinite	0.3	0.6
				Resinite		Trace
				Liptodetrinite		Trace
				Alginite		
				Suberinite		
				Fluorinite		
				Exsudatinite		
				Bituminite		
				Fusinite	0.8	1.5
				Semifusinite)	23.8	46.9
				Sclerotinite)		
Inertinite	32.9	64.8	Detro-inertinite	Inertodetrinite	7.8	15.4
				Micrinite	0.3	0.6
				Gelo-inertinite	0.2	0.3
Minerals	49.2		Macrinite			
					49.2	
	100.0	100.0			100.0	100.0
Points counted		638				

woody

non woody

woody

non woody

COMMENTS: Minerals mainly shales, much disseminated clays and carbonate, trace pyrite.

ANALYSIS: Applied Petrographic Services. Ref: APS1224/2982/CCI/48N.
Maceral subgroups and macerals defined in AS2856; maceral groups according to ISO7404, BS6127 & AS2856, based on ICCP guidelines.

Reported by:

Sandra Atkinson

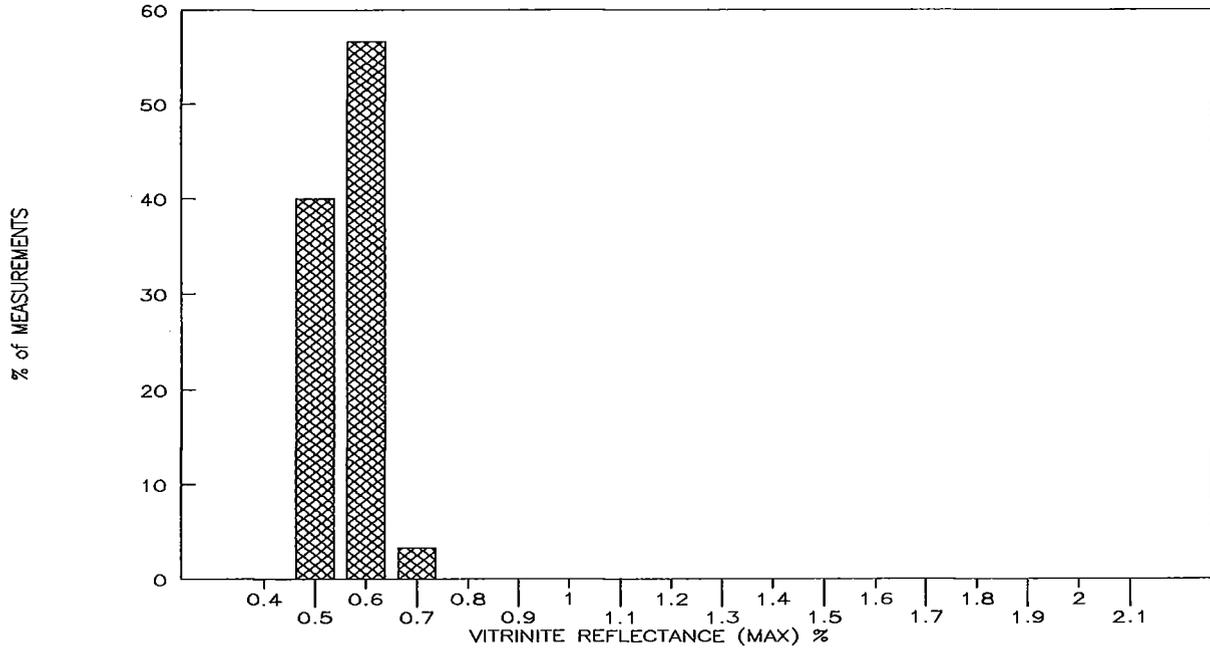


COAL PETROGRAPHIC ANALYSIS

CLIENT:
SAMPLE SAMPLE 78521

REPORT A7970
DATE 19/09/91

REFLECTANCE HISTOGRAM ALL VITRINITE



REFLECTANCE: ISO7404/BS6127/AS2486

	Ro MAX%	No.	Mn%	RANGE Mx%	S.D.
TELOCOLLINITE	0.65	9	0.61	0.69	0.03
DESMOCOLLINITE	0.59	21	0.52	0.72	0.05
ALL VITRINITE	0.61	30	0.52	0.72	0.05

VITRINITE REFLECTANCE DISTRIBUTION

	V5	V6	V7
TELOCOLLINITE %		30.0	
DESMOCOLLINITE %	40.0	26.7	3.3
ALL VITRINITE %	40.0	56.7	3.3

	TOTAL
TELOCOLLINITE %	30.0
DESMOCOLLINITE %	70.0
ALL VITRINITE %	100.0

ANALYSIS: Applied Petrographic Services
REF: APS1224/2982/CCI/48N.

Reported by:

Sandra Atkinson



COAL PETROGRAPHIC ANALYSIS

CLIENT:
SAMPLE SAMPLE 78522

REPORT # A7970
DATE 19/09/91

Maceral Group ISO7404/BS6127/AS2856	%	%mmf	Maceral Sub Group	Maceral Textinite	%	%mmf
			Telovitrinite	Textu-ulminite Eu-ulminite Telocollinite	30.2	31.2
Vitrinite	69.9	72.2	Detrovitrinite	Attrinite Densinite Desmocollinite	39.7	41.0
			Gelovitrinite	Corpogelinite Porigelinite Eugelinite		Trace
Exinite/ Liptinite	26.3	27.1		Sporinite Cutinite Resinite Liptodetrinite Alginite Suberinite Fluorinite Exsudatinitite Bituminite	5.8 0.3 20.2	6.0 0.4 20.8
						Trace
			Telo-inertinite	Fusinite Semifusinite) Sclerotinite)	0.2	0.2
Inertinite	0.7	0.7	Detro-inertinite	Inertodetrinite Micrinite	0.5	0.5
			Gelo-inertinite	Macrinite		
Minerals	3.1				3.1	
	-----	-----			-----	-----
	100.0	100.0			100.0	100.0
Points counted		589				

COMMENTS: Minerals mainly disseminated clays, trace carbonate, pyrite and quartz.

ANALYSIS: Applied Petrographic Services. Ref: APS1224/2983/CCI/48N.
Maceral subgroups and macerals defined in AS2856; maceral groups according to ISO7404, BS6127 & AS2856, based on ICCP guidelines.

Reported by:

Dandra Atkinson

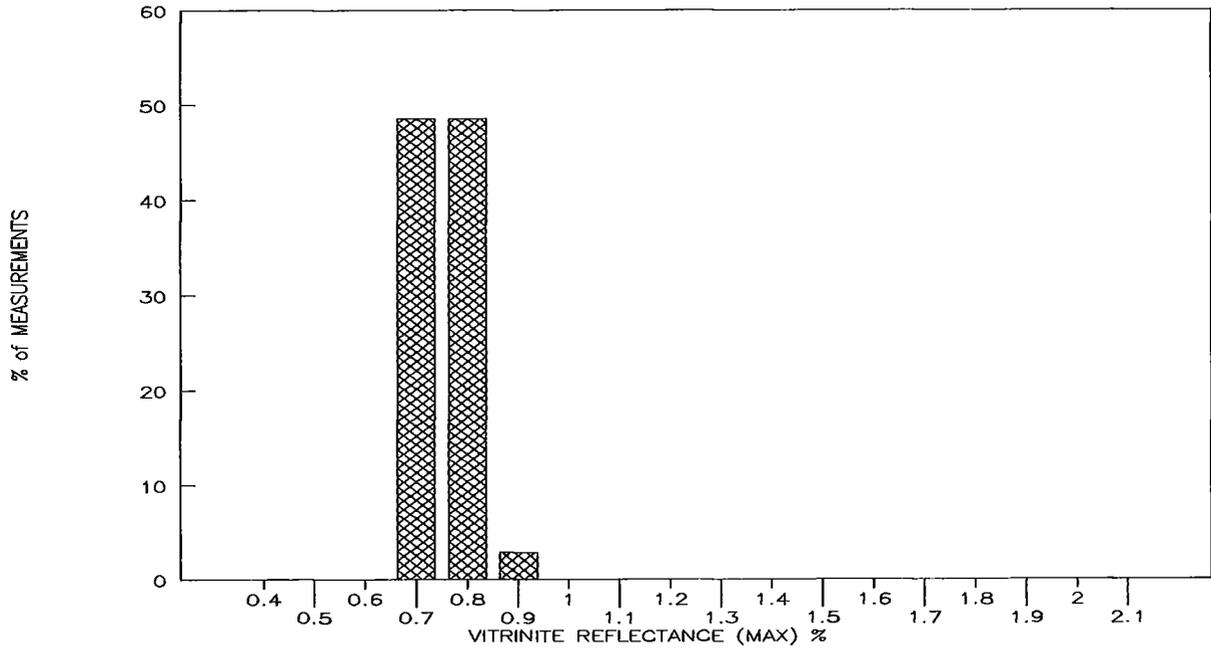


COAL PETROGRAPHIC ANALYSIS Page 5 of 17

CLIENT:
SAMPLE SAMPLE 78522

REPORT A7970
DATE 19/09/91

REFLECTANCE HISTOGRAM
ALL VITRINITE



REFLECTANCE: ISO7404/BS6127/AS2486

	Ro MAX%	No.	Mn%	RANGE Mx%	S.D.
TELOCOLLINITE	0.84	30	0.79	0.92	0.03
DESMOCOLLINITE	0.76	40	0.7	0.81	0.03
ALL VITRINITE	0.79	70	0.7	0.92	0.05

VITRINITE REFLECTANCE DISTRIBUTION

	V7	V8	V9
TELOCOLLINITE %	1.4	38.6	2.9
DESMOCOLLINITE %	47.1	10.0	
ALL VITRINITE %	48.6	48.6	2.9

	TOTAL
TELOCOLLINITE %	42.9
DESMOCOLLINITE %	57.1
ALL VITRINITE %	100.0

ANALYSIS: Applied Petrographic Services
REF: APS1224/2983/CCI/48N.

Reported by:

Sandra Atkinson



COAL PETROGRAPHIC ANALYSIS

CLIENT:
SAMPLE SAMPLE 78523

REPORT # A7970
DATE 19/09/91

Maceral Group	%	%mmf	Maceral Sub Group	Maceral Textinite	%	%mmf
ISO7404/BS6127/AS2856			Telovitrinite	Text-to-ulminite		
				Eu-ulminite		
				Telocollinite	42.0	50.7
Vitrinite	68.1	82.2	Detrovitrinite	Attrinite		
				Densinite		
				Desmocollinite	26.1	31.5
			Gelovitrinite	Corpogelinite		Trace
				Porigelinite		
				Eugelinite		
Exinite/ Liptinite	13.0	15.6		Sporinite	9.0	10.8
				Cutinite	2.3	2.8
				Resinite	1.7	2.0
				Liptodetrinite		Trace
				Alginite		
				Suberinite		
				Fluorinite		
				Exsudatinite		
				Bituminite		
				Fusinite	0.2	0.2
			Telo-inertinite	Semifusinite	1.2	1.4
				Sclerotinite		Trace
Inertinite	1.8	2.2	Detro-inertinite	Inertodetrinite	0.5	0.6
				Micrinite		
			Gelo-inertinite	Macrinite		
Minerals	17.1				17.1	
	-----	-----			-----	-----
	100.0	100.0			100.0	100.0
Points counted		602				

COMMENTS: Minerals mainly disseminated clays, trace carbonate, pyrite and quartz.

ANALYSIS: Applied Petrographic Services. Ref: APS1224/2984/CCI/48N.
Maceral subgroups and macerals defined in AS2856; maceral groups according to ISO7404, BS6127 & AS2856, based on ICCP guidelines.

Reported by:

Sandra Atkinson

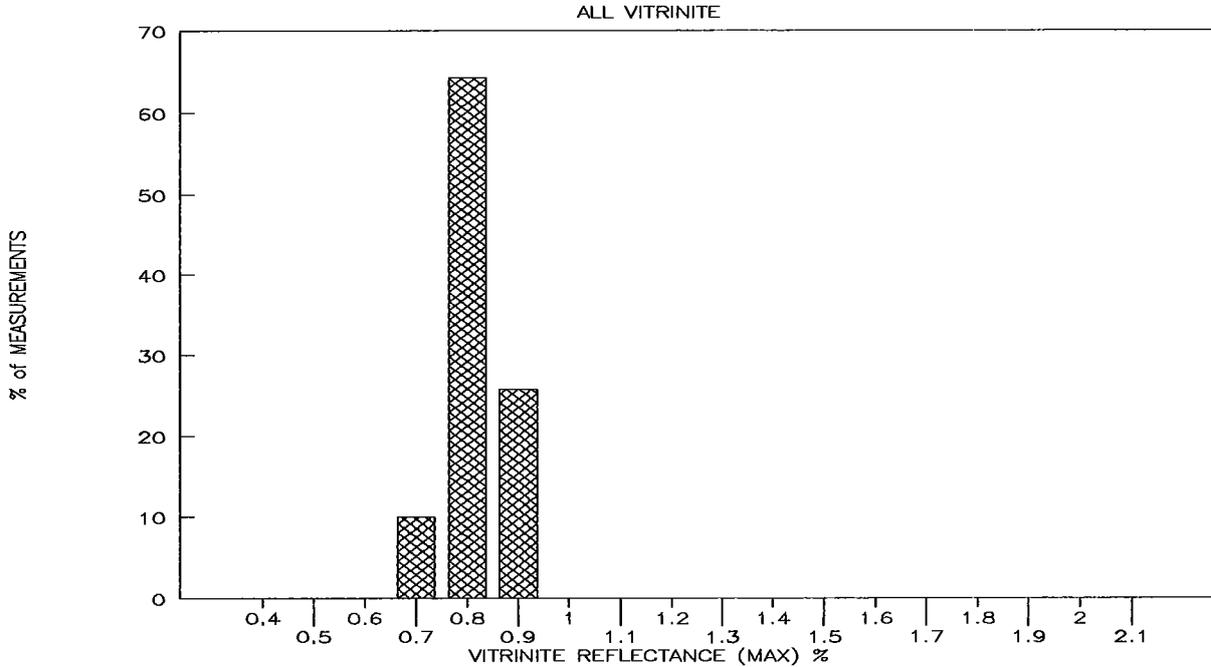


COAL PETROGRAPHIC ANALYSIS Page 7 of 17

CLIENT:
SAMPLE SAMPLE 78523

REPORT A7970
DATE 19/09/91

REFLECTANCE HISTOGRAM



REFLECTANCE: ISO7404/BS6127/AS2486

	Ro MAX%	No.	Mn%	RANGE Mx%	S.D.
TELOCOLLINITE	0.88	43	0.8	0.95	0.03
DESMOCOLLINITE	0.82	27	0.76	0.89	0.03
ALL VITRINITE	0.86	70	0.76	0.95	0.04

VITRINITE REFLECTANCE DISTRIBUTION

	V7	V8	V9
TELOCOLLINITE %		35.7	25.7
DESMOCOLLINITE %	10.0	28.6	
ALL VITRINITE %	10.0	64.3	25.7

	TOTAL
TELOCOLLINITE %	61.4
DESMOCOLLINITE %	38.6
ALL VITRINITE %	100.0

ANALYSIS: Applied Petrographic Services
REF: APS1224/2984/CCI/48N.

Reported by:

Sandra Atkinson



COAL PETROGRAPHIC ANALYSIS Page 8 of 17

CLIENT:
SAMPLE SAMPLE 78524

REPORT # A7970
DATE 19/09/91

Maceral Group ISO7404/BS6127/AS2856	%	%mmf	Maceral Sub Group	Maceral Textinite	%	%mmf
			Telovitrinite	Textu-ulminite Eu-ulminite Telocollinite	60.0	66.6
Vitrinite	67.1	74.4	Detrovitrinite	Attrinite Densinite Desmocollinite	7.0	7.8
			Gelovitrinite	Corpogelinite Porigelinite Eugelinite		
Exinite/ Liptinite	22.7	25.2		Sporinite Cutinite Resinite Liptodetrinite Alginite Suberinite Fluorinite Exsudatinite Bituminite	1.8 20.9	2.0 23.2
				Fusinite Semifusinite Sclerotinite		Trace Trace
Inertinite	0.3	0.4	Detro-inertinite	Inertodetrinite Micrinite	0.3	0.4
			Gelo-inertinite	Macrinite		
Minerals	9.9				9.9	
	-----	-----			-----	-----
	100.0	100.0			100.0	100.0
Points counted		598				

COMMENTS: Minerals mainly shale, sandstone and carbonate, minor disseminated clays, trace pyrite and quartz.

ANALYSIS: Applied Petrographic Services. Ref: APS1224/2985/CCI/48N.
Maceral subgroups and macerals defined in AS2856; maceral groups according to ISO7404, BS6127 & AS2856, based on ICCP guidelines.

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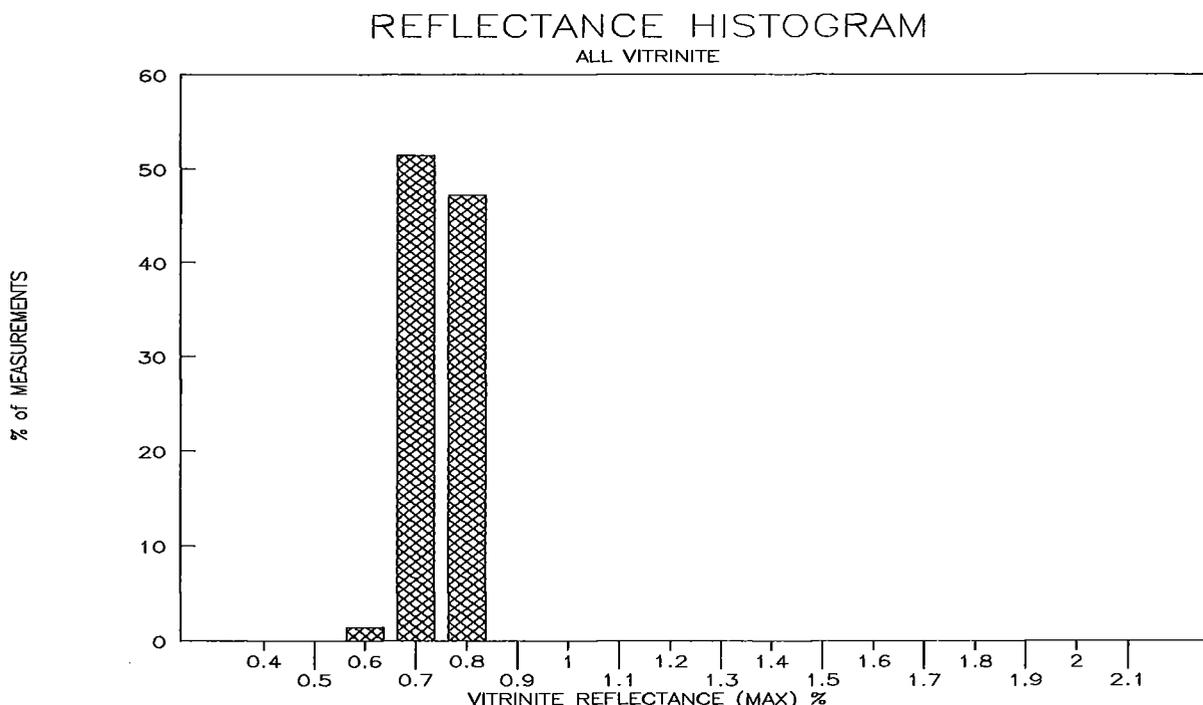
Sandra Atkinson



COAL PETROGRAPHIC ANALYSIS Page 9 of 17

CLIENT:
SAMPLE SAMPLE 78524

REPORT A7970
DATE 19/09/91



REFLECTANCE: ISO7404/BS6127/AS2486

	Ro MAX%	No.	Mn%	RANGE Mx%	S.D.
TELOCOLLINITE	0.80	63	0.71	0.89	0.03
DESMOCOLLINITE	0.75	7	0.69	0.83	0.04
ALL VITRINITE	0.79	70	0.69	0.89	0.03

VITRINITE REFLECTANCE DISTRIBUTION

	V6	V7	V8
TELOCOLLINITE %		44.3	45.7
DESMOCOLLINITE %	1.4	7.1	1.4
ALL VITRINITE %	1.4	51.4	47.1

	TOTAL
TELOCOLLINITE %	90.0
DESMOCOLLINITE %	10.0
ALL VITRINITE %	100.0

ANALYSIS: Applied Petrographic Services
REF: APS1224/2985/CCI/48N.

Reported by:

Sander Otkriason



COAL PETROGRAPHIC ANALYSIS

CLIENT:
SAMPLE SAMPLE 78525

REPORT # A7970
DATE 19/09/91

Maceral Group	%	%mmf	Maceral Sub Group	Maceral Textinite	%	%mmf
ISO7404/BS6127/AS2856			Telovitrinite	Textu-ulminite		
				Eu-ulminite		
				Telocollinite	50.3	58.3
Vitrinite	73.8	85.5	Detrovitrinite	Attrinite		
				Densinite		
				Desmocollinite	23.5	27.3
			Gelovitrinite	Corpogelinite		Trace
				Porigelinite		
				Eugelinite		
Exinite/ Liptinite	12.3	14.3		Sporinite	2.4	2.7
				Cutinite	0.4	0.4
				Resinite	9.6	11.1
				Liptodetrinite		Trace
				Alginite		
				Suberinite		
				Fluorinite		
				Exsudatinite		
				Bituminite		
			Telo-inertinite	Fusinite		
				Semifusinite		Trace
				Sclerotinite		Trace
Inertinite	0.2	0.2	Detro-inertinite	Inertodetrinite	0.2	0.2
				Micrinite		
			Gelo-inertinite	Macrinite		
Minerals	13.7				13.7	
	-----	-----			-----	-----
	100.0	100.0			100.0	100.0
Points counted		553				

COMMENTS: Minerals mainly shale and sandstone, much disseminated clays and carbonate, trace pyrite and quartz.

ANALYSIS: Applied Petrographic Services. Ref: APS1224/2986/CCI/48N.
Maceral subgroups and macerals defined in AS2856; maceral groups according to ISO7404, BS6127 & AS2856, based on ICCP guidelines.

Reported by:

Pandra Atkinson

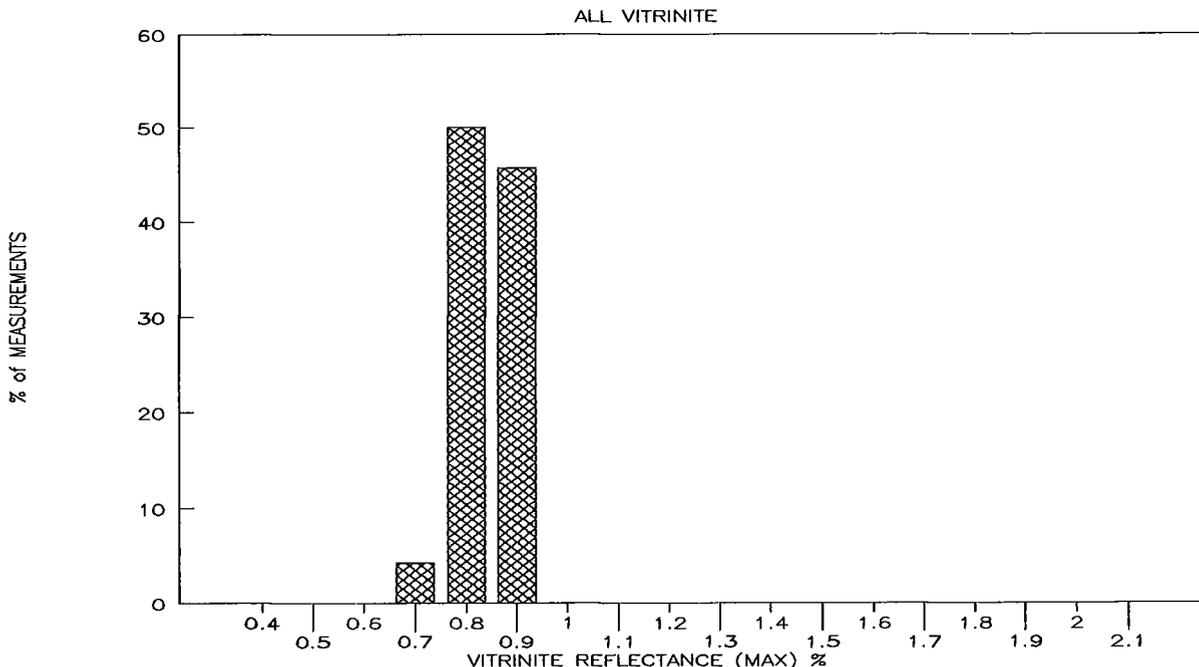


COAL PETROGRAPHIC ANALYSIS Page 11 of 17

CLIENT:
 SAMPLE SAMPLE 78525

REPORT A7970
 DATE 19/09/91

REFLECTANCE HISTOGRAM



REFLECTANCE: ISO7404/BS6127/AS2486

	Ro MAX%	No.	Mn%	RANGE	Mx%	S.D.
TELOCOLLINITE	0.90	48	0.77	0.99		0.04
DESMOCOLLINITE	0.84	22	0.71	0.9		0.04
ALL VITRINITE	0.89	70	0.71	0.99		0.05

VITRINITE REFLECTANCE DISTRIBUTION

	V7	V8	V9
TELOCOLLINITE %	1.4	22.9	44.3
DESMOCOLLINITE %	2.9	27.1	1.4
ALL VITRINITE %	4.3	50.0	45.7

	TOTAL
TELOCOLLINITE %	68.6
DESMOCOLLINITE %	31.4
ALL VITRINITE %	100.0

ANALYSIS: Applied Petrographic Services
 REF: APS1224/2986/CCI/48N.

Reported by:

Sandra Atkinson



COAL PETROGRAPHIC ANALYSIS Page 12 of 17

CLIENT:
SAMPLE SAMPLE 78526

REPORT # A7970
DATE 20/09/91

Maceral Group	%	%mmf	Maceral Sub Group	Maceral	%	%mmf
ISO7404/BS6127/AS2856			Telovitrinite	Textinite Texto-ulminite Eu-ulminite Telocollinite	27.7	28.3
Vitrinite	64.6	66.1	Detrovitrinite	Attrinite Densinite Desmocollinite	37.0	37.8
			Gelovitrinite	Corpogelinite Porigelinite Eugelinite		Trace
Exinite/ Liptinite	8.0	8.2		Sporinite Cutinite Resinite Liptodetrinite Alginite Suberinite Fluorinite Exsudatinite Bituminite	4.1 0.5 3.4	4.2 0.5 3.5 Trace
				Fusinite Semifusinite Sclerotinite	0.4 10.2	0.4 10.4 Trace
Inertinite	25.2	25.7	Detro-inertinite	Inertodetrinite Micrinite	7.3 6.6	7.5 6.8
			Gelo-inertinite	Macrinite	0.7	0.7
Minerals	2.1				2.1	
	-----	-----			-----	-----
	100.0	100.0			100.0	100.0
Points counted		560				

COMMENTS: Minerals mainly disseminated clays, trace carbonate and pyrite.

ANALYSIS: Applied Petrographic Services. Ref: APS1224/2987/CCI/48N.
Maceral subgroups and macerals defined in AS2856; maceral groups according to ISO7404, BS6127 & AS2856, based on ICCP guidelines.

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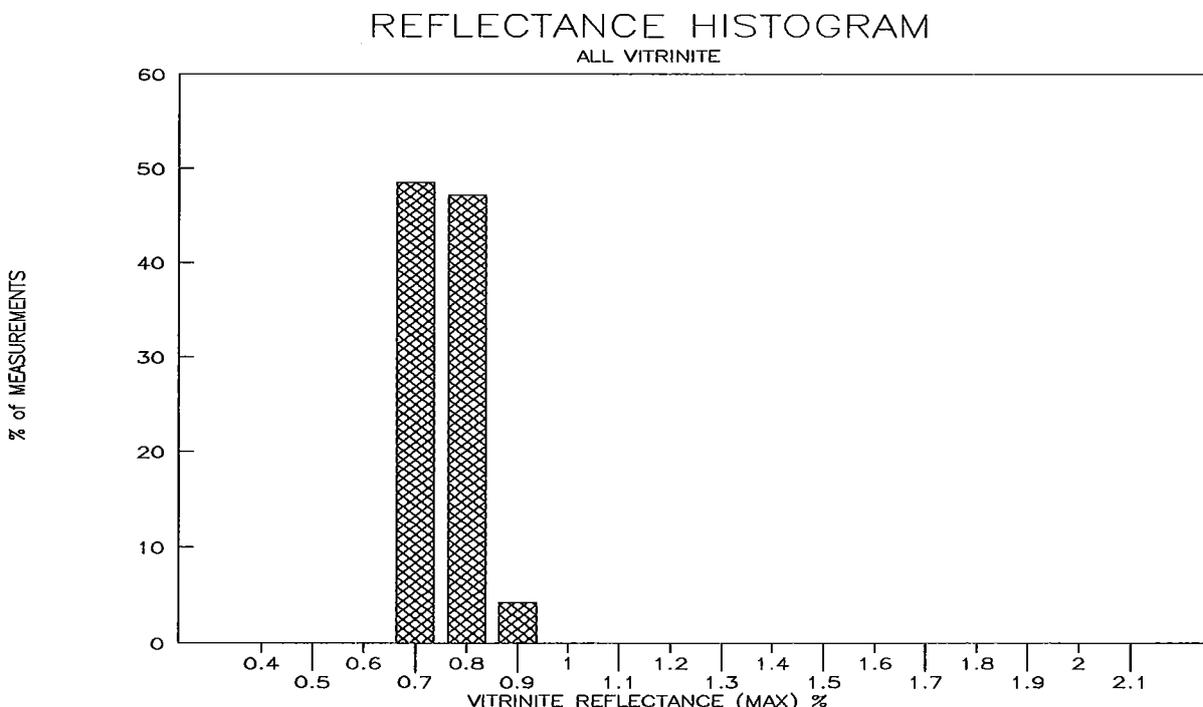
Sandra Atkinson



COAL PETROGRAPHIC ANALYSIS Page 113 of 17

CLIENT:
SAMPLE SAMPLE 78526

REPORT A7970
DATE 20/09/91



REFLECTANCE: ISO7404/BS6127/AS2486

	Ro MAX%	No.	Mn%	RANGE Mx%	S.D.
TELOCOLLINITE	0.84	30	0.78	0.99	0.04
DESMOCOLLINITE	0.77	40	0.73	0.87	0.03
ALL VITRINITE	0.80	70	0.73	0.99	0.05

VITRINITE REFLECTANCE DISTRIBUTION

	V7	V8	V9
TELOCOLLINITE %	2.9	35.7	4.3
DESMOCOLLINITE %	45.7	11.4	
ALL VITRINITE %	48.6	47.1	4.3

	TOTAL
TELOCOLLINITE %	42.9
DESMOCOLLINITE %	57.1
ALL VITRINITE %	100.0

ANALYSIS: Applied Petrographic Services
REF: APS1224/2987/CCI/48N.

Reported by:

Sandra Atkinson



COAL PETROGRAPHIC ANALYSIS Page 14 of 17

CLIENT:
SAMPLE SAMPLE 78527

REPORT # A7970
DATE 20/09/91

Maceral Group	%	%mmf	Maceral Sub Group	Maceral Textinite	%	%mmf
ISO7404/BS6127/AS2856			Telovitrinite	Textu-ulminite		
				Eu-ulminite		
				Telocollinite	21.4	21.7
Vitrinite	64.8	65.5	Detrovitrinite	Attrinite		
				Densinite		
				Desmocollinite	43.4	43.9
			Gelovitrinite	Corpogelinite		Trace
				Porigelinite		
				Eugelinite		
Exinite/ Liptinite	29.6	29.9		Sporinite	9.9	10.0
				Cutinite	0.2	0.2
				Resinite	19.5	19.7
				Liptodetrinite		Trace
				Alginite		
				Suberinite		
				Fluorinite		
				Exsudatinite		
				Bituminite		
			Telo-inertinite	Fusinite		
				Semifusinite)	1.3	1.3
				Sclerotinite)		Trace
Inertinite	4.5	4.5	Detro-inertinite	Inertodetrinite	2.4	2.4
				Micrinite	0.5	0.5
			Gelo-inertinite	Macrinite	0.3	0.3
Minerals	1.1				1.1	
	-----	-----			-----	-----
	100.0	100.0			100.0	100.0
Points counted		625				

COMMENTS: Minerals mainly disseminated clays, trace carbonate, slight trace pyrite.

ANALYSIS: Applied Petrographic Services. Ref: APS1224/2988/CCI/48N.
Maceral subgroups and macerals defined in AS2856; maceral groups according to ISO7404, BS6127 & AS2856, based on ICCP guidelines.

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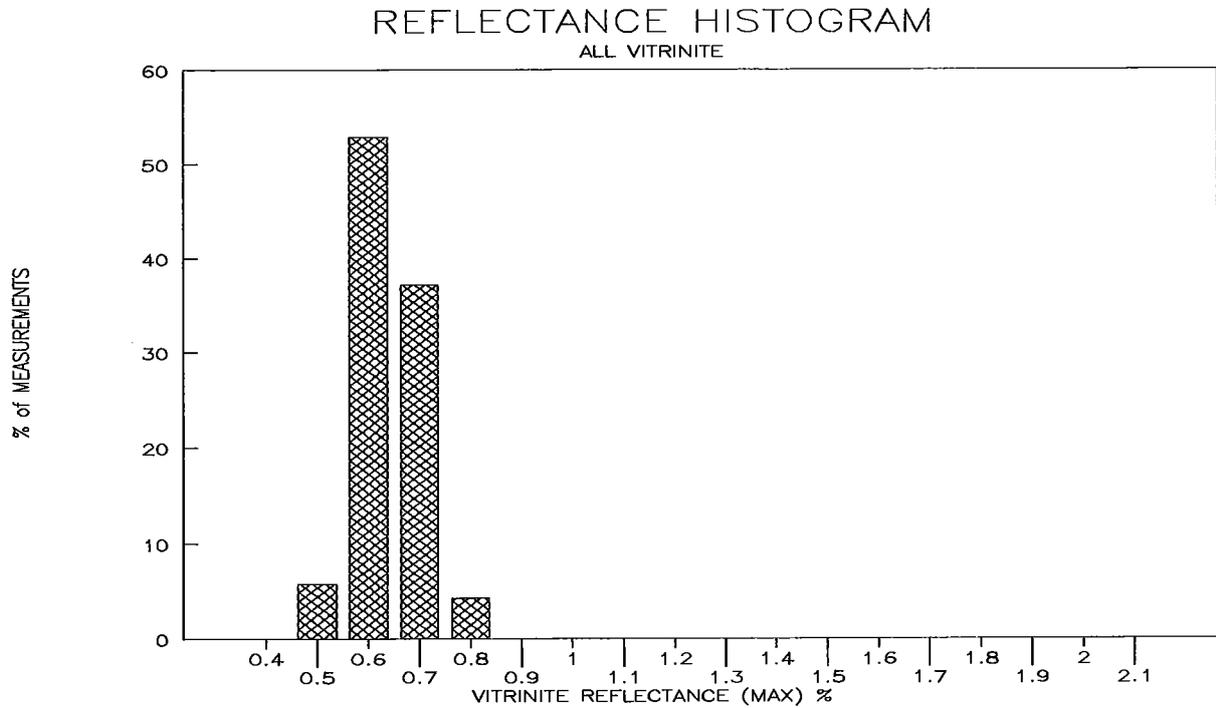
Sanabra Atkinson



COAL PETROGRAPHIC ANALYSIS Page 15 of 17

CLIENT:
SAMPLE SAMPLE 78527

REPORT A7970
DATE 20/09/91



REFLECTANCE: ISO7404/BS6127/AS2486

	Ro MAX%	No.	Mn%	RANGE Mx%	S.D.
TELOCOLLINITE	0.75	23	0.7	0.86	0.04
DESMOCOLLINITE	0.65	47	0.55	0.73	0.04
ALL VITRINITE	0.68	70	0.55	0.86	0.06

VITRINITE REFLECTANCE DISTRIBUTION

	V5	V6	V7	V8
TELOCOLLINITE %			28.6	4.3
DESMOCOLLINITE %	5.7	52.9	8.6	
ALL VITRINITE %	5.7	52.9	37.1	4.3

	TOTAL
TELOCOLLINITE %	32.9
DESMOCOLLINITE %	67.1
ALL VITRINITE %	100.0

ANALYSIS: Applied Petrographic Services
REF: APS1224/2988/CCI/48N.

Reported by:

Sandra Atkinson



COAL PETROGRAPHIC ANALYSIS

CLIENT:
SAMPLE SAMPLE 78528

REPORT # A7970
DATE 20/09/91

Maceral Group	%	%mmf	Maceral Sub Group	Maceral	%	%mmf
ISO7404/BS6127/AS2856			Telovitrinite	Textinite		
				Texto-ulminite		
				Eu-ulminite		
				Telocollinite	14.4	50.9
Vitrinite	26.1	92.1	Detrovitrinite	Attrinite		
				Densinite		
				Desmocollinite	11.7	41.2
			Gelovitrinite	Corpogelinite		Trace
				Porigelinite		
				Eugelinite		
Exinite/ Liptinite	1.7	6.0		Sporinite	0.7	2.3
				Cutinite		
				Resinite	1.0	3.7
				Liptodetrinite		Trace
				Alginite		
				Suberinite		
				Fluorinite		
				Exsudatinite		
				Bituminite		
			Telo-inertinite	Fusinite		
				Semifusinite		Trace
				Sclerotinite		Trace
Inertinite	0.5	1.9	Detro-inertinite	Inertodetrinite	0.4	1.4
				Micrinite	0.1	0.5
			Gelo-inertinite	Macrinite		
Minerals	71.7				71.7	
	-----	-----			-----	-----
	100.0	100.0			100.0	100.0
Points counted		763				

COMMENTS: Minerals mainly shale and sandstone, much disseminated clays, carbonate, pyrite and quartz.

ANALYSIS: Applied Petrographic Services. Ref: APS1224/2989/CCI/48N.
Maceral subgroups and macerals defined in AS2856; maceral groups according to ISO7404, BS6127 & AS2856, based on ICCP guidelines.

Reported by:

Dorinda Atkinson

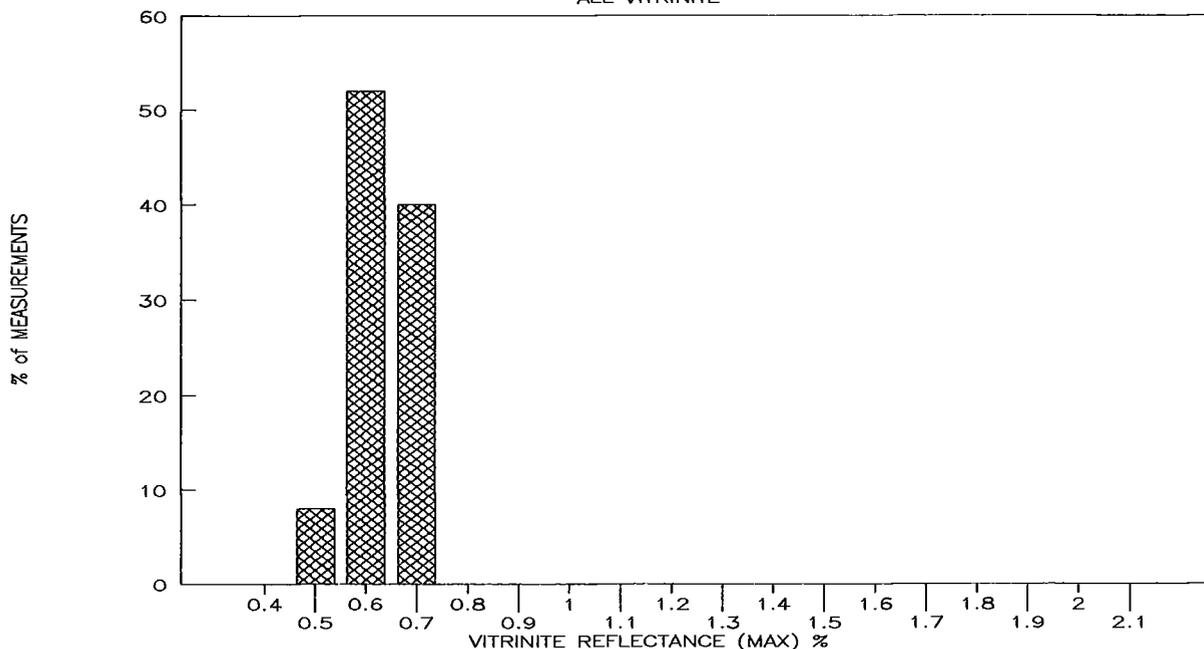


COAL PETROGRAPHIC ANALYSIS

CLIENT:
SAMPLE SAMPLE 78528

REPORT A7970
DATE 20/09/91

REFLECTANCE HISTOGRAM ALL VITRINITE



REFLECTANCE: ISO7404/BS6127/AS2486

	Ro MAX%	No.	Mn%	RANGE Mx%	S.D.
TELOCOLLINITE	0.72	28	0.66	0.79	0.04
DESMOCOLLINITE	0.63	22	0.55	0.7	0.04
ALL VITRINITE	0.68	50	0.55	0.79	0.06

VITRINITE REFLECTANCE DISTRIBUTION

	V5	V6	V7
TELOCOLLINITE %		20.0	36.0
DESMOCOLLINITE %	8.0	32.0	4.0
ALL VITRINITE %	8.0	52.0	40.0

	TOTAL
TELOCOLLINITE %	56.0
DESMOCOLLINITE %	44.0
ALL VITRINITE %	100.0

ANALYSIS: Applied Petrographic Services
REF: APS1224/2989/CCI/48N.

Reported by:

Sandra Otterson