1984/57. Petrographic and proximate analyses of the Merrywood seam, Merrywood Colliery, north-east Tasmania

C.A. Bacon
V.M. Threader

A 300 mm x 200 mm channel sample was collected from the outcrop of the Merrywood seam in the abandoned Merrywood open cut in March 1983. Petrographic analyses of the coal plys were made by SGS, Sydney.

A channel sample was collected from the Merrywood Mine adit portal by V.M. Threader in April 1970. Proximate analyses were made on these samples by the Department of Mines laboratory at Launceston.

The underground workings were dug into the floor of the open cut on the eastern margin of the workings. Coal was produced from both the open cut and underground workings over most of the mine life, the mine operating from 1948 to 1963.

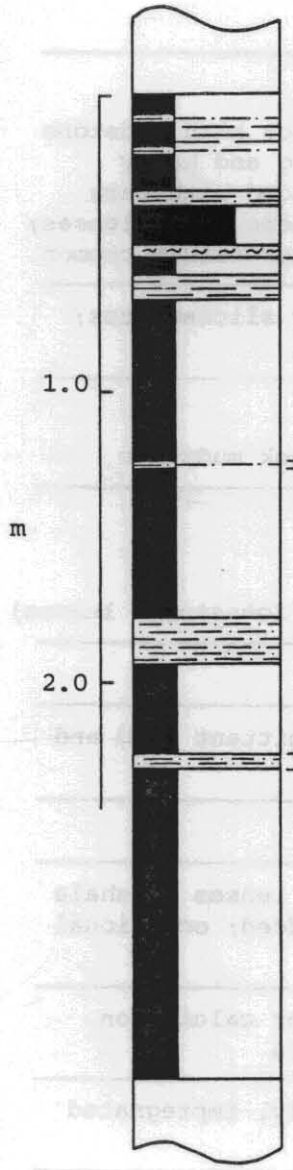
	Proximate analysis sample	*Petrographic analysis sample*
Sampler:	V.M. Threader	C.A. Bacon
Date of sample:	20 April 1970	6 March 1983
Location:	Adit portal	Outcrop in open cut
AMG grid co-ordinates:	EP79407475	EP79357490
Seam thickness:	3.38 m	3.62 m
Roof:	grey mudstone	grey mudstone
Floor:	grey mudstone	grey mudstone

[21 August 1984]

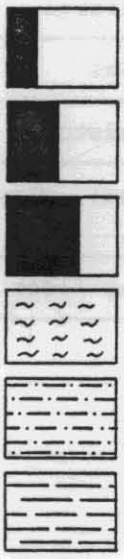
Table 1. SEAM DESCRIPTION, MERRYWOOD SEAM SECTION, AT ADIT PORTAL

Sample	From (m)	To (m)	Thickness (m)	Description
	0	0.089	0.089	dull coal
	0.089	0.102	0.013	band
	0.102	0.203	0.101	shaly coal
	0.203	0.216	0.013	band
A	0.216	0.343	0.127	coal
	0.343	0.381	0.038	band
	0.381	0.533	0.152	coal (mostly vitreous)
	0.533	0.559	0.026	paper coal (compacted *Johnstonia* leaves)
	0.559	0.623	0.064	coal
	0.623	0.660	0.037	black shale
	0.660	0.673	0.013	coal
B	0.673	0.711	0.038	black shale
	0.711	1.270	0.559	clean coal with dull lustre
-	1.270	1.283	0.013	band
	1.283	1.803	0.520	coal with dull lustre
C	1.803	1.969	0.166	band
	1.969	2.261	0.292	coal
-	2.261	2.311	0.050	mudstone
D	2.311	3.378	1.067	coal with dull lustre and vitreous bands; contains white clay on vertical joints

Table 2. PROXIMATE ANALYSES, MERRYWOOD SEAM, SECTION AT ADIT PORTAL



Sample	Moisture (%)	Ash (%)	VCM (%)	FC (%)
A	4.2	45.3	20.8	29.7
B	3.3	21.9	24.3	44.8
C	3.0	25.4	26.8	44.8
D	2.8	18.5	29.5	49.2



Dull coal, <5% bright bands

Dull coal, 5-10% bright bands

Dull coal, 10-15% bright bands

Paper coal (compacted *Johnstonia* leaves)

Grey mudstone

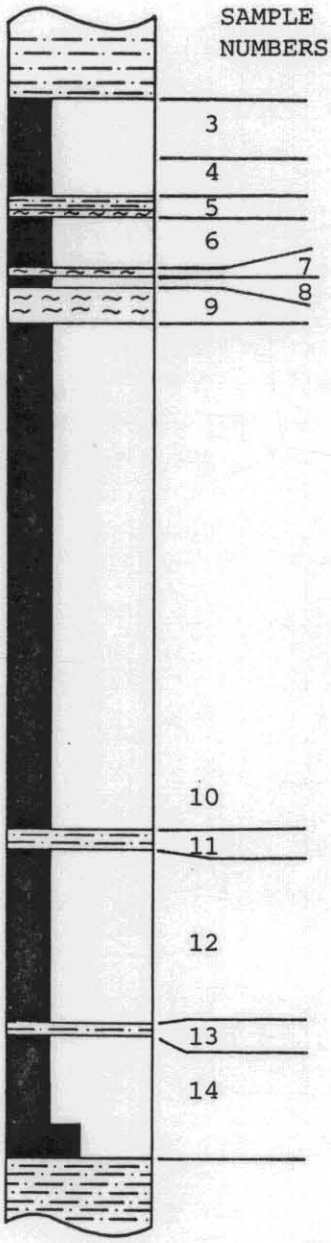
Shale

5 cm

Table 3. SEAM DESCRIPTION, MERRYWOOD SEAM AT OUTCROP IN OPEN CUT

Sample	Thickness (m)	Cumulative thickness (m)	Description
	1.57		brown clayey mudstone
	4.30		grey mudstone with minor hard mudstone bands; section fretting and badly weathered. Finely bedded with rare carbonaceous flecks, some sandy lenses; laminated in part; slickensides common.
3	0.19	0.19	stony coal, muddy, few slickensides; minor bright bands.
4	0.14	0.33	stony coal
	0.01	0.34	sandy carbonaceous black mudstone
	0.03	0.37	mudstone, grey
5	0.01	0.38	stony coal
	0.02	0.40	paper coal (compacted *Johnstonia* leaves)
6	0.18	0.58	dull coal
7	0.03	0.61	paper coal with intermittent sand and mudstone lenses
8	0.04	0.65	dull coal
9	0.12	0.77	paper coal with minor lenses of shale and mudstone, interbedded; occasional bright bands
10	1.73	2.50	dull coal, kaolinite or calcite on cleat, <5% bright bands
11	0.06	2.56	white mudstone, crumbly, impregnated with calcite
12	0.60	3.16	dull coal
13	0.04	3.20	grey mudstone
14	0.42	3.62	dull coal, very bright over basal 100 mm
			mudstone floor

Table 4. GRAPHIC SEAM SECTION, MERRYWOOD SEAM IN OUTCROP IN OPEN CUT.



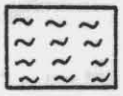
PROXIMATE ANALYSIS*
(Seam Composite)

Moisture	(%)	4.4
Ash	(%)	25.3
Volatile matter	(%)	26.1
Fixed carbon	(%)	44.2

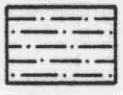
*Air dried basis

Dull coal, <5% bright bands

Dull coal, 5-10% bright bands



Paper coal, (compacted *Johnstonia* sp. leaves)



Grey mudstone

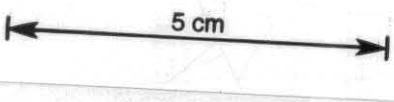


Table 5. PETROGRAPHIC ANALYSES, MERRYWOOD SEAM AT OUTCROP IN OPEN CUT

Sample number	3	4	5	6	7	8	9	10	12	14	Seam composite
VITRINITE	4	21	58	26	44	8	50	19	21	36	20
EXINITE	(9)	(10)	(27)	(11)	(22)	(25)	(44)	(9)	(9)	(5)	(7)
Sporinite	1	1	4	1	2	2	Tr	1	2	1	1
Cutinite	6	6	19	7	14	18	41	6	5	3	4
Resinite	2	3	4	3	6	5	3	2	2	1	2
INERTINITE	(87)	(69)	(15)	(63)	(34)	(67)	(6)	(72)	(70)	(59)	(73)
Semifusinite	70	51	9	45	27	49	3	52	55	46	55
Fusinite	1	3	-	3	Tr	1	-	4	3	4	1
Micrinite	-	2	2	2	2	3	-	1	2	2	Tr
Macrinite	1	4	-	4	Tr	4	Tr	3	3	3	5
Inertodetrinite	15	9	4	9	5	10	3	12	7	4	12

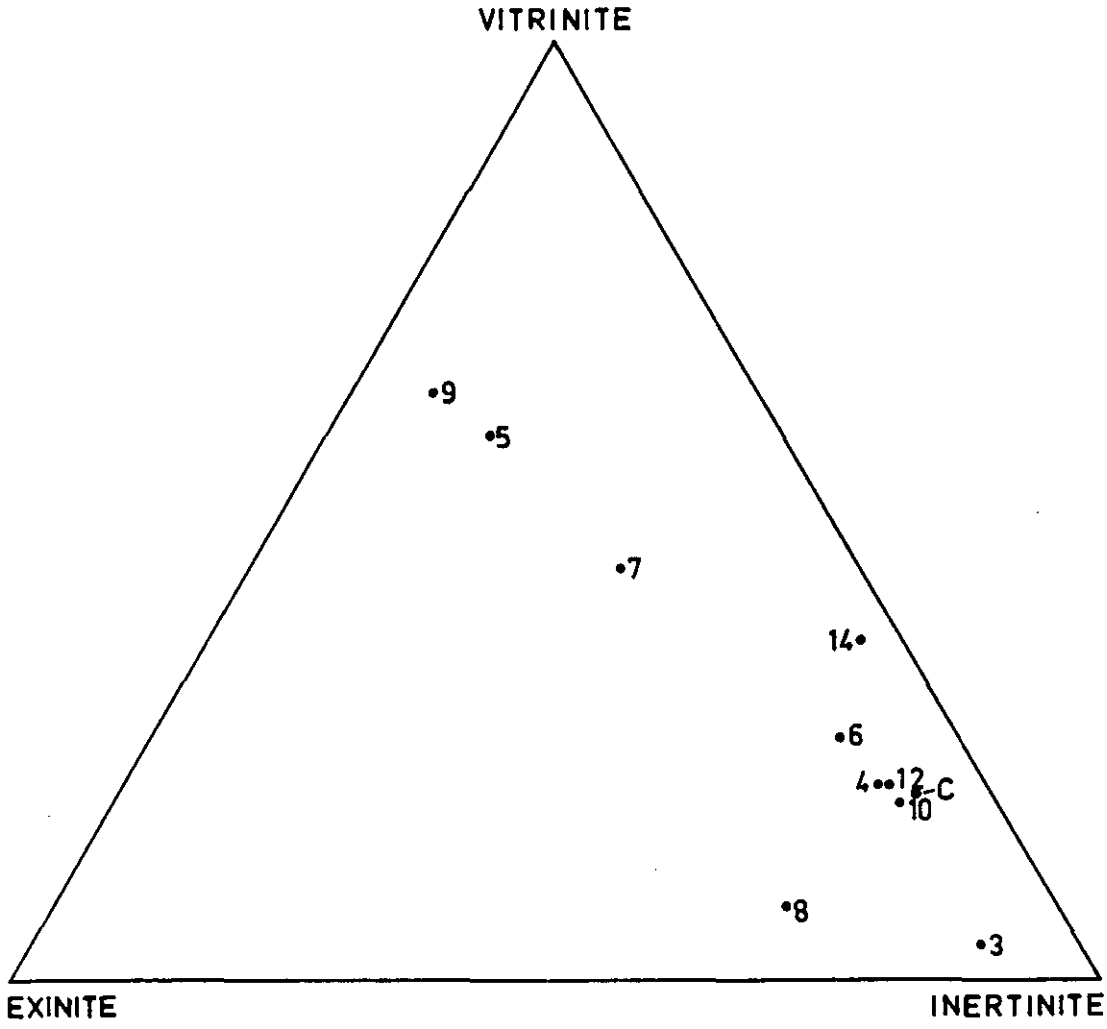


Figure 1. *Petrographic composition of the Merrywood Seam plys.*

5 cm

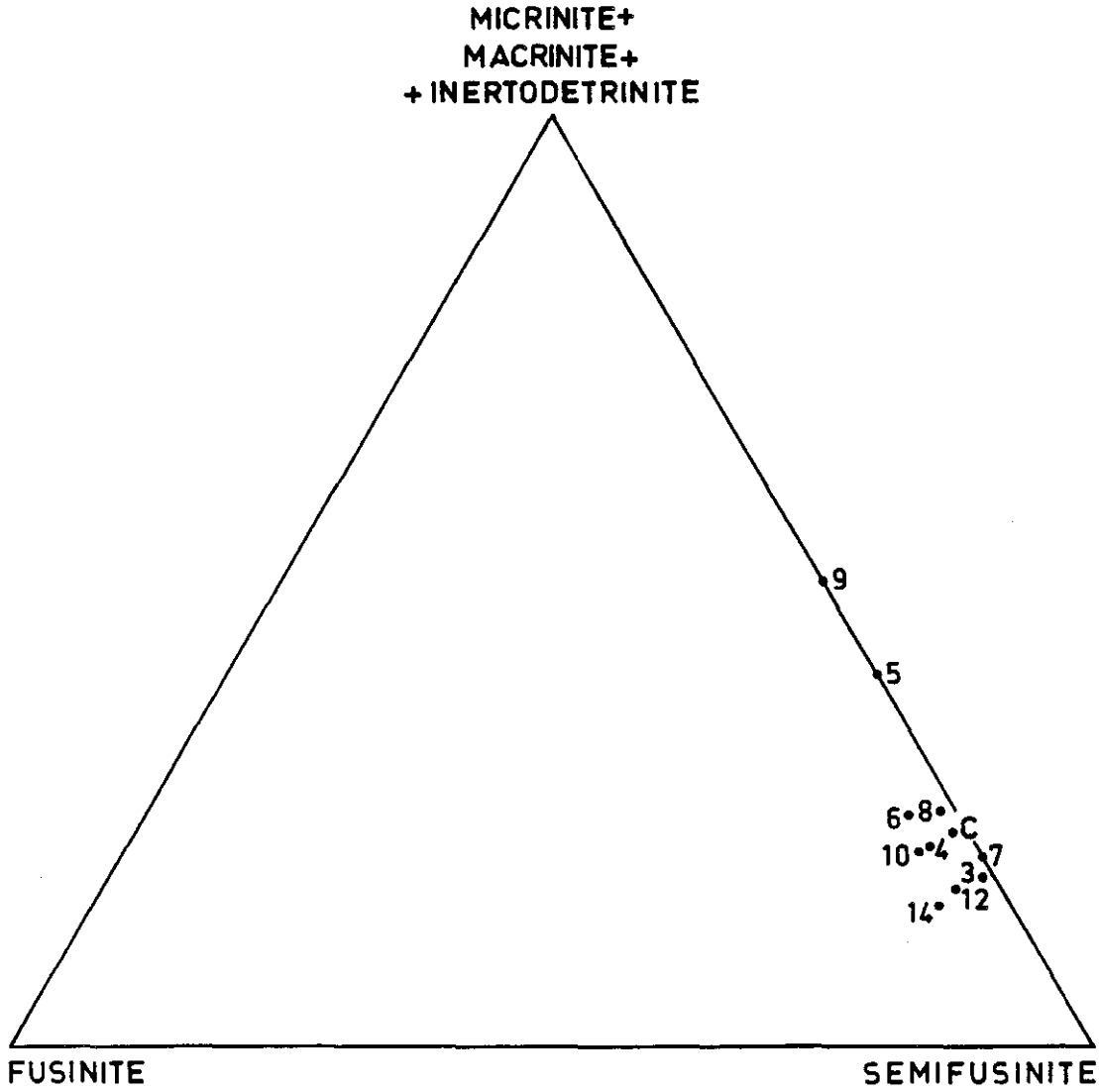


Figure 2. *Inertinite composition of the Merrywood Seam plys.*

5 cm

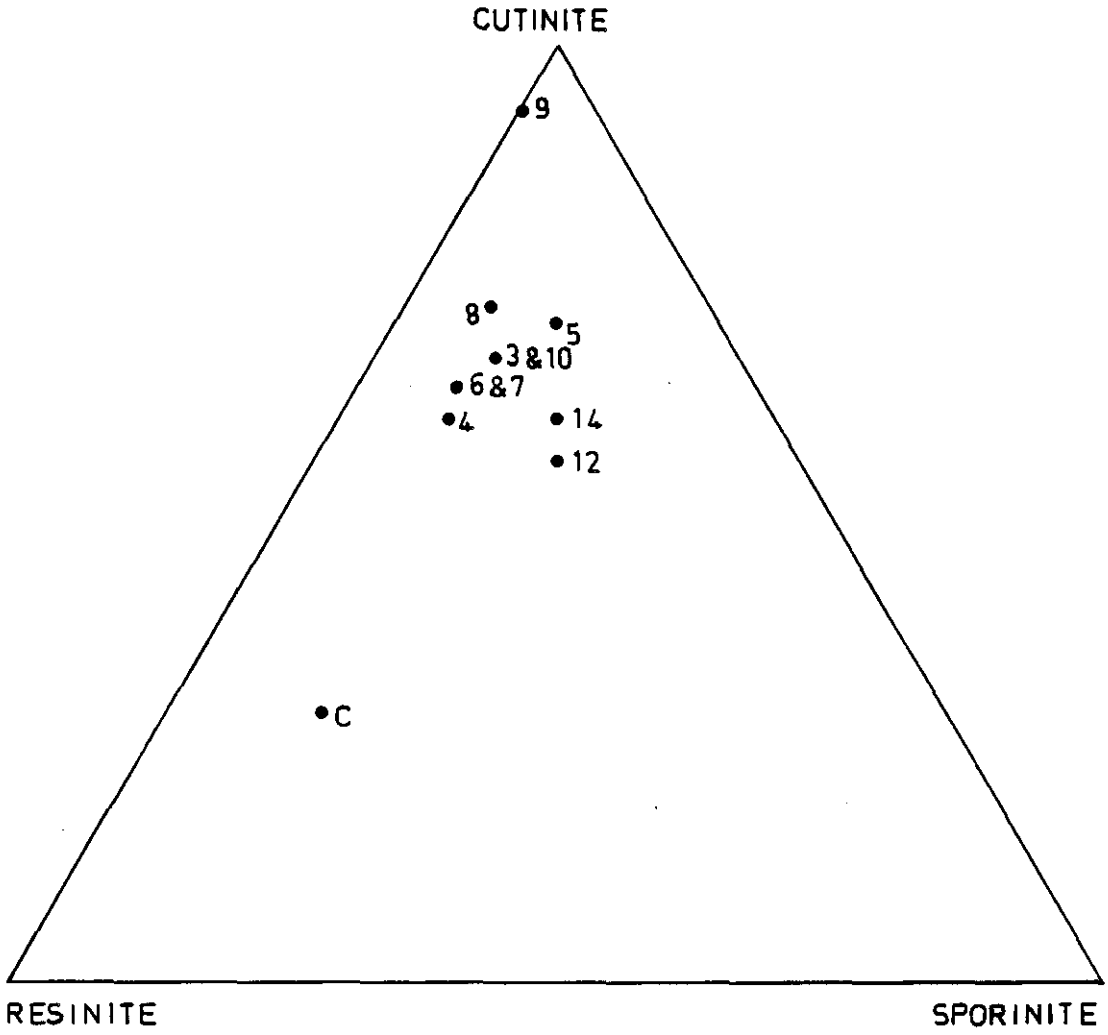


Figure 3. *Exinite composition of the Merrywood Seam plys.*

5 cm