

EL6/79 HELD AT ARCHIVES  
(3 VOLS)

NOTES ON THE COAL POTENTIAL  
in the  
CATAMARAN-SOUTH CAPE AREA,  
TASMANIA

N.F. Stuart  
15th March, 1979.

NOTES ON THE COAL POTENTIAL  
IN THE CATAMARAN-SOUTH CAPE AREA

In late 1978 Marathon carried out a regional coal prospecting reconnaissance in Tasmania. One of the areas visited during this reconnaissance was Catamaran. Several coal samples from this area were subsequently submitted to chemical and petrological analyses. Results of the analyses showed that a potential for the occurrence of high quality coking coal exists in the Catamaran area.

From the attached analytical details it can be seen that sample 50504 in particular indicates excellent coking potential with an optimum rank and a high vitrinite content. Although the high rank of this coal may be a local effect from the proximity of an igneous intrusion, it remains true that the high vitrinite content is indicative of a good quality coal. A comparison of sample 50504 with other Australian and West Pacific coals is shown on figure 3 attached to this note. Such comparison indicates that a coal similar to sample 50504 would command a ready market.

In the literature the coal in the Catamaran area has long been considered among the best coals in Tasmania. Open file company reports reveal that quite thick seams have been encountered (in excess of 10 metres in places). Several seams are known to exist.

Although only about 70 square kilometres of outcropping and sub-cropping Triassic occur in the area, the possibility of thick seams gives hope that significant tonnages of both coking coal and high quality steaming coal could exist. This conclusion is made in spite of recent exploration (early 1970's) which was abandoned due to insufficient potential. It should be noted that the explorers (Australian Paper Manufacturers Ltd.) however, had very specific aims and confined themselves to relatively small areas in the vicinity of known workings. Marathon would be looking at the whole region of prospective Triassic sedimentation.

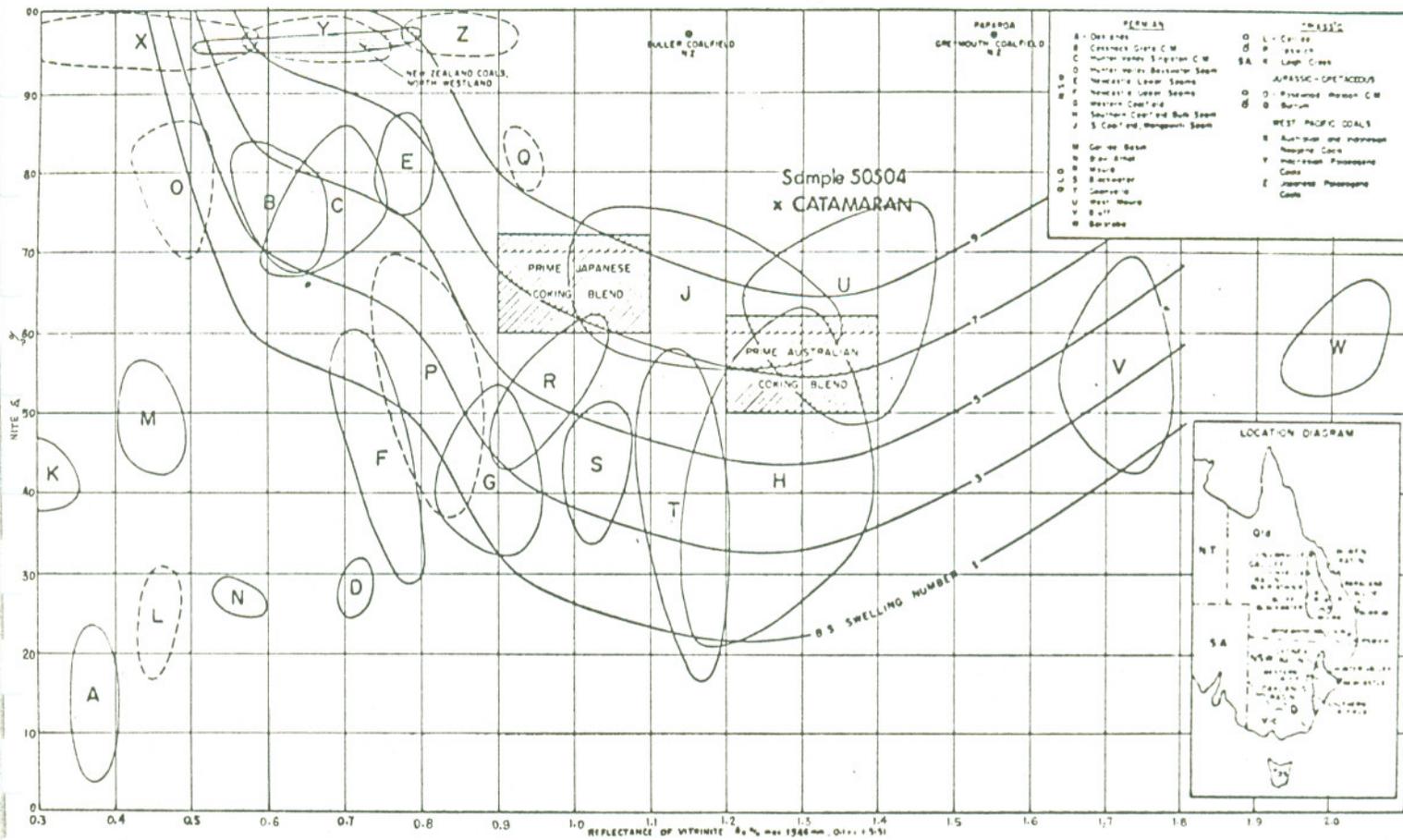
In addition to the potential for economic deposits of coking and steaming coal in the Triassic sequence, there remains possibilities within areas mapped as "Undifferentiated Permian". Detailed field

studies of the Permian sediments should enable an assessment to be made as to their coal bearing potential.

The main drawback in the area is the prevalence of doleritic intrusions. Detailed photo-geological interpretative work and ground mapping will help to determine the extent of such intrusions. Another problem is the difficulty of access and lack of infrastructure in the area.

In summary the following points can be noted:-

- possibility for coal of coking quality; ?
- possibility for coal of good steaming quality; ✓
- a number of seams, some quite thick, are known to occur; ?
- only small areas have been explored in any detail; ✓
- potential coal bearing area is large enough to contain significant tonnages (say 100,000,000 tonnes); ?
- logistics for export facilities or local thermal use seem reasonable; ✓
- open cut and underground mining situations possible. ?



Coal type and rank plot of Catamaran sample in relation to other West Pacific coals.



**SGS Australia Pty. Ltd.**  
formerly  
**General Superintendence Company Pty. Ltd.**

page -2-

Sample 50502

Clay and carbonate impregnated cinder; high reflectance indicates sample immediately adjacent to an igneous intrusion.

+ Sample 50503

Of coking coal rank. However low vitrinite content and high ash content suggest use as fuel coal only.

+ Sample 50504

High vitrinite content and optimum rank indicate excellent coking potential. High ash content would have to be reduced by washing to produce a saleable coking coal. However this may be difficult as there is much finely disseminated mineral matter which may not be easily removed.

N.B.

It is possible that the coal's high rank was caused by a nearby intrusion.

Sample 50505

Heat affected and cindered coal adjacent to an igneous intrusion.

Sample 50506

The low rank and high vitrinite plus exinite content suggest the coal may be suitable for liquefaction. However ash content is very high. The high exinite content is very unusual for Australian coals and probably is not representative of the full seam from which the sample was taken.

Sample 50507

The low rank, high vitrinite plus exinite and comparatively low ash content suggest the coal has potential for liquefaction.

Sample 50508

Low rank vitrain, probably represents a bright coal ply from part of the seam.

We will be pleased to assist with any further petrographic and analytical work you may have in the future.

+ Catamaran samples.

-3-

TABLE 1 - PROXIMATE ANALYSES

<u>Sample</u>	H <sub>2</sub> O (a.d.)	Ash (d.b.)	VM* (d.b.)	F.C. (d.b.)	VM* (d.a.f.)
50501	3.6	15.4	25.8	58.8	30.5
50502	2.6	76.0	5.3	18.7	N.A.
+ <u>50503</u>	3.9	11.9	20.8	67.3	23.6
+ <u>50504</u>	3.2	21.8	21.7	56.5	27.7
50505	3.2	26.1	9.4	64.5	12.7
50506	4.5	28.2	37.6	34.2	52.3
50507	4.3	7.8	41.4	50.2	44.9
50508	3.7	12.7	39.6	47.7	45.3

\* Volatile matter results are uncorrected for water of hydration and carbon dioxide from decomposition of minerals. Uncorrected VM (d.a.f.) not meaningful on samples with high ash.

+ Catamaran samples.

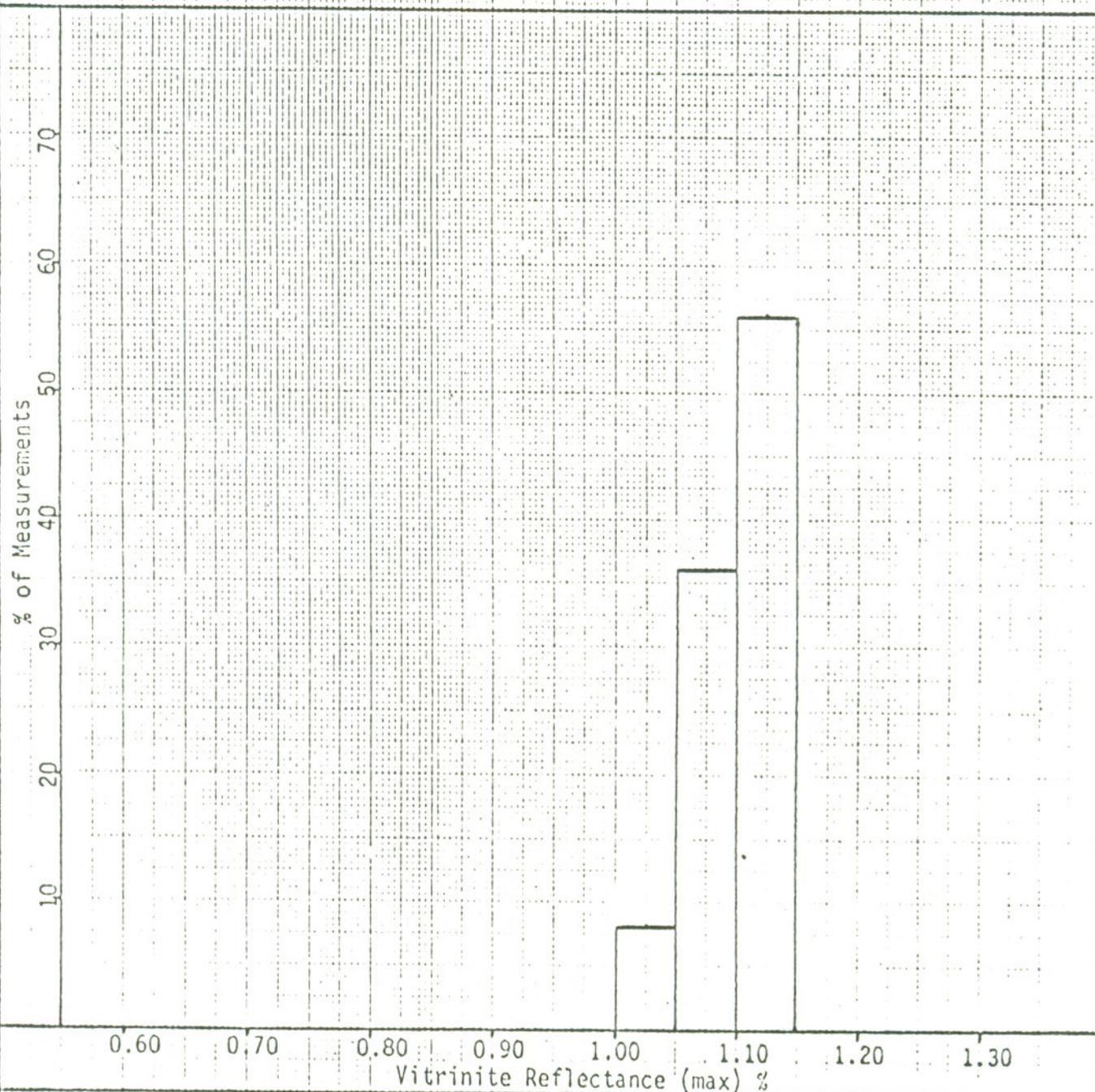
TABLE 2 - PETROGRAPHIC MACERAL ANALYSES

<u>Sample</u>	<u>Vitrinite</u>	<u>Exinite</u>	<u>Micrinite</u>	<u>Semi fusinite</u>	<u>Fusinite</u>	<u>Minerals</u>
	% (% mmf)	% (% mmf)	% (%mmf)	% (% mmf)	% (% mmf)	%
50501	17 (18)	8 (8)	17 (18)	40 (44)	11 (12)	7
	Disseminated clays, much carbonate. Micrinite is mainly inertodetrinite Exinite is mainly microspores with macrospores and resinite.					
50502	Cindered coal, reflectance of cindered vitrinite approximately 4.5%. Coal 43%, clays and carbonates 57%.					
<u>+50503</u>	15 (17)	1 (1)	24 (26)	42 (46)	9 (10)	9
	Disseminated clays, trace of carbonate. Oxidation rims noted on vitrinite grains.					
<u>+50504</u>	73 (86)	1 (1)	7 (8)	4 ( 5)	Trace	15
	Finely disseminated clays and clay lenses, much cleat carbonate, very slight trace pyrite. Exinite mainly resinite.					
50505	44 (53)	-	12 (14)	25 (29)	3 ( 4)	16
	Cindered coal ~ contorted structures noted in places. Disseminated clays and carbonate.					
50506	53 (62)	28 (33)	2 (2)	2 (2)	1 (1)	14
	Disseminated clays and clay lenses, trace of quartz, carbonate, very slight trace fine pyrite. Abundant micro and macro spores and resinite.					
50507	81 (85)	12 (13)	2 (2)	1 (1)	Trace	4
	Disseminated clays. Abundant micro and macro spores and resinite.					
50508	96 (100)	Slight trace	-	-	-	4
	Disseminated clays, carbonates filling cleat and fractures in vitrinite, slight trace pyrite.					

+ Catamaran samples.

Certificate  
of Analysis  
Lc 1341

VITRINITE REFLECTANCE HISTOGRAM  
(class interval 0.05% reflectance)



Measurement light wavelength 546 nm  
Oil R.I. 1.518  
Number of measurements: 25  
Analysed by: H. Read  
Date Analysed: 28.12.78

Sample Details and Comments:

S.G.S. 43

Marathon Petroleum Aust.Ltd

Reference sample 50503

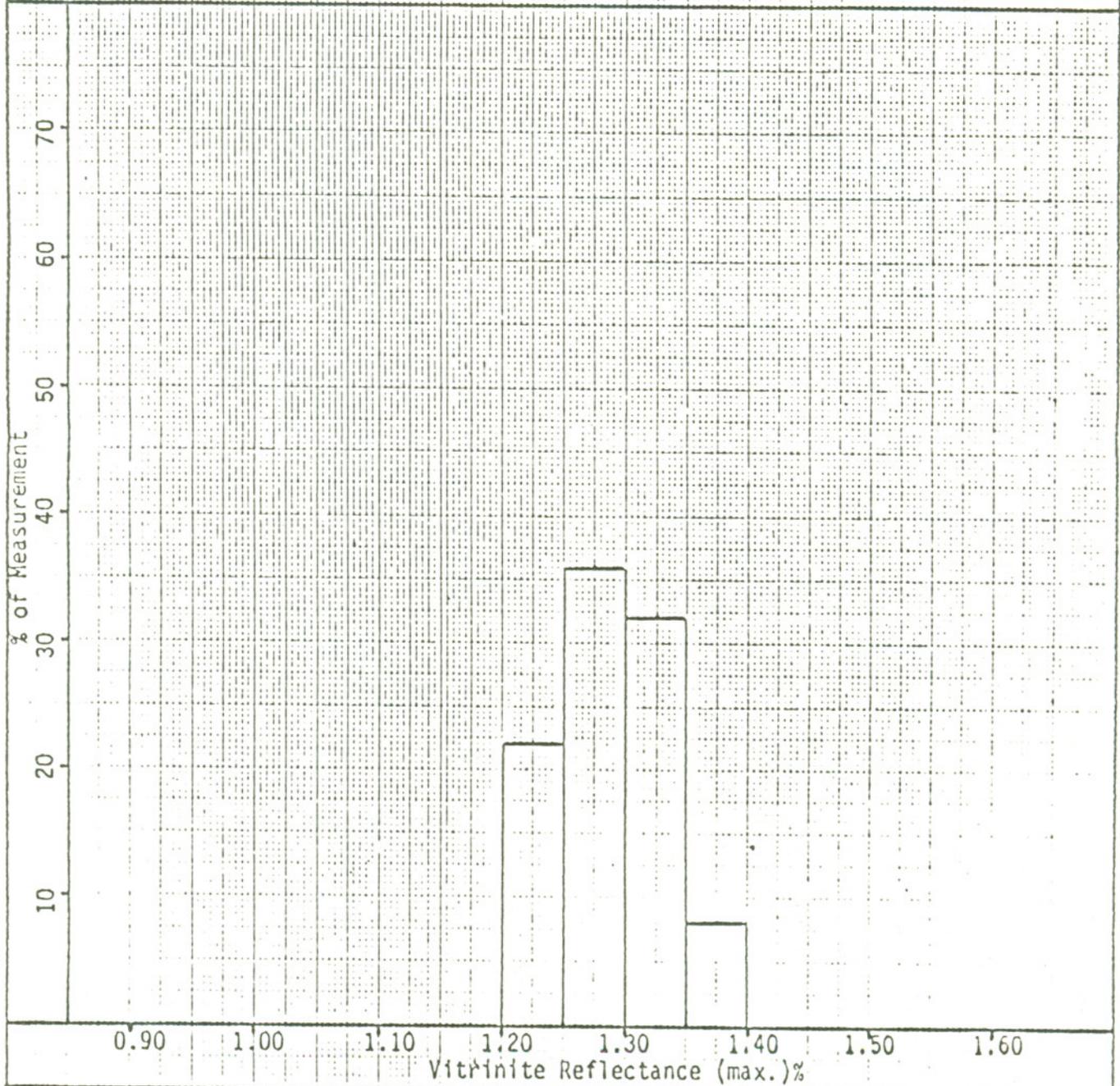
RESULTS:

Ro Max. (All vitrinite): 1.15%  
Ro Max. (vitrinite A): N.A.

SGS Australia Pty. Ltd.

Certificate  
of Analysis  
Lc 1341

VITRINITE REFLECTANCE HISTOGRAM  
(class interval 0.05% reflectance)



Measurement light wavelength 546 nm  
Oil R.I. 1.518  
Number of measurements: 50  
Analysed by: H. Read  
Date Analysed: 28.12.78

Sample Details and Comments:

S.G.S. 44

Marathon Petroleum Aust Ltd

Reference sample 50504

RESULTS:

Ro Max. (All vitrinite): 1.28%  
Ro Max. (vitrinite A): 1.33%

SGS Australia Pty. Ltd.

