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4231/84				

**OPEN FILE**

EXPLORATION LICENCE 27/79 (HAMILTON)

ANNUAL REPORT, YEAR 4

17/4/83 - 16/4/84.

EXPLORATION LICENCE 27/79 (HAMILTON)ANNUAL REPORT, YEAR 417/4/83 - 16/4/84.INTRODUCTION

Exploration Licence (EL) 27/79 was granted to Capricorn Mining Limited on the 17th April, 1980. The Licence area (Fig. 1) originally covered 870km<sup>2</sup> of the middle reaches of the Derwent Valley, and to date 290km<sup>2</sup> including 50km<sup>2</sup> at the current renewal, have been relinquished.

This report covers all exploration pertaining to EL27/79 during the 4th permit year and outlines the work programme for Year 5 (17/1/84 to 16/4/85).

Due to the large amount of data produced during Year 4, from work on the Langloh prospect, the policy has been to submit full details of exploration, together with all current maps and data at each of the quarterly reports. Following this policy, the present report deals with fourth quarter work in some detail that summarises the total year's work. As such it should be read in conjunction with the quarterly reports for first, second and third quarters of Year 4.

EXPLORATION IN FOURTH QUARTER, YEAR 4 (17/1/84 to 16/4/84).1/. Bulk Sample - Langloh Prospect.

In February- March, a box cut was excavated into the eastern side of, the West Hill deposit (Fig. 2) for the purpose of extracting a bulk sample for burning trials by potential consumers of Langloh coal.

Permission was obtained from the Kimbolton landowners, the Department of Mines and the Department of the Environment to extract approximately 50 tonnes of coal as part of the exploration programme.

The excavation was conducted by Hazell Bros., Margate, using a 42 tonne tracked, bucket excavator.

To obtain 50 tonnes of unweathered coal, approximately 3,000 metres<sup>3</sup> of sandstone roof rock were removed, then equal portions of each of

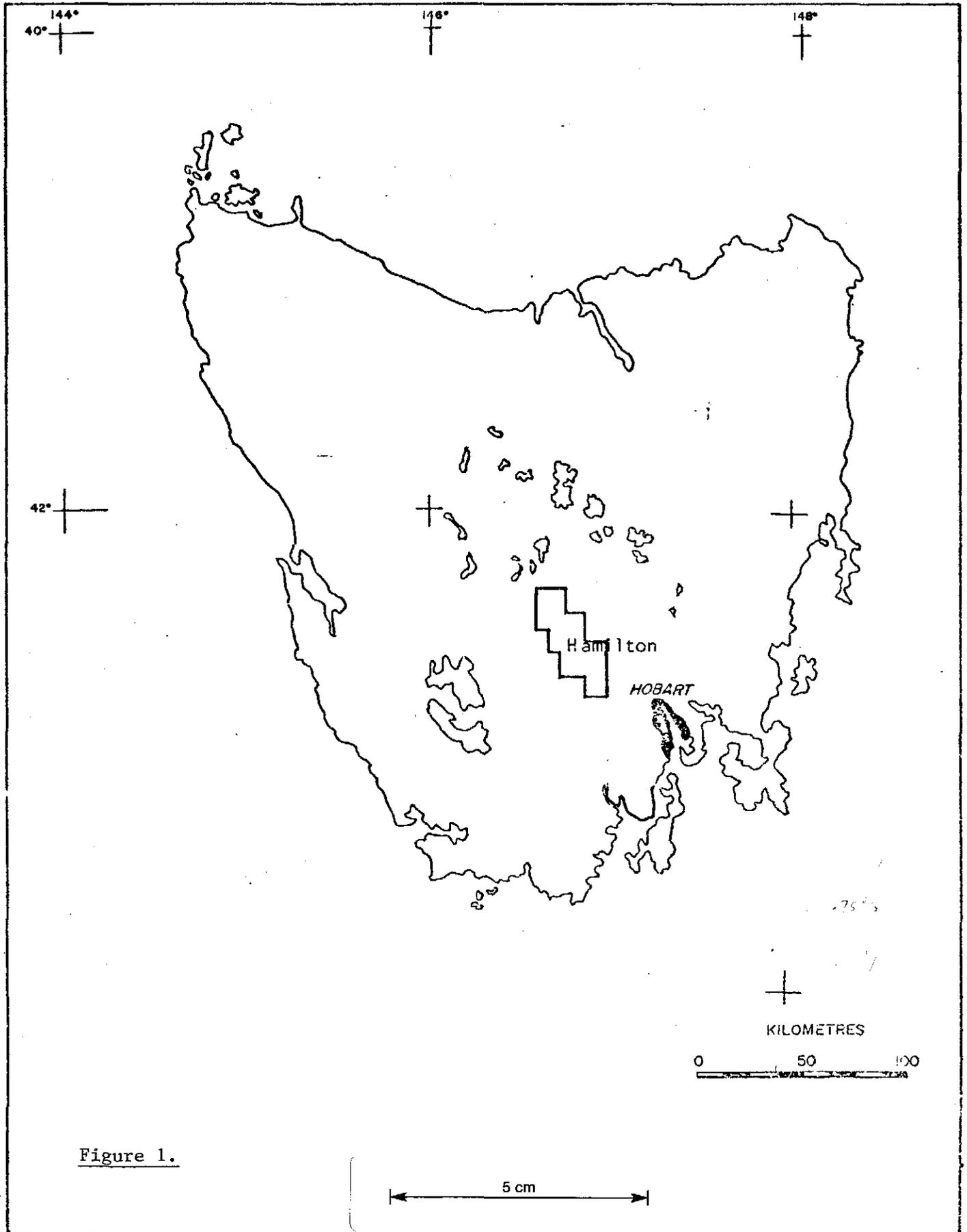


Figure 1.

5 cm

KILOMETRES

0 50 100

the three seams were removed, with care taken to mine coal uncontaminated by roof, floor and interburden rocks.

The exercise had the dual aims of producing a bulk sample of coal, and of testing the mining conditions which would be encountered during a full scale mining operation.

The main findings were as follows:-

1/. The depth of overburden needed to protect coal from severe oxidation, varies from 5 to 10 metres on the West Hill Prospect. The weathering front appears to undulate in the subsurface.

2/. Coal with tolerable levels of contamination could be mined at Langloh with earth-moving vehicles and without the need for subsequent washing.

3/. The excavator was able to comfortably strip up to 10 metre thickness of roof sandstone, without the need for blasting. As the maximum roof thickness on West Hill is approximately 20 metres, this implies that the need for blasting will be low and probably zero in the early years of the operation. This will significantly reduce the noise output of the operation.

4/. Groundwater control will be a major problem. The excavation shows that the coals are good aquifers, through fracture permeability, and the mudstone interburdens are impermeable. Water transmitted through the coal fractures is clean until it reaches the pit floor where it becomes contaminated with fines. These contaminants settle out if the water is contained for 1-2 days. It is clear that the most effective approach to groundwater control would be to de-water ahead of the mine face.

A series of photographs in Appendix 1 shows the operation and the mined product.

The coal sample was crushed by Hazell Bros. at their Margate depot, to a size range specified by the users. Burning trials were conducted in two Tasmanian factories and reports on the performance of the coal will be forwarded to Petrecon in due course.

004

### 1/. Maceral Analysis and Vitrinite Reflectance

Samples from all seams intersected by drill holes H22, H23 and H24 were analysed by S.G.S. Sydney. Their report is enclosed in Appendix 2. As with other known Upper Triassic coals in the Tasmania Basin, the Langloh coals are rich in inertinite and very deficient in exinite. Most of the inertinite is fusinite implying that the source plant material was severely oxidised but not burnt, prior to deposition.

The coal on East Hill has been affected by thermal output from the underlying dolerite. Vitrinite reflectance, Ro values, from H22 on West Hill, where the dolerite floor is known to be more than 100 metres below the coal, are around Ro=0.6%, however, at H23 on East Hill, where the dolerite is more shallow, Ro = 1.3%. At H24, which intersected a fault crush zone through the coal section, Ro = 3.6%. This supports the original interpretation of the East Hill topographic high being controlled by dolerite upwelling. Heat from the dolerite has moved along fault zones and locally affected coal quality. As expected, the high Ro values correspond with low volatiles.

### 3/. Coal Transport

A costing analysis of the road truck transport of coal from Langloh to all current Tasmanian consumers is being undertaken by the Secretary of the Tasmanian Truck Owner and Operators Association, Mr. J. Blackburn.

Road transport costs on a contract basis are competitive with rail costs over most of the state when the costs of building and operating a rail loading facility are taken into account.

### 4/. Non-Langloh Exploration

The policy has been to do little more than high grade parts of the EL and relinquish others until such time as the Langloh Prospect can be brought to the mining stage.

A 50km<sup>2</sup> block is hereby submitted for relinquishment at the current renewal. The block is bounded by the following corners

005

co-ordinates.

NORTHWEST CORNER

470,000 metres East  
5305,000 metres North

NORTHEAST CORNER

475,000 metres East  
5305,000 metres North

SOUTHEAST CORNER

475,000 metres East  
5295,000 metres North

SOUTHWEST CORNER

470,000 metres East  
5295,000 metres North

During 1984, a geophysics student from the University of Tasmania is conducting an honours project, in shallow seismic reflection methods, on the Langloh prospect. If the method proves successful and cost effective in accurately estimating depth to coal, then it will be used as a precursor to drilling in the Ouse Valley.

5/. Expenditure

The enclosed statement from Cparicorn Mining Limited covers all exploration costs for the quarter ending 16/4/1984.

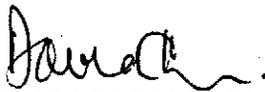
SUMMARY OF EXPLORATION, YEAR 4 (17/4/84 to 16/4/84).

The following summary indicates the main projects conducted and the quarterly report in which each set of data is enclosed.

006

CAPRICORN MINING LIMITEDSTATEMENT OF EXPLORATION EXPENDITURE  
COAL EXPLORATION LICENCE EL 27/79Quarter ended 16 April 1984

Hazel Bros. & others	-	Exploration and crushing of coal from boxcut	24,028
Kinhill Stearns	-	Engineering studies	10,834
Petrecon Australia	-	General Geological	10,531
Company Administration, Overheads and Travelling			6,332
			<u>\$51,725</u>

For Capricorn Mining Limited.....  
Secretary

007

REPORT FOR THE 1ST QUARTER YEAR 4

- 1/. Post Jan - Feb 1983 Drilling Results
  - Survey of collar sites
  - Written log sheets and 1:100 scale graphic logs for all holes (H19 - H28)
  - 1:10 scale graphic logs through coal section (H20, H22, H23, H24, H28).
  - Cross section composed of 1:100 scale graphic logs
  - Full seam proximate analysis, Specific Energy Relative Density and % Sulphur (H20, H22, H23, H24, H28) by SGS, Sydney
  - 1:2,500 scale structure and isopach maps (DWG 83/3 to DWG 83/10) showing overburden, interburden and coal seam thickness, plus structure at top coal and bottom coal.
- 2/. Expenses for the quarter :- \$21,511.00

REPORT FOR THE 2ND QUARTER YEAR 4

- 1/. Mining Pre-Feasibility Study.
  - Maps and plans of preliminary West Hill mine design by Kinhill Stearns, Adelaide.
- 2/. Environmental Impact Study
  - A draft report on the environmental impact of mining and coal transport was prepared by consultant Mr. J. Stevens. This report has not yet been submitted.
- 3/. Expenses for the quarter :- \$55,788.00

REPORT FOR THE 3RD QUARTER YEAR 4

- 1/. Coal Marketing
  - A review of existing and potential Tasmanian coal markets was conducted by Sinclair Consultants P/L.
- 2/. Coal Transport
  - Preliminary design of a railway coal loading facility by Kinhill Stearns.
  - Discussion with Australian National Rail regarding the possible use of Macquaire Plains as a rail loading facility.
- 3/. Expenses for the quarter :- \$17,121.00

REPORT FOR THE 4TH QUARTER YEAR 4

- 008
- 1/. Bulk Sample Langloh Coal.
    - Approximately 50 tonnes of coal were extracted from West Hill, crushed and sent to potential buyers for burning trials.
  - 2/. Maceral Analysis and Vitrinite Reflectance
    - Full seam composite samples from H22, H23 and H24 were analysed by SGS, Sydney.
  - 3/. Coal Transport
    - A study of road transport costs and coal from Langloh was conducted by Mr. J. Blackburn, Hobart.
  - 4/. Relinquishment
    - A 50km<sup>2</sup> block in the northern part of the EL was relinquished.
  - 5/. Expenses for the quarter :- \$51,725.00

TOTAL EXPENSES FOR THE YEAR (17/4/1983 to 16/4/1984)

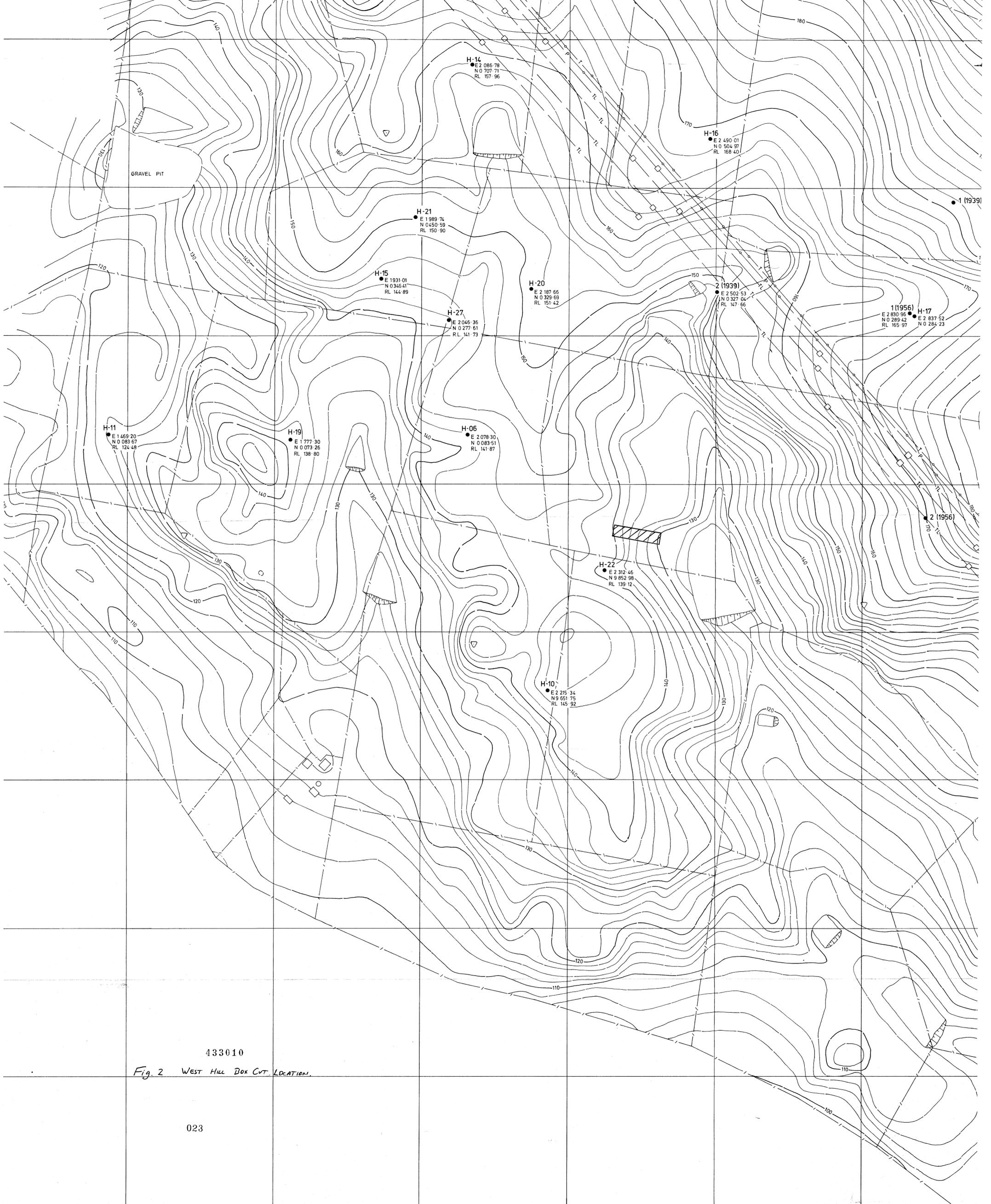
:- \$146,135.00

WORK PROPOSAL FOR THE YEAR 5 (17/4/1984 to 16/4/1985).

Most of the budget will again be spent at Langloh, where it is hoped the project can be developed to the mine construction stage within the next year. The following major projects are planned.

- 1/. Secure "heads of agreements" for the sale of Langloh coal.
- 2/. Submit final copy of Environmental Impact Study.
- 3/. Negotiate agreement for compensation with landowners.
- 4/. Conduct a groundwater study for West Hill.
- 5/. Complete final design and costing for West Hill mine.
- 6/. Complete evaluation of transport alternatives.
- 7/. Secure Coal Leases.
- 8/. Commence mine construction.

The policy for non-Langloh exploration will continue to be one of relinquishing unprospective acreage. Every effort will be made to reduce the EL back to a maximum of 250km<sup>2</sup> by the next renewal. Until markets can be found for Langloh coal it is considered unwise to commit to drilling other prospects.



433010

Fig. 2 WEST HILL BOX CUT LOCATION.

APPENDIX ONE





APPENDIX TWO



## SGS Australia Pty. Ltd.

### Sydney

74 McEvoy Street,  
Alexandria, N.S.W.,  
P.O. Box 163, Redfern, 2016  
Tel.: 699-7625  
Telex: AA 22395  
Cables: Supervise

PETRECON AUSTRALIA PTY LTD  
19 GOULBURN STREET  
HOBART TAS 7000

ATTN : MR. K. MORRISON

Your ref.:

Our ref.: SL 2613

DATE : 15th March 1984

We enclose the results of maceral analysis on 6 composite samples as requested in your telex. We have also taken colour slides of the coals, and have listed which samples these represent. Three polaroid photographs identical to slides No. 8, 12 and 17 have been labelled to show the various components within the coal. The slides mainly show views of inertinite, as there is little vitrinite in these coals, and also show some of the mineral distribution.

There is a wide range in rank for these 6 coals, which has 2 main effects :-

- 1/ The reflectance of the vitrinite increases with rank, lower rank coals are dark grey in colour with low reflectance, and this varies through paler grey, to white with increasing reflectance at higher ranks.  
Compare slides :-  
No. 8 H22 Comp. E (plies 9, 10) Reflectance approx. 0.57%  
No. 12 H23 Comp. G (plies 13, 14, 15, 16) Reflectance approx. 1.30%  
No. 17 H24 Comp. I (plies 19, 20, 21) Reflectance approx. 3.60%  
(Unfortunately polaroid photograph No. 9A is slightly under exposed, and No. 8A is slightly over-exposed. These both have similar reflectance, and the vitrinite should be the same colour).
- 2/ The reflectance of the exinites (sporinite, cutinite and resinite) also increases with rank, but at a faster rate than the vitrinite. Above a vitrinite reflectance of approx. 1.30%, the exinites become indistinguishable from vitrinite as they have the same reflectance; therefore for composites G, H and I, no exinites are recorded in the maceral count.

Please do not hesitate to contact us should you require any more information, or further work on these samples.

.....  
JANET MCNULTY  
PETROLOGIST

014

near 0.02 range for max. P.  
i. n. n. n. R.

433016



**SGS Australia Pty. Ltd.**  
Sydney

74 McEvoy Street,  
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Cables: Supervise

PETRECON AUSTRALIA PTY. LTD.  
19 GOULBURN STREET,  
HOBART TAS. 7000

ATTN: MR. K. MORRISON

DATE: 12TH MARCH, 1984.

Analysis Report No: SL2613

Sample Details: COAL SAMPLE H22 - COMPOSITE D (PLIES 7,8) *Sample 2*

<u>Maceral Groups:</u>			<u>Macerals:</u>		
	%	(%mmf)		%	(%mmf)
Vitrinite	9	(12)	Vitrinite A	1	(1)
			Vitrinite B	8	(11)
Exinite	4	(4)	Sporinite	3	(3)
			Cutinite	1	(1)
			Resinite	TRACE	
Inertinite	69	(84)	Semifusinite	60	(74) <i>85</i>
			Fusinite	2	(2) <i>2</i>
			Micrinite	TRACE	
			Macrinite	4	(5)
			Inertodetrinite	3	(3) <i>10</i>
Mineral matter	18	(-)		18	(-)
	<u>100</u>	<u>100</u>		<u>100</u>	<u>100</u>
No. of points counted:		516	Date analysed:	9.3.84	<i>84</i>

<u>Reflectance:</u>	NOT REQUESTED	<u>Standards used:</u> Optical glass:	
Ro max. (Vitrinite A)		Measurement light wavelength	546nm
(Vitrinite B)		Oil R.I.	1.518
(All Vitrinite)			
		Vitrinite A	Vitrinite B
		No. of readings	
		Range	
		S.D.	

- Comments:
- (a) Reflectance to AS2486; Maceral groups AS 2515
  - (b) Mineral matter is mainly disseminated clays with traces of quartz and carbonate.
  - (c) Reflectance is approximately 0.59%

SGS Petrographic Sample No: 5140



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*Harold Read*  
Harold Read-Manager  
Coal Exploration  
Services


**SGS Australia Pty. Ltd.**
**Sydney**

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 19 GOULBURN STREET,  
 HOBART TAS. 7000

ATTN: MR. K. MORRISON

DATE: 12TH MARCH, 1984.

Analysis Report No: SL2613

Sample Details: COAL SAMPLE H-22 - COMPOSITE E (PLIES 9, 10)

<u>Maceral Groups:</u>			<u>Macerals:</u>		
	%	(%mf)		%	(%mf)
Vitrinite	18	(19)	Vitrinite A	2	(2)
			Vitrinite B	16	(17)
Exinite	5	(5)	Sporinite	3	(3)
			Cutinite	1	(1)
			Resinite	1	(1)
Inertinite	69	(76)	Semifusinite	60	(67)
			Fusinite	1	(1)
			Micrinite	TRACE	
			Macrinite	4	(4)
			Inertodetrinite	4	(4)
Mineral matter	8	(-)		8	(-)
	<u>100</u>	<u>100</u>		<u>100</u>	<u>100</u>
No. of points counted:		510	Date analysed:	9/3/84	76

Reflectance: NOT REQUESTED

Standards used: Optical glass:

Ro max. (Vitrinite A)	Measurement light wavelength	546nm
(Vitrinite B)	Oil R.I.	1.518
(All Vitrinite)	Vitrinite A	Vitrinite B
	No. of readings	
	Range	
	S.D.	

- Comments:
- (a) Reflectance to AS2486; Maceral groups AS 2515
  - (b) Mineral matter is mainly disseminated clays with traces of quartz and carbonate.
  - (c) Reflectance is approximately 0.57%.

SGS Petrographic Sample No: 5141



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 .....  
 Harold Read - Manager  
 Coal Exploration  
 Services

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433018



### SGS Australia Pty. Ltd.

Sydney

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PETRECON AUSTRALIA PTY. LTD.  
19 GOULBURN STREET,  
HOBART TAS. 7000

ATTN: MR. K. MORRISON

DATE: 12TH MARCH, 1984.

Analysis Report No: SL2613

Sample Details: COAL SAMPLE H-22 COMPOSITE F (PLIES 11,12) *See C.*

<u>Maceral Groups:</u>			<u>Macerals:</u>		
	%	(%mmf)		%	(%mmf)
Vitrinite	20	(23)	Vitrinite A	5	(6)
			Vitrinite B	15	(17)
Exinite	4	(4)	Sporinite	2	(2)
			Cutinite	1	(1)
			Resinite	1	(1)
Inertinite	65	(73)	Semifusinite	56	(63) <i>56</i>
			Fusinite	1	(1)
			Micrinite	TRACE	
			Macrinite	3	(3)
			Inertodetrinite	5	(6)
Mineral matter	11	(-)		11	(-)
	<u>100</u>	<u>100</u>		<u>100</u>	<u>100</u>
No. of points counted:		537	Date analysed:	9/3/84	73 <i>12</i>

<u>Reflectance:</u>	NOT REQUESTED.	<u>Standards used: Optical glass:</u>	
Ro max. (Vitrinite A)		Measurement light wavelength	546nm
(Vitrinite B)		Oil R.I.	1.518
(All Vitrinite)			
		Vitrinite A	Vitrinite B
		No. of readings	
		Range	
		S.D.	

- Comments:
- (a) Reflectance to AS2486; Maceral groups AS 2515
  - (b) Mineral matter is mainly disseminated clays with slight traces of quartz carbonate and pyrite.
  - (c) Reflectance is approximately 0.56%.

SGS Petrographic Sample No: 5142



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*Harold Read*  
Harold Read - Manager  
Coal Exploration  
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433019


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 PETRECON AUSTRALIA PTY. LTD.  
 19 GOULBURN STREET,  
 HOBART TAS. 7000

ATTN: MR. K. MORRISON

DATE: 12TH MARCH, 1984.

Analysis Report No: SL2613

 Sample Details: COAL SAMPLE H23 COMPOSITE G (PLIES 13,14,15,16) *AS 2*

<u>Maceral Groups:</u>			<u>Macerals:</u>		
	%	(%mmf)		%	(%mmf)
Vitrinite	23	(27)	Vitrinite A	12	(14)
			Vitrinite B	11	(13)
Exinite	-	(-)	Sporinite	-	(-)
			Cutinite	-	(-)
			Resinite	-	(-)
Inertinite	58	(73)	Semifusinite	51	(64) <sup>86</sup>
			Fusinite	1	(1)
			Micrinite	1	(1)
			Macrinite	2	(3)
			Inertodetrinite	3	(4) <sup>11</sup>
Mineral matter	19	(-)		19	(-)
	<u>100</u>	<u>100</u>		<u>100</u>	<u>100</u> <sup>78</sup>
No. of points counted:		517	Date analysed:	10/3/84	

Reflectance: NOT REQUESTED

Standards used: Optical glass:

 Ro max. (Vitrinite A)  
 (Vitrinite B)  
 (All Vitrinite)

 Measurement light wavelength 546nm  
 Oil R.I. 1.518

Vitrinite A Vitrinite B

 No. of readings  
 Range  
 S.D.

- Comments:
- (a) Reflectance to AS2486; Maceral groups AS 2515
  - (b) Mineral matter is mainly disseminated clays with traces of carbonate and slight traces of pyrite and quartz.
  - (c) Reflectance is approximately 1.30%.

SGS Petrographic Sample No: 5143



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*Harold Read*  
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 19 GOULBURN STREET,  
 HOBART TAS. 7000

ATTN: MR. K. MORRISON

DATE: 12TH MARCH, 1984.

Analysis Report No: SL2613

Sample Details: COAL SAMPLE H23 COMPOSITE H (PLIES 17,18)

<u>Maceral Groups:</u>			<u>Macerals:</u>		
	%	(%mmf)		%	(%mmf)
Vitrinite	26	( 31 )	Vitrinite A	11	(13)
			Vitrinite B	15	(18)
Exinite	-	(-)	Sporinite	-	(-)
			Cutinite	-	(-)
			Resinite	-	(-)
Inertinite	57	( 69 )	Semifusinite	46	(57) 83
			Fusinite	3	( 3 )
			Micrinite	2	( 2 )
			Macrinite	2	( 2 )
			Inertodetrinite	4	( 5 ) 16
Mineral matter	17	(-)		17	(-)
	<u>100</u>	<u>100</u>		<u>100</u>	<u>100</u>
No. of points counted:	543		Date analysed:	10/3/84	

Reflectance: NOT REQUESTED

Standards used: Optical glass:

Ro max. (Vitrinite A) (Vitrinite B) (All Vitrinite)	Measurement light wavelength Oil R.I.	546nm 1.518
	Vitrinite A	Vitrinite B
	No. of readings	
	Range	
	S.D.	

- Comments:
- (a) Reflectance to AS2486; Maceral groups AS 2515
  - (b) Mineral matter is mainly disseminated clays with slight traces of quartz and carbonate.
  - (c) The reflectance is approximately 1.41%

SGS Petrographic Sample No: 5144


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 ...  
 Harold Read Manager  
 Coal Exploration  
 Services

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433021



**SGS Australia Pty. Ltd.**

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PETRECON AUSTRALIA PTY. LTD.  
19 GOULBURN STREET,  
HOBART TAS. 7000

ATTN: MR. K. MORRISON

DATE: 12TH MARCH, 1984.

Analysis Report No: SL2613

Sample Details: COAL SAMPLE H24 COMPOSITE I (PLIES 19,20,21) A-B

<u>Maceral Groups:</u>		<u>Macerals:</u>	
	%	(%mmf)	
Vitrinite	17	(24)	Vitrinite A 12 (17) Vitrinite B 5 (7)
Exinite	-	(-)	Sporinite - (-) Cutinite - (-) Resinite - (-)
Inertinite	55	(76)	Semifusinite 53 (74) 97 Fusinite 1 (1) Micrinite - (-) Macrinite - (-) Inertodetrinite 1 (1) 2
Mineral matter	28	(-)	28 (-)
	<u>100</u>	<u>100</u>	<u>100</u> 76
No. of points counted:	512		Date analysed: 10/3/84

<u>Reflectance:</u> NOT REQUESTED	<u>Standards used:</u> Optical glass:		
Ro max. (Vitrinite A)	Measurement light wavelength	546nm	
(Vitrinite B)	Oil R.I.	1.518	
(All Vitrinite)		Vitrinite A	Vitrinite B
	No. of readings		
	Range		
	S.D.		

- Comments:
- (a) Reflectance to AS2486; Maceral groups AS 2515
  - (b) Mineral matter is mainly disseminated clays with traces of quartz and carbonate.
  - (c) The reflectance is approximately 3.60%

SGS Petrographic Sample No: 5145



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*Harold Read*  
Harold Read-Manager  
Coal Exploration  
Services

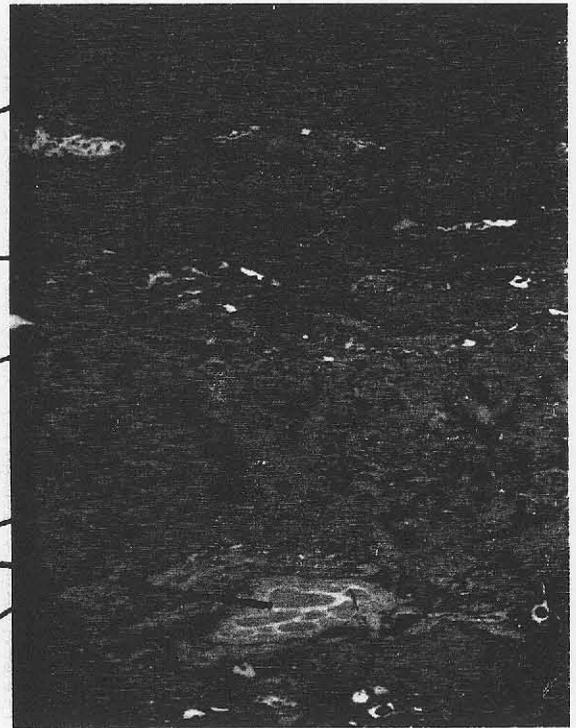
020



# SGS Australia Pty. Ltd.

433022

CLIENT: PETRECON AUSTRALIA PTY. LIMITED.  
 REPORT NO: SL 2613  
 DATE: 12 MARCH 1984.



Mounting resin (black)

Vitrinite (grey)

Exinite (dark grey)

Inertodetrinite (small inertinite particles)

Inertinite (white to pale grey)

Minerals (black)

Mounting resin (black)

FIG 8A SAMPLE H22  
COMP E (PLIES 9,10)

FIG 9A H22  
COMP F (PLIES 11,12)

021



433023

**SGS Australia Pty. Ltd.**

CLIENT: PETRECON AUSTRALIA PTY. LIMITED  
REPORT NO: SL 2613  
DATE: 12 MARCH 1984.

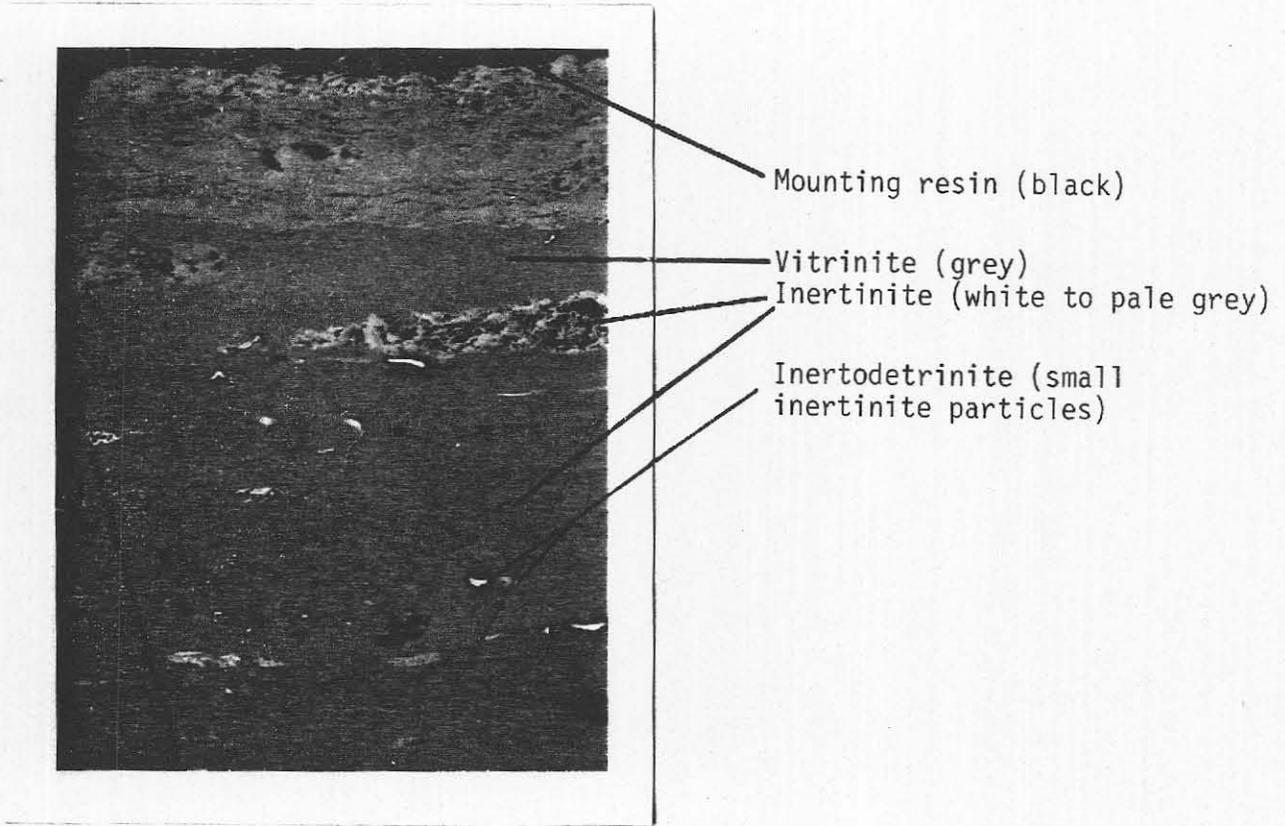


FIG 12 A SAMPLE H23 COMP G (PLIES 13,14,15,16)

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SGS Australia Pty. Ltd.

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KEY TO TRANSPARENCIES 1 TO 17. (Not held)

<u>NO:</u>	<u>SAMPLE REF:</u>	<u>COMMENTS</u>
1	H22 COMP D (PLIES 7,8)	Mainly inertinite and mineral matter, with a thin band of vitrinite.
2	H22 COMP D (PLIES 7,8)	Inertinite.
3	H22 COMP D (PLIES 7,8)	Inertinite, with dark grey cutinite.
4	H22 COMP D (PLIES 7,8)	Inertinite with mineral matter.
5	H22 COMP D (PLIES 7,8)	Mainly inertinite.
6	H22 COMP D (PLIES 7,8)	Vitrinite with exinite and inertodetrinite.
7	H22 COMP D (PLIES 7,8)	Vitrinite with minor inertodetrinite.
8	H22 COMP E (PLIES 9,10)	Vitrinite, inertinite and exinite (see polaroid photograph 8A)
9	H22 COMP F (PLIES 11,12)	Inertinite with vitrinite, cutinite and minor inertodetrinite. (See polaroid photograph 9A)
10	H22 COMP F (PLIES 11,12)	Inertinite with mineral matter.
11	H22 COMP F (PLIES 11,12)	Inertinite with a vertical carbonate vein.
12	H23 COMP G (PLIES 13,14, 15,16)	Banded inertinite and vitrinite. (See polaroid photograph 12A)
13	H23 COMP G (PLIES 13,14, 15,16)	Vitrinite with mineral matter.
14	H23 COMP G (PLIES 13,14, 15,16)	Inertinite with mineral matter.
15	H23 COMP H (PLIES 17,18)	Inertinite with carbonate infil.
16	H24 COMP I (PLIES 19,20,21)	Inertinite with mineral matter.
17	H24 COMP I (PLIES 19,20,21)	Vitrinite with mineral matter (2 grains)
18	SCALE: ONE SMALL DIVISION = 1/100mm	

MAGNIFICATION: X20  
 Member of the SGS Group (Société Générale de Surveillance)