ANNUAL REPORT FOR: RETENTION LICENCE 14/1988

AUTHOR: S.Thornton and J.Bryan

DATE: 18 November 2014

Submitted by:

.....

Cassie Arnold
Cornwall Coal Business Manager

Abstract

RL14/1988 covers an area of 17km^2 and is located approximately 15km NW of Fingal. Exploration activities have been limited to a period in the early 1980's when the Retention Licence was part of Exploration Licence EL 50/82. The eastern portion of the RL contains coal bearing strata which is similar to the Fingal area but the resource has not been modelled to provide a JORC statement. The current view is that there is no open cut potential and the underground potential is limited by the coal seams being <2m thick and the lack of infrastructure. No further exploration or evaluation is warranted at this time. The location of the resource is shown below:

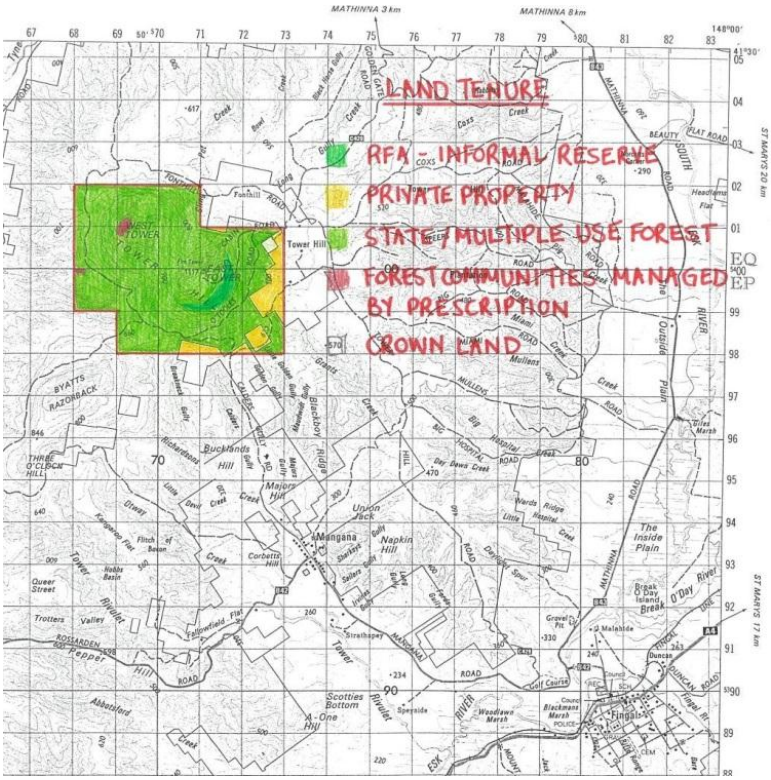


Figure 1. Position of RL relative to Fingal

1 Introduction

Tower Hill is an outlier of Triassic coal measures located 15km north-west of Fingal. The measures are equivalent to those found at Fingal. Between 1981 and 1984 when the area was part of Exploration Licence EL50/82, the Cornwall Coal Company drilled four holes, three of which provided a number of coal intercepts.

2 Review of Previous Work

Previous work has comprised four (4) drillholes, three (3) of which intercepted coal. The drill program was the subject of report compiled in December 1984 by McElroy Bryan and Associates (now known as McElroy Bryan Geological Services) which was submitted to the Tasmanian Government at the time. This report is attached as Appendix 1. The Report contains a location plan (Page 4 of the report) and summary of the data obtained from drilling and analysis of coal samples as Table TH 1 (Page 5 of the report). The drillhole data is further summarised below:

Drillhole	Total Depth	Coal Intercepts
DDH 7	151.7m	Seam B, 1.86m thick at 20m
DDH 9	101.0m	Seam A, 1.16m thick at 39m Seam B, 0.79m thick at 91m
DDH 14	95.4m	Seam A, 1.47m thick at 56m Seam B, 1.39m thick at 81m
DDH 15	56.0m	Nil

In regards to the data obtained:

- It is considered that the resource is confined to the eastern portion of the area,
- There has been no modelling of the data to provide a JORC statement,, and
- Coal quality is consistent with that found on the Fingal Tier in that raw coal is in the 30%-40% ash range (air dried). At a yield of approx 65%, a product coal is generated which is in the 15%-20% (air dried) range. Volatiles are in the 26%-30% range (air dried).

3 Exploration Completed During Reporting Period

No exploration activities have occurred during the reporting period.

4 Discussion of Results

No exploration results have been obtained during the reporting period.

5 Conclusions

From results obtained prior to the reporting period, the current view is that:

- Whilst the resource is not particularly deep, it is not amenable to open cut extraction due to the steep slopes around Tower Hill,
- At present the resource is a marginal prospect for extraction by underground methods due to the seams being relatively thin, ie <2m thick and the absence of suitable infrastructure.

6 Environment

The License Holder has not accessed the License area during the reporting period for any reason. Consequently it is reported that there has been no surface disturbance of any kind attributable to the License Holder.

7 Expenditure

Other than expenditure on compiling the Annual Report, the has been no expenditure on the RL.

8 References

There are no References.

APPENDICES

APPENDIX 1 - Report on Coal Exploration Program at Tower Hill – McElroy Bryan – December 1984.

156 Mowbray Road
Willoughby NSW 2068
Telephone: (02) 958-1455

Postal address:
P.O. Box 34
Willoughby NSW 206

REPORT ON COAL EXPLORATION PROGRAMME AT TOWER HILL WITHIN E.L. 50/82

REPORT PREPARED FOR

CORNWALL COAL COMPANY N.L.

BY

McELROY BRYAN AND ASSOCIATES PTY LIMITED

REPORT 60/1/5

J.H. BRYAN

DECEMBER 1984

TOWER HILL - E.L 50/82

1. INTRODUCTION

This outlier of Triassic coal measures is located 15 km north-west of Fingal. The Triassic strata dip to the east-south-east at 2° - 5° and are overlain by Jurassic dolerites. On the lower slopes of Tower Hill there are sporadic outcrops of Permian strata. The dissected plateau at about 550 m which extends to the south and east of Tower Hill is the top of the Mathinna Beds. In 1979 Cornwall Coal Company N.L drilled a hole (DDH 7) on Tower Hill. In the 1984 exploration programme 3 holes were drilled on Tower Hill - DDHs 14, 15 and 19.

2. COAL GEOLOGY

Two seams designated A and B occur towards the top of the Triassic coal measures. Table TH 1 gives the thickness and coal quality data on these seams.

Seam A is thin, but the coal when washed would produce coal of acceptable quality at a yield of about 60%. The coal seam thins to the west and is only 1.16 m thick in DDH 19. In DDH 14 Seam A is just thick enough to mine and has a good sandstone roof. This seam also crops out on the eastern end of Tower Hill and would be accessible from the outcrop for mining.

Seam B is thickest in DDH 7, at 1.86 m, and washes to a 15.4% ash product. To the west in DDH 19 however this seam has deteriorated significantly, is only 0.79 m thick, and is comprised mostly of stony coal and carbonaceous claystone.

The reserves of potentially mineable coal at Tower Hill are confined to the eastern end of the area and the *in situ* reserves are estimated to be in the order of 2 million tonnes. The quality of saleable coal is estimated at about 600,000 tonnes on the basis of 50% mining recovery and 60% washing recovery.

Because of the rapid changes in seam thickness between drill holes additional drilling would be necessary to more precisely define the extent of mineable coal. This is not considered to be warranted at this time.

J.H. Bryan
B.Sc.(Hons), Ph.D.M., Aus.I.M.M.

CORNWALL COAL COMPANY N.L.

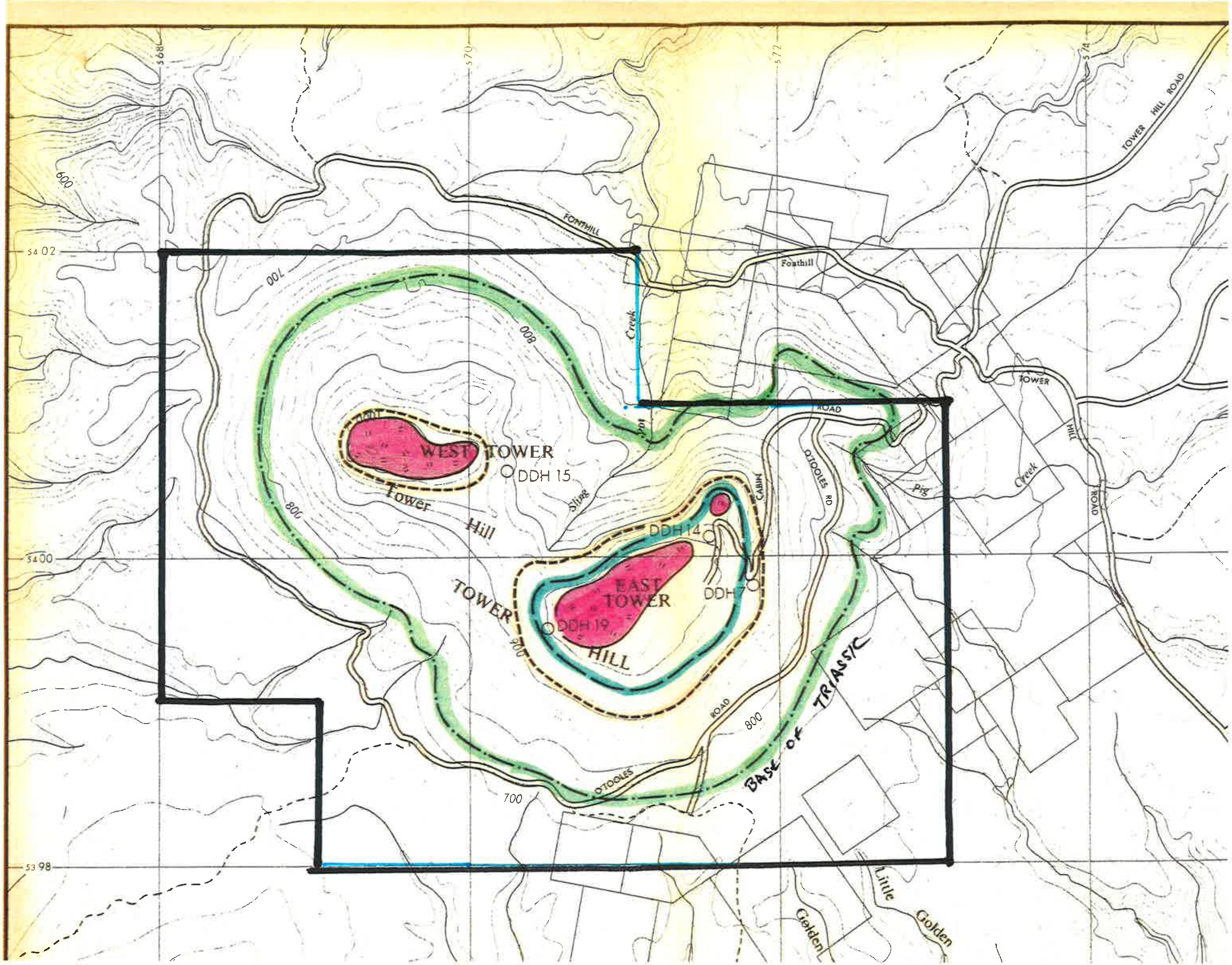
TABLE TH 1

SUMMARY OF COAL SEAM DATA

TOWER HILL - EL 50/82

HOLE NO.	COLLAR RL (masl.)	SEAM (Ply)	THICK. (m)	DEPTH TO ROOF (m)	RAW COAL ANALYSIS (AIR DRIED)					20 x 0.5 mm - 'WASHED' COAL (AIR DRIED)									20 x 0.5mm	-0.5mm	Ash % -0.5mm	SINKS	
					M %	Ash %	Vol %	F.C. %	R.D.	F/S R.D.	Yield %	R.D.	M %	Ash %	Vol %	F.C. %	S %	S.E. MJ/kg	%	%		R.D.	Ash %
DDH 7	930	B	1.86	19.70	3.9	37.6	21.8	36.7	1.64	1.60	53.3	1.43	3.8	15.4	26.4	54.4	0.41	27.08	97.3	2.7	42.0	2.00	42.0
DDH 14	990	* (1)	0.825	37.15	4.2	36.0	20.7	39.1	1.66														
		A (2)	1.47	56.14	3.5	40.2	23.3	33.0	1.69	1.60	60.2	1.46	3.2	20.3	29.9	46.6	0.49	25.96	95.7	4.3	45.9	2.08	70.1
		B (3)	1.39	81.495	3.9	29.8	24.1	42.2	1.58	1.60	67.7	1.45	3.2	15.5	27.8	53.5	0.47	27.34	97.8	2.2	29.6	-	-
										1.70	75.1	1.49	3.0	17.8	27.5	51.7	0.47	26.42	97.8	2.2	29.6	2.03	65.0
		* (4)	0.610	86.950	4.1	16.2	27.3	52.4	1.46														
DDH 15	940	NO COAL INTERSECTED																					
DDH 19	1000	A(1)	1.16	38.81	3.3	37.2	25.0	34.5	1.61	1.60	65.3	1.45	3.4	19.6	31.0	46.0	0.54	26.18	96.0	4.0	42.7	-	-
										1.70	72.1	1.47	-	22.0	-	-	-	-	-	-	-	2.10	72.2
		B	0.79	91.21	NOT ANALYSED																		

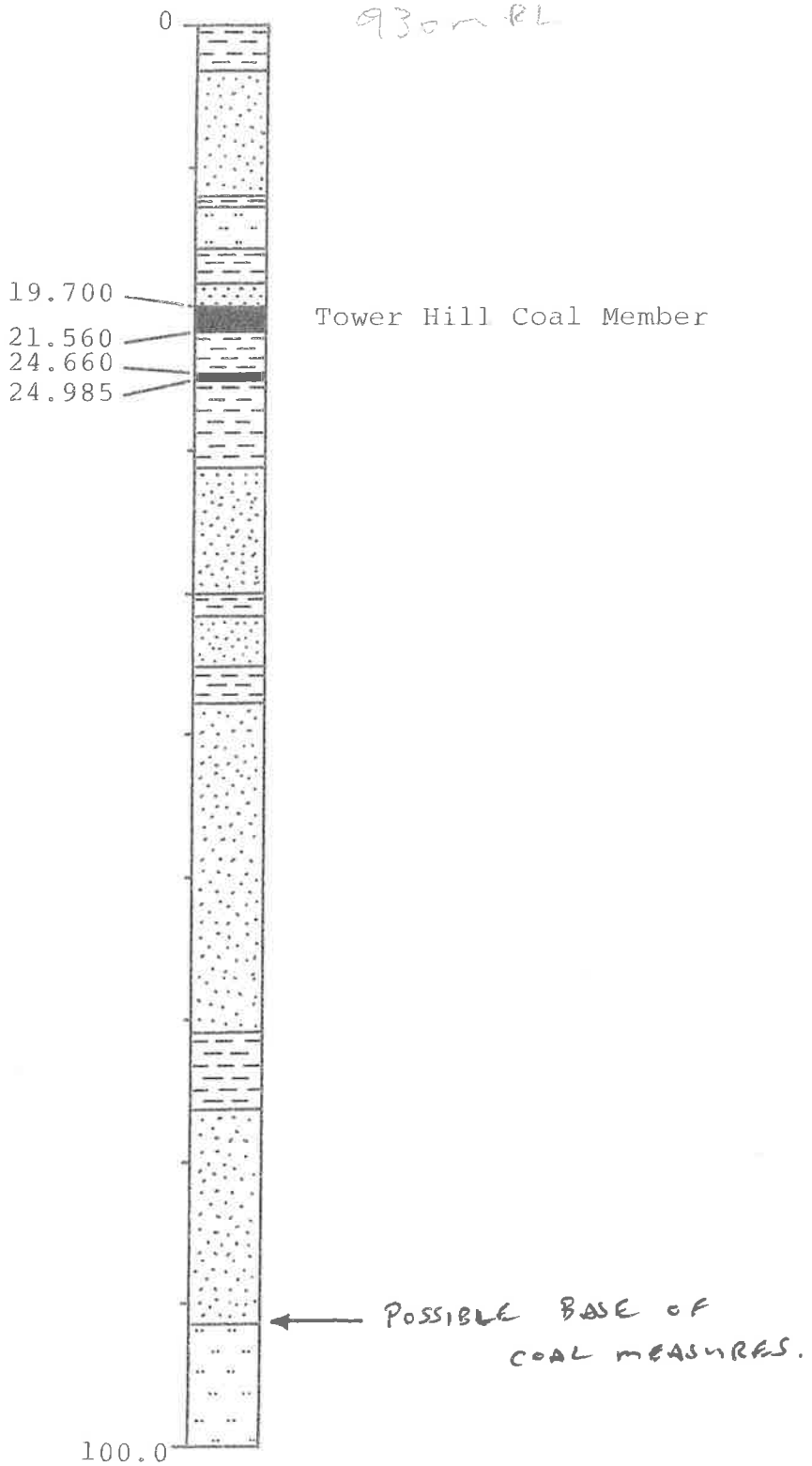
* Minor coal interval


TOWER HILL ROAD
TOWER
HILL
ROAD
FONTHILL
Fonthill
Creek
Pot
Pig
Creek
O'TOOLES RD
ROAD
CABIN
O'TOOLES
ROAD
WEST TOWER
DDH 15
Tower
Hill
Sling
TOWER
HILL
EAST TOWER
DDH 14
DDH 7
DDH 19
BASE OF TRIASSIC
Little
Golden
Golden
600
700
800
900
568
570
572
574
54 02
54 00
53 98

RL14/1988

TOWER HILL

CORNWALL COAL TOWER HILL D.D.H. 7

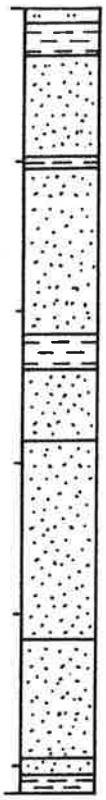


Prepared by
McELROY BRYAN & ASSOCIATES PTY LTD
for
CORNWALL COAL COMPANY

GRAPHIC SECTION

DRAWN BY C.F.R.P. DATE JANUARY 1980 SCALE 1:500 PAGE 1 of 2

CORNWALL COAL TOWER HILL D.D.H. 7



From RL

Prepared by
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GRAPHIC SECTION

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CORNWALL COAL TOWER HILL D.D.H. 7

Tower Hill Coal Member

GRAPHIC LOG (DEPTHS IN METRES)	PLY No.	PLY THICKNESS (m)	WT %	ASH %	C.S. No.	ASH % CUMULATIVE FROM FLOOR INCL. BANDS	ASH % CUMULATIVE FROM FLOOR EXCL. BANDS
19.700							
	701	1.86					
21.560							

Prepared by
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for
CORNWALL COAL COMPANY

COAL SECTION

DRAWN BY C.F.R.P. DATE JANUARY 1980 SCALE 1:20 PAGE 1 of 1

SGS Australia Pty. Ltd.

formerly

General Superintendence Company Pty. Ltd.

Sydney

74 McEvoy Street,
Alexandria, N.S.W.,
P.O. Box 163, Redfern, 2016
Tel.: ~~69-2825~~ 699-7625
Telex: AA 22395
Cables: Supervise

Client: Cornwall Coal Company
C/- McElroy Bryan & Associates
Pty. Ltd.
68 Alfred Street,
Milsons Point N.S.W. 2061.

Report No.: Lc/2314

Date Received: 30/11/79

Date Out: 7/12/79

Your ref.:

Our ref.:

Sample Reference: 1 Sample from Fingal Valley Tasmania

Identified as: DDH CC7 Sample 701

Sample Processing: Mass of core was taken 'as received'. It was hand crushed to pass a 20mm screen and a raw coal sample split out.

The raw coal sample was tested for proximate analysis and relative density.

Sample was dry screened at 0.5mm.

The 20 x 0.5mm fraction was then float/sink separated at 1.60 R.D.

After air-drying each gravity fraction was weighed and crushed to minus 3mm.

The 20mm x 0.5mm float 1.60, sink 1.60 and minus 0.5mm fraction were analysed for ash and R.D. (no R.D. on minus 0.5mm). The float 1.60 fraction was also analysed for proximate analysis, sulphur, specific energy, crucible swelling number.

Results: Refer to Tables 1 - 5 Sample 701

.....

David Wilson
Chief Chemist - Sydney Coal Laboratory

7/12/1979

Lc/2314

7/12/79

FINGAL VALLEY, TASMANIA

SAMPLE 701 DDH 701

Mass (as received) 3.300 kg
Relative Density 1.64

TABLE 1: CRUSHING AND DRY SCREENING AT 0.5mm

	Mass %
20mm x 0.5mm	97.3
Minus 0.5mm	2.7

TABLE 2: RAW COAL ANALYSIS

Moisture %	3.9
Ash %	37.6
Volatile Matter %	21.8
Fixed Carbon %	36.7

TABLE 3: FLOAT/SINK ANALYSIS OF 20mm x 0.5mm MATERIAL

Relative Density	FRACTIONAL		CUMULATIVE	
	Mass %	Ash %	Mass %	Ash %
Floats 1.60	53.3	15.4	53.3	15.4
Sinks 1.60	46.7	61.7	100.0	37.0
Plus 0.5mm (by calculation)	97.3	37.0	97.3	37.0
Minus 0.5mm (by analysis)	2.7	42.0	100.0	37.1

TABLE 4: ANALYSIS OF 20mm x 0.5mm FLOATS 1.60

Moisture %	3.8
Ash %	15.4
Volatile Matter %	26.4
Fixed Carbon %	54.4
Sulphur %	0.41
Crucible Swell Number	½
Specific Energy MJ/kg	27.08
Relative Density	1.43

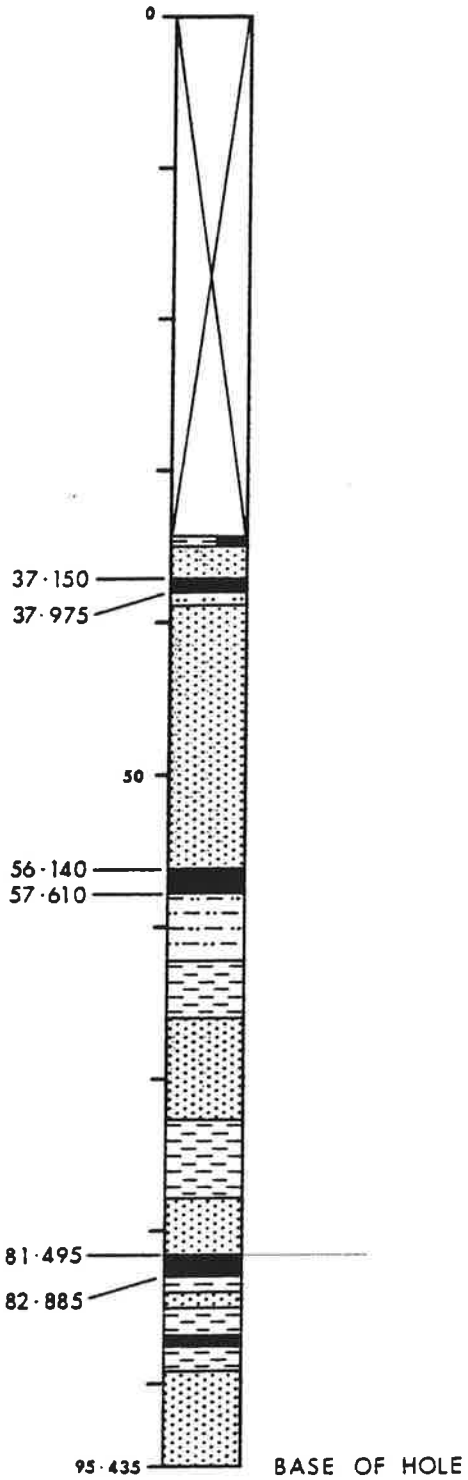
TABLE 5: ANALYSIS OF 20mm x 0.5mm SINKS 1.60

Relative Density	2.00

CORNWALL COAL COMPANY N.L.

Tower Hill

DDH 14

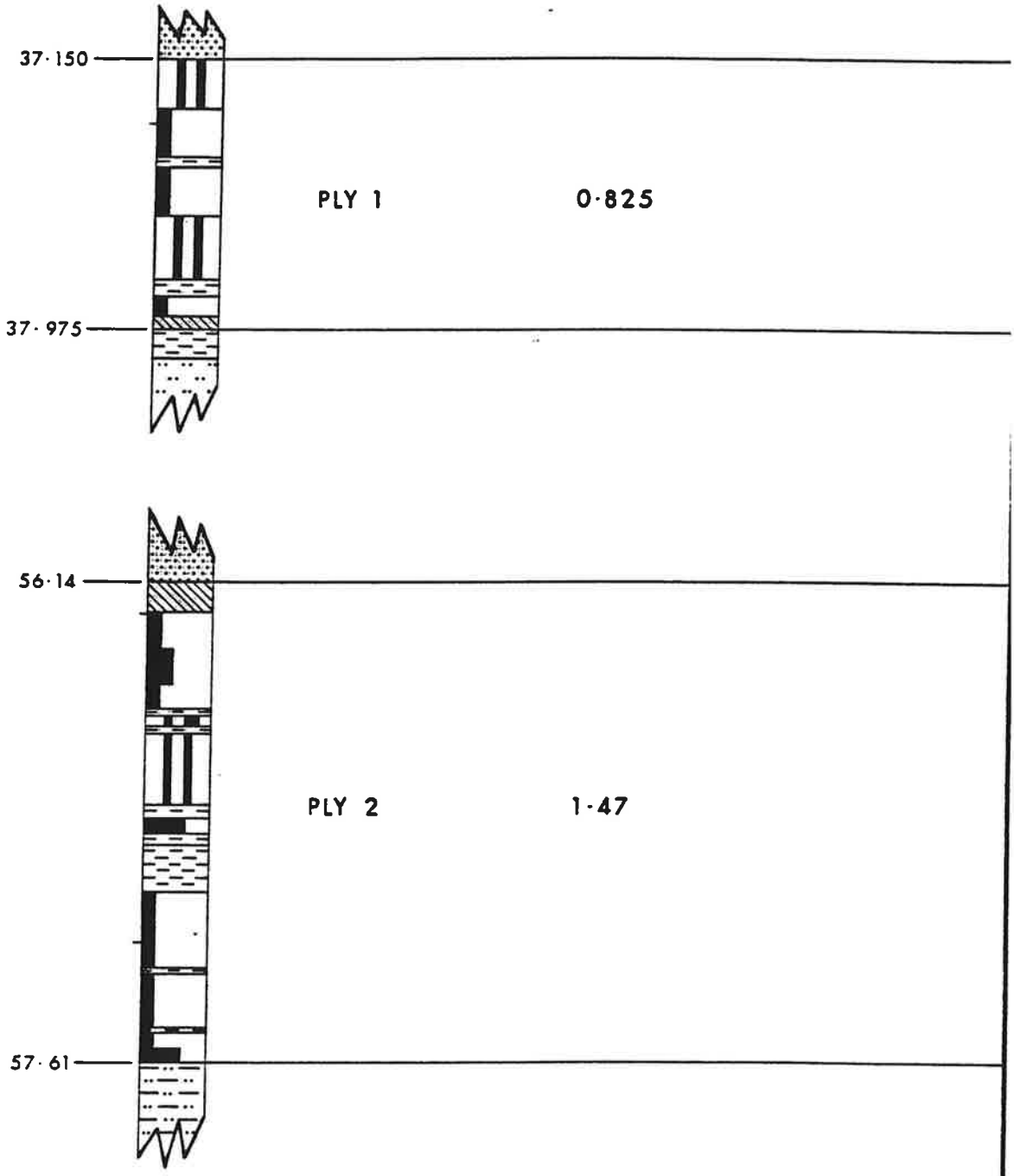


SCALE 1:500 DRAWN G.P.M. DATE November, 1984 PAGE 1 OF 1

CORNWALL COAL COMPANY N.L.

Tower Hill

DDH 14

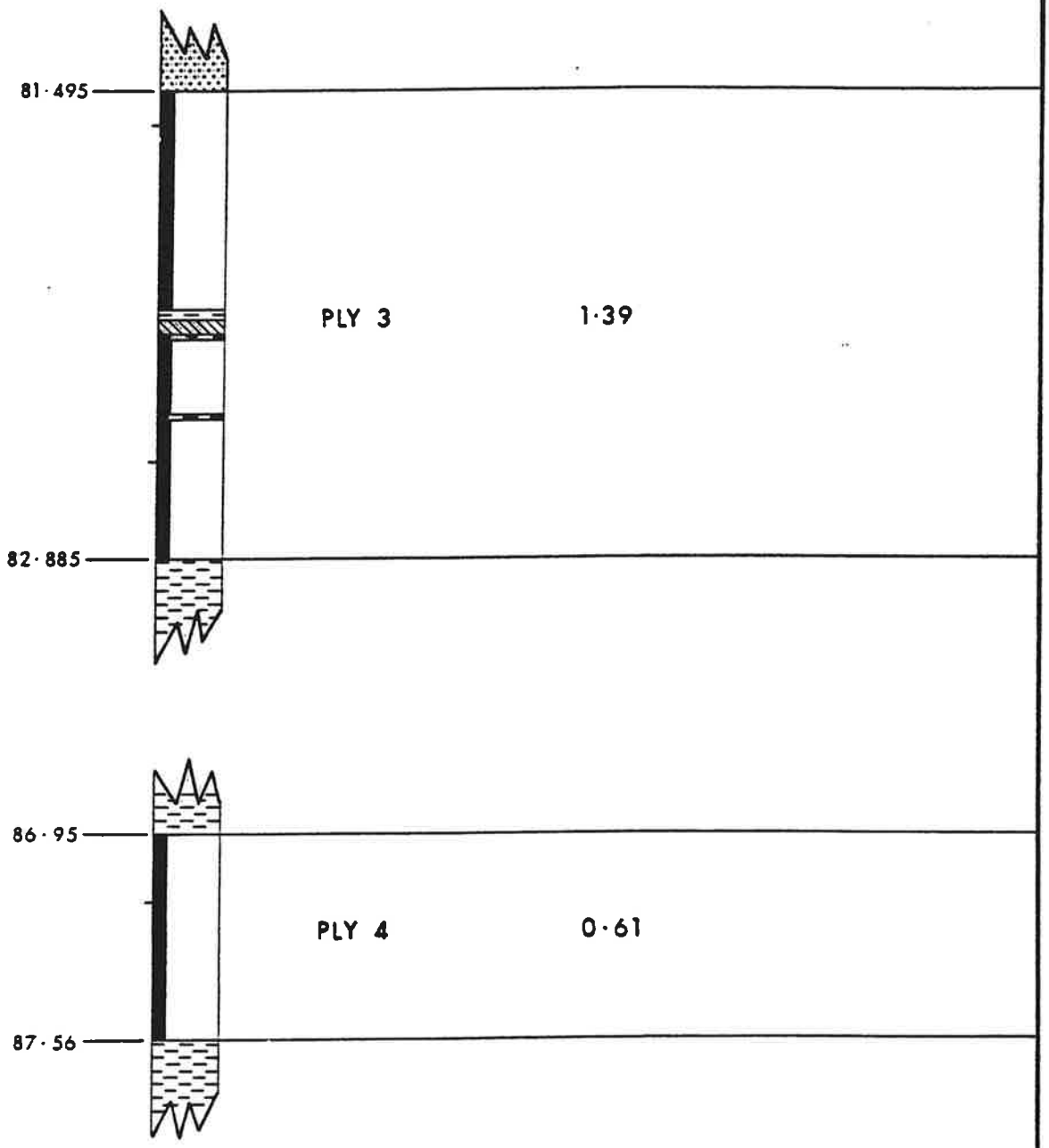


SCALE 1:20 DRAWN C.F.R.P. DATE 6/12/84 PAGE 1 OF 1

CORNWALL COAL COMPANY N.L.

Tower Hill

DDH 14



SCALE 1:20 DRAWN C.F.R.P. DATE 6/12/84 PAGE 1 OF 1

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Alexandria NSW 2015
Telephone (02) 699 7625.
Telex 22395
NATA Reg. No. 1062

McElroy Bryan & Associates Pty Ltd
P. O. Box 34
Willoughby N.S.W. 2068

Attn : Dr. J. H. Bryan

REPORT NO SL 2880 CLIENT REF. NO .....
DATE SAMPLES IN 9/11/84 DATE REPORT OUT 16/11/84

REPORT TITLE: ANALYSES OF BORECORES ST. PAULS RIVER, DDH 9 AND TOWER HILL DDH 14

The tests contained in this report have been carried out in accordance with the Australian Standards or other NATA approved methods listed below:-

AS 1038 Pt. 1	Total Moisture
AS 1038 Pt. 3	Proximate Analysis
AS 1038 Pt. 5	Specific Energy
AS 1038 Pt. 6	Ultimate Analysis
AS 1038 Pt. 8	Chlorine
AS 1038 Pt.11	Forms of Sulphur
AS 1038 Pt.12.1	Crucible Swelling Number
AS 1038 Pt.12.2	Gray King Coke Type
AS 1038 Pt.14.1	Ash Analysis
AS 1038 Pt.15	Fusibility of Ash
AS 1038 Pt.20	Hardgrove Grindability Index
AS 1038 Pt.21	Relative Density
AS 1661	Float/Sink Testing
AS 2137	Gieseler Plastometer (Discontinuous stirring method)
AS 2486	Reflectance of Vitrinite
AS 2515	Maceral Analysis
ISO 349	Audibert Arnu Dilatometer
ISO 335	Roga Index
ISO 1018	Moisture Holding Capacity
BS 1016 Pt.17	Size Analysis
LECO Method	Total Sulphur

Samples supplied by client.

SGS Australia Pty. Ltd.

REPORT No: SL 2880

20 x 0mm | 0.5 x 0mm | 20 x 0.5mm

Analysis \ Sample Ref.		Tower Hill ccDDH 14 Ply 1	Tower Hill ccDDH 14 Ply 2	Tower Hill ccDDH 14 Ply 1	Tower Hill ccDDH 14 Ply 2	Tower Hill ccDDH 14 Ply 2 F 1.60	Tower Hill ccDDH 14 Ply 2 S 1.60
Total Moisture	%	0.825m	1.470				
Moisture	%	4.2	3.5			3.2	
Ash	%	36.0	40.2	44.0	45.9	20.3	70.1
Volatile Matter	%	20.7	23.3			29.9	
Fixed Carbon	%	39.1	33.0			46.6	
Crucible Swelling No.							
Specific Energy	Mj/kg						
Total Sulphur	%						
Carbon	%						
Hydrogen	%						
Nitrogen	%						
Oxygen(plus errors)	%						
Carbon Dioxide	%						
Chlorine	%						
Relative Density		1.66	1.69			1.46	2.08
Mass	(kg)	2.03	3.68	0.04	0.13		

FUSIBILITY OF COAL ASH (Atmosphere): Sintered Alumina Support

Temperatures ^{o}C at Characteristic Shapes						
Initial Deformation						
Sherical						
Hemispherical						
Flow						
Comments:						

BASIS RESULTS REPORTED ON Air Dried

.....
COLIN MEADS
MANAGER - LABORATORIES

COAL ANALYSIS REPORT

FLOAT / SINK ANALYSIS

ST. PAUL'S RIVER DDH 9 PLY 1

Relative Density	Fractional (%)		Cumulative (%)	
	Mass	Ash	Mass	Ash
F 1.60	90.6	15.8	90.6	15.8
S 1.60	9.4	63.7	100.0	20.3

TOWER HILL cc DDH 14 PLY 2

Relative Density	Fractional (%)		Cumulative (%)	
	Mass	Ash	Mass	Ash
F 1.60	60.2	20.3	60.2	20.3
S 1.60	39.8	70.1	100.0	40.0

.....
COLIN MEADS
MANAGER - LABORATORIES

SGS Australia Pty. Ltd.

REPORT NO: SL 2882

CORNWALL COAL COMPANY
DDH14 - Ply 3

RAW COAL

Mass Received			3.146 kg
Relative Density			1.58
Moisture	%	(air dried)	3.9
Ash	%	(air dried)	29.8
Volatile Matter	%	(air dried)	24.1
Fixed Carbon	%	(air dried)	42.2

	Mass %	Ash%
20 x 0.5mm	97.8	29.7 (calc)
- 0.5mm	2.2	29.6
	100.0	29.7 (calc)

Float / Sink Separation of 20 x 0.5mm Material

	Fractional		Cumulative	
	Mass%	Ash%	Mass%	Ash%
Floats 1.60	67.7	15.5	67.7	15.5
S 1.60 - F 1.70	7.4	41.4	75.1	18.1
Sinks 1.70	24.9	65.0 (RD=2.03)	100.0	29.7

		Plus 0.5mm F 1.60 Material	Plus 0.5mm Cumulative Floats 1.70 Material
Yield	%	67.7	75.1
Relative Density		1.45	1.49
Moisture	% (Air Dried)	3.2	3.0
Ash	% (Air Dried)	15.5	17.8
Volatile Matter	% (Air Dried)	27.8	27.5
Fixed Carbon	% (Air Dried)	53.5	51.7
Sulphur	% (Air Dried)	0.47	0.47
Specific Energy	Mj/kg (Air Dried)	27.34	26.42

.....
COLIN MEADS
MANAGER - LABORATORIES

SGS Australia Pty. Ltd.

REPORT NO: SL 2882

CORNWALL COAL COMPANY
DDH14 - Ply 4

RAW COAL

Mass Received			1.180 kg
Relative Density			1.46
Moisture	%	(air dried)	4.1
Ash	%	(air dried)	16.2
Volatile Matter	%	(air dried)	27.3
Fixed Carbon	%	(air dried)	52.4

	Mass %	Ash%
20 x 0.5mm	NOT REQUIRED	
- 0.5mm		

Float / Sink Separation of 20 x 0.5mm Material

	Fractional		Cumulative	
	Mass%	Ash%	Mass%	Ash%
Floats 1.60				
S 1.60 - F 1.70	NOT REQUIRED			
Sinks 1.70				

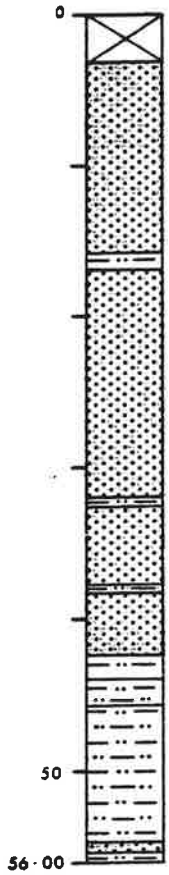
		F 1.60 Material
Yield	%	
Relative Density		
Moisture	% (Air Dried)	
Ash	% (Air Dried)	
Volatile Matter	% (Air Dried)	NOT REQUIRED
Fixed Carbon	% (Air Dried)	
Sulphur	% (Air Dried)	
Specific Energy Mj/kg		

.....
COLIN MEADS
MANAGER - LABORATORIES

CORNWALL COAL COMPANY N.L.

Tower Hill

DDH 15



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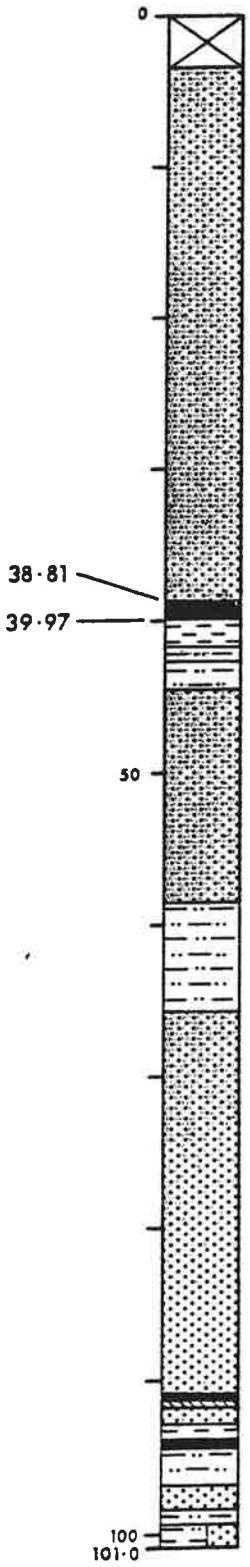
CORNWALL COAL COMPANY N.L.

Tower Hill

DDH 19



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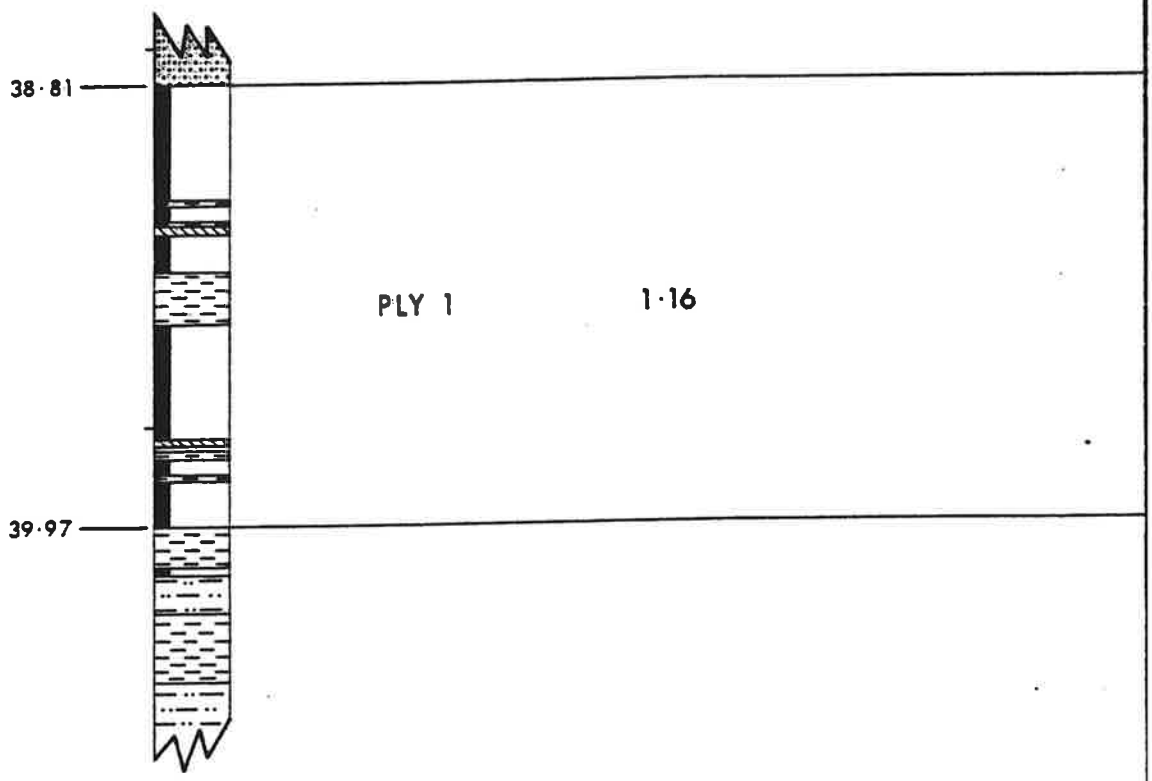
CORNWALL COAL COMPANY N.L.

DDH 19



SCALE 1:20 DRAWN C.F.R.P. DATE 6/12/84 PAGE 1 OF 1

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NATA Reg. No. 1062

McELROY BRYAN & ASSOCIATES PTY LTD
P. O. BOX 34
WILLOUGHBY N.S.W. 2068

ATTN : DR. JOHN H. BRYAN

REPORT NO SL 2904 ..... CLIENT REF. NO Letter J.H.B. 30/11/84 .....

DATE SAMPLES IN 30/11/84 ..... DATE REPORT OUT 5/12/84 .....

REPORT TITLE: ANALYSES OF BORECORE SAMPLE DDH 19 PLY 1 FROM CORNWALL COAL COMPANY N.L.

The tests contained in this report have been carried out in accordance with the Australian Standards or other NATA approved methods listed below:-

AS 1038 Pt. 1	Total Moisture
AS 1038 Pt. 3	Proximate Analysis
AS 1038 Pt. 5	Specific Energy
AS 1038 Pt. 6	Ultimate Analysis
AS 1038 Pt. 8	Chlorine
AS 1038 Pt.11	Forms of Sulphur
AS 1038 Pt.12.1	Crucible Swelling Number
AS 1038 Pt.12.2	Gray King Coke Type
AS 1038 Pt.14.1	Ash Analysis
AS 1038 Pt.15	Fusibility of Ash
AS 1038 Pt.20	Hardgrove Grindability Index
AS 1038 Pt.21	Relative Density
AS 1661	Float/Sink Testing
AS 1676	Sampling
AS 2137	Gieseler Plastometer (Discontinuous stirring method)
AS 2486	Reflectance of Vitrinite
AS 2515	Maceral Analysis
ISO 349	Audibert Arnu Dilatometer
ISO 335	Roga Index
ISO 1018	Moisture Holding Capacity
BS 1016 Pt.17	Size Analysis
LECO Method	Total Sulphur

BORECORE SUPPLIED BY CLIENT.

ALL MASSES AND ANALYSES ON AIR DRIED BASIS.

Report No : SL 2904

INTRODUCTION

A sample of Borecore (DDH 19, Ply 1) was delivered at S.G.S. Sydney on 30/11/84.

The sample was prepared and analysed as requested by letter from Dr. John H. Bryan.

The raw coal was air dried, weighed and crushed to pass a 20mm screen.

A representative sample was prepared for the determination of proximate and relative density.

The remainder was screened at 0.5mm and the - 20 + 0.5mm Float / Sunk at relative densities 1.60, 1.70.

Ash was determined on the raw - 0.5mm + 0 coal; proximate, sulphur, specific energy, relative density on the washed - 20 + 0.5mm Floats 1.60; and Ash on both the washed Sinks 1.60 / Floats 1.70 and Sinks 1.70 samples.

COAL ANALYSIS REPORT

DDH 19, Ply 1

Raw Coal (-20mm + 0)

Mass Received	(kg)	2.374
Moisture	%	3.3
Ash	%	37.2
Volatile Matter	%	25.0
Fixed Carbon	%	34.5
Relative Density		1.61

	Mass %	Ash %
- 20 + 0.5mm	96.0	36.0 (Calculated)
- 0.5mm + 0	4.0	42.7
	100.0	36.3 (36.0 Calc Raw Coal)

Float / Sink Separation - 20 + 0.5mm Material

	Fractional %			Cumulative %	
	Mass	Ash	RD	Mass	Ash
Floats 1.60	65.3	19.6	1.45	65.3	19.6
Sinks1.60,Floats1.70	6.8	45.5	-	72.1	22.0
Sinks 1.70	27.9	72.2	2.10	100.0	36.0

- 20 + 0.5mm Floats 1.60

Moisture	%	3.4
Ash	%	19.6
Volatile Matter	%	31.0
Fixed Carbon	%	46.0
Sulphur	%	0.54
Specific Energy	MJ/kg	26.18
Relative Density		1.45

COLIN MEADS
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