



## **Fingal Tier Coal Project**

**EL17 / 2010**

**Coal Resources**

**17<sup>th</sup> August 2015**

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## Overview

Within Exploration Licence EL17/2010 held by HardRock Coal Mining Pty Ltd (HRCM), coal resources have been estimated in the G Seam. Coal within Merrywood Mine workings has been excluded from this assessment of resources.

- Total resources within EL17/2010 in Seam G (East Fingal or Merrywood Seam) are summarised in Table 1 below.

JORC Class	tonnes in situ
Measured	2,271,632
Indicated	1,631,016
Measured + Indicated	3,902,648
Inferred	5,609,292
TOTAL	9,511,941

**Table 1 – EL17/2010 G Seam Coal Resources**

Coal resources have been limited to a working thickness greater than 1.5 metres and raw ash less than 45% (air dried basis).

All points of observation (POI) used in the resource estimation are cored and analysed intersections of the coal seam. The spacing of the POIs for the type of seam intersections available justifies the JORC classification of Measured (up to 500m from POI) and Indicated (500 to 1000 metres from POI).

Within the areas of seam occurrence that satisfy thickness and coal quality parameters, zones of Jurassic dolerite replacement and known mine workings have been excluded.

## Coal Geology

The coal seams of interest in the Fingal Tier project lie within the Triassic Upper Parmeener Super Group. The upper limit is defined by outcrop or the overlying Jurassic Dolerite which forms a discordant upper limit to the coal measures. The base of coal bearing strata is defined by a formation highlighted by the presence of white quartz rich sandstone beds.

There are 8 coal horizons which are identified simply “A” to “H” Seams in descending order. Only one coal seam, “G” of mining potential has been considered. Seam G has areas of seam thickness greater than 1.5 metres and less than 45% ash. The resources within this seam have been evaluated in this report.

The G Seam was worked by open cut and underground methods in Merrywood Colliery which is located in the southern part of EL17 where it was informally called the Merrywood Seam. In MRT records the G Seam has been identified as the East Fingal Seam from drilling carried out in the early 1980s.

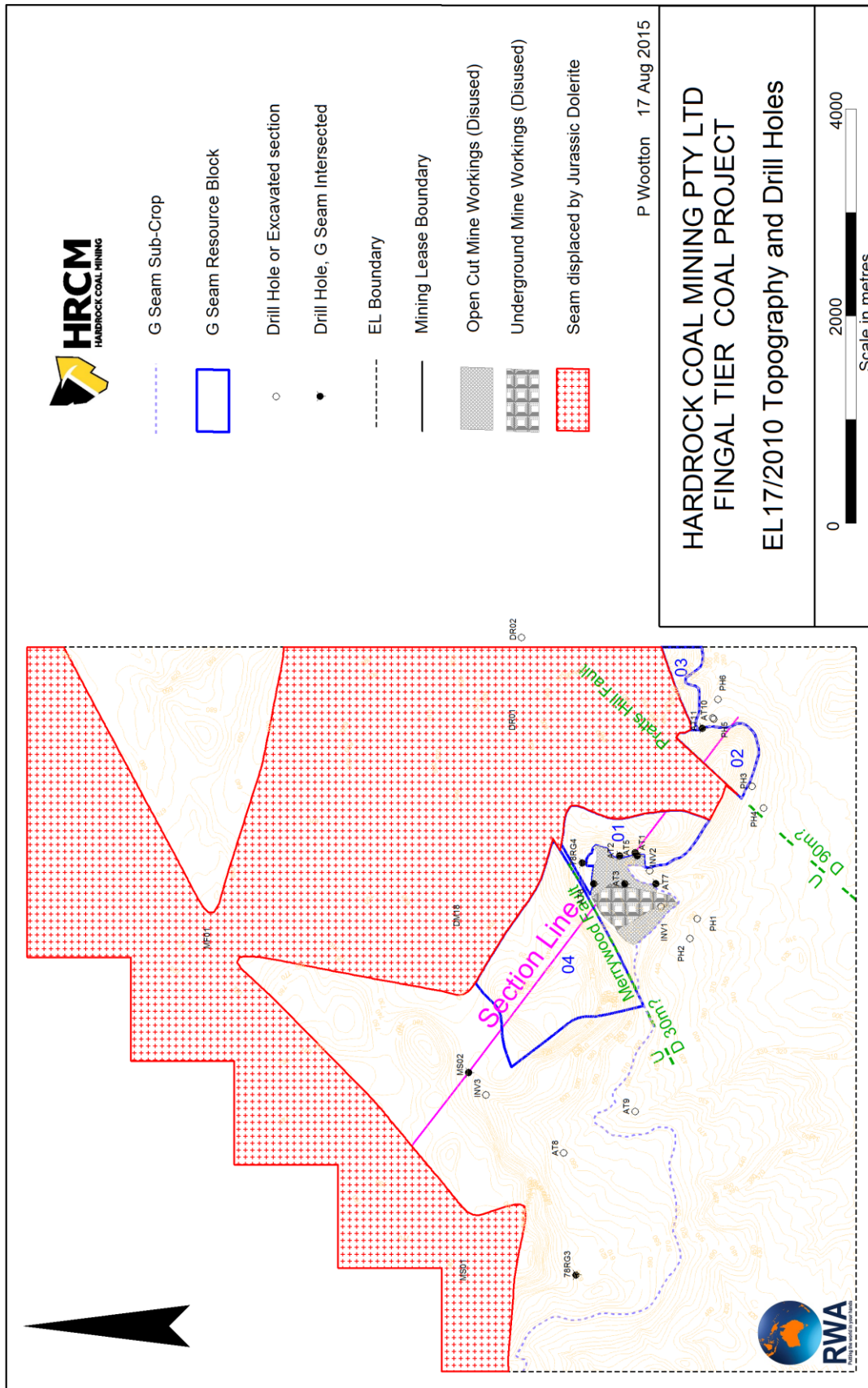
## Coal Resources Data

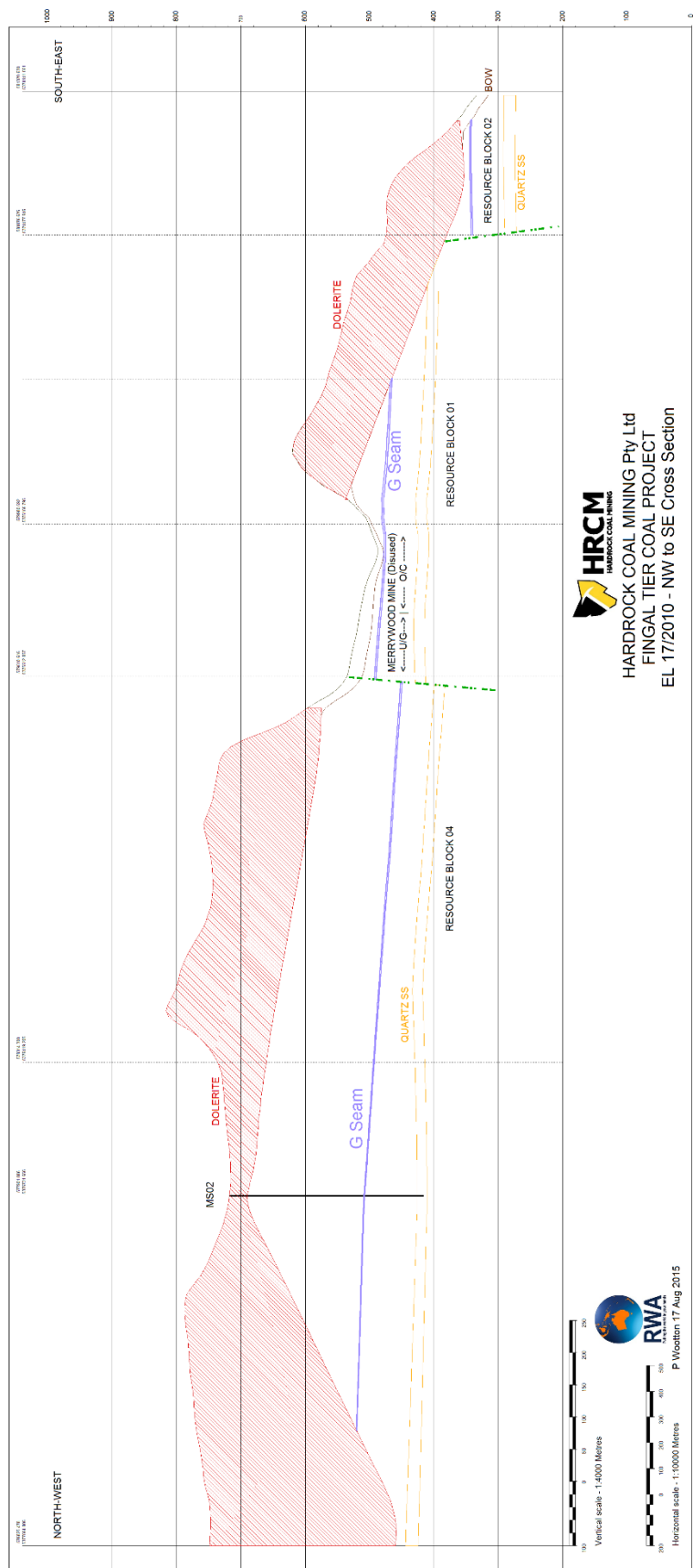
A total of 27 drill holes have been sunk in EL17. Of these 10 intersected the G Seam. A summary of drilling history and results is shown in Table 2 below.

Drill Hole	East	North	Collar	TD	Year	Company	Notes	G Seam Details					
	MGA	MGA	AHD					From	To	Thick	ARD	Ash	Sulfur
78RG3	575933	5375704	636	184.5	1978	Investigator Coal		112.62	113.86	1.24	2.26	77.6	
78RG4	579913	5375644	552	112.5	1978	Investigator Coal		36.91	39.15	2.24	1.47	26.0	0.10
INV1	579492	5374883	475	4.2	1978	Investigator Coal	Shallow augur						
INV2	579837	5374993	466	1.5	1978	Investigator Coal	Shallow augur						
INV3	577672	5376573	685	1.2	1978	Investigator Coal	Shallow augur						
DM18	579324	5376774	668	424.8	1980	MRT	Dolerite						
MF01	579112	5379183	720	255.0	1984	Cornwall Coal	Dolerite						
AT1	579982	5375113	501	29.6	1987	Avoca Transport		4.30	7.10	2.80			
AT2	579982	5375283	509	30.4	1987	Avoca Transport		24.84	27.25	2.41			
AT3	579712	5375233	502	25.7	1987	Avoca Transport		22.25	25.00	2.75			
AT5	580012	5375133	512	27.7	1987	Avoca Transport		18.66	21.67	3.01	1.51	25.7	0.36
AT6	579712	5375533	532	42.0	1987	Avoca Transport		35.51	37.82	2.31	1.54	27.9	0.37
AT7	579712	5374933	468	22.0	1987	Avoca Transport		7.00	23.30	3.05			
AT8	577112	5375823	565	37.0	1987	Avoca Transport							
AT9	577512	5375133	482	17.5	1987	Avoca Transport	Outside G Seam						
AT10	581313	5374384	327	24.0	1987	Avoca Transport	Outside G Seam						
AT11	581213	5374484	344	21.3	1987	Avoca Transport		7.00	9.00	2.00			
PH1	579373	5374534	380	51.0	1993	Merrywood Coal Co.	Outside G Seam						
PH2	579183	5374604	400	22.0	1993	Merrywood Coal Co.	Outside G Seam						
PH3	580653	5374004	371	30.0	1993	Merrywood Coal Co.	Outside G Seam						
PH4	580443	5373894	340	16.0	1993	Merrywood Coal Co.	Outside G Seam						
PH5	581303	5374374	328	40.0	1993	Merrywood Coal Co.	Outside G Seam						
PH6	581493	5374334	310	50.0	1993	Merrywood Coal Co.	Outside G Seam						
MS01	575906	5376708	785	354.9	2013	HRCM	Dolerite						
MS02	577888	5376740	718	309.9	2013	HRCM		210.51	211.63	1.12			
DR01	581220	5376236	642	265.5	2015	HRCM	Dolerite						
DR02	582090	5376230	652	399.6	2015	HRCM	Dolerite						

**Table 2 – EL17/2010 Drill Hole List**

Topographic contours, surface features and locations of drill holes are shown on Figure 1. A summary north-west to south-east cross section is presented on Figure 2.





**Figure 2: Summary Section**

## **Competency**

The modelling and calculation of coal resources and coal quality were carried out by Paul Wootton, B.App.Sc... Mr Wootton is a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM) and a Member of the Australian Society of Exploration Geophysicists (ASEG). Mr Wootton has the necessary professional qualifications and sufficient experience relevant to the type of coal deposits modelled to qualify as a Competent Person as defined in the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.

## **Methodology**

Coal resources were estimated from the geological model generated using VULCAN software. The geological model consisted of surface models of terrain, and for each coal seam, working thickness, elevation of working roof and working floor, depth of cover, apparent relative density, and raw ash. Resources were calculated on an air dried basis.

## G Seam Resources

The resource estimate for the G seam within the Fingal Tiers Mining Tenure areas held by HRCM area is summarised in Table 3.

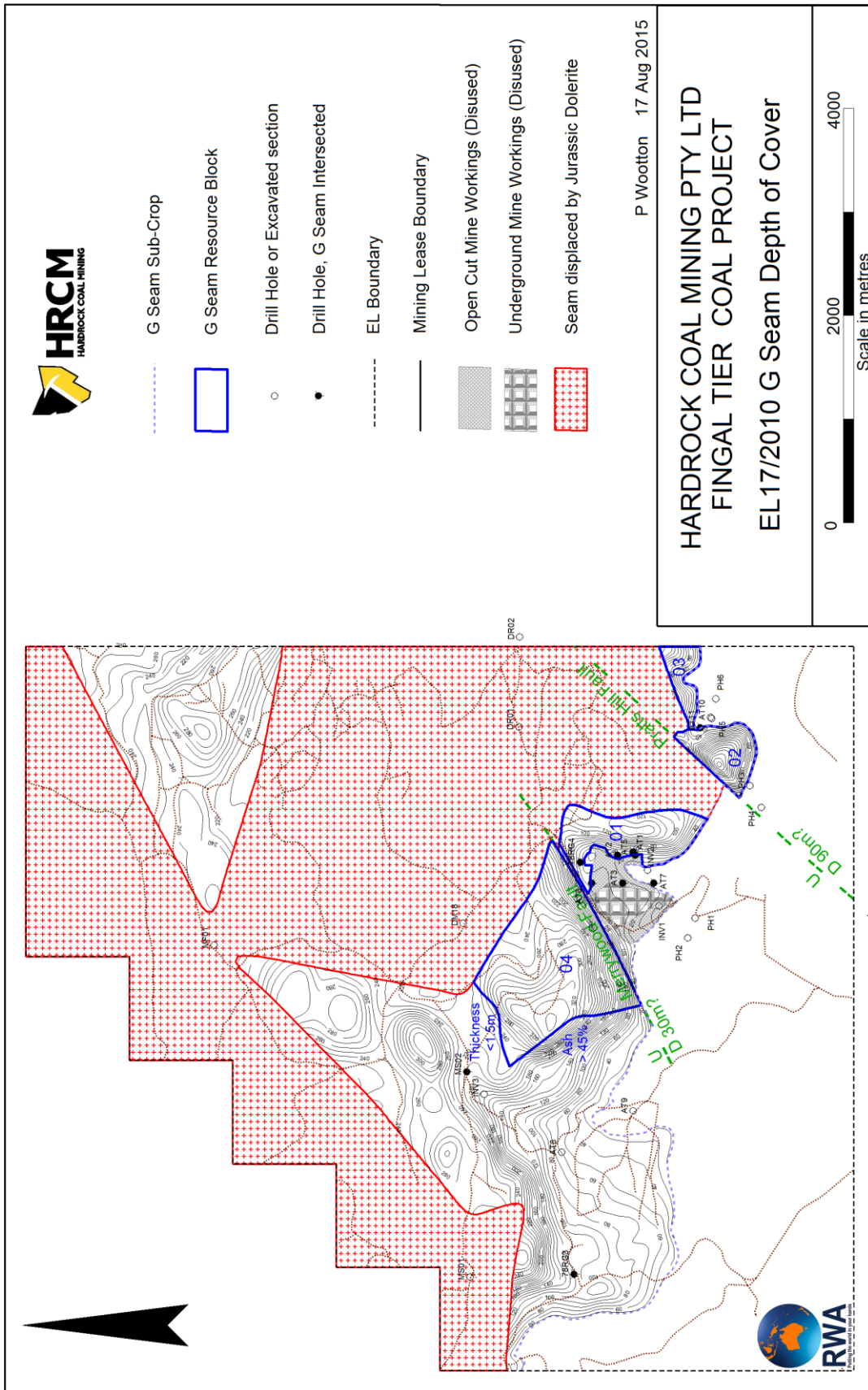
Block		1	2	3	4	Measured + Indicated	TOTAL
JORC	Class	Measured	Indicated	Indicated	Inferred		
Area	m2	600,667	319,706	164,837	1,655,852	1,085,210	2,741,062
Volume	m3	1,494,715	724,781	333,867	3,403,753	2,553,363	5,957,116
tonnes	<i>in situ</i>	2,271,632	1,128,579	502,437	5,609,292	3,902,648	9,511,941
Thickness (m)	Ave.	2.49	2.27	2.03	2.06	2.35	2.21
	Min.	2.18	2.02	1.99	1.50	1.99	1.50
	Max.	2.94	2.63	2.09	2.73	2.94	2.94
Cover (m)	Ave.	85	92	60	243	83	180
	Min.	9	12	6	40	6	6
	Max.	149	194	155	342	194	342
Raw Ash % (ad)	Ave.	26.5	29.2	25.3	36.2	27.1	32.5
	Min.	25.4	26.2	24.3	26.2	24.3	24.3
	Max.	28.9	30.5	27.4	45.0	30.5	45.0

**Table 3: Coal Resources – Seam G**

POIs, areas of G Seam development and resource blocks are shown on the following figures. Note, these image files as well as this report file, ***Fingal\_Tier\_EL17\_JORC\_Aug2015\_v1.pdf*** are attached with this report.

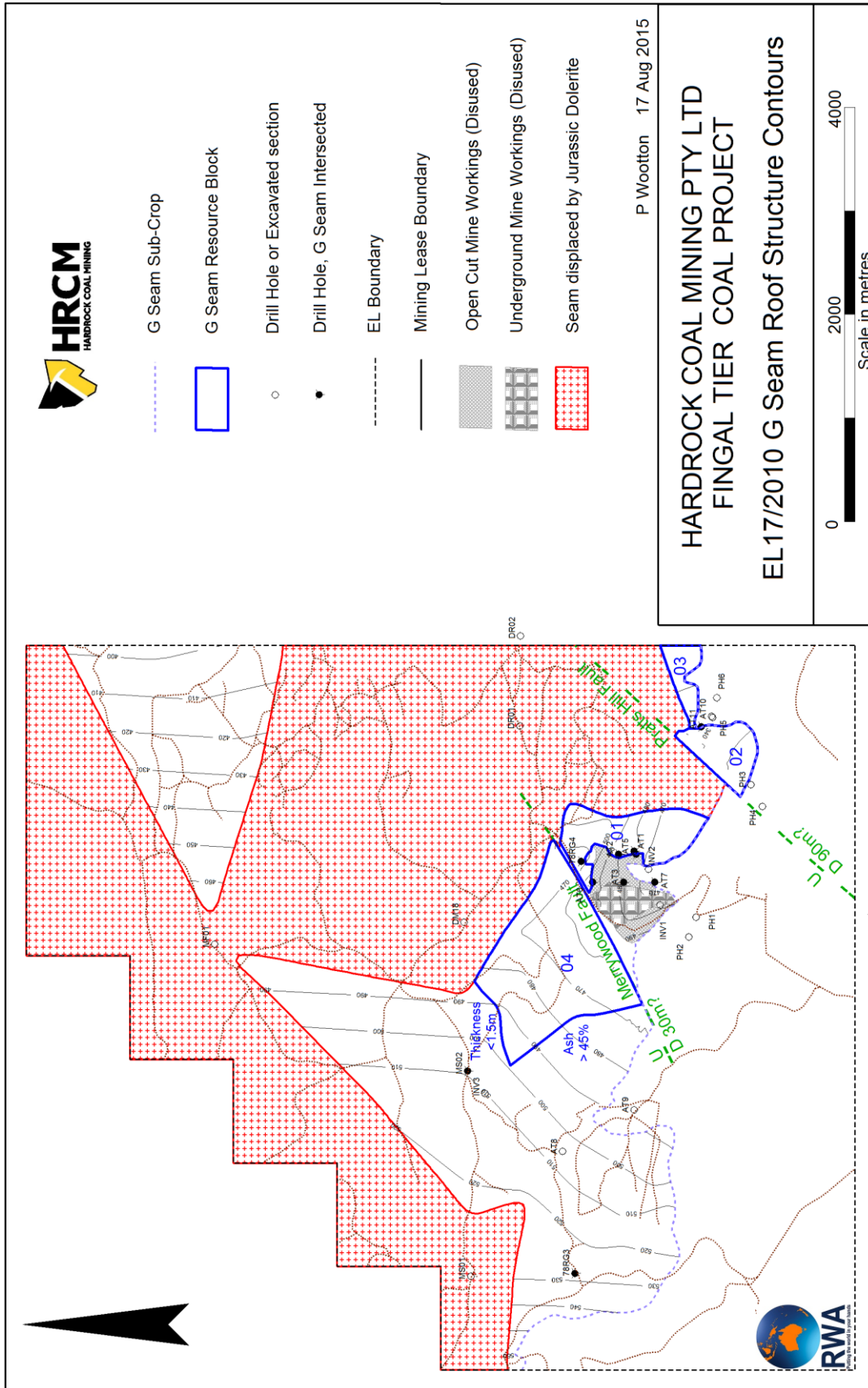
Figure No.	Image File	Title
1	<i>EL17_TOP_DH_150817.png</i>	Topography and Drill Holes
2	<i>EL17_NW-SE-SECTION.png</i>	NW to SE Cross Section
3	<i>EL17_G_DoC_150817.png</i>	G Seam Depth of Cover
4	<i>EL17_G_TK_150817.png</i>	G Seam Working Thickness
5	<i>EL17_G_SR_150817.png</i>	G Seam Roof Structure Contours
6	<i>EL17_G_ASH_150817.png</i>	G Seam Raw Ash % (a.m.)

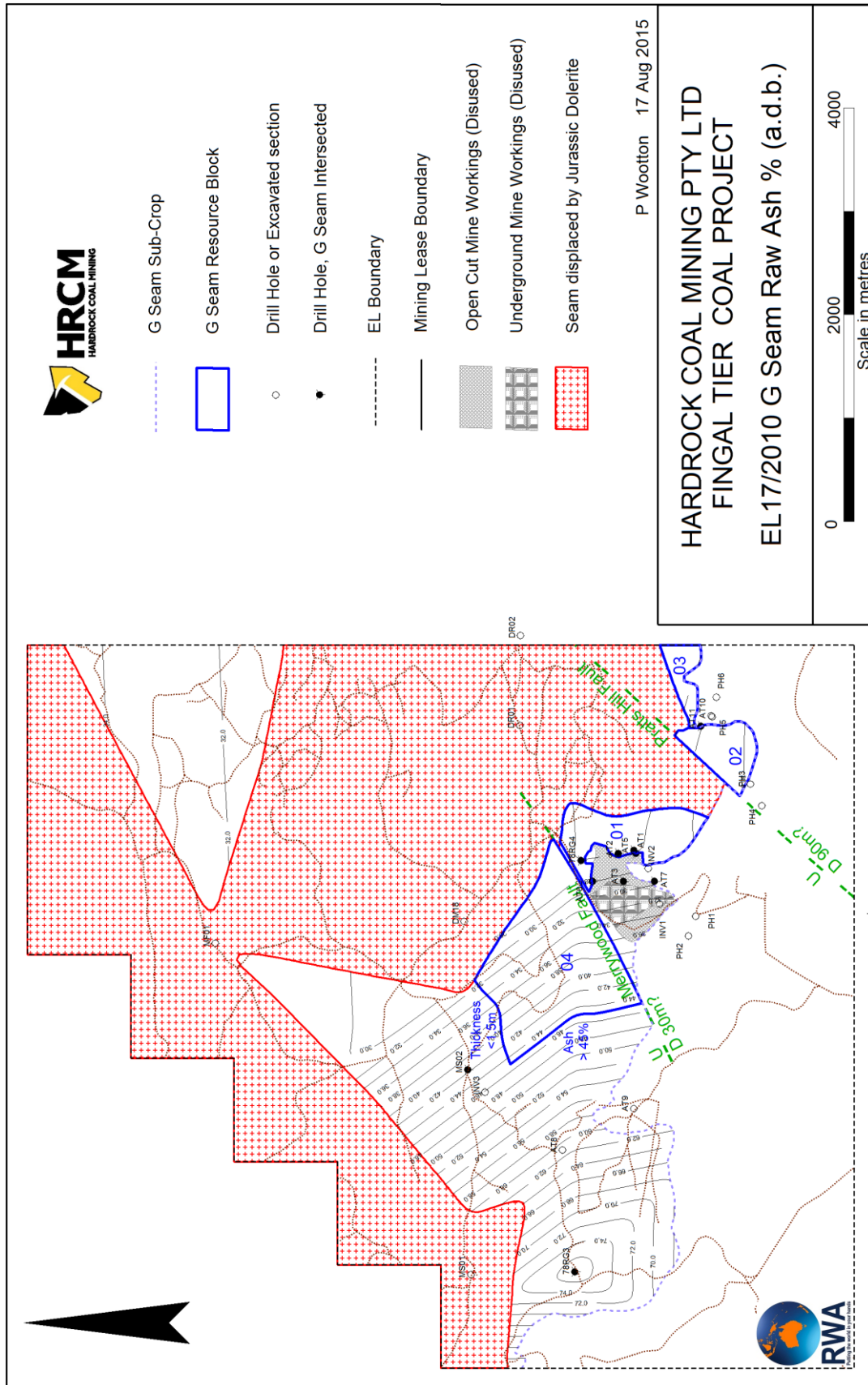
**Table 4: List of Figures.**













## Competent Person's Consent Form

Pursuant to the requirements of ASX Listing Rule 5.6 and clause 8 of the 2004 JORC Code  
(Consent Statement)

### Statement

I, Paul Wootton confirm that:

- I have read and understood the requirements of the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**2004 JORC Code**);
- I am a Competent Person as defined in the 2004 JORC Code, having five years' experience which is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility;
- I am a Fellow of *The Australasian Institute of Mining and Metallurgy*
- I have reviewed the Report – ***Fingal Tier Coal Project, Coal Resources (5 September 2014)*** to which this Consent Statement applies. I verify that the Report is based on, and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to coal resources and reserves.

### Consent

I consent to the release of the Report and this Consent Statement.

5<sup>th</sup> December 2014

## Bibliography

<b>Year</b>	<b>MRT File</b>	<b>Author</b>	<b>Title</b>	<b>Organisation</b>
1960	TR5_186_187	T D Hughes	Coal Reserves at Merrywood	Tasmanian Department of Mines
1978	78-1278	D D Waters	EL16/77 Royal George Report for Six Months 23 Dec 1977 to 23 Jun 1978	Investigator Coal Exploration Pty Ltd
1979	79-1324	J W Sangster	EL16/77 Royal George Report for Six Months 23 Jun 1978 to 23 Dec 1978	Investigator Coal Exploration Pty Ltd
1983	UR1983_07	C A Bacon	The Merrywood Coalfield	Tasmanian Department of Mines
1984	UR1984_57	C A Bacon, V M Threader	Petrographic and Proximate Analyses of the Merrywood Seam, Merrywood Colliery, North-east Tasmania	Tasmanian Department of Mines
1984	84-2193	J H Bryan	EL22/82 (Mt Foster)	Cornwall Coal Company N.L.
1985	85-2324	J H Bryan	ELs 50/82,26/84,27/84 St Pauls River Preliminary Report	Cornwall Coal Company N.L.
1986	86-2544	John Miedecke and Partners Pty Ltd	Merrywood Coal Mine Environmental Assessment and Management Plan(MLs 103M/84, 31M/92	Avoca Transport Company Pty Ltd
1987	87-2645		EL21/82 Merrywood Area Report Oct 1985 - Oct 1986	Avoca Transport Company Pty Ltd
1987	87-2727		EL21/82 Merrywood Area Report Oct 1986 - Oct 1987	Avoca Transport Company Pty Ltd
1993	93-3407	K C Morrison	EL12/19 (Pratts Hill) Year 1 and Final Report	Merrywood Coal Company Pty Ltd
2002	rehab2002_06	N Bedford	Merrywood Coal Mine Rehabilitation Project Stage 1 2001- 2002	Mineral Resources Tasmania