



Fingal Tier Coal Project
Partial Surrender of EL17/2010
Geological Report
26th September 2014

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Overview

HardRock Coal Mining Pty Ltd (HRCM) intend to surrender 66 square kilometres part of EL17-2010 and retain 46 square kilometres of the southern part. In the part to be surrendered the coal bearing strata within the Upper Permian Super Group has been replaced by Jurassic Dolerite, while in the part sought for retention coal resource potential has been identified in the G coal seam which was worked in Merrywood mine by underground and open cut methods. Details of MGA co-ordinates are listed in Table 1. The relevant areas are shown on Figure 1.

EL17/2010 Partial Surrender Area		
Point	MGA east	MGA north
1	575,000	5,389,000
2	582,000	5,389,000
3	582,000	5,381,000
4	579,000	5,381,000
5	579,000	5,380,000
6	578,000	5,380,000
7	578,000	5,379,000
8	577,000	5,379,000
9	577,000	5,378,000
10	576,000	5,378,000
11	576,000	5,377,000
12	575,000	5,377,000
EL17/2010 Retained Area		
Point	MGA east	MGA north
1	582,000	5,373,000
2	575,000	5,373,000
3	575,000	5,377,000
4	576,000	5,377,000
5	576,000	5,378,000
6	577,000	5,378,000
7	577,000	5,379,000
8	578,000	5,379,000
9	578,000	5,380,000
10	579,000	5,380,000
11	579,000	5,381,000
12	582,000	5,381,000

Table 1: MGA co-ordinates of surrender and retention areas of EL17/2010

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. Surface geology is shown on Figure 2.

There are 8 coal horizons which are identified simply "A" to "H" Seams in descending order. Apart from Seam G, which has significant areas of economic thickness and coal quality in the southern part of EL17, the other coal beds are either completely removed by the dolerite or are represented by minor coal or carbonaceous shale bands. The extent of dolerite replacement of the Upper Parmeener Super Group at the Seam G horizon is shown on Figure 3.

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 names 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.

A summary south-north cross section is presented on Figure 4.

Exploration

The following exploration activities have been carried out by HRCM.

Literature Review.

Reports and documents relating to previous exploration and mining activities have been reviewed. Drill hole, mining and geological mapping data have been entered into databases established by HRCM for the Fingal Tier coal project.

Air-photo Interpretation

The extent of Jurassic dolerite was mapped from aerial photographs and access for geological mapping and drill sites were assessed.

Surface Mapping

The extent of dolerite and surface talus were confirmed and drill site access checked.

Drilling

Two cored drill holes (MS01 and MS02) were completed in the Mount Slaughter area in the southern part of EL17-2010. Graphic logs of these two holes are included at the end of this report. Image files are (MS01_BHG.png and MS02_BHG.png) are also located in the associated folder "***Figures***". These two holes as well as previous drilling are listed in Table 2. The well completion report files are contained in the associated folder "***MRT format data***". A third hole is planned to commence in October 2014. The locations of this proposed hole and previously completed drill holes are shown on Figure 5.

Drill Hole	East (MGA)	North (MGA)	Collar Elevation	Total depth	Type	Locality	Year	Drilled by
MS01	575,906	5,376,708	785	354.9	Core	Mt Slaughter	2013	HRCM
MS02	577,888	5,376,740	720	309.9	Core	Mt Slaughter	2013	HRCM
PH1	579,373	5,374,534	380	51.0	Core	Pratts Hill	1992	Merrywood Coal Company
PH2	579,183	5,374,604	400	22.0	Core	Pratts Hill	1992	Merrywood Coal Company
PH3	580,653	5,374,004	371	30.0	Core	Pratts Hill	1992	Merrywood Coal Company
PH4	580,443	5,373,894	340	16.0	Core	Pratts Hill	1992	Merrywood Coal Company
PH5	581,303	5,374,374	328	40.0	Core	Pratts Hill	1992	Merrywood Coal Company
PH6	581,493	5,374,334	310	50.0	Core	Pratts Hill	1992	Merrywood Coal Company
AT1	579,982	5,375,113	480	29.6	Core	Merrywood	1986	Avoca Transport
AT10	581,313	5,374,384	327	24.0	Core	Merrywood	1986	Avoca Transport
AT11	581,213	5,374,484	345	21.3	Core	Merrywood	1986	Avoca Transport
AT2	579,982	5,375,283	505	30.4	Core	Merrywood	1986	Avoca Transport
AT3	579,712	5,375,233	500	25.7	Core	Merrywood	1986	Avoca Transport
AT5	580,012	5,375,133	505	27.7	Core	Merrywood	1986	Avoca Transport
AT6	579,712	5,375,533	530	42.0	Core	Merrywood	1986	Avoca Transport
AT7	579,712	5,374,933	470	22.0	Core	Merrywood	1986	Avoca Transport
AT8	577,112	5,375,823	565	37.0	Core	Merrywood	1986	Avoca Transport
AT9	577,512	5,375,133	485	17.5	Core	Merrywood	1986	Avoca Transport
MF01	579,112	5,379,183	725	255.0	Core	Mt Foster	1984	Cornwall Coal Company
78RG3	575,933	5,375,704	640	184.5	Core	Royal George	1978	Investigator Coal Exploration
78RG4	579,913	5,375,644	580	112.5	Core	Royal George	1978	Investigator Coal Exploration
INV1	579,492	5,374,883	477	4.2	Auger	Merrywood	1978	Investigator Coal Exploration
INV2	579,837	5,374,993	471	1.5	Auger	Merrywood	1978	Investigator Coal Exploration
INV3	577,672	5,376,573	698	1.2	Auger	Merrywood	1978	Investigator Coal Exploration
DM18	579,324	5,376,774	665	424.8	Core	Merrywood	1974	DoM
FRDH2	576,597	5,381,372	522	86.0	Open	Mt Foster		

Table 2: List of Drill Holes in EL17/2010

Digital Data

Data related to the drilling carried out by HRCM in EL17/2010 has been formatted to MRT specifications and is provided with this report.



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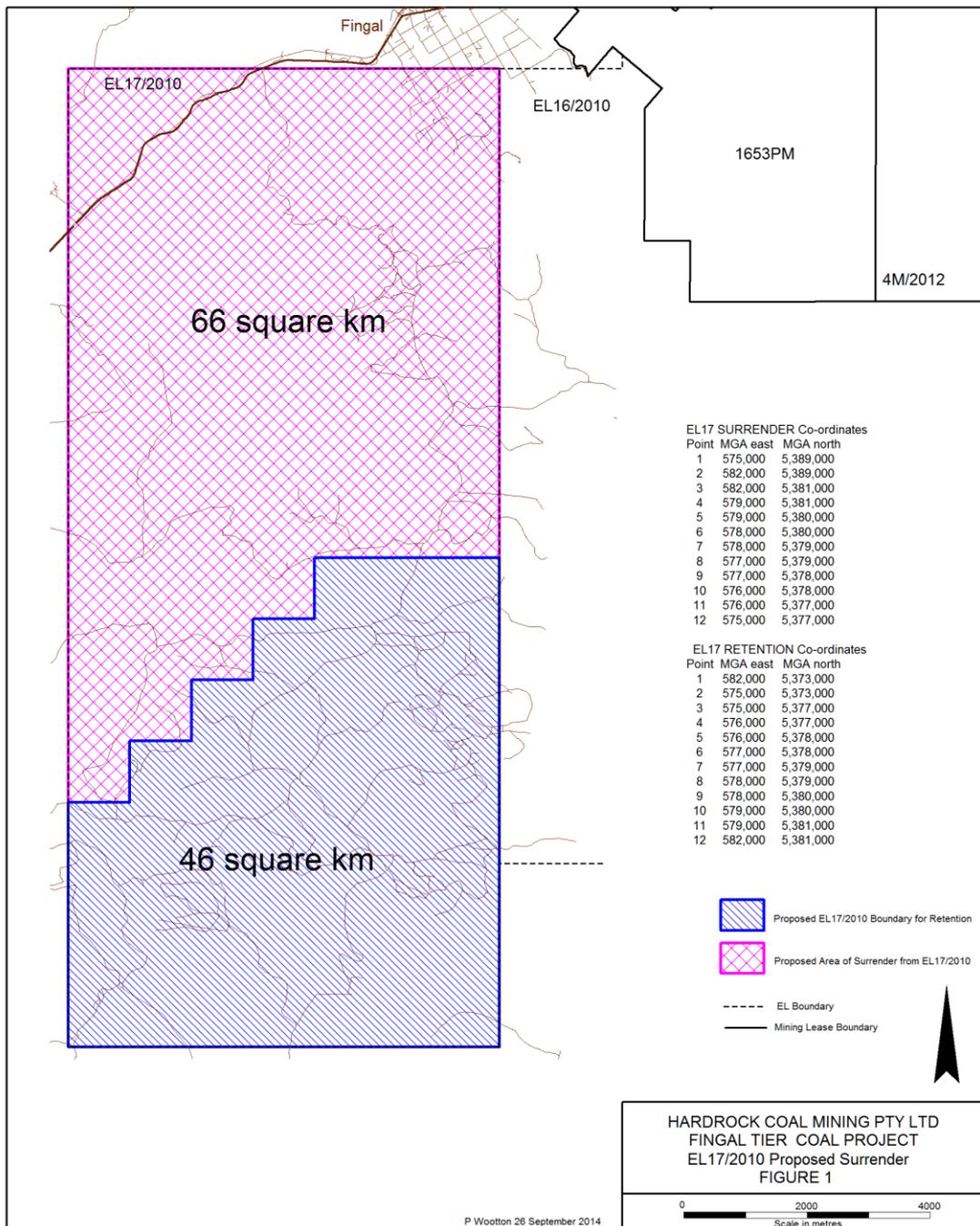
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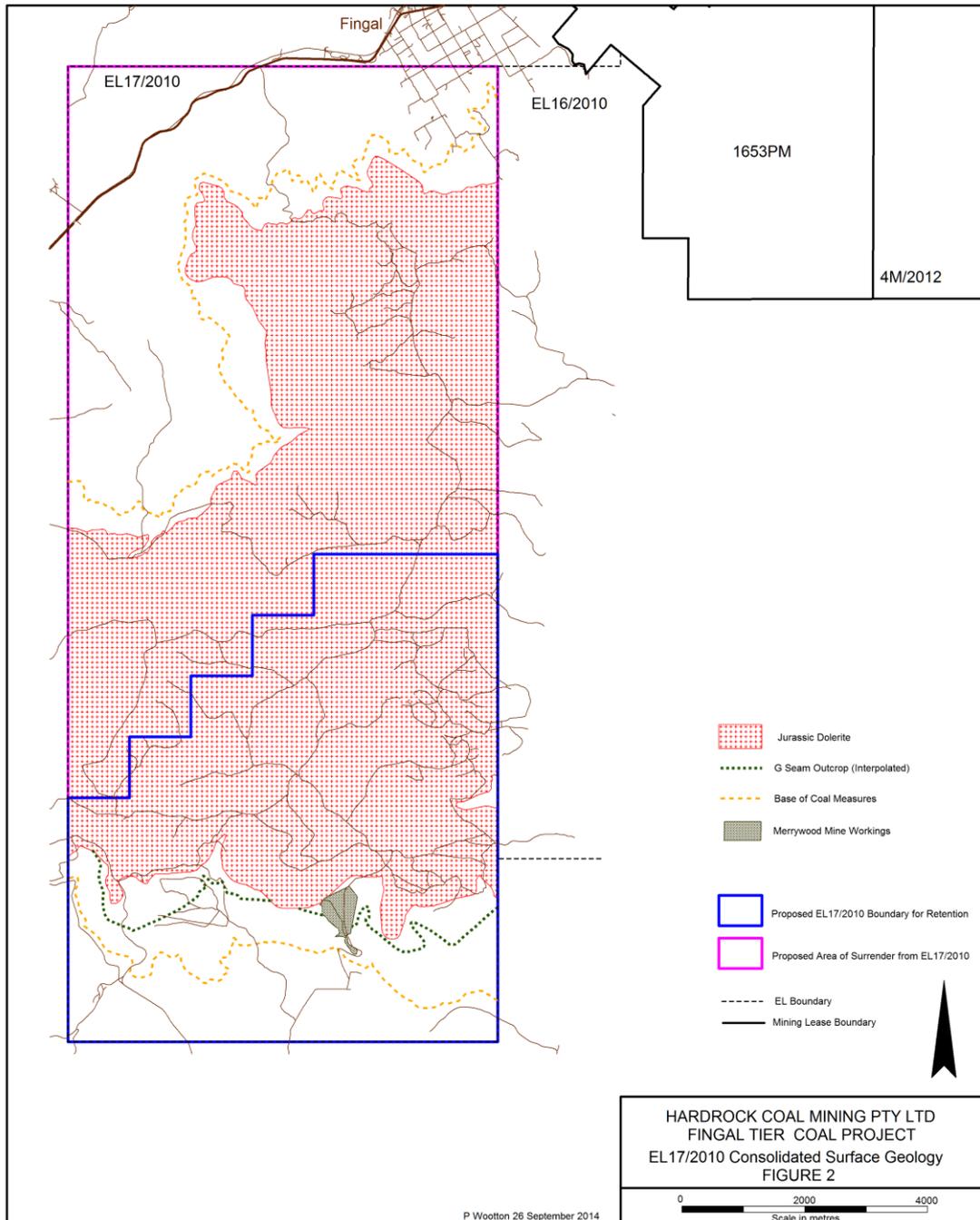
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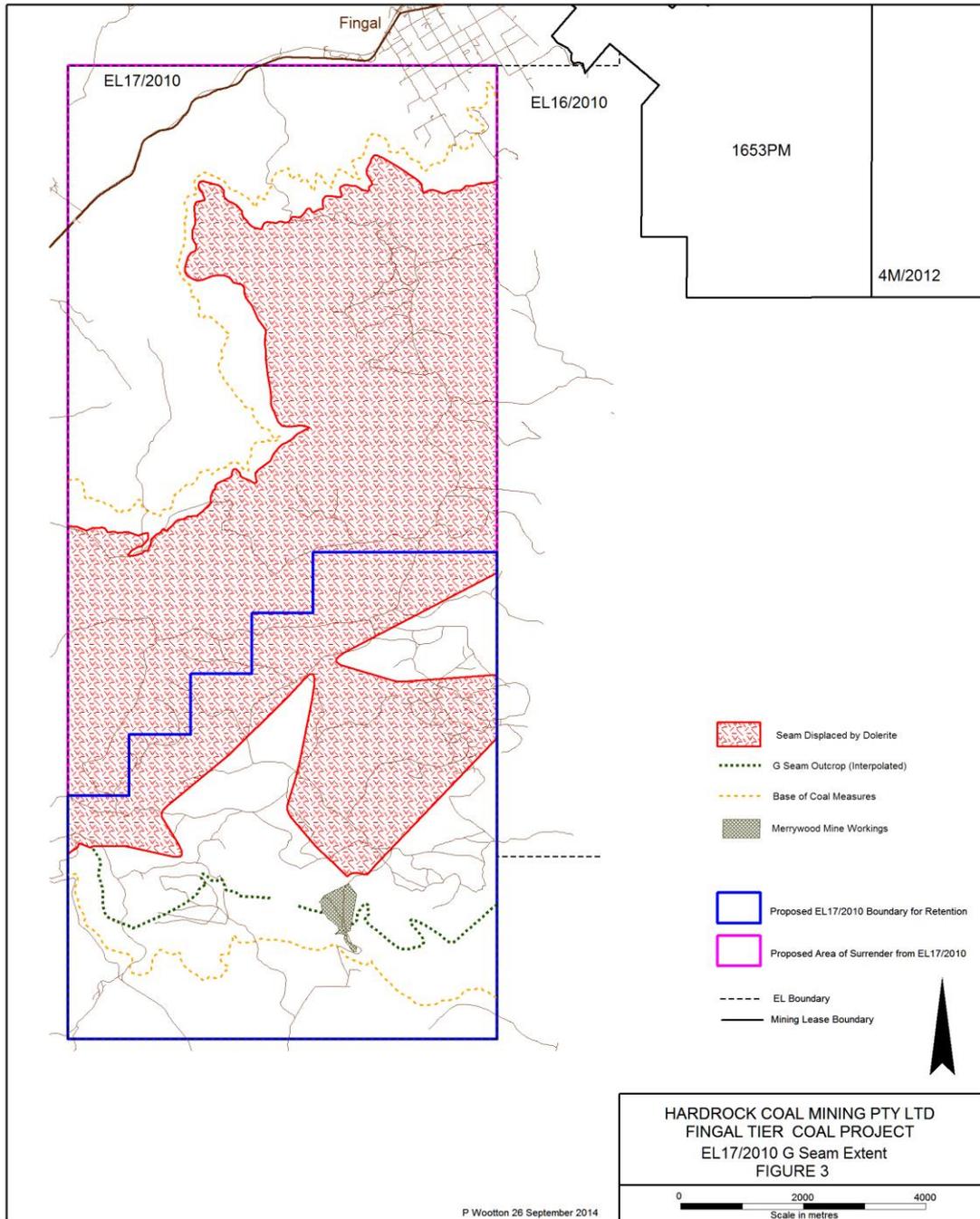
FIGURES

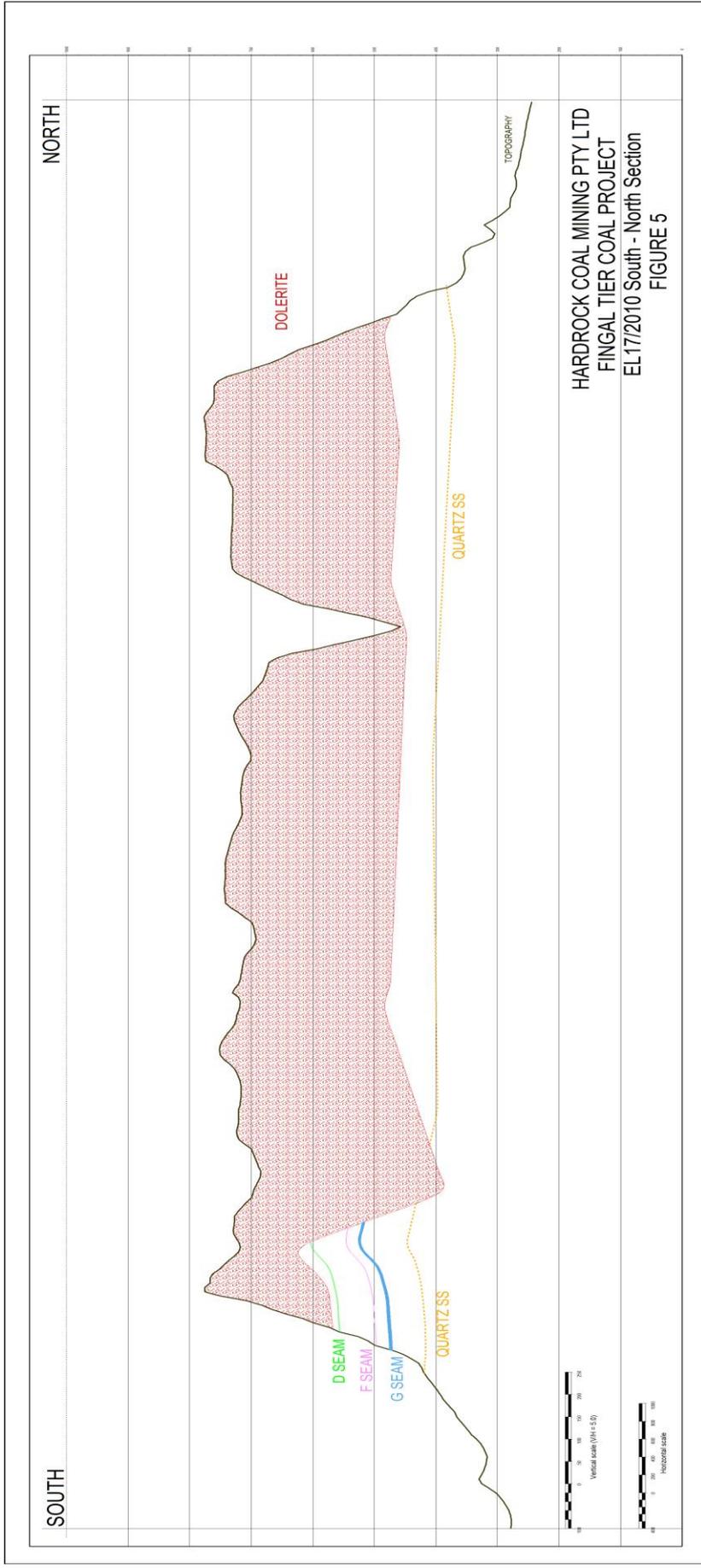
Figure No.	Title	Image File *
1	EL17/2010 Proposed Surrender	el17_sur_fig_1.png
2	EL17/2010 Consolidated Surface Geology	el17_sur_fig_2.png
3	EL17/2010 G Seam Extent	el17_sur_fig_3.png
4	EL17/2010 South-North Section	el17_sur_fig_4.png
5	EL17/2010 Drill Hole Locations	el17_sur_fig_5.png

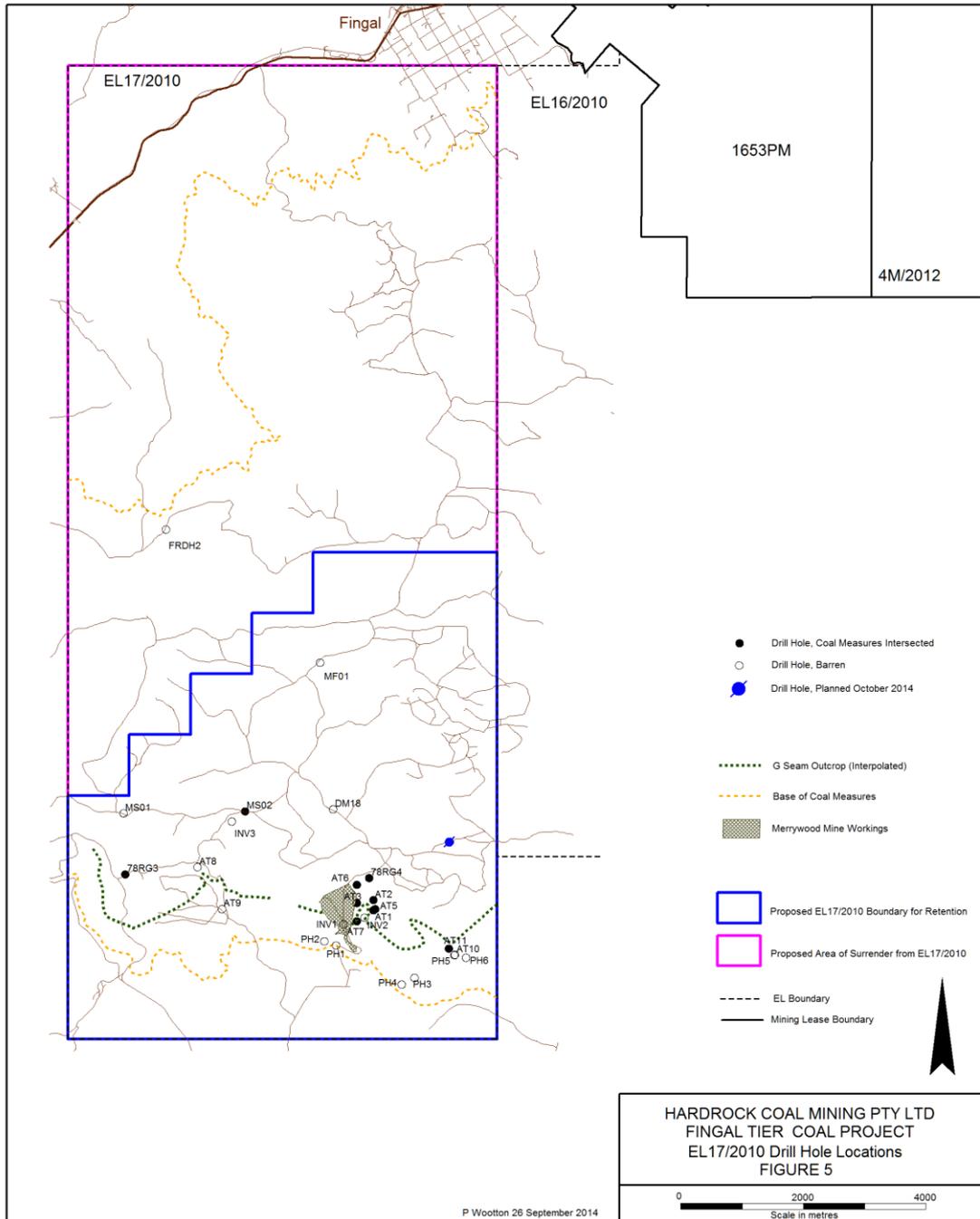
* Image files are located in the associated folder titled **"Figures"**











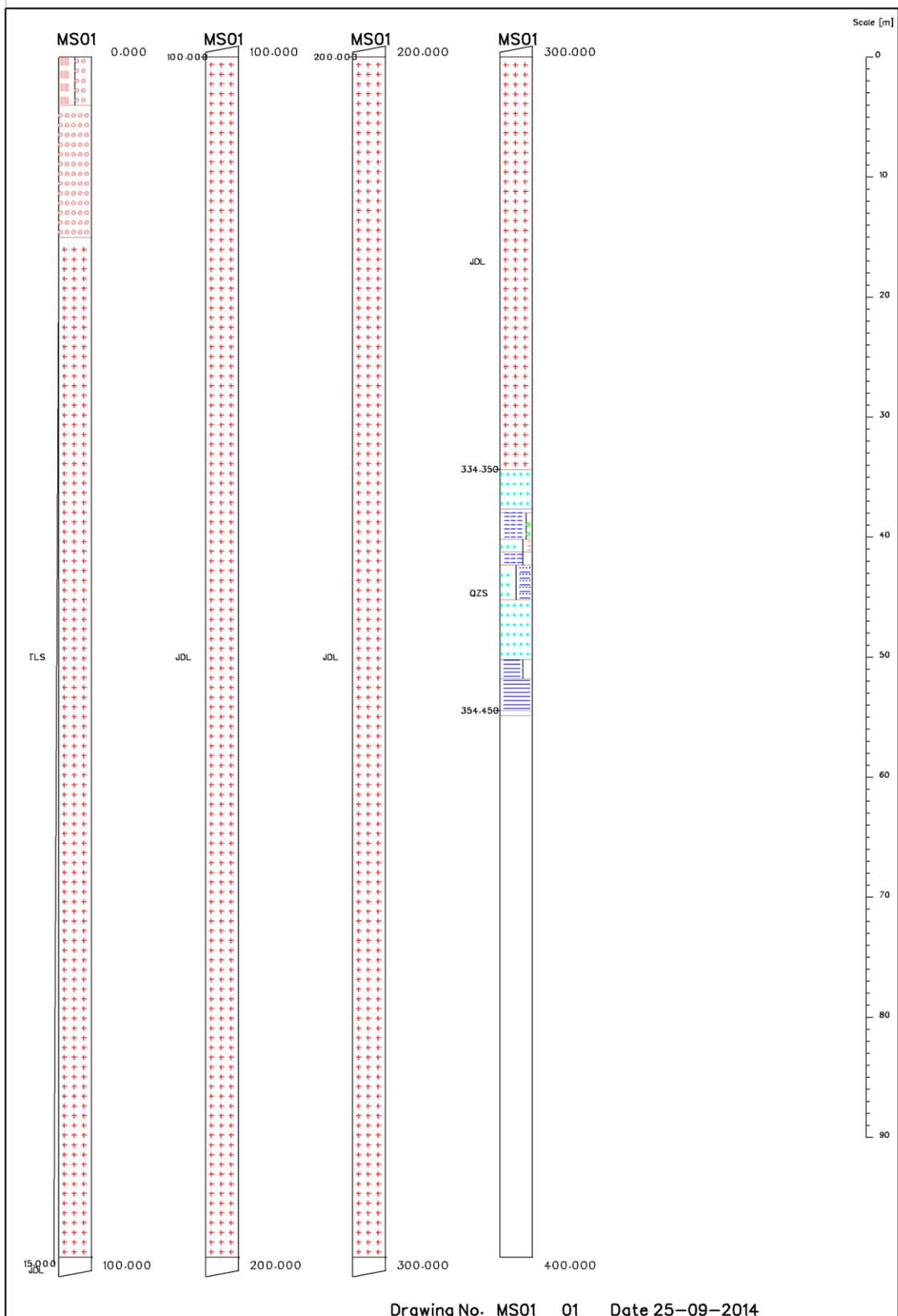
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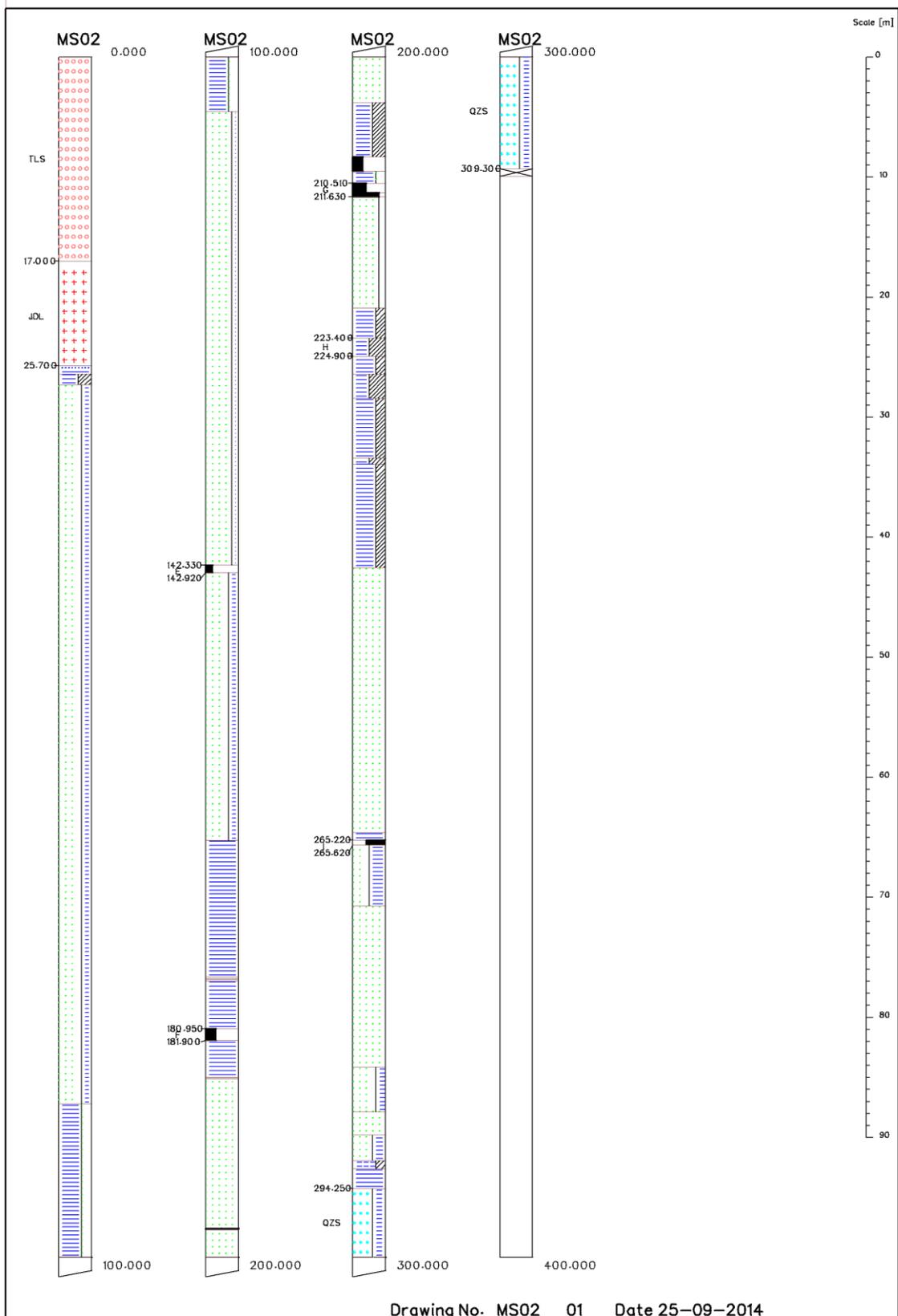
HARDROCK COAL MINING PTY LTD
 FINGAL TIER COAL PROJECT
 EL17/2010 Drill Hole Locations
 FIGURE 5

GRAPHIC DRILL HOLE LOGS

MS01

MS02





FINGAL TIER PROJECT – BOREHOLE GRAPHICS SYMBOLS LEGEND

	Conglomerate		Smut		Caved Hole
	Talus		Permian Pebble Mudst		Pyrite
	Breccia-Sedimentary		Coal		Siderite
	Gravel		Coal Undiffd.		Calcite
	Soil		Dolerite		Calcite
	Coal Stony		Igneous		
	Unconsolidated		Tuff		
	Clay		Carbonaceous Shale		
	Shale Coaly		Carbonaceous Mudston		
	Silt		Fault Zone		
	Sand		Shear Zone		
	Siltstone		Thrust Zone		
	CM Strata		Joint Zone		
	Siltshale		Cindered Coal		
	Sandstone		Heat Altered Coal		
	Shale		Heat Affected Coal		
	STONE		Quartz Sandstone		
	Mudstone		Chert		
	Claystone		Transition Zone		
	Coal Weathered		Core Loss		

Symbols used in TAS-LEG Date 17-10-2012