PARTIAL SURRENDER REPORT FOR

EXPLORATION LICENCE EL16/2010

Period covered:	8th November 2011 to 21st September 2021
Licensee:	*hydrogen ready coal mining* P.O. Box 1971 Launceston TAS 7250
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ABSTRACT

The results of exploration carried out over EL16/2010 by *hydrogen ready carbon mining* (HRCM) indicate that as due to deterioration of coal seam horizons, accessibility issues no viable coal mining potential exist in the northern and south-western parts of the Exploration Licence. As a result, HRCM surrenders 64.9 square kilometres from the tenement. HRCM retains 63.1 square kilometres of EL16/2010. The partial surrender (red edging) and retention (blue edging) areas of EL16/2010 are shown in Figure 1, *(EL162010_202109_07_PARTIAL_SURRENDER_MAP.png)* in Part 2 of this report. The MGA co-ordinates of the two blocks making up the Partial Surrender area are listed in attached file, *EL162010_202109_08_PARTIAL_SURRENDER_MGA.xlsx*, while the MGA co-ordinates for the areas retained are listed in *EL162010_202109_09_RETENTION_MGA.xlsx*.

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1 Resume of Exploration Philosophy

1.1 Licence Area

The licence area is located immediately south-east of Fingal township. Currently, as from November 2020, EL16/2010 covers an area of 128 km^2. After this proposed partial surrender the remaining coverage of EL16/2010 will be in a single block with a total area of 74.82 square kilometres as shown with blue edging in Figure 1.

1.2 Exploration Rationale

The aim of exploration on EL16/2010 is to explore and evaluate the coal resource over the contiguous area covered by this licence and EL16/2016, emanating out from the resources adjacent to Mining Lease 4M/2012.

1.3 Geological Setting

The coal seams of interest 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.

Large volumes of Jurassic dolerite have intruded the Parmeener Super-Group stratigraphy, and in the project area dolerite outcrop up to >400metres thickness covers most of the coal measures. Cainozoic tectonic rifting and periglacial landscape development processes through the Fingal Valley have produced the escarpment and benched dolerite talus slope morphology which characterizes the landscape of the project area.

1.4 Coal Measures Geology

The coal seams are hosted within an approximate thickness of 250 metres of fluvial lithic sandstones and minor siltstones, argillic and carbonaceous mudstones, and minor air fall volcanoclastics.

There are 8 coal horizons which are identified simply “A” to “H” Seams in descending order. There are areas where the full series of coal horizons are present, areas where some of the upper coal horizons have eroded by dolerite and areas where all coal horizons have been eroded. At the regional scale the coal measures show a south easterly dip of 1-2^0. Seams F and G have significant areas of economic thickness and coal quality in EL16/2010 and the D seam is highly prospective.

The F Seam has been mined at the Valley No1 and No2 Mines and is equivalent to the Duncan Seam worked in Duncan Colliery. The G Seam has been identified as the East Fingal Seam from drilling carried out in the early 1980s. The G Seam was extracted from Merrywood Underground and Open Cut Mines as well as from Cullenswood Open Cut. There is a short entry into the seam at the old Valley No2 mine.

1.5 Other Information

The tenement holder and licence owner is *hydrogen ready carbon mining* of P.O. Box 1971, Launceston, TAS 7250. There is no joint venture structure and there have been no title transfers during the reporting period.

2 Map of Partial Surrender and Retained Areas

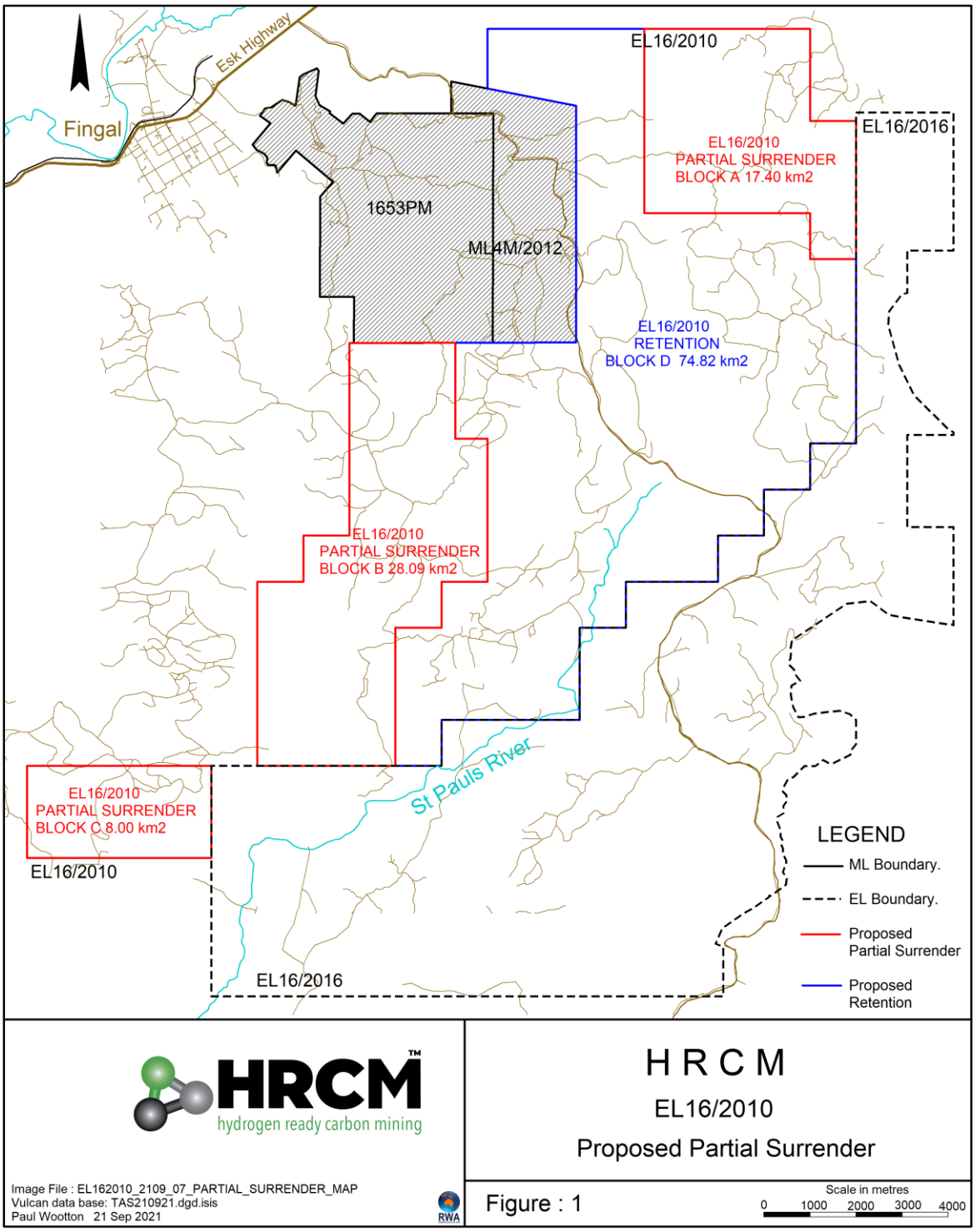

Figure 1 - Map of Partial Surrender and retained Areas of EL16/2010

3 Summary of All Exploration within Partial Surrender Areas

3.1 Desktop Studies

Pre-existing drill hole and adjacent closed mine information was gathered from previous explorers and mine operators. These data were captured into geological data bases. These data sets were combined with the results of drilling and mapping carried out by HRCM. Geological and coal quality parameters were modelled using VULCAN software. Over much of the proposed surrender areas no coal seams greater than 1.5 metre thickness or with raw ash content less than 45% were intersected by drilling or were indicated by the Vulcan model. The coal seams that met this parameter were isolated by faulting or dolerite intrusion.

The extent of mineable thickness and marketable coal quality of D, F and G Seams by Jurassic Dolerite and the deterioration of these seams in the western parts of EL16/2010 was assessed. The partial surrender of EL16/2010 is based on this assessment.

The limitations of each seam are shown in Figures 3, 4 and 5 and discussed below.

D SEAM

Access to the D Seam underground resources may be accomplished in two locations. The first is through the Mitchell Fault from F Seam mine development in the Valley Portal operation. The down to the east 70 metre displacement of the Mitchell Fault aligns the D Seam level with that of the F Seam. On the eastern side of the Mitchell Fault, the D Seam sits at the same level or within 5 metres of the F Seam on the western side of the Mitchell Fault

D Seam out-crops in the Saint Pauls River Valley where it may be accessed by a shallow portal development or from open cut operations if open cut viability is proven.

In the north-east of EL16/2010, “BLOCK A”, no D Seam resources exist due to thin seam thickness and a large area of emplacement of Jurassic Dolerite. In the western and south-west parts of the two Els, “BLOCK B”, “BLOCK C”, D Seam is similarly impacted.

F SEAM

The resources in the F Seam may be exploited by a southern extension of the Valley Portal operation. However, concerns exist regarding water seepage from disused Duncan mine workings. Leaving a safe barrier away from the old workings may render mining this area of F Seam impractical. Outside of ML4M/2012 and the adjacent part of EL16/2010, no economic occurrences of F Seam have been identified. No F Seam resources are present in any of “Blocks A – C”.

G SEAM

Viable G Seam reserves have been delineated within ML4M/2012 and the adjacent part of EL16/2010 and are subject to the mine plan currently under preparation. There is also a large area of inferred G Seam resources over the eastern parts of the two Els. These G Seam resources may be accessed in the Saint Pauls River Valley in a similar way as for D Seam.

In the western parts of EL16/2010, “BLOCK B”, coal resources in the G Seam are isolated due to dolerite emplacement, major faulting (Platts Hill Fault), and distance from outcrop. The small resource of G Seam adjacent to disused Merrywood underground and opencut workings in “BLOCK C” of EL16/2010 is not of sufficient size to justify the development of a new mining operation. Risk is compounded by both disused mine workings and dolerite intrusion.

In the northern parts of both EL16/2010, “BLOCK A”, there are no identified coal seams of mineable thickness. There is also a large area of dolerite emplacement into the coal measures.

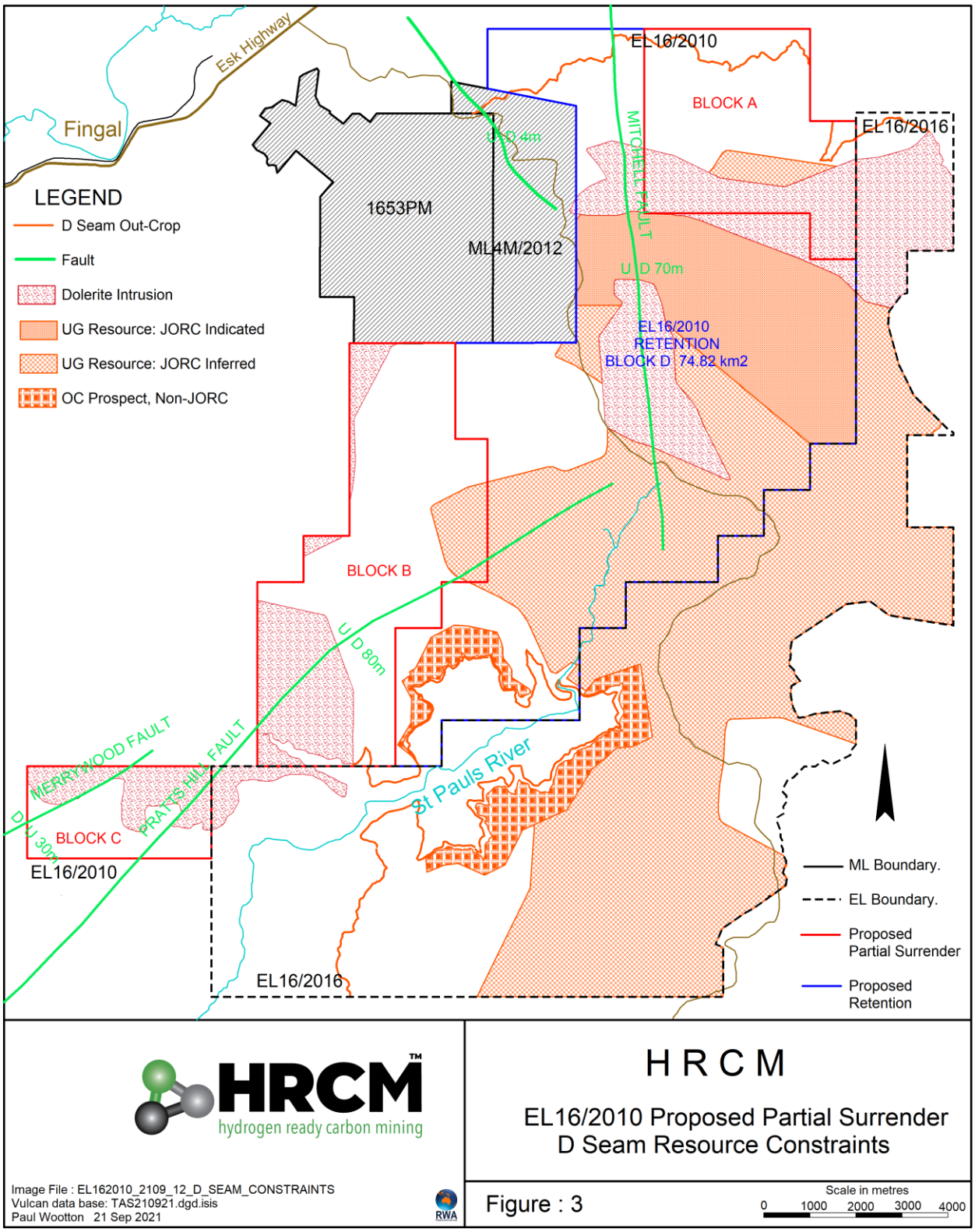

Figure 3: *EL162010_202109_12_D_SEAM CONSTRAINTS.png*

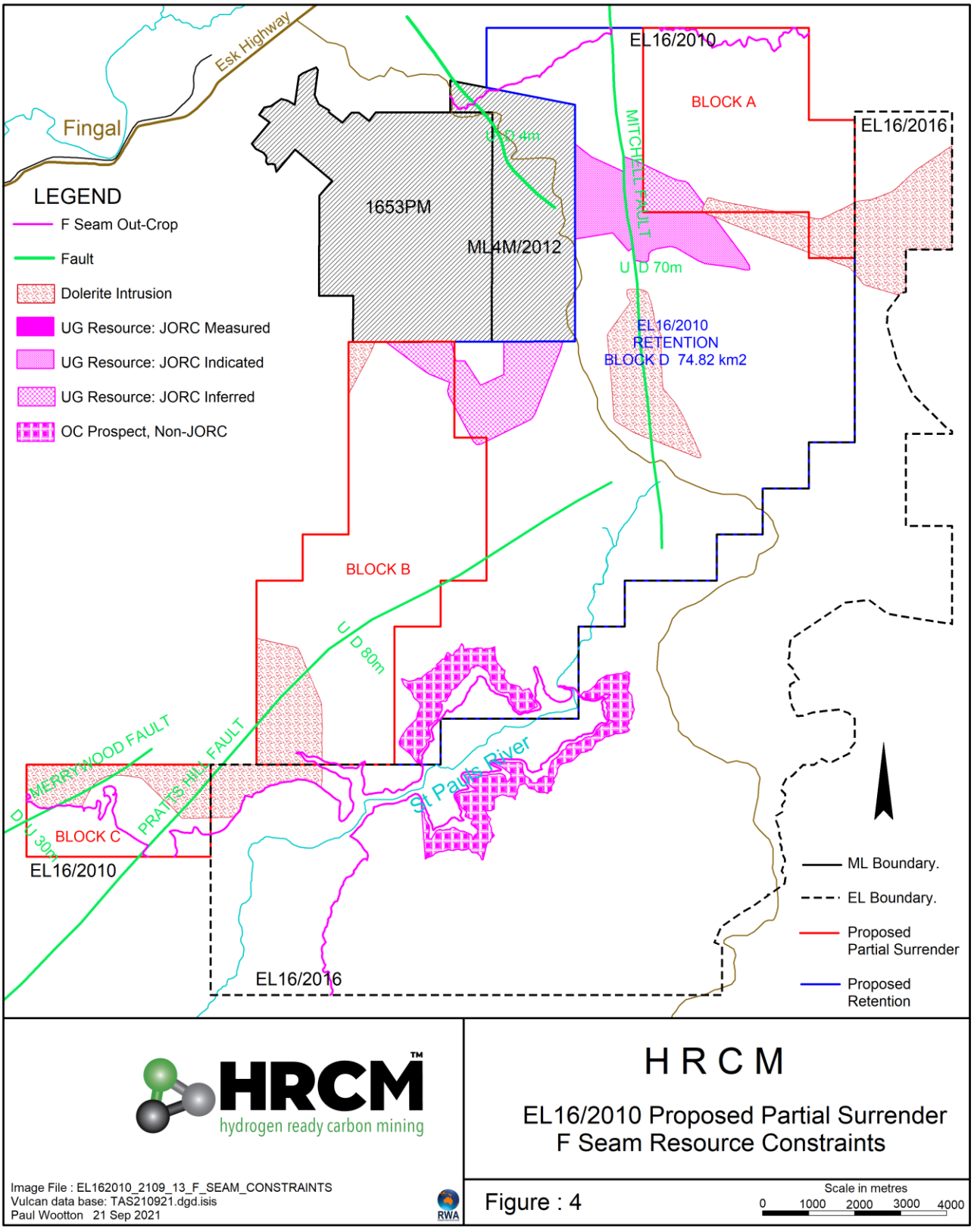

Figure 4: *EL162010_202109_13_F_SEAM CONSTRAINTS.png*

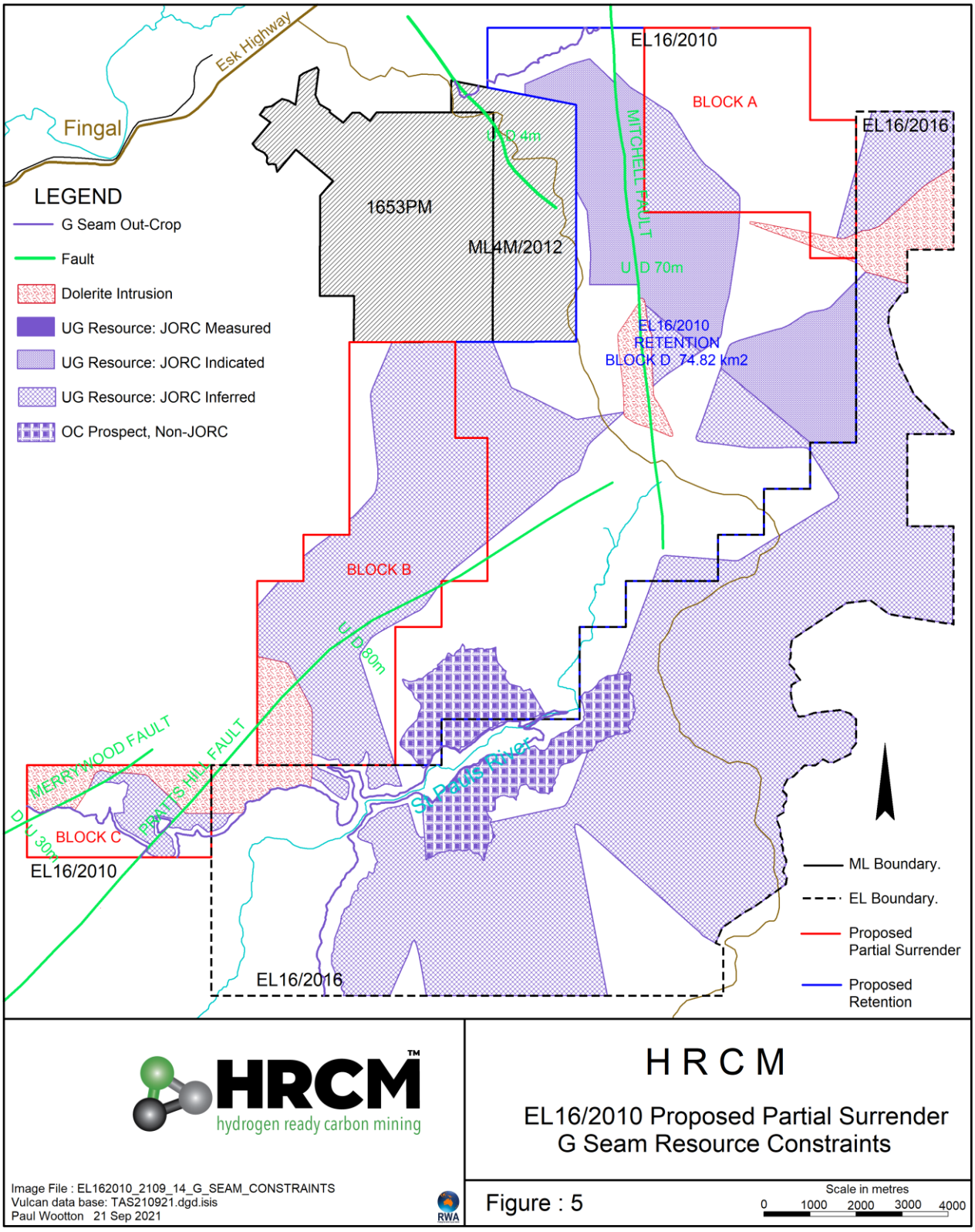

Figure 5: *EL162010_202109_14_G_SEAM CONSTRAINTS.png*

3.2 Regional Exploration Activities

Regional exploration comprised air photo interpretation, review of previous exploration reports and survey mapping from surrounding mine operations.

3.3 Prospect-based Exploration Activities

3.3.1 Drilling

HRCM drilled 1 hole within the surrendered part of EL16/2010. In addition, the Tasmanian Government drilled 11 holes, Merrywood Coal Company drilled 13 holes.

DH No.	Type	Drilled by	East MGA	North MGA	Collar RL (AHD)	Total Depth
DM50	Core	Tas Government	592,052	5,390,087	563.2	368.3
DM51	Core	Tas Government	592,850	5,390,009	534.3	261.0
DM66	Core	Tas Government	592,092	5,389,221	778.2	585.6
DM68	Core	Tas Government	592,177	5,388,096	779.1	620.6
GY069	Core	Tas Government	592,857	5,391,948	303.6	42.0
DM58	Core	Tas Government	586,868	5,384,152	637.9	399.0
DM59	Core	Tas Government	587,494	5,382,058	802.3	572.6
DM60	Core	Tas Government	586,151	5,381,820	725.2	474.0
DM64	Core	Tas Government	585,227	5,380,216	626.0	397.0
DM76	Core	Tas Government	586,440	5,379,716	745.8	549.8
DM78	Core	Tas Government	586,414	5,383,257	646.5	148.8
PE59B	Core	Pure Energy Resources	587,607	5,382,242	811.0	530.0
78RG4	Core	Cornwall Coal Company	579,913	5,375,644	552.0	112.5
AT1	Core	Merrywood Coal Co	579,982	5,375,113	479.8	29.5
AT10	Core	Merrywood Coal Co	581,313	5,374,384	327.0	24.0
AT11	Core	Merrywood Coal Co	581,213	5,374,484	345.0	21.3
AT2	Core	Merrywood Coal Co	579,982	5,375,283	505.0	30.4
AT3	Core	Merrywood Coal Co	579,712	5,375,233	500.0	25.6
AT5	Core	Merrywood Coal Co	580,012	5,375,133	505.0	27.7
AT6	Core	Merrywood Coal Co	579,712	5,375,533	530.0	42.0
AT7	Core	Merrywood Coal Co	579,712	5,374,933	470.0	23.4
DR03	Core	HRCM	579,025	5,375,990	749.0	340.4
INV1	Auger	Investigator Coal	579,492	5,374,883	477.0	4.2
INV2	Auger	Investigator Coal	579,837	5,374,993	471.0	1.5
PH1	Core	Merrywood Coal Co	579,373	5,374,534	380.0	51.0
PH2	Core	Merrywood Coal Co	579,183	5,374,604	400.0	22.0
PH3	Core	Merrywood Coal Co	580,653	5,374,004	371.0	30.0
PH5	Core	Merrywood Coal Co	581,303	5,374,374	328.0	40.0
PH6	Core	Merrywood Coal Co	581,493	5,374,334	310.0	50.0

Table 1 Drillhole List - Partial Surrender Area of EL16/2010
EL162010_202109_10_PARTIAL_SURRENDER_DH.xlsx

The location of drill holes is shown in Figure 2 *(EL162010_202109_11 PARTIAL_SURRENDER_DH.png)*.

Formatted digital files and lithological code library are provided with this report.

EL162010_202109_02_SL_1.xls
EL162010_202109_03_DL_1.xls
EL162010_202109_04_QAQC_1.xls
EL162010_202109_06_lithologycodes.xls

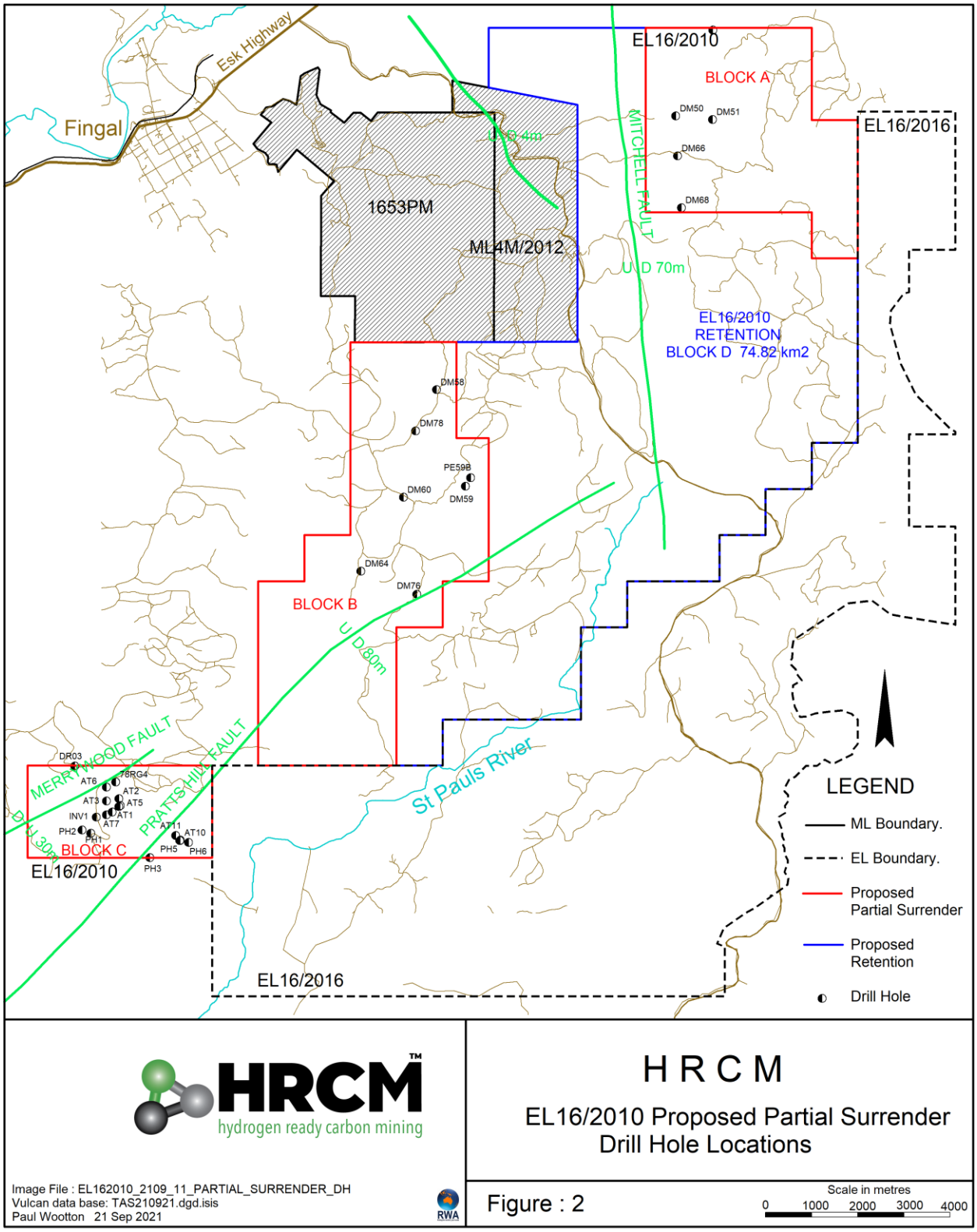

Figure 2: *EL162010_202109_11_PARTIAL SURRENDER_DH.png*

3.3.2 Geophysical Logging

No drill holes have geophysical logs. No drill holes encountered significant coal measure strata.

3.3.3 Assay of Samples

No coal testing was carried out.

3.4 Resource Modelling

Drilling and modelling have identified that there are coal resources adjacent to the eastern and southern boundaries of ML4M/2012, in the D, F G Seams. The JORC statement, *EL162010_202109_15_HRCM_FINGAL_COAL_RESOURCES_17_Sep_2021.pdf*. However due to seam thinning and replacement of coal measure strata by Jurassic Dolerite no resources were identified in the areas of Partial Surrender. This JORC statement was supplied with the 2017 Annual Exploration Report to Mineral Resources Tasmania. Due to current tenure and ongoing exploration interest in the retained part of EL16/2010, M:4M/2012 and EL16/2016 HRCM requests that this report remains classified as confidential.

4 Work Undertaken During Final Reporting Period

4.1 Desktop Studies

The limits of workable seam thickness and economic coal quality were reassessed after remodeling and the resources to JORC standard estimated. Modelling was carried after the following data was acquired and considered.

18/05/2021	Completion of Drill hole VR16 in ML4M/2012 adjacent to EL16/2016
26/08/2021	Download of drill hole KUTh Fingal 3 report and log from MRT and data base capture.
2/09/2021	Topographic model update using 5m Digital Terrain Model (DEM) Metadata via ELVIS from Geoscience Australia
5/09/2021	Exclusion of suspect G Seam thickness value from drill hole SP16 from Vulcan Geological model
12/09/2021	Underground resources working thickness limits for F and G were lifted to 1.8 metres in the Measured and Indicated polygons in corresponding ML4M/2012 and adjacent EL16/2010 west of Mitchell Fault in accord with mine plan parameters. Elsewhere the limit of all seams is 1.5 metres. In the 9 Nov 2017 assessment, a limit of 1.5m was applied to all resources. This change had significant impact on F Seam resources.
14/09/2021	Downgrading of JORC Classification of G Seam adjacent to disused Merrywood Mines from Measured+ Indicated to Inferred

4.2 Regional Exploration Activities

No regional exploration was conducted during the reporting period.

4.3 Prospect-based Exploration Activities

4.3.1 Drilling

No drilling took place during the period of this report.

4.3.2 Geophysical Logging

No geophysical logging took place during the period of this report.

4.3.3 Assay of Samples

No coal samples were taken during the period of this report

5 Conclusions

Due to coal seam deterioration, major fault dislocations and intrusion of Jurassic Dolerite replacing coal measure strata there is no coal resource potential in the area subject to Partial Surrender from EL16/2010.

6 Bibliography of reports

Bacon C.A. 1991. The Coal Resources of Tasmania. *Bull. Geol. Surv. Tasm.* 64.
Gregory R., Thornton, S., Wootton P. 2014. EL162010_201412_01_ANNUAL_REPORT_2013-14
Gregory R., Thornton, S., Wootton P. 2015. EL162010_201511_01_ANNUAL_REPORT_14-15
Gregory R., Thornton, S., Wootton P. 2016. EL162010_201611_01_ANNUAL_REPORT_15-16
Thornton, S., Wootton P. 2017. EL162010_201711_01_ANNUAL_REPORT_16-17
Thornton, S., Wootton P. 2018. EL162010_202011_01_ANNUAL_REPORT

7 Environmental Activities

All drill holes and their associated sumps have been rehabilitated.

8 List of Digital Datasets During Life of Partial Surrender Area

Exploration Work Type	Filename	File format
Report	EL162010_202109_01_PARTIAL_SURRENDER_REPORT.pdf	*pdf*
Drilling		
	EL162010_202109_02_SL_1.xls	xls
	EL162010_202109_03_DL_1.xls	xls
	EL162010_202109_04_QAQC_1.xls	xls
	EL162010_202109_06_lithologycodes.xls	xls
Maps and Coordinates		
Partial Surrender Map	EL162010_202109_07_PARTIAL_SURRENDER_MAP.png	png
Partial_Surrender_MGA_Co-ords	EL162010_202109_08_PARTIAL_SURRENDER_MGA.xlsx	xlsx
Retention_MGA_Co-ords	EL162010_202109_09_RETENTION_MGA.xlsx	xlsx
Drill Hole List	EL162010_202109_10_PARTIAL_SURRENDER_DH.xlsx	xlsx
Drill Hole Map	EL162010_202109_11_PARTIAL_SURRENDER_DH.png	png
D Seam Constraints Map	EL162010_202109_12_D_SEAM_CONSTRANTS.png	png
F Seam Constraints Map	EL162010_202109_13_F_SEAM_CONSTRANTS.png	png
G Seam Constraints Map	EL162010_202109_14_G_SEAM_CONSTRANTS.png	png
Surface sampling		
File Verification Listing *(this file)*	EL162010_202109_05_FILELIST.xls	xls

END OF REPORT