HardRock Coal Mining Pty Ltd
ACN: 150 741 094

Annual Report

EL 16/2010 Fingal

For the period 8/11/2011 to 8/11/2012

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Cover photograph of F seam at Valley #2 Adit

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Introduction

Exploration Licence 16/2010 was granted to Hardrock Investments Pty Ltd on the 8th November 2010. The licence conditions required the holder to complete the following in the first two years;

1. Data review.
2. Drill two NQ holes to 450m.
3. Log and assay the core and do metallurgical laboratory testing of the coal.

The minimum expenditure was $166 000.

On the two year anniversary of the licence the following work has been completed;

1. A data review was completed.
2. Twelve holes have been drilled for a total of 2668.9m.
3. All holes have been logged, sampled and assayed.
4. The coal resource is currently being updated to take into account the recent drilling results.
5. Expenditure is $2,366,597 to 30th June 2012.
6. A mining lease application has been submitted to Mineral Resources Tasmania (MLA 4M/2012).
7. Environment Permit No. 8651 has been issued under the Environment Management and Pollution Control Act 1994 and the Development Application has been approved by the Break O Day Council.

Location

Exploration Licence 16/2010 Fingal is located 2.5km east and south of the township of Fingal (see locality map Figure 1 below).

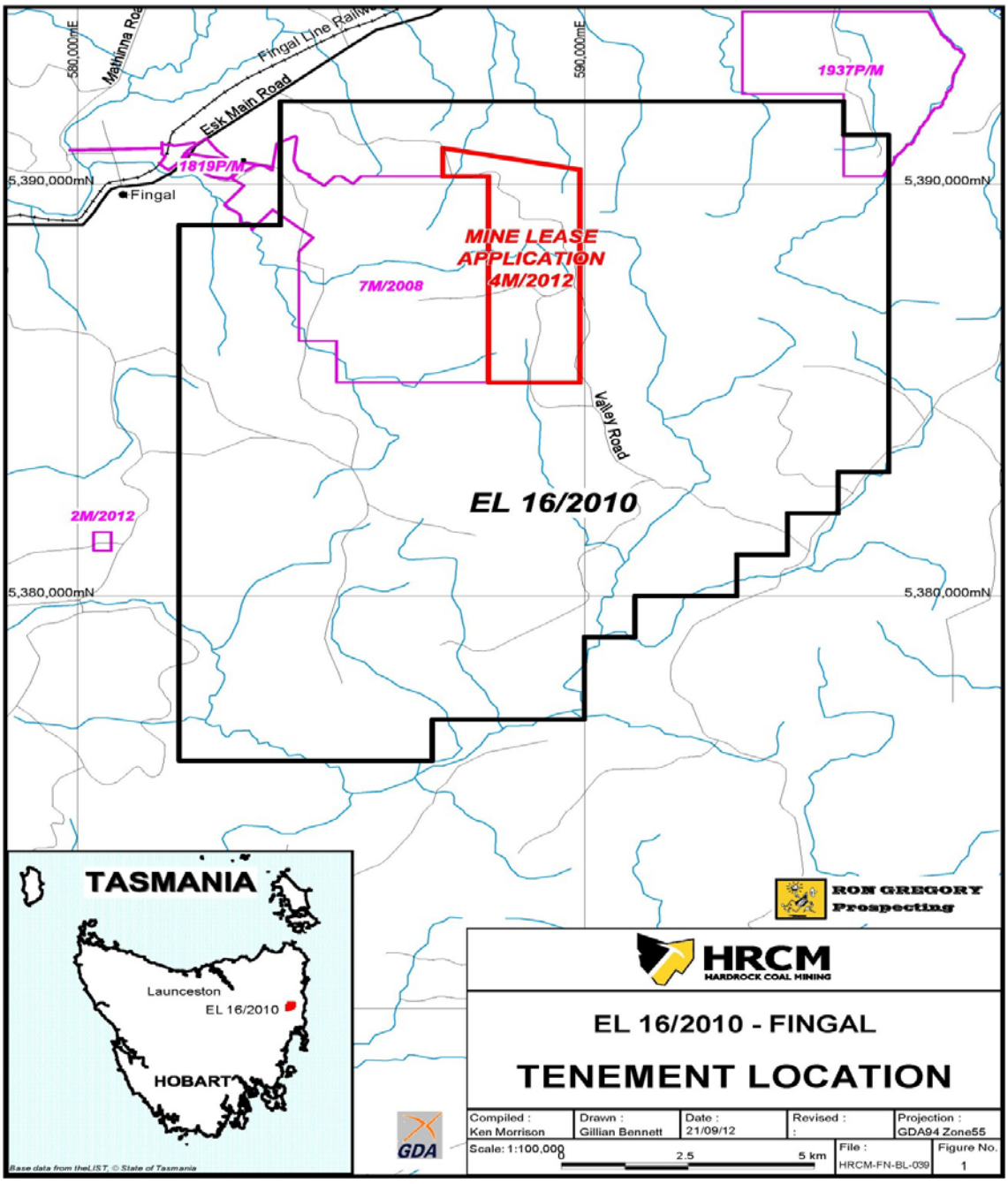

Figure 1 Locality map for EL 16/2010

Land Tenure

EL 16/2010 is mostly State Forest with a narrow band of private property along the northern and southern boundary (see Figure 2 below).

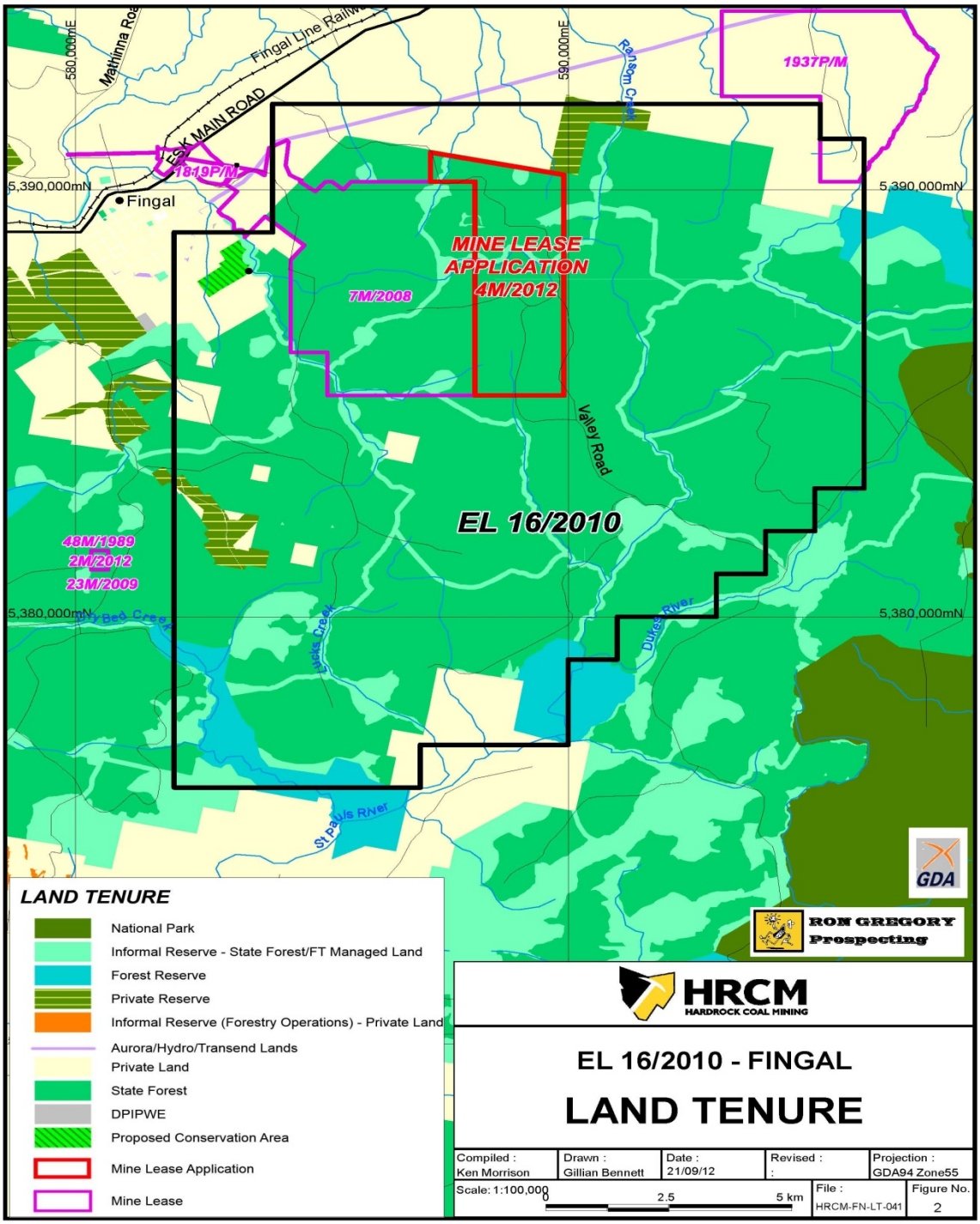

Figure 2 Land Tenure

The three divisions of State Forest (State Forest, Informal Reserve and Forest Reserve) are all available for exploration and mining as are the areas of private property and the Private Reserves. Mining Lease 7M/2008 (Duncan Lease) is excluded from the licence as is the Cullenwood lease (1937 P/M) in the north east corner.

Licence Details

Tenement number:	EL 16/2010
Tenement name:	Fingal
Tenement location:	East and south of Fingal
Reporting period:	8 November 2011 – 8 November 2012
Tenement holder:	Hardrock Investments Pty Ltd
Tenement operator:	Hardrock Investments Pty Ltd
Tenement area:	166 sq km
Exploration logistics:	Ron Gregory Prospecting

Previous Work

Coal was first mined in the area to the east of Fingal in the mid 1880s with a description in Thureau (1883) of minor works. This followed the digging of an adit which was financed by the Government in 1864 and mining continued at a small scale until 1920 when two adits were driven on the Duncan seam (F seam) in Cat and Kitten Creek by the Fingal Coal Prospecting Syndicate (Bacon, 1991). H.J Yates opened the Fingal Colliery in 1942 and the Duncan Colliery opened next door in 1945 and was joined by the Tasmanian Mine in 1954 and all worked the Duncan seam. The Cornwall Coal Company consolidated these leases and has been continuously mining the Duncan seam since 1945. Production in 2009/2010 was 374 912 tonnes of washed coal (MRT Annual Report 2009/2010).

The first report of any works in the area covered by EL16/2010 is by Hills et al (1922) and describes an inspecting of an adit on Cardiff Creek. This adit was recently rediscovered by Ken Morrison and interpreted to be driven on the East Fingal or G seam. The Valley Mine or Barbers Mine first opened in 1955 as Barbers No. 1 and was renamed Valley Mine No. 1. Bacon (1991) describes the seam that was being mined as a locally developed lower split of the Duncan seam. After extracting 621 tonnes and driving three adits it appears that the seam was faulted out and the mine was abandoned in 1962.

Valley Mine No. 2 was in the next tributary of Cardiff Creek to the east and was started in 1963 with two adits being developed. Remnants of the novel electric drive mechanical mining machinery are to be found at the entrance to Valley Mine No. 2. Bacon (1991)

reports that Valley Mine No. 2 closed as a result of the loss of markets when the Railton cement works changed from coal to oil fired boilers. Valley Mine workers in Fingal recollect that very poor roof and floor conditions were encountered and this affected the mines ability to operate profitably.

The Department of Mines (DOM) conducted a number of drilling campaigns over the area to the east and south of Fingal commencing in 1959 (see Threader and Bacon, 1983). The exploration was conducted by exempting land from the Mining Act of 1929. The initial program focussed around the Duncan Mine with 13 holes totalling 3000m.

In 1972 the program expanded further to the east with the aim of discovering a coal resource that would be large enough to fuel a power station that was planned for the Central Midlands. The Hydro Electric Commission was involved in a 25 hole program from 1972 which focussed on the potential of the area around the Valley Mines and to the south east. In a report by Salway et al (1979) the total measured plus indicated in situ reserves in the Valley Mine area was calculated as 33.38Mt. Clean coal reserves were estimated at 10.85Mt. The planned power station required 36Mt with an additional tonnage of 25Mt to be proven to meet the requirements.

In 1978 the drilling program expanded to the south and east of the Duncan Mine and was based on a 1km grid (see map Figure 5 for DOM holes). Sixty–nine holes were drilled by 1982 and reported on in Threader and Bacon (1983). Reserves of coal were estimated for various parts of the Fingal Coalfield as:

Duncan seam (F)	68Mt (measured, in situ)
D seam	101Mt (indicated, in situ)
East Fingal Upper Split (G)	60Mt (indicated, in situ)
East Fingal Lower Split (G)	44Mt (indicated, in situ)

The exempt area was lifted in the late 1980's and the Cornwall Coal Company subsequently held the ground as Retention Licences 8812 and 8816. No reports detailing any work done on these RLs could be located.

Special Exploration Licence 32/2003 held by Pure Energy Resources Ltd was granted in 2005 (see Anon., 2009). The licence was for coal seam gas only and covered 11,295km² over the eastern Tasmanian coal fields. Four holes were drilled which twinned DOM holes 41, 55, 59 and 89 in the southern part of EL16/2010. The drilling indicated severe and widespread gas under saturation and the ground was relinquished in 2009.

Regional Geology

Late Triassic coal measures in the Fingal Tier region comprise the uppermost sub division of the Late Carboniferous-Late Triassic Parmeener Supergroup (Tasmanian Geological Survey St Marys, Ben Lomond and Snow Hill 1:50,000 Sheets).

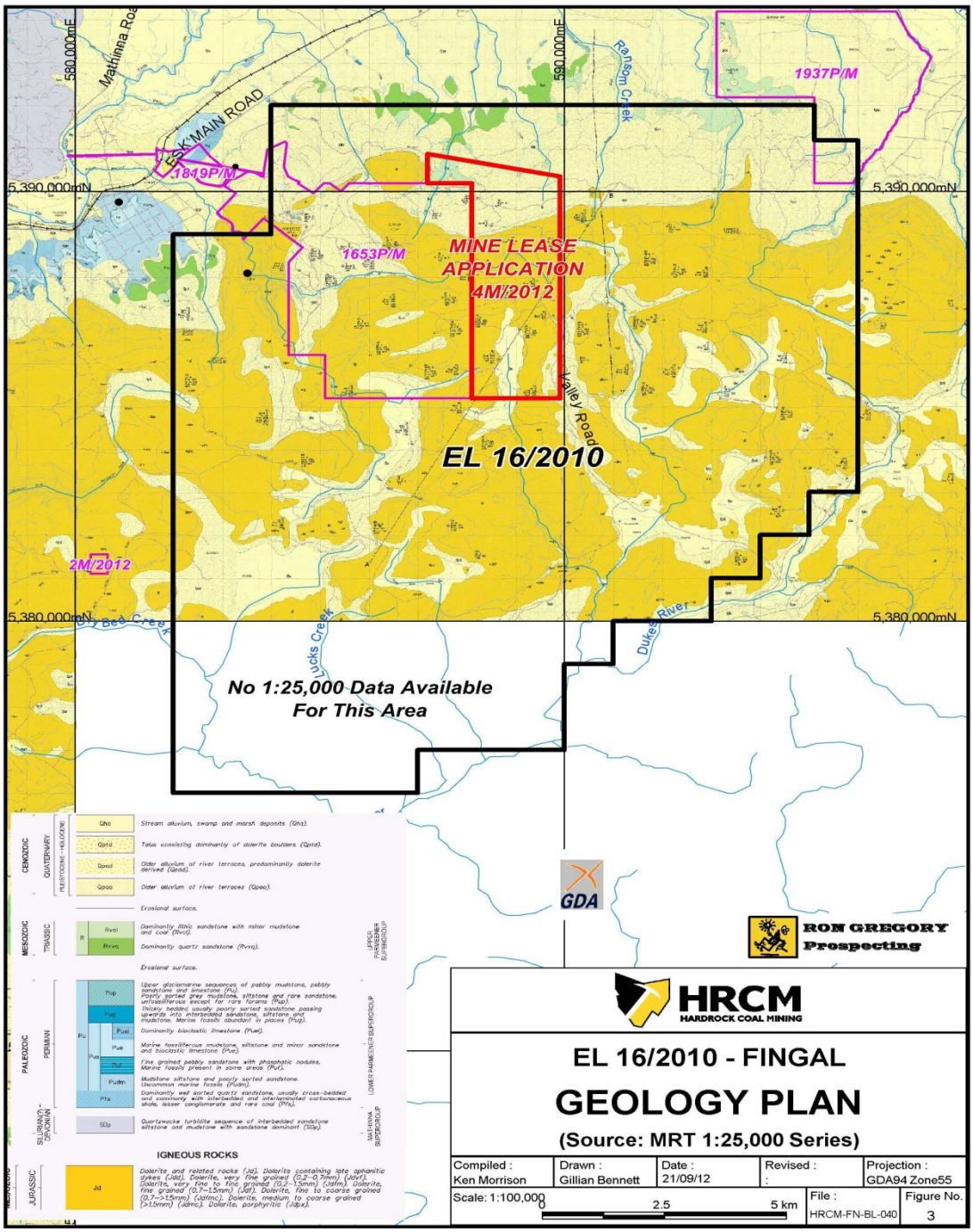

Figure 3 Geology Plan from MRT 1:25,000 map series

The Parmeener Supergroup unconformably overlies a basement comprising folded Silurian-Devonian meta turbidites of the Mathinna Supergroup, which are locally intruded by Devonian granites (Figure 3, Tasmanian Geological Survey Bulletin 72). These basement rocks and the Permo-Triassic stratigraphy underlying the coal measures crop out around the Fingal Valley but, with the exception of Triassic quartz sandstones which form the economic basement to the coal measures, are not encountered during coal exploration drilling. At the regional scale the coal measures show a southeasterly dip of $1\text{-}2^{0}$.

Large volumes of Jurassic dolerite have intruded the Parmeener Supergroup 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. The dolerite and derived talus deposits impose significant costs for coal exploration drilling. Dolerite dykes, often infilling faults, are occasionally encountered in the Duncan underground coal mine immediately west of the project area, and probably exist within EL16/2010.

Coal Measures Geology

Correlation of drill core intersections in the Fingal Tier area by the Department of Mines in the 1980s generated a series of 8 seams, labelled A to H from youngest to oldest (Tasmanian Geological Survey Bulletin 64). 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 airfall volcaniclastics. The lithic sandstones are in part sourced from a felsic volcanic province and the coal measures are dated at 214Ma via a rhyolitic volcaniclastic unit (Bacon and Everard, 1981), which occurs regionally but has not yet been recognised in the HRCM drill core. All 8 seams are recognised in the HRCM drilling but current resource modelling is only targeting F seam (Duncan seam). Several potential working sections have also been intersected in G seam (East Fingal seam) and C seam in the HRCM drilling to date. In addition, Department of Mines drilling indicates potential for D seam further east and south than the current Valley Road project area.

All known coal mined and drilled in the Fingal Tier area (apart from minor occurrences of thermally altered coal near dolerite contacts) would be classed as dull with minor bright bands, inertinite-rich, medium rank, low sulphur, sub bituminous steaming coal.

Exploration Completed in the Year Ending 7th October, 2012

Introduction

In October 2011 HRCM established a full time exploration base in Fingal, consisting of housing, office facilities, a core logging yard and storage facilities for consumables and pallets of drill core. By far the main activity for the year has been an exploration drilling program in the Valley Road area, east of the Duncan mine lease (Figure 1) and initial field work involved designing the drill sites and their access and carrying out the environmental studies needed to achieve an approved work program from MRT. Details of the surveys and earthworks related to both drill site establishment and rehabilitation are covered in the Environment section of this report.

Prior to the drilling, an experimental geophysical technique promoted to HRCM by Dexon Technology Pty Ltd was trialled over the EL and a portion of F seam was exposed by excavating a fresh face next to the abandoned Valley #2 underground workings on Smudgy Creek (Figures 4 & 5).

Dexon Survey

The survey was promoted as having the ability to identify and correlate coal seams beneath thick cover such as the dolerite reaching over 400metres thickness on Fingal Tier. Few method specifications were provided other than the technology being labeled by Dexon as "Resonance Frequency Geological Technology". The program consisted of a gridded helicopter airborne survey and "Vertical Sounding Confirmation Scans" at five sites which were at the time proposed drill sites. A report on the confirmation scans was received and is enclosed as Appendix E. No report has been received to date on the airborne survey. Only two of the five sites tested by the confirmation scans were drilled, due to early drilling results showing the other three sites to be in areas of low prospectivity for the main target F seam. A comparison between coal seams predicted by Dexon and actual drill results in VR001 and VR008 is tabled below.

Hole ID	Dexon Depth to Coal Seams Predicted	Actual Lithology Drilled
VR001	309m	Dolerite
VR001	403m	D seam interburden
VR001	480m	Sandstone
VR008	44m	Dolerite talus

VR001 encountered 6 coal seams with the best intersection at 442m and VR008 also encountered 6 seams, with the best intersection at 208m. Neither was close enough to Dexon predicted seam depths to appear encouraging. Although the 403m pick in VR001

is between the two D seam splits it is not convincing evidence of success, given that the other 11 seams in the two holes were not detected and that dolerite and talus were misidentified as coal in two cases. It was concluded that this geophysical method is not effective for generating drill targets in the Valley Road area.

Valley #2 Excavation

The exposed seam is at least 2.4 metres thick and has a grey mudstone roof at this location (Figures 4 & 5).

Figure 4 Valley Mine #2 showing the old adit entrance between the coal seams

The unstable rock face precluded systematic channel sampling but although the coal is partly weathered it contains significant bright bands and is generally brittle and appears to have low relative density. The floor contact could not be exposed because of water drainage and the need for substantial additional excavation, which could not be justified. However, the exposure successfully confirmed that a working section thickness of apparently decent quality coal within the middle part of the F seam stratigraphic unit, outcrops at the northern end of an area considered by HRCM to have potential for hosting a viable coal deposit. Subsequently, drill hole VR004b, located approximately 80 metres east of the exposure, intersected a complete F seam of 2.78 metres with a gross seam ash content of 35%, confirming the economic potential of the Valley seam. The prospective area (named by HRCM as the Valley Road prospect), extends south for

approximately 5km from the Valley #2 exposure (Figure 5) and has been the focus of the HRCM exploration drilling program conducted to date.

Drilling Program

Drilling commenced in November 2011 and is on-going. As of October 7, 2012, 2668.9 metres have been drilled in 12 vertical holes located on 10 drill pads (see Table 1, Figure 5 below and Appendix A and B for graphic, written and detailed logs and Appendix D for core photographs).

Three rigs have been used; Stacpoole Enterprises, from Launceston, have operated a truck mounted B90 Mobile rig and a track mounted light weight CMV rig, and Spaulding Drillers, from Devonport, have operated a truck mounted DR2H percussion rig. The total meterage comprises 1933 metres of HQ3 and NQ3 core plus 727 metres of open hole percussion (down hole hammer) chips. The B90 universal rig was used in both diamond coring and percussion modes, the CMV rig was used entirely for coring on shallow holes and the Spaulding DR rig was used entirely for percussion pre collar drilling through dolerite and dolerite talus, and for the acid mine drainage sampling program in drill hole VR010.

All core and chips were logged, photographed and sampled, and all pallets of core and reference chip trays are stored, at the Gray St Fingal exploration base.

The primary aim of the program is coal exploration leading to resource definition but additional geotechnical, hydro geological and environmental data are being acquired where practical, to support mine planning and water management base line information. Drill holes VR004a, VR004c and VR010 were drilled entirely to provide samples for coal beneficiation trials and for acid mine drainage base line data. The results of these non exploration studies and a resource estimate based on the exploration work will be submitted to MRT as separate additional reports. The remainder of this report deals with the economic geology of the coal measures drilled in holes VR001, VR002, VR003, VR004b, VR005, VR006, VR007, VR008 and VR009 (Figures 5 & 6).

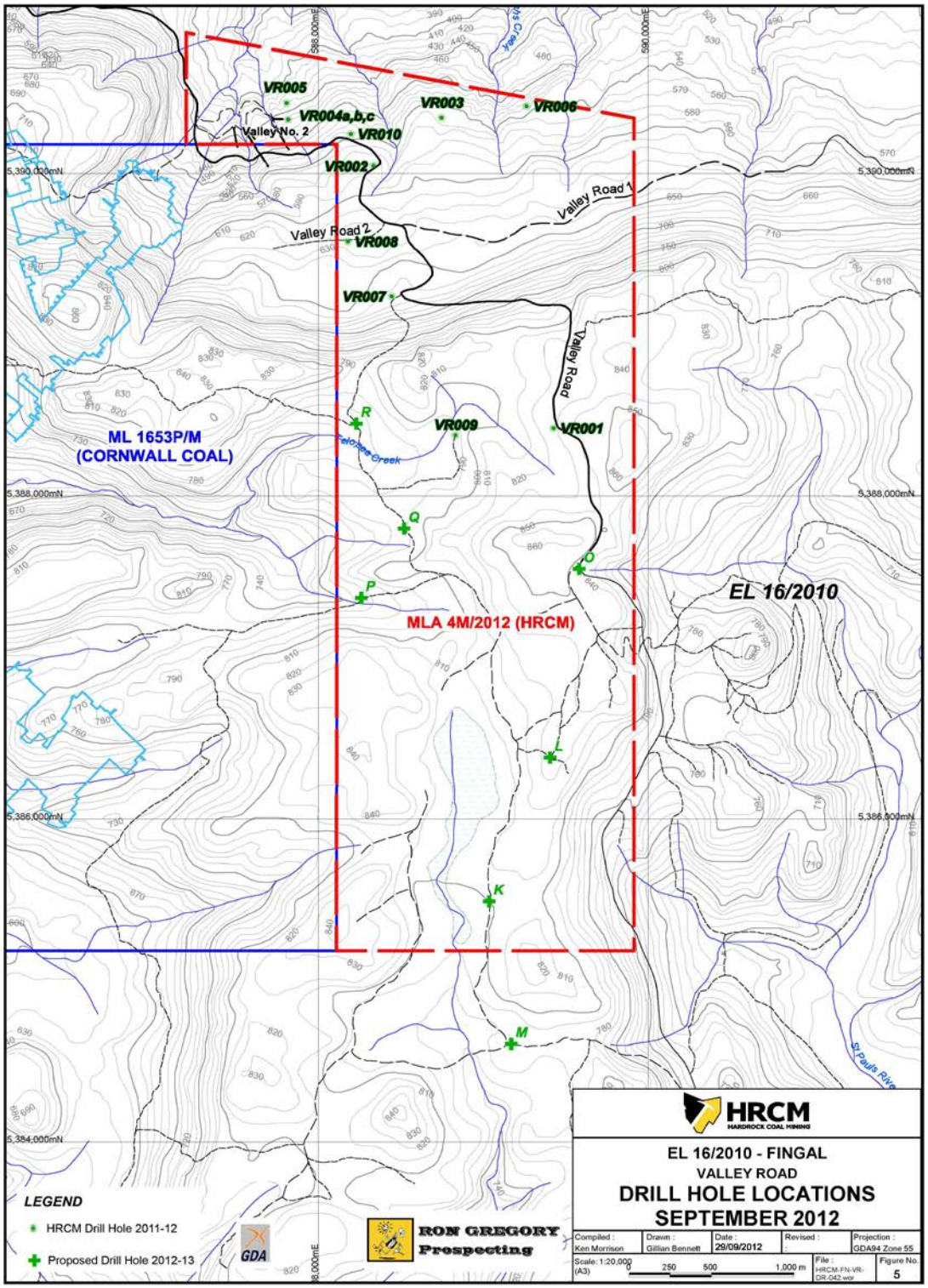

Figure 5 Drill hole locality map

Table 1

Table 1 Valley Road Drilling Summary - 7 October 2012

HOLE ID	EASTING (GDA)	NORTHING	RL	EOH	DRILLING COMPANY/METHOD	PURPOSE	COMPLETION STATUS	REHAB
VR01	589431.77	5388423.42	828.13	576.05	Stacpoole B90: open hole percussion, HQ3, NQ3	EXP	Abandoned with locked steel cap	Yes
VR02	588328.64	5390042.42	581.42	224.45	Stacpoole B90: HQ3, NQ3	EXP	Open with HQ drill string stuck down hole	Yes
VR03	588745.38	5390342.18	556.45	217.3	Stacpoole B90: HQ3, NQ3	EXP,WPT, PZO	Piezometer installed and operating, grouted to surface	Yes
VR04 A	587822.1	5390338.2	455.26	29.2	Stacpoole CMV: HQ3	BEN	Abandoned with octoplug, earth fill cap	Yes
VR04 B	587819.06	5390337.41	455.01	90.8	Stacpoole CMV: HQ3	EXP	Abandoned with octoplug, earth fill cap	Yes
VR04 C	587824.84	5390339.25	455.44	35.25	Stacpoole CMV: HQ3	ENV	Abandoned with octoplug, earth fill cap	Yes
VR05	587808.03	5390437.21	436.2	55.65	Stacpoole CMV: HQ3	EXP	Abandoned with octoplug, earth fill cap	Yes
VR06	589143.52	5390231.88	573.39	232	Stacpoole B90: HQ3, NQ3	EXP, WPT	Abandoned with grout to near surface	Yes
VR07	588443.79	5389239.06	661.32	333.1	Stacpoole B90: HQ3, NQ3	EXP, WPT	Open hole awaiting grouting	Yes
VR08	588179.34	5389580.46	623.6	258.8	Spaulding DR2H open hole percussion, Stacpoole HQ3, NQ3	EXP, WPT	Open hole awaiting grouting	Not yet
VR09	588834.91	5388379.8	786.91	426.2	Spaulding DR2H open hole percussion, Stacpoole HQ3	EXP, WPT	Still driiling in G seam	Not yet
VR010	588197.85	5390240.51	540.94	181	Spaulding DR2H open hole percussion	ENV	Steel casing slotted over F and G seams, bottom hole grouted	Not yet
			TOTAL m	**2668.9**		EXP=Exploration		
			cored	1941.9m		PZO=Piezometer		
			percussion	727m	WPT=Water packer testing			
					ENV=Environmental sampling			
					BEN=Beneficiation sampling			

Exploration Results and Discussion

The VR series exploration drilling program has two aims:

• To validate the earlier DOM drilling and refine boundaries to the deposit, by infill and step-out drilling to achieve normal industry standards of resource estimation levels of confidence in terms of seam correlation and the mapping of major faults. The target for the initial phase of exploration is to establish a viable F seam resource.

• To map out the optimum underground access route from near the Valley #2 exposure of F seam, through to the wider development of the target resource area under the Fingal Tier plateau (Figure 5).

The logging, core processing and sampling procedure involves the following steps:

- 1:200 scale hand drawn graphic geological logging of the entire hole.
- 1:20 scale drafted logging of each coal seam judged as a significant intersection. Assay results are later added to these logs.
- Photographing of chips and core for the entire hole.
- Photographing of core intervals selected for assaying.
- Sampling, weighing and packing of core samples for assaying.
- Spread sheet data entry of log summary and sample details.
- Core and chip tray storage.

Appendix A contains summary logs and Appendix B coal sample information for the 9 exploration holes.

1:200 scale logs are enclosed in Appendix A, 1:20 scale seam logs in Appendix B, assay results in Appendix C and all photographs are in Appendix D. Appendices A, B and C are presented in hard copy and all Appendices are included on the enclosed DVD.

Valley Road Geology

The VR series drilling to date has encountered dolerite thicknesses on the Fingal Tier plateau, ranging from 196 metres in VR009 to 375 metres in VR001, suggesting some localised syn intrusion fault control. An outcropping 5 metre high wall of hornfelsed mudstone on a bend in an eastern tributary of Cardiff Creek (GDA 588474E, 5390121N) is interpreted as evidence of both faulting and the thermal effect of nearby dolerite – probably a dyke. Dolerite sill thickness appears proportional to the loss of coal measures by magmatic stoping along stratiform planes of weakness and subsequent erosion of the uplifted mass. In VR001 the base of the sill overlies C seam but in VR009 the base of the sill is a few metres above A seam.

North and down slope of the escarpment formed at the northern edge of the dolerite plateau (Figure 3), Cainozoic boulder and clay talus derived from the Jurassic dolerite forms an almost continuous scree slope down to about the 500m RL. At that RL outcropping of coal measures rocks become prominent in creek gullies where drainage has eroded windows through the talus. The most elevated and most southerly outcrop of coal measures observed to date is the hornfels occurrence mentioned above, at 5390121N. Minor outcrop of coal measures rocks additional to those recorded by the Geological Survey regional

mapping occurs in some creek beds, mappable at times of low water flow, but they do not add to the basic geological understanding of the prospect.

All 8 seams comprising the Fingal Tier coal measures have been encountered in the drilling to date, although E seam and H seam are so variable and thin that they are not reliable marker horizons and are usually little better developed than several other thin coaly bands which occasionally occur in random positions within the coal measures stratigraphy. D seam is the most consistent in terms of seam stratigraphy and coal quality, and therefore is the most reliable marker seam during logging. The other 5 major seams (A, B, C, F and G) all show substantial variation in thickness, quality and the degree of seam splitting and merging, so careful correlation, including fault interpretation, is needed to evaluate resource potential. In general, the portion of F seam developed to working section thickness at Valley Road consists of an average gross seam thickness of approximately 2.2 metres, comprising plys of dull and dull minor bright coal interstratified with dirt bands of several mm thickness, and interburden mudstone up to a maximum thickness of about 50cm. Coal quality, measured in terms of raw air dried coal ash content by proximate analysis, ranges down to 18% for the best quality plies (eg VR007-see Appendix B) and averages approximately 34% for the gross seam.

The coal seams are hosted in a sequence of fluvial sandstones, with minor siltstones and pebble conglomerates, interbedded with grey and carbonaceous mudstone and claystone. The detailed stratigraphy of the coal seams includes some thin claystones and siltstones which may be palaeo soils and/or ash fall volcaniclastics. Confirmation of their origin requires some combination of trace element analyses, XRD mineralogy and thin section petrography but for the purpose of exploration logging such detail is not warranted. The dominant lithologies are fining-up cycles of coarse–medium lithic sandstones grading up to grey mudstone and silty mudstone. The sandstones are composed of felsic volcanic, basement metamorphic and monocrystalline quartz grains in a white clay matrix, probably derived from volcanic feldspar. A characteristic of the grey mudstones is their tendency to fret and disaggregate as the core dries on exposure to air. Geotechnically the relatively pure mudstone are very unstable rocks but their strength properties improve as the silt and fine sand content of the rock increases.

Structural Interpretation

Interpretation of faults is based on the method of structure contour mapping the top F seam surface and inserting faults where they are required to accommodate substantial vertical displacement and/or displacement persistent along strike. At the exploration stage of surface drilling only the major faults can be identified and they are the structures most important to use in resource definition. It is accepted that local washouts, seam splitting and merging, seam roll and folding will occur due to a combination of depositional, lithostatic load and tectonic deformation but these are mine scale features rather than major structural boundaries at the deposit scale.

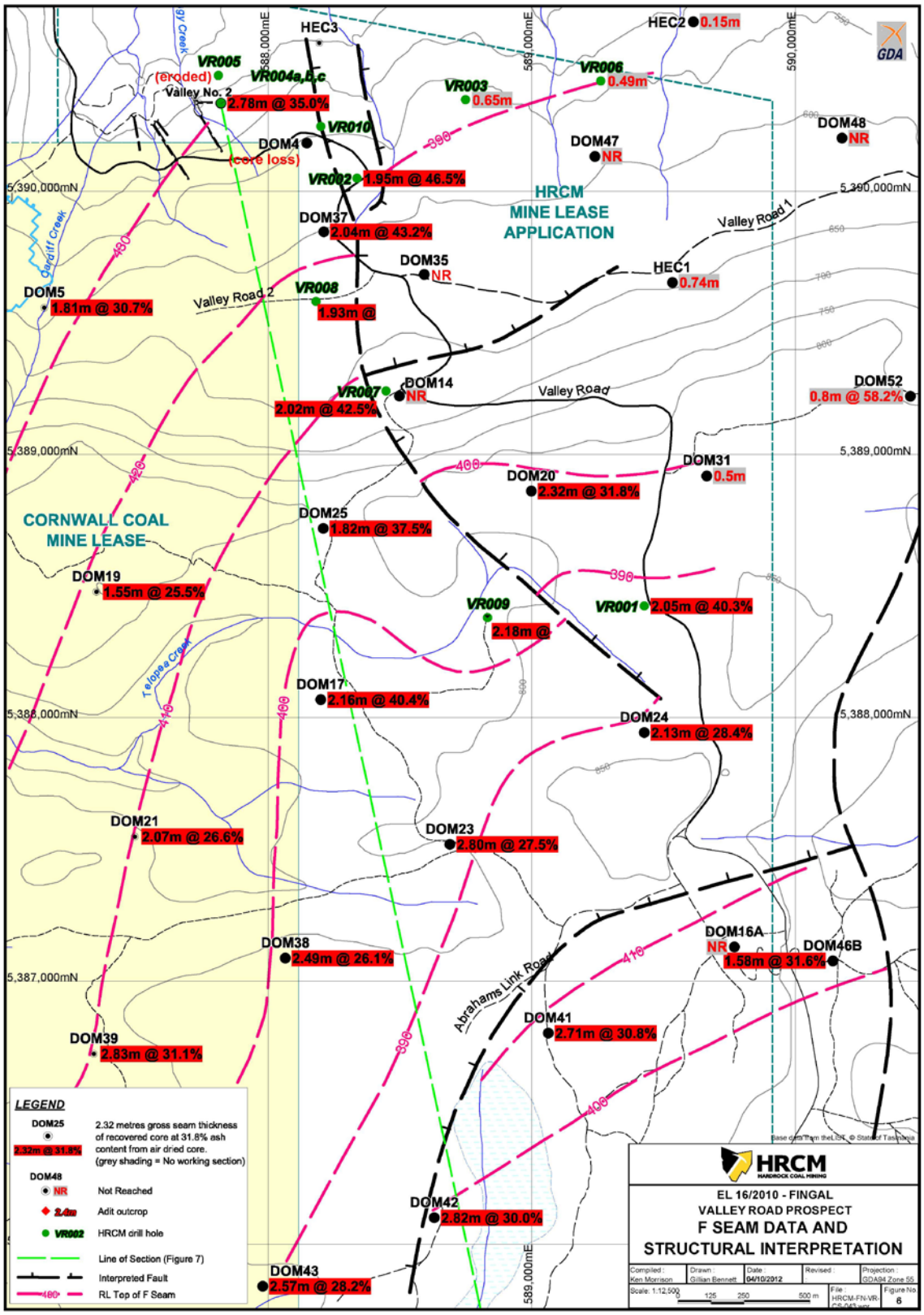

Figure 6 F Seam data and structural interpretation

Figure 6 shows that in general F seam (and by extrapolation the entire coal measures sequence) dips to the southeast at 1-2^0 and that in the area drilled by HRCM to date the deposit is subdivided by a system of arcuate faults into four main fault blocks. The bounding faults all show a normal sense of movement and vertical offsets at the top of F seam in the 5-30 metre range. Most of the major faults mapped by HRCM, together with the north-south trending Mitchell Fault mapped by DOM, in part based on the gravity-magnetics interpretation of a persistent dolerite thickness discontinuity, show a curved/arcuate form and trends which are disconformable with the regional landscape fabric. In terms of down thrown offset of the coal measures, the faults controlling the prominent escarpment and talus fans along the northern Fingal Tier plateau edge are no more important than the major faults trending approximately north-south. There is a case for considering the Mitchell Fault as one of a zone of interconnected structures rather than a single boundary structure.

The fault interpretation has implications for resource definition, mine planning and the siting of future exploration drill holes. The northeastern fault block, containing VR003 and VR006, is down thrown relative to both the western block and the southeastern block. The fault separating the western and northeastern blocks is interpreted as the boundary between working section thickness of F seam in holes VR004b, VR002 and VR008 to the west, and thin sub economic F seam to the east. This fault provides a boundary for the proposed underground mine roadway access route.

The western fault block, containing holes VR004b, VR002, VR008 and VR009, the central eastern block containing VR007 and VR001, and the southern block to be drilled by HRCM in the 2012-2013 licence year, cover the main part of the F seam resource identified to date. The arcuate northeast-southwest trending fault splaying off Mitchell Fault in the Abrahams Link Road area (Figure 6) indicates a displacement of up to 30 metres between DOM41 and DOM23, down thrown to the north. The northwest-southeast trending fault separating the western and central eastern blocks, and also heading towards Mitchell Fault, indicates down throw to the east of 5-15 metres between VR009 and VR001.

The major fault displacements have clearly occurred post Triassic coal measures and in many cases the faults are probably of Tertiary age, or at least post Jurassic dolerite. The apparent coincidence of faulting and the abrupt thinning of F seam in the northeastern fault block suggests that some major faults may be located on structures which were active in the Late Triassic, and exerted some control on coal formation and preservation within the fluvial basin.

F Seam Correlation and Working Section Determination

The seam previously mined in the Valley adits and exposed by HRCM at Valley #2 is generally considered to be a different split within the F seam stratigraphic package, than the seam mined at Duncan (Bacon, 1991) and the detailed seam logs in Appendix B show that considerable variation within seams can occur over short distances. A concern during the Valley Road program has been to establish a robust correlation between HRCM and DOM F seam intersections, sufficient to be confident that correlation is on the same horizon, irrespective of whether or not that portion of F seam was mined at Duncan. Figure 7 (in pocket in hard copy and as separate pdf in digital) shows a long section projecting all drill holes within the portion of the deposit considered to have drill density sufficient for Measured confidence level resource estimation. The section is 3.5 km long and captures 15 drill holes

with F seam working sections or intersections good enough to be considered worth including in a resource (including DOM4 which had major core loss but the logs indicate a seam thickness of about 1.78 metres). Where faulting occurs between two drill holes, the mid way position is projected and so in some cases the same fault will be projected more than once. The line of section is marked on the map, Figure 6, and both drawings should be viewed together.

The section shows that although the total thickness of the F seam coal-mudstone stratigraphic package thins towards the southeast, there is no evidence of the Valley seam pinching out and being replaced by another part of F seam. The persistence of a working section thickness in the middle of the F seam coal-mudstone package is fairly consistent along strike, at least as far southeast as DOM23. It is recommended that more drilling be done around the area south of DOM41 where the DOM logs indicate that a sandstone roof to F seam and less mudstone interburden are likely in that area

The general criteria for a resource working section of 1.5 metres thickness and 40% ash as a cut off grade are applied by HRCM but it is recognised that a coherent coal resource may need to include some intersections which in isolation are sub economic in thickness and/or coal quality terms. Conversion of resource to reserve will incorporate some roof or floor waste rock as dilution where the seam thickness is <1.9 metres. Drilling to date has intersected F seam working sections in holes VR001, VR002, VR004b, VR007, VR008 and VR009. Assays are not yet in for VR008 and VR009 but they are judged to be working sections on the basis of seam thickness and quality estimated from logging (Appendix B).

Where full seam proximate analyses and relative density assays are available overall ash and energy values are calculated on a mass weighted basis but in some cases, particularly with the earlier 1960s-1970s drilling, full analyses were not always done and in other cases core loss was significant. In cases where %ash numbers exist but relative density does not, an apparent density based on a regression equation for a population of actual values is used. For the Valley Road data the equation calculated by resource geologist Paul Wootton, is apparent density = 0.0137 x %Ash + 1.1578. The equation represents a 97% correlation between density and ash for 116 Fingal Tier core samples. In cases of core loss where roof and floor lithologies for the missing interval are logged and assayed, they are extrapolated down and up to a mid point. If a mudstone interburden exists with no assays, it is assumed to be 100% ash. Actual mudstone ash values typically range from 70-90% depending on the carbonaceous content but assuming 100% ash compensates for the fact that mudstone is denser than coal. These are generally acceptable methods for estimating coal quality in the absence of analytical data but only if there is a spread of modern drilling with full seam assays, to achieve validation (Figure 6).

Seams other than F have economic potential in the HRCM drilling to date. Probable working sections of G seam were intersected in VR003, VR005, VR007 and VR009 (VR009 in both upper and lower splits) (Appendices A and B). C seam working sections occur in VR006 and VR008 and a probable working section of B seam has been sampled for assaying from VR009. The potential of these intersections, particularly on G seam, to develop into additional resources will be tested by future exploration on the EL.

Year 3 Exploration Program

The currently defined north-south extent of the Valley Road deposit is approximately 5km and HRCM drilling to date is located within the northern half of this area. Within that area F working sections have been intersected by 6 DOM (DOM17, 20, 23, 24, 25 and 37) and 6 HRCM (VR001, 002, 004b, 007, 008 and 009) holes and there is very good correlation between the two sets of drilling in terms of F seam RL, thickness and coal quality, sufficient for resource estimation at the Measured confidence level. Approximately 6 additional infill holes are required in the southern half of the project area to achieve the same drilling density over the entire deposit.

Drilling is expected to continue throughout 2012-2013. Two drill sites are currently ready for the work program applications to be submitted to MRT. The drill holes, assays and geological modelling will require expenditure of approximately $400,000.

Environment

All on ground works have been approved by Mineral Resources Tasmania and abided by the requirements of the 5th Edition of the Mineral Exploration Code of Practice. This section addresses the requirements for a Drill Hole Abandonment Report as it describes the current state of the twelve holes that have been drilled in the past year.

Earthworks at Valley Mine Adits

The initial works on EL 16/2010 included upgrading the track into the Valley Mines area so that a bulk sample of coal could be taken from the Duncan seam split adjacent to the collapsed adit entrance of Valley Mine No. 2. Prior to this work being approved a heritage survey (Aboriginal and European - see Appendix F and G) and Flora and Fauna surveys were required (see Appendix H).

Before and after excavation for bulk sample.

Excavator uncovers seam.

Mining heritage avoided by works.

This site is well drained and remains open in anticipation of further development. None of the mining heritage was disturbed during these works.

Drill holes

Of the 12 holes drilled to date (see drill hole locality map figure 5) VR009 and VR010 remain unfinished. A summary of the status of each hole follows:

VR001

Drilling period 26/10/2011 to 23/12/2011
Collar locality 589 431.77E 5 388 423.42N GDA 94
RL 828.13m
Depth 576.05m

The drill hole is securely capped but remains open for water and geophysical tests. It will be grouted to surface when no longer required. The drill site is rehabilitated.

VR001 Collar capped and sumps rehabilitated.

VR002

Drilling period 3/1/2012 to 6/2/2012
Collar locality 588 328.64E 5 390 042.42N GDA 94
RL 581.42m
Depth 224.45m

The hole is secure but not sealed. HQ drill stem is currently stuck in the hole but an attempt will be made to recover these rods prior to geophysical testing and then it will be grouted to surface.

VR002 Collar with HQ rods. The sumps were behind the collar and are now rehabilitated.

VR003

Drilling period 7/2/2012 to 18/4/2012
Collar locality 588 745.38E 5 390 342.18N GDA 94
RL 556.45m
Depth 217.3m

The hole is being used for water testing and has a piezometer installed. The sumps have been rehabilitated. The track remains open for access to read the piezometer.


VR003 Sumps rehabilitated and piezometer installed down hole.

VR004a, b & c.

Three holes were drilled on the one site to provide core for acid testing.

Drilling period	13/2/2012 to 24/2/2012
Collar locality	a 587 822.10E5 390 338.20N GDA 94
	b 587 819.06E5 390 337.41N GDA 94
	c 587 824.84E5 390 339.25N GDA 94
RL	a 455.26m
	b 455.01m
	c 455.44m
Depth	a 29.20m
	b 90.80m
	c 35.25m

All three holes have been sealed. The site will be rehabilitated in the near future when further earthworks are planned at Valley Mine Adits.


VR004 Sumps and track require rehabilitation.

VR005

Drilling period 21/2/2012 to 22/4/2012
Collar locality 587 808.03E 5 390 437.21N GDA 94
RL 436.20m
Depth 55.65m

The hole is sealed and the sumps rehabilitated. The track will be rehabilitated in the near future when further earthworks are done at Valley Mine Adits.


VR005 Drill collar and sumps rehabilitated. Track to be rehabilitated.

VR006

Drilling period 19/4/2012 to 18/5/2012
Collar locality 589 143.52E 5 390 231.88N GDA 94
RL 573.39m
Depth 232m

The hole was grouted to surface. The sumps are rehabilitated and the forestry access track has had the grips reinstated.


VR006 Sumps rehabilitated and grips reinstated on forestry track.

VR007

Drilling period 21/5/2012 to 2/8/2012

Collar locality 588 443.79E 5 389 239.06N GDA 94
RL 661.32m
Depth 333.1m

The sumps have recently been rehabilitated. Due to be grouted after completion of VR009.


VR007 Sumps rehabilitated.

VR008

Drilling period 12/7/2012 to 5/9/2012
Collar locality 588 179.34E 5 389 580.46N GDA 94
RL 623.6m
Depth 258.8m

The sumps remain open and due for rehabilitation. Due to be grouted after completion of VR009.


VR008 Open sumps and current collar.

VR009

Drilling period 19/7/2012 current
Collar locality 588 834.91E 5 388 379.8N GDA 94
RL 786.91m
Depth 426.2m

A 700m all weather access track was constructed on the edge of a forestry coupe. The hole will be used for water and geophysical testing. Advice will be sought from Mineral Resources Tasmania and Forestry Tasmania as to whether this track should be rehabilitated as it provides good all weather access for fire fighting purposes.

VR009 Track before work.

VR009 Track during work.

VR009 Track after work.

VR009 Drill site.

VR010

Drilling period 31/7/2012 to 6/7/2012
Collar locality 588 197.85E 5 390 240.51N GDA 94

RL 540.94m
Depth 181m

This hole was drilled to obtain samples for acid generation testing and the hole will be used for water testing. The hole is securely capped and the sumps are currently open. The site will be rehabilitated after the water testing.


VR010 Collar and access track off Valley Road.

Expenditure

Cumulative total expenditure on EL 16/2010 at the 30th June 2012 was $2,894,186. At the time of writing this report accounting figures are not available for the third quarter 2012 but for the three quarter period from the 1st October 2011 to the 30th June 2012 expenditure totalled $2,366,597, comprising the following categories;

Geology and exploration support activities	$1,229,228
Drilling	$743,748
Geophysics, surveying, remote sensing mapping	$201,871
Administration	$191,750
TOTAL	**$2,366,597**

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HardRock Coal Mining Pty Ltd
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Annual Report

EL 16/2010 Fingal

List of Appendices

Appendix A 1:200 drill hole logs and summary written logs

Appendix B 1:20 detailed seam logs and sample details

Appendix C Assay results

Appendix D Photographs – core, chips and samples (CD only)

Appendix E Dexon report

Appendix F Aboriginal Heritage report (CD only)

Appendix G European Heritage report (CD only)

Appendix H Botanical and Fauna habitat survey (CD only)