



## **stanmore**coal

15 April 2021

### MILLENNIUM AND MAVIS DOWNS MINE ACQUISITION

## **Highlights**

- Stanmore and M Resources enter into a 50/50 joint venture to conditionally acquire the Millennium and Mavis Downs Mine from Peabody Energy Australia for an upfront cash consideration of \$1.25 million and royalty agreement (capped at \$1.25 million)
- Super royalties of up to \$3.5/t for a maximum of 5 years will also be payable to Peabody in case Premium Hard Coking Coal prices are above US\$175/t FOB Australia
- High quality coking coal asset with JORC Resources of 37 million tonnes and combined JORC Reserves of 2.0 million tonnes from open cut and auger with an additional 5.4 million tonnes of underground JORC Reserves
- The JV will assume and undertake rehabilitation obligations estimated at \$25.7 million, with Peabody reimbursing \$12.5 million of incurred rehabilitation costs over a two-year period
- The acquisition includes access to 0.5 million tonnes per annum of long-term rail and port capacity (and a right of first refusal on additional 0.5 million tonnes per annum of long-term rail and port capacity), as well as 349ML of long-term raw water supply allocation to support a mining restart, and all associated contractual rights and obligations
- Completion of the acquisition is subject to satisfaction of conditions precedent

Stanmore Coal Limited (**Stanmore** or the **Company**) is pleased to announce that through a 50/50 joint venture company with an M Resources affiliated entity, MetRes Pty Ltd, it has executed agreements with Peabody Energy Australia to acquire a 100% of the assets, rights and obligations associated with the Millennium and Mavis Downs Mine.

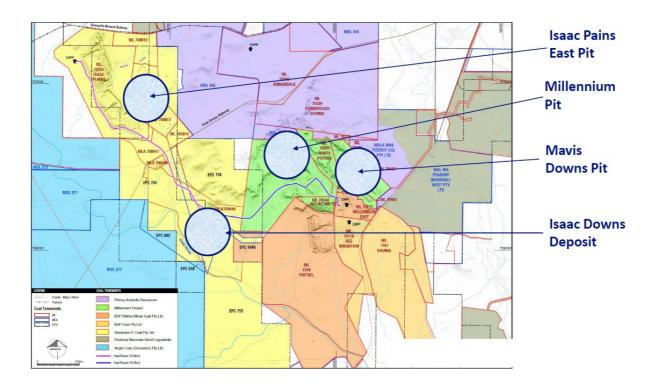
Restarting the Millennium and Mavis Downs Mine represents a low capital and quick to market investment opportunity in a high quality metallurgical coal asset, supported by access to existing critical infrastructure. Mining is planned to recommence from July 2021, with planned production ramping up to 1.0mtpa (subject to rail and port capacity being available), with coal washing undertaken at the Red Mountain Infrastructure coal handling and preparation plant (CHPP) via a fully executed toll washing and train loading agreement. The restart of the Millennium and Mavis Downs mine is expected to create an estimated 150 – 200 jobs, through the investment in underground expansions and completion of rehabilitation obligations.

The acquisition provides Stanmore with synergies identified between its existing assets and the Millennium assets, including access to available infrastructure, product blending, and other operational and project related savings.

### **Millennium and Mavis Downs Mine**

The Millennium Coal Mine is located near Moranbah, Queensland, adjacent to Stanmore's Isaac Downs project. The mine is currently in care & maintenance.

Historically, Millennium has produced benchmark level HCC64 hard coking coals and PCI coals, complementary products to the existing Stanmore mines which may allow for beneficial coal blending synergies.



#### **Reserves and Resources**

The project has JORC Resources of 37Mt, with 13Mt Measured, 17Mt Indicated and 7Mt Inferred1.

A Coal Reserve for the opencut and auger operation planned has been estimated at 2.0Mt under the JORC Code<sup>2</sup>. Coal Reserves for the underground operations are estimated to be 5.43Mt ROM, 4.56Mt marketable<sup>3</sup>.

<sup>&</sup>lt;sup>1</sup> Millennium Mine JORC Resource Estimate Report (October 2020)

<sup>&</sup>lt;sup>2</sup> Millennium Mine JORC Reserve Estimate Report (October 2020) – opencut & auger

<sup>&</sup>lt;sup>3</sup> Millennium Mine Underground JORC Reserves Report (October 2020)

## **Resources Summary**

		Resource Tonnes (Mt)			
Area	Seam	Measured	Indicated	Inferred	Total
	L	4.2	5.5	4	14
Millennium	VU1	1.0	0.9		2
	Total	5.2	6.4	4	16
	L	7.5	11	-	18
Mavis Downs	VU1	-	-	3	3
	Total	7.5	11	3	21
Total					
Total		13	17	7	37

## **Reserves Summary**

	Rese	erve Category - Millenni	um
Mining method	Proved (Mt)	Probable (kt)	Total (kt)
Open cut Mining	1.30	0.33	
Auger Mining	0.17	0.39	1.99

	Rese	rve Category - Millenni	um
Mining method	Proved (Mt)	Probable (Mt)	Total (Mt)
Underground Mining	1.29	4.13	5.43

## **Joint Venture Arrangements**

- Stanmore to provide the joint venture with a total finance facility of up to A\$30 million, including a
  working capital debt facility of A\$15 million to the joint venture to cover initial working capital
  requirements, and an additional A\$15 million debt facility to support rehabilitation surety
  obligations if required.
- Stanmore to act as guarantor of the joint venture's purchase obligations under the transaction agreements with Peabody.
- M Resources to appoint a wholly owned subsidiary, M Mining Pty Ltd as the Joint Venture Manager and operator of the proposed mining activities.
- M Resources to be appointed as exclusive marketing agents for the joint venture.
- Stanmore to be entitled to benefit from various synergies identified between its existing assets and the Millennium assets, including access to available infrastructure, product blending, and other operational and project related savings.

This announcement has been approved for release by the Board of Directors of Stanmore Coal Limited.

## For further information, please contact:

#### **Competent Person Statement**

The information in this report relating to exploration results and Coal Resources is based on information compiled by Mr Troy Turner who is a member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of Xenith Consulting Pty Ltd. Mr Turner is a qualified geologist and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, to qualify as Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves." Mr Turner consents to the inclusion in the report of the matters based on the information, in the form and context in which it appears.

The Coal Reserve estimate as at 31st October 2020 for Millennium mine held by Millennium Coal Pty Ltd within the mining leases ML 70313, ML 70401, ML 70457, ML 70344, ML 70483 and ML 70485 for Open Cut and Auger mining, has been prepared by Mr Sunil Kumar. This Coal Reserve estimate has been prepared in accordance with the requirements of the 2012 edition of the Australasian Code for Reporting of Mineral Resources and Ore Reserve (JORC Code). Sunil Kumar is an employee of Xenith Consulting Pty Ltd and is employed in a full-time capacity as a Principal Mining Engineer. He has over 25 years of experience in mining in the open cut coal mining industry that is relevant to the style of mineralisation and type of deposit described in the report, and the type of activity involved in the estimation of the Coal Reserve. Sunil Kumar is a Member of the Australasian Institute of Mining and Metallurgy and qualifies as a Competent Person under the JORC Code. Sunil Kumar consents to the release of the report, in the form and context in which it appears.

The estimate of Coal Reserves for the proposed Millennium and Mavis Underground coal mines as at 31st October 2020 has been prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 Edition). This reserves estimate is based on information compiled and reviewed by Mr Benjamin (Ben) Smith. Ben Smith is an independent mining professional, and an associate of Xenith Consulting Pty Ltd. He has over 24 years of experience in the underground coal mining industry internationally that is relevant to the style of proposed mineralisation and type of deposit described in the report, and the type of activity involved in the estimation of the Coal Reserves. Mr Smith is a Member of the Australasian Institute of Mining and Metallurgy and a Member of the Mine Managers Association of Australia. Mr Smith qualifies as a Competent Person under the JORC Code. He consents to the inclusion of this reserve estimate in reports disclosed in the form in which it appears.

## **About Stanmore Coal Limited (ASX: SMR)**

Stanmore Coal Limited operates the Isaac Plains coking coal mine in Queensland's prime Bowen Basin region. Stanmore owns 100% of the Isaac Plains Complex which includes the original Isaac Plains Mine, the adjoining Isaac Plains East (operational), Isaac Downs (open cut mine project) and the Isaac Plains Underground Project. The Company is focused on the creation of shareholder value via the efficient operation of the Isaac Plains Complex and the identification of further development opportunities within the region. In addition, Stanmore holds a number of high-quality development assets (both coking and thermal coal resources) located in Queensland's Bowen and Surat Basins.

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## **APPENDIX A.TABLE 1**

This Appendix details sections 1, 2 and 3 of the JORC Code 2012 Edition Table 1. Sections 5 Estimation and Report of Diamonds and Other Gemstones' have been excluded as they are not applicable to this deposit and estimation.

## SECTION 1 SAMPLING TECHNIQUES AND DATA

(Criteria listed in the preceding section also apply to this section.)

<ul> <li>Details of the exploration history was provided in the data room in various formats for the review of the remaining coal resource within the Millennium Project ("Project").</li> <li>The supplied data included: Drilling results in spreadsheet format, LAS file Maptek Vulcan files (relating to supplied model) and reports on the historic studies undertaken.</li> <li>Exploration began within the Project in 2002 and the database of information was developed annually until mining began in 2006. Since 2006 annual exploration and development campaigns have been undertaken to assist the mining operation until 2020 when Peabody decided to cease operating.</li> <li>It is assumed from the maturity of the operation that industry standard samp techniques have been followed and have remained consistent throughout the history of the mining operation.</li> <li>The annual exploration activity has sought to develop the geological understanding at the project in the areas of structure, coal quality, water ingress, geotechnical parameters and resource limits.</li> <li>The drilling database is comprised of 1, 776 drill holes, 599 cored holes, 10 which have been used as PoO's for this resource estimation</li> <li>Project Total Holes Structural Geotech LOX Core Large Diame</li> <li>Millennium 892 468 3 59 356 6</li> <li>Mavis Downs 884 403 3 314 164 -</li> </ul>
ę.

Total

1,776

871

373

520

6

Criteria	JORC Code Explanation	CP Comments
		<ul> <li>The majority of the cored and rotary chip holes have been geophysically logged for the determination of the seam characteristics.</li> <li>Geophysical logging has included at least gamma, density and caliper.</li> </ul>
Drilling Techniques	• Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	<ul> <li>Details of the core size for the majority of the historic holes was not included in the drilling database supplied. Data gathered indicates that standard HQ, 4C and 8C core bit types have been used. The type of bits used depended on ground conditions and purpose of the drilling.</li> <li>A full list of holes that acquired PoO status is available in the Table-A.1 in the body of the report and in the Appendix. The full list of holes in the database are in Table A.2</li> <li>Non-cored holes were used in the model to define stratigraphy but were not used as Points of Observation ("PoO").</li> </ul>
Drill Sample Recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>It is assumed that good sampling practice was used in the preparation of core and chip samples. No evidence was supplied in the data room.</li> <li>Drilling database lithology logging noted areas of core loss and drilling has been corrected to geophysics where available.</li> <li>Only cores were sampled for coal quality analysis.</li> <li>Sample recovery was considered adequate. Where in seam core recovery was less than 95 % the seam was reviewed for representivity.</li> <li>Where verticality was recorded it was utilised in the survey information for the drill hole.</li> </ul>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>All cores were geologically logged; geological/geotechnical features identified were reported.</li> <li>All chipped holes were geologically logged.</li> <li>1,119 of the 1,776 holes were geophysical logged with a minimum density, caliper, and gamma unless operational difficulties prevented logging or part logging of a hole.</li> <li>No record of calibration of the geophysical tools was provided with the historic dataset.</li> </ul>

Criteria	JORC Code Explanation	CP Comments
Sub-Sampling Techniques and Sample Preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Details for the sampling techniques were not supplied in the dataroom. The results of the quality analyses indicate standard and appropriate practices were followed and completed. All information was derived from the working operation drilling database.</li> <li>The requirements for sampling the Rangal Coal Measures are well understood within the Bowen Basin and by Peabody. It is assumed that standard procedures have been followed.</li> <li>Of the 599 core holes, 367 were geophysically logged.</li> </ul>
Quality of Assay Data and Laboratory Tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul> <li>Three laboratories are mentioned in the supplied data, Preplab Testing Services Pty Ltd (now Mitra PTS Pty Ltd) Rockhampton, ACIRL Quality Testing Services Pty Ltd (trading as ACTest) Mackay and Bureau Veritas in Gladstone. The coal quality laboratories comply with Australian Standards for all coal quality tests and are certified by the National Association of Testing Authorities, Australia (NATA).</li> <li>The results of the quality analyses indicate standard and appropriate practices were followed and completed.</li> <li>No audit, or calibration of instruments used was sighted for this report for historic holes or provided with the dataset.</li> </ul>
Verification of Sampling and Assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Coal quality results were verified by Xenith Consulting Pty Ltd personnel before inclusion into the geological model and resource estimate.</li> <li>Historical product coal assessment and analysis were undertaken by Mr R Stainlay from M Resources.</li> </ul>
Location of Data	• Accuracy and quality of surveys used to locate drill holes (collar	Details of the quality and accuracy of the survey were not included in the data

Criteria	JORC Code Explanation	CP Comments
Points	<ul> <li>and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>supplied. The maturity of the operation and the mining activities that have occurred since 2006 suggest that there is acceptable accuracy.</li> <li>LiDAR surfaces were supplied in the data room that were compiled in February 2018 and June 2020 for the Millennium working operation in AGD 84 Zone 55 / AHD format. The surface has the 2018 working faces, dump locations and natural virgin topography for the project. The data has a nominal vertical accuracy of 0.2 m in height (RMS) in clear areas.</li> <li>1 Project datum and projection is AMG 84 zone 55</li> </ul>
Data Spacing and Distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Drill hole spacing has been dictated by the characteristics and consistency of the target seams within the deposit.</li> <li>Structural drilling is in general on 150 m x 100 m centres within the mined areas and 150 m x 300 m in the areas yet to be mined. Coal quality drilling is located on approximately 400 x 400m centres.</li> <li>Where appropriate, sample compositing has been completed.</li> <li>Considering the continuity of the target seam(s) in the deposit, this spacing has proven to be sufficient to give adequate control to the model and give the required confidence in the geological interpretation.</li> </ul>
Orientation of Data in Relation to Geological Structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>The orientation and spacing of the drilling grid are deemed to be suitable to detect geological structures and coal seam continuity within the resource area.</li> <li>3D seismic information complements the distribution of drill holes.</li> </ul>
Sample Security	The measures taken to ensure sample security.	<ul> <li>No information has been sighted as to the chain of custody procedures of the owners of the project.</li> </ul>
Audits or Reviews	• The results of any audits or reviews of sampling techniques and data.	• There are no results or information pertaining to auditing of the sampling undertaken in previous drilling campaigns.

## SECTION 2 REPORTING OF EXPLORATION RESULTS

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code Explanation	CP Commo	ents					
Mineral Tenement and Land Tenure Status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.	and we Underg  • Millen	ining Leases are locate est and north of the exist ground Coal Mine. nium Coal Pty Ltd, a su tabled below.	sting Poitrel coal r	nine and to	the South of t	he Carborouş	gh Downs
	• The security of the tenure held at the time of reporting along with any known							
	impediments to obtaining a licence to	ML 70313	Millennium Coal Pty Ltd	Millennium	19/09/2003	16/12/2004	31/12/2034	1,953
	operate in the area.	ML 70401	Millennium Coal Pty Ltd	North Poitrel	28/07/2008	16/09/2008	31/12/2034	403
		ML 70457	Millennium Coal Pty Ltd	Mavis Downs	07/01/2011	12/09/2011	31/12/2034	574
		ML 70485	Millennium Coal Pty Ltd	New Chum Creek	10/11/2012	15/07/2013	31/12/2034	163
		ML70344	Millennium Coal Pty Ltd	Mountain Pit	19/05/2005	03/11/2005	30/11/2034	164.1
		ML70483	Millennium Coal Pty Ltd	Mavis Downs Southern Triangle Extension	11/10/2012	15/07/2013	31/12/2034	0.4
		• The cu	oject area is currently urrent operation shares a ain CHPP.			uring Poitrel N	Nine at the Ro	ed
Exploration Done by Other	• Acknowledgment and appraisal of exploration by other parties.		ploration data supplied ision of Peabody perso		is resource	have been cor	nducted by or	under the

Criteria	JORC Code Explanation	CP Comments
Parties		
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Millennium project area lies within the Permo-Triassic Bowen Basin. The Bowen Basin consists of 10 kilometre (km) thick sequences of volcanic, shallow marine and terrestrial sediments and is categorised back-arc to foreland basin.</li> <li>Coal seams occur within the Rangal Coal Measures which are Late Permian in age. These seams dip to the west at approximately 4 - 7 degrees within the Millennium Lease and 4 - 10 degrees to the east at Mavis Downs.</li> <li>The coal seams of interest found within the Project area are as follows - Leichhardt and Vermont Upper 1</li> <li>Additional seams were intersected in the historic drilling and in part analysed these were the M seam and plies of the Vermont Lower Seams.</li> <li>The target seams have a cumulative thickness of approximately 7 m across the deposit.</li> <li>In historic mining there was reference to the M seam which was not targeted in this resource estimate as the seam is not consistently thick enough for the proposed underground and auger mining techniques.</li> </ul>
Drill Hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul>	<ul> <li>A detailed list of the drill holes used to define the resource for the Project can be found in Table A.2.</li> <li>All drill holes have been modelled from vertical, although hole deviation has been applied for all holes where the information exists.</li> <li>Holes were excluded for reasons such as duplication of holes at similar location, poor recovery, and incorrect surveyed coordinates.</li> </ul>

Criteria	JORC Code Explanation	CP Comments
	• If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	
Data Aggregation Methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high-grade results and longer lengths of low-grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>It is reported that all seams where multiple coal quality samples were taken were given composite coal quality values based on top and bottom plies.</li> <li>Coal quality samples were weighted on thickness (length) and relative density and composited on a per seam basis.</li> <li>Seams with a raw ash (adb) above 50% are not classified as coal and has not been included as a resource.</li> </ul>
Relationship Between Mineralisation Widths and Intercept Lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a</li> </ul>	All holes were drilled vertical and verticality information has been applied to modelled holes where available.

Criteria	JORC Code Explanation	CP Comments
	clear statement to this effect (e.g. 'down hole length, true width not known').	
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	All appropriate diagrams are contained within the main body of the report
Balanced Reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All available exploration data for the Millennium Project area has been collated and reported.
Other Substantive Exploration Data	• Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	<ul> <li>All exploration data was gathered and or utilised in the resource estimation and has been outlined in Chapter 5 of the JORC Resource Report.</li> <li>Velseis conducted a 3D seismic survey which was undertaken in the highwall areas of the Millennium and Mavis Downs opencut pits. This work resulted in the structural interpretation which was used for the planning and design of the highwall mining.</li> </ul>
Further Work	• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	No further work has been planned at this stage.

Criteria	JORC Code Explanation	CP Comments
	• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	

## SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code Explanation	CP Comments
Database Integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Supplied lithological logs, and coal intersection depths have been reconciled and corrected to the geophysical log.</li> <li>Supplied drilling data was reviewed by Xenith.</li> <li>All bore hole collars were checked against the natural topographic surface.</li> <li>Coal Quality data has been checked and cross referenced with lithology and ply logs.</li> </ul>
Site Visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>Mr T Turner as Competent Person has conducted a site visit to the project in 2017 and is quite familiar with the stratigraphy and coal seams as described in this report.</li> <li>Mr M Longland on behalf of Xenith and the Competent Person visited the project in October 2019</li> <li>The Competent Person's familiarity with the regional operating coal projects and stratigraphy is thorough and sufficient. Review of the exploration data indicates that the geology is typical of the area.</li> </ul>
Geological Interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>The drill hole density (core and chip) in the Millennium Project area allows good level of confidence with regards to seam splitting, seam thickness, coal quality, and the location of sub-crop.</li> <li>Geological Grids and triangulations were completed in Maptek Vulcan software in 2016 by Millennium Personnel.</li> <li>The Mavis Downs geological model resides in folder 2016_MavisDowns_Model_v1.0. Grids are located in lom.grid and triangulations are located in lom.tri.</li> <li>The Millennium geological model resides in folder 2016_Millennium_Model_v1.0. Grids are located on</li> </ul>

Criteria	JORC Code Explanation	CP Comments
		2016structure.grid and triangulation in 2016structure.tri.
Dimensions	• The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	<ul> <li>The Leichhardt seam at Mavis Downs extends approximately 4.8 km along strike and 0.5 km down dip. At Millennium the Leichhardt seam extends 2.0 km along strike and 2.8 km down dip and averages ~4.4 m thickness.</li> <li>The VU1 target seam(s) extends approximately 1.6 km along strike and 0.4 km down dip. At Millennium the VU1 seam extends 1.4 km along strike and 0.8 km down dip and averages 1.7 m thickness.</li> <li>At Mavis Downs the depth of first coal ranges from between 90 m at the highwall face and 160 m in the east of the mining lease. The VU1 seam resource depth to coal ranges from between 45 m below the current pit floor to 200 m in the east of the mining lease.</li> <li>At Millennium the depth of first coal ranges from between 90 m in the south and west of the lease, and 160m in the North. The VU1 seam resource depth to coal ranges from between 25 m below the current pit floor to 170 m in the west.</li> <li>Variability in the coal seam parameters, such as seam thickness and raw coal quality, is reflected in the resource classifications assigned to the target seams.</li> </ul>
Estimation and Modelling Techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> </ul>	<ul> <li>The geological model was constructed in Maptek Vulcan software using different modelling algorithms for structure and coal quality parameters.</li> <li>The stratigraphic surfaces were constructed using a stacking method from the LU roof and triangulation algorithm Order: 1.</li> <li>The inverse distance squared interpolator was used for raw coal quality modelling.</li> <li>Limits were placed on the resource estimate with cut-off seam thickness at 1.8 m for all coal seams targeted for future underground extraction. A minimum parting thickness of 0.3 m to be considered for</li> </ul>

Criteria	JORC Code Explanation	CP Comments
	<ul> <li>Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>mining the LU and LL seams separately.</li> <li>Resource restricted to area covered by the depth to Leichhardt seam roof of 300 m.</li> <li>Areas with Raw Ash values greater than 50 % (adb) were excluded from the resource.</li> <li>Resource was restricted to areas of the project that are covered by the supplied geological model.</li> <li>Where the resource overlays an area that was historically mined by auger or highwall miner that portion of the resource had the tonnage estimate reduced by 30 %.</li> <li>As no geological model exists for the VU1 seam at Mavis Downs an estimate of the coal quality average was derived from drilling results within a 1,000 m radius.</li> </ul>
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	<ul> <li>Coal resource tonnages were estimated using a calculated Preston and Sanders in situ relative density.</li> <li>Based on the results from coal quality testing, the in-situ moisture has been estimated using the ACARP study C10041 formula 'Mis" = 2.2168 + 1.3335 x Mad</li> <li>Coal qualities relating to the resource tonnages are reported on an air-dried basis.</li> </ul>
Cut-Off Parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• A maximum raw ash percentage has been applied, where a maximum raw ash of 50%, air-dried basis, has been applied to the resource estimate.
Mining Factors or Assumptions	• Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the	<ul> <li>Xenith have applied a minimum thickness appropriate to the potential mining method and deem the coal resource has reasonable prospects of economic extraction.</li> </ul>

Criteria	JORC Code Explanation	CP Comments
	process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.	• A thickness limiting factor has been applied to the resource deemed reasonable for traditional underground extraction methods. This minimum thickness is 1.8 m thick.
Metallurgical Factors or Assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	• It is Xenith's opinion that at this stage of the project that there are no limiting metallurgical factors.
Environmental Factors or Assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	• It is Xenith's opinion that at this stage of the project that there are no limiting environmental factors, given the mining history within the Mining Leases.
Bulk Density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and	<ul> <li>Preston and Sanders In situ Relative Density Estimation – The in situ density of the coal seams has been estimated using the Preston and Sanders in situ relative density estimation equation:</li> </ul>

Criteria	JORC Code Explanation	CP Comments
	<ul> <li>representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>RD(in situ) = RDad × (100 - Mad){100 + RDad × ISM - Mad - ISM}</li> <li>Inherent (air dried) moisture values have been derived from sampled core intervals.</li> <li>In situ Moisture was determined using ACARP study C10041. 'Mis" = 2.2168 + 1.3335 x Mad</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>Three resource categories have been identified within the project, depending on the level of confidence in the seam structure and continuity plus the level of variability in the coal quality data and finally the potential extraction methods.</li> <li>Drill holes, historic mining and seismic sections provide the basis for structural / thickness continuity.</li> <li>Points of Observation have been used to establish coal quality continuity.</li> <li>The level of drilling information assisted with the classification of resource categories.</li> </ul>
Audits or Reviews	• The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>No external audits have been performed on the Mineral Resource estimate, but internal QAQC protocols have been followed.</li> </ul>
Discussion of Relative Accuracy/ Confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or</li> </ul>	<ul> <li>Xenith have assigned three levels of confidence to the coal resource estimate, depending on the seam and drill hole spacing, as described in Chapter 10 of the 2020 JORC Resource report.</li> <li>Factors that could affect accuracy include unknown structures between completed drill holes, seam washouts in roof or inseam stone bands developing. No evidence exists at this point in time for these, apart from what has currently been geologically modelled or exists within the models' design database. The inclusion/exclusion of these features was discussed in the report.</li> </ul>

Criteria	JORC Code Explanation	CP Comments
	local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.	
	<ul> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	

## APPENDIX B JORC TABLE 1 - SECTION 4 OPENCUT & AUGER OPERATION

Section 1 Sampling Techniques and Data

Please refer to JORC Resource Report – Table 1 Section 1,2 and 3 above (October 2020)

**Section 2 Reporting of Exploration Results** 

Please refer to JORC Resource Report – Table 1 Section 1,2 and 3 above (October 2020)

**Section 3 Estimation and Reporting of Mineral Resources** 

Please refer to JORC Resource Report – Table 1 Section 1,2 and 3 above (October 2020)

**Section 4 Estimation and Reporting of Ore Reserve** 

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserve	<ul> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserve.</li> </ul>	The Millennium and Mavis Downs coal leases ("the project") is located in central Queensland and is owned by Millennium Coal Pty Ltd, a subsidiary of Peabody (The Company). The Project comprises two mining areas, Millennium and Mavis Downs, and is being planned to extract metallurgical, and PCI coal by open cut and augering from MLs 70313, 70401 and 70457.  • JORC Coal Resource estimates for Millennium mine (Millennium and Mavis Downs mining area) have been prepared by Xenith Consulting ("Xenith") and signed off by Troy Turner as the competent person. These have been used as the basis for the conversion from Coal Resources to Coal Reserve for the project.  • Both the Resource models have included seams from the Leichhardt and Vermont seam groups from the Rangal coal measures.  • The Coal Resource estimates reported were:  • Measured: 13 Mt

Criteria	JORC Code Explanation	Commentary
		<ul> <li>Indicated: 17 Mt</li> <li>Inferred: 7 Mt</li> <li>The Coal Resource models were supplied as Vulcan grid models.</li> <li>The Coal Resource estimates are inclusive of the Coal Reserve estimate.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	• The competent person is familiar with the general area proposed for the project (Millennium and Mavis Downs area). No site visits specifically for the purpose of preparing this Coal Reserve estimate was undertaken, as the competent person believes that the information sourced from Xenith and available from client is sufficient for undertaking the study.
Study status	<ul> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserve.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserve. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	<ul> <li>Millennium Coal has mined in this area (Millennium and Mavis Downs) through open cut mining and highwall mining since 2005. Currently the mine is under care and maintenance and only rehabilitation and environment management are being undertaken since early 2020.</li> <li>It has been run as an owner-operator site by Millennium Coal since 2013 and was previously operated by Downer EDI. Highwall mining commenced in 2018 and Millennium Coal has produced about 1.4Mt of low ash coking and PCI coal through this method.</li> <li>Xenith is of the view that there is sufficient information available with the past mining activities for suitable mining method and mining cost basis for the financial analysis to be verified and have a high confidence level in the current financial model.</li> <li>Open cut mining method is planned to be conventional</li> </ul>

Criteria	JORC Code Explanation	Commentary
		strip mining where the floor dip is suitable, and terrace mining where the floor dip is steeper. Waste will be drilled and blasted before being removed by bench using one large 600 t and one 350 t hydraulic excavators and rear dump trucks. The mined waste will be backfilled in the voids behind the active mining operations. No ex-pit dump needed to be created within the mining schedule.  • Open cut coal is planned to be mined by one 350 t hydraulic excavators and hauled by suitable matched rear dump trucks to a ROM stockpile pad before being processed by a coal handling and processing plant.  • Augers will be deployed for mining Leichhardt seams in Mavis Downs and both Leichhardt and Vermont seams in Millennium in area where it has not been mined by highwall miners previously.  • Product coal will be railed to export coal ship loading facilities at Dalrymple Bay Coal terminal.  • Modifying factors used to convert Coal Resources to Coal Reserve have been derived from the knowledge of
Cut-off Parameters	The basis of the cut-off grade(s) or quality parameters applied.	<ul> <li>the past mining activities.</li> <li>50% in-situ ash adb basis cut-off was applied to coal seams in the Resource model used for this estimate.</li> <li>Final pit limits used as guidance for strip design were defined using pit optimisation software. Margin of the open cut blocks was applied to the mine design, as well as an offset from the proposed Mining Lease boundaries and watercourses.</li> <li>The mine schedule is evaluated in a financial analysis tool to determine schedule financial viability. This has been utilised as a to validate the economics of the</li> </ul>

Criteria	JORC Code Explanation	Commentary
		Reserve.  • A thickness cut-off of 0.30m was used for both coal (minimum seam thickness) and waste (maximum parting thickness) during coal seam aggregation for the Coal Reserve estimate.
Mining factors or assumptions	<ul> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made, and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	<ul> <li>The criteria utilised to determine if a Resource can be converted to a Reserve include, appropriate Resource classification of Measured or Indicated, pit optimisation to determine target area, mine design to create mining blocks inside the economic pit limit, application of appropriate modifying factors to estimate the Reserve tonnage and scheduled economic evaluation to ensure financial viability.</li> <li>The modifying factors used to convert Resources to Reserve were derived from the knowledge on the past mining operations at Millennium and Mavis Downs open cut mining and highwall mining area.</li> <li>Truck and excavator mining methods were employed in the past for open cut mining in the area. The competent person considers that this method is appropriate to extract coal from open cuts in this deposit.</li> <li>Geotechnical design parameter assumptions have been based on standard design angles as suggested in initial geotechnical assessments for the Millennium and Mavis Downs open cuts and this has been used for the conversion of Resources to Reserve.</li> <li>The geotechnical design parameters used were:         <ul> <li>70-degree and 63-degree overall angle highwall through unweathered material</li> <li>45-degree overall angle highwall through</li> </ul> </li> </ul>

Criteria	JORC Code Explanation	Commentary
		weathered material
		<ul> <li>37-degree lowwall (angle of repose)</li> </ul>
		• A scheduling model was developed on the basis of
		product coal washing capacity at Red Mountain Joint
		Venture (RMJV), which forms the base case schedule
		for the waste and coal mining operations. This
		scheduling model has been used to convert Resources to Reserve.
		Waste dilution was estimated by assuming an average
		roof and floor dilution of 0.04m (each). Dilution
		density has been assumed at 2.2 t/m3. Dilution ash has
		been assumed at 85%.
		• Coal loss was estimated by assuming an average roof
		loss of 0.03m and average floor loss of 0.03m.
		• No minimum mining width has been explicitly defined.
		Strips have been designed at a width of 55-65m in
		conventional down-dip mining areas. Standard coal
		blocks have been designed at a length of 100m.
		• Xenith consulted directly with Coal Augering Services
		(CAS), an auger mining contractor who is envisaged to
		perform the task to ensure the technical viability and estimate coal recovery in auger mining blocks on that
		basis augering coal recovery of 30% has been
		considered.
		No Inferred Coal Resource has been reported as Coal
		Reserve.
		• Project infrastructure requirements were included in
		project capital estimates.
Metallurgical	The metallurgical process proposed and the	Both Millennium and Mavis Downs mining area have
factors or	appropriateness of that process to the style of	comprehensive coal quality data to support ROM and
assumptions	mineralisation.	product coal.

Criteria	JORC Code Explanation	Commentary
Environmental	<ul> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</li> <li>For minerals that are defined by a specification, has the ore Reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> <li>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</li> </ul>	<ul> <li>The existing coal handling and preparation plant (RMJV) will be using similar washing technology to produce low ash coking and PCI coal.</li> <li>This metallurgical process is well known and has been used in the past for the marketable products.</li> <li>The Millennium product is classed as SHCC and is a niche coal which cannot readily be referenced to the standard coking coal indices. Mavis coking coal is aligned to the HCC 64 Mid-vol Platts coking coal index.</li> <li>The Coal Resource model used for this Coal Reserve estimate contained yield and washability data which specified products per seam.</li> <li>No allowance has been made for deleterious elements or out of specification products.</li> <li>Key environmental approvals are in place as it was an operating mine. The company is already in the process of rehabilitation in some of the area especially over expit dump.</li> <li>The proposed mining operation along with support operations are located within MLs 70313, 70401, 70457, 70344, 70483 and 70485.</li> <li>Placement of different type of waste rocks were carried out in the past separately and similar process will be followed in the future open cut mining as well.</li> <li>The competent person considers that there are reasonable grounds to expect that the proposed mining operations will adhere to the current EA (Environment</li> </ul>
Infrastructure	• The existence of appropriate infrastructure: availability of	Authority) provisions.  • Infrastructure already existing on site include site

Criteria	JORC Code Explanation	Commentary
	land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided or accessed.	<ul> <li>access roads, administration building, bathhouse, maintenance facilities, dams and water management infrastructure, a coal handling and processing plant and associated infrastructure, stockpiles, waste storage facilities and electrical infrastructure.</li> <li>Rail infrastructure is shared with the nearby Poitrel mine along with train loading facility within RMJV facility.</li> <li>It is proposed that the open cut and auger operations will be contracted so the workforce for the project operations is likely to be sourced from the local area. Accommodation will be provided in the existing camp.</li> </ul>
Costs	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul> <li>Project capital costs were estimated as part of the mining study, using a combination of build ups from first principles and estimates based on contractual estimates.</li> <li>No capital has been incorporated for mining equipment as the project has been modelled as a contract operation and all earth moving and other mining equipment related capital is included in operating costs as a contractor capital charge.</li> <li>Operating costs for the mining study were derived by Xenith and were estimated as reflective of similar contractor operations have been included in the economic analysis for the Coal Reserve estimate.</li> <li>Costs were estimated in Australian dollars.</li> <li>A government royalty determined in accordance with QLD government mining royalty rates has been included in the economic evaluation.</li> </ul>
Revenue factors	• The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s)	Price forecasts for coking, PCI and thermal coal products were provided by M Resources Pty Ltd, based

Criteria	JORC Code Explanation	Commentary
	exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.  • The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and coproducts.	<ul> <li>on the KPMG July 2020 coal price and foreign exchange forecast. Prices for SHCC and PCI coal were then discounted from the benchmark forecasts to reflect expected product quality:</li> <li>Millennium SHCC – specified at 15% discount to the forecast benchmark HCC price.</li> <li>Mavis Downs PCI – price specified at 33.5% discount to the forecast benchmark HCC price.</li> <li>The detail of this process and of the price forecasts is commercially sensitive and is not disclosed in this report.</li> <li>The exchange rate forecast (AUD:USD) provided by M Resources Pty Ltd and used for the Millennium Project economic evaluation is 0.68.</li> </ul>
Market assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul> <li>The coal products from the Millennium Project have well established market in the past are expected to continue in the future.</li> <li>Price forecasts are described in the section above labelled "Cost and Revenue Factors".</li> </ul>
Economic	<ul> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul> <li>A financial modelling was developed by Xenith and used for financial evaluation of the mine plan that forms the basis of the Coal Reserve estimate.</li> <li>The discount rate used was 10%.</li> <li>Inflation was not included in the financial model, as all values used were quoted as real values.</li> <li>The project NPV and sensitivities are considered</li> </ul>

Criteria	JORC Code Explanation	Commentary
		commercially sensitive and are not disclosed in this report.
Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	<ul> <li>The stakeholder engagements are already in place due to past mining operations and will continue through the planned mining operations at Millennium and Mavis Downs area.</li> <li>The competent person considers that there are reasonable grounds to expect that the current agreements will continue to be in place and that there are no significant issues that should prevent stakeholder agreements as required by the project plan.</li> </ul>
Other	<ul> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserve:</li> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the Reserve is contingent.</li> </ul>	<ul> <li>Mining leases and environmental approvals are already in place received from the Government.</li> <li>The competent person considers that there are reasonable grounds to expect that the current approvals will continue to hold required by the project plan.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Ore Reserve into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>All Coal Reserve are reported as Proved and Probable Coal Reserve.</li> <li>All Measured Resources inside the mine plan and economic limit have been converted to Proved Coal</li> </ul>

Criteria	JORC Code Explanation	Commentary
	The proportion of Probable Ore Reserve that have been derived from Measured Mineral Resources (if any).	Reserve and similarly Indicated Resources inside the mine plan and economic limit have been converted to Probable Coal Reserve.  No Coal Resources classified as Inferred are included in the Coal Reserve estimate.  The competent person considers that the classification of all Coal Reserve into Proved and Probable Coal Reserve reflects the current level of study and certainty in modifying factors.  The outcome reflects the Competent Person's view of the deposit.
Audits or reviews	• The results of any audits or reviews of Ore Reserve estimates.	• No external audits or reviews of the 2020 Coal Reserve estimate have been undertaken.
Discussion of relative accuracy/confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the Reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the</li> </ul>	<ul> <li>The study basis for the conversion of Coal Resources to Coal Reserve is at better than the Pre-Feasibility level, as the area has been mined by open cut and highwall mining since 2005 and the confidence level in the reported Coal Reserve estimate is commensurate with the level of confidence in Modifying Factors that underpins it.</li> <li>Coal price and exchange rate forecasting and cost assumptions represent a degree of risk and opportunity for the project.</li> <li>Uncertainty and risk associated with other specific modifying factors for the conversion of Coal Resource to Coal Reserve are also discussed in other sections of this table above.</li> <li>The statements above relate to global estimates, as the uncertainty in the modifying factors apply globally.</li> </ul>

Criteria	JORC Code Explanation	Commentary
	current study stage.	
	• It is recognised that this may not be possible or	
	appropriate in all circumstances. These statements of	
	relative accuracy and confidence of the estimate should be	
	compared with production data, where available.	

## APPENDIX C JORC TABLE 1 - SECTION 4 UNDERGROUND OPERATION

## Section 1 Sampling Techniques and Data

Please refer to JORC Resource Report – Table 1 Section 1,2 and 3 above (October 2020)

## **Section 2 Reporting of Exploration Results**

Please refer to JORC Resource Report – Table 1 Section 1,2 and 3 above (October 2020)

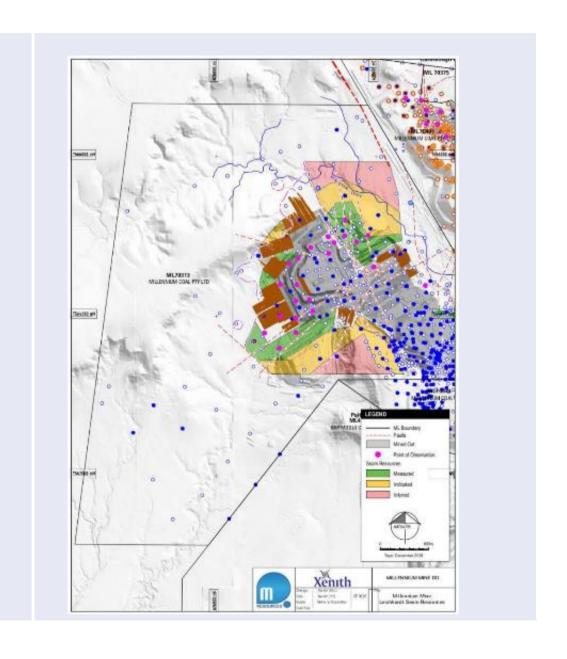
## **Section 3 Estimation and Reporting of Mineral Resources**

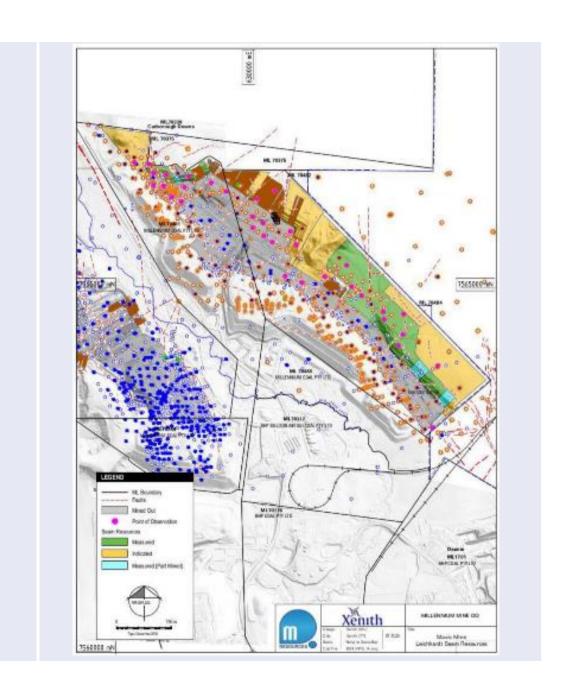
Please refer to JORC Resource Report – Table 1 Section 1,2 and 3 above (October 2020)

## **Section 4 Estimation and Reporting of Ore Reserve**

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code Explanation	CP Comments
Proposed mineral Resource estimate for conversion to Ore Reserves	<ul> <li>Description of the Proposed mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Proposed mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul> <li>The Millennium and Mavis Downs Underground Proposed mineral Resource was estimated by Xenith Mining Consultants Pty Ltd as of 31st October 2020.</li> <li>The coal resources, at 5% in-situ moisture, are:         <ul> <li>Measured: 13 Mt</li> <li>Indicated: 17 Mt</li> <li>Inferred: 7 Mt</li> </ul> </li> <li>Total: 37 Mt</li> <li>A 3D resource model was developed using both grid and block modelling techniques to model topography, structure and quality.</li> <li>A proposed Life of Mine design has been applied to the in situ resource information to create a reserves estimation model which reflects working sections, mining methods and associated assumptions.</li> <li>Coal Reserves are included within the Coal Resources, and are estimated as of 31st October 2020.</li> </ul>





Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>The Reserves Competent Person was not able to visit the Millennium project area during 2020 owing to ongoing travel restrictions related to COVID-19.</li> <li>The Reserves Competent Person is familiar with neighbouring operations and mines in the region generally.</li> </ul>
Study status	<ul> <li>The type and level of study undertaken to enable Proposed mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Proposed mineral Resources to Ore Reserves. Such studies will have been carried out and will have deterproposed mined a proposed mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	<ul> <li>The Millennium and Mavis Underground mines are proposed to operate as continuous miner-based Bord and Pillar operations.</li> <li>Studies to at least Pre-Feasibility level, including other sub-studies for the introduction of underground mining, have been completed that address key mining and processing areas.</li> <li>The workforce in the Bowen Basin and Central Queensland more broadly, are experienced in working the Leichhardt Seam.</li> <li>The estimated coal reserves and marketable coal reserves are based upon the Life of Proposed mine (LOM) Plan which is technically achievable and economically viable. Material modifying factors have been considered in the conversion of Resources to Reserves.</li> </ul>
Cut-off parameters	<ul> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<ul> <li>The proposed mine plan is largely defined by the presence of geological structure. No quality cut-off has been applied to the proposed mine plan. Due to the relatively thick coal seam, no thickness cut-off has been applied to the reserves.</li> <li>For business planning and JORC reporting, a detailed proposed mine design and schedule have been used to generate cash flow schedules that reflect the mining sequence, equipment and workforce requirements, operating costs, capital costs and projected revenue.</li> <li>A discounted cashflow analysis has been used to demonstrate economic viability with the reserves being cashflow positive.</li> </ul>

## Mining factors or assumptions

- The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Proposed mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).
- The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.
- The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc.), grade control and pre-production drilling.
- The major assumptions made and Proposed mineral Resource model used for pit and stope optimisation (if appropriate).
- The mining dilution factors used.
- The mining recovery factors used.
- Any minimum mining widths used.
- The manner in which Inferred Proposed mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.

- A detailed proposed mine plan for both the Millennium and Mavis Downs areas has been developed and used to estimate reserve qualities and quantities from the resource model.
- In situ coal tonnages are based on 5.0% moisture and the same density basis as the resource model. ROM tonnages are based on 8.0% moisture. Marketable tonnages are based on 10.5% moisture (HCC) and 11.0% moisture (PCI).
- The Millennium and Mavis Underground mines are proposed to exploit the Leichhardt Seam. Conventional continuous miner-based mining methods are proposed to mine the reserve, with in-seam development by continuous proposed miners used to develop sub-panels panels.
- The use of continuous miner-only methods is an appropriate low-capital option for mines of smaller tonnages or shorter durations than what is required to pay back the capital of a longwall operation.
- Continuous miner methods also provide far greater flexibility of layout and are
  far more responsive to changes in geology or mining conditions. They also
  allow an operation to increase or decrease the number of mining units in
  employ as market movements dictate.
- Personnel and equipment access to the underground project will be provided by transport roadways ad associated portal entries, while a dedicated conveyor roadway and portal entry will provide coal clearance.
- The proposed mine plan is based upon pillar designs based upon industry norms and fall within experience at neighbouring mines. recommendations of geotechnical studies. All main headings, and panel pillars appear to provide the required level of stability at appropriate factors of safety. An initial geotechnical review and strata support design has been completed, with more detailed investigations to come in future study phases.
- Bord and Pillar panels have been laid out to maximise resource recovery

• The infrastructure requirements of the selected mining methods.

within the constraints of geological structure.

- Roadways are nominally 6.0 m in width and excavated in two passes 'A' and 'B' cut. The first cut is at a nominal 4.40 m in width, followed by a 1.6 m cut to complete the full width.
- Pillars are uniform in size and are sqaue in shape. Pillars are planned to be at 28 m centres, leaving a 22 m solid pillar of coal remaining.
- Secondary extraction process (unbolted) include bell-outs in the Mavis mine, and wherever possible in both mines, floor brushing to increase the excavated height. This maximised prodictivity and reduces costs by maximising the amount of coal production that doesn't require roof support.
- Mining loss estimates are based upon practical experience and losses expected when utilising continuous miners particularly the amount amount of coal left behind from cleanup. Additionally, a small amount of coal is left in the roof on the 'B' cut of widening. Together these have been estimated to account for 2.0% and has been applied to all ROM tonnes.
- An amount of Inferred Resources and unclassified resources are included in the LOM Plan. The viability of the LOM Plan would not be unduly compromised by excluding this coal, especially as early years of production are focussed on the Mavis area which are all classified and included in Reserves. All tonnes that are from Inferred Resources or unclassified resources have been excluded from the Reserves.
- Established site infrastructure includes the proposed mine offices, warehouse, workshop, power supply, overland conveyors, ROM stockpile, coal handling and contract preparation plant (CHPP), reject disposal sites, product stockpiles, rail loop and train loader, and sewage/water treatment plants.

## Metallurgical factors or assumptions

- The metallurgical process proposed and the appropriateness of that process to the style of proposed mineralisation.
- Whether the metallurgical process is well-tested technology or novel in nature.
- The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.
- Any assumptions or allowances made for deleterious elements.
- The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.
- For proposed minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate proposed mineralogy to meet the specifications?

- The project will use the Red Mountain Joint Venture (RMJV) Coal Handling and Prepartion Plant (CHPP) for all coal beneficiation.
- All ROM coal requires upgrading by standard coal preparation methods comprising two dense medium cyclone circuits, a spirals / reflux-classifier combination for the intermediate-sized fraction and froth flotation for the ultra-fine coal. The plant has adequate sampling stations and a routine sampling regime with 2-hourly quality checks reported from a site laboratory.
- The RMJV CHPP consists of ROM coal stockpiles, coal preparation plant modules, product stockpiles, a train loader and reject disposal sites.
- The CHPP modules produce two products a hard coking product and a pulverised coal injection (PCI) product.
- This CHPP has been used previously for the treatment of Mavis/Millennium ROM coal and as such is well experienced in prepariont from the mine.
- Yield for each product is estimated on the basis of laboratory tests of exploration samples, and modelling. A range of coal qualities have been modelled including volatile matter, sulphur, phosphorus, CSN, CSR, fluidity and specific energy.
- None of the trace elements analysed are considered to be present to the extent that they have a material impact upon the marketability of the coal.
- Plant performance is measured and reconciled against forecast.
- The modelled qualities are appropriate to assigning forecast products to likely markets.

Environmental	The status of studies of potential environmental impacts of the mining and processing project. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	<ul> <li>The required environmental licences and authorities are in place for the site generally and for open cut operations. However, no approvals currently exist for the underground acpects of the mining project. It is expected that the necessary approvals for underground operations will be in place by early 2023. It is yet to be determined in what form and to what extent relevant environmental studies and assessments will be needed to support applications.</li> <li>The main environmental impacts of mining at the mine are focussed on surface subsidence and reject disposal. Subsided areas will be routinely monitored and treated to minimise erosion.</li> <li>Reject material is already disposed of in surface disposal facilities which will be rehabilitated prior to ultimate closure of the proposed mine.</li> </ul>
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	<ul> <li>The sits is an operating open cut coal mine, with the necessary infrastructure in place. Sustaining capital expenditure is allowed for in the LOM Plan to support ongoing mining on site.</li> <li>As such, the majorty of suirface infrastructure rewquired for an underground mine is already in place.</li> <li>Some associated and underground-specific equipment and installations will be required – which includes ventilation fans, portal entries, electrical surface substations, compressors, gas monitoring and relevant lamp cabins for underground equipment.</li> </ul>
Costs	<ul> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> </ul>	<ul> <li>Recognised contractor MasterMyne have developed a comprehensive Capital and Operating Cost model for both Millennium and Mavis Undergrounds. These have been reviewed in preparing this Reserve Estimate.</li> <li>Specific major capital requirements are identified as part of the</li> </ul>

Allowances made for the content of deleterious elements.
 The derivation of assumptions made of metal or commodity price(s), for the principal proposed minerals and co- products.
 The source of exchange rates used in the study.
 Derivation of transportation charges.
 The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.
 The allowances made for royalties payable, both Government and private.

- planning process with an allowance made for sustaining capital expenditure.
- Operating costs are based on actual site costs of similar and relevant projects that MasterMyne already have experience operating. These costs have been compared for reasonableness with a database of other similar projects and found to be consistent.
- With regard to producti quality or deleterious elements, none of the trace elements analysed are considered to be present to the extent that they have a material impact upon the marketability of the coal.
- Benchmark coal prices are based upon Platts forecasts for HCC and PCI products, reflecting their perception of expected supply and demand balance.
- M Resources, being commodity traders are well versed in market movements, purchasing and pricing forecast.
- Exchange rates are based on Xenith's view of possible rate movements.
- Transportation charges are based upon existing rail contracts.
- Treatment charges are based on actual site costs. No penalties have been modelled, however an adjustment to benchmark pricing has been made, reflecting Mavis Underground positioning in the market.
- Forecast royalties are based upon current Queensland state government royalty rates, and any private royalties payable..
- The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation
- Benchmark coal prices are based upon Platts forecasts for HCC and PCI products, reflecting their perception of expected supply and demand balance.

## Revenue factors

	<ul> <li>and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, proposed minerals and co-products.</li> </ul>	M Resources, being commodity traders are well versed in market movements, purchasing and pricing forecast.
Market assessment	<ul> <li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial proposed minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	<ul> <li>The coal market is influenced by a wide range of factors influencing supply and demand. The coal mined from the Millennium project is established in the market place and has been widely accepted previously. The underground mines propose to extract the same Leichhardt seam as previous open cut and highwall mining operations extracted.</li> <li>No significant change in product quality and marketability is anticipated. Sensitivity to potential changes has been tested.</li> <li>Volume forecast is based on the LOM schedule. Pricing is based upon Platts pricing.</li> <li>M Resources, being commodity traders are well versed in market movements, purchasing and pricing forecast.</li> </ul>
Economic	<ul> <li>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul> <li>Testing of the economic viability of the reserves is based upon actual operating costs, forecast production, forecast capital expenditure, and Platts coal pricing. The details of some of the inputs are commercially sensitive and are not disclosed.</li> <li>NPV has been tested against variations in significant drivers – the reserves remain economically viable under all scenarios.</li> </ul>

Social	The status of agreements with key stakeholders and matters leading to social licence to operate.	<ul> <li>The Millennium mine site is an established mining complex, and is committed to sustaining a positive contribution to the local and regional communities through employment opportunities and supply purchases. Taxation and royalty payments contribute to the state and national economies.</li> <li>Millennium maintain positive relationships with local landowners, community members, and traditional owners.</li> <li>It is anticipated that with the introduction of underground operations, this will continue.</li> </ul>
Other	<ul> <li>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</li> <li>Any identified material naturally occurring risks.</li> <li>The status of material legal agreements and marketing arrangements.</li> <li>The status of governmental agreements and approvals critical to the viability of the project, such as proposed mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received</li> </ul>	<ul> <li>Beyond the normal mining, processing, and business risk, no additional material risks have been identified. Sensitivity to variation in market placement has been tested, and the reserves remain economically viable.</li> <li>All necessary titles and agreements are in place.</li> <li>All current-held leases expire together on 31st December 2034.</li> <li>Leases currently held include <ul> <li>ML 70313</li> <li>ML 70401</li> <li>ML 70457</li> <li>ML 70485</li> <li>ML 70344</li> <li>ML 70483</li> </ul> </li> <li>There are no grounds to expect that the necessary titles and agreements will not be renewed if and as when required.</li> <li>It is noted that the operation does not currently have approval to extract coal by underground means. It is anticipated that the</li> </ul>

within the timeframes anticipated in the Pre-

Feasibility or Feasibility study. Highlight and

approvals process will commence in early 2021 and be

concluded ready for underground operations by early 2023.

	discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	<ul> <li>It is also noted that the areas for which underground mining approval is being sought are on leases already owned and approved for open cut mining.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of Probable Ore Reserves that have been derived from Measured Proposed mineral Resources (if any).</li> </ul>	<ul> <li>Mining blocks within the Measured Resource have been converted to Proved Reserves.</li> <li>Mining blocks within the Indicated Resource have been converted to Probable Reserves.</li> <li>Mining blocks within Inferred and unclassified Resource have not been converted into Reserves.</li> <li>The Competent Person is satisfied that the Coal Reserves reflect the outcome of technical and economic evaluation of the deposit.</li> <li>The Coal Reserves consist of 83% Proved Reserves and 17% Probable Reserves. No Probable Coal Reserves have been derived from Measured Resources.</li> <li>The estimated Coal Reserves are:  <ul> <li>Proved: 1.29 Mt</li> <li>Probable: 4.13 Mt</li> <li>Total: 5.42 Mt</li> </ul> </li> <li>The estimated Marketable Coal Reserves are:  <ul> <li>Proved: 1.13 Mt</li> <li>Probable: 3.43 Mt</li> <li>Probable: 3.43 Mt</li> <li>Total: 4.56 Mt</li> </ul> </li> </ul>
Audits or reviews	<ul> <li>The results of any audits or reviews of Ore Reserve estimates.</li> </ul>	<ul> <li>An external audit of the coal reserving process has not been completed, other than peer review by management of the company.</li> <li>This reserves estimate has been peer reviewed by personnel internal to Xenith Consulting.</li> </ul>

# Discussion of relative accuracy/confidence

- Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.
- The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation.
   Documentation should include assumptions made and the procedures used.
- Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.
- It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.

- The confidence classifications for the coal resources were deterproposed mine by Xenith Mining Consultants Pty Ltd. They appear appropriate, and have been adopted for reserves classification.
- The reserves have been estimated using tools and processes that have been widely tested in the Australian coal mining industry.