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## MATERIAL CHANGE IN RESOURCES AND RESERVES

Bathurst Resources Limited (ASX: BRL) wishes to disclose additional information with regard to changes in coal resources and coal reserves for the South Buller coal resource (Figure 1). These changes are reflected in the 2021 Annual Report and the separate resources and reserves update, and are reportable material changes compared to the previous estimates in the 2020 Annual Report.

The changes are required to be reported in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 (JORC Code) and the ASX Listing Rules. Supporting information relating to the changes is set out in this release.

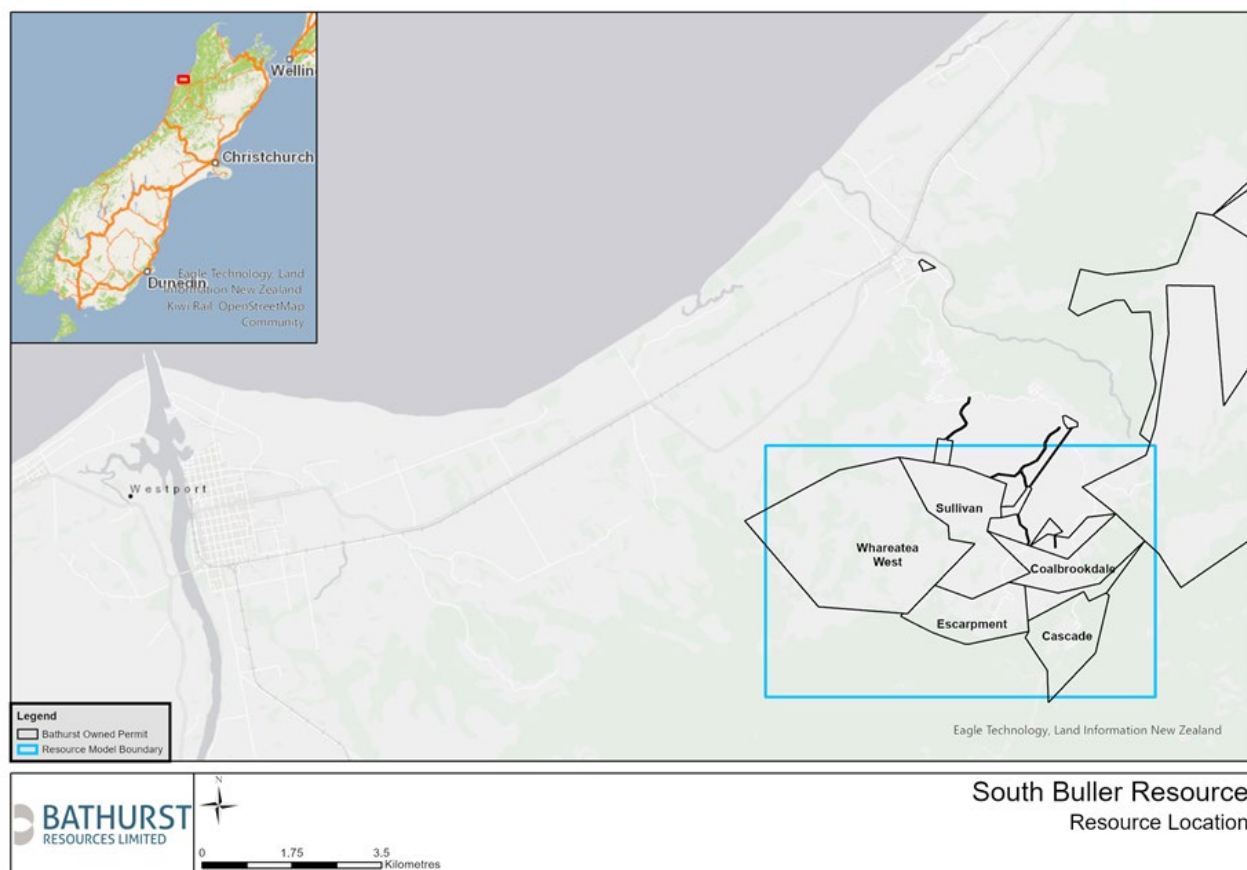
Resource drilling in 2019 and subsequent technical work, including a review of the coal washability on the Denniston Plateau and alignment with the Stockton resource modelling standard, has driven the revised ash cut-offs contributing to the changes in the following coal resources and coal reserves.

Table A - Material changes to the South Buller coal resource and coal reserves 2021

	Material changes to coal resource and coal reserves
<b>Escarpment</b>	<p>A reduction of the reported ash cut-off from 45% to 25% for the Escarpment resource has decreased the following coal resources:</p> <p>Overall coal resource has decreased by 2.9Mt:</p> <ul style="list-style-type: none"> <li>• Measured coal resource has decreased by 1.5Mt.</li> <li>• Indicated coal resource has decreased by 1.0Mt.</li> <li>• Inferred coal resource has decreased by 0.4Mt.</li> </ul> <p>Coal Reserves are under review following the updated geological model. No reserves have been declared for 2021 for Escarpment while further technical evaluations are progressed. Total marketable reserves declared in 2020 was 2.6Mt.</p>
<b>Coalbrookdale</b>	<p>A reduction of the reported ash cut-off from 45% to 25% for the Coalbrookdale resource has decreased the following coal resources:</p> <p>Overall coal resource has decreased by 3.3Mt:</p> <ul style="list-style-type: none"> <li>• Indicated coal resource has decreased by 1.7Mt.</li> <li>• Inferred coal resource has decreased by 1.6 Mt.</li> </ul>
<b>Whareatea West</b>	<p>A reduction of the reported ash cut-off from 45% to 35% for the Whareatea West resource has decreased the following coal resources:</p> <p>Overall coal resource has decreased by 7.2Mt:</p> <ul style="list-style-type: none"> <li>• Measured coal resource has decreased by 1.7Mt.</li> </ul>

	<ul style="list-style-type: none"> <li>Indicated coal resource has decreased by 3.4 Mt.</li> <li>Inferred coal resource has decreased by 2.1 Mt.</li> </ul> <p>Coal Reserves are under review following the updated geological model. No reserves have been declared for 2021 for Whareatea West while further technical evaluations are progressed. Total marketable reserves declared in 2020 were 9.9Mt.</p>
Sullivan	<p>A reduction of the reported ash cut-off from 45% to 25% and an updated geological model for the Sullivan resource has decreased the following Coal Resources:</p> <p>Overall Coal Resource has decreased by 3.7Mt:</p> <ul style="list-style-type: none"> <li>Measured coal resource has decreased by 0.8 Mt.</li> <li>Indicated coal resource has decreased by 2.1 Mt.</li> <li>Inferred coal resource has decreased by 0.8 Mt.</li> </ul>

Figure 1 Location plan for the South Buller coal resource



### Summary of information to support the coal resource and coal reserve estimates

#### South Buller

Coal resource estimates for the South Buller resources, which include Escarpment, Coalbrookdale, Whareatea West and Sullivan, are supported by the information set out in the Appendix to this release in accordance with the Table 1 checklist in the 2012 JORC Code. The following summary information is provided in accordance with section 5.8 of the ASX Listing Rules.

### ***Geology, drilling techniques and geological interpretation***

The South Buller resource is located on the Denniston Plateau in the Buller coalfield, New Zealand. The coalfield is bounded to the west by the Papahaua Overfold/Kongahu Fault zone, and to the east by the Mt William Fault. The defined resource is contained within the Eocene aged Brunner Coal Measures. The coal measures consist of a fluvial sequence of fine to very coarse sandstones, siltstone, mudstone and coal seams. The deposit generally has a single extensive seam with some localised splitting of the seam. The coal thickness can be up to 12m but generally averages 4-5m vertical thickness. A strong trend in coal rank exists across the deposit with coal rank increasing from east to west.

All BRL managed drilling campaigns have utilised the following drilling methods:

- Full PQ Triple Tube Core.
- HQ Triple Tube Core only where necessary.
- Open-holed overburden where applicable.
- Logged production blast holes using top head hammer blast rig.

Historic drilling techniques include:

- PQ Triple Tube Core.
- HQ Triple Tube Core.
- NQ Triple Tube Core.
- Open-holed.
- Rotary wash.
- Reverse circulation.

All exploration drillholes were collared vertically.

All available and reliable exploration data has been used to create geological block models which have been used for resource estimation and classification. Modelling has been undertaken using Maptek's Vulcan Version 9.02 to build the structural model. Grid spacing is 10m x 10m. This spacing was selected to be 1/5 of the minimum average point of observation spacing within a domain area. Vulcan's stacking method was used to produce the structure model.

This method triangulates a reference surface (coal roof) and then stacks the remaining horizons by adding structure thickness using inverse distance. All known faulting and other structural surfaces and interpretations have been considered when building the structural grids.

A combined resource model for the prospects under review has been constructed.

### ***Sampling, sub-sampling method and sample analysis method***

For all exploration data acquired by BRL, an in-house detailed sampling procedure is used. Sampling and sample preparation were consistent with international coal sampling methodology. Ply samples include all coal recovered for the interval of the sample. Core was not cut or halved. Ply sample intervals were generally 0.5m unless dictated by thin split or parting thickness. All drilling in the recent campaigns has been completed using triple tube cored holes. No chip or RC samples were taken in these campaigns. Some historic RC and wash drilled holes have poor sampling methods and are excluded from the coal quality model.

Assay samples were completed at the core repository after transport from drill site in core boxes. Samples were taken as soon as practicable and stored in a chiller until transport to the coal quality laboratory.

All coal quality testing, completed for Bathurst, has been carried out by accredited laboratory SGS. SGS have used the following standards for their assay test work:

- Proximate Analysis is carried out to the ASTM 7582 standard.
- Ash has also used the standard ISO 1171.
- Volatile matter has also used the standard ISO 562.
- Inherent moisture has also used the ISO 5068.

- Total sulphur analysis is carried out to the ASTM 4239 standard.
- Crucible swell tests are completed using the ISO 501 standard.
- Calorific value results are obtained using the ISO 1928 standard.
- Loss on drying data is completed using the ISO 13909-4 standard.
- Relative Density is calculated using the standard AS 1038.21.1.1.

CRL completed much of the assay test work for samples collected prior to Bathurst taking over the projects. CRL used the following standards for their test work:

- Inherent Moisture tests utilised the ISO 117221 standard.
- Ash tests utilised the ISO 1171 standard.
- Volatile matter tests utilised the ISO 562 standard.
- Calorific value tests utilised the ISO 1928 standard.
- Crucible swelling index testing was carried out using the ISO 501 standard.

Both SGS and CRL are accredited laboratories.

A series of random duplicate samples representing 1.3% of the total number of samples from Buller has been completed by CRL Energy Ltd. The results of this duplicate testing were comparable to that reported by SGS New Zealand Limited (SGS).

### ***Estimation methodology***

Vulcan 9.0.2 is used to build the block model and to grade estimate. The process is automated using a Lava script. The coal structure surfaces for each domain, along with LiDAR topography surface, quaternary unconformity surface, and other mining related surfaces for Cascade and Escarpment are used to build the block model. The block dimensions are constructed at 10m x 10m. Vertical thickness for coal blocks is 0.5m, whilst overburden blocks are set to 5m maximum thickness.

Grade estimation is performed utilising Vulcan's Tetra Projection Model. The main seam, and two discontinuous rider seams in each domain is estimated for ash, sulphur, air-dried moisture and in situ moisture. Volatile matter, crucible swell index, and calorific value are estimated on the ash pass. Geostatistics have been performed on the coal quality dataset to examine and define the estimation search parameters for each variable. The maximum search radius is set to the maximum range of influence found in the semi-variogram for each variable. Grade estimation is computed using an inverse distance squared function.

Resource tonnages within the model have been discounted where the resource falls within an area of historic underground workings. The primary mining method utilised historically on the Denniston Plateau is bord and pillar mining. Some extraction using a water-based coal extraction (hydro mining) when pillaring has also taken place.

### ***Criteria used for classification***

Bathurst classifies resources using a multivariate approach. Coal resources have been classified on the basis of geological and grade continuity balanced by relative uncertainties surrounding historic underground extraction and proximity to faults. Closely spaced drilling with valid samples increases the confidence in resource assessments.

The confidence is reduced by:

- A block being within an underground worked area due to extraction rate uncertainty.
- A block being within 20m of an underground worked area due to uncertainty with historic survey of the workings and georeferencing of mine plans.
- A block is in an area of steep structure dip, usually in areas of large faults.
- A block lies within an area of thin or splitting seam resulting in uncertainty of geological continuity.
- If an area is within an area worked by historic underground mines the resource is considered as Inferred as a minimum.

### *Cut-off grades*

Structure grids have been developed based on a 50% ash cut-off. Some higher ash samples are retained within the coal quality dataset to allow simplification of the seam model especially in Whareatea West where higher ash partings become more abundant.

No lower cut-off has been applied. There is an inherent minimum limit to ash samples in modern results due to a laboratory detection limit of 0.17%. Ten modern ply samples fall below this detection limit, while a further 62 historic ply samples have ash values at or below this limit.

Coal resources are reported down to a seam thickness of 0.5m (one block).

Ash cut-offs applied for resource reporting are:

- 25% for Escarpment
- 25% for Coalbrookdale
- 35% for Whareatea West
- 25% for Sullivan

### *Mining and metallurgical methods and parameters, and other material modifying factors considered to date*

The development of the Escarpment, Whareatea West and Sullivan coal resources assumes mining methods consistent with similar or other Bathurst open pit mining operations. The preferred mining method is conventional truck and shovel open pit mining at an appropriate bench height.

The Coalbrookdale resource is considered to be an underground resource. Conventional bord and pillar hydro-mining is the preferred mining method for this resource.

All coal requiring washing is assumed to be processed at the existing Stockton coal handling and processing plant (CHPP) located approximately 20 km to the northeast. The washed coal transport system comprises a combination of road and aerial ropeway from Stockton mine to the Ngakawau loadout facility for rail transport to the port. Processes used at the proposed CHPP are standard coal industry practice using proven technologies.

Clean coal not requiring washing would be transported by road directly from the Denniston plateau to the Ngakawau loadout facility for rail transport to the port. This approach allows for the use of existing infrastructure capacity within the region and reduces start-up capital requirements significantly for the project.

Historic extraction rates are estimated using mining extraction reports, interviews with miners, underground mine plans and tonnage reports. These factors were used in the resource classification confidence and for depleting the resource tonnages.

Open pit mining and coal transport will be conducted amid environmentally and culturally sensitive areas. The proposed mining sites are a likely habitat for endangered snail and kiwi species. High rainfall rates, acid-generating overburden and historical acid mine drainage are all concerns that have been addressed.

Mining within the Escarpment mining permit has all necessary approvals in place. Similar environmental values occur within the remainder of the Denniston Plateau. It is assumed that any constraints imposed on Bathurst in terms of environmental protection will not be prohibitive to economic resource extraction.

No other significant modifying factors have been identified and considered for the resource evaluation process.

Authorised for release on behalf of the Board of Bathurst Resources Limited.



Richard Tacon, CEO

## **Mineral resource and ore reserves governance and estimation process**

Resources and reserves are estimated by internal and external personnel, suitably qualified as Competent Persons under the Australasian Institute of Mining and Metallurgy, reporting in accordance with the requirements of the JORC code, industry standards and internal guidelines.

All resource estimates and supporting documentation are reviewed by a Competent Person either employed directly by Bathurst or employed as an external consultant. If there is a material change in an estimate of a resource, or if the estimate is an inaugural resource, the estimate and all relevant supporting documentation is further reviewed by an external suitably qualified Competent Person.

All reserve estimates are prepared in conjunction with pre-feasibility, feasibility and life of mine studies which consider all material factors. All resource and reserve estimates are then further reviewed by suitably qualified internal management.

The resources and reserves statements included in this document have been reviewed by a qualified internal Competent Person, and internal management, prior to their release.

## **Competent person statement**

The information in this report that relates to exploration results and mineral resources for Escarpment, Sullivan, Coalbrookdale, and Whareatea West is based on information compiled by Mark Lionnet as a Competent Person who is a full time employee of BT Mining Limited and is a member of the Australasian Institute of Mining and Metallurgy. Mr Lionnet has a BSc (Hons) majoring in geology from the University of Witwatersrand. Mr Lionnet 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 a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Lionnet consents to the inclusion in this report of the matters based on his information in the form and context in which it appears above.