26 September 2017

Market Announcements
Australian Securities Exchange
Level 4, 20 Bridge Street
Sydney
NSW 2000

Bathurst Resources Limited - Update on Resources and Reserves at Canterbury Mine

Bathurst Resources Limited (ASX: BRL “Bathurst”) is pleased to announce an update on Resources and Reserves at the Canterbury Mine

The Resource tonnages at Canterbury showed an increase in Measured and Indicated resources. With an overall increase in resource to 7.1Mt against 5.3Mt in 2016.

 Marketable Reserves increased from 0.2Mt in 2016 to 1.4Mt in 2017

The documents appended have been generated as JORC Table 1 disclosures as required under clause 5 of the JORC (2012) code. The Table 1 documents support both first release and materially changed Mineral Resources or Ore Reserves for significant Bathurst projects.

Where there has been no material change the company has continued to report under the JORC 2004 standard.

On behalf of Bathurst Resources Limited

Richard Tacon
CEO

www.bathurst.co.nz
Coal Resources and Reserves

RESOURCES

Table 1 – Resource Tonnes

<table>
<thead>
<tr>
<th>Area</th>
<th>2017 Measured Resource (Mt)</th>
<th>2016 Measured Resource (Mt)</th>
<th>Change (Mt)</th>
<th>2017 Indicated Resource (Mt)</th>
<th>2016 Indicated Resource (Mt)</th>
<th>Change (Mt)</th>
<th>2017 Inferred Resource (Mt)</th>
<th>2016 Inferred Resource (Mt)</th>
<th>Change (Mt)</th>
<th>2017 Total Resource (Mt)</th>
<th>2016 Total Resource (Mt)</th>
<th>Change (Mt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canterbury Coal</td>
<td>1.2</td>
<td>0.5</td>
<td>0.7</td>
<td>2.5</td>
<td>1.4</td>
<td>1.1</td>
<td>3.4</td>
<td>3.4</td>
<td>0.0</td>
<td>7.1</td>
<td>5.3</td>
<td>1.8</td>
</tr>
</tbody>
</table>

Note

All resources and reserves quoted in this release are reported in terms as defined in the 2004 and 2012 Editions of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’ as published by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia ("JORC").

All resources quoted are reported as of 30 June 2017.

1 The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Ore Reserves.

Resource tonnages have been calculated using a density value calculated using approximated in-ground moisture values (Preston and Sanders method) and as such all tonnages quoted in this report are wet tonnes. All coal qualities quoted are on an Air Dried Basis.

Rounding of tonnes as required by reporting guidelines may result in summation differences between tonnes and coal quality.

4 Additional drilling, improved mining economics and a revision of the geological model have resulted in improved resource confidence and an overall increase in the resource tonnage.

Table 2 – Average Coal Quality - Measured

<table>
<thead>
<tr>
<th>Area</th>
<th>Measured Resource (MT)</th>
<th>ASH% (AD)</th>
<th>SULPHUR % AD</th>
<th>VOLATILE MATTER % (AD)</th>
<th>FIXED CARBON % (AD)</th>
<th>CSN</th>
<th>INHERENT MOISTURE</th>
<th>IN SITU MOISTURE</th>
<th>CALORIFIC VALUE (AD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canterbury Coal</td>
<td>1.2</td>
<td>9.0</td>
<td>0.84</td>
<td>35.3</td>
<td>38.9</td>
<td>N/A</td>
<td>16.8</td>
<td>26.1</td>
<td>21.7</td>
</tr>
</tbody>
</table>

Table 3 – Average Coal Quality - Indicated

<table>
<thead>
<tr>
<th>Area</th>
<th>Indicated Resource (MT)</th>
<th>ASH% (AD)</th>
<th>SULPHUR % AD</th>
<th>VOLATILE MATTER % (AD)</th>
<th>FIXED CARBON % (AD)</th>
<th>CSN</th>
<th>INHERENT MOISTURE</th>
<th>IN SITU MOISTURE</th>
<th>CALORIFIC VALUE (AD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canterbury Coal</td>
<td>2.5</td>
<td>8.8</td>
<td>0.89</td>
<td>35.4</td>
<td>39.1</td>
<td>N/A</td>
<td>16.7</td>
<td>26.3</td>
<td>21.8</td>
</tr>
</tbody>
</table>

Table 4 – Average Coal Quality - Inferred

<table>
<thead>
<tr>
<th>Area</th>
<th>Inferred Resource (MT)</th>
<th>ASH% (AD)</th>
<th>SULPHUR % AD</th>
<th>VOLATILE MATTER % (AD)</th>
<th>FIXED CARBON % (AD)</th>
<th>CSN</th>
<th>INHERENT MOISTURE</th>
<th>IN SITU MOISTURE</th>
<th>CALORIFIC VALUE (AD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canterbury Coal</td>
<td>3.4</td>
<td>9.3</td>
<td>1.1</td>
<td>35.3</td>
<td>38.8</td>
<td>N/A</td>
<td>16.6</td>
<td>26.4</td>
<td>21.7</td>
</tr>
</tbody>
</table>
### Table 5 – Coal Reserves (ROM) Tonnes

<table>
<thead>
<tr>
<th>ROM Coal</th>
<th>Proved (Mt)</th>
<th>Probable (Mt)</th>
<th>Total (Mt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canterbury Coal(8)</td>
<td>0.5</td>
<td>0.1</td>
<td>0.4</td>
</tr>
</tbody>
</table>

### Table 6 - Marketable Coal Reserves Tonnes

<table>
<thead>
<tr>
<th>Area</th>
<th>Proved (Mt)</th>
<th>Probable (Mt)</th>
<th>Total (Mt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canterbury(8)</td>
<td>0.5</td>
<td>0.1</td>
<td>0.4</td>
</tr>
</tbody>
</table>

### Table 7 – Marketable Coal Reserves - Proved and Probable Average Quality

<table>
<thead>
<tr>
<th>Deposit (6,7,8,9)</th>
<th>Proved Marketable (9)</th>
<th>Probable Marketable (9)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Mt) Ash (%) Sulphur (%) VM (%) CSN (#) CV (MJ/Kg)</td>
<td>(Mt) Ash (%) Sulphur (%) VM (%) CSN (#) CV (MJ/Kg)</td>
</tr>
<tr>
<td>Canterbury(8)</td>
<td>0.5  8.4 0.83 35.2 N/A 21.9</td>
<td>0.9  8.4 0.87 35.4 N/A 21.9</td>
</tr>
</tbody>
</table>

### Table 8 - Marketable Coal Reserve – Total Average Quality

<table>
<thead>
<tr>
<th>Deposit (6,7,8,9)</th>
<th>Coal Type</th>
<th>Mining Method</th>
<th>Total Marketable (9)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Mt) Ash (%) Sulphur (%) VM (%) CSN (#) CV (MJ/Kg)</td>
</tr>
<tr>
<td>Canterbury(8)</td>
<td>Thermal</td>
<td>Open Pit</td>
<td>1.4  8.4 0.9    35.3 N/A 21.9</td>
</tr>
</tbody>
</table>

**Note**

All reserves quoted in this release are reported in terms as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’ as published by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (“JORC”).

All Reserves quoted are reported as of 30 June 2017.

5. The Measured and Indicated Mineral Resources are inclusive of those Mineral Resources modified to produce the Ore Reserves.

6. Reserve tonnages have been calculated using a density value calculated using approximated in-ground moisture values (Preston and Sanders method) and as such reserve tonnages quoted in this report are wet tonnes. All coal qualities quoted are on an Air Dried Basis.

7. Rounding of tonnes as required by reporting guidelines may result in summation differences between tonnes and coal quality.

8. Coal reserve estimates (Run of Mine (ROM) tonnes), include consideration of standard mining factors (JORC Code 2012).

8. Increase in coal reserves due to increase of available resources, revised mining plans and economics.

9. Marketable Reserves are based on geologic modelling of the anticipated yield from ROM Reserves. Total Marketable Coal Reserves are reported at a product specific moisture content (22-23% at Canterbury) and at an air-dried quality basis, for sale after the beneficiation of the Total Coal Reserves, converted using ASTM D3180 ISO 1170 Reserve tonnages have been calculated using a density value calculated using approximated in-ground moisture values (Preston and Sanders method) and as such all tonnages quoted in this report are wet tonnes. All coal qualities quoted are on an Air Dried Basis.
Resource Quality

The company is not aware of any information to indicate that the quality of the identified resources will fall outside the range of specifications for reserves as indicated in the above table.

Further resource and reserve information can be found on the company’s website at www.bathurstresources.co.nz

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.

Competent Person Statements

The information in this report that relates to exploration results and mineral resources for Canterbury Coal and is based on information compiled by Hamish McLauchlan as a Competent Person who is a full time employee of Bathurst Resources Limited and is a member of the Australasian Institute of Mining and Metallurgy. Mr. McLauchlan has a B.Sc and M.Sc (Hons) majoring in geology from the University of Canterbury, and has had 20 years of experience in the mineral resource industry in New Zealand and offshore. He 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 2004 and 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr McLauchlan consents to the inclusion in this report of the matters based on his information in the form and context in which it appears above.

The information on this report that relates to mineral reserves for Canterbury is based on information compiled by Terry Moynihan who is a full time employee of Core Mining Consultants Ltd and is a member of the Australasian Institute of Mining and Metallurgy. Mr. Moynihan 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'.
### JORC Code, 2012 Edition – Table 1 Report for the Canterbury Project 2017

**Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Commentary</th>
</tr>
</thead>
</table>
| **Sampling techniques** | • Malvern Hills, Coalgate, Canterbury is a historic mining district, with recorded coal production from over 77 mines since 1872. Some historic exploration data of varying quality is available for parts of the area.  
  • Modern exploration includes  
    o 45 PQ/HQ Triple Tube core (TTC) drill holes  
    o 13 percussive probe holes  
    o 13 RC drill holes  
    o 57 outcrop trenches and mapped seam intersections.  
  • Recent drilling has aimed to infill areas around zones of historic workings that are lacking quality data and to test reliability of historic data. Drilling in the last 12 months has been concentrated on extending resources to the North East of the current operations.  
  • BRL target to geophysically log every drill hole where down hole conditions and operational constraints allowed. Initially Field Tech Services Ltd was contracted for down hole geophysical services, utilising a natural gamma tool. From June 2016 the geophysical logging equipment was hired and operated by BRL geologists,  
  • Natural gamma was usually run through a PVC standpipe installed into each hole after completion, or through the insitu drill string. Natural gamma produces a very reliable trace for use in seam correlation and depth adjustment due to relatively abundant clays in the Broken River Formation coal measures.  
  • Down hole geophysics data was essential to correlate coal seams, to confirm depths and thickness of coal seams and to validate drillers’ logs. Geophysics was also used to accurately calculate recovery rates of coal.  
  • Coal sampling was based on the BRL Coal Sampling procedures. Coal quality ply samples have been selected on all coal logged by a geologist where the geologist had 95% confidence that the ash will fall below 50%. Material with an estimated ash over 50% was not sampled unless the material was a sandstone parting of < 0.1m in thickness within a coal seam whereby it would be included within a larger ply sample.  
  • Outcrop trench and channel samples provide a significant proportion of the sample dataset. Coal seam thickness and partings between seams were measured either vertically or as a true thickness. Trench data is entered into the drilling database using azimuth and dip orthogonal to seam dip.  
  • Outcrop coal samples were collected as channel samples through the coal seams.  
  • All analytical data has been assessed and verified before inclusion into the resource model.  
  • No Deep holes (>120m) have been drilled in the project area and therefore no down dip information of the deposit is available.  
  • Due to the coal seam dip no single drill hole has been drilled that intersects all of the coal seams in the stratigraphic sequence. |
| **Drilling techniques** | • BRL managed exploration and drilling campaigns have utilized the following drilling methods  
  o Full PQ Triple Tube Core (TTC) In one case overlying strata was open holed through.  
  o Full HQ Triple Tube Core.  
  o RC and conventional percussive probe holes  
  o PQ reducing to HQ Triple Tube Core where necessary  
  o Trenches excavated using a 20T and 30T excavators  
  o Trench/Channel samples taken within active mining areas  
  • Historic exploration and drilling techniques include  
  o Air circulation blade and hammer  
  o Reverse circulation blade and hammer  
  o Air core  
  o Rotary wash  
  o Trenches excavated using a 20T excavator and by hand methods |
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Commentary</th>
</tr>
</thead>
</table>
| **Drill sample recovery**     | • Core recovery was measured as the length of core recovered divided by the length of drillers run and noted by the core logging geologist. If recovery of coal intersections dropped below 90% the drill hole may require a redrill (no redrills have yet been required).  
• Recovery of coal seams in the Canterbury deposit has been very good due to the strong nature of the coal with average coal recovery at 96.5%. Downhole Gamma geophysical data was used to confirm coal recoveries.  
• Average total core recovery over the recent drilling campaigns in Canterbury was 86.5%, however when broken down it shows that overlying soil, loess and quaternary gravel recovery was 61.7% while coal measure core was recovered at a rate of 91.7%.  
• Where small intervals of coal was lost and where geophysics indicated strongly that coal was lost, ash values were estimated using the results of overlying and underlying ply samples and the relative response of natural gamma trace.  
• Sample recovery has been deemed not applicable to trench and channel sampling. |
| **Logging**                   | • BRL has developed a standardised core logging procedure and all core logging completed by BRL have followed this standard.  
• All modern drill core has been geologically and geotechnically logged by either experienced geologist or by geologists under the supervision and guidance of experienced exploration geologists.  
• As much data as practicable has been logged and recorded including geotechnical and rock strength data.  
• All drill core was photographed prior to sampling. Depth meter marks and ply intervals are noted on core in each photograph.  
• Down hole geophysical logs were used to aid core logging and to ensure true down hole depths are recorded. |
| **Sub-sampling techniques and sample preparation** | • For all exploration data acquired by BRL, an in house detailed sampling procedure was used. Sampling and sample preparation are consistent with international coal sampling methodology.  
• Drill core 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. Coal sample size is considered adequate to be representative of the coal seam quality.  
• All modern sampled drilling has been completed using triple tube cored holes. No chip or RC samples are taken in these campaigns.  
• For historical data, sample preparation processes are unknown. However no historical drill hole coal quality results are used in the resource estimation.  
• Trench samples were taken representatively from excavated and cleaned outcrop, preventing sampling of weathered coal and other contamination of the sample. Sample intervals were measured vertically, orthogonal to the seam or at the angle of the trench plunge and were generally 0.5m or less. No field sample duplicates have yet been taken or analysed. Sample sizes generally aim to be at least 1kg of coal per 0.5m sampled.  
• Most assay samples were collected on site however some were completed at the core repository after transport from drill site in core boxes. Samples are stored in sealed plastic bags are taken as soon as practicable to the coal quality laboratory. |
| **Quality of assay data and laboratory tests** | • All coal quality testing completed for BRL has been carried out by accredited laboratory SGS.  
• SGS have used the following standards for their assay test work.  
  o Proximate Analysis is carried out to the ASTM 7582 standard  
  o Ash has also used the standard ISO 1171  
  o Volatile matter has also used the standard ISO 562  
  o Inherent moisture has also used the ISO 5066  
  o Total sulphur analysis is carried out to the ASTM 4239 standard  
  o Crucible swell tests are completed using the ISO 501 standard  
  o Calorific value results are obtained using the ISO 1928 standard.  
  o Loss on drying data is completed using the ISO 13909-4 standard.  
  o Relative Density is calculated using the standard AS 1038.21.1.1 |
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Work</td>
<td><strong>Standard Followed</strong></td>
</tr>
<tr>
<td>Loss on air drying</td>
<td>(ISO 13909-4)</td>
</tr>
<tr>
<td>Inherent Moisture</td>
<td>(ASTM D 7582 mod)</td>
</tr>
<tr>
<td>Ash</td>
<td>(ASTM D 7582 mod)</td>
</tr>
<tr>
<td>Volatile Matter</td>
<td>(ASTM D 7582 mod)</td>
</tr>
<tr>
<td>Fixed Carbon</td>
<td>by difference</td>
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<tr>
<td>Sulphur</td>
<td>(ASTM D 4239)</td>
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<tr>
<td>Swelling Index</td>
<td>(ISO 501)</td>
</tr>
<tr>
<td>Calorific Value</td>
<td>(ISO 1928)</td>
</tr>
<tr>
<td>Mean Maximum Reflectance All Vitrinite (RoMax)</td>
<td>Laboratory Standard</td>
</tr>
<tr>
<td>Chlorine in Coal</td>
<td>(ASTM D4208)</td>
</tr>
<tr>
<td>Hardgrove Grindability Index</td>
<td>(ISO 5074)</td>
</tr>
<tr>
<td>GIESELER PLASTOMETER</td>
<td>(ASTM D 2639)</td>
</tr>
<tr>
<td>AUDIBERT ARNU DILATOMETER</td>
<td>(ISO 349)</td>
</tr>
<tr>
<td>FORMS OF SULPHUR</td>
<td>(AS 1038 Part 11)</td>
</tr>
<tr>
<td>ASH FUSION TEMPERATURES</td>
<td>(ISO 540)</td>
</tr>
<tr>
<td>ASH CONSTITUENTS (XRF)</td>
<td>(ASTM D 4326)</td>
</tr>
<tr>
<td>Ultimate Analysis</td>
<td>Laboratory Standard</td>
</tr>
<tr>
<td><strong>Verification of sampling and assaying</strong></td>
<td>Sample assay results have been cross referenced and compared against lithology logs and downhole geophysics data. Results are also inspected by experienced geologists and compared with expected values utilising known coal quality relationships for the Canterbury Coalfield.</td>
</tr>
<tr>
<td></td>
<td>Anomalous assay results were investigated, and where necessary the laboratory was contacted and a retest undertaken from sample residue.</td>
</tr>
<tr>
<td></td>
<td>No twinned holes have been drilled at the project, and no field duplicate trench samples have been taken.</td>
</tr>
<tr>
<td></td>
<td>Laboratory data is imported directly into an Acquire database with no manual data entry at either the SGS laboratory or at BRL.</td>
</tr>
<tr>
<td></td>
<td>Assay results files are securely stored on a backup server, once validated, drill hole information is ‘locked’ in an acquire database to ensure the data is not inadvertently compromised.</td>
</tr>
<tr>
<td></td>
<td>BRL commissioned a series of duplicate samples to be completed by CRL Energy Ltd. These samples have repeated tests performed by SGS New Zealand Limited (SGS) on a subset of ply samples selected at random. Results of the duplicate testing showed an average variation of 1.2% of the value for each quality showing good analytical precision.</td>
</tr>
<tr>
<td><strong>Location of data points</strong></td>
<td>Modern drill hole positions have been surveyed using Trimble RTK survey equipment.</td>
</tr>
<tr>
<td></td>
<td>Historic mine plans have been georeferenced by locating and surveying historic survey marks, and mine portals drawn on mine plans. Some surveyed mine plans are available from registered surveyors and engineers and these have been georeferenced using a standard coordinate system.</td>
</tr>
<tr>
<td></td>
<td>Some historic mine plans are poorly constrained spatially and a large variance from the current georeferenced images is possible.</td>
</tr>
<tr>
<td></td>
<td>New Zealand Trans Mercator 2000 Projection (NZTM) is used by BRL for the Canterbury project area. NZTM is considered a standard coordinate system for general mapping within New Zealand. Historic data has been converted from various local circuits and map grids using NZ standard cadastral conversions.</td>
</tr>
</tbody>
</table>
|                          | A LiDAR survey was carried out over the Canterbury area in January 2013. This LiDAR data provides very accurate topographic data used in the model. Contractors specifications state that for the choice of sensor and operating settings used for this project the LiDAR sensor manufacturer’s specification states 0.15m (1-sigma) horizontal accuracy and 0.1m
Criteria | Commentary
--- | ---
(1-sigma) as the open ground elevation accuracy. | Surveyed elevations of drill hole collars are validated against the LiDAR topography and ortho corrected aerial photography. Historic hole collar elevations have been compared to the LiDAR surface and while most are within 1m to 2m of the surface, there is however a small number of historic holes with a large discrepancy in the RL of the collar and the LiDAR surface which may be due to survey errors, coordinate system conversion errors, or earthworks/mining.

**Data spacing and distribution** | Drill hole spacing in Canterbury is not homogenous. Recent exploration and drilling has targeted potential pit extension areas to the south west and the north east of the actively mined area. Historic exploration data focuses on the current open pit and further to the north and south of the current operation.
- The exploration work has been concentrated along strike of the steeply dipping coal measure sequence and therefore produces a very linear dataset.
- Drill holes and trench sample locations are unable to be spaced equally or on a grid pattern due to the steep nature of the deposit and limitation of site access. Sample locations are often located to confirm specific matters such as economic pit shell limits, coal quality concerns and to confirm coal seam correlation.
- Recent drilling campaigns have relied on a frame work of Triple Tube Core holes infilled with percussive holes. Infill holes are used to confirm the geological structure and seam thickness between cored holes.
- Primary sample spacing has not been estimated over the deposit. There are 23 coal seam packages in the deposit and only a subset of these seams are intersected by each drill hole or trench, therefore the average sample spacing for each individual seam in the deposit varies.
- Drill hole spacing is not the only measurement used by BRL to establish the degree of resource uncertainty and therefore the resource classification. BRL uses a multivariate approach to resource classification, whereby sample spacing within each seam daughter seam provides the primary evidence of continuity used to classify that daughter seam.
- The current drill hole spacing is deemed sufficient for coal seam correlation purposes within targeted areas. However due to the lensoidal nature of the coal seams within the Broken River Formation some coal seam correlations northeast of the modern drilling and mapping data may be incorrect.
- Geostatistics of the Canterbury dataset has been examined but variography results for many seams were poor due to the uneven distribution of drill holes with coal qualities combined with the large number of seams and structural complexity within the deposit.
- The samples database is composited to full daughter seam thickness prior to coal quality grid estimation.

**Orientation of data in relation to geological structure** | Drilling carried out by BRL has been orientated to intersect orthogonal to the general stratigraphic strike-dip plane of the deposit. Structure dip ranges from 20° in the south to 50° north of the current pit.
- Drill hole inclination was recorded at the surface using a inclinometer and compass. Drill hole deviation has not been verified by down hole survey tools, but any deviation from design is not expected to have a material effect on geological understanding of the deposit as the average drill hole depth in the dataset is 52m with the deepest coal intersection of 96m downhole. At a depth of 60m an overall deviation of 1° would produce a horizontal deviation of 1m at the end of hole and a negligible thickness deviation for seams intersected at that depth.
- Angled drilling is considered the most suitable drilling method for the Canterbury deposit to provide unbiased data.
- Trenches are usually orientated perpendicular to the strike of bedding. Surface intersections are surveyed and are then adjusted to simulate a drill hole. Trench data is logged in such a way as to simulate a drill hole drilled from the collar point of the trench.

**Sample security** | Stringent sample preparation and handling procedures have been followed by BRL.
- Ply samples are taken and recorded from drill core, bagged and securely stored prior to being dispatched for analysis.
- Samples are normally hand delivered to SGS by BRL staff, thus removing the potential for third parties to tamper with the samples.
- It is not considered likely that individual coal samples face a risk of theft or sabotage as coal
A bulk commodity with little value for small volumes of coal from drill core.

- BRL has reviewed the geological data available and considers the data used to produce the resource model is reliable and suitable for the purposes of generating a resource estimate to the extent that the resource has been classified.
- Results of a duplicate sample testing program comparing SGS and CRL assay results shows little analytical error or bias between laboratories.
- The competent person undertakes audits of the sample collection and analysis.

### Section 2 Reporting of Exploration Results

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

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Commentary</th>
</tr>
</thead>
</table>
| **Mineral tenement and land tenure status** | • Coal ownership is complex throughout the Canterbury Coalfield.  
• The majority of potential coal resources within the Malvern Hills Coalfield, north of the Selwyn River, are classified as coal that is privately owned with coal rights being attached to the land title.  
• The ownership of coal rights is separate from the land ownership in a number of land parcels surrounding the Canterbury mine. Blocks to the Northeast of the current mining operation are held by Nimmo Collieries and by Charles Dean. Canterbury Coal Mine Limited has agreements in place to access this coal.  
• Royalty agreements in place for this private coal are based on the mine gate value of coal sold. Mine gate value is defined as the price received at point of sale minus ex-mine costs such as freight, handling and commissions.  
• Some crown coal does exist and BRL has 100% ownership in the following coal permits: |

<table>
<thead>
<tr>
<th>Permit</th>
<th>Operation</th>
<th>Expiry</th>
</tr>
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<tbody>
<tr>
<td>41372</td>
<td>Malvern Hills</td>
<td>11/12/2025</td>
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(1) Coal within permit 41372 is owned by the crown and Wakaepa Farms in a 50/50 split.

- BRL holds land access agreements over all of the areas that it currently operates at the Canterbury project and over all areas containing reported resources.
- Much of the remainder of land that makes up the Canterbury project is owned by Matariki Forests (formerly the Selwyn Plantation Board). An access arrangement is in place to allow BRL to access through the areas, allow exploration activities and to undertake mining. This agreement expires April 1st 2020.
- BRL have not reported any resources for the Canterbury project where land access and/or mineral rights have not been granted.

### Exploration done by other parties

- Historic geological investigations and reports for the Canterbury Coalfield have been compiled spanning the past 140 years.
- All historic data used to develop the resource model has been validated against original source documents by BRL staff. Most historic data was deemed unreliable due to a number of factors, primarily spatial survey data was missing or poor. Unreliable historic data was not included within the resource model dataset.
- The Historic drilling database includes the following drill holes compiled from the historical data records.
• BRL is continuing to source historic plans and reports from a number of data libraries around New Zealand. Historic data will be validated and added to the exploration dataset if it is deemed reliable.

Geology
• The project is located in the Canterbury Coalfield, Malvern Hills, New Zealand.
• The defined resource is contained within the late Cretaceous to Early Paleocene aged Broken River Formation, formed during the Tertiary transgressive-regressive cycle between the Rangitata and Kaikoura Orogenies.
• Overlying the coal measures is the Conway Formation, dominated by micaceous and quartz rich fine sandstones and mudstones indicative of littoral to shallow marine settings.
• Pleistocene aged glacial outwash gravels and tills mask underlying stratigraphy over much of the area. Younger river gravels also dominate larger river valleys within the area.
• Glacial derived windblown loess deposits mantle much of the area.
• Igneous intrusions are present in the Malvern Hills area. Some contact metamorphism of coal measures has been observed with localized rank increases observed in some Canterbury coal samples, however none have been noted in the current resource area.
• Generally the project area is structurally simple. Coal seams are not greatly affected by cross cutting faults. Seam dips range between 20° in the south to 50° the north of the current open pit area. In some locations it has been observed that localised slumping has caused overturning of the coal seams.

Drill hole Information
• No exploration results are being presented in this report, rather this report is focused on advanced projects that have been defined by geological models with associated resource estimates completed.
• Due to consistent nature of coal deposits and the bulk nature of the commodity exclusion of this information from this report is considered to not be material to the understanding of the deposit.

Data aggregation methods
• Exploration drilling results have not been reported.
• Resources have been reported with a block ash cutoff of 25%.
• A minimum coal seam vertical thickness cutoff of 0.3m was used to remove thin coal seams from the resource model.

Relationship between mineralisation widths and intercept lengths
• Exploration drilling results have not been reported.
• Coal seams in the project area strike ~060° and dip between 20° and 50° to the south east.
• All recent drill holes were drilled at an angle orthogonal to coal seam structure dip.
• Some historic drilling was also inclined to intersect seams at close to 90°. Most historic holes were drilled vertically.
• Coal seam thicknesses are reported as apparent thickness down hole.

Diagrams
• Plans have been attached in the appendix.

Balanced reporting
• No exploration results are being presented in this report, rather this report is focused on advanced projects that have been defined by geological models with associated resource estimates completed.
• The exclusion of this information from this report is considered to not be material to the understanding of the deposit.

Other substantive exploration data
• The resources reported in this report relate to the area in and around and existing operating coal mine.
• Geotechnical logs and samples were taken by the geologist during all exploration by BRL. Geotechnical logs identified defect types, angles and character through cored intervals. Geotechnical samples were taken of seam roof, floor and overburden material.
• Geochemical characterisation of overburden material for acid base accounting (ABA)
purposes has been conducted. These results have been used to construct an ABA model.

**Further work**
- Further exploration is planned along strike both to the north and south of the current open cast pit.
- Channel sampling of coal seams within the active pit are undertaken periodically.

### Section 3 Estimation and Reporting of Mineral Resources

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

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Commentary</th>
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| **Database integrity**      | - All historic and legacy datasets have been thoroughly validated against original logs and results tables. Where reliability of the data is poor the data is excluded from the modelling process.  
- BRL utilizes an Acquire database to store and maintain its geological exploration dataset.  
- The Acquire database places explicit controls on certain data fields as they are entered or imported into the database such as overlapping intervals, coincident samples, illegal sample values, standardized look-up tables for logging codes.  
- Manual data entry of assay results is not required as results are imported directly from reported laboratory results files.                                                                                                       |
| **Site visits**             | - Hamish McLauchlan (the competent person) visits the Canterbury project area on a regular basis.                                                                                                                                                                                                                                        |
| **Geological interpretation** | - BRL has confidence in the geological model and the interpretation of the available data. Confidence varies for different areas and this is reflected by the resource classification.  
- Downhole gamma logs are a key tool in correlating the often thin and numerous seam packages between drill holes.  
- BRL uses a multivariate approach to resource classification which takes into account a number of variables.  
- BRL considers the amount of geological data sufficient to estimate the resource.  
- Uncertainty surrounds historic underground mine workings, both in the quality and quantity of coal extracted, which seam was mined and surveying and spatial location of underground workings. This uncertainty is reflected in the resource classification.  
- Quaternary gravel deposits overlie the coal measures unconformably over the southern portion of the project area. Some uncertainty surrounds the depth of erosion and the extent of the quaternary deposits. A conservative approach to modelling this Quaternary erosional surface has been used in the model, and is reflected within the resource status. |
| **Dimensions**              | Depth of cover varies from 0m at outcrop to over 200m at the Southeastern boundary of the model. The strike length of the deposit is in excess of 4km.                                                                                                                                                                                              |
| **Estimation and modeling techniques** | - All available and reliable exploration data has been used to create a geological block model for resource estimation and classification.  
- All exploration drilling data is stored in Acquire and exported into a Maptek Vulcan drill hole database.  
- Mapping data including coal seam thickness and roof/floor points is stored in Acquire and exported into Vulcan.  
- Interpretive data is stored within Vulcan in various layers.  
- A horizons definition has been developed and is used in the stratigraphic modeling process.  
- Vulcan 9.1.8 was used to build the structure model. Grid spacing is 5m x 5m. This spacing was selected to be 1/5 of the minimum data spacing of a targeted area and to model steeply dipping strata more accurately.  
- Vulcan’s Hybrid method is used to produce the structure model. This method triangulates a reference surface and then stacks the remaining horizons by adding structure thickness grids. Thickness grids are created using inverse distance. Design data from other horizons is incorporated into the final grid structure.  
- The maximum triangle length for the reference surface was set to 800m.  
- The maximum search radius for inverse distance is 800m. The inverse distance power is set to 2, with maximum samples set to 6.  
- Structure grids are checked and validated before being used to construct the resource block. |
Criteria | Commentary
--- | ---
Model. | • Vulcan 9.1.8 is used to build the block model. The process is automated using a Lava script.
| | • The coal structure surfaces, along with LiDAR topography surface, quaternary unconformity, and opencast mined out surfaces are used to build the block model. The block dimensions are constructed at 5m x 5m. Vertical thickness for coal blocks is 0.25m, whilst overburden blocks have no maximum thickness. The model is rotated at 060° to align with the strike of the coal measure deposits.
| | • Coal seam existence has been masked by a 0.3m vertical thickness cutoff. No resources are reported for daughter seams of less than 0.3m vertical thickness
| | • Quality grids for each daughter seam are built using composited samples for each daughter seam using an inverse distance squared function.
| | • All seams have a maximum search radius of 500m. If a coal block is not estimated during the grade estimation process the blocks are not reported as resources.
| | • Quality grids for air dried ash, sulphur, volatile matter, and inherent moisture and in situ moisture are estimated. Calorific value is calculated from ash on a dry basis.
| | • Geostatistics of the coal quality dataset has been investigated to examine and define the estimation search parameters; however the results have been poor due to the non-normal distribution of the data along strike of the deposit.
| | • Coal quality grids are built for each seam daughter with the maximum search radius set to 500m. The grids are built using the inverse distance function with a power of 2 and maximum samples of 6.
| | • Various methods have been used to check the validity of the block estimation. This includes manual inspection of the model, QQ plots of block model qualities vs the coal quality database and other comparison tools.
| | • Reconciliations of production versus plan are completed quarterly with coal production generally 5-10% over modelled coal tonnage. Production data on coal quality follows modelled coal quality.
| | • Resource tonnages within historic underground workings areas have been discounted by an estimated average extraction rate. The primary underground mining method utilised historically in Malvern Hills area is bord and pillar mining although some minor hydro mining took place at Nimmo’s underground operation in the 1970’s but production was limited due to a lack of available water. Historic extraction rates vary however the rate used to discount coal tonnages within worked seams in the model is 50% of the original unmined tonnage.

**Moisture**
- Resource tonnages are reported using natural bed moisture, calculated from air dried density, air dried moisture and in situ moisture using the Preston Sanders equation.

**Cut-off parameters**
- Stratigraphic structure grids have been developed based on a 50% ash cutoff.
- No lower cutoff has been applied. There is an inherent minimum limit to ash samples in modern results due to a laboratory lower detection limit of 0.17% (adb).
- Coal resources are reported down to a seam thickness of 0.25m (one block), however all seams are masked from the model where modelled structure thickness is less than 0.3m thick (vertical) with an ash cutoff of 25%.

**Mining factors or assumptions**
- It is assumed that any future mining operation would have a minimum vertical daughter seam thickness of 0.3m as a minimum mining horizon cutoff. The current opencast operation mines some seam splits that are thinner than this.
- Only coal that falls within an optimized pit shell with revenue factor 0.75 is reported as resources. Costs and revenue parameters used in the pit optimization are based on the 2017 Canterbury budget and include allowances for royalties, commissions, mining costs, coal processing and administration, and basic mining and processing losses.
- No other mining factors such as strip ratios, mining losses and dilutions have been applied when developing the resource model, or reporting resource tonnages.

**Metallurgical factors or assumptions**
- No metallurgical assumptions have been applied in estimating the resource.
- Currently no wash plant is used at the Canterbury operation. The ROM coal produced is processed through a crushing/screening plant where losses are minimal.
### Environmental factors or assumptions

- Studies for ABA characterisation of overburden, and boron leaching studies have been completed. It is not expected that these will prevent eventual economic extraction of the resource.
- No other environmental assumptions have been applied in developing the resource model.
- All environmental approvals are currently in place to operate the current section of the mine.
- Updating of approvals for mine footprint expansion is an ongoing process and it is reasonably expected that any modifications to existing agreements or additional agreements that may be required can be obtained in a timely manner.

### Bulk density

- After grade estimation air dried density is calculated from the air dried ash value using the ash-density relationship derived from the project dataset.
- An in situ density value is then computed using the Preston Saunders method.
- In situ moisture determinations have been collected from drill core ply samples and unweathered outcrop/trench samples taken from the active pit.

### Classification

- BRL 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 and unconformities. The result reflects the Competent Person’s view of the deposit.
- Closely spaced drilling with valid samples increases the confidence for each seam in resource assessments.
- The confidence is reduced by:
  - A block being within an underground worked area due to extraction rate uncertainty.
  - Thin coal, where thickness is 0.5m or less.
  - A block lies below but within 2m of the quaternary unconformable surface.

### Audits or reviews

- A review of the resource model has been carried out by the competent person.

### Discussion of relative accuracy/confidence

- Statistical comparisons between the resource block model and the coal quality data set have been carried out and are within expected ranges. Some anomalies exist due to non-normal data distribution. Techniques utilised include QQ plots and probability plots.
- Reconciliations of production versus plan are completed quarterly with coal production generally within 5-10% of the modelled coal tonnage. Production data on coal quality is insufficiently recorded to reconcile modelled coal quality.

## Canterbury Coal Section 4 Estimation and Reporting of Ore Reserves

### Criteria

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<thead>
<tr>
<th>Criteria</th>
<th>Commentary</th>
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<tr>
<td>Mineral Resource estimate for conversion to Ore Reserves</td>
<td>A 3D Resource Block model of topography, structure and quality are used for in situ Resource definition. Mineral Resources are inclusive of Ore Reserve</td>
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<tr>
<td>Site visits</td>
<td>The Reserves competent person visits the site regularly.</td>
</tr>
<tr>
<td>Study status</td>
<td>Canterbury Coal is an operating mine project. The reportable Ore Reserve is based on the life of mine (LOM) plan and has determined a mine plan that is technically achievable and economically viable, and that material modifying factors have been considered.</td>
</tr>
<tr>
<td>Cut-off parameters</td>
<td>Pit optimisation runs were completed to determine economic pit limits. BRL supplied cost and revenue data. A maximum ROM ash of 15% (arb) and a minimum coal seam vertical thickness of 0.3m vertical are applied.</td>
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<td>Criteria</td>
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| **Mineral factors or assumptions** | • The Canterbury Coal mining area has been operational since approximately 2005, with the current operation starting in 2013. Costs and prices are derived from actual and budget estimations. Hence, a Feasibility Study was not completed.  
• Mining recovery of 80% is applied to the in situ coal. Periodically, the ROM coal production is reconciled against depletion of the mining model. Reconciliation to-date shows more coal produced than modelled from the same areas.  
• The Canterbury Coal mine utilises truck and shovel for waste and coal movement. The operations are supported by additional equipment including dozers, graders, and water carts.  
• Geotechnical studies have been completed for Canterbury existing operations and will be an ongoing requirement for new pits prior to development.  
• Moisture Adjustments: Moisture is modified during both the mining and processing operations. In situ moisture is determined by the process described in Section 3 and is the base point for all moisture adjustments. Recoverable Coal Reserves are stated on a ROM moisture basis, as received by the processing plant. Marketable Coal Reserves are stated on a product moisture basis, as sold. |
| **Metallurgical factors or assumptions** | • The ROM coal produced at Canterbury Coal is crushed and screened on site. A process recovery of 95% is used based on a processing reconciliation study.  
• Product coal specifications include ash, sulphur, moisture and calorific value. |
| **Environmental** | • All environmental approvals are currently in place to operate the current section of the mine  
• BRL is in the process of seeking approvals to expand the current operations.  
• Waste rock characterisation results show that the a portion of the waste material is acid producing, as such it requires special placement requirements and procedures in the dumps |
| **Infrastructure** | • All necessary infrastructure is in place and operational for the current operation. |
| **Costs** | • All infrastructure is in place at Canterbury Coal. The primary ongoing capital requirements are for equipment replacement and this is included in the economic model.  
• All operating costs were based on the 2017 Canterbury Coal 5 year budget estimates provided by BRL and include allowances for royalties, commissions, mining costs, road haulage loading and administration.  
• Prices are at the mine gate. Customers are responsible for transport costs.  
• Contracted product specifications and penalties for failure to meet specification are included in the cost model. |
| **Revenue factors** | • BRL uses a weighted average of contracted coal price. These price assumptions are considered reasonable for the purposes of estimating Reserves. |
| **Market assessment** | • Long term supply contracts are in place. |
| **Economic** | • No NPV analysis was completed as it is an operating mine. For JORC Reserves reporting purposes, detailed mine design and schedules are generated. This work includes identifying the mining sequence and equipment requirements.  
• BRL generates detailed cash flow schedules and identifies incremental and sustaining capital. |
<p>| <strong>Social</strong> | • BRL have key stakeholder agreements in place. |</p>
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| **Other**                | • All mining projects operate in an environment of geological uncertainty. The Competent Person is not aware of any other potential factors, legal, marketing or otherwise, that could affect the operations viability.  
  • The Competent Person understands that the pit shells used as the basis of this Statement are based on extending the operation to the north and south along strike. Updating of approvals is an ongoing process and it is reasonably expected that any modifications to existing agreements or additional agreements that may be required can be obtained in a timely manner. |
| **Classification**       | • Classification of Ore Reserves has been derived by considering the Measured and Indicated Resources and the level of mine planning.  
  • For the Canterbury Coal operation, Measured Coal Resources are classified as Proved Coal Reserves and Indicated Resources classified as Probable Coal Reserves, as the mine is currently operating and the level of mine planning adequate.  
  • The Inferred Coal Resources have been excluded from the Reserve estimates. |
| **Audits or reviews**    | • Internal peer review and reconciliation by BRL of the Reserves estimate has been completed. |
| **Discussion of relative accuracy/confidence** | • Periodically, the ROM coal production is reconciled against depletion of the mining model. To-date more coal has been produced than modelled from the same areas.  
  • Accuracy and confidence of modifying factors are generally consistent with the current operation. |
Appendix
Maps and plans discussed within Table 1 are reported below.

Figure 1 Location plan showing the proximity of the resource model area to regional centres and markets.
Figure 2: Generalised map of Malvern Hills Coalfield showing geological units and faults with locations of mines noted in the text (From Seale 2006 after Carlson et al., 1980; Duff, 1986; Duff and Barry, 1989; Field and Browne, 1989; Mathews, 1989; Tappenden, 2003. Refer to details below for details of the stratigraphic units).

General geological stratigraphic column for the Malvern Hills coalfield (from Seale 2006).
Figure 3: Coal right access
Figure 4 Exploration drill hole dataset for the Canterbury project.
Figure 5 Extent of historic underground coal mines in the project area.
Figure 6 Structure contours of the Main Seam roof.
Figure 6.7 Depth to the Main coal seam roof.
Figure 7.8 Canterbury Reserve and resource shell boundaries.
Figure 8.9 Section through the working pit at Canterbury Opencast Mine. Current mining is targeting the section between the Vent seam and Engine seams. As mining progresses North stratigraphically lower seams will be targeted in addition to these seams.