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12 September 2019

# Isaac River Washability Results Confirm Coal Quality Upgrade

## Highlights

- **Washability tests from the Vermont Upper seam and bottom section of the Leichhardt seam confirm the ability to wash the raw coal to a primary Coking Coal product with a typical PCI secondary product.**
- **Seam blending and other trade-off studies are underway to determine optimal product configuration.**
- **The potential product mix of a primary Hard / Semi-Hard Coking Coal with a secondary PCI trades at a substantial price premium to the product mix suggested by historical results (PCI-only or Semi-Soft primary and Thermal secondary).**

**Bowen Coking Coal Ltd (ASX: BCB, "Company")** is pleased to announce that it has received the washability results from its maiden exploration program at its 100% owned Isaac River Coking Coal Project (MDL 444 & EPC 830) (the "Project"), located along strike of BHP Mitsubishi Alliance's ("BMA") Daunia Mine in the Bowen Basin, Central Queensland.

The outcome of the simulation from the laboratory results has demonstrated that raw coal from the Project (now comprising the Leichhardt "LHD" and Vermont Upper "VU" seams) can be washed to achieve a primary coking coal fraction with a secondary PCI coal. This potential configuration, based on the 2019 exploration outcomes, is a significant quality upgrade from the historical coal quality results, which initially suggested a primary semi-soft coking coal with a secondary thermal coal (*See ASX release 4 December 2017*). Subsequent studies also flagged the potential to wash a PCI-only product from the full LHD. (*See ASX release 11 March 2019*).

Commenting on the washability results, McMahon Coal Quality Resources ("MCQR") Principal Consultant Mr Chris McMahon commented: *"The initial six bore cores drilled and tested this year for raw and wash data, indicate coal quality characteristics consistent with being able to deliver a range of primarily coking coal products including Pulverised Coal Injection (PCI) coal at an ideal coking coal rank range (average volatile matter of 20.5% at an ash value of 10%). The indicative coking coal property of Crucible Swelling Number (CSN) indicated a range of likely coking products (CSN of 4 to 7½) at ash values of less than 10%. PCI Coal of 10.5% product ash could also be produced."*

Washability tests are designed to test coal qualities and coal yields at different densities to assist Management in determining the optimum beneficiation strategy to ensure maximum value release from the raw coal. The results are uploaded into a comprehensive model to simulate how the coal could be washed in a typical Rangals Coal Measures wash plant, similar to those plants operating in the immediate area of the Project.

**Table 1. Key outcomes of the washability tests (Average of all 6 drill holes)***

| Seam | Primary | | | Secondary | | Total Yield%[2] |
|---|---|---|---|---|---|---|
| | Product Ash%[1] | Yield%[2] | CSN | Product Ash%[1] | Yield%[2] | |
| VU2 | 8.0 | 45-60 | 6-7½ | 10.5 | 10-35 | 70-90 |
| LHD TOP | 8.0 | 20-30 | 4-5 | 10.5 | 15-50 | 40-85 |
| LHD BOT | 10.0 | 50-60 | 4-4½ | 10.5 | 20-35 | 70-85 |

*See ASX release 15 July 2019 for detail on the program

[1]Air-dry basis.

[2]Air-dry basis, nil dilution and loss, wash simulations using limiting density ranges and efficiency factors in line with standard processing equipment utilised.

The previously untested VU seam proved superior when compared to the LHD seam in terms of ash/yield and coking properties. Quick coke tests demonstrated very good coking properties at low densities from both the VU seam and bottom section of the LHD seam, but coking properties for a final product will only be determined during the clean coal composition phase.

Gerhard Redelinghuys, the Company's Managing Director stated: *"The results of the washability data definitely confirm our view that the potential coal from Isaac River is significantly better than expected when compared to historic data. By distinguishing between the upper and lower sections of the Leichhardt seam and adding the Vermont Upper seam to the mine plan we could create a significant value increase in terms of coal quality and related revenue per ton. Our challenge is now to determine how much of the Vermont Upper seam we can economically include in the mine plan"*

**Next Steps**

The Company has already commenced mine planning option analysis for the Pre-feasibility Study and to establish a mine layout for the Environmental Approval process. Various combinations of the washability data will now be used to form clean coal composites before conducting a full suite of washed coal quality analyses for marketing purposes. Trade-off studies between yield and product categorization (and consequent pricing impacts) will be conducted as part of the Pre-feasibility Study to determine the highest revenue-generating product configuration.

Management is finalizing the next phase of exploration at Isaac River to include LOX line definition, structural interpretation, gas content, geotechnical analysis and further coal quality investigation. This will ensure sufficient data is available to support Feasibility studies.

Discussions on access to infrastructure are underway, which remains a key enabler for the Project.

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***Competent Person Statement:***

*The information in the report that relates to the Coal Mineral Resources of the Isaac River coal deposit (MDL 444) is based on information compiled and reviewed by Mr Troy Turner, who is a Member of the Australian Institute of Mining & Metallurgy. Mr Turner, Managing Director and a fulltime employee of Xenith Consulting Pty Ltd, has sufficient experience that is relevant to the styles of mineralisation 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 Turner consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

***ABOUT BOWEN COKING COAL***

*Bowen Coking Coal Ltd is a Queensland based coking coal exploration company with advanced exploration assets. The Company fully owns the Isaac River, Cooroorah, Hillalong and Comet Ridge coking coal Projects in the world-renowned Bowen Basin in Queensland, Australia. Bowen Coking Coal is also a joint venture partner with Stanmore Coal Limited in the Lilyvale (15% interest) and Mackenzie* (*5% interest) coking coal Projects.*

*The highly experienced Board and management aim to grow the value of the Company's coking coal projects to benefit shareholders by leveraging innovation and maximising the assets and network of the team. An aggressive exploration and development program underpin the business strategy.*

# APPENDIX A: TABLE 1

This Appendix details sections 1 and 2 of the JORC Code 2012 Edition Table 1. Section 3 'Estimation and Reporting of Mineral Resources, Section 4 'Estimation and Reporting of Ore Reserves' and Section 5 'Estimation and Report of Diamonds and Other Gemstones' have been excluded as they are not applicable to this deposit and they are not applicable to this ASX announcement.

## SECTION 1 SAMPLING TECHNIQUES AND DATA

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

| Criteria | JORC Code Explanation | CP Comments |
|---|---|---|
| ***Sampling Techniques*** | • *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.* | **2019 Drilling**<br>• 6 sites were drilled during the April 2019 drilling campaign. Each site contained a pilot hole (chip hole). Pilot holes were drilled at a diameter of 140mm to casing depth and class 12 PVC casing was installed. The remainder of the hole was drilled at a diameter of 99mm to total depth.<br>• Chip samples were placed in 1m piles in groups of 6m and in 30m rows and logged by the onsite geologist.<br>• The 6 core holes drilled in April 2019 were cored at a diameter of 102mm (4"). The holes were partially cored utilising the geophysics from the pilot hole for each site to target chip and core depths.<br>• Core was extracted utilising a 4" core barrel at a maximum of 4.5m per run of core.<br>• Each core was brought to the surface, measured, moved to the core table and measured again recording any loss or pickup. The core was marked up for depth and samples and photographed at 50cm intervals. The lithology was logged, and samples taken. Samples were placed into double-bagged 400x600mm UV stabilised bags and an individual sample number corresponding to what was logged on the table was placed in between the two sample bags. The sample was zipped tied and subsequently placed into a poly weave bag.<br>• Samples were taken to the contracted courier at the end of the shift and sent to the SGS lab in Mackay.<br>• Geophysical surveys were run on pilot and core holes recording density, natural gamma, sonic (where possible), resistivity and hole verticality. |

| Criteria | JORC Code Explanation | CP Comments |
|---|---|---|
| | | **Pre-2019 Drilling**<br>• All core holes were geophysically logged and photographed. It was a requirement for all holes used in modelling coal quality to have associated verticality data.<br>• The following description of sampling procedure is as described by Aquila personnel as to standard processes followed for the historical exploration program.<br>• Coal samples were taken on 0.5 m intervals throughout the target LHD seam where possible, or on the basis of observable variations in expected coal quality.<br>• The immediate 20 to 30cm cm above and below the coal seam was taken for analysis for roof and floor dilution testing.<br>• Target ply recovery for the sampled coal seams was 95%. Seam recoveries were determined by measured core length versus interpreted length derived from a review of the downhole geophysics. Where seam recovery was less than 95% a redrill of the hole was required if the recovered portion was not deemed representative |
| ***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.).* | **2019 Drilling**<br>• Pilot (open) holes were fully chipped using a combination blade, PCD and hammer bits with air/water injection. The types of bits used depended on pervading ground conditions.<br>• Core holes were partial core 102mm (4C) diameter.<br>• A full list of core holes is available in Table 1.1<br><br>**Pre-2019 Drilling**<br>• Partially-cored holes for coal quality were drilled in 4C diameter (100m) 2005 / 2006 or HQ in 2015 holes E830041C. Holes were extended at least 4m below the base of the last intercepted coal seam to allow for geophysical logging of the entire seam.<br>• Chip holes were drilled using either poly-crystalline diamond or blade bits.<br><br>Non-cored holes were used in the model to define structure and stratigraphy but were not used as Points of Observation (“PoO”). |

| Criteria | JORC Code Explanation | CP Comments |
|---|---|---|
| ***Drill Sample Recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *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.* | **2019 Drilling**<br>• Core was carefully cut and pulled by experienced coal drillers. Coal core was logged on site by experienced geologists and was measured before and after being placed on the table to account for handling discrepancies.<br>• Loss and gain was carefully recorded at the rig.<br>• Once borehole geophysical data was obtained the drill holes were corrected to geophysics. Core loss was reconciled against geophysics if it occurred.<br><br>**Pre-2019 Drilling**<br>• Only cores were sampled for analysis.<br>• Adequate recovery was assessed on a length basis.<br>• Only holes with available verticality information were used for coal quality modelling.<br>• A 95% linear seam recovery was required; otherwise the seam would be redrilled. If this was not established a review of the supplied core photos was undertaken. |
| ***Logging*** | • *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.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | **2019 Drilling**<br>• All cores were geologically logged; geological/geotechnical features identified were reported.<br>• All chipped holes were geologically logged.<br>• All holes were geophysical logged with a minimum density, caliper, gamma, resistivity, sonic and verticality unless operational difficulties prevented logging or part logging of a hole.<br><br>**Pre-2019 Drilling**<br>• All drill core was geologically logged, marked and photographed prior to sampling. Geological features were identified and logged as part of this process.<br>• All drill holes have been geophysically logged (except where blocked) with the minimum suite of tools run including: Density, Calliper, Verticality/Deviation and Gamma.<br>No record of calibration of the geophysical tools was provided with the historic dataset |
| ***Sub-Sampling Techniques*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.* | **2019 Drilling** |

| Criteria | JORC Code Explanation | CP Comments |
|---|---|---|
| ***and Sample Preparation*** | • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *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.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | • The lab SGS (Mackay) complies with Australian Standards for sample preparation and sub sampling.<br>• Coal samples were taken on a (roughly) 0.5 m interval throughout the target seams where possible, or on the basis of observable variations in coal quality. The immediate 20 to 30cm cm above and below the coal seams were taken for analysis for roof and floor dilution testing<br><br>**Pre-2019 Drilling**<br>• All core holes were geophysically logged and photographed.<br>– Coal samples were taken on 0.5 m intervals throughout the target LHD seam where possible, or on the basis of observable variations in coal quality.<br>– The immediate 20 to 30cm cm above and below the coal seam was taken for analysis for roof and floor dilution testing.<br>• Target ply recovery for the sampled coal seams was 95%. Seam recoveries were determined by measured core length versus interpreted length derived from a review of the downhole geophysics. Where seam recovery was less than 95% a redrill of the hole was required if the recovered portion was not deemed representative.<br>• Samples were composited to approximate 1m intervals for representative coal quality analysis and subsequent modelling of coal targets. |
| ***Quality of Assay Data and Laboratory Tests*** | • *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br>• *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.*<br>• *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates,* | **2019 Drilling**<br>• The coal quality laboratory SGS (Mackay) complies with Australian Standards for all coal quality tests and is certified by the National Association of Testing Authorities, Australia (NATA).<br>• Geophysical tools were calibrated by the engaged geophysical logging contractor (Logging Downunder)<br><br>**Pre-2019 Drilling**<br>• The results of the quality analyses indicate standard and appropriate practices were followed and completed. |

| Criteria | JORC Code Explanation | CP Comments |
|---|---|---|
| | *external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.* | • No audit, or calibration of instruments used was sighted for this report for historic holes or provided with the dataset. |
| ***Verification of Sampling and Assaying*** | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • Coal quality results were verified by Xenith Consulting Pty Ltd personnel before inclusion into the geological model and resource estimate.<br>• Historically product coal assessment and analysis were undertaken by Mr R Stainlay from MResources.<br>• Mr Chris McMahon of MCQR has been engaged to assess the 2019 coal quality results. |
| ***Location of Data Points*** | • *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | **2019 Drilling**<br>• Pilot holes and core holes were surveyed by a qualified surveyor from Precision Partners from Blackwater QLD<br>• Coordinates listed for 2019 boreholes are beacon corrected DGPS surveyed collars. Survey calibration was undertaken using permanent survey marks on site including survey marks 112697, 26421 & 68523<br><br>**Pre-2019 Drilling**<br>• Only holes E830001 to E830018 were reportedly surveyed by Derek Anthony Woods on 19/01/06 using check station OPM 162976. No information for the survey of the other holes was sighted for this report.<br><br>Project datum and projection is GDA 94 (MGA94 zone 55) |

| Criteria | JORC Code Explanation | CP Comments |
|---|---|---|
| ***Data Spacing and Distribution*** | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | • Drill hole spacing has been dictated by the characteristics and consistency of the target seams within the deposit.<br>• Structural drilling is in general on 250 m x 250m centres and coal quality drilling is located on approximately 250 to 400m centres.<br>• The inclusion of holes from outside the MDL but within the EPC has given the model a reasonable amount of lateral continuity in the west of the MDL area.<br>• Samples were reported to have been taken on approximately 0.5 m interval and compositing into 1mcomposites. As such, where appropriate, sample compositing has been completed.<br>• 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. |
| ***Orientation of Data in Relation to Geological Structure*** | • *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*<br>• *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.* | • The orientation and spacing of the drilling grid is deemed to be suitable to detect geological structures and coal seam continuity within the resource area.<br>• 2D seismic sections complement the distribution of drill holes.<br>• Ground magnetic survey data provide further clarity on the subsurface structure of the deposit. |
| ***Sample Security*** | • *The measures taken to ensure sample security.* | • Sample dispatch was carried out by contracted geological personnel. Samples were dispatched via Followmont Transport in Moranbah and were delivered to the SGS lab in Paget, Mackay.<br>• No information has been sighted as to the chain of custody procedures of the previous owners of the project. |

| Criteria | JORC Code Explanation | CP Comments |
|---|---|---|
| ***Audits or Reviews*** | • *The results of any audits or reviews of sampling techniques and data.* | • Xenith Consulting was responsible for in-field data and sample collection for 2019 drilling. Lab Analysis protocols were developed by M Resources in discussion with Xenith Consulting, SGS and Bowen Coking Coal.<br>• There are no result or information pertaining to auditing of the sampling undertaken in previous drilling campaigns. |

**Table 1.1 - Borehole seam intercepts with coal seam recoveries for core holes drilled on MDL 444 & EPC 830 (April/May 2019)**

| HOLE_ID | EAST MGA94z55 | NORTH MGA94z55 | AHD (m) | TOTAL DEPTH (m) | Azimuth | Dip | SEAM | FROM (m) | TO (m) | THICK (m) | Recovery % | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PPD001PC | 635969.71 | 7559365.07 | 217.56 | 144.00 | 0 | -90 | VERMONT UPPER SEAM | 26.16 | 28.81 | 2.65 | 100% | |
| | | | | | | | VERMONT UPPER SEAM REPEAT | 38.64 | 41.28 | 2.64 | 100% | |
| | | | | | | | VERMONT SEAM (VU3) | 70.78 | 74.12 | 3.34 | 100% | |
| | | | | | | | VERMONT SEAM (V Lower) | 76.08 | 80.38 | 4.30 | 100% | Parting of 0.5m |
| | | | | | | | GIRRAH | 120.21 | 133.41 | 13.20 | 100% | Banded with partings |
| PPD002PC | 635899.92 | 7559959.06 | 221.53 | 148.00 | 0 | -90 | LEICHHARDT SEAM | 55.83 | 60.55 | 4.72 | 100% | |
| | | | | | | | VERMONT UPPER SEAM | 103.01 | 105.59 | 2.58 | 97% | |
| | | | | | | | VERMONT SEAM (VU3) | 130.68 | 131.86 | 1.18 | 100% | |
| | | | | | | | VERMONT SEAM (V Lower) | 132.69 | 134.91 | 2.22 | 100% | Parting of 0.7m |
| PPD003PC | 635609.97 | 7559919.94 | 225.55 | 136.00 | 0 | -90 | VERMONT UPPER SEAM | 41.76 | 44.57 | 2.81 | 100% | |
| | | | | | | | VERMONT SEAM (VU3) | 66.97 | 69.52 | 2.55 | 99% | |
| | | | | | | | VERMONT SEAM (V Lower) | 72.21 | 74.91 | 2.70 | 100% | |
| | | | | | | | GIRRAH | 112.35 | 136.00 | 23.65 | 100% | Banded with partings |
| PPD004PC | 635423.52 | 7560240.24 | 228.92 | 136.00 | 0 | -90 | LEICHHARDT SEAM | 16.63 | 20.53 | 3.90 | 64% | Top 1.4m weathered |
| | | | | | | | VERMONT UPPER SEAM | 90.81 | 93.40 | 2.59 | 89% | |
| | | | | | | | VERMONT SEAM (VU3) | 115.93 | 118.43 | 2.50 | 100% | |
| | | | | | | | VERMONT SEAM (V Lower) | 121.44 | 123.42 | 1.98 | 100% | |
| PPD005PC | 635493.97 | 7560910.25 | 223.18 | 279.00 | 0 | -90 | LEICHHARDT SEAM | 138.87 | 143.88 | 5.01 | 100% | |
| | | | | | | | LEICHHARDT SEAM REPEAT | 217.64 | 222.55 | 4.91 | 98% | |
| PPD006PC | 636105.63 | 7559925.89 | 223.16 | 184.00 | 0 | -90 | LEICHHARDT SEAM | 104.93 | 110.51 | 5.58 | 100% | |
| | | | | | | | VERMONT SEAMS | 166.53 | 168.90 | 2.37 | 100% | |

**Table 1.2 – Raw coal quality results for core holes all holes. (PPD002PC ,PPD006PC (June 2019), PPD001PC, PPD003PC,PPD005PC and PPD004PC (July 2019))**

| HOLE_ID | SEAM | FROM | Thickness (m) | Relative Density (g/cc) | Moisture % | Ash % | Volatile Matter % | Fixed Carbon % | Total Sulphur % | Crucible Swelling Number (CSN) |
|---|---|---|---|---|---|---|---|---|---|---|
| **E830016** | LHD | 35.0 | 5.2 | 1.43 | 1.6 | 15.2 | 20.5 | 62.6 | 0.42 | $1\frac{1}{2}$ |
| **E830019** | LHD | 90.2 | 5.2 | 1.50 | 1.0 | 21.3 | 20.2 | 57.5 | 0.32 | 1 |
| **E830020** | LHD | 55.1 | 4.1 | 1.45 | 1.6 | 17.5 | 18.9 | 61.9 | 0.40 | $1\frac{1}{2}$ |
| **E830022** | LHD | 42.3 | 4.2 | 1.43 | 1.0 | 16.2 | 19.0 | 63.7 | 0.34 | 1 |
| **E830041C** | LHD | 102.0 | 4.2 | 1.42 | 2.1 | 15.5 | 19.2 | 63.3 | 0.22 | $1\frac{1}{2}$ |
| **PPD002PC** | LHD | 55.83 | 4.72 | 1.50 | 0.9 | 18.3 | 19.6 | 61.3 | 0.44 | $3\frac{1}{2}$ |
| | VU2 | 103.34 | 2.25 | 1.35 | 1.1 | 12.1 | 20.9 | 65.9 | 0.40 | $6\frac{1}{2}$ |
| **PPD006PC** | LHD | 104.93 | 5.58 | 1.46 | 1.0 | 17.8 | 18.9 | 62.3 | 0.46 | 2 |
| | VU2 | 166.53 | 2.37 | 1.35 | 0.9 | 15.5 | 20.7 | 63.0 | 0.48 | $5\frac{1}{2}$ |
| **PPD004PC** | LHD | 16.63 | 3.90 | 1.53 | 12.1 | 10.4 | 21.9 | 55.7 | 0.21 | 0 |
| | VU2 | 91.17 | 2.23 | 1.39 | 1.5 | 9.5 | 20.6 | 68.4 | 0.55 | $4\frac{1}{2}$ |
| **PPD001PC** | VU2 | 26.33 | 2.48 | 1.34 | 1.4 | 10.4 | 20.3 | 67.9 | 0.51 | 7 |
| | VU2 | 38.91 | 2.37 | 1.40 | 1.4 | 10.7 | 20.4 | 67.5 | 0.44 | 7 |
| **PPD003PC** | VU2 | 42.08 | 2.49 | 1.38 | 1.7 | 10.2 | 20.1 | 68.0 | 0.51 | 8 |
| **PPD005PC** | LHD | 138.87 | 5.01 | 1.50 | 1.5 | 18.4 | 21.0 | 59.1 | 0.21 | 3 |
| | LHD | 217.64 | 4.91 | 1.43 | 1.3 | 13.7 | 19.6 | 65.5 | 0.26 | $4\frac{1}{2}$ |

**Table 1.3 – Average Primary and Secondary Product Washabilities for the Vermont Upper Seam (VU2) and Leichhardt Seam (LHD) for holes (PPD002PC , PPD006PC, PPD001PC, PPD003PC, PPD005PC & PPD004PC)**

| Seam | Primary | | | Secondary | | Total Yield%[2] |
|---|---|---|---|---|---|---|
| | Product Ash%[1] | Yield%[2] | CSN | Product Ash%[1] | Yield%[2] | |
| **LHD TOP** | 8.0 | 20-30 | 4-5 | 10.5 | 15-50 | 40-85 |
| **LHD BOTTOM** | 10.0 | 50-60 | 4-4½ | 10.5 | 20-35 | 70-85 |
| **VU2** | 8.0 | 45-60 | 6-7½ | 10.5 | 10-35 | 70-90 |

[1]Air-dry basis.
[2]Air-dry basis, nil dilution and loss, wash simulations using limiting density ranges and efficiency factors in line with standard processing equipment utilised.

## SECTION 2 REPORTING OF EXPLORATION RESULTS

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

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>CP Comments</th></tr>
<tr><td>Mineral Tenement and Land Tenure Status</td><td>• 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.<br>• The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</td><td>• MDL 444 and EPC 830 are located approximately 27km south east of Moranbah and lies adjacent and east of the existing Daunia coal mine.<br>• Coking Coal One Pty Ltd, a wholly-owned subsidiary of Bowen Coking Coal Ltd owns 100% of MDL 444 and EPC 830.<br><br><table><tr><th>Tenure</th><th>Tenure No.</th><th>Expiry</th><th>Area (ha)</th><th>Sub-blocks</th><th>Holder</th></tr><tr><td>MDL</td><td>444</td><td>31/01/2022</td><td>433</td><td>n/a</td><td>Coking Coal One Pty Ltd</td></tr><tr><td>EPC</td><td>830</td><td>08/01/2019</td><td>n/a</td><td>7</td><td>Coking Coal One Pty Ltd</td></tr></table><br>• The project area is currently used for livestock grazing.<br>• BHP Mitsubishi Alliance’s Daunia Mine overlaps part of EPC 830.</td></tr>
<tr><td>Exploration Done by Other Parties</td><td>• Acknowledgment and appraisal of exploration by other parties.</td><td>• Information from historic exploration programs conducted prior to the purchase of the project by Bowen Coking Coal Ltd has been utilised for this report. The data in conjunction with information compiled from the 2019 drilling program has assisted with this resource appraisal.<br>• Historically (since the early 1960’s), there have been several EPC’s (EPC 3, 6, 575, 649) held over the Isaac River area.<br>• A total of 5 parties have undertaken exploration activities around and within the project area.<br>• Exploration drilling and geophysical surveys that have been completed within and in close proximity to the Isaac River area have been reviewed as part of this report.<br>• Within the MDL 444 and EPC 830 tenement, a total of 45 drill holes drilled by other parties were reviewed, including drilling for coal.<br>• An additional 3 drill holes located outside of the MDL and EPC were included to ensure adequate structural and quality control of the resource deposit.<br>• Velseis Pty Ltd conducted 2D dynamite seismic surveys within the area during 2015.</td></tr>
<tr><td>Geology</td><td>• Deposit type, geological setting and style of mineralisation.</td><td>• The Isaac River project area lies within the Permo-Triassic Bowen Basin. The Bowen Basin</td></tr>
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| | | consists of 10 kilometre (km) thick sequences of volcanic, shallow marine and terrestrial sediments and is categorised back-arc to foreland basin.<br>• The general stratigraphy of the project area includes (oldest to youngest) –<br>• Coal seams occur within the Rangal Coal Measures and underlying Fort Cooper Coal Measures which are Late Permian in age. These seams dip to the east at approximately 7 - 25 degrees.<br>• The coal seams of interest found within the Project area are as follows – Leichhardt and Vermont Upper<br>• Additional seams were intersected and in part analysed these were plies of the Vermont Lower and Girrah Seams.<br>• The target seams have a cumulative thickness of approximately 7 m across the deposit. The underlying additional Vermont plies and Girrah seams have and additional 12m cumulative thickness but are not included in this resource report.<br>• The target seams for the 2019 drilling are the Leichhardt Seam (LHD), Vermont Upper Seam (VU1/VU2), Vermont Lower Seams (VU3, VL1 & VL2) and one hole targeted the top 10m of the Girrah Seam where it was relatively shallow.<br>• Note. There has been a seam nomenclature change from historic work carried out by the previous owners of the Isaac River Project. In previous studies there was reference to the Leichhardt Lower seam which was not targeted in coring but was intersected in open holes. With further research it is now interpreted that the previous Leichhardt Lower Seam is actually the Vermont Upper Seam (VU1/VU2). |
| ***Drill Hole Information*** | • *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:*<br>– easting and northing of the drill hole collar<br>– elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar<br>– dip and azimuth of the hole<br>– down hole length and interception depth<br>– hole length.<br>• *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* | • A detailed list of the drill holes used to define the coal quality of the resource in the Isaac River Project can be found in Table 1.1.<br>• All drill holes have been modelled from vertical, although hole deviation has been applied for all holes where the information exists. |

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| | *report, the Competent Person should clearly explain why this is the case.* | |
| ***Data Aggregation Methods*** | • *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.*<br>• *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.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | • 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.<br>• Coal quality samples were weighted on thickness (length) and relative density and composited on a per seam basis.<br>• Seams with a raw ash (adb) above 50% are not classified as coal and has not been included as a resource.<br>• In hole PPD005PC a missing sample was logged for the first (shallowest) occurrence of the LHD seam. As such, the competent person reviewed the sample for the repeated LHD seam occurrence within the same borehole and substituted the missing quality values. This was only undertaken following deliberation of the geophysical signature, neighbouring coal quality values and seam thicknesses. |
| ***Relationship Between Mineralisation Widths and Intercept Lengths*** | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').* | • All holes were drilled vertical and verticality information has been applied to modelled holes where available. |
| ***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.* | • n/a |
| ***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 Isaac River 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.* | • All exploration data was gathered and or utilised in the resource estimation.<br>• Velseis conducted a 2D seismic survey featuring 4 lines to further define faults in the Isaac River area. This work resulted in the structural interpretation which was used in the creation of the geological model.<br>• Ultramag undertook a ground magnetic survey in August/September 2005 which highlighted |

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| | | faulting and structural elements in the deposit. The interpretations from the survey have been added into the current geological model subject to this report. |
| ***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).*<br>• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | • Further work may include additional coal quality coring, structure holes, sub-crop drilling as well as geotechnical investigations. |