WHITEHAVEN COAL

ASX ANNOUNCEMENT

18 October 2023

Whitehaven Coal to acquire 100% of BMA's Daunia and Blackwater coal mines through a compelling and transformational acquisition

Whitehaven Coal (ASX: WHC) is pleased to announce it has executed definitive sale agreements with BHP Group ("BHP") and Mitsubishi Development Pty Ltd ("Mitsubishi") (together, "BMA") to acquire 100% of both the Daunia and Blackwater coal mines (the "Assets") in a highly attractive and transformative acquisition (the "Acquisition").

Acquisition highlights

- Whitehaven to acquire 100% of the Daunia and Blackwater metallurgical coal mines from BMA for an aggregate cash consideration of US$3.2 billion[1] comprising:
  - US$2.1 billion upfront consideration payable on completion, and
  - US$500 million, US$500 million and US$100 million in separate tranches of deferred consideration payable on the first, second and third anniversary of the completion date[2].

  In addition, contingent payments of up to US$900 million; comprised of three annual payments (payable on the date which is three months after the relevant anniversary of completion) dependent on realised pricing exceeding agreed thresholds,[3] with annual contingent payments capped at US$350 million.
- To be funded via a combination of available cash, a US$900 million bridge facility and cashflows of Whitehaven's enlarged business over FY2025, FY2026 and FY2027.
- Highly attractive acquisition for Whitehaven and is expected to be materially earnings accretive,[4] with upfront and deferred payments together implying an acquisition multiple of 1.8x EV / FY2024F EBITDA using spot prices and 2.9x using broker consensus coal prices[5].
- Delivers significant value upside with attractive growth opportunities in Queensland's Bowen Basin, including synergies with Whitehaven's Winchester South development project.
- Transforms Whitehaven into a metallurgical coal producer in line with strategy, with pro-forma managed Run of Mine ("ROM") production of around 40 million tonnes[6] per annum and pro-forma revenues of around 70% metallurgical coal and 30% thermal coal.[7]
- Consolidates Whitehaven's position as the leading Australian ASX listed metallurgical coal producer, with multiple benefits from increased diversification and scale.
- Increases exposure to attractive high-growth market regions including India and Southeast Asia, while strengthening and diversifying end market exposures currently focused on Japan, South Korea and Taiwan.
- Completion of the Acquisition is expected in the June 2024 quarter subject to satisfying conditions precedent including regulatory and merger control approvals.

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1 Subject to customary completion adjustments
2 The profile of deferred payments may change based on adjustments to be calculated at the time of completion
3 Contingent payments paid from 35% revenue share, capped at a total of US$900m over three years post completion. Subject to average realised prices achieved by the Assets exceeding respective thresholds of US$159/t in the 12 month period 12 months post completion, US$134/t in the 12 month period 24 months post-completion and US$134/t in the 12 month period 36 months post completion. Annual payments are capped at maximum of US$350m
4 Based on spot pricing (at 17 October) and Whitehaven management estimates, FY2024 pro-forma EPS accretion is ~160%
5 Based on Whitehaven management estimates; spot pricing as at 17 October 2023
6 Managed ROM production based on mid-point of Whitehaven's FY2024 guidance and FY2024 life of mine plans for the Assets
7 Based on FY24F pro-forma as per Whitehaven management estimates and assuming spot pricing

Mr Paul Flynn, CEO & Managing Director of Whitehaven, said:

"This is a compelling transaction for Whitehaven that accelerates our strategy, transforms our company and delivers substantial value for our shareholders.

"This transformational acquisition will pivot our portfolio towards metallurgical coal, which has been a core pillar of our strategy for many years making this a better balanced business. Our thermal coal business remains strategically important as we continue to provide much-needed coal products to support the global energy transition and as customers seek our high-quality and high-CV products to limit their emissions.

"This is a highly attractive and materially earnings accretive acquisition, with considerable upside potential, which we expect will deliver meaningful returns to our shareholders for many years to come. It strengthens our portfolio of quality, long life assets in attractive locations providing geographic and operational diversification and scale benefits.

"Daunia and Blackwater produce much-needed metallurgical coal that is in high demand across Asia – including in India and Southeast Asia where population growth and economic development is expected to drive strong demand for steel production and metallurgical coal through to at least 2050[1]. This acquisition will increase our exposure to these high growth market segments while expanding our regional footprint through new customers.

"We look forward to completing the transaction and welcoming the teams at Daunia and Blackwater into the Whitehaven business, and working with the local community and other stakeholders who will remain an important part of our operations."

Transaction details

Whitehaven has entered into binding agreements to acquire 100% of the Daunia and Blackwater metallurgical coal mines ("Asset Sale Agreements") and all of the shares in South Blackwater Coal Pty Ltd ("SBC").

Whitehaven has agreed to an upfront consideration of US$2.1 billion and deferred payments of US$500 million, US$500 million and US$100 million in separate tranches payable the first, second and third anniversary of the completion date.[2]

Whitehaven has also agreed to price-linked contingent payments of up to US$900 million over three years dependent on average annual realised pricing exceeding agreed thresholds for each of the three years following completion.[3] The contingent payments (if any) are subject to a cap of US$350 million each year. These payments are payable on the date which is three months after the first, second and third anniversary of the completion date.

A deposit of US$100 million has been paid.

The Acquisition is expected to complete in the June 2024 quarter subject to satisfying conditions precedent including regulatory and merger control approvals. The acquisition does not require shareholder approval.

Appendix 1 contains a summary of the key terms of the Asset Sale Agreements (which are substantially the same for both the Daunia and Blackwater mines).

Funding

The Acquisition will be funded via a combination of available cash, a US$900 million bridge facility and cashflow from Whitehaven's enlarged business over FY2025, FY2026 and FY2027.

The conservative and prudent funding structure maintains Whitehaven's balance sheet strength. Whitehaven's net cash balance at the end of June 2023 was A$2.65 billion. Whitehaven has executed binding acquisition bridge facility documentation with Bank of America and Jefferies.

Whitehaven will replace the bridge facility with longer term funding arrangements that diversify sources of capital. Whitehaven is focused on maintaining a strong balance sheet through the cycle, with targeted net debt/EBITDA leverage of 0.5x at the bottom end of the cycle[4] and gearing[5] expected to be ~20% as a result of the Acquisition.

Whitehaven is also considering a minority sell down to global steel producers through a strategic joint venture arrangement involving the Assets. If implemented, this would reduce Whitehaven's overall funding requirements.

[1] Wood Mackenzie, August 2023 seaborne metallurgical coal
[2] The profile of deferred payments may change based on adjustments to be calculated at the time of completion
[3] Contingent payments paid from 35% revenue share, capped at a total of US$900m over three years post completion. Subject to average realised prices achieved by the Assets exceeding respective thresholds of US$159/t in the 12 month period 12 months post completion, US$134/t in the 12 month period 24 months post-completion and US$134/t in the 12 month period 36 months post completion. Annual payments are capped at maximum of US$350m
[4] Leverage metric may be extended to a maximum of 2x leverage (on a through the cycle view) when undertaking strategic acquisitions / development projects
[5] Net debt / (Net debt + Equity) with net debt including the US$900m bridge facility, on a pro-forma March FY24F basis

Strategic rationale

This is a compelling acquisition for Whitehaven's shareholders that delivers significant and strategically aligned benefits.

✓ **Highly attractive and materially earnings accretive acquisition**

The Acquisition is made at a highly attractive EV / FY2024F EBITDA multiple of 1.8x using spot prices and 2.9x using broker consensus coal pricing.[1] The Acquisition is expected to be materially earnings accretive in the first year with EPS accretion[2] ~70% at broker consensus pricing and ~160% at spot pricing. The EPS accretion will support substantially higher, sustainable dividends over time.

✓ **Provides significant value upside including strategic growth options**

The Assets are attractively located in Queensland's Bowen Basin with a range of improvement and growth options including opportunities to increase production and materially extend the life of mine ("LOM") at Blackwater. Synergies with Whitehaven's Winchester South development project, which is adjacent to Daunia, include shared infrastructure and utilities, shared operational functions, blending opportunities, labour sharing, and technical expertise including deployment of automated haulage.

✓ **Transforms Whitehaven into a metallurgical coal producer, in line with strategy**

The Acquisition provides Whitehaven with large, long-life metallurgical coal assets with attractive cost profiles that will approximately double Whitehaven's ROM and saleable production. The Acquisition is aligned with Whitehaven's strategy to increase exposure to metallurgical coal, repositioning the portfolio to deliver sales revenue[3] driven by ~70% metallurgical coal and ~30% thermal coal. Whitehaven's Total Coal Resources[4] will increase by 75% from 2.6bn to 4.6bn tonnes for operating and development mines. The Acquisition will increase Whitehaven's Coal Resources in the Bowen Basin from 1.1bn to 3.1bn tonnes, including 673 million tonnes of Recoverable Reserves. Exploration planning at Blackwater in particular will focus on conversion of Resources to Reserves within the current mine plan.

✓ **Delivers diversification and scale benefits**

The increased scale will consolidate Whitehaven's position as the leading ASX listed metallurgical coal producer[5]. It will expand employment pools, enhance procurement leverage and position Whitehaven as a leader in the development of automated haulage in coal mines.

Increased market diversification by geography, segment and by customers expands opportunities and reduces customer concentration. Operational diversification reduces risks as a result of expansion outside of the Gunnedah Basin and Port of Newcastle, with operations increasing from four to six operating mines and exports to be spread across three ports (currently all sales are out of the Port of Newcastle). Increased diversification towards metallurgical coal is expected to deliver financial market benefits, including a greater degree of funding optionality, an increase in the pool of equity investors, and a lower cost of capital.

✓ **Strengthens and expands Whitehaven's position in attractive growth segments of the market**

The Acquisition increases Whitehaven's exposure to attractive growth segments of the market including India and Southeast Asia, while strengthening and diversifying end market exposures currently focused on Japan, South Korea and Taiwan. Metallurgical coal is a critical component in steel making and the strong, long-term steel market dynamics are driven by industrialisation and urbanisation. Metallurgical coal is also essential for the global energy transition through increased steel demand to build renewable energy infrastructure. A structural shortfall in supply is forecast[6] due to underinvestment in metallurgical coal assets; this is consistent with Whitehaven's existing exposure to the most structurally short segment of the thermal coal market.

Integration and capital allocation

Whitehaven has undertaken significant planning to enable a smooth integration of the Assets post completion, including an agreed form of Transitional Services Agreement under which BMA will provide transitional services at Whitehaven's option for up to 6 months from completion, if required.

Whitehaven's capital allocation framework promotes clear capital discipline and will continue to guide decision making.

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[1] Based on Whitehaven management estimates; spot pricing as at 17 October 2023
[2] Based on pro-forma FY2024 earnings after certain acquisition accounting adjustments
[3] Based on FY2024 pro-forma Whitehaven management estimates and spot pricing
[4] Total Resources includes Measured, Indicated and Inferred Resources for Maules Creek, Narrabri, Vickery, Tarrawonga, Werris Creek, Daunia and Blackwater
[5] On the basis of metallurgical coal production; excludes diversified mining peers
[6] Commodity Insights 2023 forecasts a 74M tonne p.a. shortfall by 2040 in supply of the HCC complex (which includes Hard, Semi Hard, SSCC & PCI) global seaborne supply

In light of the acquisition, operating cashflows will be reprioritised and used to:

1. **Maintain and optimise existing operations**. This includes supporting the transition and integration of the Daunia and Blackwater mines into the broader Whitehaven portfolio.
2. **Maintain balance sheet strength**. This includes a conservative funding structure and maintaining a minimum cash balance for liquidity purposes.
3. **Return capital to shareholders**. During the deferred payment period, Whitehaven expects to maintain franked dividends within the targeted payout ratio of 20-50% of NPAT generated from Whitehaven's existing operations (i.e. excluding the acquired Assets)[1]. Cashflows from the acquired business will be directed to retiring vendor finance. The share buy-back is similarly expected to remain on hold and the Board will make a decision regarding the resumption of the buy-back at the appropriate time. The Acquisition is expected to support strong Total Shareholder Returns (TSR)[2] including providing an opportunity for a significant step up in capital returns when deferred payments are made and surplus capital is available.

The timing of development plans and capital expenditure will be reviewed reflecting competing opportunities for capital.

Overview of the Assets

The Daunia coal mine is an open-cut coal mine located 30 km south-east of Moranbah, and about 170 km south-west of Mackay in Queensland. The mine produces a hard coking coal ("HCC") and pulverised coal injection ("PCI") metallurgical coal products, and it is expected to produce an average of ~4.9 Mtpa of saleable coal production over the next five years[3]. It is expected that the remaining LOM production will continue until 2040. Daunia is adjacent to Whitehaven's Winchester South development project in the Bowen Basin. Following the acquisition, Daunia's coal products will continue to be exported to customers across Asia through the Dalrymple Bay Terminal near Mackay.

The Blackwater coal mine is an open-cut mine which lies 73km south-east of Emerald in Queensland and is expected to produce an average of ~12.4 Mtpa of saleable coal production over the next five years[4]. It is one of the largest coal mines in Australia, with a strike length of 80km, and has the largest dragline fleet (7) in the Southern Hemisphere. Both HCC and semi soft coking coal ("SSCC") metallurgical coal products are mined at Blackwater. The remaining LOM production is expected to be greater than 50 years[5]. Blackwater's coal products are exported to customers across Asia through the RG Tanna Terminal north of Gladstone.

For further detail refer to Appendix 2: JORC Reserves and Resources Summary.

About Whitehaven Coal

Whitehaven is Australia's leading producer of high-quality, high-CV thermal coal. Our thermal and metallurgical coal products are exported to premium markets in Asia. Our operations are located in the Gunnedah Basin in New South Wales with growth projects in both the Gunnedah Basin and Bowen Basin in Queensland. As an active coal producer for more than 20 years including 15 years as a publicly-listed entity on the Australian Securities Exchange (ASX), Whitehaven is known for quality coal assets, excellence in safety and project delivery, and contributing to regional economies through investment and engagement.

This announcement is authorised for release to the market by a Committee of the Board of Directors.

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Presentation webcast / teleconference with Q&A by Analysts

Managing Director and CEO, Paul Flynn will present on the Acquisition, followed by a Q&A session with sell-side analysts.

Date: **18 October 2023** Time: **2.30 pm AEDT (Sydney time)**

To listen live to the presentation and Q&A webcast / teleconference, participants can pre-register using the following link:
https://loghic.eventsair.com/whc/register201023/Site/Register

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1 The bridge facility which expires on 30 June 2024 includes a restriction on distributions while the bridge is in effect. Whitehaven expects to replace the bridge expeditiously
2 TSR includes share price appreciation and capital returned to shareholders
3 Refer to page 12 of this announcement for further details on production targets
4 Refer to page 12 of this announcement for further details on production targets
5 Based on conceptual mine planning with mine life dependent on prevailing local and macro-economic conditions

Appendix 1: Summary of key terms of Asset Sale Agreements

Asset Sale Agreements

Asset Sale Agreements ("ASAs")	There are separate asset sale agreements for the acquisition of each of the Daunia and Blackwater coal mines. Unless expressly noted below, the terms of the ASAs for Daunia and Whitehaven are on substantially the same terms and provide for the acquisition of each mine by special purpose wholly owned subsidiaries of Whitehaven (each, a "Buyer")
Purchase Price	• Whitehaven has agreed to an upfront consideration of US$2.1 billion; • deferred payments of US$500 million, US$500 million and US$100 million payable in tranches on the first, second and third anniversaries of completion respectively; and • up to US$900 million price-linked contingent payment over three years dependent on realised pricing exceeding agreed thresholds for each of the three years following completion (the contingent payments (if any) are subject to a cap of US$350 million each year), payable within 3 months of the first, second and third anniversaries of completion.
Buyers' Guarantor	Whitehaven guarantees all obligations of each Buyer under the respective ASAs.
Conditions Precedent	Completion under the ASAs are subject to the following conditions precedent: • (**Regulatory Approvals**): ○ the Buyer obtaining merger control clearance/approval (or equivalent) in Japan, South Korea, Turkey and Vietnam on terms acceptable to the Buyer acting reasonably or any applicable statutory review period having expired without any decision or further action by the relevant government agency; ○ **Daunia only:** The Daunia Buyer receiving written notice from the responsible Minister (or delegate) confirming it agrees to the transfer of the EPBC Act approval to the Daunia Buyer (or assignee); and • (**Ministerial approval – Transfer**): ○ each Buyer receiving written notice from the responsible Minister under the *Mineral and Energy Resources (Common Provisions) Act 2014* (Qld), indicating that the Minister will approve the transfer of the Blackwater/Daunia mining tenures (as applicable) to the relevant Buyer without conditions or with conditions acceptable to the parties (acting reasonably). ○ **Daunia only:** (Ministerial approval – Transfer and Exit Application) the BMA receiving written notice from the responsible Minister under *Central Queensland Coal Associates Agreement Act 1968* (Qld), indicating that the Minister will approve the 'Transfer and Exit Application' in relation to ML 1781 without conditions or with conditions acceptable to the BMA and the Buyer (acting reasonably).

Termination Rights	**Mutual termination rights** Either the Buyer or BMA may terminate the ASAs (as applicable) prior to completion, if: • (**conditions precedent**): the conditions precedent are not satisfied or waived by 10 June 2024; • (**failure to complete**): the other party does not meet its completion obligations; or • (**cross default**): other transaction agreements (including, the other ASA and land agreements) are terminated in accordance with the terms of those documents. **Buyer termination rights** Each Buyer may terminate the ASAs (as applicable) prior to completion, if a material adverse change has occurred (and notified to BMA) which is not cured or not otherwise ceased to exist before the relevant completion date, being an event which has resulted, or would be reasonably expected to result, in the relevant Buyer not being able to deliver to the port, in the period ending 30 June 2025, at least a quantity of 'Final Product' tonnes as specified in the ASAs. **Seller termination rights** BMA can terminate the ASAs (as applicable) by written notice, if the Buyer (as applicable) undertakes a change of control prior to the relevant completion. **Single mine sale discussion prior to termination** If a party reasonably considers that they are entitled to terminate the ASA for failure to satisfy/waive conditions precedent before 10 June 2024 or because of a material adverse change, the parties must promptly negotiate in good faith, and use reasonable endeavours to agree upon the basis the *other* mine (as applicable) may be divested on an independent basis to the mine (which is subject to the relevant ASA). There is no obligation on a party to proceed with the divestment of a single mine on an independent basis.
Deposit	A cash deposit of US$100 million (across the two mines and pro-rated between the Blackwater and Daunia transactions) has been paid on execution of the ASAs (to be retained by BMA only in certain circumstances, including if the relevant Buyer breaches its contractual obligation to use reasonable endeavours to satisfy the conditions precedent in its court and, as a result, the proposed transactions do not complete, or it otherwise breaches its completion obligations).
Warranties and Indemnities	Customary warranties and indemnities are set out in each ASA.
Conduct of business	Prior to completion, except as expressly permitted by the ASAs or consented to by the applicable Buyer in writing, BMA must carry on the business and its sales and marketing functions materially in the ordinary and usual course and substantially consistent with past practice. BMA must keep the relevant Buyer reasonably and promptly informed of certain material issues (including matters pertaining to current negotiations and applications).
Transitional services agreement	A transitional services agreement has been negotiated between the parties under which, if required by the Buyers, BMA will provide specified services for up to 6 months following completion of the proposed transaction to facilitate a successful transition.

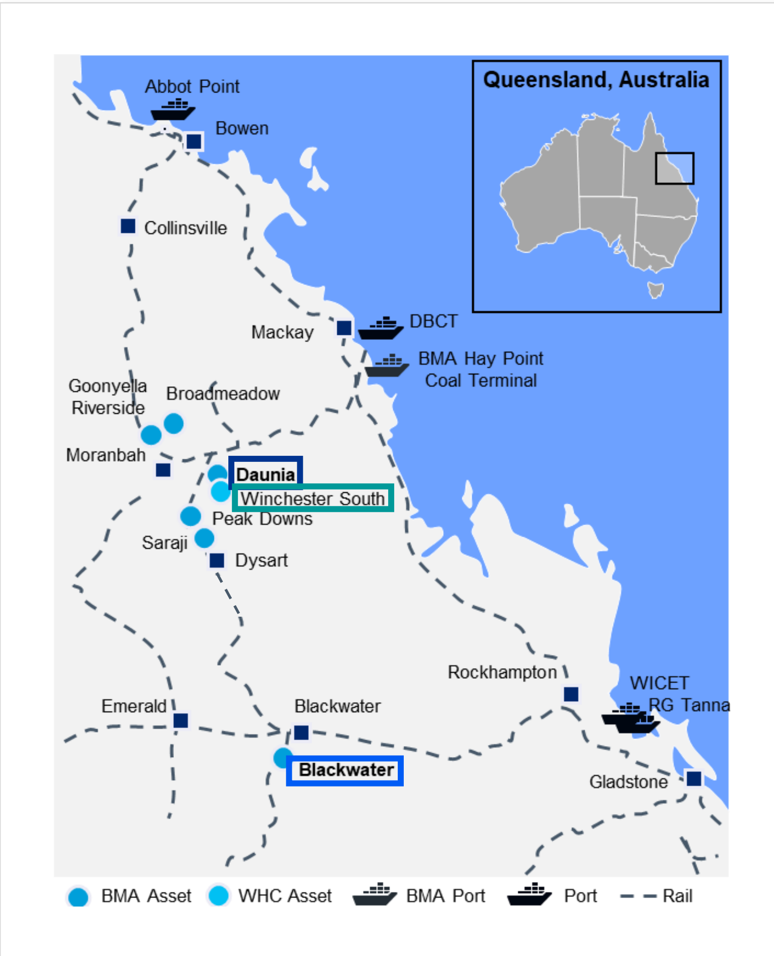
Appendix 2:
JORC Reserves and Resources Summary in relation Whitehaven Coal's announced acquisition of BMA's Daunia and Blackwater coal mines

The information in this Appendix relates to the Coal Reserves and Coal Resources for the Daunia and Blackwater metallurgical coal mines (the "Assets").

Overview of the Assets

The Assets, as well as Whitehaven Coal's existing Winchester South development project, are located in the Bowen Basin in Queensland, as shown in **Figure 1.**

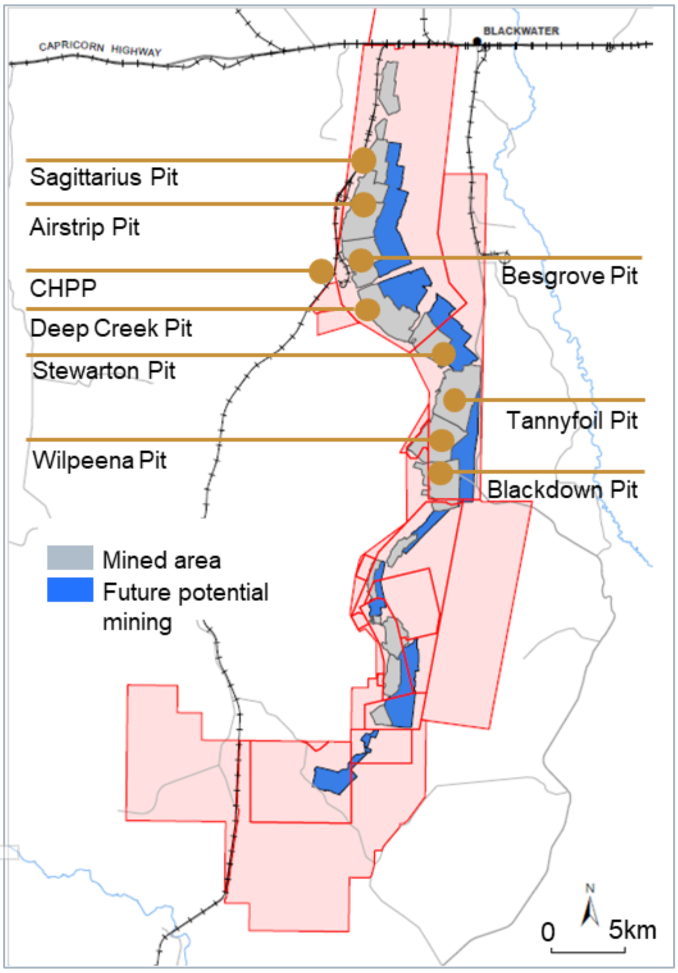
Figure 1:
Location of the Assets and the Winchester South development project



The Blackwater mine is one of the largest producing metallurgical coal mines in Queensland. It has a significant Coal Resource, long life, flexible product strategy, high quality infrastructure and optionality to undertake expansion options. It has a potential mine life in excess of 50 years,[1] and a large Total Coal Resource of 1,837 million tonnes (Mt)[2] which includes 212 Mt of Total Recoverable Coal Reserves.[3]

Blackwater has been operating since 1967 and has a strike length of 80kms. It produces low-ash, low-sulphur metallurgical coal products (~96% life of mine ("LOM")) as well as high energy thermal coal (~4% LOM), predominantly for the export market. Mining is undertaken using a conventional multi-seam dragline strip methodology. Seven draglines are employed in multiple simultaneous pits along strike in conjunction with a large fleet of trucks, electric rope shovels, hydraulic excavators and dozers. A separate contract fleet supports pre-strip activities.

Figure 2:
Primary Tenures and layout of the Blackwater Mine



Between FY2024 and FY2028, an average annual ROM production of 14.8 Mt (12.4 Mt Saleable) is planned[4] with potential to increase ROM production through a number of initiatives including optimisation of existing dragline sequence and pre-strip designed to unlock latent dragline capacity.

Expansion opportunities are also being considered including underground, mining Blackwater South, dragline optimisation and coal handling and processing plant ("CHPP") throughput expansion.

Coal can be processed at a rate of ~14 Mtpa through the Northern CHPP, commissioned in 2007, with an additional ~2 Mtpa of by-passed coal. Product coal is stacked at two parallel product stockpiles and loaded onto trains at the onsite train loadout facility. A separate thermal coal crushing plant and rail load-out facility also operates, with a capacity of ~4.2 Mtpa.

Coal is railed via the Blackwater System to stockpiles at RG Tanna Coal Terminal within the Port of Gladstone, approximately 315km to the west of the mine.

Coal is mined along the easterly dipping, eastern limb of the Rangal Coal Measures ("RCM"). There is a total strike length of ~80km North-South along the length of the Blackwater leases and East-West around the toe of the regional anticline. The three main coal seams mined are the Aries, Castor and Argo seams. Each seam exhibits complex splitting and coalescence of plies along strike varying in thickness of between ~0.5-6.0m. Seams typically are shallow in angle, dipping between 3-5%, and potentially extend down dip for 2km.

Blackwater has the following Coal Resources and Coal Reserves estimated according to the JORC Code 2012 declared by BHP as at 30 June 2023[5] in its annual report and reviewed as part of Whitehaven Coal's due diligence process.

[1] Based on conceptual mine planning with mine life dependent on prevailing local and macro economic conditions.
[2] BHP Competent Person Report 2023 under the JORC Code 2012 as provided by BHP as part of the due diligence investigations
[3] BHP Competent Person Report 2023 under the JORC Code 2012 as provided by BHP as part of the due diligence investigations
[4] Refer to page 12 of this announcement for further details on production targets
[5] https://www.bhp.com/investors/annual-reporting/annual-report-2023 pg 232

Table 1: Blackwater JORC Resources Summary[1]

Million tonnes (Mt)	Measured	Indicated	Measured + Indicated	Inferred	Total
Blackwater OC	308	528	**836**	779	**1615**
Blackwater UG	0	0	0	222	**222**
Total	308	528	**836**	1001	**1837**

Note: Coal Resources are inclusive of Coal Reserves, tonnages are rounded for the purposes of reporting
Competent Person: Mr Maurice Passmore - full-time employee of BHP Pty Ltd

Table 2: Blackwater JORC Reserves Summary[2]

Million tonnes (Mt)	Recoverable Reserves			Marketable Reserves		
	Proved	Probable	Total	Proved	Probable	Total
Blackwater OC	91	121	**212**	79	104	**183**
Total	91	121	**212**	79	104	**183**

Note: tonnages are rounded for the purposes of reporting
Competent Person: Mr Ryan Campbell - full-time employee of BHP Pty Ltd

[1] BHP 2023 JORC Statement, https://www.bhp.com/investors/annual-reporting/annual-report-2023 pg 232

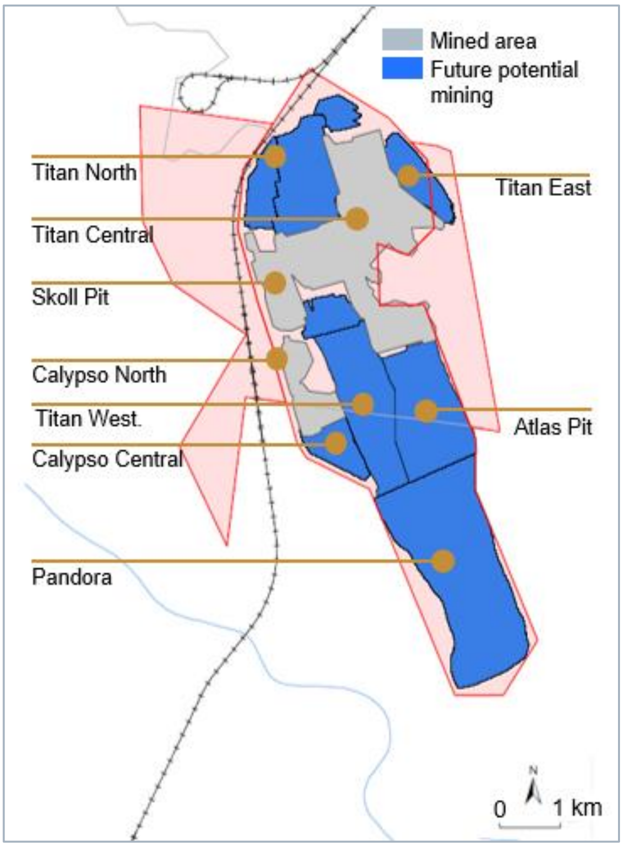
The Daunia mine is located 25km south-east of Moranbah on the Eastern flank of the Bowen Basin (see Figure 3). It is adjacent to Whitehaven Coal's existing Winchester South project. It produces predominantly high quality, low-sulphur hard coking coal and pulverised injection coal ("PCI") for the export market.

Production is expected until FY2040 with an average of ~6.0 Mtpa ROM and ~4.9 Mtpa Saleable between FY2024 and FY2028[1]. It is a multi-pit operation with Titan West, Titan North, Titan Central, Calypso and Atlas pits currently being mined. Pandora Pit is scheduled to commence in FY2027.

The mining fleet at Daunia is composed of one large electric shovel and two large hydraulic excavators for waste removal. Smaller excavators are used for coal mining and removal of low productivity waste wedge passes on top of coal. Coal and waste are loaded by these excavators into a fleet of 27 autonomous Cat793 trucks and a fleet of 7 autonomous Cat797 trucks.

Daunia uses the CAT MineStar system for operating its autonomous equipment. Other autonomous infrastructure includes 70 light vehicles and 32 medium vehicles fitted with proximity awareness technology, 52 ancillary machines fitted with terrain awareness, 2 communications towers. All are supported by operational control rooms and associated technology. The mine is currently operating in fully autonomous mode.

Figure 3:
Primary tenures and layout of the Daunia Mine



Coal washing and handling follows a standard process through a modern CHPP with a ROM feed capacity of between 6.2 - 6.4 Mtpa. This provides some latent capacity for the mining operation. After stockpiling, coal is loaded onto trains at a shared facility with Stanmore's Red Mountain CHPP and railed to Hay Point Coal Terminal or Dalrymple Bay Coal Terminal. Rejects and tailings from the CHPP are co-disposed in spoil dumps negating the need for tailings management facilities.

Coal seams mined include the Leichhardt (L13/L4) and Vermont (V1) seams of the RCM. These seams produce low ash coking coal and PCI.

Daunia has the following Coal Resources and Coal Reserves estimated according to the JORC Code 2012 declared by BHP as at 30 June 2023 in its annual report and reviewed as part of Whitehaven Coal's due diligence process.

[1] Refer to page 12 of this announcement for further details on production targets

Table 3: Daunia JORC Resources[1] summary

Million tonnes (Mt)	Measured	Indicated	Measured + Indicated	Inferred	Total
Daunia OC	87	19	**106**	9	**115**
Total	87	19	**106**	9	**115**

Note: Coal Resources are inclusive of Coal Reserves, tonnages are rounded for the purposes of reporting
Competent Person: Mr Ben Wesley - full-time employee of BHP Pty Ltd

Table 4: Daunia JORC Reserves[2] summary

Million tonnes (Mt)	Recoverable Reserves			Marketable Reserves		
	Proved	Probable	Total	Proved	Probable	Total
Daunia OC	68	13	**81**	56	11	**67**
Total	68	13	**81**	56	11	**67**

Note: tonnages are rounded for the purposes of reporting
Competent Person: Mr Gerardo Bustos - full-time employee of BHP Pty Ltd

Whitehaven JORC Processes

Following the completion of the acquisition, Whitehaven Coal intends to commission an independent Resource and Reserve for the Assets and incorporate into the annual JORC Resource/Reserve process. BHP presented Resource categorisation and estimates have been independently audited and form the basis of the assessments completed during Whitehaven Coal's due diligence process. Whitehaven Coal is not aware of any new information or data that materially affects the information included in this announcement and confirms that all material assumptions and technical parameters underpinning the estimates presented continue to apply and have not materially changed. Whitehaven Coal confirms that the form and context in which the Competent Person's findings are presented have not been materially modified.

FY24 – FY28 Production Target Information

The FY24 – FY28 production targets outlined in this announcement are underpinned by the Resource categories as defined in Table 5 below.

Table 5 – Proportions of Mineral Resources Underpinning Production Targets

	Production Target (ROM Mtpa) *	Measured + Indicated	Inferred	Unclassified
Blackwater OC	14.8	80%	13%	7%
Daunia OC	6.0	98%	2%	-

*The forecast average FY2024 – FY2028 ROM production

The estimated mineral resources underpinning the production target have been prepared by the competent persons, outlined in Schedules 1 and 2 of this announcement, in accordance with the requirements in Appendix 5A (JORC Code).

Inferred Resources included in Production Targets

There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised.

Unclassified Resources or Exploration Targets included in Production Targets

The potential quantity and grade of an exploration target is conceptual in nature, there has been insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that the production target itself will be realised.

[1] BHP 2023 JORC Statement, https://www.bhp.com/investors/annual-reporting/annual-report-2023 pg 232
[2] BHP 2023 JORC Statement, https://www.bhp.com/investors/annual-reporting/annual-report-2023 pg 232

Material Assumptions

Whitehaven Coal and its advisors, during the due diligence process, have independently produced production and financial models that verify the material assumptions underpinning the production targets stated in this announcement. A summary of the methodology used to determine the assumptions is provided in Table 6.

Table 6 – Material Assumptions for Production Targets

Material Assumption	Methodology
Production Forecasts	The LOM schedules were built from first principles by importing the geological model into mine planning software, adding the installed equipment to the model, applying assumptions for maintenance schedules and time usage models and then scheduled by experienced engineers. An independent detailed mine plan and mining schedule was constructed from first principles utilising information obtained and verified during the due diligence process including site visits and management presentations. An experienced advisor (A&B Mylec) was used to construct the saleable production model from the scheduled ROM tonne profile. Bore core data (raw coal, sizing and washability and clean coal composite information) was utilised to develop coal quality models for both mines. WHC's mine plan was utilised to determine washing and blending strategies to develop product tonnage and quality profiles. The models were validated against historical performance. Coal preparation plant throughput rates were constrained to align with installed equipment, with potential upsides tested (upsides were not used to inform the base valuation case).
Costs	Mining cost estimates were derived from first principles utilising the equipment usage, labour and capital profiles associated with the production model. Ex-mine operating costs (such as port, rail, corporate and administration) and sustaining capital costs were also estimated using the same first principles approach. Cost assumptions that were not provided in the due diligence process were derived from WHC or advisor cost databases along with OEM equipment supplier maintenance schedules and corresponding costs. Royalty payments are made to the Queensland Government for coal sold, disposed of or used during a period. Royalties are calculated per mining operation at a percentage of the sales price per ton of coal as per the Queensland Government Royalty brackets. This percentage was applied to the value of coal (sales revenue minus allowable deductions) to determine royalties payable in a period. Final mine closure costs and progressive rehabilitation were included in the cost modelling.
Macro-Economic Assumptions	WHC market intelligence and value in use assessment of forecast coal qualities, together with verification against historical actuals and current contract arrangements was used to determine product type and price relativities. Commodity pricing and foreign exchange rates were derived by adopting Broker Consensus forecasts from June 2023.
Market Analysis	The company develops and secures (from independent third parties) forward-looking views of product demand and supply to inform the commodity price assumptions (including specific consideration to the product quality). The assessment includes reference to historic market dynamics, historical product price realisation compared to index process, expected future supply/demand equilibrium and other macro-economic factors. Third party analysis was conducted by Wood Mackenzie August 2023 and Commodity Insights May 2023 for global metallurgical seaborne supply including Hard, Semi Hard, SSCC & PCI.
Valuation	The economic valuation of the LOM mine plan consisted of an analysis which considered estimated annual cash flows, operating costs, capital expenditure, and royalties and taxes as well as closure costs for the life of mine production schedule. The appropriate weighted average cost of capital was applied based on the WHC business and industry assessments for metallurgical coal producers.

Schedule 1: JORC Reserves and Resources Statement - Blackwater

Competent Person Statement

The information in this report relates to Coal Resources as at 30 June 2023. The resource information is based on and fairly represents information for Blackwater compiled and reviewed by Mr Maurice Passmore.

Mr Maurice Passmore is a full-time employee of BHP Pty Ltd, a shareholder in BHP Pty Ltd and is entitled to participate in BHP's employee share scheme. He is a member of the Australasian Institute of Mining and Metallurgy. Mr Passmore is a qualified geologist and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, to qualify as Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves." Mr Passmore consents to the inclusion in the report of the matters based on the information, in the form and context in which it appears.

The information in this report relates to Coal Reserves as at 30 June 2023. The reserves information is based on and fairly represents information for Blackwater compiled and reviewed by Mr Ryan Campbell.

Mr Ryan Campbell is a full-time employee of BHP Pty Ltd, a shareholder in BHP Pty Ltd and is entitled to participate in BHP's employee share scheme. He is a member of the Australasian Institute of Mining and Metallurgy. Mr Campbell is a qualified Mining Engineer and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, to qualify as Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves." Mr Campbell consents to the inclusion in the report of the matters based on the information, in the form and context in which it appears.

Table A: Blackwater Coal Resources[(1)] as at 30th June 2023 in 100% terms, inclusive of reserves

Mining method[(2)]	Coal type[(3)]	Measured Resources				Indicated Resources				Inferred Resources				Total Resources			
		Mt	%Ash	%VM	%S	Mt	%Ash	%VM	%S	Mt	%Ash	%VM	%S	Mt	%Ash	%VM	%S
OC	Met/Th	308	5.2	29.6	0.42	528	5.5	29.7	0.44	779	6.6	29.8	0.43	1,615	6.0	29.7	0.43
UG	Met/Th									222	7.2	29.1	0.36	222	7.2	29.1	0.36

1. Tonnes are reported as wet metric tonnes on an in situ basis, whereas coal qualities are for a potential product and are on an air-dried basis. VM – volatile matter, S – total sulphur
2. OC – open cut, UG – underground
3. Met – metallurgical coal, Th – thermal coal
4. Minimum seam thickness of 0.5 m for OC and 2.0 m for UG
5. Minimum product yield of 50%

Table B: Blackwater Coal Reserves[(1)] as at 30th June 2023 in 100% terms

Mining method[(3)]	Coal type[(4)]	Proved Reserves	Probable Reserves	Total Reserves	Proved Marketable Reserves[(2)]				Probable Marketable Reserves				Total Marketable Reserves				Reserve life (years)
		Mt	Mt	Mt	Mt	%Ash	%VM	%S	Mt	%Ash	%VM	%S	Mt	%Ash	%VM	%S	
OC	Met/Th	91	121	212	79	8.7	26.3	0.42	104	9.0	25.8	0.41	183	8.9	26.0	0.41	14

1. Tonnes are reported as wet metric tonnes including allowances for diluting materials and for losses that occur when the coal is mined and reported at 4% moisture (standard ROM moisture used for reporting as opposed to actual ROM moisture).
2. Marketable Coal Reserves (tonnes) are the tonnages of coal available at product specification % moisture of 7.5-11.5% for Blackwater.
3. OC – open cut
4. Met – metallurgical coal, Th – thermal coal
5. Calculated reserve life based on approved nominated annual production rate divided by total Coal Reserves
6. Percentage of secondary thermal products for reserves with coal type Met/Th is 2%
7. Geophysically logged, laboratory analysed, cored drillholes with a coal sample linear recovery greater than 95% are used to classify Coal Reserves. Drillhole spacings vary between seams and geological domains, as determined by geostatistical analysis where possible.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Comment
Sampling techniques	• *Nature and quality of sampling (eg 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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.*	Drill sampling has been the only source of analysis for the purposes of resource evaluation and estimation at Blackwater. Core samples were selected at seam, ply, and lithological boundaries with a maximum thickness of 0.5m. Core samples were photographed, bagged, sealed, and labelled before awaiting analysis in cold storage. To ensure representivity of the samples taken, depth adjusting has been completed using downhole geophysics and, in some circumstances, composites have been constructed for analysis to match the modelled horizons as interpreted from geophysical logs. Downhole geophysical measurements are taken for key physical characteristics but only used qualitatively to correlate stratigraphic and structural features. Excepting the interpretation of downhole seam thicknesses, no direct grade-equivalent measurements were made from geophysical data. Raw quality and washability analysis was performed over the sample intervals where minimum sample mass was attained. This reflects the population of key attributes such as ash, volatile matter, and sulphur contents. Clean coal analysis was performed on the modelled composite intervals. Geotechnical samples were taken from non-coal rock mass units in contact with coal seams, where possible. For gas testing, initial field desorption measurements were taken using gas canisters and desorption apparatus, and upon completion of field testing, gas samples were then sent to a specialised gas testing laboratory for further gas content analysis. Limit of oxidation (LOX) samples were the only borehole coal quality analysis performed on non-cored intervals. Rotary air blast chips have been recovered at the surface in 0.3-0.5 m interval samples. The results were used to inform the depth to base of weathering horizon. All borehole sampling has been completed using internal procedures which reflect industry standards for Coal Deposits.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).*	Exploration drilling has been conducted using standardised procedures for all drilling styles within the following techniques and purposes. • Rotary air blast drilling was used for structure / stratigraphy definition; limit of oxidation (LOX) sampling; groundwater monitoring; and pre-collaring core holes. • Conventional coring has been used to produce 100-200 mm core diameters for coal quality and washability sampling. • Wireline coring has been used at HQ3 size for geotechnical and gas sampling, whereas PQ3 size has been used to supplement coal quality and washability sampling.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample*	Recovered core was reconciled to the geophysical seam interval to establish a linear core recovery percentage. Before the acquisition of downhole geophysics became a ubiquitous practice, core loss was calculated per run of core by reconciling the recovered core against the drilled interval measured by the drilling contractor. Core photography at 0.5 m intervals has also been commonly used to evaluate the condition of sampled intervals. Where recovery has not exceeded 90% the analysis has only been included in the resource estimation at the discretion of the CP.

Criteria	JORC Code explanation	Comment
	recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	There is no known relationship between sample recovery and grade (coal brightness or coking properties). Sample bias due to preferential loss / gain of fine or coarse material has been effectively controlled by the assessment of the mechanical state of samples used.
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	Lithological logging of exploration boreholes was undertaken in accordance with standardised procedures and guidelines. Cored intervals were logged to the nearest centimetre and coal intervals were depth corrected to match interpreted lithological boundaries identified from geophysical logs. Geotechnical logging of continuous HQ3 core also includes the detailed observation and interpretation of defects and discontinuities with respect to orientation, aperture, and persistence. Since the mid 1990's all exploration boreholes have been geophysically logged by a combination of borehole sondes including, but not limited to: calliper, natural gamma, density, verticality, as well as sonic and resistivity below the borehole water level. Geotechnical core logging is also supplemented by the structural interpretation of acoustic and optical televiewer logs. For the relevant horizons, 8,685 m of coal quality core samples have been included directly in the resource estimation and 100% of these intervals have been lithology logged. It is the opinion of the Competent Person that the logging completed is of sufficient quality to support the Coal Resource estimate.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Quality analysis has been performed on the whole core to ensure that minimum sample mass requirements have been met. Non-core samples were never taken for the purpose of resource estimation. Samples have been crushed and air-dried before a portion was taken for raw analysis and washability analysis. The remaining sample portions were then physically composited, where required, for clean coal analysis to be completed according to specific product recipes. This does not constitute sub-sampling for the purposes of quality control. In the opinion of the CP the industry standard sample selection, preparation, and minimum mass requirements are suitable to support Coal Resource estimation given the "grain size" of the material being sampled.
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.* • *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.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable*	All coal quality laboratory tests were performed in duplicate using national and international standards and the average of the two individual testings has been reported. Each standard contains a precision statement for repeatability (r), the difference between duplicates, same operator same day, and reproducibility (R) the maximum difference between two different laboratories. If the duplicate analysis was beyond the "r" and / or "R" limits, then the results were rejected and the sample was re-analysed, in duplicate, again. Preliminary analytical results from the laboratory were checked by the resource geologist or Competent Person to ensure that they are acceptable with respect to the following criteria: Raw and product composite analysis results: • Proximate analysis data sum to 100%; and • All content results are within acceptable percentage ranges. • Mathematical checks by regression:

Criteria	JORC Code explanation	Comment
	levels of accuracy (ie lack of bias) and precision have been established.	○ Ash vs Calculated Relative Density (from the float/sink density cut point); ○ Ash vs RD; ○ Ash vs CV (where appropriate); ○ Ash fusion Temp vs Basicity Index; Washability analysis results: • Inverse Mid-Point RD vs Ash; • Fractional mass % add to 100; Product composite analysis results: • Maximum Dilation vs Max Fluidity; • Hydrogen vs Carbon; • Ash vs CV; • Ash Fusion Temp vs Basicity Index; Laboratories internal quality control was managed, primarily, using charts which plot the difference between duplicates for a standard reference material each time it was analysed. The standard reference material was analysed as an unknown within a standard batch of jobs. QC charts were maintained for each test method in the laboratory and were reviewed during the laboratory audits undertaken by NATA and in-house Geometallurgy representatives. To further test the QC performance of the external laboratories used for coal quality analysis; blind samples and round robins were routinely requested to be undertaken. Blind samples were sent monthly, and the round robins were undertaken six monthly. Z-scores were used to assess each result reported by the laboratories and blind samples and round robin results were saved to a centralised document repository. If any results were found to be outside of the acceptable limits, a corrective action was required to be completed. A facility's proficiency testing results, and any corrective actions which followed an investigation, were reviewed during the laboratory audits. Additionally, NATA reviewed corrective action registers during surveillance and reassessment visits. To ensure that all the equipment utilised by the different laboratories have provided consistent and reliable results; calibration checks were routinely completed. The NATA accreditation and reassessment audits assess the laboratories against the following standards: • General Equipment – Calibration and Checks; and • Reference Equipment – Calibration and Checks. These documents specify the calibration interval, checking intervals, general comments, and details on any reference standards.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	Due to the nature of coal deposits only coal seam intersections could be considered significant. Because of the stratigraphic continuity of coal seams, they can readily be verified by other geoscientists from the data collected during exploration. Geophysical downhole logs including density, natural gamma, and televiewer logs are routinely used by the Competent Person to validate resource correlations during the structure modelling process. Twinned coal quality holes have never been planned or used for the purposes of verification due to the relatively low variability of coal seam properties when appropriately correlated. Where local-scale quality variations have been observed they were commonly tested with infill quality drilling to support stratigraphic trends or identify potential outlier values. Field data and laboratory data were transmitted digitally to the database. The relational database, housing the geological information, has been stored in a SQL server architecture where borehole data is stored in different tables, such as, collar,

Criteria	JORC Code explanation	Comment
		survey, lithology, sample, quality, geotechnical, gas, and wireline geophysical log data. Additionally, core photos, geophysical survey, and televiewer data have been stored on a dedicated centralised server. Collar, downhole survey, lithology, sample, and analysis tables are linked by project and site ID (BH number) primary key fields within in-built data integrity rules. All boreholes require collar details before additional data can be loaded and for coal quality data, samples must exist in the sample table before coal quality data can be loaded. The progress of exploration data from planning to finalisation of the borehole was tracked in the database via the status attributes described below: • In Progress – Coring was underway, and all coal quality core was in the process of being measured, photographed, and recorded at the drill site. • Drilled – Coring has been completed and all core collected was dispatched to the laboratory cold storage. Downhole geophysics were then collected to enable sampling, core recovery validation, and depth correction. • Logged - The core has been lithology logged and samples have been selected and photographed. • Adjusted – The seam and lithology intervals have been depth adjusted using downhole geophysical logs and all data was submitted for review by resource geologist or CP. • Validated – Borehole data has been validated and accepted by the resource geologist or, at which point the data became available for structure modelling. Requests for analysis (RFA) for each sample and composite interval were then completed and sent to analysing lab and geometallurgy team for review. Additional checks were performed by the laboratory when the RFA was received to ensure that each sample has sufficient mass against reported to satisfy analysis requirements and reported sample dimensions. • Finalised - Lab analysis has been received and reviewed by a geometallurgist and project geologist. Data was then made available for coal quality and washability modelling. All exploration data was rigorously validated prior to the borehole status being finalised. Moisture and density are the only data adjusted for the resource estimates using ACARP (Australian Coal Association Research Program) industry standard techniques to convert to an in situ basis.
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	The surface location and elevation of each borehole was recorded by a surveyor registered under the Surveyors Act 2003. The borehole locations are tied to the state control survey network and heights are related to the Australian height datum. Survey accuracy meets the requirements of the Petroleum and Gas (Production and Safety) Regulation 2004 and data was stored using Australian Map Grid ‘66, Zone 55, based on the Australian Geodetic Datum ’66. Borehole collars and geophysical survey locations are surveyed using differential GPS (Global Positioning System) with accuracy of sub decimetre for easting, northing and elevation measures. There is lesser degree of confidence in the survey accuracy of legacy borehole collars due to the limitations of methods and survey control used at the time. These boreholes have been typically re-drilled to modern standards where required to support the resource estimation. Exploration sites were mapped on the Australian Mapping Grid (AMG), which is the standard Universal Transverse Mercator (UTM) Grid coordinate system derived from the Australian Geodetic Datum (AGD) and used for Australian national mapping (1966-1994). The unit of measure is the international metre. Blackwater Mine has a digital elevation model (DEM) created from the latest available aerial survey in combination with regular LIDAR surveys updates. The accuracy of the DEM is typically +/- 100mm and for LiDAR +/- 50mm. The spatial team has provided resource geologists with latest data for topographic modelling. For downhole verticality survey (deviation) the sonde manufacturer’s stated accuracies are: Magnetic deviation sonde:

Criteria	JORC Code explanation	Comment
		• Dip = +/- 0.5 degrees • Azimuth = +/- 2 degrees Gyroscopic deviation sonde: • Dip = +/- 1 degrees • Azimuth = +/- 2 degrees
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	Whilst no Exploration Results have been publicly reported, the drillhole data spacings used provide points of observation (POB) which are sufficiently numbered and distributed to establish and classify Coal Resources and Coal Reserves ahead of active mining. Drillhole spacing analysis, for the purpose of resource classification, is a specific geostatistical study using composited analysis intervals to represent the horizons of interest. The spacings established for POB's were greatly supplemented by structure / stratigraphic drillholes which support only the volumetric estimation of the resource.
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.* • *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.*	Coal quality boreholes were drilled vertically which, when combined with the generally consistent and shallow dips of the strata, has resulted in an effectively unbiased sampling of the coal horizons. Televiewer logs were routinely acquired for coal quality boreholes, allowing stratigraphic dip and seam thickness to be independently assessed to further support near perpendicular sampling of coal strata.
Sample security	• *The measures taken to ensure sample security.*	All sampling has been completed following strict technical guidelines and procedures. Sample numbers were recorded directly into the database and sample submission forms generated at the point of sampling. Upon receipt of each sample the laboratory has captured the details into the sample receival log and sent the updated log to the geometallurgist to advise stakeholders that samples had been received and instructions were to be generated. At the completion of testing, the laboratory LIMS database generated analysis files which were transmitted digitally to the geometallurgist for review and approval by the resource geologist or CP, before data was uploaded to the database.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	All geologists conducting logging and sampling were assessed as competent against the relevant technical guidelines and procedures prior to completing these tasks unsupervised. Informal peer reviews and audits were routinely completed against these guidelines. In addition, the voracity of all data was assessed by the resource geologist prior to use in geological models. The geometallurgists conducted technical audits on each external laboratory according to a predefined schedule. These audits reviewed all facets of the laboratory's operation to ensure methods, equipment, personnel, QC, calibration, result validation and reporting were fit for purpose. Should the contract laboratory not have met performance expectations, written notification of the failure would have been provided. This notification would normally take the form of a Corrective Action Request (CAR) or a customer complaint notice. All sub-contractors are immediately re-assessed in the event of a CAR being raised.

JORC Code, 2012 Edition – Table 1

Section 2 Reporting of Exploration Results

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

Exploration Results are not being reported

Criteria	JORC Code explanation	Comment
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *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.*	The company owns all tenements and manages Mining Leases, Mineral Development Licenses and Exploration Permits for the purposes of coal mining, exploration and the associated infrastructure requirements to support Blackwater operations. See Table 5 below for tenure details. Tenure for which renewals have been lodged are awaiting ministerial approval. All tenure are in good standing with no expected impediments to granting. There are no Native Title issues relating to Surface Areas held by the company at Blackwater and South Blackwater. Blackwater operations have Cultural Heritage Management Plans (CHMP) in place and any undeveloped projects will require CHMP to be negotiated with the relevant Traditional Owners as and when required. Mining activities are listed under Schedule 1 of the Environmental Protection Regulation as an Environmentally Relevant Activity (ERA), requiring an Environmental Authority (EA) under the provisions of the Environmental Protection Act 1994 (EP Act) and granted by the Department of Environment and Science (DES). EA's cover mining activities on areas of Mining Leases for which Surface Area rights are awarded and listed on the EA (all granted leases at the date of issue). EA's include conditions to minimise environmental harm potentially caused by authorised mining activities. These conditions are set out in the EA schedules and originate from the Environmental Impact Study phase of Mining Lease approval and have been altered over time as legislation requires. Further conditions of the EA involve annual reporting and a Financial Assurance held by the Administering Authority equal to value of rehabilitating the Mining Leases until the Administering Authority is satisfied no claim on the assurance is likely. The EP Act requires proposed mining, disturbance and rehabilitation activities are reported in a Progressive Rehabilitation and Closure Plan (PRCP), which must describe measures undertaken to ensure EA conditions are met. Sites are currently transitioning from the previous Plan of Operations to PRCPs. Operating consents are held in the form of Surface Area rights and environmental approvals (Environmental Authority). Expectation to comply with environmental requirements will be met with current strip mining practises where waste material is capped and rehabilitated as per the EA requirements.

Criteria	JORC Code explanation	Comment

Table 5: Blackwater tenure

Tenement	Local name	Purpose	Expiry date	Renewable (conditional)	Total area (ha)	Surface area (ha)
Mineral Development Licence No. 155	Humboldt	Coal Development and Resource Retention	31-Oct-24	YES	8,606.70	NA
Mineral Development Licence No 189	South Blackwater	Coal Development and Resource Retention	30-Apr-27	YES	6,882.10	NA
TOTAL (ha)					15,488.80	NA
Mining Lease No 1759 (CQCA JV)	Blackwater	Coal, Gaseous Hydrocarbons	31-Dec-29	YES	13,525.00	13,522.30
Mining Lease No 1760 (CQCA JV)	Blackwater	Coal, Gaseous Hydrocarbons	31-Dec-29	YES	160.6	160.6
Mining Lease No 1761 (CQCA JV)	Mackenzie River	Coal, Gaseous Hydrocarbons (cutting and constructing thereon water races, drains, dams, reservoirs, tramways, powerlines, and roads to be used in connection with such mining)	31-Jan-30	YES	3.24	3.24
Mining Lease No 1762 (CQCA JV)	South Blackwater	Coal, Gaseous Hydrocarbons	31-Jul-32	YES	7,247.60	6,951.28
Mining Lease No 1767 (SBC)	South Blackwater	Coal	31-Aug-33	YES	1,139.70	1,139.70
Mining Lease No 1771 (SBC)	Sirius Creek	Coal, Gaseous Hydrocarbons	31-Oct-20[1]	YES	7,208.67	7,208.67
Mining Lease No 1772 (SBC)	South Blackwater	Tailings, settling dam, water management	31-Aug-33	YES	77.63	77.63
Mining Lease No 1773 (SBC)	Laleham	Coal, Gaseous Hydrocarbons	31-Aug-33	YES	1,488.00	1,487.77
Mining Lease No 1792 (SBC)	Terang	Coal, Gaseous Hydrocarbons	31-Jan-38	YES	2,406.00	2,405.75
Mining Lease No 1800 (CQCA JV)	Wilpeena	Coal, Gaseous Hydrocarbons	31-May-21[1]	YES	200.27	200.2657
Mining Lease No 1812 (SBC)	Terang No 2	Coal	30-Sep-41	YES	128	128
Mining Lease No 1829 (SBC)	Togara	Coal	31-Mar-21[1]	YES	32	32
Mining Lease No 1860 (SBC)	Togara No 2	Coal, Gaseous Hydrocarbons	31-Mar-24	YES	666.6	666.6
Mining Lease No 1862 (SBC)	Mimosa	Coal	31-Mar-24	YES	628.7	628.7
Mining Lease No 1907 (SBC)	Marshmead	Coal, Gaseous Hydrocarbons	31-Aug-33	YES	844.4	844.4
Mining Lease No 70091 (SBC)	Western	Environmental dam, transport, conveyor, vehicular,	31-Aug-33	YES	809.3	809.3
Mining Lease No 70103 (CQCA JV)	Wilpeena West	Coal	31-May-41	YES	134.7	134.7
Mining Lease No 70104 (CQCA JV)	Sugarloaf	Tailings, settling dam	31-Jul-22[1]	YES	274.1	274.1
Mining Lease No 70139 (SBC)	South Marshmead	Coal	31-Oct-23[1]	YES	946.3	946.3
Mining Lease No 70167 (SBC)	Humboldt	Coal	31-Jan-23[1]	YES	3,754.10	3,754.10
Mining Lease No 70329 (CQCA JV)	Comet	Road, Access, Right of Way, Mine Waste, Spoil Dumps, Tailings, Settling Dam, Transport - Vehicular - Haul Road, Water Management	31-Aug-37	YES	324.6	324.6
TOTAL (ha)					41,999.51	41,700.00
Mining Lease No 700069 (SBC)	Kennedy North	Coal	29/11/2021[2]	TBD	57.26	57.26
Mining Lease No 700070 (SBC)	Comet Downs	Coal	29/11/2021[2]	TBD	5,913.6	5,913.6
Mining Lease No 700071 (SBC)	Ganadero	Coal	26/11/2021[2]	TBD	9,182.3	9,182.3
TOTAL (ha)					15,153.16	15,153.16

1. Renewal lodged
2. Application

Criteria	JORC Code explanation	Comment
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Multiple exploration drilling programmes have been undertaken, in recent years the overall drilling program being relatively consistent in terms of the total annual drilling to support ongoing mining activities. All drilling has been completed by either BHP or Utah (prior to 1984). The Queensland Government has also completed exploration across the company property.
Geology	• *Deposit type, geological setting and style of mineralisation.*	**Regional Geology** The Blackwater deposit is located in the southern part of the Permo-Triassic Bowen Basin containing principally fluviatile and some marine sediments. The Bowen Basin extends for more than 250 kilometres north to south and up to 200 kilometres east to west and is related to a group of Permo-Triassic basins in eastern Australia. The Bowen Basin's axis orientation is NNW-SSE, roughly parallel to the Palaeozoic continental margin. The basin is situated between stable Devonian to Carboniferous rocks of the Clermont Block to the west and a Devonian to early Permian island arc system, the Eungella-Cracow Mobile belt, to the east (Korsch, Totterdell and Nicoll, 2009). Tectonically, the basin can be divided into NNW-SSE trending platforms or shelves separated by sedimentary troughs. Figure 4 below illustrates the Springsure Shelf, Denison Trough, Collinsville Shelf/Comet Ridge, Taroom Trough, Connors and Auburn Arches (interrupted by the Gogango Overfolded Zone) and the Marlborough Trough. Development of the basin in the Early Permian occurred as a series of half-grabens that subsequently became areas of regional crustal sag. Coals accumulated throughout almost all of the Permian and Triassic, initially around the basin margins and in isolated sites, and throughout the entire basin during the Late Permian (Brakel, 1989). Regionally, the Permo-Triassic sediments of the Bowen Basin are overlain by a veneer of unconsolidated Quaternary alluvium and colluvium, poorly consolidated Tertiary (Cenozoic) sediments and, in places, remnants of Tertiary basalt flows. The basin has suffered extensional and compression events oriented in northeast-southwest direction. Variations in depositional patterns and deformation styles that occur along strike suggest the possibility of north-east trending deep seated crustal transfer faults, referred to as a 'transfer corridor' by Hammond (1987). This structural evolution of the basin occurred in five phases: 1. Late Carboniferous to Early Permian tensional basin development (rifting). 2. Late Permian thermal relaxation and slow subsidence resulting in widespread accumulation of coal bearing sequences. 3. Late Triassic compression, resulting in folding and reverse faulting. 4. Cretaceous to Tertiary normal faulting due to extension associated with the opening of the Coral Sea. 5. Tertiary hot spots resulting in thermal doming and collapse. Widespread intrusion\ extrusion of basalt dykes, sills and flows.

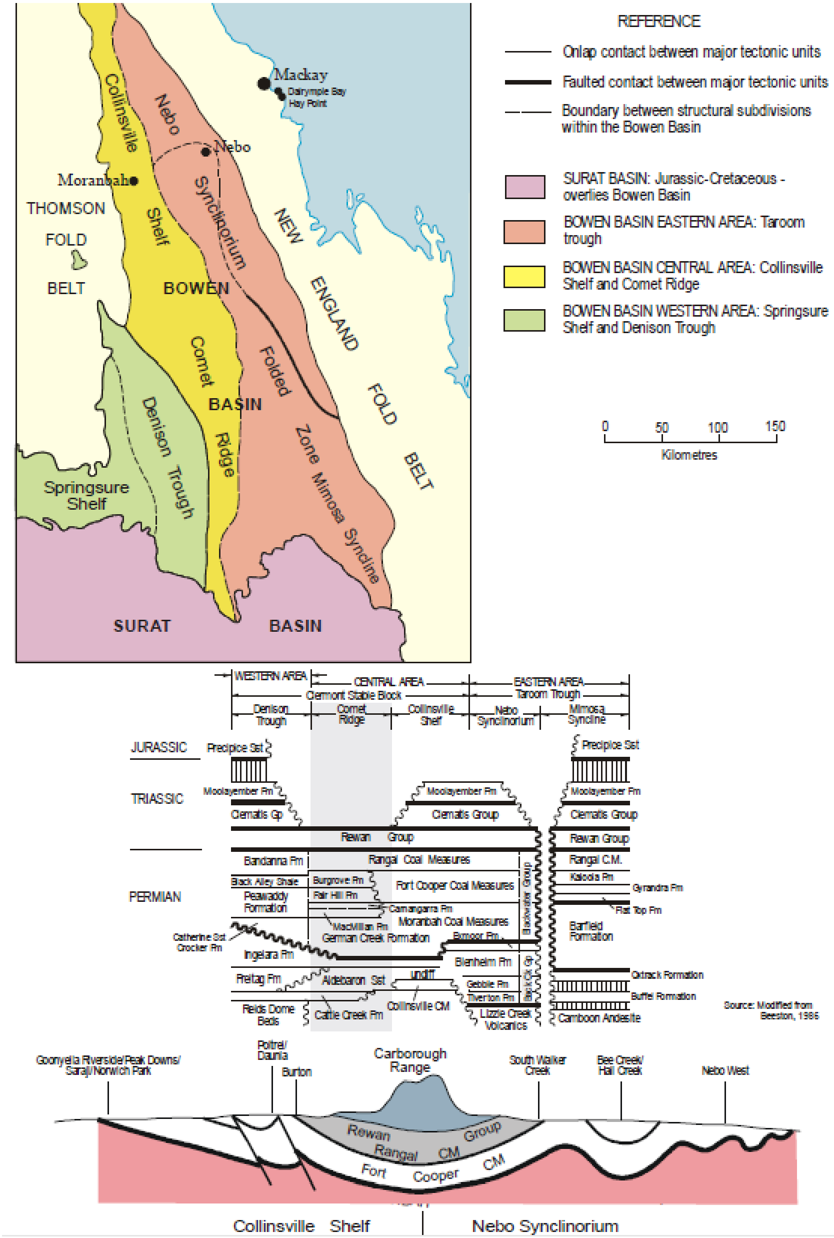
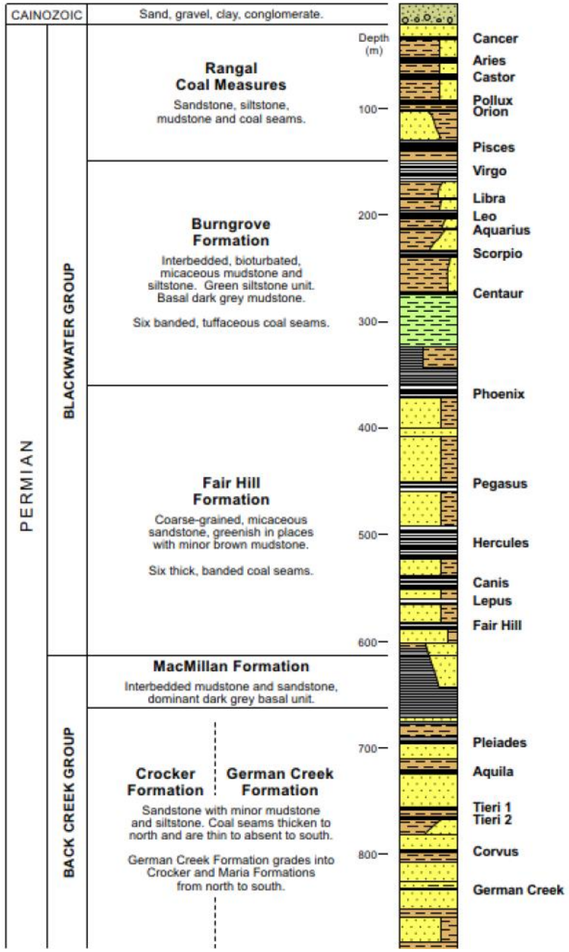
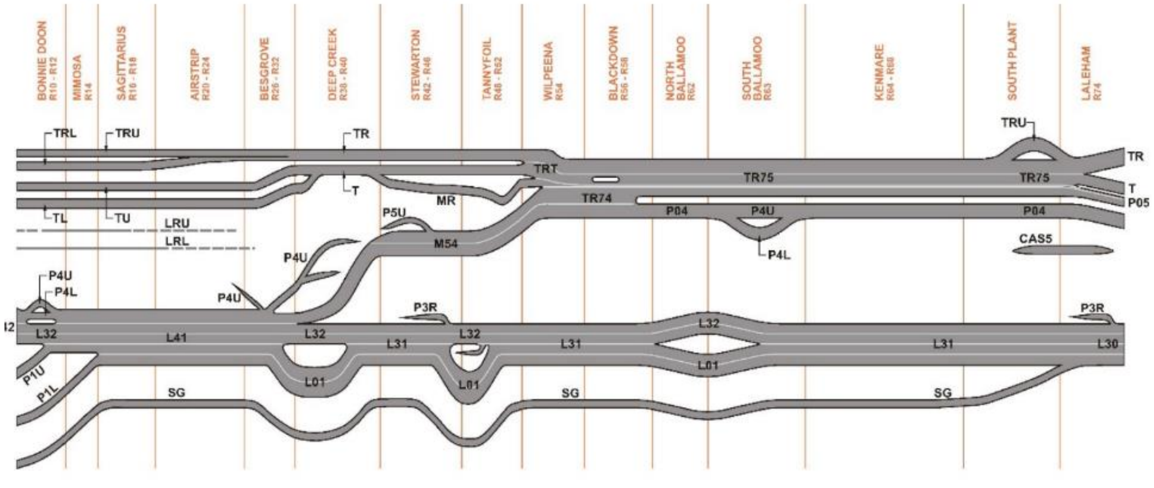


Figure 4: Tectonic troughs, shelves and stratigraphy of the Bowen Basin

Criteria	JORC Code explanation	Comment
		Local Geology Blackwater lies on the western limb of the Bowen Basin. The local stratigraphy is shown in Figure 5 below. The significant Late Permian coal bearing units are (in ascending order) the German Creek Formation, Fair Hill Formation, and Rangal Coal Measures. These are overlain unconformably by sandstones, mudstones and siltstones of the Triassic Rewan Group, and clay, sand and basalts of the Cenozoic. The coal deposits are also affected by intrusion of basic to acidic sills and dykes.  ***Figure 5: Generalised stratigraphy of the Blackwater, Bowen Basin*** Blackwater mine is located on the eastern flanks of the Comet Ridge, which is a major regional anticline.

Criteria	JORC Code explanation	Comment
		<u>Stratigraphy</u> The major stratigraphic units are the Late Permian Rangal Coal Measures and Burngrove Formation. The Rangal Coal Measures were deposited over the Burngrove Formation and subsequently covered by either Early Triassic sediments (Rewan Formation) or Cenozoic volcanic and sedimentary rocks of up to 60 metres thickness (Macpherson & Gupta, 2013). Three major coal seam packages extend for an approximately 80 kilometres strike length north/south along the deposit. The major coal seams extend down-dip for at least 2 kilometres. <u>Structure</u> There are two major structural trends at Blackwater; NNW- SSE and east-west. Several stages of tensional and compressional deformation have manifested complex, normal, and reverse faulting with throws less than 10 metres to over 30 metres, in some structures. <u>Coal seams</u> The economic coal seams are contained within the Rangal Coal Measures. The coal measures consist of coal, mudstone, siltstone, claystone, and sandstone and include three major low-ash coal horizons, which split and coalesce along strike as shown in Figure 6 below. The three primary seams are the Top, Middle and Lower Seams. The equivalent seams in South Blackwater are Ares, Castor and Argo Seams. The Argo Seam is split into Pollux and Orion over much of the southern Blackwater area. The Top Seam is typically between 0.5–3.5 metres thick. The Middle Seam is generally between 1–3 metres thick. The Lower Seam has a thickness of between 2–6 metres. The strata at Blackwater Mine strikes north/south and dip towards the east at an average of 3–5 degrees. Steeper dips are found associated with faulting.  ***Figure 6: Blackwater seam stratigraphy***

Criteria	JORC Code explanation	Comment
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:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	The Blackwater deposit has been extensively drilled over an extended period of time and mining operations have been ongoing since 1970. The maturity of understanding of the deposit is high. No Exploration Results form part of this release for Coal Resources and Coal Reserves and summary drillhole information is not considered material with over 23,000 drillholes supporting the resources and reserves.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	As Exploration Results are not included in this report, data aggregation and borehole intercepts are also excluded. Coal quality samples are either modelled as plies or composited to seam using appropriate sample weightings depending on the quality being composited. Metal equivalent reporting is not relevant for coal deposits.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	Majority of boreholes are vertical and aligned to the general flat dip of the stratigraphy, including the coal seams. Downhole geophysics including verticality have been run since the 1990's. Verticality is used to analyse deviation of the drillholes in the modelling software to provide accurate horizontal and vertical location of lithological contacts.
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.*	Exploration Results are not included in this release, no diagrams or tables of intercepts are included.

Table 6: Summary of drilling

Core holes (number)	Core holes (metres)	Chip holes (number)	Chip holes (metres)	Other holes (number)	Other holes (metres)	Total holes (number)	Total holes (metres)	Total assay (metres)
982	101,387	22,203	1,821,412	482	24,487	23,667	1,947,286	23,774

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
<tr><td>Balanced reporting</td><td>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.</td><td>Exploration Results are not included in this release.</td></tr>
<tr><td>Other substantive exploration data</td><td>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.</td><td>Exploration, other than drilling, comprises airborne and ground-based geophysical surveys along with 2D and 3D seismic surveys. The work is used to improve understanding of seam continuity and to define structure that may be inefficient to resolve with exploration drilling alone. However, exploration drilling and sampling remains the primary method used for resource characterisation and resource estimation.
The following geophysical survey methods have been used to target specific areas of the deposit.
Magnetic surveys were undertaken to map the magnetic intensity of the geology and was used to identify intrusions and structures.
Seismic surveys were used for defining sub-surface structures and to optimise exploration drilling for underground, and open-cut mines.
Electromagnetic surveys were undertaken to map the conductivity of the subsurface in 3D. The surveys were useful to map sub-surface hydrology, structures, oxidation limits and heat affected coal that has been impacted by intrusive bodies.
Magnetic surveys have been conducted using both ground-based and airborne (rotary and fixed wing) techniques. Airborne magnetic surveys collect magnetic and radiometric data. A Targeted Airborne Magnetic Survey was conducted at Blackwater (May 2010). Details of surveys completed are tabled below.
Table 7: Geophysical survey details for Blackwater<table><tr><th>Airborne magnetic (km^2)</th><th>Ground magnetic (km^2)</th><th>2D seismic (km)</th><th>3D seismic (km^2)</th></tr><tr><td>211</td><td></td><td>215</td><td>29</td></tr></table></td></tr>
<tr><td>Further work</td><td>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).
Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</td><td>Ongoing structural and coal quality infill drilling is planned and aligned with the 5-year plan and mine schedule to address geological risk and uncertainty in the plan.</td></tr>
</table>

JORC Code, 2012 Edition – Table 1

Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Comment
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	During the modelling process the seam intervals and quality data are checked for anomalies and outliers by graphical (plan view and section views, contouring, etc.) and statistical means. If, after checking, the data is deemed unreliable it is excluded from the model. Data validation is covered in Section 1 Sampling Techniques and Data – *verification of sampling and assaying.*
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	Site visits have been made by the Competent Person in the last fiscal year to understand geology (structure and coal quality) with the progression of mining and identify opportunities for improvement. There are regular feedback sessions and collaboration meetings with mine geologists, geotechnical engineers, planning geologists and mining engineers. This aids in the understanding of geology deviations and their impacts. Risk assessments are required to mitigate any impacts, for planning adjustments and drive continuous improvement.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	There is a high degree of confidence in the geological interpretation for the Blackwater deposit. The interpretations are completed using multiple data sets, drillholes, seismic (2D/3D) where available, downhole and surface geophysical data sets, mine geology data involving high wall picks, top and floor of coal infill and blast hole data. These data sets are cumulatively fed into the geological model process from life of asset to short term and are continuously reconciled and updated as added information becomes available. Each data stream has a robust QA/QC process and has confidence attributed, supporting the interpretation spatially. Uncertainty of key parameters are mapped in SMU (selective mining unit) scale using conditional simulations to understand different geological domains for a given seam/parameter. The goal is to de-risk the production plan by optimizing infill data collection and improve stability in short term planning through increased understanding of confidences locally. Multiple factors affect the structure and grade of the coal deposits which are not limited to post and syn-tectonic events leading to regional and local extensional and compressional structures and discontinuities, along with its effect on depositional environment and diagenesis of coal. These factors, cumulative or in isolation, result in different seam/parameters trends for example high and low ash pockets, varying phosphorous concentrations and calcite mineralization along faults. These features are proactively recorded and mapped to understand local geological domains and its effect on mine production and are also geostatistically correlated.
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	The strata at Blackwater mine strike north/south and dip towards the east at an average of 3–5 degrees. The Coal Resources extend 80 km along strike and up to 6 km east within the tenement boundaries. The Coal Resources exist from the base of Tertiary unconformity to around 220m depth.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted*	Modelling was carried out using Vulcan™ geological modelling software package to create grid models using a series of modelling scripts. These scripts reference specific parameter files to accommodate minor variations in modelling requirements. A number of different grid models are produced when creating resource estimations and typically have grid cell sizes between 25 m x 25 m and 100 m x 100 m. These include: • Structural Model – topography, horizons, seams, plies, work sections

Criteria	JORC Code explanation	Comment
	estimation method was chosen include a description of computer software and parameters used. • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• Coal Quality Model – Coal seam quality parameters • Coal Washability Model – prepared using an in-house standardisation tool to calculate cumulative ash and yield values at specified densities sized, fractional results. The addition of partings and aggregation is applied as per seam correlations. These are then interpolated into 2D grid models within Vulcan™. No by-products exist at Blackwater Mine and as such no assumptions have been made. Table 8 (below)

Table 8: Raw coal properties

Field name	Parameter description
RAWCRD	Relative Density (lab)
INSIRD	Relative Density (in situ)
ADMOIS	Moisture (inherent)
INMOIS	Moisture (in situ)
MOHOCP	Moisture Holding Capacity (is)
ASHADB	Ash
CSN	CSN
VMADB	Volatile Matter (ad)
VMDAF	Volatile Matter (daf)
TTSADB	Sulphur Content (ad)
PHSADB	Phosphorus (ad)
LGFLDD	Log fluidity
TOTALK	Total Alkali % Ash in ash
BI	Basicity index
MBI	Modified Basicity Index
HGI	Hardgrove Grindability
SEADB	Specific Energy, Kcal/Kg (ad)
RINIT	Initial Deformation Temp. (Reducing)
RSPHER	Spherical Temp. (Reducing)
RHEMSP	Hemispherical Temp. (Reducing)
RFLOW	Flow Temperature (Reducing)
CHLADB	Chlorine
SiO_2	SiO_2
Al_2O_3	Al_2O_3
Fe_2O_3	Fe_2O_3
TiO_2	TiO_2

Criteria	JORC Code explanation	Comment

CaO	CaO
MgO	MgO
Na_2O	Na_2O
K_2O	K_2O
P_2O_5	P_2O_5
Mn_3O_4	Mn_3O_4
FLUORI	Fluorine

Table 9: Clean coal properties

Field name	Parameter description
ADMOIS	Moisture (inherent)
ASHADB	Ash
CSN	CSN
VMADB	Volatile Matter (ad)
VMDAF	Volatile Matter (daf)
TTSADB	Sulphur Content (ad)
PHSADB	Phosphorus (ad)
LGFLDD	Log fluidity
TDL	Dilatation (Total)
TOTALK	Total Alkali % Ash in ash
BI	Basicity index
MBI	Modified Basicity Index
REFLEC	Reflectance (ROMAX)
CSR2	CSR
TOTVIT	Vitrinite (Total)
FLTYLD	Yield (ad)
SEADB	Specific Energy, Kcal/Kg (ad)
RINIT	Initial Deformation Temperature (Reducing)
RSPHER	Spherical Temperature (Reducing)
RHEMSP	Hemispherical Temperature (Reducing)
RFLOW	Flow Temperature (Reducing)
FLUORI	Fluorine
SiO_2	SiO_2

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Al_2O_3</td><td>Al_2O_3</td></tr>
<tr><td>Fe_2O_3</td><td>Fe_2O_3</td></tr>
<tr><td>TiO_2</td><td>TiO_2</td></tr>
<tr><td>CaO</td><td>CaO</td></tr>
<tr><td>MgO</td><td>MgO</td></tr>
<tr><td>Na_2O</td><td>Na_2O</td></tr>
<tr><td>K_2O</td><td>K_2O</td></tr>
<tr><td>P_2O_5</td><td>P_2O_5</td></tr>
<tr><td>Mn_3O_4</td><td>Mn_3O_4</td></tr>
</table>
The general overview of the procedure for structural modelling is as follows:
• Create topography grid(s)
• Generate ‘base of weathering’, ‘base of Tertiary’ mapfiles and grids
• Generate structure mapfiles for all daughter seams
• Define seam-splitting relationships
• Create / update seam mask limits (also for intrusions)
• Run FixDHD to generate 'fixed' mapfiles
• Analyse mapfiles statistics, investigate and correct anomalies
• Generate thickness grids for all daughter seams
• Generate and validate reference surface grids incorporating fault and survey information
• Generate and validate parent seam models
• Clip seam grids to base of weathering
• Validate structure grids
Quality models are generated in Vulcan™ modelling software using the Inverse Distance (ID) algorithm with a low power (typically 1 to 2). ID is the current coal industry standard method for grid-based quality modelling. Quality parameters of coal in the Bowen Basin generally show low spatial variability (strong spatial continuity) and, as such, inverse distance is appropriate.
Exploratory data analysis, scatter plots, histograms and descriptive statistics are used to understand the spatial variability of coal quality parameters, domaining and outlier values.
Models of the rank related parameters, VM and Ro Max (measure of maximum vitrinite reflectance) are trended (Order 1) as their values are related to increases with increasing depth. It is suggested that Log Fluidity values be viewed as indicative only as values decrease with increasing sample oxidisation.
</td></tr>
<tr><td>Moisture</td><td>• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</td><td>Resource tonnes are reported on an in-situ basis. To calculate in situ tonnages, thickness is multiplied by resource area and by in situ density. The Preston and Sanders method is used to adjust air dried density to bed moisture density to provide in situ tonnages. The calculation process for in situ moisture (M_{is}) as estimated from Moisture Holding Capacity (MHC) models, using formula 5.2 proposed in ACARP study C10041.
$$M_{is} = 1.1431xMHC_{high} + 0.348$$
</td></tr>
</table>

Criteria	JORC Code explanation	Comment
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	General cut-off parameters include: • A 10m (approximate) exclusion zone was applied around dykes indicated by magnetic surveys. Delineated sill areas are also excluded. • Minimum mineable seam thickness of 0.5 m for open cut resources, unless indicated otherwise by economic assessment. • Minimum coal thickness for underground longwall mining of 2 m. ***Table 10: Resource factors considered in determining reasonable prospects for eventual economic extraction*** <table><tr><th>Resource limit (open cut)</th><th>Resource limit (underground)</th><th>Cut-off parameters</th><th>Metallurgical factors</th></tr><tr><td>LoA study</td><td>Lease boundary, resource estimation guidelines</td><td>Minimum seam thickness 0.3 m OC, 2.0 m UG Maximum parting thickness 0.3 m</td><td>Raw ash 40% Yield 50%</td></tr></table>
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	The following assumptions and constraints were applied for open cut resource determination: • The open cut limit is determined from either the Life of Asset (LoA) or by calculating a break-even vertical strip ratio limit using general economic assumption. • The up-dip limit of resources was either the mined-out areas or if unmined, the fully fresh lox line or a nominal fresh coal thickness line. • Narrow corridors and permanent bridges down dip of the current face positions are considered a resource as they could be mined by extending the adjacent strip. Underground resources at Blackwater have only been estimated outside the LOA extents and within the defined Resource limits of the L31 parent seam. Mid-burden thicknesses are considered to ensure extraction of multiple seams that are close together is conceptually feasible.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• Resources are only estimated for seams with product yields of at least 50 per cent (there may be instances where seams of lower yield may be carried by other seams. These exceptions are included in the estimation documentation). • A maximum raw ash content of 40 per cent was applied.

Criteria	JORC Code explanation	Comment
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	The environmental factors in relation to active mining areas are all considered in the Coal Reserves section of this report. No specific environment considerations have been included in the estimation of Coal Resources.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Resource tonnes are reported on an in-situ basis. To calculate in situ tonnages, thickness is multiplied by resource area and by in situ density. The Preston and Sanders method is used to adjust air dried density to bed moisture density to provide in situ tonnages. The calculation process for in situ moisture and in situ density is: $M_{is} = 1.1431xMHC_{high} + 0.348$ Modelled Relative Density (RD(ad)) values are those from laboratory testing on an air-dried basis or values calculated from a site specific raw ash / RD regression. The Preston and Sanders formula is then used to estimate in situ relative density from inherent moisture (M(ad)) and in situ moisture (M(is)) as follows: $RD_{is} = \frac{RD_{ad}x(100 - M_{ad})}{((100 + RD_{ad})x(M_{is} - M_{ad})) - M_{is}}$ The calculated in situ density is then used to calculate in situ coal tonnes.

Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*
	• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*
	• *Whether the result appropriately reflects the Competent Person's view of the deposit.*
		A basic overview of techniques is demonstrated below:
		• Model area established.
		• Create resource polygons:
		  ○ Generate points of observation; and
		  ○ Generate resource polygons using drill hole spacing analysis;
		• Generate property polygons; and
		• Vulcan computes the resource within the individual polygons.
		Results are tabulated / filtered according to categories. Coal Resources are reported by the following subdivisions:
		• Lease;

Criteria	JORC Code explanation	Comment
		• Mining method (open cut or underground); • Resource status (i.e. whether Inclusive or Exclusive of Reserves); • Product Type (optional - agreed with site / marketing). • Classification by resource category **Points of observation** The Coal Guidelines define points of observation as "sections of coal-bearing strata, at known locations, which provide information about the coal by observation, measurement and/or testing. They allow the presence of coal to be unambiguously determined". Because both tonnage and coal quality must be known to the same level of confidence, standard practice requires valid points of observation to have the following attributes: • Geophysical logging; • Cored and with sample analyses pertinent to the coal product being quoted as resource; • At least 95 per cent linear core recovery for the target seam. Exceptions to the attributes above are only after an appropriate technical assessment conducted by the relevant modelling geologist. Supportive data, such as seismic surveys, also provide evidence of continuity. Where the coal requires, or is likely to require washing, the analyses should include washed yield data. The recent update to the coal guidelines has sub-divided points of observation further: "*Points of Observation may be classed by Quantity or Coal Quality. Each class should be clearly tabulated and presented in plans on a seam-by-seam basis*". The Competent Person may vary from the above Point of Observation definition but must state the basis for such variation. **Resource classification** The classification of Coal Resources into Measured, Indicated or Inferred confidence categories is based on the distance from valid points of observation. The preference is that the distances from points of observation used to classify the resource, should be based on a geostatistical analysis of the coal quality. The initial classification polygons created based on the points of observation are reviewed by the Competent Person and adjusted where appropriate, to consider other potential sources of geological uncertainty, e.g., structure, intrusions and seam splits. **Confidence classification using geostatistics** The company uses geostatistics in resource confidence classification where the appropriate geostatistical data and studies allow. Coal Seams and their quality variables have different continuity and variability across the deposit. Drill hole spacing analysis (DHSA), using the global estimation variance method, helps in understanding the variations in estimation precision (uncertainty) across the deposit for different seam / variable / domain configurations. The DHSA technique provides quantitative measures of the precision with which quality and volume variables can be estimated. The methodology for estimation involves the following steps: • Exploratory data analysis and variography are completed for the available sampling data (and where appropriate, domaining may also be applied to achieve stationarity); • The continuity and variability of a specific area and variable are characterized by the variogram model. DHSA uses the variogram model to determine the estimation variance for a single block/cell size; • The annual area mined (or uncovered) is required as an input into the DHSA process. This gives the size of the area for the global estimate.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
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The practice for coal Resource classification is to derive global estimation precision for the variable thickness and raw ash over a five-year period and to apply the resource categories tabled below.

Table 11: Resource classification categories
<table>
<tr><th>Classification</th><th>Precision @ 95% confidence interval</th></tr>
<tr><td>Measured</td><td><10%</td></tr>
<tr><td>Indicated</td><td>>10% and <20%</td></tr>
<tr><td>Inferred</td><td>>20% and <50%</td></tr>
</table>
Drill hole spacings used in resource classification as compiled for all seams, and the criteria used to determine them, are listed in the table below.

Table 12: Drill hole spacings used in Resource classification
<table>
<tr><th rowspan="2">Seam</th><th colspan="3">Maximum drill hole spacing (metres)</th></tr>
<tr><th>Measured</th><th>Indicated</th><th>Inferred</th></tr>
<tr><td>P1L</td><td>600</td><td>1000</td><td>2600</td></tr>
<tr><td>P1U</td><td>700</td><td>1250</td><td>3200</td></tr>
<tr><td>P02</td><td>700</td><td>1500</td><td>3700</td></tr>
<tr><td>P03</td><td>600</td><td>1250</td><td>3100</td></tr>
<tr><td>P04</td><td>600</td><td>1250</td><td>3100</td></tr>
<tr><td>P05</td><td>900</td><td>1750</td><td>4400</td></tr>
<tr><td>T Group</td><td>600</td><td>1000</td><td>2600</td></tr>
</table>
</td></tr>
<tr><td>Audits or reviews</td><td>• The results of any audits or reviews of Mineral Resource estimates.</td><td>Resource estimates are reviewed annually via the company's risk review assurance process. The review endorsed the estimates, as being completed suitable for public reporting. Prior to reporting, any outstanding issues identified in any reviews are addressed.</td></tr>
<tr><td>Discussion of relative accuracy/ confidence</td><td>• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of</td><td>The Coal Resource is a subset of Inventory Coal where there are reasonable prospects for eventual economic extraction. Company practice interprets reasonable prospects for economic extraction to mean realistic prospects of a coal seam being mined and marketed within a timeframe of up to 50 years from the time of assessment.
The Company utilises The Australian Guidelines for Estimation and Classification of Coal Resources (2014) to guide its Competent Persons in the resource estimation process. The company’s practice for Coal Resource classification is to derive global estimation precision of the estimates for thickness and raw ash variables over a five-year period and to apply the following resource categories for classification:
• Measured is up to +/- 10 % error @ 95 % confidence.
• Indicated is from +/- 10 % to +/- 20 % error @ 95 % confidence; and</td></tr>
</table>

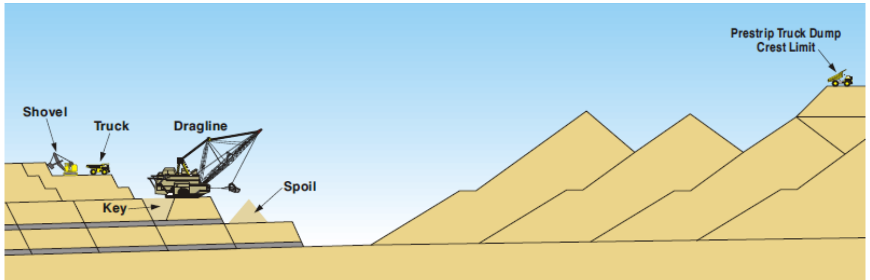
Criteria	JORC Code explanation	Comment
	the factors that could affect the relative accuracy and confidence of the estimate. • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• Inferred is from +/- 20 % to +/- 50 % error @ 95 % confidence. Details as to the quality / quantity of coal on deposit relate to global estimates. Tonnages and quality variability is investigated on the active operations via short term exploration activities. Reconciliation of mine production data is completed to confirm global accuracy of the resource estimates.

JORC Code, 2012 Edition – Table 1

Section 4 Estimation and Reporting of Ore Reserves

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

Criteria	JORC Code explanation	Comment
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	The same resource models used to determine the Blackwater Coal Resource are used by the mine planning department to determine Coal Reserves through the application of modifying factors. Optimised mining models (pit designs) are developed using the geological resource models and industry standard mine design software. The designs incorporate a range of parameters and operational specifications to ensure Company's design standards are met. The material qualities and quantities derived in the mining models are then imported into an optimization scheduling tool where an optimal mine plan is generated. LoA mine schedules are run at annual increments and consumes the designed mine in an optimized sequence. Each LoA schedule contains many linked sequences which are evaluated and balanced to satisfy scenario criteria. Coal Resources are stated inclusive of the Coal Reserve.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	The Competent Person makes regular site visits to engage the site leadership team on LoA plans and strategic mine planning decisions. Visits include pit inspections of areas relevant to recent and future LoA plans.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	Blackwater mine is currently in operation and has been actively mining coal since 1967. The mine plan that supports the Coal Reserve estimation is technically achievable and economically viable once all relevant and material modifying factors have been applied. Future capital projects associated with the Blackwater operations are equivalent to Pre-Feasibility study level in-order to contribute to the reserves.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	The cut-off ratio used for reporting Coal Reserves is determined by the deposit characteristics and the maximum strip ratio which can be sustained by the product generated to market specification. Blackwater Mine have a range of products options aligned to the site's resource quality. Product quality specification limits are prescribed annually in the site's optimisation model. The optimisation model creates a mining schedule which targets the highest value product which can be attained for each parcel of coal mined. An economic analysis is completed on the nominated mine plan to establish an economic cut-off point from which the Coal Reserve are able to be reported. All Coal Reserves reported are located within the economic threshold. The coal mining seam thickness cut-off for Blackwater Mine is 0.3m, it is the minimum seam thickness included in the reserves. Anything less than minimum thickness will be considered waste. Waste parting cut-off thickness is 0.3m, it is the maximum thickness that will be included in the reserves. Partings thicker than the cut-off will be designated as waste and removed according to the mine plan.

Criteria	JORC Code explanation	Comment
		Coal mining also utilises a cut-off in situ ash limit of 40%. Any in situ coal which is greater than 40% in situ ash will be considered waste.
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	**Mining Method** Open-cut strip mining is the nominated mining method employed across Blackwater Mine. Initial mining operations commence on the sub-crop of the seam using electric rope shovels and hydraulic excavators. The pre-strip fleet will load rear dump trucks (RDTs) to remove waste above the dragline horizon. A fleet of electric walking draglines serve as the primary overburden removal tools and uncover coal in strips orientated along the strike of seams. RDTs dump pre-strip waste onto previously dumped dragline spoil. Mining progresses along strike and down-dip to the lease boundary or to a depth of maximum economic strip ratio. At this point a transition to underground mining may commence. Allowances in design are made for permanent access corridors, major transport corridors and major creek corridors between pits. Previously mined out strips (voids) are progressively backfilled through dragline spoil and/or pre-strip truck dumps. The shape and physical boundaries are aligned to internal closure planning guidance and the final void will be left behind as per legislative guidance. Figure 7 below illustrates the open-cut mining method, including dragline dig and spoil operation, truck and shovel operations and truck dump profile.  ***Figure 7: Illustration of open cut mining method*** The open-cut mining process undertakes the following activity sequence: • land clearing and topsoil removal • overburden/ interburden drilling and blasting • shovel/ excavator and truck stripping • dragline/ dozer stripping • excavator and truck parting removal • pit preparation and dewatering • coal drilling and blasting • coal loading and hauling • coal crushing and processing • reclamation (in pit) and train loading (at CHPP) Pre-strip dumps are designed in 20 m dumps tiers (lifts) with 10 m to 20 m wide benches in between. Under special circumstances (increased material competency), geotechnical approval can be given for 40 m and 60 m dump tiers.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
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Additional Parameters Relevant to Mine Design
<u>Geotechnical Models</u>
Mine plans incorporate slope designs that are of a suitable level of study for the intended purpose and prevailing risk. The geotechnical design process:
• utilises appropriate quality, quantity and spatial distribution of data for the required level of design study
• employs analysis methods that are industry recognised as appropriate for the potential ground control failure mechanisms present
• utilises design acceptance criteria that are compatible with the business safety and economic objectives and required level of design study
• identifies key uncertainties and sensitivities within the design
• identifies any additional risk mitigation measures that are necessary to achieve the required performance (e.g., water management, monitoring plans, high consequence geotechnical management plans)
All geotechnical designs are reviewed and endorsed by a Registered Practising Engineer of Queensland and the site ground control risk owner.
The geotechnical department provides the technical stewardship of the pit design. Blackwater mine has geotechnical strip records that provide a history of mined strips. This includes a validation process to confirm any required changes to design based on geotechnical issues or improvement opportunities. The geotechnical function also provides geotechnical pit layouts for every pit, which set out the design parameters.
Table 13: Blackwater geotechnical parameters
<table>
<tr><th>Strip width (m)</th><th>Highwall angle (degrees)</th><th>Low-wall angle (degrees)</th><th>Highwall berm width (m)</th></tr>
<tr><td>60-70</td><td>45-70</td><td>37</td><td>10-30</td></tr>
</table>
<u>Hydrological Models</u>
Blackwater actively seeks to manage water in a way that supports positive water stewardship and sustainable operations. To support these objectives, hydrological models are used to accurately understand existing water interactions and develop robust plans to support future water management requirements. Within Blackwater, three primary hydrological models are utilised:
• water balance models
• flood models
• groundwater models
Water balance models are utilised to understand water use across the mine site, simulate environmental and physical processes and quantify water in areas where direct measurement is not possible. These models provide the ability to forecast water demand and uses at a mine site level, assess water-storage requirements and manage the risks associated with climate variability.
Flood models are utilised to simulate the processes of rainfall, runoff and their interactions with areas of interest. Flood modelling is used to ensure that the operations feature appropriate levels of flood immunity and support planning of water infrastructure such as culverts, drains and levees.
Groundwater models are developed to assess potential changes to local and/or regional groundwater systems. This enables Blackwater to manage potential impacts to the water resource and to support regulatory requirements. To
</td></tr>
</table>

Criteria	JORC Code explanation	Comment
		develop and maintain the models above, the water planning department executes standardised procedures which outline key steps such as data capture, model update, calibration and reporting. Together these models support the water management plans, engineering design and operational activities which enable the sustainable extraction of the Coal Reserves. <u>Production Rates</u> LoA mine plans are generated annually as part of a Corporate Alignment process. These mine plans underpin the Coal Reserves estimates. Key inputs that could drive changes in the annual production rate and reserve life are: • active strike length • waste stripping and coal extraction capacities • processing plant capacities • supply chain constraints • overall product or market strategy The average annual production may vary throughout the plan based on the input assumptions and may not reflect a mathematical average throughout the total reserve life. LoA mine plans are optimised and economically evaluated to produce production rates, stripping profiles, coal exposure and coal production profiles. <u>Mining Dimensions, Dilution, and Recovery Factors</u> Selective mining unit (SMU) dimensions vary depending on equipment type and size. Excavators and shovels typically dig 5–18 m passes. Draglines typically dig the full interburden waste between two coal seams, which can vary between 25–60 metres. Strips are typically 60 metres in width. The mining process incurs a loss of in situ coal and the addition of out-of-seam dilution to ROM coal. Loss and dilution assumptions applied to the mining model are derived from the LoA mining recoveries and calibrated based on actual mining performance. Coal loss and dilution factors are applied to different coal thicknesses from the low-wall edge, coal roof and coal floor. Quarterly and annual reconciliation of Coal Reserves are completed to assess how well the estimates are performing for the reporting periods. Blackwater historic reconciliation demonstrates how well the estimates compared to actual performance during report periods. The average recovery factor for Blackwater is 89.9% when calculated as a ratio of ROM clean coal component tonnage to in situ coal tonnage. The average dilution factor for Blackwater is 11% when calculated as a ratio of ROM waste component to ROM coal tonnes. <u>Equipment and Personnel</u> Material is primarily moved by Blackwater owned production mining fleets. Additional material movement capacity is achieved using external contractors. The equipment available for use is adequate to support the LoA mine plans based on their demonstrated historical performance along with realised efficiencies over a number of years. Major mining equipment is maintained in on-site maintenance facilities with specialised work performed by facilities located in regional centres. The large draglines undergo a maintenance regime designed to ensure life-of-mine operation. Mine models have considered required dimensions in pit and strip designs relative to SMU size with mining models built to reflect the use of this equipment. Sustaining capital allocation for equipment rebuilds and replacement is considered in the economic analysis of the production plan. The table below provides the production mining fleet used at Blackwater Mine. The mining width applied in pit and pushback designs and SMU size, for mining models, reflect the use of this equipment.

Table 14: Mining fleet used at Blackwater as at 30 June 2023

Process	Fleet type	Equipment	Number of units
Material Movement	Draglines	Medium (8200)	2
		Small (8050)	5
	Electric Shovel	Large (30-50 cu.m)	2
	Excavator	Very large (40-50 cu.m)	2
		Large (30-40 cu.m)	3
		Medium (20-30 cu.m)	1
		Small (<20 cu.m)	2
	Haul Trucks	Large (>270 t)	28
		Medium (200-260 t)	21
	Dozers	Push Dozer (D11)	11
	Wheel Loaders		2
	Surface Drills[1]	Small (<270 mm)	7
Processing facilities	CHPP		2

1. Surface drills include D90KS, DMM3, PV275

<u>Inferred Resource for mining limit definition</u>

Blackwater Mine Coal Reserves were estimated within the economic footprint of the LoA mine plan. The mine plan was determined by assigning revenues to all resource categories including Measured, Indicated and Inferred Coal Resources. Within the reserve economic limit, only Measured and Indicated categories were included in the Coal Reserves.

The use of Inferred Resources for economic valuation is common practice for mine optimisation. The results of a sensitivity analysis indicate the use of Inferred Resources to be immaterial for the first 10 years. Beyond 10 years, the use of Inferred Resources is permitted where the only impediment to resource category upgrade is drillhole spacing, which would be progressively remedied by future business-as-usual exploration cycles. Inferred Resources within the economic footprint of the LoA mine plan (as at 30 June 2023) is 69.6 Mt.

<u>Converting resource models to mining models</u>

Approved resource models are used by the mine planning department to convert Coal Resources to Coal Reserves by the application of modifying factors. The resource models are converted to mining models (pit designs) and mining blocks.

The in situ mining blocks are interrogated against the geological models to attribute each block with quantities and qualities. In situ mining blocks are then processed through an aggregation process to generate ROM mining blocks.

Through the aggregation process some coal blocks may be converted to waste based on cut-off criteria. Aggregation cut-offs (minimum recoverable coal seam thickness and maximum included parting band thickness) are detailed in Section 4 Estimation and Reporting of Ore Reserves – *Cut-off parameters*.

Additional aggregation parameters at Blackwater include:

Criteria	JORC Code explanation	Comment
		(continued below)

- raw qualities (minimum in situ constraints)
- loss and dilution (based on seam and mining method)
- drill and blast (bench thickness constraints)
- system limits (mining method domain constraints)
- system method (assigning material movement properties)

The definition process allocates a mining method to the blocks based on the intended stripping method (pre-strip, dragline and dozer). Mining solids are grouped by material type, location and depth into logical mining units: strips, to reflect the nominated mining method and execution sequence. The grouped strips are available for mine schedules and sequence optimisation.

Mining Model/Pit Optimisation

Pit optimisations are completed to determine the optimal strip orientation and economic extents to guide the pit design process. Optimisation work includes both in-house studies and studies completed by external parties.

Study work evaluates a range of possibilities including pit extents, strip orientation, dragline systems, seam recoveries, haulage optimisations and other parts of the design process. Optimisation tools include Blasor in addition to a number of industry standard 3D mine modelling design packages.

Pit optimisations are periodically updated when there is a material change to the input resource model or price assumptions. Changes from updated optimisations are incorporated into mining models where practicable. Mine planning engineers then use optimisation results to select the most economic and practical pit limits.

Detailed mine designs are completed as an extension of optimisation work and add additional constraints as necessary. This may include domain boundaries such as offsets to lease limits and links to infrastructure.

Open-cut design is based on pit geometries which align with the selected mining method and adhere to geotechnical slope stability recommendations. Typical open-cut parameters for Blackwater tabled below. These design parameters are subject to change based on specific geotechnical recommendations and optimisation outcomes.

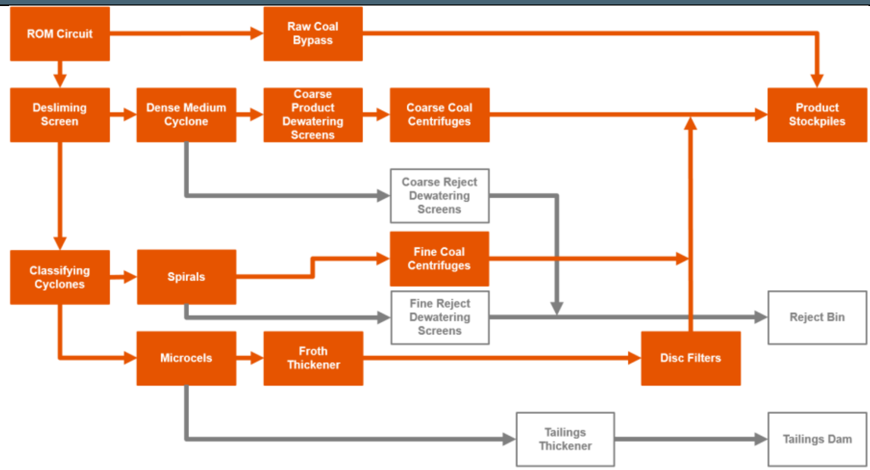
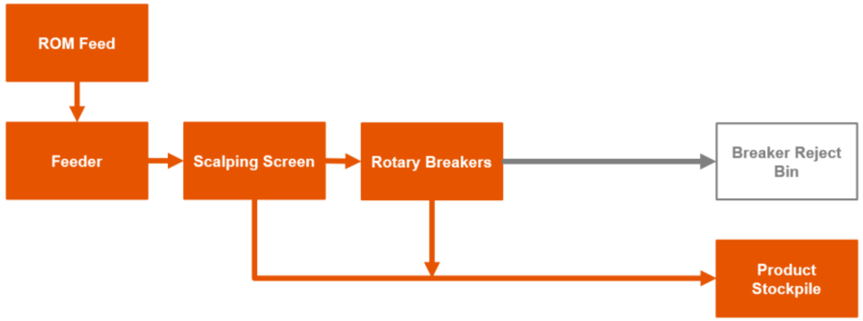
Table 15: Blackwater open-cut design parameters

Mining method (1)	Pre-strip				Dragline/CDX[1]		
	Strip width (m)	Bench depth (m)	Berm width (m)	Dumps (m)	Strip width (m)	Dig depth (2) (m)	Spoil parameters (3) (m)
(TS Dragline	60-70	15	10-30	20 (lifts) 10 (berms)	60-70	60	45 (dig depth) 40 (dump height)

1. TS – truck and shovel/excavator operations, CDX – cast, doze, excavate operations
2. Dig depth will vary based on geology
3. Dump height is at the nominated geotechnical angle of repose

Blackwater pits have been in operation for several years with early mining activity occurring in the lowest strip ratio locations first. Mining activity has since progressed into deeper areas with steadily increasing strip ratios. The ability to continue mining successive strips is partially driven by the coal price and each pit’s economic threshold. This is subject to change depending on the long-term price forecast.

Criteria	JORC Code explanation	Comment
		The economic cut-off for each strip is considered along with relevant optimisation studies and, where practical, the mining models are updated accordingly. Changes made to the mining models are done in cooperation with a range of stakeholders (e.g. geotechnical, mine planning, operational and other functional teams).
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	Blackwater coal is delivered to the processing plant via haul trucks where it is either stockpiled or fed directly into the hoppers for ROM processing. Coal is then processed through a series of wash circuits to prepare coal for beneficiation. The wash circuits use density separation to separate waste material (rock) and ash from the coal. The heavier separated material gets discharged as coarse rejects, while the lighter separated material gets discharged as fine rejects. Some coal may bypass directly to the product coal stockpile. Product coal is stockpiled in preparation for train load out. Large quantities of historical data have allowed development of empirical regressions between feed ash and yields, enabling reliable forecasts on processing performance. Coal recoveries are also a function of the mining process with loss and dilution occurring as seams are exposed and recovered from pits. The application of wash model attributes and loss and dilution assumptions are applied to mining models and evaluated in the LoA mine plan. <u>Blackwater CHPP</u> Blackwater has one ROM coal system that crushes coal and feeds it to the raw coal stockpile via a circular stacker. The raw coal stockpile is reclaimed with a circular reclaimer providing some blending to feed the coal in a controlled manner into the CHPP via a single conveyor. The CHPP feed rate is a maximum of 2,100 tph. The plant is configured as two large modules fed by a single feed belt. Process water is added to turn the raw coal into a slurry which is fed onto two deslime screens. This screen separates the feed into -50 mm to +1.4 mm and -1.4 mm streams. The -1.4 mm is further split using hydro-cyclones onto -2.5 mm to +0.25 mm and -0.25 mm fine feed fractions. The coarse feed is processed using two large 1.3 m diameter Dense Medium Cyclones. Coarse product is rinsed of magnetite using two product drain and rinse screens and then dewatered through four coarse coal centrifuges. Coarse reject is rinsed of magnetite through two reject drain and rinse screens. The mid-size feed is processed in a bank of spirals. The low-density spirals product is de-slimed through a bank of hydro-cyclones and then dewatered with four fine coal centrifuges. The high-density spirals reject is dewatered with two high frequency dewatering screens. The fine feed of -0.25 mm is processed in six Eriez micro cell flotation cells configured as six primary cells. The dewatered coarse coal product, mid-size product and fine coal product is stacked together on the product stockpile. The coarse and mid-size reject is conveyed to the reject bin where it is fed into trucks and disposed of in-pit. The fine reject goes to the tailings thickener where the solids are concentrated and pumped to the in-pit tailings storage facility. The product stockpile is configured into two halves with portal mobile reclaimers that work together to feed the train load out which loads trains at a rate of around 5,000 tph. An image detailing the general flow of the wash circuit at Blackwater CHPP is pictured below.

Criteria	JORC Code explanation	Comment
		 ***Figure 8: General flow of the wash circuit at Blackwater CHPP*** <u>Blackwater Thermal Coal Plant (TCP)</u> Blackwater possesses coal with in situ ash values suitable for sale without the use of a wash facility. As a result, the site operates a separate plant which can crush and size coal and send it directly to the product stockpiles. The bulk of the coal which is processed through this facility is only suitable for sale as a thermal product due to blending constraints. The raw coal is stacked on the TCP product stockpile via a radial stacker. The product stockpile contains under-stockpile vibrating feeders to feed the product onto the train load out belts which feed the train load out (TLO) which loads trains at a rate of around 5,000 tph. An image detailing the general flow of the ROM circuit at Blackwater TCP is pictured below.  ***Figure 9: General flow of the ROM circuit at Blackwater TCP***

Criteria	JORC Code explanation	Comment
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	Blackwater is an operating mine with the necessary environmental approvals in place. Any future environmental approval requirements will be obtained by the Company as required. Blackwater approach to environmental management is governed through rigorous standards and specify the mandatory minimum performance requirements for risk management. These standards have been designed taking account the ISO management system requirements, including ISO14001 for Environmental Management Systems, and set the basis for managing risk, including realising opportunities, to achieve our environmental objectives. The Environment Protection and Biodiversity Conservation Act (1999) is the main governing legislation regulating matters of national environmental significance. For all new or changed projects with a potential to have an impact of environmental significance, the approval process is followed under this legislation. Where required by various environmental approvals, Company has secured environmental offset areas, managed through Environmental Offset Management Plans. Coal mining activities are listed under Schedule 3 of the Environmental Protection Regulation 2019 (Queensland) as an ERA. These activities require an EA under the Environmental Protection Act 1994 and are granted by the Department of Environment and Science. All operations hold an existing EA and each contain a list of granted mining leases and authority to mine. The Company regularly monitors changes to the external legal environment to assess and implement compliance requirements.
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	Blackwater is an operating mine with all necessary infrastructure currently in place. Roads Blackwater mine operation and tenements are easily accessed via public highways and roads with connections to Brisbane, Mackay, Gladstone (each in Queensland, Australia) and the surrounding regional towns. The closest major cities are Mackay and Gladstone, each approximately 200 kilometres east and situated on the Pacific coast. A regional airport located in Emerald provides air service to the mine location and is accessible from the mine sites via public roadways. Rail Blackwater products are sold into the seaborne metallurgical coal market with the mine serviced by a rail system owned and operated by Aurizon Network. Individual trains haul 8,000 to 10,600 tonnes from the mine site to port facilities. Above Rail haulage is provided by Company's Rail, Aurizon Operations and Pacific National. Blackwater mine delivers product coal to the RG Tanna Port (RGCT). Port facilities RGCT is a multi-user port owned by the Ports Corporation of Queensland and commenced operations in 1979. The port has been progressively expanded to handle increasing quantities and includes purpose-built rail in-loading facilities, on-shore stockpile areas and off-shore loading berths. Ships are loaded at one of four loading berths using three ship loaders with a capacity to load 6,000 t/h each. Bulk carriers of varying capacities up to 220,000 dwt can be accommodated at the facility. Power, water and pipelines Electrical power is supplied by Queensland Government owned entities via their extensive supply network. On-site power is distributed via a site distribution network. Water is supplied from four major sources: rainfall and site runoff, on-site storage, pipeline water and tailings return decant water. The availability of each water source is dependent on climate conditions (i.e., seasonal rains and annual wet or dry periods).

Criteria	JORC Code explanation	Comment
		Water demands are primarily driven by operational demands (supporting coal processing and dust suppression) and evaporation from stored water. The amount of evaporation varies with climatic conditions. In an average climate, approximately 30 per cent of water consumption is due to evaporation and 70 per cent is due to operational demands. FY2022 water usage by Blackwater is 6.42GL. Water demands are met through various raw and Mine Affected Water (MAW) pipeline systems. The raw (freshwater) water pipeline network includes Bedford West and Bedford East systems. The network supplies raw water to mine sites including operations, townships, stock and domestic users.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	Coal Reserves are estimated using forward looking revenue and cost forecasts. The operating costs were estimated from using historical equipment productivities and hourly operating costs. These costs were calibrated against recent actuals and budget forecasts. Sustaining and additional capital costs are based on LoA optimised base plan. Royalty payments are made to the Queensland Government for coal sold, disposed of or used during a period. Royalties are calculated per mining operation at a percentage of the sales price per tons of the coal as per the Queensland Government Royalty brackets. This percentage is applied to the value of coal (sales revenue minus allowable deductions) to determine royalties payable in a period. Final mine closure costs have been excluded from the mine life estimate but included in the Net Present Value (NPV) calculations for the LoA optimised mine plans. Closure costs are excluded from mine life calculations to allow determination of the appropriate life-of-mine date.
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	The commodity price of coal varies depending on market supply and demand. Global demand for coal has shifted for a variety of reasons with significant swings in prices observed as a result. Coal products possess a number of physical and chemical properties with each influencing the value in use and the ultimate sale price into markets. The company utilises a standard process for generation of commodity prices and foreign exchange rates used in the evaluation of the LoA mine plan. Commodity prices assumptions take into account various product quality premiums and discounts in relation to the generally traded coal index prices and quality specifications. Blackwater coal products are benchmarked against one of four separate index commodities. The Company's Market Analysis and Economics team track the nominal, calendar month average index prices. Specification for each commodity is detailed in the table below. ***Table 16: Index commodities and specification for Blackwater coal production*** (table below) The ultimate value of Blackwater's coal products is determined by evaluating each coal's technical worth to the entire ironmaking process. Coal qualities can change perceptibly over short distances at Blackwater mine. To combat

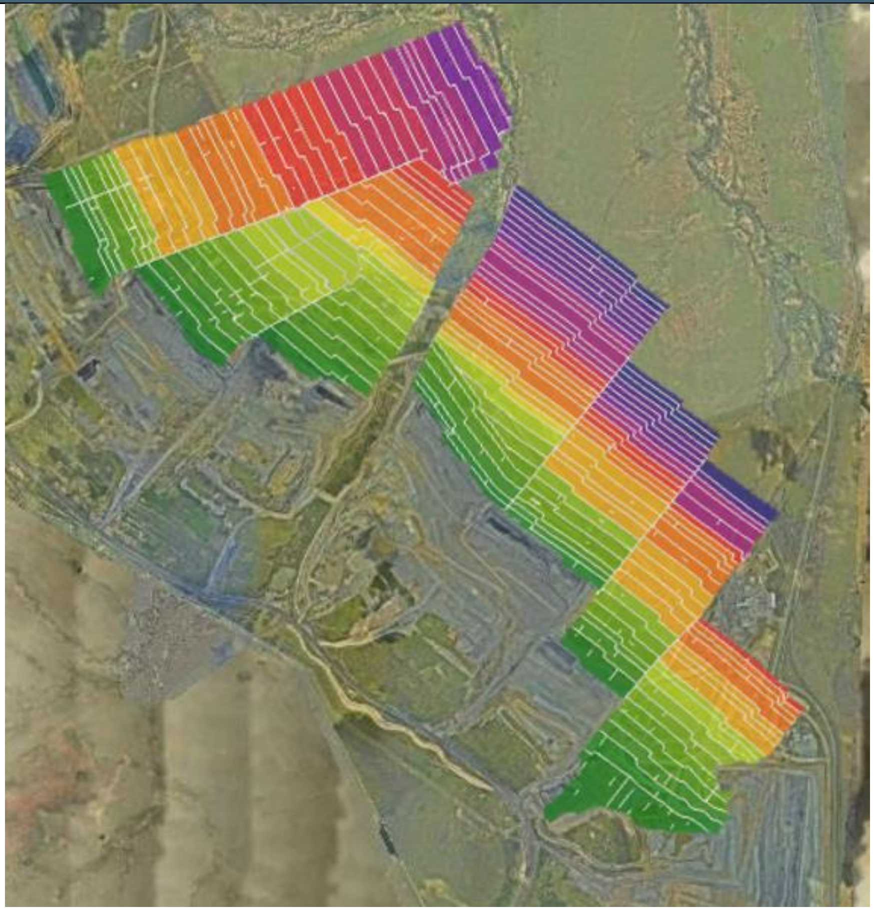
Table 16: Index commodities and specification for Blackwater coal production

Commodity	Specification	Units	Source
Hard Coking Coal	Premium Low Volatile HCC Index (Argus and Platts 50:50)	US$/t	Argus and Platts
Weak Coking Coal	Platts Semi-soft Coking Coal Index FOB	US$/t	Platts
PCI	Platts Low Volatile PCI FOB Australia	US$/t	Platts
Thermal Coal	Newcastle FOB, 6000 kcal/tonne NAR	US$/t	Argus

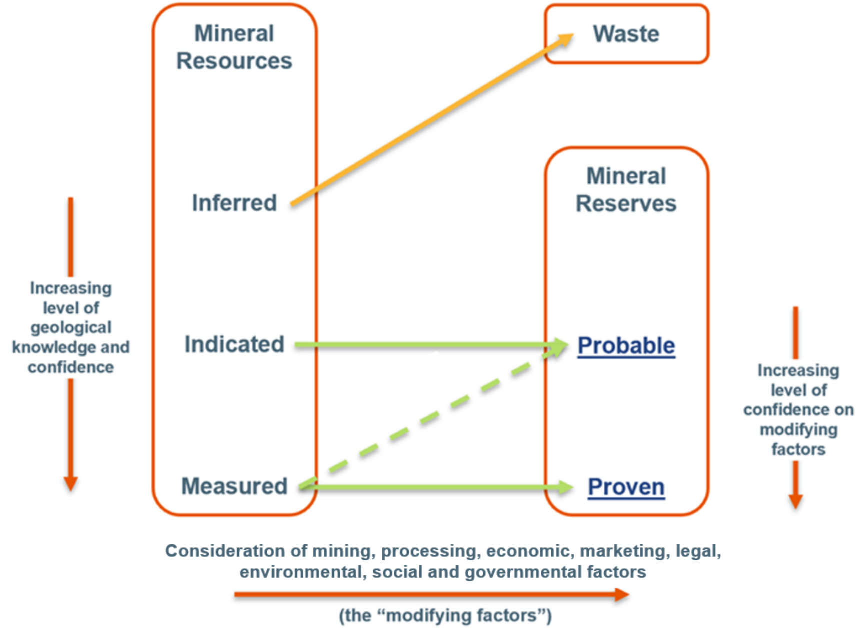
1. BHP BI – BHP, FOB – Free on board, PCI – Pulverised coal injection, NAR – Net as received

Criteria	JORC Code explanation	Comment
		changing qualities, coal can be blended with other coals sourced from different locations to create complimentary blends to meet target specifications. Quality adjustment factors are used to interpret changes of any product coal relative to the index commodity. Blackwater uses relativities to allow for the changing coal qualities observed at the mine site. Indexed commodities are benchmarked using product relativities with the majority of coal produced in the LoA mine plan at Blackwater Mine using the HCC benchmark.
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	The company develops and secures (from independent third parties) forward-looking views of product demand and supply to inform the commodity price assumptions (including specific consideration to the product quality) utilised in the economic evaluation of the LoA mine plan and associated reserve estimations. The assessment includes reference to historic market dynamics, historical product price realisation compared to index process, expected future supply/demand equilibrium and other macro-economic factors. Demand It is expected that the following will drive demand for seaborne metallurgical coal over the long-term: • Growth in India and Southeast Asia underpinned by population growth and urbanisation. • China's import appetite amidst structural decline in steel and pig iron. • Decarbonisation trends in the steel making industry. • Seaborne metallurgical market is expected to grow from 301 Mt in 2021 to slightly over 400 Mt in 2050 (Wood Mackenzie). Further detail is available in *Wood Mackenzie's Global Metallurgical Coal December 2021 Outlook to 2050:* Supply Wood Mackenzie forecasts seaborne metallurgical coal operating capacity to remain above demand until 2027 because of the pandemic and China's ban of Australian coals. Not all capacity is available at short notice but should be able to respond to market signals. A combination of brownfield extensions and Greenfield projects are expected to be required to meet India's growing demand, with a steep requirement post 2035. Project approvals and financing are proving to be challenging and challenges are expected to increase as Environmental, Social, and Governance (ESG) scrutiny intensifies. Australia supply from operating mines and future developments remains critical to metallurgical coal supply. Prior to the beginning of the Russia-Ukraine conflict, Russia was expected to play an increasingly important role in the international supply of metallurgical coals, over the next 30 years. Canada continues to play a key role in global hard coking coal (HCC) supply given its access to the Pacific basin and high-quality reserves. US production continues to produce coals out of the CAPP region and important high CSR HCCs from the SAPP region. Development of metallurgical coals mines is expected to face a growing set of ESG hurdles over our forecast. Regulators in Australia, Canada and the US may apply more rigour in their project reviews compared to other developing countries. For energy coal, despite declining demand post 2023, Wood Mackenzie expects requirement on new project capacity. After accounting for a 6 per cent disruption rate based on historical trends, Wood Mackenzie expects that new projects may be required with immediate effect. It also notes that many producers remain reluctant/uncommitted towards new projects/capacity, with 2020 seeing the lowest level of expansionary capital expenditure in the seaborne market since 2008.

Criteria	JORC Code explanation	Comment
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	The coal resources scheduled in the LoA mine plan must be economically mineable to be compliant for reserves inclusion. The economic valuation of the LoA mine plan is performed where positive cash flow determines the economic footprint of the life-of-mine plan. The economic valuation of the LoA mine plan consists of an analysis which considers estimated annual cash flows, operating costs, capital expenditure, and royalties and taxes for the full production schedule. The analysis reflects the full Blackwater production system and supply chain to mine, process, and transport coal to the point of sale. Blackwater uses Company's proprietary strip-mining optimisation software *Blasor* to create a mining schedule which consumes mining blocks in an optimised strip sequence to deliver the highest possible economic value (ie, highest possible NPV). *Blasor* is based on the industry standard Lerch-Grossman (LG) algorithm. Completed optimisations adhere to all design constraints outlined in the mine model (e.g., geotechnical and intensity limitations). The main criteria used in strip sequence optimisation is as follows: • maximising economic return by sequencing the high value areas early and delaying the low value areas as much as practical • mining strips to support consistent delivery of coal quantity and quality • adhere to optimised mine model specification and overall site strategy • the shape and size of mined strips allow for mining method and access to all levels of the active face • strips sequenced in a manner which support development of new mining areas and rehabilitation of existing pits An example of a strip optimisation from two pits at Blackwater with high value strips (in green) consumed before low value strips (in purple) is shown below.

Criteria	JORC Code explanation	Comment
		 ***Figure 10: Example of Blackwater strip optimisation***
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	Cultural heritage and environmental agreements are described in Section 2 Reporting of Exploration Results – *Mineral tenement and land tenure status*. There are no native title issues relating to surface areas held by the Company and a new Surface Area Application on mining leases where native title may exist, will necessitate process under the Native Title Act.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and*	There are no identified naturally occurring material risks that will have a material impact on the reported reserve. The status of Mineral Tenements is outlined in Section 2 Reporting of Exploration Results – *Mineral tenement and land tenure status*.

Criteria	JORC Code explanation	Comment
	approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	Coal Resource classification is assigned to the mining models at a ply level by interrogating mining blocks against the resource category polygons supplied with the resource models (Section 3 Estimation and Reporting of Mineral Resources – *Classification*). Resource classifications are assigned based on the proportion of each mining block within the resource classification polygons (i.e., Measured, Indicated and Inferred). Blackwater mine has a standard approach to Coal Reserve classification where Proven Coal Reserves are derived from Measured Coal Resources. Probable Coal Reserves are derived from Indicated Coal Resources after the application of all relevant modifying factors. Inferred Coal Resource and unclassified material are not included as reserves. Reserve definitions are as follows: • A Proven Coal Reserve is the economically mineable part of a Measured Coal Resource and implies a high degree of confidence in the modifying factors. • A Probable Coal Reserve is the economically mineable part of an Indicated and in some circumstances a Measured Coal Resource. The confidence in the modifying factors applying to a Probable Coal Reserve is lower than that applying to a Proven Coal Reserve.

Criteria	JORC Code explanation	Comment
		 ***Figure 11: Coal Reserve classification*** The Coal Reserve classification reflects the Competent Person's view of the deposit. No Probable Coal Reserves have been derived from Measured Resources.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	<u>Internal Reviews</u> Annual risk reviews are conducted jointly by assets and the Company's Resource Centre of Excellence to ensure significant and material risks to tenure, Coal Resources and Coal Reserves are adequately managed. The risk review process identifies key reporting changes regarding the annual declaration of Coal Resources and Coal Reserves and agreed actions requiring completion prior to annual reporting. Issues and opportunities identified during the risk reviews may initiate further internal or external reviews. <u>External Audits</u> External audits of the Coal Resource and Coal Reserve estimates occur periodically and if there is a material change to the estimate. It is the Competent Persons' opinion that assurance activities undertaken provide confidence that there are no material errors related to the estimation and reporting of Coal Resources and Coal Reserves.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the*	Blackwater's Coal Resources and Reserves have been estimated on a site level basis and the risks in these estimates are reflected through the resource and reserve classification applied. However, significant departure from estimated values may occur locally due to unknown faulting or increased local variability in specific coal quality parameters (examples include phosphorus and sulphur). These anomalies, should they occur, are addressed by collaboration

Criteria	JORC Code explanation	Comment
	Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	between the mine planning, resource modelling and exploration teams and, as part of the production process. Significant risks or uncertainties have been addressed appropriately in the estimation of the Coal Reserves. Other areas of uncertainties that may materially impact the Coal Reserve estimation include: • changes in the long-term coal commodity prices • changes to exchange rates from US$ to AU$ • changes in the operating costs and sustaining capital cost assumptions • variations in the geotechnical and geological assumptions • Company's capacity to maintain and obtain environmental approvals including a continuing social license to operate There are, at times, fluctuations in the global metallurgical coal market. The nature of Blackwater's high quality coal deposits, the understanding of these deposits and robust processes surrounding resource integrity provide the Competent Person with confidence of sustained long-term economic viability despite this risk of price fluctuation. Blackwater also has supply chain security and off-take agreements and contracts for many cost items and sales contracts that are expected to protect the viability of the project in the long-term. Sensitivities have been run on these key cost and revenue items to validate their suitability for estimation. Reconciliation of tonnes and qualities are carried out on a quarterly basis to determine the relative accuracy/ confidence in the Coal Reserve estimations and related classifications. Full year reconciliation results are conducted on a calendar basis to align with reporting requirements. The reconciliation process tests the accuracy and reasonable predictions of the models used to plan future mining. This process also provides quantitative feedback into the appropriateness of our resource classifications which are key inputs to the Coal Reserve estimations. Factors evaluated through the reconciliation process include geological, processing, blending and other relevant modifying factors. Blackwater uses factors to reconcile coal tonnes and grades at predefined points of the mining process against those estimated in the mining model used for reserve estimation. The three reconciliation factors are defined as: • F1 tests the validity of the geological interpretation, quality estimation, and modifying factors that inform the Mining Model. • F2 is primarily a test of the accuracy and efficiency of extraction activities. • F3 is a test of Company's ability to deliver the tonnage and grade of saleable product as predicted in the Mining Model.

Schedule 2: JORC Reserves and Resources Statement - Daunia

Competent Person Statement

The information in this report relates to Coal Resources as at 30 June 2023. The resource information is based on and fairly represents information for Daunia compiled and reviewed by Mr Ben Wesley.

Mr Ben Wesley is a full-time employee of BHP Pty Ltd and a shareholder in BHP Pty Ltd and is entitled to participate in BHP's employee share scheme. He is a member of the Australasian Institute of Mining and Metallurgy. Mr Wesley is a qualified geologist and has sufficient experience which is relevant to the type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person, as defined in the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.” Mr Wesley consents to the inclusion in the report of the matters based on the information, in the form and context in which it appears.

The information in this report relates to Coal Reserves as at 30 June 2023. The reserves information is based on and fairly represents information for Daunia compiled and reviewed by Mr Gerardo Bustos.

Mr Gerardo Bustos is a full-time employee of BHP Pty Ltd a shareholder in BHP Pty Ltd and is entitled to participate in BHP's employee share scheme. He is a member of the Australasian Institute of Mining and Metallurgy. Mr Bustos is a qualified Mining Engineer and has sufficient experience which is relevant to the type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person, as defined in the 2012 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.” Mr Bustos consents to the inclusion in the report of the matters based on the information, in the form and context in which it appears.

Table C: *Daunia Coal Resources[1] as at 30th June 2023 in 100% terms, inclusive of reserves*

Mining method[2]	Coal type[3]	Measured Resources				Indicated Resources				Inferred Resources				Total Resources			
		Mt	%Ash	%VM	%S	Mt	%Ash	%VM	%S	Mt	%Ash	%VM	%S	Mt	%Ash	%VM	%S
OC	Met/Th	87	12.9	20.2	0.42	19	18.8	18.9	0.43	9	30.2	17.1	0.35	115	15.1	19.8	0.42

1. Tonnes are reported as wet metric tonnes on an in situ basis, whereas coal qualities are for a potential product and are on an air-dried basis. VM – volatile matter, S – total sulphur
2. OC – open cut
3. Met – metallurgical coal, Th – thermal coal
4. Minimum seam thickness of 0.3 m

Table D: *Daunia Coal Reserves[1] as at 30th June 2023 in 100% terms*

Mining method[3]	Coal type[4]	Proved Reserves	Probable Reserves	Total Reserves	Proved Marketable Reserves[2]				Probable Marketable Reserves				Total Marketable Reserves				Reserve life (years)[5]
		Mt	Mt	Mt	Mt	%Ash	%VM	%S	Mt	%Ash	%VM	%S	Mt	%Ash	%VM	%S	
OC	Met/Th[6]	68	13	81	56	8.1	20.4	0.34	11	9.0	20.1	0.31	67	8.2	20.4	0.34	16

1. Tonnes are reported as wet metric tonnes including allowances for diluting materials and for losses that occur when the coal is mined and reported at 4% moisture (standard ROM moisture used for reporting as opposed to actual ROM moisture).
2. Marketable Coal Reserves (tonnes) are the tonnages of coal available at product specification % moisture of 10-10.5% for Daunia.
3. OC – open cut
4. Met – metallurgical coal, Th – thermal coal
5. Calculated reserve life based on approved nominated annual production rate divided by total Coal Reserves
6. Percentage of secondary Thermal products for reserves with coal type Met/Th is 8%

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Comment
Sampling techniques	• *Nature and quality of sampling (eg 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.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg '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 (eg submarine nodules) may warrant disclosure of detailed information.*	Drill sampling has been the only source of analysis for the purposes of resource evaluation and estimation at Daunia. Core samples were selected at seam, ply, and lithological boundaries with a maximum thickness of 0.5m. Core samples were photographed, bagged, sealed, and labelled before awaiting analysis in cold storage. To ensure representivity of the samples taken, depth adjusting has been completed using downhole geophysics and, in some circumstances, composites have been constructed for analysis to match the modelled horizons as interpreted from geophysical logs. Downhole geophysical measurements are taken for key physical characteristics but only used qualitatively to correlate stratigraphic and structural features. Excepting the interpretation of downhole seam thicknesses, no direct grade-equivalent measurements were made from geophysical data. Raw quality and washability analysis was performed over the sample intervals where minimum sample mass was attained. This reflects the population of key attributes such as ash, volatile matter, and sulphur contents. Clean coal analysis was performed on the modelled composite intervals. Geotechnical samples were taken from non-coal rock mass units in contact with coal seams, where possible. For gas testing, initial field desorption measurements were taken using gas canisters and desorption apparatus, and upon completion of field testing, gas samples were then sent to a specialised gas testing laboratory for further gas content analysis. Limit of oxidation (LOX) samples were the only borehole coal quality analysis performed on non-cored intervals. Rotary air blast chips have been recovered at the surface in 0.3-0.5 m interval samples. The results were used to inform the depth to base of weathering horizon. All borehole sampling has been completed using internal procedures which reflect industry standards for Coal Deposits.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).*	Exploration drilling has been conducted using standardised procedures for all drilling styles within the following techniques and purposes. • Rotary air blast drilling was used for structure / stratigraphy definition; limit of oxidation (LOX) sampling; groundwater monitoring; and pre-collaring core holes. • Conventional coring has been used to produce 100-200 mm core diameters for coal quality and washability sampling. • Wireline coring has been used at HQ3 size for geotechnical and gas sampling, whereas PQ3 size has been used to supplement coal quality and washability sampling.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the*	Recovered core was reconciled to the geophysical seam interval to establish a linear core recovery percentage. Before the acquisition of downhole geophysics became a ubiquitous practice, core loss was calculated per run of core by reconciling the recovered core against the drilled interval measured by the drilling contractor. Core photography at 0.5 m

Criteria	JORC Code explanation	Comment
	samples. • *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.*	intervals has also been commonly used to evaluate the condition of sampled intervals. Where recovery has not exceeded 90% the analysis has only been included in the resource estimation at the discretion of the CP. There is no known relationship between sample recovery and grade (coal brightness or coking properties). Sample bias due to preferential loss / gain of fine or coarse material has been effectively controlled by the assessment of the mechanical state of samples used.
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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	Lithological logging of exploration boreholes was undertaken in accordance with standardised procedures and guidelines. Cored intervals were logged to the nearest centimetre and coal intervals were depth corrected to match interpreted lithological boundaries identified from geophysical logs. Geotechnical logging of continuous HQ3 core also includes the detailed observation and interpretation of defects and discontinuities with respect to orientation, aperture, and persistence. Since the mid 1990's all exploration boreholes have been geophysically logged by a combination of borehole sondes including, but not limited to: calliper, natural gamma, density, verticality, as well as sonic and resistivity below the borehole water level. Geotechnical core logging is also supplemented by the structural interpretation of acoustic and optical televiewer logs. For the relevant horizons, 1,042 m of coal quality core samples have been included directly in the resource estimation and 100% of these intervals have been lithology logged. It is the opinion of the Competent Person that the logging completed is of sufficient quality to support the Coal Resource estimate.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *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.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Quality analysis has been performed on the whole core to ensure that minimum sample mass requirements have been met. Non-core samples were never taken for the purpose of resource estimation. Samples have been crushed and air-dried before a portion was taken for raw analysis and washability analysis. The remaining sample portions were then physically composited, where required, for clean coal analysis to be completed according to specific product recipes. This does not constitute sub-sampling for the purposes of quality control. In the opinion of the CP the industry standard sample selection, preparation, and minimum mass requirements are suitable to support Coal Resource estimation given the "grain size" of the material being sampled.
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.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations*	All coal quality laboratory tests were performed in duplicate using national and international standards and the average of the two individual testings has been reported. Each standard contains a precision statement for repeatability (r), the difference between duplicates, same operator same day, and reproducibility (R) the maximum difference between two different laboratories. If the duplicate analysis was beyond the "r" and / or "R" limits, then the results were rejected and the sample was re-analysed, in duplicate, again. Preliminary analytical results from the laboratory were checked by the resource geologist or Competent Person to ensure that they are acceptable with respect to the following criteria:

Criteria	JORC Code explanation	Comment

	factors applied and their derivation, etc.
	• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*
		Raw and product composite analysis results:
		• Proximate analysis data sum to 100%; and
		• All content results are within acceptable percentage ranges.
		• Mathematical checks by regression:
		  ○ Ash vs Calculated Relative Density (from the float/sink density cut point);
		  ○ Ash vs RD;
		  ○ Ash vs CV (where appropriate);
		  ○ Ash fusion Temp vs Basicity Index;
		Washability analysis results:
		• Inverse Mid-Point RD vs Ash;
		• Fractional mass % add to 100;
		Product composite analysis results:
		• Maximum Dilation vs Max Fluidity;
		• Hydrogen vs Carbon;
		• Ash vs CV;
		• Ash Fusion Temp vs Basicity Index;
		Laboratories internal quality control was managed, primarily, using charts which plot the difference between duplicates for a standard reference material each time it was analysed. The standard reference material was analysed as an unknown within a standard batch of jobs. QC charts were maintained for each test method in the laboratory and were reviewed during the laboratory audits undertaken by NATA and in-house Geometallurgy representatives.
		To further test the QC performance of the external laboratories used for coal quality analysis; blind samples and round robins were routinely requested to be undertaken. Blind samples were sent monthly, and the round robins were undertaken six monthly. Z-scores were used to assess each result reported by the laboratories and blind samples and round robin results were saved to a centralised document repository. If any results were found to be outside of the acceptable limits, a corrective action was required to be completed. A facility's proficiency testing results, and any corrective actions which followed an investigation, were reviewed during the laboratory audits. Additionally, NATA reviewed corrective action registers during surveillance and reassessment visits.
		To ensure that all the equipment utilised by the different laboratories have provided consistent and reliable results; calibration checks were routinely completed. The NATA accreditation and reassessment audits assess the laboratories against the following standards:
		• General Equipment – Calibration and Checks; and
		• Reference Equipment – Calibration and Checks.
		These documents specify the calibration interval, checking intervals, general comments, and details on any reference standards.

Verification of sampling	• *The verification of significant intersections by either independent or alternative company personnel.*	Due to the nature of coal deposits only coal seam intersections could be considered significant. Because of the stratigraphic continuity of coal seams, they can readily be verified by other geoscientists from the data collected during exploration. Geophysical downhole logs including density, natural gamma, and televiewer logs are routinely used by the

Criteria	JORC Code explanation	Comment
and assaying	• *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	Competent Person to validate resource correlations during the structure modelling process. Twinned coal quality holes have never been planned or used for the purposes of verification due to the relatively low variability of coal seam properties when appropriately correlated. Where local-scale quality variations have been observed they were commonly tested with infill quality drilling to support stratigraphic trends or identify potential outlier values. Field data and laboratory data were transmitted digitally to the database. The relational database, housing the geological information, has been stored in a SQL server architecture where borehole data is stored in different tables, such as, collar, survey, lithology, sample, quality, geotechnical, gas, and wireline geophysical log data. Additionally, core photos, geophysical survey, and televiewer data have been stored on a dedicated centralised server. Collar, downhole survey, lithology, sample, and analysis tables are linked by project and site ID (BH number) primary key fields within in-built data integrity rules. All boreholes require collar details before additional data can be loaded and for coal quality data, samples must exist in the sample table before coal quality data can be loaded. The progress of exploration data from planning to finalisation of the borehole was tracked in the database via the status attributes described below: • In Progress – Coring was underway, and all coal quality core was in the process of being measured, photographed, and recorded at the drill site. • Drilled – Coring has been completed and all core collected was dispatched to the laboratory cold storage. Downhole geophysics were then collected to enable sampling, core recovery validation, and depth correction. • Logged - The core has been lithology logged and samples have been selected and photographed. • Adjusted – The seam and lithology intervals have been depth adjusted using downhole geophysical logs and all data was submitted for review by resource geologist or CP. • Validated – Borehole data has been validated and accepted by the resource geologist or, at which point the data became available for structure modelling. Requests for analysis (RFA) for each sample and composite interval were then completed and sent to analysing lab and geometallurgy team for review. Additional checks were performed by the laboratory when the RFA was received to ensure that each sample has sufficient mass against reported to satisfy analysis requirements and reported sample dimensions. • Finalised - Lab analysis has been received and reviewed by a geometallurgist and project geologist. Data was then made available for coal quality and washability modelling. All exploration data was rigorously validated prior to the borehole status being finalised. Moisture and density are the only data adjusted for the resource estimates using ACARP (Australian Coal Association Research Program) industry standard techniques to convert to an in situ basis.
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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	The surface location and elevation of each borehole was recorded by a surveyor registered under the Surveyors Act 2003. The borehole locations are tied to the state control survey network and heights are related to the Australian height datum. Survey accuracy meets the requirements of the Petroleum and Gas (Production and Safety) Regulation 2004 and data was stored using Australian Map Grid '84, Zone 55, based on the Australian Geodetic Datum '84. Borehole collars and geophysical survey locations are surveyed using differential GPS (Global Positioning System) with accuracy of sub decimetre for easting, northing and elevation measures. There is lesser degree of confidence in the survey accuracy of legacy borehole collars due to the limitations of methods and survey control used at the time. These boreholes have been typically re-drilled to modern standards where required to support the resource estimation.

Criteria	JORC Code explanation	Comment
		Exploration sites were mapped on the Australian Mapping Grid (AMG), which is the standard Universal Transverse Mercator (UTM) Grid coordinate system derived from the Australian Geodetic Datum (AGD) and used for Australian national mapping (1966-1994). The unit of measure is the international metre. Daunia Mine has a digital elevation model (DEM) created from the latest available aerial survey in combination with regular LIDAR surveys updates. The accuracy of the DEM is typically +/- 100mm and for LiDAR +/- 50mm. The spatial team has provided resource geologists with latest data for topographic modelling. For downhole verticality survey (deviation) the sonde manufacturer's stated accuracies are: Magnetic deviation sonde: • Dip = +/- 0.5 degrees • Azimuth = +/- 2 degrees Gyroscopic deviation sonde: • Dip = +/- 1 degrees Azimuth = +/- 2 degrees
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	Whilst no Exploration Results have been publicly reported, the drillhole data spacings used provide points of observation (POB) which are sufficiently numbered and distributed to establish and classify Coal Resources and Coal Reserves ahead of active mining. Drillhole spacing analysis, for the purpose of resource classification, is a specific geostatistical study using composited analysis intervals to represent the horizons of interest. The spacings established for POB's were greatly supplemented by structure / stratigraphic drillholes which support only the volumetric estimation of the resource.
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.* • *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.*	Coal quality boreholes were drilled vertically which, when combined with the generally consistent and shallow dips of the strata, has resulted in an effectively unbiased sampling of the coal horizons. Televiewer logs were routinely acquired for coal quality boreholes, allowing stratigraphic dip and seam thickness to be independently assessed to further support near perpendicular sampling of coal strata.
Sample security	• *The measures taken to ensure sample security.*	All sampling has been completed following strict technical guidelines and procedures. Sample numbers were recorded directly into the database and sample submission forms generated at the point of sampling. Upon receipt of each sample the laboratory has captured the details into the sample receival log and sent the updated log to the geometallurgist to advise stakeholders that samples had been received and instructions were to be generated. At the completion of testing, the laboratory LIMS database generated analysis files which were transmitted digitally to the geometallurgist for review and approval by the resource geologist or CP, before data was uploaded to the database.

Criteria	JORC Code explanation	Comment
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	All geologists conducting logging and sampling were assessed as competent against the relevant technical guidelines and procedures prior to completing these tasks unsupervised. Informal peer reviews and audits were routinely completed against these guidelines. In addition, the voracity of all data was assessed by the resource geologist prior to use in geological models. The geometallurgists conducted technical audits on each external laboratory according to a predefined schedule. These audits reviewed all facets of the laboratory's operation to ensure methods, equipment, personnel, QC, calibration, result validation and reporting were fit for purpose. Should the contract laboratory not have met performance expectations, written notification of the failure would have been provided. This notification would normally take the form of a Corrective Action Request (CAR) or a customer complaint notice. All sub-contractors are immediately re-assessed in the event of a CAR being raised.

JORC Code, 2012 Edition – Table 1

Section 2 Reporting of Exploration Results

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

Exploration Results are not being reported

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</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.
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>
<u>Tenure</u>
The company owns all tenements and manages Mining Leases, Mineral Development Licenses and Exploration Permits for the purposes of coal mining, exploration and the associated infrastructure requirements to support Daunia operations.
See Table 17 below for tenure details. All tenure is in good standing.
Table 17: Daunia tenure
<table>
<tr><th>Tenement</th><th>Local name</th><th>Purpose</th><th>Expiry date</th><th>Renewable (conditional)</th><th>Total area (Ha)</th><th>Surface area (Ha)</th></tr>
<tr><td>Mining Lease No 1781</td><td>Daunia</td><td>Coal, Gaseous Hydrocarbons</td><td>31-Dec-2031</td><td>Yes</td><td>2,234.0</td><td>2,225.21</td></tr>
<tr><td>Mining Lease No 70115</td><td>Daunia East</td><td>Coal</td><td>31-Dec-2031</td><td>Yes</td><td>361.4</td><td>361.40</td></tr>
<tr><td>Mining Lease No 70116</td><td>Red Mountain</td><td>Coal</td><td>31-Dec-2031</td><td>Yes</td><td>754.0</td><td>741.16</td></tr>
<tr><td>Total (Ha)</td><td></td><td></td><td></td><td></td><td>3,349.4</td><td>3,327.77</td></tr>
</table>
1. CQCAA grant
2. CQCA JV 50% and Stanmore SMC Pty. Ltd. 50%
<u>Mineral Resource Legislation</u>
The company's development and mining authorities are governed and administered under the Mineral Resource Act 1989 (Qld) ("MR Act"). Renewal of authorities are conditional on satisfying the Minister that all the authority grant conditions have been complied with during the current grant term in accordance with the MR Act and the prescribed grant conditions (if applicable).
<u>Native Title and Cultural Heritage</u>
There are no Native Title issues relating to Surface Areas held by the company at Daunia. The ILUA currently under negotiation will secure consents to new Surface Area Applications on Mining Lease where Native Title may exist.
Cultural Heritage management is regulated by the Aboriginal Cultural Heritage Act 2003 and company operations have Cultural Heritage Management Plans (CHMP) in place.
</td>
</tr>
</table>

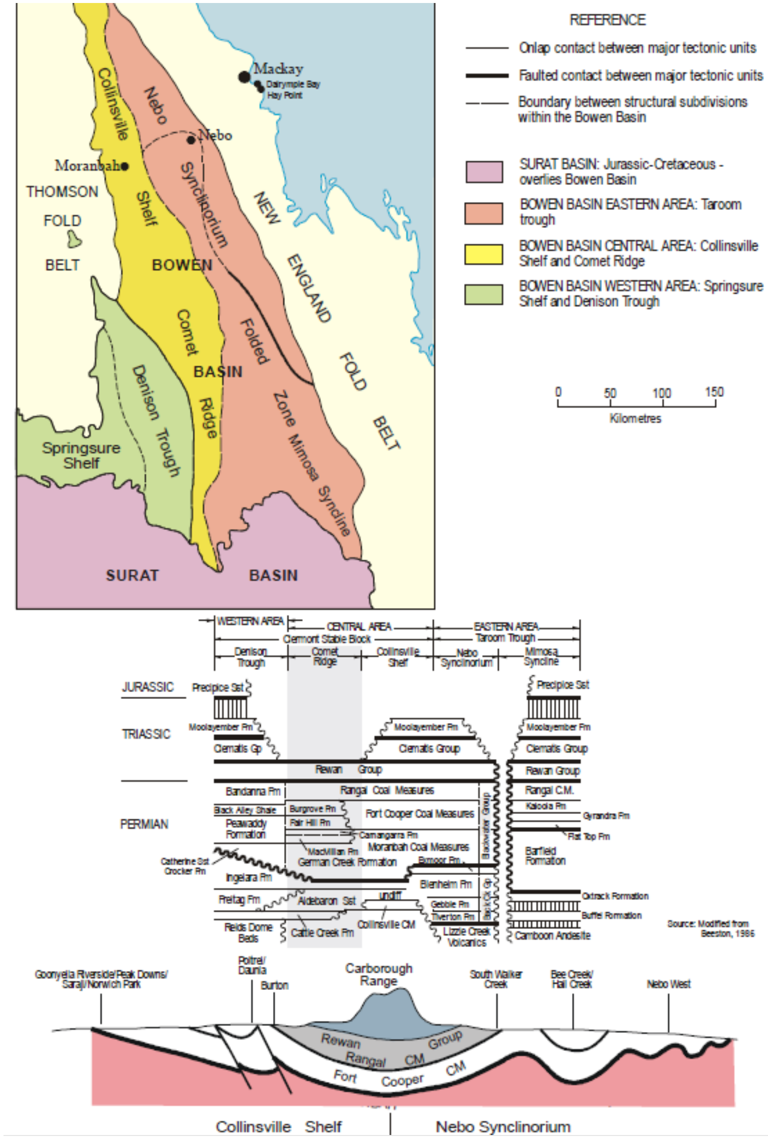
Criteria	JORC Code explanation	Comment
		<u>Environmental</u> Mining activities are listed under Schedule 1 of the Environmental Protection Regulation as an Environmentally Relevant Activity (ERA), requiring an Environmental Authority (EA) under the provisions of the Environmental Protection Act 1994 (EP Act) and granted by the Department of Environment and Science (DES). The EP Act requires proposed mining, disturbance and rehabilitation activities are reported in a Progressive Rehabilitation and Closure Plan (PRCP), which must describe measures undertaken to ensure EA conditions are met. Sites are currently transitioning from the previous Plan of Operations to PRCPs. Operating consents are held in the form of Surface Area rights and environmental approvals (Environmental Authority). Expectation to comply with environmental requirements will be met with current strip-mining practises where waste material is capped and rehabilitated as per the EA requirements.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	From 1961 to 2023, multiple exploration drilling programmes have been undertaken (Table 18). In recent years the overall drilling program has been relatively consistent in terms of the total annual drilling required to support the ongoing annual mine planning cycle. All drilling has been completed by either the company under its current holding, or via previous holdings (prior to 2001). The Queensland Government has also completed exploration across the company property.

Table 18: Proportion of exploration drilling metres at Daunia mine, by decade

Date from	Date to	Exploration drilling metres percentage of total
1/01/1960	31/12/1969	2%
1/01/1970	31/12/1979	10%
1/01/1980	31/12/1989	14%
1/01/1990	31/12/1999	9%
1/01/2000	31/12/2009	6%
1/01/2010	31/12/2019	54%
1/01/2020	Present	6%

Criteria	JORC Code explanation	Comment
Geology	• *Deposit type, geological setting and style of mineralisation.*	**Regional Geology** Daunia is located in the northern most part of the Permo-Triassic Bowen Basin containing principally fluviatile and some marine sediments. The Bowen Basin extends for more than 250 kilometres north to south and up to 200 kilometres east to west and is related to a group of Permo-Triassic basins in eastern Australia that includes the Sydney and Gunnedah Basins. The Bowen Basin's axis orientation is NNW-SSE, roughly parallel to the Palaeozoic continental margin. The basin is situated between stable Devonian to Carboniferous rocks of the Clermont Block to the west and a Devonian to early Permian island arc system, the Eungella-Cracow Mobile belt, to the east (Korsch, Totterdell and Nicoll, 2009). Tectonically, the basin can be divided into NNW-SSE trending platforms or shelves separated by sedimentary troughs. Figure 13 below illustrates the Springsure Shelf, Denison Trough, Collinsville Shelf/Comet Ridge, Taroom Trough, Connors and Auburn Arches (interrupted by the Gogango Overfolded Zone) and the Marlborough Trough.

Criteria	JORC Code explanation	Comment
		Development of the basin in the Early Permian occurred as a series of half-grabens that subsequently became areas of regional crustal sag. Coals accumulated throughout almost all of the Permian and Triassic, initially around the basin margins and in isolated sites, and throughout the entire basin during the Late Permian (Brakel, 1989). Regionally, the Permo-Triassic sediments of the Bowen Basin are overlain by a veneer of unconsolidated Quaternary alluvium and colluvium, poorly consolidated Tertiary (Cenozoic) sediments and, in places, remnants of Tertiary basalt flows. The basin has suffered extensional and compression events oriented in northeast-southwest direction. Variations in depositional patterns and deformation styles that occur along strike suggest the possibility of north-east trending deep seated crustal transfer faults, referred to as a ‘transfer corridor’ by Hammond (1987). This structural evolution of the basin occurred in five phases: 1. Late Carboniferous to Early Permian tensional basin development (rifting). 2. Late Permian thermal relaxation and slow subsidence resulting in widespread accumulation of coal bearing sequences. 3. Late Triassic compression, resulting in folding and reverse faulting. 4. Cretaceous to Tertiary normal faulting due to extension associated with the opening of the Coral Sea. 5. Tertiary hot spots resulting in thermal doming and collapse. Widespread intrusion\ extrusion of basalt dykes, sills and flows.

Criteria	JORC Code explanation	Comment
		 **Figure 12: Tectonic troughs, shelves and stratigraphy of the Bowen Basin**

Local Geology

Coal deposits lie on the western limb of the Bowen Basin. The local stratigraphy is shown in Figure 13 below. The significant Late Permian coal bearing units are (in ascending order) the German Creek Formation, Moranbah Coal Measures, Fort Cooper Coal Measures and Rangal Coal Measures. These are overlain unconformably by sandstones, mudstones and siltstones of the Triassic Rewan Group, and clay, sand and basalts of the Cenozoic. The coal deposits are also affected by intrusion of basic to acidic sills and dykes.

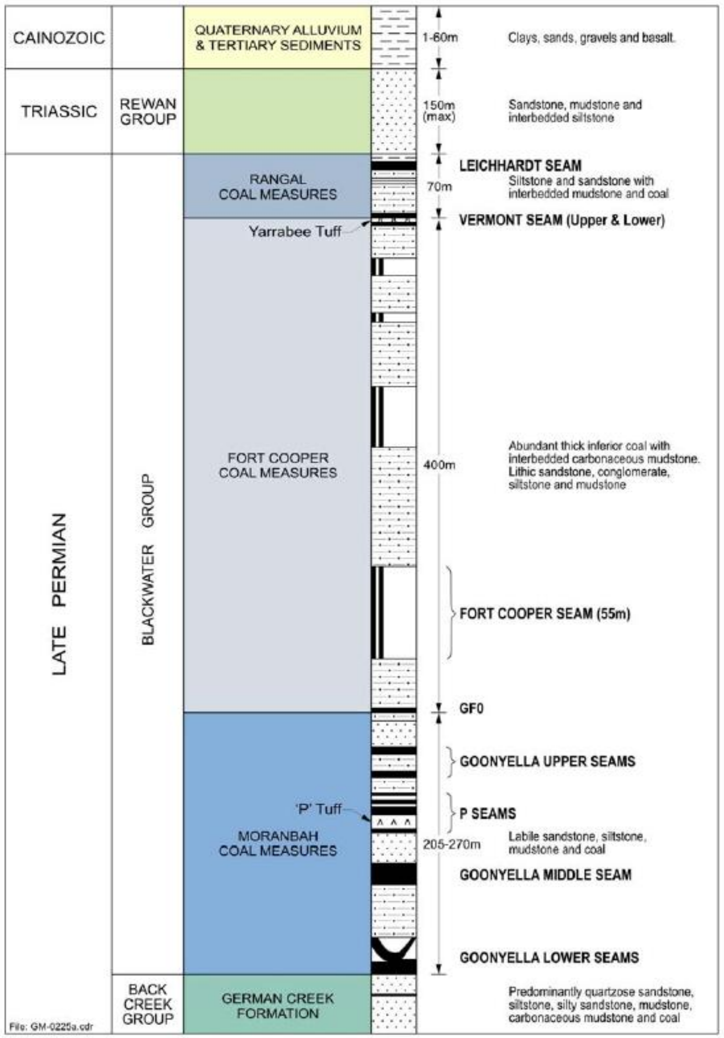


Figure 13: Generalised stratigraphy of the Bowen Basin

Daunia Mine is a structurally complex mine targeting the Late Permian Rangal Coal Measures.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
<tr><td></td><td></td><td>

<u>Stratigraphy</u>

The major coal bearing unit is the Late Permian Rangal Coal Measures comprising coal, sandstones, siltstones, minor mudstones and carbonaceous mudstones. These units are overlain by one to four metres of unconsolidated Cenozoic sediments. Depth of weathering averages 24 metres.

The coal measures generally dip less than 8º into a north-north-west trending syncline over the central part of Daunia, while steeper dips of up to 15º occur in the south and north.

Major coal seams extend at least the length (approximately 9.5 kilometres) and width (approximately three kilometres) of ML1781 except where they have already been extracted.

<u>Structure</u>

The Permian strata has undergone complex structural development. There are two major structures in the mine site: the Daunia graben and the Daunia anticline. The Daunia graben is approximately 600–800 m wide and formed during early extension. The Daunia anticline likely formed during later compression and has an axial fold plane parallel to the NNW trending reverse faults.

NNW-trending thrusts and orthogonal tear, and east-west striking thrusts are common. Displacements of some faults have been interpreted at up to 80 m. Normal faults occur in three different orientations: NNW striking faults, north-east striking strike-slip/dip-slip faults and east-west trending faults. Normal fault throws are in the order of 2–30 m.

<u>Coal seams</u>

There are two main coal bearing horizons in the Daunia area: the Leichhardt Seam and the Vermont Seam. Each of these seams split. The former splits into the L13 (typically five metres thick) and L4 (typically 0.5 m thick) seams. The Vermont splits into the V1 (typically 2 m thick), V23 (typically 4 m thick) and VL seams. The L13, L4 and V1 seams form the principal economic resource at Daunia. Figure ***6***15 below shows the seam stratigraphy.

Two occurrences of igneous intrusion affect the Leichhardt and Vermont Seams. The larger area occurs in the very southern extent of the deposit, while a thin zone of intrusion occurs in the central eastern area, potentially associated with a thrust fault zone.

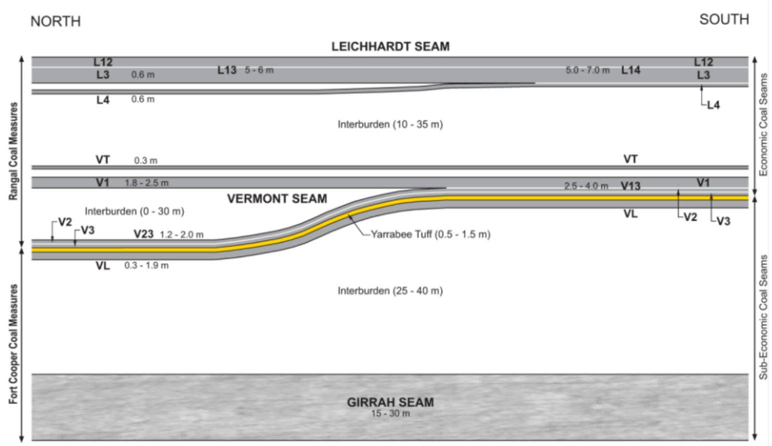


Figure 14: Daunia seam stratigraphy

</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
<tr><td>Drill hole Information</td><td>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:
easting and northing of the drill hole collar
elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar
dip and azimuth of the hole
down hole length and interception depth
hole length.
If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</td><td>As no Exploration Results are reported and the maturity of understanding of the deposit is high summary drillhole information is not considered material this information is not presented as:
All areas of interested are covered by detailed geological modelling.
Resource confidence is high with approximately 90% of the Resource classified as Measured or Indicated within the LOA.
Over 5,000 drillholes have been drilled across the deposit, shown in the table below.
Drilling is also supported by downhole geophysics, Seismic and other remote geophysical surveys, and in-pit surveys and mapping at the operating mines.
Table 19: Summary of drilling<table><tr><th>Core holes (number)</th><th>Core holes (metres)</th><th>Chip holes (number)</th><th>Chip holes (metres)</th><th>Other holes (number)</th><th>Other holes (metres)</th><th>Total holes (number)</th><th>Total holes (metres)</th><th>Total assay (metres)</th></tr><tr><td>272</td><td>23,449</td><td>4,805</td><td>349,248</td><td>72</td><td>unknown</td><td>5,149</td><td>372,697</td><td>2,191</td></tr></table></td></tr>
<tr><td>Data aggregation methods</td><td>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.
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.
The assumptions used for any reporting of metal equivalent values should be clearly stated.</td><td>As Exploration Results were not included in this report, data aggregation has not been required, and no borehole intercepts are included.

Coal quality samples are either modelled as plies or composited to seam using appropriate sample weightings depending on the quality being composited.

Metal equivalent reporting does not apply for this deposit.</td></tr>
<tr><td>Relationship between mineralisation widths and intercept lengths</td><td>These relationships are particularly important in the reporting of Exploration Results.
If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.
If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg ‘down hole length, true width not known’).</td><td>Majority of boreholes are vertical, aligned to the general flat dip of the stratigraphy including the coal seams. Downhole geophysics including verticality have been run since the mid-1990’s. Verticality is used to analyse deviation of the drillholes in the modelling software to provide accurate horizontal and vertical location of lithological contacts.</td></tr>
<tr><td>Diagrams</td><td>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</td><td>Exploration Results are not included in this release, no diagrams or tables of intercepts are provided.</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
<tr><td></td><td>plan view of drill hole collar locations and appropriate sectional views.</td><td></td></tr>
<tr><td>Balanced reporting</td><td>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.</td><td>Exploration Results are not included in this release.</td></tr>
<tr><td>Other substantive exploration data</td><td>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.</td><td>Exploration, other than drilling, comprises airborne and ground-based geophysical surveys along with 2D and 3D seismic surveys. The work is used to improve understanding of seam continuity and to define structure that may be inefficient to resolve with exploration drilling alone. However, exploration drilling and sampling remains the primary method used by the company for all resource characterisation and resource estimation.
The following geophysical survey methods have been used by the company targeting specific areas of the deposit.
Magnetic surveys are undertaken to map the magnetic intensity of the geology. They are used to identify intrusions and structure.
Seismic surveys are used for defining sub-surface structure and to optimise exploration drilling for underground, and open-cut mines.
Electromagnetic surveys are undertaken to map the conductivity of the subsurface in 3D. The surveys are useful to map sub-surface hydrology, structure, oxidation limits and heat affected coal that has been impacted by intrusive bodies.
Magnetic surveys have been conducted using both ground-based and airborne (rotary and fixed wing) techniques. Airborne magnetic surveys collect magnetic and radiometric data. Targeted Airborne Transient Electromagnetic Surveys (SkyTEM) have been conducted at Daunia. Details of surveys done are tabled below.
Table 20: Geophysical survey details for Daunia<table><tr><th>Airborne magnetic (km^2)</th><th>Ground magnetic (km^2)</th><th>2D seismic (km)</th><th>3D seismic (km^2)</th></tr><tr><td>11</td><td>27</td><td>43</td><td>32</td></tr></table></td></tr>
<tr><td>Further work</td><td>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).
Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</td><td>Structural and coal quality infill drilling has been aligned with the 5-year plan and mine schedule and is based on geological risk and uncertainty in the plan.</td></tr>
</table>

JORC Code, 2012 Edition – Table 1

Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Comment
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	During the modelling process the seam intervals and quality data is checked for anomalies and outliers by graphical (plan and section views, contouring, etc.) and statistical analysis. After review, if the data is deemed unreliable it is excluded from use in estimation. Data validation is covered in Section 1 Sampling Techniques and Data – *verification of sampling and assaying.*
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	Site visits have been made by the Competent Person in the last fiscal year to understand geology (structure and coal quality) with the progression of mining and identify opportunities for improvement. Regular feedback session and collaboration meeting with mine geologists, geotechnical engineers, planning geologists and mining engineers have been completed to understand geology deviations, impacts and resolutions through risk assessments and required adjustment and improvement plan.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	There is a high degree of confidence in the geological interpretation for the coal deposits. The interpretations were completed using multiple data sets, drillholes, seismic (2D/3D) where available, downhole and surface geophysical data sets, mine geology data involving high wall picks, top and floor of coal, infill blast hole data etc. These data sets are cumulatively fed into the geological model process from life of asset to short term and are continuously reconciled and updated as added information becomes available. Each data streams have robust QA/QC process and have confidence attributed supporting the interpretation spatially. Uncertainty of key parameters are mapped in SMU scale (selective mining unit) using conditional simulations to understand different geological domains for a given seam/parameter. The goal is to de-risk the production plan by optimizing infill data collection and improve stability in short term planning through increased understanding of confidences locally. Multiple factors affect the structure and grade of the coal deposits which are not limited to post and syn-tectonic events leading to regional and local extensional and compressional structures and discontinuities, along with its effect on depositional environment and diagenesis of coal. These factors cumulative or in isolation result in different seam/parameters trends like high and low ash pockets, varying phosphorous concentrations, calcite mineralization along faults etc. These features are proactively recorded and mapped to understand local geological domains and its effect on mine production and are also Geo-statistically correlated
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	There are two main coal bearing horizons in the Daunia area: the Leichhardt Seam and the Vermont Seam. Each of these seams split. The former splits into the L13 (typically five metres thick) and L4 (typically 0.5 m thick) seams. The Vermont splits into the V1 (typically 2 m thick), V23 (typically 4 m thick) and VL seams. The L13, L4 and V1 seams form the principal economic resource at Daunia. Two occurrences of igneous intrusion affect the Leichhardt and Vermont Seams. The larger area occurs in the very southern extent of the deposit, while a thin zone of intrusion occurs in the central eastern area, potentially associated with a thrust fault zone.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
<tr>
<td>Estimation and modelling techniques</td>
<td>
The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.
The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.
The assumptions made regarding recovery of by-products.
Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).
In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
Any assumptions behind modelling of selective mining units.
Any assumptions about correlation between variables.
Description of how the geological interpretation was used to control the resource estimates.
Discussion of basis for using or not using grade cutting or capping.
The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.
</td>
<td>
Modelling is carried out by Vulcan™ geological modelling software package to create grid models using a series of modelling scripts (Python and C shell scripts termed ".csh" scripts). These scripts reference specific parameter files to accommodate minor variations in modelling requirements for each deposit. The scripts are complex but are justified for the following reasons:

Scripts provide a clear audit trail of the modelling process. The scripting is modularised to allow focus on particular steps without having to re-run the entire process each time a change is required e.g., finessing fault modelling.
Scripts deal with some complex splitting and some sub-optimal data.

A number of different grid models are produced when creating resource estimations and typically have grid cell sizes between 25m x 25m and 50m x 50m. These include:

Structural Model – topography, horizons, seams, plies, work sections
Coal Quality Model – Coal seam quality parameters as detailed in the tables below.
No by-products exist at Daunia Mine and, as such, no assumptions have been made in that space.
Deleterious elements sulfur, phosphorus, fluorine, and chlorine have been modelled by inverse distance interpolation, in line with other properties.
Coal Washability Model – prepared using an in-house standardisation tool to calculate cumulative ash and yield values at specified densities sized, fractional results. The addition of partings and aggregation is applied as per seam correlations. These are then interpolated into 2D grid models within Vulcan.

Table 21: Raw coal qualities included in the estimation
<table>
<tr><th>Property description</th><th>Field name</th></tr>
<tr><td>Relative Density (lab)</td><td>RAWCRD</td></tr>
<tr><td>Relative Density (in situ)</td><td></td></tr>
<tr><td>Moisture (inherent)</td><td>ADMOIS</td></tr>
<tr><td>Moisture (in situ)</td><td></td></tr>
<tr><td>Moisture Holding Capacity (is)</td><td>MOHOCP</td></tr>
<tr><td>Ash</td><td>ASHADB</td></tr>
<tr><td>CSN</td><td>CSN</td></tr>
<tr><td>Volatile Matter (ad)</td><td>VMADB</td></tr>
<tr><td>Volatile Matter (daf)</td><td>VMDAF</td></tr>
<tr><td>Sulphur Content (ad)</td><td>TTSADB</td></tr>
<tr><td>Phosphorus (ad)</td><td>PHSADB</td></tr>
<tr><td>Log fluidity</td><td>LGFLDD</td></tr>
<tr><td>Total Alkali % Ash in ash</td><td>TOTALK</td></tr>
<tr><td>Basicity index</td><td>BI</td></tr>
<tr><td>Modified Basicity Index</td><td>MBI</td></tr>
</table>
</td>
</tr>
</table>

Criteria	JORC Code explanation	Comment

Hardgrove Grindability	HGI
Specific Energy, Kcal/Kg (ad)	SEADB
Initial Deformation Temp. (Reducing)	RINIT
Spherical Temp. (Reducing)	RSPHER
Hemispherical Temp. (Reducing)	RHEMSP
Flow Temperature (Reducing)	RFLOW
Chlorine	CHLADB
SiO_2	SiO_2
Al_2O_3	Al_2O_3
Fe_2O_3	Fe_2O_3
TiO_2	TiO_2
CaO	CaO
MgO	MgO
Na_2O	Na_2O
K_2O	K_2O
P_2O_5	P_2O_5
Mn_3O_4	Mn_3O_4

Table 22: Clean coal qualities included in the estimation

Property description	Field name
Moisture (inherent)	ADMOIS
Ash	ASHADB
CSN	CSN
Volatile Matter (ad)	VMADB
Volatile Matter (daf)	VMDAF
Sulphur Content (ad)	TTSADB
Phosphorus (ad)	PHSADB
Log fluidity	LGFLDD
Log fluidity (Lookup)	
Dilatation (Total)	TDL
Dilatation (Total, lookup)	
Total Alkali % Ash in ash	TOTALK

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Basicity index</td><td>BI</td></tr>
<tr><td>Modified Basicity Index</td><td>MBI</td></tr>
<tr><td>Reflectance (ROMAX)</td><td>REFLEC</td></tr>
<tr><td>CSR (modelled from database)</td><td>CSR2</td></tr>
<tr><td>Vitrinite (Total)</td><td>TOTVIT</td></tr>
<tr><td>Yield (ad)</td><td>FLTYLD</td></tr>
<tr><td>Specific Energy, Kcal/Kg (ad)</td><td>SEADB</td></tr>
<tr><td>Fluorine</td><td>FLUORI</td></tr>
<tr><td>SiO_2</td><td>SiO_2</td></tr>
<tr><td>Al_2O_3</td><td>Al_2O_3</td></tr>
<tr><td>Fe_2O_3</td><td>Fe_2O_3</td></tr>
<tr><td>TiO_2</td><td>TiO_2</td></tr>
<tr><td>CaO</td><td>CaO</td></tr>
<tr><td>MgO</td><td>MgO</td></tr>
<tr><td>Na_2O</td><td>Na_2O</td></tr>
<tr><td>K_2O</td><td>K_2O</td></tr>
<tr><td>P_2O_5</td><td>P_2O_5</td></tr>
<tr><td>Mn_3O_4</td><td>Mn_3O_4</td></tr>
<tr><td>Total Inertinite</td><td>TOTINR</td></tr>
<tr><td>Semifusinite</td><td>SEMFUS</td></tr>
<tr><td>Liptinite</td><td>TOTLIP</td></tr>
<tr><td>Hardgrove Grindability</td><td>HGI</td></tr>
<tr><td>Initial Deformation Temp. (Reducing)</td><td>RINIT</td></tr>
<tr><td>Spherical Temp. (Reducing)</td><td>RSPHER</td></tr>
<tr><td>Hemispherical Temp. (Reducing)</td><td>RHEMSP</td></tr>
<tr><td>Flow Temperature (Reducing)</td><td>RFLOW</td></tr>
</table>
The general overview of the procedure followed for structural modelling is as follows:

Create topography grid(s)
Generate ‘Base of Weathering’, ‘Base of Tertiary’ mapfiles and grids
Generate structure mapfiles for all daughter seams
Define seam-splitting relationships
Create / update seam mask limits (also for intrusions)

</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
<tr><td></td><td></td><td>Run FixDHD to generate 'fixed' mapfiles
Analyse mapfiles statistics and investigate/correct anomalies
Generate thickness grids for all daughter seams
Generate reference surface grids incorporating fault and survey information
Validate reference surface grids
Generate parent seam models
Validate parent seam models
Clip seam grids to Base of Weathering
Validate structure grids
Quality models are generated in Vulcan modelling software using the Inverse Distance (ID) algorithm with a low power (typically 1 to 2). ID is the current coal industry standard method for grid-based quality modelling. Quality parameters of coal in the Bowen Basin generally show low spatial variability (strong spatial continuity) and, as such, inverse distance is appropriate.
Exploratory data analysis, scatter plots, histograms and descriptive statistics are used to understand the spatial variability of coal quality parameters, domaining and outlier values.
Regarding correlation between parameters, models of the rank related parameters (VM and Ro Max) are trended (Order 1) as their values are related to increases with increasing depth. It is suggested that Log Fluidity values be viewed as indicative only as values decrease with increasing sample oxidisation.</td></tr>
<tr><td>Moisture</td><td>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</td><td>Resource tonnes are reported on an in situ basis. To calculate in situ tonnages, thickness is multiplied by resource area and by in situ density. The Preston and Sanders method is used to adjust air dried density to bed moisture density to provide in situ tonnages. The calculation process for in situ moisture (M_{is}) as estimated from Moisture Holding Capacity (MHC) models, using formula 5.2 proposed in ACARP study C10041.
$$M_{is} = 1.1431xMHC_{high} + 0.348$$</td></tr>
<tr><td>Cut-off parameters</td><td>The basis of the adopted cut-off grade(s) or quality parameters applied.</td><td>Cut-off parameters include are summarised below.
Table 23: Resource estimation factors in determining reasonable prospects for eventual economic extraction
<table>
<tr><th>Resource limit (open cut)</th><th>Cut-off parameters</th><th>Metallurgical factors</th></tr>
<tr><td>LoA study</td><td>Minimum seam thickness 0.3 m
Maximum parting thickness 0.3 m</td><td>Raw ash 35%
Yield 50%</td></tr>
</table></td></tr>
<tr><td>Mining factors or assumptions</td><td>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an</td><td>The following assumptions and constraints were applied for open cut resource determination:
The open cut limit is determined from the LoA
The up-dip limit of resources are bounded by either mined out areas or the limit of oxidation lines.
Narrow corridors and permanent bridges down dip of the current face positions are considered a resource as they could be mined by extending the adjacent strip.</td></tr>
</table>

Criteria	JORC Code explanation	Comment
	explanation of the basis of the mining assumptions made.	
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	Resources are only estimated for seams with product yields of at least 50 per cent (where product yield has been estimated independent of size yield). A maximum raw ash content of 35 per cent was applied to the estimation.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	The environmental factors in relation to active mining areas are all considered in the Coal Reserves section of this report. No specific environmental considerations have been included in the estimation of Coal Resources.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* • *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Resource tonnes are reported on an in situ basis. To calculate in situ tonnages, thickness is multiplied by resource area and by in situ density. The Preston and Sanders method is used to adjust air dried density to bed moisture density to provide in situ tonnages. The calculation process for in situ moisture and in situ density is: $M_{is} = 1.1431xMHC_{high} + 0.348$ Modelled Relative Density (RD(ad)) values are those from laboratory testing on an air-dried basis or values calculated from a site specific raw ash / RD regression. The Preston and Sanders formula is then used to estimate in situ relative density from inherent moisture (M(ad)) and in situ moisture (M(is)) as follows: $RD_{is} = \frac{RD_{ad}x(100 - M_{ad})}{((100 + RD_{ad})x(M_{is} - M_{ad})) - M_{is}}$ The calculated in situ density is then used to derive in situ coal tonnes.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*	A basic overview of techniques is detailed below: • Model area established.

Criteria	JORC Code explanation	Comment

	• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*
	• *Whether the result appropriately reflects the Competent Person's view of the deposit.*
		• Create resource polygons:
		  ○ Generate points of observation; and
		  ○ Generate resource polygons using drill hole spacing analysis;
		• Generate property polygons; and
		• Vulcan computes the resource within the individual polygons.
		Results are tabulated / filtered according to categories. Coal Resources are reported by the following subdivisions:
		• Lease;
		• Mining method (open cut);
		• Resource status (i.e., whether Inclusive of Reserves);
		• Product Type (optional - agreed with site / marketing).
		• Classification by resource category
		Points of observation
		The Coal Guidelines define points of observation as "sections of coal-bearing strata, at known locations, which provide information about the coal by observation, measurement and/or testing. They allow the presence of coal to be unambiguously determined". Because both tonnage and coal quality must be known to the same level of confidence, standard practice requires valid points of observation to have the following attributes:
		• Geophysical logging;
		• Cored and with sample analyses pertinent to the coal product being quoted as resource;
		• At least 90 per cent linear core recovery for the target seam.
		Exceptions to the attributes above are only after an appropriate technical assessment conducted by the relevant modelling geologist.
		Supportive data, such as seismic surveys, also provide evidence of continuity. Where the coal requires, or is likely to require washing, the analyses should include washed yield data.
		Resource classification
		The classification of Coal Resources into Measured, Indicated or Inferred confidence categories is based on the distance from valid points of observation. The preference is that the distances from points of observation used to classify the resource, should be based on a geostatistical analysis of the coal quality.
		The initial classification polygons created based on the points of observation are reviewed by the Competent Person and adjusted where appropriate, to consider other potential sources of geological uncertainty, e.g., structure, intrusions and seam splits.
		Confidence classification using geostatistics
		The company uses geostatistics in resource confidence classification where the appropriate geostatistical data and studies allow. Coal Seams and their quality variables have different continuity and variability across the deposit. Drill hole spacing analysis (DHSA), using the global estimation variance method, helps in understanding the variations in estimation precision (uncertainty) across the deposit for different seam / variable / domain configurations. The DHSA technique provides quantitative measures of the precision with which quality and volume variables can be estimated. The methodology for estimation involves the following steps:

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
<tr><td></td><td></td><td>

Exploratory data analysis and variography are completed for the available sampling data (and where appropriate, domaining may also be applied to achieve stationarity);
The continuity and variability of a specific area and variable are characterized by the variogram model. DHSA uses the variogram model to determine the estimation variance for a single block/cell size;
The annual area mined (or uncovered) is required as an input into the DHSA process. This gives the size of the area for the global estimate.

The practice for coal Resource classification is to derive global estimation precision for the variable thickness and raw ash over a five-year period and to apply the resource categories tabled below.
Table 24: Resource classification categories
<table>
<tr><th>Classification</th><th>Precision @ 95% confidence interval</th></tr>
<tr><td>Measured</td><td><10%</td></tr>
<tr><td>Indicated</td><td>>10% and <20%</td></tr>
<tr><td>Inferred</td><td>>20% and <50%</td></tr>
</table>
Drill hole spacings used in resource classification as compiled for all seams, and the methods used to determine them, are tabled below.
Table 25: Drill hole spacing for resource classification by seam
<table>
<tr><th rowspan="2">Seam</th><th rowspan="2">Method</th><th colspan="3">Maximum drill hole spacing (metres)</th></tr>
<tr><th>Measured</th><th>Indicated</th><th>Inferred</th></tr>
<tr><td>L12</td><td>DHSA</td><td>750</td><td>1400</td><td>3400</td></tr>
<tr><td>L3</td><td>DHSA</td><td>950</td><td>1800</td><td>4250</td></tr>
<tr><td>L4</td><td>DHSA</td><td>550</td><td>1000</td><td>2200</td></tr>
<tr><td>V1</td><td>DHSA</td><td>850</td><td>1650</td><td>3900</td></tr>
<tr><td>V23</td><td>DHSA</td><td>750</td><td>1450</td><td>3400</td></tr>
</table>
</td></tr>
<tr><td>Audits or reviews</td><td>The results of any audits or reviews of Mineral Resource estimates.</td><td>Resource estimates for the reported deposits are reviewed annually via the company's Risk Review assurance process. The review endorsed the estimates, as suitable for public reporting in accordance with the JORC Code guidelines.</td></tr>
<tr><td>Discussion of relative accuracy/ confidence</td><td>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource</td><td>The Coal Resource is a subset of Inventory Coal for which ‘there are reasonable prospects for eventual economic extraction’. Company practice interprets reasonable prospects for economic extraction to mean realistic prospects of a coal seam being mined and marketed within a timeframe of up to 50 years from the time of assessment.
Company utilise The Australian Guidelines for Estimation and Classification of Coal Resources (2014) to guide its Competent Persons in the resource estimation process. The company’s practice for coal Resource classification is to</td></tr>
</table>

Criteria	JORC Code explanation	Comment
	within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	derive global estimation precision of the estimates for the thickness and raw ash variables over a five (5) year period and to apply the described Resource categories for classification. Details as to the quality / quantity of Coal on deposit relate to global estimates. Tonnages and quality variability is investigated on the active operations via short term exploration activities. Reconciliation of mine production data is completed at operating mines and confirms global accuracy of the resource estimates.

JORC Code, 2012 Edition – Table 1

Section 4 Estimation and Reporting of Ore Reserves

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

Criteria	JORC Code explanation	Comment
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	Coal Resource estimate used as a basis for the Daunia Coal Reserves as described in Section 3 Estimation and Reporting of Mineral Resources above. Inferred Coal Resource and unclassified material are removed from the mine plan and considered waste in the process. Inferred and unclassified coal does not contribute to any economic analysis used to determine Coal Reserves. Mineral Resources are stated inclusive of the Coal Reserve.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	No visit was done in 2023, however regular engagement with site personal were carried out by the Competent Person.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	Daunia mine is currently in operation and has been actively mining coal since 2013. The mine plan that supports the Coal Reserve estimation is technically achievable and economically viable once all relevant and material modifying factors have been applied. Future capital projects associated with the Daunia operations are equivalent to Pre-Feasibility study level in-order to contribute to the reserves.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	The cut-off ratio used for reporting Coal Reserves is determined by the deposit characteristics and the maximum strip ratio which can be sustained by the product generated to market specification. Daunia Mine have a range of products options aligned to mine site resource quality. Product quality specification limits are prescribed annually in each site's optimisation model. Blasor, an in-house optimisation software, aims to optimise the mining sequence by targeting the highest value product which can be attained for each parcel of coal mined. The sequence obtained is used to prepare a mine equipment schedule mine plan in DESWIK. An economic analysis is completed on the nominated mine plan to establish an economic cut-off point from which the Coal Reserve are able to be reported. All Coal Reserves reported are located within the economic threshold. The coal mining seam thickness cut-off for Daunia Mine is 0.3m, it is the minimum seam thickness included in the reserves. Anything less than minimum thickness will be considered waste. Waste parting cut-off thickness is 0.3 m, it is the maximum thickness that will be included in the reserves. Partings thicker than the cut-off will be designated as waste and removed according to the mine plan.

Criteria	JORC Code explanation	Comment
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	**Mining Method** Open-cut strip mining is the predominant mining method employed across Daunia Mine. Initial mining operation commence on the sub-crop of the seam using hydraulic excavators. The pre-strip fleet, electric rope shovel and hydraulic excavators will load rear dump trucks (RDTs), both human operated and autonomous, to remove the overburden. A fleet of medium size hydraulic excavators as the primary tools uncover coal in strips orientated along the strike of seams. RDTs dump pre-strip waste onto the previous spoil. Mining progresses along strike and down-dip to the lease boundary or to a depth of maximum economic strip ratio. Allowances in design are made for permanent access corridors and major transport corridors. Previously mined out strips (voids) are progressively backfilled through prestrip truck dumps. The shape and physical boundaries are aligned to internal closure planning guidance and the final void will be left behind as per legislative guidance. The open-cut mining process undertakes the following activity sequence: • land clearing and topsoil removal • overburden/ interburden drilling and blasting • shovel/ excavator and truck stripping • excavator and truck parting removal • pit preparation and dewatering • coal drilling and blasting • coal loading and hauling • coal crushing and processing • reclamation and train loading Pre-strip dumps are designed in 20 m dumps tiers (lifts) with 10 m to 20 m wide benches in between. Under special circumstances (increased material competency), geotechnical approval can be given for 40 m and 60 m dump tiers. **Additional Parameters Relevant to Mine Design** <u>Geotechnical Models</u> Mine plans incorporate slope designs that are of a suitable level of study for the intended purpose and prevailing risk. The geotechnical design process: • utilises appropriate quality, quantity and spatial distribution of data for the required level of design study. • employs analysis methods that are industry recognised as appropriate for the potential ground control failure mechanisms present. • utilises design acceptance criteria that are compatible with the business safety and economic objectives and required level of design study. • identifies key uncertainties and sensitivities within the design. • identifies any additional risk mitigation measures that are necessary to achieve the required performance (e.g. water management, monitoring plans, high consequence geotechnical management plans). All geotechnical designs are reviewed and endorsed by a Registered Practising Engineer of Queensland and the site ground control risk owner. The geotechnical department provides the technical stewardship of the pit design. Daunia mine has geotechnical strip records that provide a history of mined strips. This includes a validation process to confirm any required changes to

Criteria	JORC Code explanation	Comment

design based on geotechnical issues or improvement opportunities. The geotechnical function also provides geotechnical pit layouts for every pit, which set out the design parameters.

Table 26: Daunia geotechnical parameters

Strip width (m)	Highwall angle (degrees)	Low-wall angle (degrees)	Highwall berm width (m)
55-100	45-70	45	10-30

<u>Hydrological Models</u>

Daunia mine actively seeks to manage water in a way that supports positive water stewardship and sustainable operations. To support these objectives, hydrological models are used to accurately understand existing water interactions and develop robust plans to support future water management requirements. Within Daunia, three primary hydrological models are utilised:

- water balance models
- flood models
- groundwater models

Water balance models are utilised to understand water use across the mine site, simulate environmental and physical processes and quantify water in areas where direct measurement is not possible. These models provide the ability to forecast water demand and uses at a mine site level, assess water-storage requirements and manage the risks associated with climate variability.

Flood models are utilised to simulate the processes of rainfall, runoff and their interactions with areas of interest. Flood modelling is used to ensure that the operations feature appropriate levels of flood immunity and support planning of water infrastructure such as culverts, drains and levees.

Groundwater models are developed to assess potential changes to local and/or regional groundwater systems. This enables Daunia to manage potential impacts to the water resource and to support regulatory requirements. To develop and maintain the models above, the water planning department executes standardised procedures which outline key steps such as data capture, model update, calibration and reporting. Together these models support the water management plans, engineering design and operational activities which enable the sustainable extraction of the Coal Reserves.

<u>Production Rates</u>

LoA mine plans are generated annually as part of a Corporate Alignment process. These mine plans underpin the Coal Reserves estimates. Key inputs that could drive changes in the annual production rate and reserve life are:

- active strike length
- waste stripping and coal extraction capacities
- processing plant capacities
- supply chain constraints
- overall product or market strategy

The average annual production may vary throughout the plan based on the input assumptions and may not reflect a mathematical average throughout the total reserve life.

LoA mine plans are optimised and economically evaluated to produce production rates, stripping profiles, coal exposure and coal production profiles.

<u>Mining Dimensions, Dilution and Recovery Factors</u>

Criteria	JORC Code explanation	Comment
		Selective mining unit (SMU) dimensions vary depending on equipment type and size. Excavators and shovels typically dig 5–18 m passes. Strips are typically 60 metres in width. The mining process incurs a loss of in situ coal and the addition of out-of-seam dilution to ROM coal. Loss and dilution assumptions applied to the mining model are derived from the LoA mining recoveries and calibrated based on actual mining performance. Coal loss and dilution factors are applied to different coal thicknesses from the low-wall edge, coal roof and coal floor. Quarterly and annual reconciliation of Coal Reserves are completed to assess how well the estimates are performing for the reporting periods. Daunia historic reconciliation demonstrates how well the estimates compared to actual performance during report periods. Average recovery and dilution factors for Daunia are 88.0% and 6.9% respectively. <u>Equipment and Personnel</u> Material is primarily moved by Daunia owned production mining fleets. Additional material movement capacity is achieved using external contractors. The equipment available for use is adequate to support the LoA mine plans based on their demonstrated historical performance along with realized efficiencies over a number of years. Major mining equipment is maintained in on-site maintenance facilities with specialized work performed by facilities located in regional centres. Mine models have considered required dimensions in pit and strip designs relative to SMU size with mining models built to reflect the use of this equipment. Sustaining capital allocation for equipment rebuilds and replacement is considered in the economic analysis of the production. The table below provides the production mining fleet used at Daunia Mine. The mining width applied in pit and pushback designs and SMU size, for mining models, reflect the use of this equipment.

Table 27: Mining fleet used at Daunia as at 30 June 2023

Process	Fleet type	Equipment	Number of units
Material movement	Electric Shovel	Medium (20-50 cu.m)	1
	Excavator	Large (30-40 cu.m)	2
		Small (<20 cu.m)	3
	Haul Trucks	Large (>260 t)	7
		Medium (200-260 t)	17
		Small (<200 t)	9
	Wheel Loaders		2
	Surface Drills	Large (270 mm)	4
Processing facilities	CHPP		1

1. Surface drills include Atlas Copco Pit Viper 235 machine (PV235)

<u>Inferred Resources for mining limit definition.</u>

Daunia Mine Reserves were estimated within the economic footprint of the LoA mine plan. The mine plan was determined by assigning revenues to all resource categories including Measured, Indicated and Inferred Coal

Criteria	JORC Code explanation	Comment
		Resources. Within the reserve economic limit, only Measured and Indicated categories were included in the Coal Reserves. The use of Inferred Resources for economic valuation is common practice for mine optimization. The results of a sensitivity analysis indicate the use of Inferred Resources to be immaterial for the first 5 years. Beyond 5 years, the use of Inferred Resources is permitted where the only impediment to resource category upgrade is drillhole spacing, which would be progressively remedied by future business-as-usual exploration cycles. Inferred Resources within the economic footprint of the LoA mine plan (as June 2023) is 8.8 Mt. <u>Converting Resource models to mining models</u> Approved resource models are used by the mine planning department to convert Coal Resources to Coal Reserves by the application of modifying factors. The resource models are converted to mining models (pit designs) and mining blocks. The in situ mining blocks are interrogated against the geological models to attribute each block with quantities and qualities. In situ mining blocks are then processed through an aggregation process to generate ROM mining blocks. Through the aggregation process some coal blocks may be converted to waste based on cut-off criteria. Aggregation cut-offs (minimum recoverable coal seam thickness and maximum included parting band thickness) are detailed in Section 4 Estimation and Reporting of Ore Reserves – *Cut-off parameters*. Additional aggregation parameters at Daunia include: • raw qualities (minimum in situ constraints) • loss and dilution (based on seam and mining method) • drill and blast (bench thickness constraints) • system limits (mining method domain constraints) • system method (assigning material movement properties) The definition process allocates a mining method to the blocks based on the intended stripping method (Truck & Shovel/Excavators and Cast & Dozer). Mining solids are grouped by material type, location and depth into logical mining units: strips, to reflect the nominated mining method and execution sequence. The grouped strips are available for mine schedules and sequence optimisation. <u>Mining Model/Pit Optimisation</u> Pit optimisations are completed to determine the optimal strip orientation and economic extents to guide the pit design process. Optimisation work includes both in-house studies and studies completed by external parties. Study work evaluates a range of possibilities including pit extents, strip orientation, seam recoveries, haulage optimisations and other parts of the design process. Optimisation tools include Blasor in addition to a number of industry standard 3D mine modelling design packages. Pit optimisations are periodically updated when there is a material change to the input resource model or macroeconomics assumptions. Changes from updated optimisations are incorporated into mining models where practicable. Mine Planning engineers then use optimisation results to select the most economic and practical pit limits. Detailed mine designs are completed as an extension of optimisation work and add additional constraints as necessary. This may include domain boundaries such as offsets to lease limits and links to infrastructure. Open-cut design is based on pit geometries which align with the selected mining method and adhere to geotechnical slope stability recommendations. Typical open-cut parameters for Daunia tabled below. These design parameters are subject to change based on specific geotechnical recommendations and optimisation outcomes.

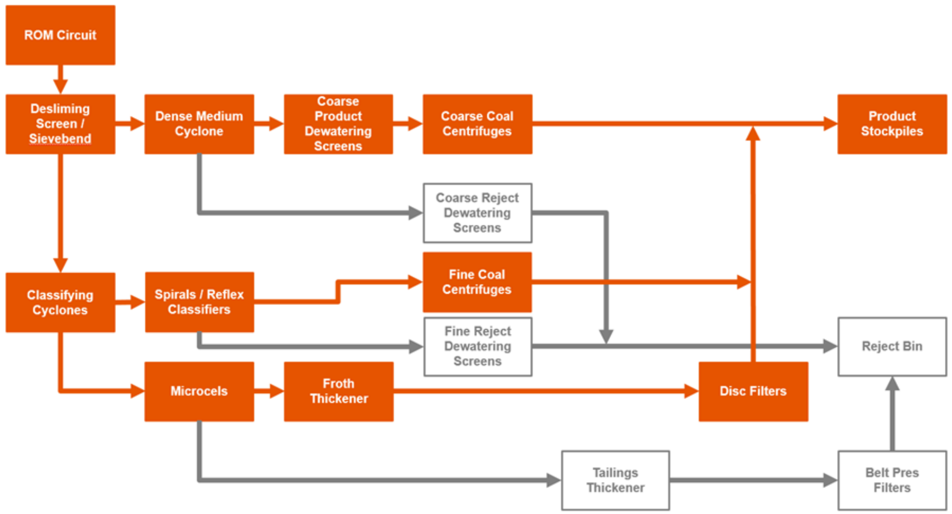
<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
<tr><td></td><td></td><td>
Table 28: Daunia open cut design parameters
<table>
<tr><th rowspan="2">Mining method [1]</th><th colspan="4">Pre-strip</th><th colspan="3">T&S/CDX (1)</th></tr>
<tr><th>Strip width (m)</th><th>Bench depth (m)</th><th>Berm width (m)</th><th>Dumps (m)</th><th>Strip width (m)</th><th>Dig depth [2] (m)</th><th>Spoil parameters [3] (m)</th></tr>
<tr><td>TS CDX</td><td>120</td><td>15</td><td>10-30</td><td>20 (lifts)
10 (berms)</td><td>60</td><td>10-50</td><td><25% uphill push</td></tr>
</table>

TS – truck and shovel/excavator operations, CDX – cast, doze, excavate operations
Dig depth will vary based on geology
Dump height is at the nominated geotechnical angle of repose

Daunia pits have been in operation for several years with early mining activity occurring in the lowest strip ratio locations first. Mining activity has since progressed into deeper areas with steadily increasing strip ratios. The ability to continue mining successive strips is partially driven by the coal price and each pit’s economic threshold. This is subject to change depending on the long-term price forecast.
</td></tr>
<tr><td>Metallurgical factors or assumptions</td><td>

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

</td><td>
Daunia coal is delivered to the processing plant via haul trucks where it is either stockpiled or fed directly into the hoppers for ROM processing. Coal is then processed through a series of wash circuits to prepare coal for beneficiation. The wash circuits use density separation to separate waste material (rock) and ash from the coal. The heavier separated material gets discharged as coarse rejects, while the lighter separated material gets discharged as fine rejects. Some coal may bypass directly to the product coal stockpile. Product coal is stockpiled in preparation for train load out.
Large quantities of historical data have allowed development of empirical regressions between feed ash and yields, enabling reliable forecasts on processing performance. Coal recoveries are also a function of the mining process with loss and dilution occurring as seams are exposed and recovered from pits.
The application of wash model attributes and loss and dilution assumptions are applied to mining models and evaluated in the LoA mine plan.
Daunia CHPP is Sedgeman design plant and is approximately 10 years old. The plant has one ROM coal system that breaks coal down before directly feeding crushed coal into the CHPP. The CHPP feed rate is a maximum of 850 tph.
Process water is added to turn the raw coal into a slurry which is fed onto a double deck deslime screen. This screen separates the feed into -50 mm to +16 mm, -16 mm to +1.4 mm and -1.4 mm streams. The -1.4 mm is further split using hydro-cyclones onto -1.4 mm to +0.25 mm and -0.25 mm fine feed fractions.
The two coarse feed streams are processed using two Dense Medium Cyclones (DMC). The +16 mm feed stream produces a PCI quality metallurgical coal product where the -16 mm stream produces a premium quality metallurgical coal product. The mid-size feed of -1.4 mm to +0.25 mm is processed in a bank of spirals which separate based on particle density. The fine feed of -0.25 mm is processed in two Eriez micro cell flotation cells configured as two primary cells.
The fine reject goes to the tailings thickener where the solids are concentrated and pumped to the eight belt press filters which further dewater the tailings into a tailings filter cake with a moisture around 35 per cent. The water recovered by the thickener is recycled within the CHPP. The tailings filter cake is conveyed with the coarse and medium rejects to the reject bin where it is fed into trucks and disposed of in pit.
</td></tr>
</table>

Criteria	JORC Code explanation	Comment
		The product stockpile contains under-stockpile vibrating feeders to feed the product into LTO belts which feed the Red Mountain TLO which loads trains at a rate of around 5,000 tph. The loading of trains is through a toll contract arrangement with Stanmore Resources, Daunia does not have a TLO. An image detailing the general flow of the wash circuit at Daunia CHPP is pictured below.  ***Figure 15: General flow diagram of wash circuit at Daunia CHPP***
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	Daunia is an operating mine and as such has a variety of environmental approvals which it is operated under. The Daunia project was approved in 2009 via an Environmental Impact Statement (EIS), Coordinator General Report, Environmental Authority (EA) and Environmental Protection and Biodiversity Conservation (EPBC) Act approval. The relevant approvals for the Daunia for the project include: • ML1781 (Daunia) granted 22 December 1983 • Daunia Open Cut Coal Mine EPBC Approval (2008/4418) (updated 11 September 2015) • The Coordinator General's Report Imposed Conditions (26102009) (26 October 2009) • DNM EA EPML00561913 • Water license #603817 for dewatering – Taking of underground water from Blackwater Group, granted 10 November 2010 The Environment Protection and Biodiversity Conservation Act (1999) is the main governing legislation regulating matters of national environmental significance. For all new or changed projects with a potential to have an impact of environmental significance, the approval process is followed under this legislation. Where required by various environmental approvals, The Company has secured environmental offset areas, managed through Environmental Offset Management Plans. Coal mining activities are listed under Schedule 3 of the Environmental Protection Regulation 2019 (Queensland) as an ERA. These activities require an EA under the Environmental Protection Act 1994 and are granted by the Department of Environment and Science. All operations hold an existing EA and each contain a list of granted mining

Criteria	JORC Code explanation	Comment
		leases and authority to mine. The Company regularly monitors changes to the external legal environment to assess and implement compliance requirements.
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	Daunia is an operating mine with all necessary infrastructure currently in place. The value chain comprises three major sub-systems: mine, rail and port, with 10 major process steps: 1. Waste removal and coal extraction, including drill and blast and load and haul. 2. Coal handling and processing plant 3. Coal product stacking (stockpiling) 4. Train loading 5. Train empty and loaded travel to and from the port facilities 6. Port wagon dumping (train unloading) 7. Port direct ship loading (coal is taken directly to the vessel, skipping process steps eight to ten) 8. Port stacking (stockpiling) into the coal products 9. Port reclaiming 10. Port ship loading Roads Daunia mine operation and tenements are easily accessed via public highways and roads with connections to Brisbane, Mackay, Gladstone (each in Queensland, Australia) and the surrounding regional towns. The closest major cities are Mackay and Gladstone, each approximately 200 kilometres east and situated on the Pacific coast. A regional airport located in Moranbah provides air service to the mine locations and is accessible from the mine sites via public roadways. Rail Daunia products are sold into the seaborne metallurgical coal market with the mine serviced by a rail system owned and operated by Aurizon Network. Individual trains haul 8,000 to 10,600 tonnes from the mine site to port facilities. Above Rail haulage is provided by Company's Rail, Aurizon Operations and Pacific National. Daunia mine delivers coal through to the Hay Point Coal Terminal (HPCT) and periodically through the adjacent Dalrymple Bay Coal Terminal (DBCT) or North Queensland Export Terminal (NQXT). Port facilities The HPCT, located 38 kilometres south of Mackay, commenced operations in 1971 and has been progressively expanded to handle increasing quantities. The terminal includes purpose-built rail in-loading facilities, on-shore stockpile areas and offshore loading berths. Coals can be blended at the terminal using strict parameters to produce a consistent product to meet customers' quality requirements. Ships are loaded at one of three loading berths with a capacity to load 6,000–8,000 tph. Bulk carriers of varying capacities up to 230,000 deadweight tons (dwt) can be accommodated at the facility. Power, water, and pipelines Electrical power is supplied by Queensland Government owned entities via their extensive supply network. On-site power is distributed via a site distribution network. Water is supplied from four major sources: rainfall and site runoff, on-site storage, pipeline water and tailings return decant water. The availability of each water source is dependent on climate conditions (i.e. seasonal)

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Comment</th></tr>
<tr><td></td><td></td><td>Water demands are primarily driven by operational demands (supporting coal processing and dust suppression) and evaporation from stored water. The amount of evaporation varies with climatic conditions. In an average climate, approximately 30 per cent of water consumption is due to evaporation and 70 per cent is due to operational demands. FY2022 water usage by Daunia is 0.93GL.

Water demands are met through various raw and Mine Affected Water (MAW) pipeline systems. The raw (freshwater) water pipeline network includes the Burdekin, Eungella, Bingegang, Bedford West, Bedford East and Braeside systems. The network supplies raw water to mine sites including operations, townships, stock and domestic users.</td></tr>
<tr><td>Costs</td><td>The derivation of, or assumptions made, regarding projected capital costs in the study.
The methodology used to estimate operating costs.
Allowances made for the content of deleterious elements.
The source of exchange rates used in the study.
Derivation of transportation charges.
The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.
The allowances made for royalties payable, both Government and private.</td><td>Coal Reserves are estimated using forward-looking revenue and cost and adequate exchange rates forecast.

The operating costs were estimated from first principles using equipment productivities and hourly operating costs. These costs were calibrated against recent actuals and budget forecast. Sustaining and additional capital costs are based on LoA optimised base plan forecast estimate unless otherwise stated.

Royalty payments are made to the Queensland Government for coal sold, disposed of or used during a period. Royalties are calculated per mining operation at a percentage of the sales price per tons of the coal as per the Queensland Government Royalty brackets. This percentage is applied to the value of coal (sales revenue minus allowable deductions) to determine royalties payable in a period.

Final mine closure costs have been excluded from the of mine life estimate but included in the Net Present Value (NPV) calculations for the LoA optimised mine plans.

Mine schedule and blending models considers deleterious elements with associated price penalties and premia included in the economic evaluation.</td></tr>
<tr><td>Revenue factors</td><td>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.
The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</td><td>The commodity price of coal varies depending on market supply and demand. Global demand for coal has shifted for a variety of reasons with significant swings in prices observed as a result. Coal products possess several physical and chemical properties with each influencing the value in use and the ultimate sale price into markets.

The company utilises a standard process for generation of commodity prices and foreign exchange rates used in the evaluation of the LoA mine plan. Commodity prices assumptions consider various product quality premiums and discounts in relation to the generally traded coal index prices and quality specifications.

Daunia coal products are benchmarked against one of four separate index commodities. The Company’s Market Analysis and Economics team track the nominal, calendar month average index prices. Specification for each commodity is detailed in the table below.

Table 29: Index commodities and specification for Daunia coal production
<table><tr><th>Commodity</th><th>Specification</th><th>Units</th><th>Source</th></tr><tr><td>Hard Coking Coal</td><td>Premium Low Volatile HCC Index (Argus and Platts 50:50)</td><td>US$/t</td><td>BHP BI</td></tr><tr><td>Weak Coking Coal</td><td>Platts Semi-soft Coking Coal Index FOB</td><td>US$/t</td><td>BHP BI (Platts)</td></tr><tr><td>PCI</td><td>Platts Low Volatile PCI FOB Australia</td><td>US$/t</td><td>BHP BI (Platts)</td></tr><tr><td>Thermal Coal</td><td>Newcastle FOB, 6000 kcal/tonne NAR</td><td>US$/t</td><td>BHP BI</td></tr></table>1. BHP BI – BHP Business improvement, FOB – Free on board, PCI – Pulverised coal injection, NAR - Net as received.

The ultimate value of Daunia’s coal products is determined by evaluating each coal’s technical worth to the entire ironmaking process. Coal qualities can change perceptibly over short distances at Daunia mine. To combat changing</td></tr>
</table>

Criteria	JORC Code explanation	Comment
		qualities, coal can be blended with other coals sourced from different locations to create complimentary blends to meet target specifications. Quality adjustment factors are used to interpret changes of any product coal relative to the index commodity. Daunia uses relativities to allow for the changing coal qualities observed at the mine site. Indexed commodities are benchmarked using product relativities with the majority of coal produced in the LoA mine plan at Daunia Mine using the HCC benchmark.
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	The company develops and secures (from independent third parties) forward-looking views of product demand and supply to inform the commodity price assumptions (including specific consideration to the product quality) utilised in the economic evaluation of the LoA mine plan and associated reserve estimations. The assessment includes reference to historic market dynamics, historical product price realisation compared to index process, expected future supply/demand equilibrium and other macro-economic factors. Demand It is expected that the following will drive demand for seaborne metallurgical coal over the long-term: • Growth in India and Southeast Asia underpinned by population growth and urbanisation. • China's import appetite amidst structural decline in steel and pig iron. • Decarbonisation trends in the steel making industry. • Seaborne metallurgical market is expected to grow from 301 Mt in 2021 to slightly over 400 Mt in 2050 (Wood Mackenzie). Extracts from *Wood Mackenzie's Global Metallurgical Coal December 2021 Outlook to 2050:* Supply Wood Mackenzie forecasts seaborne metallurgical coal operating capacity to remain above demand until 2027 because of the pandemic and China's ban of Australian coals. Not all capacity is available at short notice but should be able to respond to market signals. A combination of brownfield extensions and Greenfield projects are expected to be required to meet India's growing demand, with a steep requirement post 2035. Project approvals and financing are proving to be challenging and challenges are expected to increase as Environmental, Social, and Governance (ESG) scrutiny intensifies. Australia supply from operating mines and future developments remains critical to metallurgical coal supply. Prior to the beginning of the Russia-Ukraine conflict, Russia was expected to play an increasingly important role in the international supply of metallurgical coals, over the next 30 years. Canada continues to play a key role in global hard coking coal (HCC) supply given its access to the Pacific basin and high-quality reserves. US production continues to produce coals out of the CAPP region and important high CSR HCCs from the SAPP region. Development of metallurgical coals mines is expected to face a growing set of ESG hurdles over our forecast. Regulators in Australia, Canada and the US may apply more rigour in their project reviews compared to other developing countries. For energy coal, despite declining demand post 2023, Wood Mackenzie expects requirement on new project capacity. After accounting for a 6 per cent disruption rate based on historical trends, Wood Mackenzie expects that new projects may be required with immediate effect. It also notes that many producers remain reluctant/uncommitted towards new projects/capacity, with 2020 seeing the lowest level of expansionary capital expenditure in the seaborne market since 2008.

Criteria	JORC Code explanation	Comment
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	The coal resources scheduled in the LoA mine plan must be economically mineable to be compliant for reserves inclusion. The economic valuation of the LoA mine plan is performed where positive cash flow determines the economic footprint of the life of mine plan. The economic valuation of the LoA mine plan consists of an analysis which considers estimated annual cash flows, operating costs, capital expenditure, and royalties and taxes for the full production schedule. The analysis reflects the full Daunia production system and supply chain to mine, process, and transport coal to the point of sale. Daunia uses proprietary strip-mining optimisation software *Blasor* to create a mining schedule which consumes mining blocks in an optimised strip sequence to deliver the highest possible economic value (ie, highest possible NPV). *Blasor* is based on the industry standard Lerch-Grossman (LG) algorithm. Completed optimisations adhere to all design constraints outlined in the mine model (e.g., geotechnical and intensity limitations). The main criteria used in strip sequence optimisation is as follows: • maximising economic return by sequencing the high value areas early and delaying the low value areas as much as practical • mining strips to support consistent delivery of coal quantity and quality. • adhere to optimised mine model specification and overall site strategy. • the shape and size of mined strips allow for mining method and access to all levels of the active face. • strips sequenced in a manner which support development of new mining areas and rehabilitation of existing pits.
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	Cultural heritage and environmental agreements are described in Section 2 Reporting of Exploration Results – *Mineral tenement and land tenure status*. There are no native title issues relating to surface areas held by the Company and a new Surface Area Application on mining leases where native title may exist, will necessitate process under the Native Title Act.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	There are no identified naturally occurring material risks that will have a material impact on the reported reserve. The status of Mineral Tenements is outlined in Section 2 Reporting of Exploration Results – *Mineral tenement and land tenure status*
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	Coal Resource classification is assigned to the mining models at a ply level by interrogating mining blocks against the resource category polygons supplied with the resource models (Section 3 Estimation and Reporting of Mineral Resources – *Classification*). Resource classifications are assigned based on the proportion of each mining block within the resource classification polygons (i.e. Measured, Indicated and Inferred).

Criteria	JORC Code explanation	Comment
	• *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	Daunia mine has a standard approach to Coal Reserve classification where Proven Coal Reserves are derived from Measured Coal Resources. Probable Coal Reserves are derived from Indicated Coal Resources after the application of all relevant modifying factors. Inferred Coal Resource and unclassified material are not included as reserves. Reserve definitions are as follows: • A Proven Coal Reserve is the economically mineable part of a Measured Coal Resource and implies a high degree of confidence in the modifying factors. • A Probable Coal Reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Coal Resource. The confidence in the modifying factors applying to a Probable Coal Reserve is lower than that applying to a Proven Coal Reserve. The Coal Reserve classification reflects the Competent Person's view of the deposit. No Probable Coal Reserves have been derived from Measured Resources.
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	<u>Internal Reviews</u> Annual risk reviews are conducted jointly by assets and the Company's Resource Centre of Excellence to ensure significant and material risks to tenure, Coal Resources and Coal Reserves are adequately managed. The risk review process identifies key reporting changes regarding the annual declaration of Coal Resources and Coal Reserves and agreed actions requiring completion prior to annual reporting. Issues and opportunities identified during the risk reviews may initiate further internal or external reviews. <u>External Audits</u> External audits of the Coal Resource and Coal Reserve estimates occur periodically and if there is a material change to the estimate. It is the Competent Person' opinion that assurance activities undertaken provide confidence that there are no material errors related to the estimation and reporting of Coal Resources and Coal Reserves.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material*	Daunia's Coal Resources and Reserves have been estimated on a site level basis and the risks in these estimates are reflected through the resource and reserve classification applied. However, significant departure from estimated values may occur locally due to unknown faulting or increased local variability in specific coal quality parameters (examples include phosphorus and sulphur). These anomalies, should they occur, are addressed by collaboration between the mine planning, resource modelling and exploration teams and, as part of the production process. Significant risks or uncertainties have been addressed appropriately in the estimation of the Coal Reserves. Other areas of uncertainties that may materially impact the Coal Reserve estimation include: • changes in the long-term coal commodity prices. • changes to exchange rates from US$ to AU$. • changes in the operating costs and sustaining capital cost assumptions. • variations in the geotechnical and geological assumptions. • Company's capacity to maintain and obtain environmental approvals including a continuing social license to operate. There are, at times, fluctuations in the global metallurgical coal market. The nature of Daunia's high quality coal deposits, the understanding of these deposits and robust processes surrounding resource integrity provide the Competent Person with confidence of sustained long-term economic viability despite this risk of price fluctuation. Daunia also has supply chain security and off-take agreements and contracts for many cost items and sales contracts that are expected to protect the viability of the project in the long-term. Sensitivities have been run on these key cost and revenue items to validate their suitability for estimation.

Criteria	JORC Code explanation	Comment
	impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	Reconciliation of tonnes and qualities are carried out on a quarterly basis to determine the relative accuracy/ confidence in the Coal Reserve estimations and related classifications The reconciliation process tests the accuracy and reasonable predictions of the models used to plan future mining. This process also provides quantitative feedback into the appropriateness of our resource classifications which are key inputs to the Coal Reserve estimations. Factors evaluated through the reconciliation process include geological, processing, blending and other relevant modifying factors. Daunia uses factors to reconcile coal tonnes and grades at predefined points of the mining process against those estimated in the mining model used for reserve estimation. The three reconciliation factors are defined as: • F1 tests the validity of the geological interpretation, quality estimation, and modifying factors that inform the Mining Model. • F2 is primarily a test of the accuracy and efficiency of extraction activities. • F3 is a test of Company's ability to deliver the tonnage and grade of saleable product as predicted in the Mining Model. Reconciliations are reported quarterly as standard practice at Daunia. Deviations outside +/- 10 per cent are investigated and corrective/preventative actions are triggered.